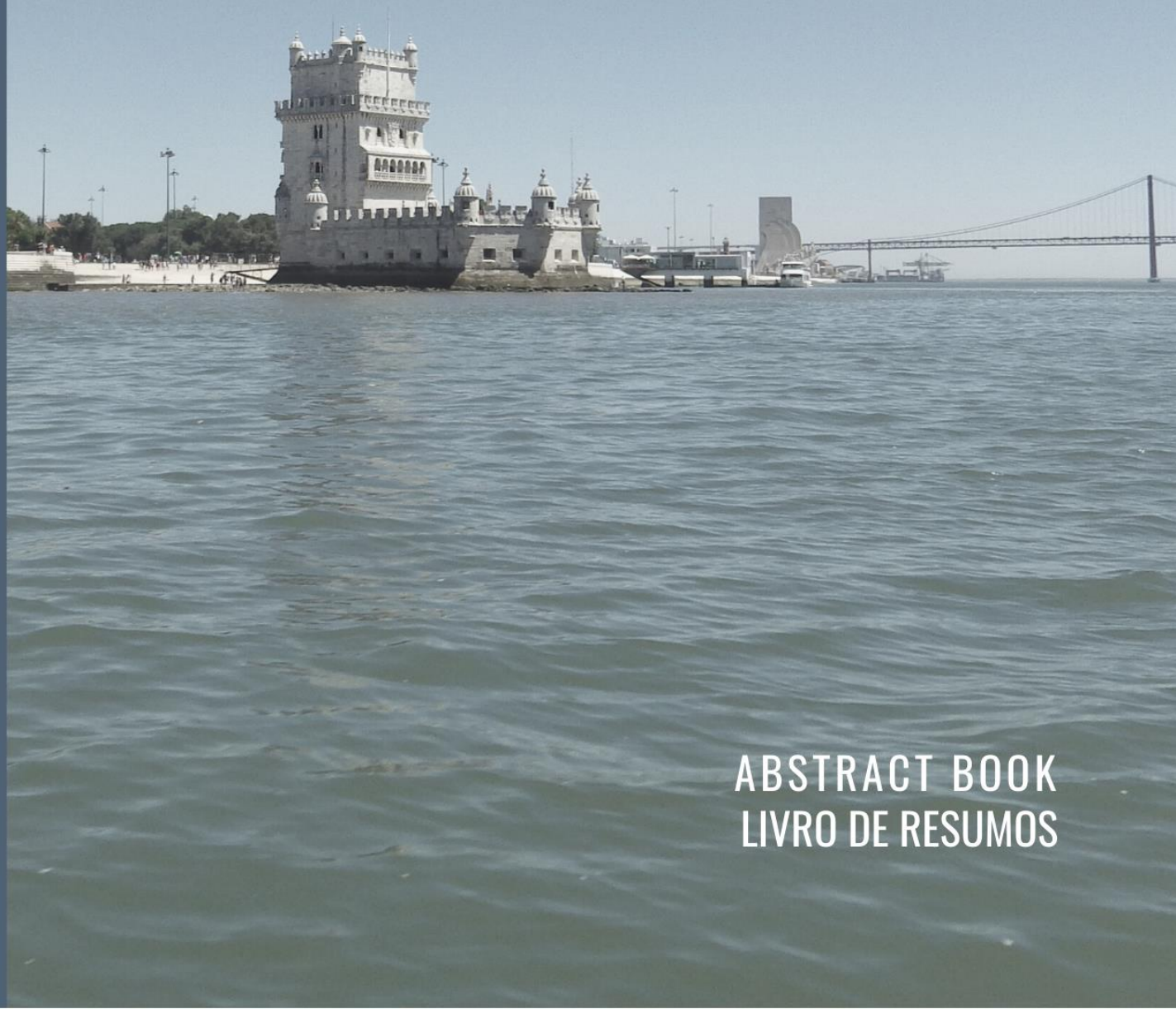


# INTERNATIONAL SEMINAR ON ENVIRONMENT AND SOCIETY

CURRENT CHALLENGES AND PATHWAYS TO CHANGE

## SEMINÁRIO INTERNACIONAL SOBRE AMBIENTE E SOCIEDADE

DESAFIOS ATUAIS E TRAJETÓRIAS DE MUDANÇA



ABSTRACT BOOK  
LIVRO DE RESUMOS



## ABOUT SOBRE

The Environment and Society Section of the Portuguese Association of Sociology, in collaboration with the Institute of Social Sciences of the University of Lisbon, and the PhD program in Climate Change and Sustainable Development Policies, organizes its first International Seminar on Environment and Society, under the motto: Current Challenges and Pathways to Change.

In the year Lisbon is the European Green Capital, the seminar welcomes sociologists and other researchers interested in understanding the relations between environment and society.

The seminar aims to: i) stimulate discussion and broaden it to other areas of knowledge beyond sociology; ii) encourage research in Portugal; and iii) promote international and interdisciplinary collaborations. Above all, it is important to reflect on the established relationships between environment and society and their consequences for sustainability.

The social program includes a dinner (Monday, March 2) and a guided tour led by the city council (Wednesday morning, March 4). The tour will offer an introduction to the environmental strategy of Lisbon and will explore one of its green corridors.

A Secção de Ambiente e Sociedade da Associação Portuguesa de Sociologia, em colaboração com o Instituto de Ciências Sociais da Universidade de Lisboa e o programa doutoral em Alterações Climáticas e Políticas de Desenvolvimento Sustentável, organiza o seu primeiro Seminário Internacional sobre Ambiente e Sociedade, sob o lema: Desafios atuais e trajetórias de mudança.

No ano em que Lisboa é a Capital Verde Europeia, o seminário acolhe sociólogos e outros investigadores interessados na análise das relações entre ambiente e sociedade.

O seminário pretende: i) estimular a discussão e alargá-la a outras áreas de saber para além da sociologia; ii) incentivar a investigação em Portugal; e iii) promover colaborações internacionais e interdisciplinares. Importa, antes de mais, que a reflexão se faça em torno da relação entre ambiente e sociedade e suas consequências para a sustentabilidade.

O programa social inclui um jantar (segunda-feira, 2 de março) e uma visita guiada organizada pela Câmara de Lisboa (quarta-feira de manhã, 4 de março). A visita irá oferecer uma introdução à estratégia ambiental de Lisboa e irá explorar um dos seus corredores verdes.



## ORGANIZATION ORGANIZAÇÃO

Ana Horta – University of Lisbon, Institute of Social Sciences | Universidade de Lisboa, Instituto de Ciências Sociais  
Elisabete Figueiredo – University of Aveiro | Universidade de Aveiro  
João Guerra – University of Lisbon, Institute of Social Sciences | Universidade de Lisboa, Instituto de Ciências Sociais

Many thanks to | Muito obrigado a

Isabel Rebelo (APS), Margarida Bernardo (ICS-ULisboa)  
Diego Fiel (UFSC/ICS-ULisboa), Felipe Augusto Oliveira (ICS-ULisboa),

This event is an initiative of the Environment and Society Section of the Portuguese Association of Sociology  
Este evento é uma iniciativa da Secção Ambiente e Sociedade da Associação Portuguesa de Sociologia



In collaboration with the Institute of Social Sciences of the University of Lisbon  
Em colaboração com o Instituto de Ciências Sociais da Universidade de Lisboa



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With the support of the *PhD Program of Climate Change and Sustainable Development Policies*, and *Lisbon Municipality*, within the framework of the *European Green Capital Lisbon 2020*

Com o apoio do Programa de Doutoramento em Alterações Climáticas e Políticas de Desenvolvimento Sustentável e da Câmara Municipal de Lisboa, no âmbito da Lisboa Capital Verde Europeia 2020



PHOTO CREDIT: Ana Gonçalves

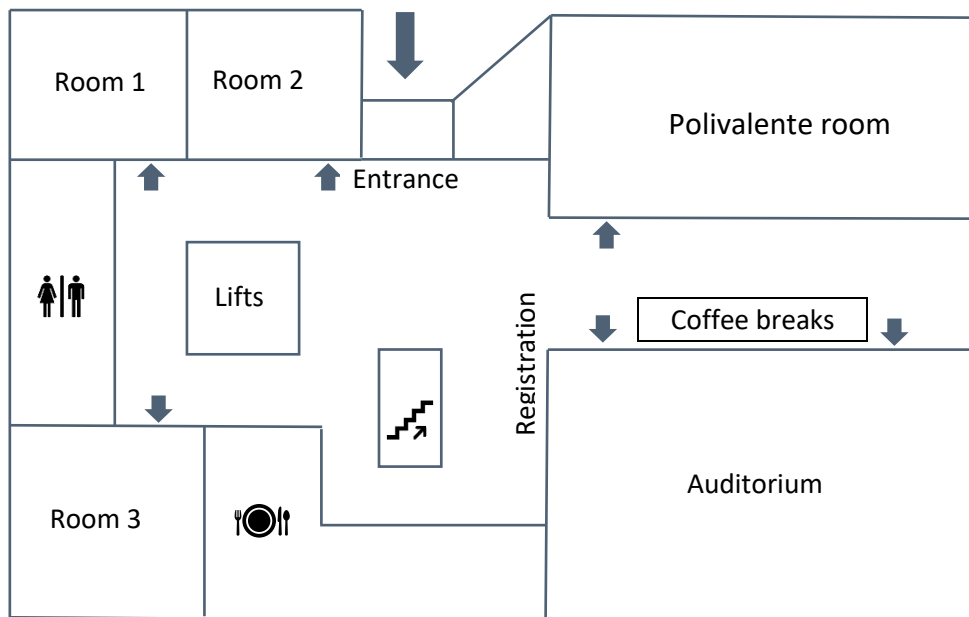
VENUE  
LOCAL



Institute of Social Sciences, University of Lisbon  
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ICS BUILDING - GROUND FLOOR PLAN  
EDIFÍCIO ICS – PLANTA DO PISO 0



## KEYNOTE SPEAKERS

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## ORADORES CONVIDADOS

MARCH 2 | 2 DE MARÇO

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### ALAN IRWIN

Professor in the Department of Organization at the Copenhagen Business School (CBS), Denmark | Professor no Departamento de Organização da Escola de Negócios de Copenhaga (CBS), Dinamarca

**'Risk, science and environment communication: seeking a new research agenda'**



### MATTHIAS GROSS

Full Professor of Environmental Sociology at the University of Jena and by joint appointment at the Helmholtz Centre for Environmental Research – UFZ, Germany | Professor titular de Sociologia do Ambiente na Universidade de Jena e por nomeação no Centro de Investigação Ambiental Helmholtz -UFZ, Alemanha

**'Knowing Ignorance as Opportunity'**

MARCH 3 | 3 DE MARÇO

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### NOEL CASTREE

Professor of Geography at the University of Manchester, United Kingdom, and the University of Wollongong, Australia | Professor de Geografia na Universidade de Manchester, Reino Unido, e na Universidade de Wollongong, Austrália

**'Challenge and change in global environmental assessments: making space for missing 'human dimensions''**



### LUÍSA SCHMIDT

Principal researcher at the Institute of Social Sciences of the University of Lisbon (ICS-ULisboa), Portugal | Investigadora principal no Instituto de Ciências Sociais da Universidade de Lisboa (ICS-ULisboa), Portugal

**'Climate Change and other changes: Seafrosts, Societies and Sociology'**



## OUTLINE PROGRAMME PROGRAMA RESUMIDO

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MARCH 2		2 DE MARÇO
RECEPTION, REGISTRATION AND COFFEE	08:30	RECEPÇÃO, ACREDITAÇÃO E CAFÉ
WELCOME SESSION Karin Wall, ICS-ULisboa Director João Teixeira Lopes, APS President	09:00	SESSÃO DE BOAS-VINDAS Karin Wall, Diretora do ICS-ULisboa João Teixeira Lopes, Presidente da APS
KEYNOTE SPEAKER ALAN IRWIN, CBS, Denmark Chair: Anabela Carvalho, UMinho, Portugal	09:15	ORADOR CONVIDADO ALAN IRWIN, CBS, Dinamarca Moderação: Anabela Carvalho, UMinho, Portugal
Coffee break	10:30	Pausa para café
THEMATIC SESSIONS AND PANELS	11:00	SESSÕES TEMÁTICAS E PAINÉIS
Lunch	12:30	Almoço
THEMATIC SESSIONS AND PANELS	13:30	SESSÕES TEMÁTICAS E PAINÉIS
Coffee break	15:00	Pausa para café
THEMATIC SESSIONS AND PANELS	15:30	SESSÕES TEMÁTICAS E PAINÉIS
Coffee break	17:00	Pausa para café
KEYNOTE SPEAKER MATTHIAS GROSS, UFZ/University of Jena, Germany Chair: Iva Pires, FCSH-NOVA, Portugal	17:20	ORADOR CONVIDADO MATTHIAS GROSS, UFZ/Universidade de Jena, Alemanha Moderação: Iva Pires, FCSH-NOVA, Portugal
Dinner	19:00	Jantar
MARCH 3		3 DE MARÇO
Coffee	08:30	Café
KEYNOTE SPEAKER NOEL CASTREE, University of Manchester, UK Chair: Olivia Bina, ICS-ULisboa, Portugal	09:00	ORADOR CONVIDADO NOEL CASTREE, Universidade de Manchester, RU Moderação: Olivia Bina, ICS-ULisboa, Portugal
Coffee break	10:30	Pausa para café
THEMATIC SESSIONS AND PANELS	11:00	SESSÕES TEMÁTICAS E PAINÉIS
Lunch	12:30	Almoço
THEMATIC SESSIONS AND PANELS	13:30	SESSÕES TEMÁTICAS E PAINÉIS
Coffee break	15:00	Pausa para café
THEMATIC SESSIONS AND PANELS	15:30	SESSÕES TEMÁTICAS E PAINÉIS
Coffee break	17:00	Pausa para café
KEYNOTE SPEAKER LUÍSA SCHMIDT, ICS-ULisboa, Portugal Chair: Mercedes Pardo Buendía, UC3M, Spain	17:20	ORADORA CONVIDADA LUÍSA SCHMIDT, ICS-ULisboa, Portugal Moderação: Mercedes Pardo Buendía, UC3M, Espanha
CLOSING	18:45	ENCERRAMENTO
MARCH 4		4 DE MARÇO
Guided visit "European Green Capital Lisbon 2020"	9:00-13:00	Visita guiada "Lisboa Capital Verde Europeia 2020"



THEMATIC SESSIONS AND PANELS  
.....  
SESSÕES TEMÁTICAS E PAINÉIS



### CHILDREN AND COMPANION ANIMALS: CARING PRACTICES TOWARDS THE NON-HUMAN WORLD

Verónica Policarpo, University of Lisbon, Portugal  
 Vasco Ramos, University of Lisbon, Portugal  
 Henrique Tereno, University of Lisbon, Portugal

This communication draws on the fieldwork experience of project CLAN [Children-Animals Friendships: challenging boundaries between humans and non-humans in contemporary societies - PTDC/SOC 28415/2017]. In the first phase, 24 Portuguese families with children aged 8-14, and owning at least one companion animal, were interviewed. In this presentation, we focus on the caring practices of both adults and children towards their companion animals and ask whether these practices are articulated with a wider ethics of care towards nature, the environment and the non-human. Following Puig de la Bellacasa (2012; 2017), Bartos (2012) and Hoti and Tammi (2019), we approach children's relations with companion animals as non-innocent relations of care, imbued with complex and contradictory rules and practices. In caring for their animals, both adults and children are sometimes caught in dilemmatic conflict between preserving the 'animality' and 'wildness' of the animal, including his/her environmental living conditions; and the preservation of their normative beliefs about home and 'proper' human living. Hence, although parents' discourses often mention concerns with nature and respect for different species, and the need to raise awareness in children in regard to these matters, this is not always easy to pursue in concrete human-animal practices. Following a story-telling method as proposed by D. Haraway (2003), we explore how these non-innocent relations of care are played in the context of home and family life, and if and how they can help to understand children's relations with nature and environment.

### CITY-DWELLERS AND URBAN WILD FAUNA COHABITATION. HOW COMMUNICATION CAN IMPROVE RELATIONSHIP BETWEEN HUMANS AND WILDLIFE IN AN URBAN AREA?

Audrey Hachet, Université Nice Côte d'Azur, France  
 Amélie Coulbaut-Lazzarini, Université Nice Côte d'Azur, France

Every city has its own biodiversity. The biggest part of the wild fauna which lives in this environment is affected by today's massive wildlife crisis. This phenomenon impacts all classes of animals without distinction: mammals, reptiles, birds, and insects. Human activity is one of the main reasons of this collapse. In fact, human harmful behaviour is representative of its relationship with urban wildlife. In Nice (France), as in other cities, cohabitation between both species has constantly deteriorated. This article intends to find solutions to rebuild a connection between city-dwellers and urban wild fauna. In order to achieve this goal and stop biodiversity loss, the article explores communication as an environmental education and awareness tool. First, based on the work amongst others by Robert Barbault (2006), Anja Kollmuss (2002) and Bernard Reygrobellet (2007), this article analyses the reasons of the human-animal relation deterioration. Simultaneously, a field survey has been conducted first of all to identify the representations, and knowledge of the population of Nice, and secondly to determine the point of view of the urban wild animal protection players. A third observation was made with the aim of evaluating the efficiency of a modern awareness operation. Then, the results highlighted two main obstacles to people and urban wildlife reconciliation: lack of knowledge and need of commitment. To answer that problem, communication media, education or non-conventional communication have been explored as potential solutions. Data sources include the work of Lucie Sauvé (2017) and Allain Bougrain-Dubourg (2012), and the analysis of the field survey. Finally, to improve urban cohabitation, it seems that the three tools are needed to make people aware of urban wildlife existence and make them want to protect these species. Broadening environmental awareness and changing people's habits are the two key issues of the fight against climate change.

## KEEPING THE WOLVES AT BAY? CONFLICTS OVER WILDLIFE MANAGEMENT IN POLAND IN AN INSTITUTIONALIST PERSPECTIVE

Krzysztof Niedziałkowski, Polish Academy of Sciences, Poland

During the last three decades wildlife management in Poland proved to be a field of conflicts between various groups of social actors (environmental NGOs, scientists, foresters, hunters and farmers) with diverging views on which animals where, how should be protected and who should be in charge of the process. To understand these conflicts, I investigated the last 70 years of the management of three charismatic wildlife species: the wolf, the moose, and the European bison, and reconstructed discourses that guided this management. For that purpose, I carried out desk research and 42 in-depth interviews with representatives of the groups of actors involved. I interpreted the collected material in the light of the institutional theory. I argue that the management of these species for the most of the 20th century was dominated by a utilitarian perspective represented by hunters, farmers and scientists specialising in animal husbandry, who dominated the field. In their view, active human intervention, including lethal control, was crucial for the survival of these species in the long run. Since socio-economic transformation in 1989 this perspective has been increasingly challenged by a coalition of environmental NGOs and wildlife biologists, who represented an ecocentric perspective, according to which human intervention should be strongly limited and more space give for natural processes to operate. Owing to favourable conditions following democratisation, these actors managed to change the institutions regulating wildlife management, which resulted in the protection of wolves, hunting ban concerning the moose and new initiatives of bison conservation. The depth of institutional changes depended on the balance of power in the field and the institutional work of actors involve, some of whom managed to take advantage of windows of opportunities created by socio-economic transition, the EU accession and the changes of governments.

## HISTORY OF HUMAN ELEPHANT RELATIONS AND CONSERVATION IN ODISHA, INDIA

Medha Nayak, National Institute of Science Education and Research, India

Pranaya K. Swain, National Institute of Science Education and Research, India

In the present day, the concerns of wildlife can't be discussed in isolation but in relation to human forces pushing them towards extinction. Nevertheless, Thomas R. Trautmann rummages through pages of Indian history and posits that protection of elephants was ensured positively by the Kings of those times. Elephants were primarily used for travelling or waging wars against enemies among many other tasks. In India and South east Asia, the number of elephants possessed by a King was the measure of his wealth and valour. Therefore, Kings were known to capture, train and even pass on elephants as gifts. Various evidences establish that prior to rise of kinship there was no capture and management of elephants. The relation of Kings to elephants that is observed by Trautmann is a four-cornered relation of kings, elephants, forests and forest people. The Kings needed elephants, forests were needed to raise elephants and forest people were needed to capture and manage elephants. In this way, both forests and elephants received utmost protection under Indian kingship. Such interest of Kings in elephants not only contributed to their conservation but also expanded the horizons of veterinary knowledge for maintaining their health and fitness. Gradually with the decline of kingship and reduced direct usage of elephants, the human-elephant relations tremendously altered. Hence, this paper intends to trace the 'four-cornered relationship' in Odisha state where the best elephants were said to be found in India and Kings were titled Gajapati (Lord of elephants) for they maintained hundreds of elephants. It further attempts to take cue from history to better the present day human-elephant relations of India in general and Odisha in particular.

## REPRESENTING ABSENCE IN A POSTCOLONIAL ECOCRITICAL CONTEXT: MATERIALISING EXTINCTION OF NON-HUMAN ANIMALS IN WALTON FORD'S ARTWORK

Maria Sofia Pimentel Biscaia, University of Aveiro,  
Portugal

In *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, Alfred W. Crosby focused on the impact of imperialism over colonised territories. Since 1986, it has become blatantly clear that eco-Europeanisation has been extremely aggressive both on indigenous communities and on local eco-systems which have experienced progressive repression and even extinction of their native non-human animals, plants and overall resources. Failing to acknowledge the ecocide caused by the imperial machine has allowed for the furtherance of the violence of environmental neo-imperialism and of the conflicts permeating global economy and relations. Walton Ford's political work addresses in new, humorous and often violent ways the topic of ecological imperialism. His work addresses the conflict and violence of eco-imperialism whilst its very intention constitutes an attempt at healing wounded territories as well as human and non-human animals. Rereading the process of colonisation, Ford paints animals with various marks of anthropomorphic symbolism and behaviour. His contrapuntal approach has as one of its aims to provide new viewpoints on the nature of the relationship between the coloniser and the environment at his disposal. Ford resumes the powerful visual style of Audubon, combining beauty and sadism in terms which disclose the complexity of imperial modes. Ford's art is therefore developed along the lines of postcolonial ecocriticism – or green postcolonialism – and apposite to recent studies on ecological imperialism, namely that of zoocriticism (Huggan and Tiffin) and postcolonial ecology (DeLoughrey and Handley). In this presentation I will work with these theoretical lines of investigation to read Ford's messages about non-animal abuse and even extinction which today, as in the past, are carried out because of the long shadow of imperialism and of its drive to violently control, chart, subdue and even annihilate all subjects in the territories of its desire.

Panel organizer | Organizadora do painel

Brígida Brito, Universidade Autónoma de Lisboa, Portugal

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Climate change is a natural phenomenon that has been worsened due to the direct interference of human activities' and overconsumption of natural resources, especially fossil fuels. Scientific investigations show that the actions made by our societies since industrial revolution have been impacting the natural environment in several different manners. In terms of climate such interference can be noticed through the observation of CO<sub>2</sub> concentration, which has already surpassed 400 ppm. As a result of more CO<sub>2</sub> on atmosphere due to man-made activities, more heat is trapped increasing planet's average temperature, which can be associated to new climatic patterns that are already impacting societies and human settlements all over the world. This Panel aims to address the responses given to the challenges posed by climate change in different levels of action, global and local. The panel departs from the Paris Agreement, one major outcome under UNFCCC, which express multilateral ambitions to reduce emissions based on voluntary targets. The heterogeneity among signatories to the Paris Agreement, besides their diverse economic and politic interests, highlights dares of implementation in order to keep global temperature well below 2C in relation to pre-industrial levels, but despite that, international arena is crucial to overcome climate crisis. After discussing the scenario under multilateral negotiations the panel debates how local communities with low income levels and several constrains to enhance quality of life, located in forested protected areas of the developing world, one in Brazilian Amazon and another in Bangladesh's Sundarbans, are locally responding to climate change. These traditional populations have minor contribution to climate change, but they are already suffering the climatic hazards with negative impacts in their livelihood, which demands local responses not only in terms of adaptation, but also, mitigation due to the need of forest preservation.

## A 'LEADERSHIP' FOR THE PARIS AGREEMENT? GEOPOLITICAL AND GEOECONOMIC ANALYSIS

Filipa Gomes, Universidade Autónoma de Lisboa,  
Portugal

The Paris Agreement has been very criticized for lack of more concrete commitments and for being a sort of “limbo” between a ‘declaration of intent’ and ‘legally binding’; on the other hand, it’s a document of an unprecedented and enormous potential, bringing global arrays that are essential to avoid a future catastrophic climate change. It was adopted unanimously by the Parties to the United Nations Convention on Climate Change, i.e., large and small nations, with larger and smaller ecological footprints, undertook to act in accordance with the 'Agreement', something unprecedented in environmental multilateralism. This enthusiasm has a sudden break when Donald Trump assumes the 45th North American presidency. With environmental ideals quite different from the previous Administration, which negotiated and adopted the Paris Agreement, Trump announced that the United States would definitely "exit" ("pulling out") of the 'Agreement'. The European Union has been the most ambitious and progressive in environmental policies and diplomacy, but it lacks cohesion, economic power and, oftentimes, the ability to implement its internal rules in a congruent and transversal manner in its Member States. It is so lacking a leadership in the fight against climate change and in the implementation of the Paris Agreement, for which China has emerged as the main candidate. What conclusions can we draw from a power that has wagered on their "green performance" at an internal level, but that, in parallel, continues to produce and consume petroleum products, unreasonably exploiting natural resources and emitting their share of account of GHG emissions in other countries? With this article we intend to explore the geopolitics and geo-economics of the Paris Agreement, starting with a brief introduction, moving to a more careful analysis to its relevance, some possible scenarios for its implementation and the need for a strong leadership, and who (and why) will assume this role.

## THE PARIS AGREEMENT: SHOULD LDCS TAKE MITIGATE ACTIONS IN THE NEAR TERM?

Gustavo Furini, Universidade Autónoma de Lisboa,  
Portugal

Greenhouse gases emissions due to the activities of a highly dependent society on fossil fuels is the major driver to global warming, and wealthy nations from developed world are the main historic responsible to do that. Developing countries, such the ones belonging to BASIC group, have been increasing their emissions since the world industry has moved to global south searching for more profits based on cheaper work force and lacking of strong labour legislation. But not all developing countries have increased their emissions due to production migration, and most of them still keep negligible emissions. This is the case of the Least Developed Countries (LDCs), a group currently made by 47 nations which has emitted roughly 0.5% of the total CO<sub>2</sub> released to the atmosphere in the last 5 decades, but have become highly vulnerable to the effects of climate change facing serious challenges in terms of climate adaptation. As a condition to preserve the leadership in the new world order of democracy and free market, developed countries have been relying their hegemony on consent through soft power actions, what can be disseminated to multilateral platforms of negotiation, including UNFCCC, UN branch responsible to handle the international climate agenda. The Paris Agreement, an UNFCCC outcome, encourages every single country to take voluntary mitigation targets and actions through international aid or by self-investment, also covering the LDCs. The proposed research question is: if the LDCs are not responsible for the climate crisis, should the members support mitigate actions through self-investment or by international loans in the period 2020-30? The hypothetical-deductive method was adopted with case studies of some LDCs members backed by Gramsci’s concept of “Hegemony” and the Critical Theory’s from IR. Earlier results suggest that the “Hegemony” can be used as politico-ideological approach to induce society, including the climate change agenda of some LDCs governments.



**SUSTAINABILITY, TERRITORIAL DEVELOPMENT AND LOCAL RESPONSES TO CLIMATE CHANGE: PERSPECTIVES OF A PROTECTED FOREST AREA IN THE BRAZILIAN AMAZON**

Duarcides Mariosa, Universidade Autónoma de Lisboa, Portugal

Brígida Brito, Universidade Autónoma de Lisboa, Portugal

Gustavo Furini, Universidade Autónoma de Lisboa, Portugal

This paper brings to reflection the dilemmas faced by the traditional population living in a forest protected area near to Manaus, in the state of Amazonas, Brazil, to locally implement the agenda of the Sustainable Development Goals, with special attention to the "Climate Action". Sustainability must be addressed from a multidimensional perspective embodying natural features, needed to keep ecosystems' capacity of production and recovering (resilience) due to the challenges posed by anthropic and natural risks. On the other hand, economic assumptions are fundamental when the term sustainability emerges as a development adjective to build the concept of sustainable development. Sustainable development, in this sense, applies to the set of actions expected to improve population's quality of life within the limits of the ecosystem's sustainable capacity, integrating the social, economic, environmental, political and cultural dimensions. The economic factor relates to the creation, accumulation and distribution of wealth; social and cultural dimensions imply quality of life, equity and social integration; environmental because it refers to natural resources and the sustainability from medium to long term which can be worsened by climate change; and, finally, politics, as it deals with aspects of territorial governance, as well as, to the maintenance of the collective project. Local communities need to adapt to the ongoing climatic changes like drought and seasonal rain variations, and on the other hand, the world asks them to mitigate emission by preserving the Amazon forest. The research question that guides this work is: how to promote sustainability and territorial development in forest protected areas and, at the same time, be able to locally respond to the challenges posed by climate change?

**LOCAL CONTEXT OF CLIMATE ACTIONS IN SOUTH WESTERN COASTAL REGIONS OF BANGLADESH AND A CRITICAL DEBT OF ABSENCE OF GLOBAL COMMITMENT**

Md. Ashrafuzzaman, Universidade de Lisboa, Portugal

The frequency and intensity of climatic condition events like sea-level rise (SLR), floods, heatwaves, tropical cyclones, and droughts are increasing in South Western Coastal Region (SWCR) of Bangladesh due to climate change. The SLR demands the creation of short-term responses to the natural impacts over societies, like making institutional structures for disaster management and improvement in social networking. However, impacts are mostly capable of destroying biodiversity, ecosystem, water resources, and agriculture besides in every aspect of human livelihoods in a graceful order. Deliberate climate change adaptation strategies and actions are necessary and the Government of Bangladesh (GoB) by this time prepared national adaptation plans such as the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) of 2009. The obligation for applying this action plan is to illustrate the impacts because adaptation is highly situation dependent; therefore, SWCR of Bangladesh may involve different climate change adaptation plans. This study will involve analysis of qualitative and quantitative data with multi-level methodological analysis in order to identify local responses to deal with the impacts on traditional communities in Sundarban, region highly affected by sea-level rise. This proposal aims to address issues in adaptation and mitigation and the absence of global political commitment, by adopting inductive and deductive approaches which gives a glimpse future of local response of adaptation and mitigation temporarily but in some case temporary adaptation leads to long term climatic impact on that region. Finally, this paper will show how local people of SWCRB use tools, techniques, initiatives and mechanisms to overcome the challenges of Climate Change and SLR in terms of adaptation and mitigation

SYSTEMS THINKING + SYSTEMS DESIGN:  
PROPOSTA DE MODELO INTEGRADOR PARA A  
SUSTENTABILIDADE NO (RE)DESENHO DE  
SERVIÇOS PÚBLICOS

Cláudio Pereira de Sampaio, Universidade Estadual  
de Londrina, Brasil

Esta investigação de pós-doutorado teve como tema o (re)desenho dos serviços públicos das cidades, e como pode ser abordado de forma interdisciplinar e integrada com base em duas áreas integradoras do conhecimento: o pensamento de sistemas e o design de sistemas. A partir desta questão, apresenta-se uma proposta de modelo integrador, sistêmico e participativo para a compreensão e intervenção em serviços públicos, e tendo como exemplo de aplicação o sistema de coleta seletiva de uma cidade brasileira de médio porte. O modelo inclui inicialmente uma etapa de diagnóstico, norteadada sobretudo pelo pensamento de sistemas, seguida de uma etapa de intervenção guiada pela abordagem do design de sistemas (Ceschin, Gaziulusoy, 2016; Costa, Diehl, Snelders, 2019; Vezzoli, 2010). As bases teóricas incluem os aspectos ontológicos e epistemológicos do pensamento de sistemas (Snowden, 2005; Alman, 2013), apoiados principalmente na filosofia do Realismo Crítico de Roy Bhaskar, e abrangem as principais correntes sistêmicas tanto de Sistemas Funcionalistas (Taylorismo; Fordismo) e Estruturalistas (Bertalanfy, 1950; Forrester, 1968; Meadows et al, 1972) quanto de Soft Systems (Checkland, 1990) e Pensamento Crítico de Sistemas (Churchman, 1971; Ulrich, 1983), e também propostas integrativas como Total Systems Intervention (Flood, 1991) e Multimetodologia (Mingers, Brocklesby, 1997) bem como as metodologias, métodos e ferramentas relacionadas. Apoiada por extensa revisão bibliográfica, esta investigação teve como método norteador a pesquisa-ação, desenvolvida por um grupo interdisciplinar de pesquisa em resíduos de uma universidade pública. Os resultados iniciais incluem um levantamento preliminar do sistema de coleta seletiva supracitado, a fim de caracterizar a situação-problema que será posteriormente objeto de intervenção com o modelo proposto. As próximas atividades incluem a aplicação das demais etapas do modelo integrador, com escolha dos métodos e ferramentas mais adequados.

INICIATIVAS DE APOIO ALIMENTAR A ATUAR EM  
PORTUGAL: SUSTENTABILIDADE, INOVAÇÃO E  
MUDANÇA

Fábio Rafael Augusto, Universidade de Lisboa,  
Portugal

Apesar da sua já longa história de atuação e da sua forte expressão em contextos de crise, como a que se vivenciou a partir de 2008 a nível internacional, as iniciativas de apoio alimentar (IAA's) não reúnem consenso nas ágoras contemporâneas. Se, por um lado, modelos mais tradicionais de IAA's são acusados de perpetuar o sistema de produção alimentar dominante (assente numa ideologia neoliberal), por outro, têm vindo a emergir modelos considerados “inovadores” que procuram, justamente, equilibrar a balança da sustentabilidade e combater/minimizar o desperdício alimentar. De facto, os constantes e crescentes alertas para a insustentabilidade das habituais práticas e dinâmicas de produção, distribuição e consumo de alimentos têm contribuído para a procura de novos modelos que vão de encontro a esta urgência com vista a uma mudança dos padrões existentes. Tendo como pano de fundo uma pesquisa etnográfica, nomeadamente observação participante realizada em três IAA's a atuar no contexto português (Re-food, Cantina Social e Mercearia Social) e entrevistas semiestruturadas realizadas aos responsáveis, voluntários e beneficiários destas IAA's, procura-se explorar o binómio tradicional/inovador, dando conta dos elementos caracterizadores das iniciativas em causa com base na análise de aspetos como o seu *modus operandi* e impacto social. Desta forma, as IAA's analisadas serão inseridas numa espécie de continuum que parte de um potencial transformador neutro, estático e sem grande capacidade de mudança para um potencial transformador efetivo, dinâmico e com grande capacidade de provocar alterações nas atuais lógicas de produção, distribuição e consumo de bens alimentares. Procura-se, assim, conhecer as IAA's e perceber, com base nas perspetivas dos seus atores, se as mesmas são alternativas efetivas assentes em práticas verdadeiramente transformadoras, inovadoras e/ou sustentáveis.

## INOVAÇÃO SOCIAL E O PAPEL DO ESTADO: CONTRIBUTOS DE UM PROJETO DE COOPERAÇÃO EUROPEIA

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As sociedades contemporâneas atravessam um período de incerteza. A turbulência decorrente da financeirização da economia, a crescente desigualdade, a insustentabilidade dos serviços públicos, o desinvestimento público na função social do Estado, a desarticulação entre a sociedade civil e o poder político, o desinteresse sistemático dos cidadãos na participação cívica, as novas pressões migratórias e a emergência climática, constituem apenas alguns dos desafios atuais para os quais as políticas públicas se revelam ineficazes. Neste contexto, a inovação social surge como um processo com potencial para a resolução destes e de outros problemas. Ciente disto, a Comissão Europeia tem vindo a alocar cada vez mais recursos para a inovação social, tendo promovido um enorme salto quantitativo e qualitativo na compreensão desta temática. Espera-se que os contributos deste investimento não se façam sentir apenas em termos de produção de conhecimento, mas também no terreno, com a implementação de inovações sociais que promovam a transformação da sociedade. Apesar do crescente volume de investigação dedicada à inovação social, várias lacunas persistem e ainda não se atingiu a maturidade conceptual desejável. Um destes casos é o papel do Estado na inovação social. Esta comunicação apresenta reflexão com base na implementação do projeto Atlantic Social Lab, financiado pelo INTERREG Espaço Atlântico, que promoveu ações-piloto de inovações sociais nos cinco estados-membro do Espaço Atlântico em quatro domínios: (i) inovação social e serviços de bem-estar, (ii) inovação social e engajamento público ativo, (iii) economia inclusiva verde e (iv) economia social e responsabilidade social no setor privado. Os resultados desta reflexão contribuem para o entendimento das experiências no terreno e para o aprofundamento da teoria sobre as ligações do Estado com a promoção e implementação de inovação social.

## O INCENTIVO A ATIVIDADES ECONÔMICAS ALTERNATIVAS NAS ARENAS EM TORNO DO GARIMPO E DOS POVOS INDÍGENAS NO SUDOESTE DO ESTADO DO PARÁ, BRASIL

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Marjo de Theije, Vrije Universiteit Amsterdam,  
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A mineração artesanal e de pequena escala, ou garimpo, é uma atividade importante por apoiar a subsistência de milhares de pessoas. No entanto, os impactos socioambientais negativos resultantes podem gerar barreiras à sustentabilidade. A parte sudoeste do Estado do Pará (local de realização deste estudo) inclui a região de Tapajós, a qual abarca um dos mais importantes depósitos de ouro e uma das maiores áreas de garimpo do mundo. Grande parte da região é coberta por terras indígenas e, historicamente, a mineração de ouro tem sido um veículo de fortes impactos negativos sobre esses grupos sociais tradicionais. Em atividade de campo realizada na região, pôde-se verificar que as posições dos atores na arena divergem quanto ao garimpo ser considerada uma atividade passível de ser incorporada nos territórios indígenas, mas parecem convergir quanto à necessidade de incentivo ao estabelecimento de alternativas econômicas na região, principalmente em se tratando dos territórios indígenas. Qual o papel do incentivo a atividades econômicas alternativas para uma possível prevenção de invasões garimpeiras nas Terras Indígenas (TIs)? Como e quem deveria suscitar essas atividades econômicas? Quais atividades seriam mais compatíveis com a realidade dos indígenas da região? O objetivo deste trabalho é discutir, dentro das múltiplas arenas relacionadas ao garimpo e aos povos indígenas na região do sudoeste do estado do Pará, o papel do incentivo a atividades econômicas alternativas a fim de suscitar transformação em direção a futuros mais sustentáveis. Para análise dos resultados, será adotada uma abordagem híbrida de arena, abrangendo tanto o ponto de vista estrutural, quanto metafórico; uma perspectiva de conflitos como inerentes à sociedade e, um fenômeno social com atributos positivos, ao contrário da visão de conflito como anomalia; e uma visão de sustentabilidade através dos olhares de múltiplos atores, visando à convergência conceitual, com o objetivo de transformação.

Panel organizer | Organizadora do painel

Alison Laurie Neilson, Universidade Nova de Lisboa, Portugal

Panel discussant | Comentador do painel

Rui Pedro Julião, Universidade Nova de Lisboa, Portugal

At this beginning of a Decade of Ocean Science for Sustainable Development which takes direction from the UN SDGs, this panel confronts the ways that these efforts self-sabotage their proclaimed objectives. Rather than develop healthy and just societies which are sustained by equally healthy and just environments, integrated systems of human society and nonhuman “environments” are dismantled. People and the environment are cut out of each other. This extraction is simultaneously metaphoric, physical and metaphysical. This interdisciplinary panel is based in research in environmental planning on land and sea, including issues of participation in decision-making and environmental and social conflicts. Drawing from the experiences of small-scale fishing communities in the Azores and Malta and from land conflicts in Brazil, amongst other places, panelists will discuss the ways that policies and practices to plan the environment, whether land or marine, continue to marginalise and exclude people whose ways of living are integrated in long-existing socio-ecological systems. Our holistic presentation will take the form of a planned discussion, drawing from our diverse areas of work and fields of study. Instead of separate stand-alone presentations, panelists will speak to points raised by one another, to create a flowing academic conversation amongst the diverse locations and perspectives present. This transdisciplinary conversation will reflect on the ways that our scholarship, through various institutional alignments are implicated in these processes as well. Together with the audience, we will explore how we could collectively re-imagine and re-inscribe the political, legal and moral existence of people/environment as socio-ecological beings. We will discuss the possible transformation this would have on research and policy agendas if people were understood as one with the environment and planning and other governance practices would begin from this understanding.

## AZOREAN FISHERS AND POLICY DECISIONS

Alison Laurie Neilson, Universidade Nova de Lisboa, Portugal

Rita São Marcos, Universidade de Coimbra, Portugal

Drawing from long term social science research in the coastal fishing communities of the Azores archipelago, we highlight the ways that small-scale fishers are prevented from influencing policy decisions, in large part because of the way much science and public discourse excludes people from the ocean. In particular, we show how lack of consideration for gender not only leaves half of the population out of the discussions about fishing policy and coastal marine planning, but removes cultural, spiritual and other social values from being respected through planning processes and policies. We discuss our experiences in the islands and why we believe that trying to serve a just and sustainable socio-ecological well-being means that we need to engage with natural scientists to help identify the often hidden, but powerful ways that people are separated from the environment. We trace the way this powerful underlying people/ocean separation has influenced concepts of sustainable development and severely limits how ocean literacy is promoted at all levels from aquarium educators to policy decision-makers.

## UNPARTICIPATORY GOVERNANCE PRACTICES AND CONFLICT IN BRAZIL

Carlos Alberto Marçal Gonzaga, Universidade Estadual do Centro-Oeste, Brasil/Universidade Nova de Lisboa, Portugal

Based on interdisciplinary research of land use cover, and ecosystem conservation policy in Brazil, I discuss the way that some supposedly well intended sustainable development initiatives become top down “(un)participatory” governance practices. The discussion is focused on the paradoxical consequences of such sustainable developmentalist actions in the lives of traditional communities of small property holders, agricultural families and traditional communities of island fishermen. From field evidence I point out how the generic discourse of sustainability is incorporated in the justification of global developmentalism that resonate colonial positivistic public policies, which perceive traditional communities as peripheral and poor who must be integrated into urban labor markets. This positions them in a space of social invisibility and insignificance. I based the analysis on how Latin American traditional communities relates with the land, ocean and all-natural resources which is driven by a rationality of self-identity grounded on territoriality, not on market commodities or any globalized North American or Eurocentric values. Indeed, I argue that, coherent with sustainable cultural diversity principle, the traditional communities may have supported their right of cultural autonomy, and perhaps to have protection for their ancestral territory inside the nations they live in.

## FISHERMAN'S KNOWLEDGE, PERCEPTION AND BEHAVIOR IN THE FACE OF FISHERIES COLLAPSE

Igor d'Angelis, Universidade Nova de Lisboa, Portugal  
Iva Pires, Universidade Nova de Lisboa, Portugal

FAO estimates that of the world's total number of commercial fish stocks assessed in 2013, 31.4% were overfished. This overexploitation is mainly the result of intensive and industrial fishing practices which in many regions have led to the collapse of the activity by depletion of fishing resources. Fishermen who have experienced this situation are relevant sources of information because they have experienced the process of fisheries decline and collapse, but more importantly, it makes it possible to observe the influence of this experience on their current behavior towards fishing, as well as to understand their perception of the reasons for this collapse. The purpose of this paper is to understand how some fishermen from Sesimbra (Portugal) acted in the face of a declining fishing activity and how these same fishermen act in their current fishing practice. That is, we intended to understand if the current practices were, in any way, influenced by the experiences of the recent past lived in phases of decline of the species they fished. The main results show that despite noticing the decline of the species, fishermen did nothing until the collapse forced them to change activity or target species. Similarly, in recent practices, although they consider that the species which they are fishing are already declining, they still do nothing to prevent further collapse. There was a complete absence of interaction with the State to develop rules for more sustainable use and the ones in force are rarely respected by the fishermen, even if they are not very penalizing because they do not refer to limits or other catch restrictions. It was also observed that there is a considerable ecological knowledge about the ecosystems and the species explored, but this knowledge does not seem to guarantee behaviors in favor of environmental sustainability.

## Panel organizers | Organizadores do painel

Marco Malagoli; Universidade Federal Fluminense, Brasil/Universidade de Coimbra, Portugal

Sérgio Pedro, Universidade de Coimbra, Portugal

A Oficina de Ecologia e Sociedade (ECOSOC, CES-UC), fundada em 2011, é um grupo de trabalho do Centro de Estudos Sociais da Universidade de Coimbra que reúne investigadorxs que adotam na sua pesquisa uma abordagem crítica da ecologia em colaboração com ativistas e movimentos sociais que estão no terreno, pensando e co-produzindo em conjunto resistências e alternativas à crise ecológica. Ao longo dos seus 8 anos de trabalho, a ECOSOC, CES-UC tem desenvolvido atividades de investigação, extensão e formação avançada sobre um vasto conjunto de temas. Este é o segundo de três painéis que busca refletir sobre as diferentes formas de mobilização social, as questões sócio-ecológicas que afetam a defesa da vida (alterações climáticas, riscos químicos, contaminação da água e solos, alteração profunda dos territórios e modos de vida, entre outros) e as alternativas vislumbradas para uma nova política que possa mudar o sistema económico, nomeadamente o regime capitalista neoliberal. Dentro deste regime, as políticas públicas são ausentes na abordagem de aspetos relacionados ao género, incluindo a agência de mulheres e a participação em processos sociais. A natureza inovadora do movimento Fridays for Future amplia o debate para ações de transformação de culturas políticas, com mais ênfase no caso italiano. Diferentes formas de engajamento social e educacional são debatidas no contexto de renovação da cidadania para a sustentabilidade, assim como o mapeamento colaborativo emerge como ferramenta de relevante teor ético-político na abordagem da insustentabilidade e das injustiças ambientais em Portugal. Como podem os movimentos sociais de justiça ambiental inverter desigualdades aprofundadas pelas alterações climáticas e promover a interseccionalidade das políticas públicas? Qual o seu contributo para a co-produção de novas formas de pensar a democracia ambiental, governança e participação para a sustentabilidade?



## MAPEAMENTO COLABORATIVO DE CONFLITOS SOCIO-ECOLÓGICOS: A EMERGÊNCIA DE UM OBJETO DE FRONTEIRA

Lúcia Fernandes, Universidade de Coimbra, Portugal  
Sofia Bento, Universidade de Lisboa, Portugal  
Stefania Barca, Universidade de Coimbra, Portugal  
Teresa Meira, Universidade de Aveiro, Portugal

Esta apresentação faz uma reflexão sobre o processo de co-produção de conhecimento que resultou da concepção do mapa português: Environmental Justice Atlas (EJAtlas) entre 2014 a 2017. Através da sistematização de experiências do mapeamento colaborativo - por ex. como o processo decorreu, quais ferramentas emergiram e quais os conhecimentos foram co-produzidos - discute-se que a perspectiva democrática do ambiente foi fortalecida e uma pluralidade de ontologias/epistemologias embasam as diferentes visões dos conflitos sócio-ecológicos em termos de casos, temas, atores, narrativas e controvérsias. Baseamo-nos na combinação de dois campos teórico-metodológicos: Ecologia Política e Estudos Sociais da Ciência e Tecnologia. O primeiro define as resistências por justiça ambiental, que questionam as dinâmicas de poder e as situações de efetivo ou potencial dano ambiental, social, à saúde e vida de pessoas e comunidades (contaminação ambiental, perda de biodiversidade, desrespeito aos direitos, ameaça aos saberes, práticas e autonomia local, adoecimento e morte, dentre outros) por atividades económicas existentes ou propostas para constituir a economia dos territórios. O segundo traz o olhar sobre o mapa como um objeto de fronteira, que torna possível a sua abertura para traduzir os múltiplos mundos sociais e as diferentes dimensões cognitivas das realidades.

## O PARADIGMA ECOLÓGICO BOLIVIANO: O VIVIR BIEN NUMA PERSPECTIVA DE CONSTRUÇÃO DE EQUILÍBRIOS

Fabio Sousa M. de Castro, Universidade Federal do ABC, Brasil  
Sinclair M. Guy Guerra, Universidade Federal do ABC, Brasil  
Paulo A. de Lima Filho, Instituto Brasileiro de Estudos Científicos, Brasil

Em 2019 a Bolívia voltou ao centro dos debates políticos e económicos no âmbito da América Latina. Muita informação especulativa se apresentou nas mídias ao redor do mundo e os debates se colocaram, em geral, na dicotomia entre revolução socialista e autoritarismo, mas pouco se tocou na particularidade do projeto de desenvolvimento boliviano que estava em rumo no país desde 2006 até o golpe de Estado do dia 10 de novembro de 2019. Neste artigo, não se almeja discutir o processo político que levou a este evento, mas sim indicar como a construção de um modelo de desenvolvimento autônomo suscitou um importante debate sobre a vida em harmonia com o meio ambiente, a partir de ideias de culturas ancestrais, na lógica da contradição entre preservar a natureza e buscar um caminho para saltar para fora do subdesenvolvimento. A Bolívia de Evo Morales, que ainda é um dos países mais pobres da América Latina, propôs a ideia do socialismo comunitário e do vivir bien, cuja sustentação se deu no tripé: Estado Plurinacional, Regime Democrático autônomo e Industrialização dos recursos naturais. A pergunta que queremos responder com este artigo é: como é possível desenvolver um projeto económico e social que almeja a superação do subdesenvolvimento em harmonia com o meio ambiente? A metodologia utilizada foi a revisão da literatura e pesquisa de campo, através de entrevistas e observação direta. A hipótese proposta é que a ideia de harmonia proveniente do vivir bien não é uma idealização, pois não se pauta na confrontação direta entre crescimento e preservação do meio ambiente, seu cerne está na ideia de construção de equilíbrios. Por isso é possível discutir porquê o financiamento do projeto se deu através dos setores extrativistas da economia e entender como a Bolívia está no centro das estratégias de disseminação do automóvel eléctrico, cuja importância é central para se reduzir a queima de combustíveis fósseis.

## WOMEN AND CLIMATE CHANGE. GOING BEYOND VULNERABILITY, ADAPTATION AND INCLUSION

Francisco Venes, University of Coimbra, Portugal

It's been more than 25 years since the United Nations Framework Convention on Climate Change (UNFCCC) was proposed as a global governance scheme to address climate change. However, in spite of some minor developments, gender has not been a prominent aspect at the Conferences of Parties (COPs). This fact does not do justice to the variety of debates on gender and the environment literature that took place in the same period, in particular those relating to women and climate change. With this proposal, I intend to present a review of the literature focusing on gender and climate change governance. I will start from more mainstream approaches that focus on women's vulnerability and adaptation to climate change, and participation perceived as inclusion. I will also discuss some literature that criticizes the limits of such approaches, namely the problem of consensus building and the lack of a decolonial perspective on women and climate change. My purpose is to show how the mainstream literature – and the policies that follow its recommendations – do not address important aspects of the gender debate, including women's agency and participation in social processes that challenge the political, social and economic status quo.

## EXPLORING DIFFERENT FORMS OF ENGAGING DIFFERENT PUBLICS WITH ENVIRONMENTAL SUSTAINABILITY

Rita Campos, University of Coimbra, Portugal

For the past 30 years, sustainability has become the key-concept for several contexts, such as politics, economics, education or conservation. Different definitions can be found in the literature, as well as different uses of the word. Regardless, the use of the concept of sustainability often underlines efforts to improve the quality of life of human societies and the health of the environment. This communication presents a review of some main concepts of sustainability, and sustainable development, and then focus on environmental sustainability to discuss emerging trends on engaging citizens in diverse ways to contribute to a more just and balanced environment. Specifically, three forms of engagement, targeting different publics, are addressed: engaging students in the classroom; engaging local communities in affected regions (i.e. regions affected by environmental degradation or ecological disequilibria); and engaging visitors in areas of potential touristic interest. In each case, a theoretical framework is complemented by case studies illustrating how sustainability can be used to promote scientific literacy, positive changes in perceptions and attitudes for biodiversity management and conservation and to incorporate different knowledges and ways of living. Using mixed approaches, from more classical formats of workshops and educational resources to collaborative and participatory processes, the case studies give an overview of current work being done to endorse the values subjacent to environmental sustainability, communicating the interrelatedness between human population and the natural environment and ultimately trying to promote a healthier and sustainable planet.

### 'ADAPTATION CAPABILITIES' AND JUST TRANSFORMATION: WILL CLIMATE CHANGE MAKE US A BETTER SOCIETY?

Carla Gomes, University of Lisbon, Portugal

The capabilities approach has been recently gaining ground within environmental justice scholarship and presented as a possible new dimension of this framework, along with distribution, procedure and recognition. Some authors even argue that capabilities can serve as an overarching framework for analysing EJ issues. A critical issue for human development is the impact of climate change in human wellbeing, and our ability to undertake adaptation policies while preventing further deprivation of human capabilities. Many of the poorest regions in the world, and social groups such as smallholder farmers, are also the most vulnerable to climatic stress (floods, temperature rise, severe droughts). Behind the notion of transformation lies the idea that adaptation might even lead to a positive societal change, towards communities that are broadly more just and sustainable. Embracing that challenge will however require us to find ways of not only preventing further deprivation, but genuinely enhancing human capabilities through adaptation. We will need to identify existent local capabilities that are relevant for climate adaptation (regarding local knowledge and practices, for instance) – 'adaptation capabilities' –, upon which we can build to design strategies for a just adaptation and more resilient communities. All the while striving for ecological justice – towards nature and non-human actors. Can climate change ultimately lead us towards a more sustainable and just society, in social and environmental terms? In this paper, I outline a framework to study transformative climate adaptation through a capabilities approach, building on the concept of 'adaptation capabilities'. I will discuss possible strategies to address 'just adaptation' and 'just transformation' through empirical studies, while interrogating the epistemological and methodological challenges of applying the approach to different geographies (across North and South).

### LEGUME-BASED FOOD SYSTEMS: A GOVERNANCE PARADOX?

Bálint Balázs, ESSRG, Hungary

Eszter Kelemen, ESSRG, Hungary

Tiziana Centofanti, ESSRG, Hungary

Marta Vasconcelos, Universidade Católica do Porto, Porto, Portugal

Pete Iannetta, James Hutton Institute, UK

Legumes have become key actors of policy debates concerning global food security, sustainable food production systems and our transformation towards more sustainable food systems. The paradox is that, whilst policies exist to realise legume-based food production, they have clearly failed to increase legume-based diets and even production over the long term. Indeed, the marginal role of legumes in agri-food systems illustrates 'pars pro toto' our unbalanced agri-food systems, which are 'locked-in' to unsustainable states of operation that systematically obviate the true economic, social and environmental costs of current production and consumption patterns. Such legume paradox presses for practical policy innovations to avoid further incoherencies among policies across sectors. However, this needs to be realised in a highly fragmented, unknowable, 'no-one-stop-shop' policy environment. Public funding for legume production and consumption would provide clear opportunities for synergies, as 'sustainable diets' might be a policy goal that is most widely acknowledged. This paper provides a critical analysis of existing policies and governance solutions for legume-supported systems, which help identify limiting and enabling factors as well as leverage points for further policy interventions to support legume-based systems. The study is part of the TRUE H2020 EU project which provides a multiactor, transdisciplinary setting to explore the complexity of society-environmental relations through the example of legumes in the food system transitions. Systematic reviews, key stakeholders' interviews, and an expert Delphi created the evidence-base for our interpretive policy analysis of actors, networks and processes which are crucial to create effective policy solutions. The main question we address is what the practical policy challenges to increase legume production, and consumption in Europe are?

## THE FOOD SYSTEM IN PORTUGUESE URBAN PLANNING: PROT-AML AND CHALLENGES TOWARDS A NECESSARY SUSTAINABLE TRANSITION

Teresa Marat-Mendes, ISCTE-IUL, Portugal  
João Cunha Borges, ISCTE-IUL, Portugal  
Mafalda Pereira, ISCTE-IUL, Portugal  
Sara Silva Lopes, ISCTE-IUL, Portugal

A request for a sustainable transition of urban planning and public policies has been urged by international and national Agendas, such as the UN2030 Urban Agenda, to mitigate the negative role of cities in Climate Change. An ongoing project SPLACH – Spatial Planning for Change aims to contribute to such call through the design of good practices compendium to improve urban planning and decrease carbon emissions. Focusing on the Lisbon Metropolitan Area (LMA), SPLACH has highlighted the role of the food system to improve current planning practices and promote sustainable transitions. To do so, SPLACH has evaluated the integration of the food system in LMA planning instruments, namely at the municipal scale, concluding that integration is not yet achieved. But does regional planning counteract the frailties observed at the municipal scale in the LMA? This presentation aims to introduce the first results of an ongoing evaluation of the food system integration within the Regional Spatial Plan of LMA (PROT-AML). The PROT-AML acknowledgement of the diversity of agricultural practices within the regional territory exposes possibilities and niches that may help to enhance the food system into a future new PROT. A new regional plan should have emerged in 2012, when the 2002 PROT-AML was supposed to finish its implementation. By analysing the key policies and the territorial model of the PROT-AML, this presentation reveals how the food system may contribute to improve further regional strategies towards a sustainable transition of our cities and territories.

## SOCIAL HOUSING AND ENVIRONMENT IN ALGERIA OR THE FAILURE OF THE ECOLOGICAL HABITAT

Najet Mouaziz Bouchentouf, USTO-MB, Algeria

In the early 2000s, Algeria embarked on an extensive housing construction programme to reduce a large deficit. Three million units to be built between 1999 and 2018, in all regions of the country. If all means were used to carry out this programme, the energy and environment component was "forgotten" or even hidden or postponed. Today large housing districts have grown on the outskirts of most Algerian cities and new cities and villages have been born. The resulting urban landscape offers uniformity that denies the country's geographical diversity: the north or the south (the Sahara), the plain, the mountain or the seaside. The same housing model was made with the same materials and typologies. The result is a high consumption of electricity to heat or air-conditioning these dwellings that are not conform to climatic characteristics. The purpose of this communication is to reveal the consequences of housing construction by standardizing the choice of materials and the spatial configurations of housing in different situations in Algeria, regardless of the climate. This is the result of the place occupied by the sustainable development in the teaching of architecture and housing design, the political will and the practices of the inhabitants. In the long term, it is a question of showing that these three inseparable points are the basis of any action promoting the change of the way of life for more sustainability. This work is based on an analysis of various social housing projects located in different regions of Algeria.

Panel organizer | Organizador do painel

Thomas Völker, University of Bergen, Norway

In recent years we have witnessed a growing interest in the water-energy-food (WEF) nexus in both academia and policy. The term gained prominence in the World Economic Forum in 2008 and later in the Bonn 2011 Nexus conference as a link between environmental concerns and economic growth. Currently there is also a flagship project on the nexus at the European Commission's Joint Research Centre. 'Nexus thinking' or acknowledges planetary boundaries, calls for a more sustainable use of the Earth's resources and directs attention to the interrelated pressures created by agricultural production, water use, and energy production and consumption. This panel presents research from the Horizon 2020-funded Project "Moving Towards Adaptive Governance in Complexity: Informing Nexus Security" (MAGIC) and wants to solidify the argument that the WEF nexus is not only an epistemic but crucially a governance problem. It's not "merely" a problem of how to produce more accurate knowledge about interdependencies "out there", but one of balancing different ideas about what counts as legitimate knowledge and about how to deal with complexity and uncertainty in governance practices within European institutions. To address nexus challenges, it is important go beyond attempts at epistemically tackling "trade-offs" between water, energy and food and to focus on the complexity of interdependencies between nature and society. What is needed are approaches that allow for moving towards governance in complexity instead of attempts at the governance of complexity. How can the nexus be known? How can the nexus be governed? And how are ways of knowing the nexus mutually constitutive with our ideas about how it can be governed? To address these questions this panel will bring together selected case studies from the MAGIC project with more critical reflections of current modes of environmental governance.

#### QUESTIONING THE ROLE OF SCIENTIFIC EXPERTS IN SCIENCE-POLICY INTERFACES: NEXUS AND 'SUSTAINABLE AGRICULTURE' IN THE EU

Kirsty Blackstock, James Hutton Institute, UK  
 Kerry Waylen, James Hutton Institute, UK  
 Keith Matthews, James Hutton Institute, UK  
 Alba Juarez-Bourke, James Hutton Institute, UK  
 Doug Wardell-Johnson, James Hutton Institute, UK  
 Dave Miller, James Hutton Institute, UK

Post-normal understandings of the role of science in society push us to move beyond notions of scientific experts as 'servicing' policy by providing objective facts to use in decision-making. However, this leaves open what roles scientific experts and expertise can and should play in fostering transitions towards sustainability. In this paper we reflect on 4 years of evolving expert roles in the interdisciplinary H2020 MAGIC project, focusing on European agricultural policy. The Common Agricultural Policy spans several objectives making it both a nexus for water, energy and food issues as well as an interesting challenge for how to govern in complexity. This intended role of experts is similar to the Turnhout's 'diversifying' role of experts as brokers. In practice the range of expert roles was more varied, in part due to the reactions of policy stakeholders. Their feedback often indicated that they expected MAGIC experts to act as traditional 'fact' providers for use in their policy roles. Furthermore, some contested the negative results; seemingly unwilling or unable to acknowledge the complexity of problems that require new perspectives and new initiatives. The reaction of scientific experts themselves varied, with some attempting to foster relationships by emphasising potential 'servicing' roles, whilst others moved towards strong 'advocacy' roles when frustrated by stakeholders not engaging as expected. Such roles and responses are in tension with the original ethos of post-normal science. However, they were productive to some extent, as MAGIC has achieved new dialogue with EU policymakers about sustainable agriculture. We therefore call for more attention to implementing post-normal science in practice, and the potentially plural roles of experts in fostering change for sustainability.

#### DESALINATED AND RECLAIMED WATERS: A NEW PANACEA FOR WATER GOVERNANCE?

Angela Guimarães Pereira, Joint Research Centre, European Commission  
 Violeta Cabello, Autonomous University of Barcelona, Spain  
 David Romero Manrique, Joint Research Centre, European Commission

Alternative water sources, namely desalinated and reclaimed waters, have emerged as the new panacea for agricultural production in regions facing water scarcity. In the Canary Islands, we explored narratives surrounding the feasibility and desirability of these technologies with a wide range of actors. Through an integrated methodology combining quantitative and qualitative analysis the following challenges and questions are addressed: what role do these water resources play in the recovery or reduction of pressures on natural sources? Is it plausible and desirable to implement these technologies if we take into account future scenarios of climate change, energy crisis or hardening of export conditions? What role do alternative waters play in agricultural development if we consider current limitations such as e.g. price, quality, emerging pollutants and impacts on the soil and the environment? Water scarcity due to the depletion of the traditional freshwater resources is the official discourse behind the development of alternative waters for agricultural production. Alternative narratives however question the economic model that is driving that depletion. In the last decades, several dynamics have increased the pressure on natural water sources on the Canary Islands: competition between different economic sectors, high population pressure, a gradual decrease in the average annual rainfall and anticipated effects of climate change. If we analyse these causes in terms of internal and external drivers, only the two last (decreasing rainfall and climate change) can be considered as outside the governance capacity of control by regional and local actors. Indeed, those are the central pillars of the official narrative, as they make it easier to elude responsibility and self-criticism: this framing of alternative water sources as a panacea of water governance allows for maintaining the status quo without questioning what is wrong in the model.

## ENERGY SYSTEMS ARE COMPLEX: IMPLICATIONS FOR SCIENCE AND FOR POLICY

Louisa Jane Di Felice, Autonomous University of Barcelona, Spain

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From an epistemic perspective, complexity emerges as a result of the interaction between systems and observers. When studying social-ecological systems, the observed can be conceptualised through the theory of complex adaptive systems (CAS), which focuses on system behaviour, including non-linearity, emergent properties and feedback. CAS theory has been applied to the study of energy systems, focusing predominantly on the behaviour of the electricity system, smart grids and microgrids. Less attention has been paid to the implications of the interaction between the system and the observer. We argue that energy systems are complex in the sense that they cannot be described and interpreted in a unique way, regardless of how many aspects of CAS theory are included in their model. To explain this, we adopt a multi-scale representation of the energy system of the European Union (EU), which we view as a relational metabolic network. We use this representation to discuss the possibilities of the future evolution of the energy system, through an exercise in anticipation. Building on the anticipation, we discuss the impredicative nature of the identity of energy systems and the challenges this brings to governance. We argue that dealing with complexity is not only about being able to generate models which can take non-linearity and other properties associated with CAS into account, but also about understanding the limitations of models themselves, especially when trying to predict the future. Our analysis suggests that the epistemic implications of complexity are important for how energy systems are modelled and represented and for how these representations are used to inform decision-making.

## THE ROLE OF KNOWLEDGE IN GOVERNANCE IN THE NEXUS

Roger Strand, University of Bergen, Norway

Zora Kovacic, University of Bergen, Norway

Thomas Völker, University of Bergen, Norway

This talk aims to bring together the previous talks and takes as its point of departure that there can be no governance of complexity, only governance in complexity. The degree of complexity met in the biophysical water-energy-food nexus by far surpasses what can be commanded and controlled by ordinary intervention logics. The biophysical nexus, again, is intertwined and entangled into the complexities of the social worlds of policy, business, industry and civil society. The nexus as a concept is used to describe both the interrelations between things “out there”, and the governance challenge of working across policy domains, to match the interconnectedness “out there” with interconnected policies. Still, the world of (European Union) policy and management operates as if the Nexus were simple, trying to create evidence-based policies, devise robust indicators and achieve numerical targets. In this talk, we present and discuss our experiences with providing scientific knowledge of complexity. Such knowledge presents itself as uncomfortable to the governance institutions as it does not give direction to action, and even worse, seems to delegitimise existing action. But if knowledge and its implications may destroy the justification for action, how then, under complexity, can it still be constructive? Which possible roles may the scientific expert take?



## ÍNDICES DE BEM-ESTAR E SUSTENTABILIDADE COMO REFERENCIAL PARA AS CONSEQUÊNCIAS DO DESENVOLVIMENTO URBANO EM PORTUGAL

Irina Gomes, ISCTE-IUL, Portugal

A constante produção de métricas para monitorização das dinâmicas socioeconómicas e ambientais tem sido acompanhada pelo aumento da sua complexidade – quer devido ao crescimento do número de indicadores analisados (como no caso do Índice de Desenvolvimento Humano), da metodologia adoptada (e.g. Pegada Ecológica) ou da “mistura” de indicadores de ambas as dimensões (e.g. Índice Sintético do Desenvolvimento Regional, Índice do Bem-Estar ou Indicadores dos Objectivos do Desenvolvimento Sustentável, produzidos pelo Instituto Nacional de Estatística). Apesar das limitações em matérias incomensuráveis como o ambiente ou as relações humanas, o contínuo desenvolvimento deste tipo de métricas prova a sua relevância para a investigação científica. Por outro lado, a capacidade de acção evoluiu muito mais do que a capacidade de tornar consequentes as intenções subjacentes a essa acção, sendo este facto particularmente evidente nos processos de transformação urbana. Importa, pois, analisar as relações de causalidade dos processos de transformação do espaço – para que as acções propostas evitem a entropia e se possam aproximar da criação de um território ambientalmente sustentável, socialmente justo e economicamente produtivo. Neste sentido, com o objectivo de procurar a existência de nexos de causalidade entre o desenvolvimento urbano e a evolução dos níveis de bem-estar e sustentabilidade ambiental à escala local, apresentar-se-á o quadro teórico e empírico em que assenta a possibilidade desta relação. A este enquadramento acresce o desafio da recolha de dados disponíveis para o período temporal e para a escala (ao nível do município) adequada à transformação territorial. A comunicação proposta reúne assim uma amostra representativa do tipo de métricas referidas, aplicadas em Portugal; faz uma análise crítica tendo em vista a sua utilização como referencial para o estudo da evolução da forma urbana e reflecte sobre a disponibilidade e tratamento de dados à escala municipal.

## DIMENSÕES HUMANAS E NÃO-HUMANAS DA SOCIABILIDADE E DA REGULAÇÃO DAS CRIANÇAS NOS PARQUES URBANOS DE LISBOA

Eunice Castro Seixas, Universidade de Lisboa, Portugal

Numa perspetiva sociológica, os espaços públicos urbanos têm sido concetualizados como lugares de encontro, ou seja, lugares de sociabilidade e de diversidade. No entanto, esta dimensão interpessoal do encontro face-a-face perde hoje importância relativamente a formas de comunicação digital à distância. As relações sociais são também mais frágeis e temporárias, prevalecendo um sentimento de suspeição do outro, que associado a um ritmo acelerado de circulação, dificulta a fruição dos lugares e o encontro interpessoal. Por outro lado, estas concetualizações dos espaços públicos como lugares de encontro têm realçado as dinâmicas interpessoais, em detrimento de outras dimensões materiais e tecnológicas, e das relações entre as pessoas, a materialidade e o não-humano. Esta comunicação, inserida no projeto CRiCity financiado por fundos nacionais através da FCT (PTDC/SOC-SOC/30415/2017), analisa o entrecruzamento destas dimensões humanas e não humanas da sociabilidade em vários jardins/parques públicos da cidade de Lisboa, dando centralidade às crianças como sujeitos de direitos e como produtores de conhecimento diferenciados dos adultos. Partindo de uma análise etnográfica e recorrendo a perspetivas dos estudos urbanos, dos estudos da infância/criança e do pós-humanismo, investigam-se os processos de sociabilidade e de regulação das crianças nestes espaços. Os estudos de caso possibilitam discutir o direito das crianças à cidade a partir: i) da relação diferenciada das crianças e dos adultos com a natureza, os animais não humanos e a materialidade; ii) da tensão entre a criança como utilizadora de serviços e a criança como sujeito de direitos políticos; iii) da tensão entre a proteção e o empoderamento das crianças; iv) do modo como estas relações e tensões têm pautado o planeamento e a apropriação dos espaços verdes dentro das cidades.

## PROJETO RIVEAL: OS DESAFIOS DE AVALIAR OS SERVIÇOS DE ECOSSISTEMA CULTURAIS NUMA RELAÇÃO COMPLEXA ENTRE SOCIEDADE E AMBIENTE

Joana Sá Couto, Universidade de Lisboa, Portugal  
Luísa Schmidt, Universidade de Lisboa, Portugal

No Antropoceno, que tem vindo a realçar os problemas ambientais provocados pelas ações antropogénicas, o Millennium Ecosystem Assessment apresentou uma forma de destacar a importância dos diversos ecossistemas para a vida humana, evidenciando a sua necessidade numa lógica de custo-benefício. Foi por isso alvo de críticas pela sua visão algo economicista e instrumental sobre a conservação dos recursos, não sendo esta, para muitos, a forma correta de reconciliar a relação do Humano com a Natureza. Mais tarde, o IPBES lançou um framework que pretende colmatar essas e outras falhas, mantendo o objectivo de valorização da natureza como sendo crucial para a vida humana, incluindo epistemologias de índoles variadas e reforçando que é na interação entre o ser e o ambiente que se gera um leque diverso e transversal dos contributos da natureza para as pessoas. Apesar dos esforços teóricos, as questões que se levantam são complexas e a sua aplicação prática continua de certo modo em aberto: como identificar as principais contribuições da natureza para o nosso quotidiano? Como valorizá-las? Como será isso instrumentalizado seguidamente? Em conjunto com equipas do ISA, Universidade de Coimbra e Universidade de Aveiro, através do projeto RIVEAL, que analisa o valor dos ecossistemas ripícolas de dois rios intervencionados por duas barragens, a equipa do ICS-Ulissboa tem contribuído para esta reflexão cruzando valores naturais e sociais. Esta apresentação descreve o modo como foram criados os instrumentos de avaliação dos serviços de ecossistema culturais de zonas a montante e a jusante da barragem de Fronhas e Touvedo, partindo de conceitos importantes para além dos serviços de ecossistemas (SE), tais como a paisagem e o bem-estar. Fazemos um balanço das correntes teóricas que têm abordado esta complexa relação Humano/Natureza considerando os valores e valências dos ecossistemas, partindo de um projeto que fornece um campo empírico particularmente estimulante para reflexão.

## THE HOUSE OF CARS: UMA BREVE ANÁLISE SOCIOCULTURAL SOBRE ESTILO DE VIDA E PADRÕES DE MOBILIDADE NA CIDADE DE BRAGA

Emília Araújo, Centro de Estudos Comunicação e Sociedade  
Márcia Silva, Centro de Estudos Comunicação e Sociedade  
Rita Ribeiro, Centro de Estudos Comunicação e Sociedade

Na Europa, cerca de 60% da população vive em espaços urbanos e prevê-se um aumento nos próximos anos. Face a este crescimento das cidades, torna-se cada vez mais importante conhecer as pessoas que nelas habitam, os seus estilos e modos de vida. Na prática, as cidades estão confrontadas com o aumento da densidade populacional ao qual está associado um crescimento significativo de carbonização, que é uma ameaça face às alterações climáticas e à qualidade de vida. Este nível de carbonização, associado à forte dependência da sociedade pelo automóvel, tem resultado em sérios problemas de mobilidade. Mencionem-se o aumento da poluição atmosférica e sonora e da emissão gases poluentes, o aumento dos congestionamentos e o decréscimo da qualidade de vida. Esta comunicação resulta de um estudo realizado na cidade de Braga, na freguesia de S. Vicente. Trata-se de uma área com alta densidade populacional, com sérias dificuldades no trânsito, principalmente durante o horário de o período do início da manhã e do final da tarde, afetando a qualidade de vida dos seus residentes. Partindo da análise de literatura acerca dos modos de vida nas cidades e os processos de reconfiguração que as caracterizam, por efeito da hipervalorização do espaço e com base no resultado de entrevistas e inquérito por questionário, a comunicação tem como objetivo descrever os estilos de mobilidade da população residente na área estudada, bem como as suas perceções e disposições para adotar práticas mais sustentáveis.

Panel organizers | Organizadores do painel:

André de Castro Santos, Universidade de Lisboa, Portugal  
Ana Maria Nusdeo, Universidade de S. Paulo, Brasil

Este painel tem como objetivo abordar os meios pelos quais o direito pode tutelar a relação entre meio ambiente e sociedade. Há uma divisão clássica de normas utilizadas para tanto: as de comando e controle e os instrumentos econômicos. Essas normas podem ter vigência internacional ou interna em cada Estado. As apresentações do painel tratarão de diferentes perspectivas e consequências destes instrumentos e normas nas esferas políticas e judiciais, tanto em nível nacional quanto internacional. Nesta perspectiva, a Profa. Ana Maria Nusdeo tratará de arranjos necessários à eficiente governança para respostas às alterações climáticas nas esferas política, jurídica e de setores da sociedade. Luciana Amorim abordará o tema das mobilizações sociais e o meio ambiente na cidade do Rio de Janeiro. Nessa fala a produção da cidade e sua relação com a moradia é posta à tona através do Direito e da Justiça Ambiental. André Castro Santos trará uma análise crítica e comparativa dos dois principais tratados que regulamentam as ações de mitigação e adaptação às alterações climáticas: o Protocolo de Kyoto e o Acordo de Paris. De suma importância para o tema, estes tratados têm aplicação complexa, pois estão sujeitos a inúmeras variáveis de interesse político das partes signatárias. Por fim, Ana Flavia Trevizan abordará o tema do dumping ambiental. Assim como as alterações climáticas, esse tema envolve regulamentações e acordos sobre comércio internacional. Trata-se de mais uma questão em que o direito serve como instrumento de tutela ambiental e de direitos humanos, considerando a disparidade de poder e de desenvolvimento econômico entre os países.

## ADAPTAÇÃO ÀS ALTERAÇÕES CLIMÁTICAS: DESAFIOS DE UMA GOVERNANÇA MULTI-ESCALA

Ana Maria Nusdeo, Universidade de São Paulo, Brasil

Os efeitos das alterações climáticas que não lograram ser mitigadas já se fazem sentir em vários locais do globo e seu impacto difere conforme realidades físicas e sociais, as quais combinam probabilidades de ocorrência e capacidade de resposta. Por essa razão, conceitos como o de risco, vulnerabilidade e resiliência tornam-se central para a identificação das medidas e arranjos necessários às respostas de adaptação. Essas respostas, por outro lado, têm desafios específicos. Um deles é a integração entre níveis governamentais e setores da sociedade. Isso porque os efeitos mais impactantes das alterações climáticas são sentidos à nível local ou regional, mas as respostas a eles podem implicar em competências, atribuições e iniciativa de coordenação em nível federal ou mesmo internacional. Esse fenômeno vem sendo analisado como “governança policêntrica” ou “governança multi-escala”. Os debates relativos a essa questão destacam sua potencialidade e desafios, dentre os quais as possibilidades de articulação desses diferentes níveis a fim de que os esforços para responder adequadamente ao problema das mudanças climáticas sejam convergentes. Esta apresentação buscará apresentar o desenho da governança da Adaptação no Brasil, partindo de sua referência nos Tratados internacionais sobre alterações climáticas e passando pelo arranjo normativo nacional, mostrando desafios dessa coordenação em cenários concretos de resposta a desastres.

## MOBILIZAÇÕES SOCIAIS E MEIO AMBIENTE: O CASO REFERÊNCIA DO PLANO POPULAR DAS VARGENS

Luciana de Amorim Albuquerque, Universidade Federal do Rio de Janeiro, Brasil

As reivindicações trazidas por mobilizações sociais são elementos significativos para compreensão da realidade. Nesse sentido, o Plano Popular das Vargens desenvolvido por moradores do bairro de Vargem Grande, na cidade do Rio de Janeiro, juntamente com a academia, será apresentado como um caso referência nessa comunicação. O Plano Popular foi desenvolvido em oposição ao Projeto de Lei Complementar (PLC n. 140/2015) que propõe alterações nos parâmetros urbanísticos na zona onde o bairro está incluído, através do Plano de Estruturação Urbana (PEU) das Vargens e da sua Operação Urbana Consorciada. A dinâmica de ocupação da região reflete o processo de urbanização brasileiro com ocupação irregular de áreas ambientalmente sensíveis e é marcado pela reivindicação desse grupo pelo Direito à Cidade, enfatizando o seu Direito à Moradia, aliado à proteção ambiental, à permanência de práticas de agricultura familiar e à soberania alimentar. O caso referência é justificado como objeto de estudo por tratar da ocupação de áreas ambientalmente sensíveis a partir da Justiça Ambiental, além de ser uma iniciativa que extrapola a lógica institucional e dá respostas diretas às demandas de populações que ficaram à margem do processo institucionalizado.

## OS TRATADOS INTERNACIONAIS SOBRE ALTERAÇÕES CLIMÁTICAS: A (IN)EFICÁCIA E A ESPERANÇA NO PROTOCOLO DE KYOTO E NO ACORDO DE PARIS

André de Castro Santos, Universidade de Lisboa, Portugal

Esta apresentação trará análise evolutiva dos principais tratados internacionais firmados para a tutela internacional das alterações climáticas antrópicas: o Protocolo de Kyoto, de 1997, e o Acordo de Paris, de 2015. Diferentes aspectos políticos e jurídicos interferem na efetividade e na eficácia das normas internacionais. A diferenciação entre níveis de desenvolvimento econômico e a participação histórica nas emissões de gases de efeito estufa são fatores fundamentais para compreender o balanço de interesses entre os países signatários destes acordos. Além disso, a estrutura jurídica e normativa dos tratados, como a composição de normas de comando e controle e de instrumentos econômicos, é aspecto fundamental para compreender sua efetividade na influência de tomada de decisão política e dos agentes econômicos envolvidos nas ações de mitigação e adaptação às causas e efeitos das alterações climáticas. A análise proposta nessa apresentação abordará brevemente e de maneira comparativa, a estrutura e os principais instrumentos do Protocolo de Kyoto e do Acordo de Paris, a fim de fomentar o debate sobre pontos positivos e necessidade de ajustes para incrementar a efetividade do acordo atualmente vigente, considerando a ordem mundial posta na primeira metade do Século XXI.

## DUMPING AMBIENTAL: O REFLEXO FRENTE ÀS QUESTÕES COMERCIAIS E AMBIENTAIS

Ana Flávia Trevizan, Universidade de Lisboa, Portugal

Um dos temas relevantes na abordagem dos direitos humanos e do meio ambiente é o dumping ambiental, sendo este umbilicalmente conectado ao âmbito comercial. Em sua raiz, a palavra de origem inglesa significa despejar ou esvaziar; trata-se de prática comercial desleal que ocorre quando uma empresa comercializa um produto ou serviço bem abaixo do valor de mercado, com o objetivo de prejudicar as empresas concorrentes e as eliminar. Há várias espécies de dumping, entre eles, o ambiental, consistente na brusca redução dos custos de produção (e por consequência, dos valores dos produtos), pelo fato das empresas possuírem fábricas localizadas em países que não tutelam a defesa do meio ambiente de modo veemente, explorando-o de maneira indiscriminada. Deste modo, as mercadorias podem ser comercializadas com valores abaixo da normalidade, expondo o bem natural a danos, muitas vezes irreversíveis, por não haver um sistema legal efetivo de proteção. Deste modo, a apresentação abordará a importância e implicações do dumping ambiental, citando exemplos e destacando o caráter multifacetário da temática exposta.

### FROM PROSUMERS TO COMMUNITIES: SHARING RENEWABLE ENERGY PRODUCTION

Ana Delicado, University of Lisbon, Portugal  
 Ricardo Iglesias, University of Pablo Olavide, Spain  
 Michela Ghislanzoni, Territoria, Spain

The growth of renewable energies is indispensable for fostering the transition for sustainable societies. But large-scale infrastructures have come under criticism from environmentalists and the public and individual distributed production is insufficient to meet the demands of energy voracious consumers. Can the virtue be in the middle, through distributed shared production? Politicians seem to believe so, as the recent European directives and national regulations suggest. But how can energy communities be enacted in practice? Which actors can be involved? What barriers do they face? How are issues such as distributive justice, citizen participation, or mitigation of risks addressed? This presentation will perform an analysis of both regulatory frameworks and energy communities that are emerging in Portugal and Spain. It is based on document analysis and interviews with key informants (at the national and regional level), as well as case studies with energy communities, including site visits and interviews with promoters and residents. The presentation is based on the European funded (MSC RISE) project PEARLS Planning and Engagement Arenas for Renewable Energy Landscapes and the TERRYER project (funded by the Spanish government).

### COMMUNITY RENEWABLE ENERGY AS A CURRENT CHALLENGE FOR EU ENERGY TRANSITION: A CROSS-BORDER COMPARISON BETWEEN FRANCE, GERMANY AND SWITZERLAND

Marie Mangold, University of Strasbourg, France  
 Philippe Hamman, University of Strasbourg, France

Revised EU directives and regulations adopted in 2019 based on EC's 2016 'Clean Energy for All Europeans' package promote new renewables target (32%) and more rights for consumers to become prosumers. These ecological and energy transition objectives are implemented at both national and regional levels; they reflect the need for multi-level governance and reposition the role of civil society. However, citizen involvement in renewable energy production has been developed in a differentiated way according to national contexts. In this respect, energy cooperatives can be analyzed as territorial initiatives for both ecological and social transition, behind the generic calls for sustainability. This contribution is directly in line with the theme 'Energy transition and society' of the conference, and also with the reflections on 'Environmental democracy, governance and participation for sustainability', and 'Production, consumption and sustainability'. Through a sociological study conducted as part of an Interreg European project (called RES\_TMO), we propose a critical and comparative reading of the renewable energy systems and challenges in the border regions of Germany, Switzerland and France, following especially the example of citizen photovoltaic installations. We thus question the interrelations between a wide range of actors: national and local political decision-makers, economic actors, technicians and experts, militant associations and ordinary citizens invited to get involved in their living environment. The increasing complexity of the relationship between environment and society appears clearly. In particular, we will focus on the role of intermediate actors and knowledge brokers whose profiles and reasons for commitment are partly convergent but also divergent. Methodologically, we combine individual interviews, stakeholder workshops and close observation of regional citizen cooperatives.

## SOCIO-ECOLOGICAL CHANGE AND PORTUGAL'S COMMUNITY BASED INITIATIVES. THE ROLE OF POLITICIZATION AND INSTITUTIONAL FRAMEWORKS

Alexandra Bussler, University of Lisbon, Portugal,  
João Mourato, University of Lisbon, Portugal

The current unsustainable relation between humans and nature sets a new context for transformative social innovation towards a form of living and working based on the principles of sustainability. Community-based initiatives (CBIs) are perceived as crucial actors in this transition towards planetary sustainability and can be seen as an embodiment and a resource of societal change. The dynamics of the Portuguese CBI landscape are however little researched. This paper inquires into Portugal's CBI dynamics, appearance, build-up, reach and future transitional pathways. Despite having seen a rapid and significant growth over the last decade, CBIs, their practices and discourses remain marginalised in Portugal's public arenas. Portuguese CBIs are therefore an untapped resource for socio-ecological transitions and societal innovation in Portugal. The focus of this paper lies on trying to pave a way forward in order for CBIs to fully tap into their change potential. We observe that the way in which CBIs engage with the public and political spheres as well as the contextual institutional frameworks determine CBIs social innovation potential in Portugal. This is followed by a reflection on the challenges and opportunities that both CBIs and the policy frameworks are currently confronted with. On the one side, CBIs need to engage the existent institutional landscape and become politicized change actors in order to sit at key decision-making processes. On the other, for the materialization of CBIs' change potential favourable institutional frameworks and policy environments are needed. Based on a wider theoretical debate on the role of niche actors and a new focus on value-based societal change we add to the existing literature on socio-ecological transitions and ultimately carve out how to tap into CBIs change agency for wider sustainability.

## CO-CREATION AS A NEW APPROACH TO WIND ENERGY DEVELOPMENT? A SYSTEMATIC LITERATURE REVIEW

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Co-creation as an innovation paradigm is increasingly being promoted as a way to more responsible and creative innovation processes. At the same time, development of more renewable energy capacity, in particular wind energy, continues to face local, social contention, leading scholars, politicians and practitioners alike to call for more legitimacy in development processes. For research and practice, public participation and engagement has been the method of choice, but alternative approaches as co-creation start to gain attention as well. Thus, exploring the promises that the co-creation paradigm as 'idea, promise and practice' holds for the energy transition seems fruitful. However, literature on co-creation in relation to wind energy development lacks a systematic understanding of what the concept means and implies in the context of energy transitions. This involves questions such as: How is the concept defined and what are its limitations and capabilities? Which stakeholders are relevant? Is co-creation a tool, method or an objective in itself? In order to advance the research agenda, this paper presents a systematic review of 43 papers that refer to co-creation (and co-production) in relation to wind energy development. The paper maps and discusses different understandings of the concept and the stakeholder relations inherent in these conceptualizations. We find that the concept is employed in three different ways: to analyze successful innovations in wind energy systems, as a design-principle guiding the governance of decisions and processes connected to development of more wind energy, and to imagine and structure future socio-technical systems in alternative ways. Dependent on the use, different relations within socio-technical systems emerge that question the distribution of power and agency among actors.



## POLITICAL ENGAGEMENT WITH ENVIRONMENTAL ISSUES AND THE AGENDA OF THE SOCIAL SCIENCES

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A enorme escala da actual crise ambiental tem-se tornado cada vez mais evidente. Como tal, nos últimos anos têm sido propostos vários conceitos para designar as mudanças que é necessário iniciar para construir sociedades sustentáveis, tais como a ‘grande transição’ (NEF, 2010), a ‘grande transformação’ (WBGU, 2013) e ‘respostas transformativas’ (Gillard et al., 2106). O que estes conceitos procuram veicular é a ideia de que será necessário levar a cabo mudanças estruturais a muitos níveis, incluindo o económico, o sócio-cultural e o político, ou seja que não há respostas fáceis ou simples que resultem de novas tecnologias ou de ‘pequenas mudanças’ de comportamento. A extensão das transformações necessárias levanta múltiplas questões: quem, de forma explícita ou não, vai liderar esses processos? Como serão as decisões tomadas? Com base em que valores/critérios? Tudo isto apela a debates verdadeiramente democráticos em que sejam consideradas diferentes necessidades, visões e propostas, bem como a um aumento da transparência nos processos de decisão. Neste contexto, nos próximos anos, a investigação em ciências sociais deverá focar-se numa série de questões fundamentais relacionadas com a cidadania ambiental, ou seja, a construção de uma postura activa, exigente e responsável relativamente às transformações para a sustentabilidade. Tais formas de cidadania requererão um envolvimento político (Carvalho, van Wessel & Maesele, 2017), no sentido de participar e ter voz nos debates, e formas de agência cidadã que estão muito para além das mudanças de comportamento que são actualmente sugeridas por uma boa parte dos discursos dominantes. Baseando-se em vários estudos empíricos, esta comunicação analisará vários tipos de discursos em torno das alterações climáticas, presentes nos media convencionais e noutras esferas públicas, relativamente às mudanças necessárias e aos papéis que os cidadãos podem desempenhar e discutirá possibilidades de investigação futura.

## TENSIONS BETWEEN HOLISTIC ENVIRONMENTAL THEORISING AND DEMANDS ON LOCAL WATER AUTHORITIES IN NEW ZEALAND

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Biophysical scientists and academics in New Zealand have shown willingness and even appreciation for the holistic frameworks that alternative philosophies, including Māori mātauranga (indigenous knowledge), bring to framing contemporary ecological and environmental research about worsening land and water issues facing the country. At the same time, the orthodox policies and routines of current institutional arrangements administering laws and regulations come with histories as they are applied to the management of water quality and water supply on a daily basis. Today, pressure is mounting rapidly to make changes to the ongoing biodegradation of New Zealand’s farmlands and waterways. This pattern seems surprising to those only familiar with the country’s tourist images and the successful tourist narratives of ‘clean and green’ New Zealand. The present tensions arise from the urgent need for change and necessary government initiatives and proposed legislation to assist and re-direct this process. Different stakeholders will be affected in different ways by these new requirements and constraints on current practices. For example, farmers will be required to participate in individual farm water plans within the next few years and farm under much tighter permitted levels of nitrogen and phosphorus. The responsibilities of urban authorities for potable drinking water – even before disaster planning for earthquakes is considered – is becoming costlier and harder to achieve. Indigenous Māori interests are also more to the foreground today under the aegis of recent Treaty of Waitangi constitutional shifts. Sociological theorising about land and water, to be of value, must bring its large-scale conceptual tools and understanding of social change to the currently embedded, mundane practices and policies, if it is to contribute to the New Zealand and global processes making environmental change.



## AN EXTENDED PRACTICAL REASONING APPROACH TO ENVIRONMENTAL DISCOURSE AND POLICY: USES OF THE INCREMENTALIST GOVERNANCE AGENDA

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A key trend in environmental policymaking in the last three decades concerns the shift from traditional rule making mechanisms to a governance agenda built on goal setting. With its 17 global goals, 169 targets, and growing list of regionalized indicators, Sustainable Development Goals (SDGs) is a case in point; one indicating that specification of loosely set long-term goals can be more demanding than their formulation. Contemporary argumentation theories provide a powerful toolset in the analysis of such goals-based, means-ends, specification, or operationalization relations. In the first part of this presentation, I propose an extended practical reasoning and argumentation framework for a better understanding of environmental discourse and policy positions. The framework focuses on Action claims in the light of the Circumstances, Goals, Values, and available Means featuring in a particular proposal (Fairclough & Fairclough, 2012). As environmental goals typically appear in clusters and hierarchies (e.g. SDGs), each action is examined as a means to a higher-level goal, making explicit the succession of goals and values. My aim in discussing the framework, more specifically, is to refashion a persistent distinction drawn in the literature between incremental and transformative social change. In the second part of the presentation, I review the distinction as reflecting the tension between the status quo and the overarching goal of sustainability and focus on incrementalism as a coping strategy. Examining interviews (N=25) conducted with corporate actors involved in the transition to low-carbon energy in Portugal, I show that the incrementalist governance agenda enables these actors to strategically shift the temporal scope of the discussion and mediate between otherwise difficult to reconcile positions. To conclude, I elaborate on the idea that while incrementalism is built upon strategic long-term goals, it is primarily aligned with the status quo exigencies.

## RESTATING 'THE POLITICAL' IN SCIENCE-POLICY DEBATES: THE CASE OF THE IPCC'S 1.5°C REPORT

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How can we best understand the politics of climate change? Many contemporary scholars argue that the politicization of climate science undermines its epistemic authority, which in turn has contributed to the idea that we live in a 'post-truth' era and gives support to scepticism or even denialism. Here they wish to maintain a strict separation between science and politics. Others argue that climate change is not political enough and that one factor preventing the adoption of the necessary interventions is the failure of climate advocates to realise the radical nature of social and economic change implicated in stopping climate change (Fischer, 2019). This is what Swyngedouw (2010) as termed the 'Non-political politics of climate change', in which techno-managerial eco-consensus combines with the fetishization of a single manifestation of the climate issue to ensure that 'nothing really has to change'. Building on Swyngedouw's distinction and drawing on recent work in political theory and human geography (Beveridge & Koch, 2017; Marchart, 2018; Brown, 2019); we argue that it is both useful and necessary to distinguish between politics as a set of practices and the political as a terrain or horizon of social (and, ultimately, ecological) conflict. In this way, we can begin to question how, where and why certain practices, discourses and institutions serve to either broaden, maintain or narrow the political horizon. Using this perspective, we give a critical reading to the IPCC's 1°C Report (IPCC, 2018) to ask in what ways are the politics of climate change constructed. While the report reiterates the conclusions of the Paris Climate Agreement - that the policy goal is achievable - it highlights the fact that major and immediate intervention is necessary. While the focus remains on a single issue – rising global temperatures - the implications for this are broadened and equivalencies with other social conflicts are articulated.

## KNOWLEDGE PRODUCTION AND ECO-SOCIAL RATIONALITIES: THE FINISH SOCIAL SECURITY REFORM AS A CASE

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Kate Raworth's doughnut model is one illustration of the sustainable society. Society is sustainable if it does not cross its ecological ceiling but secures social foundation for the citizens. In other words, a good social foundation enables autonomy for the citizens without endangering nature. Currently there is not a country to fit in this sustainable mode. The Nordic welfare states, Finland among others, are successful in providing a relatively good social foundation for the society. Unfortunately, welfare states overuse natural resources and are unable to fit in ecological limits, especially when externalities are included in the calculations. The paper argues that transformation towards eco-social, perhaps the sustainable welfare state, demands better understanding about the relation between knowledge production and decision-making that is science-policy relation. Research literature provides several reasons why this link between knowledge production and decision-making seems to be too weak. Based on this literature, the paper firstly builds a framework for the knowledge production processes wherein eco-social rationality is taken into account and secondly, it uses the framework to scrutinise the concept of sustainability in the Finnish social security reform that has been planned. Research material consists of administrative and political documents (e.g. the Programme of Antti Rinne's government "Inclusive and competent Finland – a socially, economically and ecologically sustainable society"). Research material will be utilised to illustrate frictions in the relationship between knowledge production and decision-making by enlighten the different meanings of sustainability. Even though knowledge production is only one factor to promote or hinder sustainability transformation, it may have crucial importance when adapting to global problems locally.

## A PESCA ILEGAL EM PORTUGAL: PERSPETIVAS DOS AGENTES DE FISCALIZAÇÃO

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Esta apresentação procura abordar os resultados de uma investigação que, pelo nosso conhecimento, é a primeira em Portugal a tratar os crimes ambientais a partir de uma perspetiva criminológica, nomeadamente a Criminologia Verde. Esta é o resultado de um estudo financiado pela Sociedade Portuguesa para o Estudo das Aves (SPEA) e da minha dissertação de mestrado. O principal objetivo centrou-se em conhecer as perceções dos agentes de fiscalização relativamente à pesca ilegal em Portugal, especificamente na área de Peniche das ilhas das Berlengas, devido ao seu valor natural e especificidades como área protegida. O presente estudo procurou conhecer as perceções dos agentes de fiscalização relativamente às atividades de prevenção, fiscalização e repressão que realizam no âmbito da pesca ilegal. Exploraram-se ainda os recursos materiais e humanos à disposição dos agentes; a formação que recebem; perspetivas relativamente à eficácia operativa e dissuasora das suas ações; a legislação da pesca e as suas alterações; articulação interinstitucional; dificuldades percebidas; as alterações sugeridas pelos agentes para melhorar a fiscalização da pesca. Assim sendo, foi realizado um estudo qualitativo no qual se realizaram entrevistas semiestruturadas a 13 agentes de fiscalização. Os resultados obtidos permitiram uma descrição das perceções dos agentes no que concerne às dimensões anteriormente mencionadas. Nesta apresentação será dada especial atenção às seguintes dimensões: (i) os ilícitos de pesca mais frequentes; (ii) perspetivas da eficácia das suas ações; (iii) dificuldades percebidas na realização das ações referentes à pesca; (iv) o impacto da pesca no ambiente; (v) perceções relativamente aos pescadores.

## CONCELHOS COMUNITÁRIOS DE PESCA (CCP) E A SUSTENTABILIDADE DA PESCA ARTESANAL EM MOÇAMBIQUE

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A maioria das populações nas zonas costeiras da África Oriental, dependem da pesca artesanal como uma importante fonte alimentar e de subsistência. O declínio da pesca artesanal devido à sobre-exploração humana tem sido documentado. Esse declínio, é agravado pelo isolamento das áreas de pesca e pela falta de meios de controlo, resultado da fragilidade governamental na aplicação de regulamentos básicos, como por exemplo o controlo do tamanho das malhas das redes de pesca. Em Moçambique, este problema levou à criação de Conselhos Comunitários de Pesca (CCP), cujo papel primordial é a co-gestão participativa dos recursos pesqueiros, conduzida por uma comunidade organizada de pescadores, desenvolvendo atividades para sustentabilidade dos recursos e melhoria das condições de vida das comunidades de pescadores. Nesta comunicação pretende-se observar os pontos fortes e fracos da gestão da pesca artesanal pelos CCP, em duas regiões pesqueiras de Moçambique, geograficamente distintas. Uma, localizada num grande centro urbano, a baía de Maputo, e outra localizada numa região pesqueira de Moçambique, altamente produtiva (o complexo Vilanculos / Inhassoro-Nova Mambone). Neste caso os CCP que gerem a pesca não permitem a integração de pescadores que não pertençam aos centros de pesca locais, que assim são forçados a migrar para áreas adjacentes, e, conseqüentemente, na nova área, o afluxo de novos pescadores, leva à criação de novos CCP. A informação recolhida em entrevistas estruturadas e semiestruturadas aos pescadores nos dois casos de estudo permitirá tirar ilações sobre o funcionamento destes CCP e da sustentabilidade da pesca artesanal em Moçambique.

## A PESCA, A INDÚSTRIA, O AMBIENTE. E O MAR TÃO PERTO E TÃO LONGE

Pedro Pereira da Silva, ISCTE-UL, Portugal

A implementação da actividade turística levou a que diversas comunidades piscatórias fossem eleitas como atracções idealizadas entre o modelo pitoresco e a moderna concepção da fruição do lazer à beira-mar onde a modernização urbana, o investimento imobiliário e o recreio substituíram a sua maritimidade. Esta ocupação da orla marítima por infraestruturas relacionadas com a actividade turística e a conversão dos seus núcleos piscatórios em aldeias turísticas é das mais evidentes transformações do litoral atlântico português. No caso da vila piscatória de Sesimbra, a recessão das suas actividades marítimas coincide com desenvolvimento dos novos projectos de urbanização e da promoção de novos produtos turísticos, com a criação da mais importante unidade industrial de transformação de pescado no litoral português (ArtesanalPesca) e com a constituição, na sua vizinhança, do Parque Natural da Arrábida, em 1976, e do Parque Marinho Professor Luiz Saldanha em 1998. Neste contexto, a actividade piscatória tradicional teve de se adaptar à nova realidade da regulamentação europeia sobre as pescas, limitar ou suspender a sua actividade nas áreas mais sensíveis da reserva marinha e, ao mesmo tempo, conciliar as suas actividades com a “recente implementação industrial” e a “nova realidade turística”. Desta forma, nas últimas décadas, factores económicos e sociais condicionaram, quer a esforçada faina da pesca tradicional, quer a vivência da comunidade marítima em terra, o que conduziu a reavaliações dos marcadores sociais da sua identidade. Uma vez que a beleza natural da paisagem, a actividade piscatória e a tradição gastronómica local são nomeados como os principais marcadores da sua identidade local, torna-se indispensável analisar esta transfiguração face aos actuais desafios de ordem local e global, no âmbito das novas políticas e práticas sustentáveis incorporadas no actual movimento sobre “Ambiente e Sociedade” e da “redescoberta de Portugal como nação oceânica”.

## INJUSTIÇAS AMBIENTAIS NA PESCA ARTESANAL NO BRASIL: O ESTADO DA ARTE

Raquel Monteiro Marques, Universidade Nova de Lisboa, Portugal

A preocupação com justiça ambiental vem crescendo mundialmente desde a década de 70. Os riscos advindos das tecnologias criadas para impulsionar o desenvolvimento são muitos e não se distribuem de forma homogênea entre a sociedade. De facto, são as populações mais vulneráveis que sofrem as maiores consequências da partilha desigual dos riscos ambientais. No Brasil, país que possui dimensões continentais, enorme diversidade biológica e cultural e excessiva desigualdade social ocorrem diversos tipos de injustiças ambientais, principalmente com as populações tradicionais, onde se incluem os pescadores artesanais. A pesca artesanal brasileira é responsável por cerca da metade da produção pesqueira nacional e é actividade produtiva fundamental para garantir emprego, renda e a segurança alimentar de várias famílias. Embora tenham papel expressivo na comercialização e utilização dos recursos ícticos no País, os pescadores artesanais convivem com uma série de riscos socioambientais. Ainda, os estudos disponíveis que relacionam injustiça ambiental e pesca artesanal são escassos e incipientes. Dessa forma, pretende-se neste trabalho realizar o levantamento e sistematização das pesquisas científicas publicadas sobre esse tema, no Brasil, com o intuito de esboçar o “estado da arte” neste campo de investigação e elaborar o mapa de casos de injustiça ambiental na pesca artesanal no Brasil. Para isso, uma pesquisa bibliográfica será realizada por meio de consultas as bases de dados online Scielo, Scopus e Web of Knowledge utilizando-se como palavras-chave os termos: “justiça ambiental”; “injustiça ambiental” e “pesca artesanal”. E em inglês os seguintes termos: “environmental justice”, “environmental injustice” e “artesanal fishing”. Espera-se com este estudo contribuir para o conhecimento científico acerca do tema e fornecer elementos que promovam o empoderamento das comunidades de pescadores artesanais.

**PUBLIC ACCEPTANCE OF CROSS-BORDER  
COOPERATION AGREEMENTS ON RENEWABLE  
ENERGIES. A SURVEY STUDY IN FOUR COUNTRIES**

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Introduction: Renewable energy cooperation could play an important role in the energy transition in the EU, taking advantage of trade within the internal market, safeguarding security of energy supply, coordinating climate adaptation measures and optimizing the cost-effectiveness of actions. As stated by the EC “joint projects should enjoy wide societal acceptance and contribute to sustainable development in the host country”. In this communication, we examine the acceptance and support for cross-country cooperation agreements in renewable energies (concentrated solar power (CSP) and wind energy projects) among the public in four EU countries. Method: A nationally representative, self-administered online cross-sectional survey was conducted in four European countries to gain insight into public attitudes towards joint projects for renewable energy. Results and discussion: The majority of participants in the four study populations (between 59% and 82%) would accept the development of the proposed joint project. Between 48% and 76% would support public investments in the projects. Respondents were, on average, more supportive in Romania and less supportive in The Netherlands. Proximal variables such as perceived benefits, affect and perceived equity, together with the overall evaluation of the project and the evaluation of its consequences, were the strongest predictors of support for the joint projects. Other more distal attitudinal factors positively associated to support were place attachment (feeling of belonging to the European Union), environmental self-identity and preference for cooperation.

**UNDERSTANDING CONCERNS AROUND GEOTHERMAL  
ENERGY – A PUBLIC VALUES APPROACH**

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Geothermal energy is a relatively unknown technology to exploit heat from the underground. A change in the energy system to include geothermal, confronts the public with uncertainty and unfamiliar situations. In this context, the public tends to have not fully formed views (Demski et al. 2015). To anticipate societal concerns, it is necessary to understand the dynamics of how beliefs become constituted. We identified public values (Jørgensen and Bozeman, 2007) in relation with geothermal energy in order to get a better understanding of the socio-technical dynamics and public’s perception in this field. Working with local public values allows to anchor a project spatially and to give meaning on different scales. To cover a wide territory and include a diversity of views, we used a mixed-method approach, including focus group discussions, participant observation and document analysis to uncover public values in relation with the energy transition and geothermal energy more specifically. Preliminary results show the importance of distinguishing between process- and project- related public values and understanding their interrelations and spheres of influence. This differentiation led to the establishment of a framework that enables taking into account and assessing public values in the management of geothermal projects. The integration of public values in good practice guidelines can help to understand and address a public issue in its whole complexity by respecting different value sets and dimensions of it.

## ALTERNATIVE FUTURES: COMPARING RENEWABLE TECHNOLOGY IMPLEMENTATION IN PORTUGAL AND THE EU WITH MODEL PROJECTIONS

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In this communication we begin by presenting a literature review of projections on renewable energy sources (RES) deployment made for Portugal in the past two decades, using several different energy systems modelling tools and methodologies. In this context, we analyse how these different projections fared, compared to actual implementation rates, and possible reasons for the observed discrepancies, both in terms of modelling assumptions, public policy implementation and rate of market adoption. This includes the analysis of both the overall implementation of RES in electricity generation as well as specific technologies, particularly onshore wind power (a relatively successful story), solar PV, hydrogen and electric vehicles (which have fared worse than projected). These are all technologies considered to be highly relevant for future decarbonization pathways, particularly in the context of Portugal's roadmap for carbon neutrality in 2050, recently approved by the Government. Thus, it is of the highest importance to assess how they have been projected to grow, in past modelling exercises, and what can be learned from the gap between those past projections and reality. In order to contextualize the findings, we also analyse projections made with the PRIMES model for all EU countries and compare with deployment. PRIMES has been used intensively in the last two decades and is an important part of the EU energy and decarbonization policy making. The focus of the analysis is on policy recommendations, in the context of the very speedy energy transition that must be carried out, in order for the EU to fulfil its obligations under the Paris Agreement climate mitigation goals. We conclude with a discussion on the different modelling strategies and assumptions, the way they were perceived and utilized over the years by political leaders, within the EU and in national governments, and how communication between these different actors can be improved.

## FAREWELL TO COAL MINING IN THE UPPER NITRA, SLOVAKIA: JOBS, ENVIRONMENT AND CHALLENGES IN THE ENERGY TRANSITION

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Phasing out coal mining at Upper Nitra is not question if, but when and how? Lignite produced is of problematic quality and the productive deposits are reaching their limits. The state subsidies through surcharges provided to TPP are increasingly unpopular and rising price of emission trading permits (under ETS) and evolving emissions norms and investments to BAT/BATNEEC will further undermine the present economic model. The area is one of the most polluted in the country and would require substantial investment to rehabilitation of the environment. The coal mine is still among the largest employers in the region, but their productivity (in terms of revenue per employee) declined by 19% in the period 2010-2018. In the paper we analyse economic, social, and demographic trends shaping transition of the coal region into a low carbon region. The focus of the paper is on the assessment of the local structural barriers vis-à-vis the framework of the enabling national and EU cohesion policies. Considering the economic, social, and environmental data, factors and trends, the region has a strong potential for successfully phasing out coal, and the present timing may provide a unique "window of opportunity." Based on the research we analyse enabling economic, social, demographic and environmental conditions and discuss barriers in alternative jobs mobilisation and key factors in strategies of the transformation.

**INFRASTRUCTURE FOR MOBILITY, CLIMATE CHANGE AND A CHANGE IN THE CONCEPT OF THE CITY: AN ANALYSIS THROUGH THE SUPERBLOCKS IN BARCELONA.**

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Cities are currently major contributors to climate change, producing more than 60 per cent of greenhouse gas emissions. Furthermore, 68% of the world population is projected to live in urban areas by 2050 (UN, 2018). At the same time, cities are key players for the solutions (ICLEI et al. 2017). However, the challenge of climate change has a magnitude (IPCC, 2014) that makes insufficient the usual urban policies of just increasing public transport and private transport efficiency. Alternatives such as superblocks include deterring the entry of cars from pedestrianizing streets and building integrated neighborhoods, thus transforming city districts that are hostile to pedestrians into friendly ones and welcoming spaces that, in turn, improve resilience to climate change by both decreasing car traffic and increasing green areas. The sociological analysis of political and social barriers is relevant for the development of superblocks in cities. In this paper we analyze the concept of superblock as well as its barriers and opportunities for a change in the concept of the city that also allows to combat climate change. The case study is the city of Barcelona, which has experience developing superblocks. The conclusions about barriers and opportunities of superblocks have the potential to be generalizable to other cities.

**DEVELOPING NEW COMPUTER-BASED URBAN FORESIGHT FOR POLICY MAKING: THE CASE OF SMART CITIES FOR ENVIRONMENTAL CHALLENGE**

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Today's densely populated cities are facing a biggest crisis of the urban growth limitation caused by accelerated climate change, energy shortages, resource depletion and environmental pollution. While various studies are underway internationally for sustainable development that can cope with these changes, Smart City is an urban model proposed as a data-based solution utilising information and communication technology to improve the city's environment. Each country has different visions and directions for its Smart City, however the response to climate change is the common goal for all countries across new urban models. Meanwhile, the UK government has been working on The Foresight Future of Cities Project which uses foresight methods that focus on taking a long-term view of the future of UK cities, including how people will live, work and interact in our cities 45 years from now. This study presents new computational method for urban foresight with cases of Smart City based on the Environmental Challenge. For instance, Smart Digital City (SDC) is one of four key concerns including low carbon circular economy, green infrastructure and natural capital accounting, and the healthy streets approach, which were listed as London's main environmental challenges (GLA, 2018) that must be tackled. With regard to research methods, the essential feature of this study derives from an analysis of general pattern of policy making process in the past five years, cases of environmental and other policies that either implemented or did not implemented computational methods. Moreover, this includes the confirmation from the project researcher was involved in the Foresight Future of Cities Project and the participatory-action research with the analytical practitioner community and the urban foresight community to verify macro direction and new capacities that will be needed to enable computer-based methods for urban foresight.



## MANY FACES OF 'SUSTAINABLE CITY' IN THE POST-SOVIET RUSSIA: BETWEEN SECURITY AND DIGITALIZATION

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Based on the original semi-structured interviews, mass media discourse analysis, and public surveys, this study provides citizens, business and professional communities, and the government reflections on the various meanings and dimensions of the sustainable city in post-soviet Russia. The findings suggest that while Russian government officials mostly understand sustainable cities as a 'smart city', the various civic groups put more emphasis on the various security components – physical, economic, social, environmental, and digital. This study also focuses on the critical analysis of the socio-environmental transformations over time. The retrospective analysis shows the appearance of new and reinforces the old social and environmental risks: 'waste crisis', aggravation of air pollution, low citizens' ownership of urban and environmental policy-making, and new environmental conflicts. At the same time, a tendency towards the development of green infrastructure, such as sustainable transportation and mobility, bins for recycling, renewable energy and smart grids, will be observed. However, examples shown in the study highlighted that the mechanical applications of 'best' international practices and building the infrastructure alone without investments in environmental awareness and education campaigns, introducing the financial stimuli suitable for Russian sociocultural context, and necessary law regulations can lead to temporary results. This gap between the rapid urban regeneration, infrastructural and institutional innovations, and slow adaptations of citizens' values and practices to the new material and discursive changes make post-soviet Russian cities unique cases and at the same time common to other world sustainable cities for future analysis.

## TRANSLOCAL INITIATIVES MEET LOCAL GOVERNMENTS: ITERATIVE PROCESSES OF (RE)BUILDING LOCAL ECONOMIC CIRCUITS FOR TRANSITION MOVEMENTS

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The modern world has seen, for several decades, many achievements with the advance of science and technology, production, communication and the opening of markets. Although, it has not been without consequences to many people, animals and the environment as a whole. Systems are not designed to the purpose of all and that is no news, the growing inequality is one of the main consequences of the current economic paradigm and it is directly linked to all aspects of human life (Gibson-Graham, 2006; Hess, 2007; Seyfang & Longhurst, 2016). However, the fingers of mainstream institutions are pointing towards a future that repeats a lot the past. Civil society initiatives are bringing novel solutions to current global issues, guaranteeing the possibility of change in small scale realities that can be disseminated in many different areas. This bottom-up approach to changing reality has proven to be one of the pathways for alternative development, it is applicable to many institutions and challenges given communities and regions face (Avelino & Wittmayer, 2016; Hess, 2007; Seyfang & Smith, 2007; Smith, Fressoli, & Thomas, 2014; Smith & Stirling, n.d.). This study aims at exploring the novel solutions and efforts brought by community-led initiatives that are part of Translocal Transformative Social Innovation Movements (TTSIM), in partnership with local policy makers, to (re)organize local economic circuits (Avelino, Dumitru, Cipolla, Kunze, & Wittmayer, 2019; Avelino, Wittmayer, et al., 2019; Wittmayer et al., 2019). Based on systems thinking approach, informed by fieldwork this project will analyze the cases in Europe from an Ecovillage standpoint (Antrop, 2006; Avelino, Grin, Pel, & Jhagroe, 2016; Hong & Vicdan, 2016). Methodologically, this approach allows one to understand how a practice developed in a micro level can be adapted and transported to macro level, therefore the ability of transferring from niche to the context.



## SUSTAINABLE ACCESSIBILITY AND THE ECO-DRIVING OF THE MOROCCAN HEAVY TRUCKS' DRIVERS

Fatima Z. Sahli, Mohammed V University, Morocco

Adopting an ecological attitude becomes one of the Moroccan society's priorities. The actual trend focuses on the ecological cities with its green buildings and urban planning conception. Therefore, the work on actor's behavior is persisted. Hence, the Eco-driving is one the ecological behaviors that can serve the ecological perspective's aim, especially among the heavy trucks' driver. Their access to prohibited paths is subjective which provokes brutal driving behaviors that are far away to be ecologically respectable. This is mainly shown when they accelerate or decelerate rapidly in prohibited roads because they cannot anticipate what may happen in these roads. A psycho-social approach is adopted in order to understand how truck drivers' attitude is accommodated to a utilitarian function by amplifying benefit and minimizing penalties and analyze their ecological view while adopting the access attitude. We design semi-directive interviews in the frame of qualitative method, conducted with ten drivers of heavy vehicles having Zenata Eco-city in their trajectory. To analyze the data, we used content analysis. Firstly, the accessibility is socially constructed which is based on norms and values that shared with other drivers. Secondly, the cost-time and the client's demand and localization guide their behaviors in terms of accessibility. Thirdly, the Eco-driving is limited to the mechanical checking before driving and the ecological acts as pedestrian without taking into consideration the ecological use of their heavy trucks while driving. In conclusion, we recommend that the Moroccan cities' municipalities in partnership with the road security agency must implement serial sustainability training on the Eco-driving and maintain environmentally safe accessibility in order to change a set of social environmental practices.

## Panel organizers | Organizadores do painel

António Carvalho, Universidade de Coimbra, Portugal

Vera Ferreira, Universidade de Coimbra, Portugal

Este painel reúne investigadores do CES-UC que trabalham na área dos Estudos de Ciência e Tecnologia. O objetivo é explorar a agência conceptual, política e social das alterações climáticas, analisando a forma como esta metanarrativa é mobilizada para a produção de novas épocas geológicas; para informar a emergência de movimentos sociais que ambicionam processos de “descarbonização” à escala local; para recentrar, enquanto significante, o debate político sobre uma variedade de controvérsias sociotécnicas; para informar e justificar políticas energéticas. A comunicação de António Carvalho - “Os desafios ontopolíticos do Antropoceno” - irá atentar nos debates conceptuais acerca do Antropoceno, analisando as problemáticas políticas e ontológicas associadas e os desafios para os Estudos de Ciência e Tecnologia, nomeadamente no âmbito da viragem ontológica. A comunicação de Ana Raquel Matos – “A pluralidade de entendimentos sobre alterações climáticas: atores, argumentos e imaginários sociotécnicos no discurso político português (1990- 2018)” - analisa os debates sobre alterações climáticas no Parlamento Português, incluindo as associações estabelecidas entre atores, acordos, instituições e controvérsias sociotécnicas. A comunicação de Vera Ferreira - “«Nós vamos fazer a transição a bem ou a mal!» - Imaginários e motivações associados ao Movimento de Transição em Portugal” - debruça-se sobre a emergência e evolução do Movimento de Transição em Portugal, explorando as motivações, projetos e imaginários subjacentes a diversos participantes e iniciativas locais de Transição. A apresentação de Tiago Santos Pereira – “A emergência de um imaginário sociotécnico da transição? Reflexões a partir da história da energia nuclear em Portugal” - atenta na progressiva “ambientalização” dos discursos políticos sobre energia nuclear e nas suas potenciais lições para os debates atuais sobre alterações climáticas.

## OS DESAFIOS ONTOPOLÍTICOS DO ANTROPOCENO

António Carvalho, Universidade de Coimbra, Portugal

O Antropoceno tem sido alvo de uma extensa reflexão académica que suspende as barreiras clássicas entre as “duas culturas”. Enquanto evento geológico e sociocultural, o Antropoceno tem suscitado um crescente interesse no âmbito da literatura das ciências sociais e dos Estudos de Ciência e Tecnologia (STS), gerando abordagens metodológicas e teóricas que privilegiam a interconexão entre humanos e não-humanos. Os STS registaram o que habitualmente se designa enquanto uma “viragem ontológica”, que coloca em causa o excepcionalismo humano e atribui uma dimensão política aos dispositivos e opções tecnológicas e materiais. O Antropoceno assume-se enquanto conceito catalisador de novas formações sociais, políticas, estéticas, tecnológicas e artísticas que podem assumir diversos contornos ontológicos e políticos, desde a ecologia profunda, a geoengenharia e o pós-humanismo. Reconhecendo a diversidade ontológica das “respostas” ao Antropoceno, nesta comunicação irei explorar diferentes políticas ontológicas do Antropoceno, incluindo a sua diversidade conceptual (ilustrada por conceitos como Capitaloceno, Chthuluceno, Plantationocene e Necroceno), tecnológica, estética e política. O objetivo deste exercício de mapeamento ontológico é a identificação de temporalidades, políticas materiais, formas de subjetividade e de governação heterogéneas mobilizadas para fazer face ao Antropoceno, identificando a diversidade de imaginários sociotécnicos e dispositivos mobilizados para interpretar e fazer face às alterações climáticas. Nesta comunicação argumento que os múltiplos dispositivos sociotécnicos mobilizados para responder ao Antropoceno também se manifestam em diferentes versões do “mundo”, o que nos permitirá um diálogo com os conceitos de ontologia, diplomacia, cosmopolítica e pluriverso, problematizando os múltiplos mundos em conflito do Antropoceno.

## A PLURALIDADE DE ENTENDIMENTOS SOBRE ALTERAÇÕES CLIMÁTICAS: ATORES, ARGUMENTOS E IMAGINÁRIOS SOCIO-TÉCNICOS NO DISCURSO POLÍTICO PORTUGUÊS (1990- 2018)

Ana Raquel Matos, Universidade de Coimbra, Portugal

Esta comunicação centra-se numa das tarefas do projeto de I&D TROPO - “Ontologias do Antropoceno em Portugal: movimentos sociais, políticas públicas e tecnologias emergentes”, que consiste na análise da evolução do discurso político sobre alterações climáticas, recorrendo à base de dados online da Assembleia da República que disponibiliza, na íntegra, as transcrições dos debates parlamentares. Esta apresentação irá, inicialmente, situar a estratégia metodológica adotada na análise dos debates parlamentares e seus resultados, sublinhando os principais constrangimentos encontrados e evidenciando as potencialidades analíticas proporcionadas pela análise efetuada. Num segundo momento, sublinhar-se-ão as principais características que marcam o discurso político português sobre alterações climáticas a partir das narrativas de todos/as os/as intervenientes nos debates parlamentares sobre o tópico, entre 1990-2018. Providenciar-se-á uma análise da evolução dos principais argumentos avançados pelos diferentes partidos políticos com assento parlamentar, identificando-se as principais causas que vêm sendo apontadas para o problema em análise, assim como as diferentes dimensões e atores (nacionais e internacionais) que vêm sendo recrutados no âmbito das várias estratégias argumentativas. Finalmente, discutir-se-ão as possíveis propostas/soluções que têm sido avançadas, em contexto nacional, para enfrentar o problema das alterações climáticas, explorando os imaginários sociotécnicos heterogéneos que, ao longo das últimas décadas, têm caracterizado os discursos políticos.

## “NÓS VAMOS FAZER A TRANSIÇÃO A BEM OU A MAL!” – IMAGINÁRIOS E MOTIVAÇÕES ASSOCIADOS AO MOVIMENTO DE TRANSIÇÃO EM PORTUGAL

Vera Ferreira, Universidade de Coimbra, Portugal

O Movimento de Transição (MT) surgiu oficialmente em 2006, em Totnes, no Reino Unido. Na sua génese encontram-se preocupações relacionadas com as alterações climáticas, o pico do petróleo e a destruição dos ecossistemas, e estratégias mitigadoras orientadas por princípios de permacultura, resiliência e localização. As primeiras iniciativas de Transição em Portugal surgiram em 2010, tendo a investigação que sustenta este trabalho mapeado um total de 35 iniciativas, das quais apenas 16 demonstram atividade recente. Nesta apresentação partilham-se os resultados da análise de 20 entrevistas semiestruturadas realizadas com membros do MT Portugal. Os dados coligidos indicam que os participantes deste movimento revelam múltiplas motivações que justificam o seu envolvimento com iniciativas locais de Transição, destacando-se: percursos e histórias individuais de ativismo ambiental e social; a oportunidade de poder fomentar a transformação social à escala local; a partilha da visão positiva e construtiva do MT e o conjunto de ferramentas a ele associadas. Os/as entrevistados/as mencionaram uma variedade de trajetórias possíveis para alcançar a transição socioecológica, incluindo três níveis de atuação complementares: indivíduo (alteração das atitudes, comportamentos e escolhas individuais); comunidade (envolvimento e empoderamento) e políticas públicas (mudança sistémica). Os membros do MT Portugal concebem, igualmente, vários imaginários da transição socioecológica, os quais se podem agrupar em quatro categorias: “utopia”, “inevitabilidade”, “continuidade” e “pessimismo”. No final desta apresentação discutem-se os principais desafios e as limitações que se colocam à implementação do modelo de Transição em Portugal.

## A EMERGÊNCIA DE UM IMAGINÁRIO SOCIOTÉCNICO DA TRANSIÇÃO? REFLEXÕES A PARTIR DA HISTÓRIA DA ENERGIA NUCLEAR EM PORTUGAL

Tiago Santos Pereira, Universidade de Coimbra,  
Portugal

O debate em torno das respostas às alterações climáticas tem tornado claro que as mudanças necessárias para conter o aquecimento global aquém dos limites recomendados em diversos relatórios científicos, e expressos no Acordo de Paris, implicam uma ação clara de mudança de práticas existentes. Neste contexto têm-se desenvolvido diversas iniciativas, tanto governamentais bem como de movimentos sociais, que invocam uma nova fase de ‘transição’, por vezes referida como sistémica, marcando uma diferença significativa face às dinâmicas económicas e sociais atuais. Este objetivo pode ser associado ao desenvolvimento de um novo imaginário sociotécnico de transição energética, no sentido do conceito proposto por Jasanoff e Kim (2009), que ilustra a relação entre futuros coletivos desejados e avanços na ciência e tecnologia. Os discursos recentes, ao nível nacional e europeu, sobre transições de baixo carbono, e o recente desenvolvimento em Portugal do Roteiro para a Neutralidade Carbónica, indicam que as respostas às alterações climáticas estão fortemente associadas à construção de imaginários sociotécnicos de transição energética. Esta apresentação contribuirá para uma reflexão com base numa análise do desenvolvimento da energia nuclear em Portugal, das controvérsias e impulsos que caracterizaram este processo, e dos diferentes discursos em seu redor. Reconhecendo que esta foi a primeira controvérsia sociotécnica em Portugal, inaugurando uma nova relação entre ciência e democracia e promovendo o desenvolvimento do movimento ambiental em Portugal, nesta apresentação serão analisados potenciais contributos da história da energia nuclear para os atuais debates sobre transição energética, incluindo aspetos como a mobilização social, a produção de conhecimento e a política dos artefactos tecnológicos.

### COMMUNICATING THE SCIENCE OF CLIMATE CHANGE: CHANNELS, SOURCES AND TRUST

Jussara Rowland, University of Lisbon, Portugal  
 Ana Delicado, University of Lisbon, Portugal  
 João Estevens, University of Lisbon, Portugal  
 Sonia Brondi, Observa, Italy  
 Giuseppe Pellegrini, Observa, Italy

Climate change is one of the most complex and contentious issues of a scientific nature. Even though the scientific consensus has been almost unanimous for the past two decades, media, politicians and the public are still divided on whether the problem is as serious and demanding of urgent action as scientists proclaim. The communication of the science of climate change is thus crucial to persuade public opinion and decision-makers to move from almost innocuous statements to actual policies and actions to mitigate and adapt to climate change. CONCISE (“Communication role on perception and beliefs of EU Citizens about Science”) is a EU funded project (H2020 SwafS) that seeks to understand how the public obtains information, builds its attitudes and make decisions on relevant scientific topics, including climate change. In 2019 CONCISE held citizen consultations in five different EU countries (Italy, Poland, Portugal, Slovakia, and Spain) to shed light on these matters. Engaging citizens in discussions allowed for a more in-depth exploration of their perceptions, opinions and beliefs. Discussions were followed by short surveys, which will permit gauge the variation of opinions across sociodemographic variables. This presentation will compare qualitative and quantitative data from consortium countries regarding the preferred channels and sources of scientific information on climate change of their citizens, as well as how trust in science is built and how can science communication be more effective.

### PARTICIPATORY METHODOLOGY ON ADAPTATION TO CLIMATE CHANGE

Adriana Alves, University of Lisbon, Portugal

Climate change challenges cities’ adaptation capacities and, all over the world, cities are taking the leadership in adaptation, showing that local adaptation is key to enhance resilience, by reducing vulnerabilities and increasing adaptation capacities. The purpose of this paper is to discuss the participatory methodology used in the ClimAdaPT.Local project, a pilot-project on the development of local adaptation strategies, implemented in 26 Portuguese municipalities, between January 2015 and December 2016. This paper identifies different methodologies associated with climate change adaptation at a local level. Starting from the Adaptation Pathways framework, we elaborate on a more comprehensive take on the societal dimensions of planning for local adaptation to climate change. The ClimAdaPT.Local case study is used to show how a workshop-based participative action-research methodology was useful in promoting stakeholder engagement in a democratic exercise of knowledge co-production when building a municipal strategy on adaptation to climate change. Highlighting the challenges of the participatory process, namely on capacity building, on coordination, on budget and on continuity, we will also provide insights on a series of contributions ClimAdaPT.Local brought to the field, such as engaging stakeholders in a long term process of resilience enhancement, fostering trust and cooperation among stakeholders and institutions, and establishing a knowledge co-production framework. We will demonstrate how stakeholder participation influenced the outcome of the municipal strategies for climate change adaptation being prepared. We will also discuss how the follow-up scheme introduced by the applied methodology has contributed to some expected and some unexpected governance outcomes.

## ORGANISATIONAL CULTURE AND CLIMATE CHANGE ADAPTATION IN THE TOURISM SECTOR

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Maria do Céu Almeida, Laboratório Nacional de Engenharia Civil, Portugal

Paulo Machado, Laboratório Nacional de Engenharia Civil, Portugal

Tourism is a climate-sensitive socio-economic sector demanding imminent actions to adapt tourist businesses to climate change. The AdaPT AC:T project (<http://adapt-act.Inec.pt>) developed a method to assess environmental (water-energy consumption and thermal comfort indicators) and organisational vulnerability (perceived organisational culture) of the hotels to climate change. The paper presents the evaluation of the dominant organisational culture and the relationship with the applicability, level of importance and timeline to the implementation of a range of adaptive water measures, although the empirical part of the study also covered energy consumption (gas and electricity). Denison's (2012) model of organisational culture assumes that an organisation's culture directly or indirectly influences its performance, specifically resource efficiency and management. Also, for organisations to be effective in managing their environmental performance, they must strike a balance between their internal processes and the need to adapt to a changing, and some extent, volatile economic context. The model illustrates individuals' subjective evaluation of the value system of the organisation in terms of adaptability, involvement, and flexibility. Results showed hotels as flexible organisations, adaptive to new challenges and innovative procedures and routines, with a staff involved with the organisation, team-oriented and aware of the importance of their activity to the main activity. Furthermore, the cross-analysis of environmental and organisational performance allowed for an integrated approach to climate change adaptation. It also highlighted the relation between organisational adaptability, involvement and flexibility and the importance and timeline for the implementation of adaptive water measures, confirming the importance of this topic to raise the organisational awareness of the challenges and the need for compelling actions that climate dynamics poses to the sector.

## PERCEPTIONS MATTER. OVERCOMING THE CONTEMPORARY CLIMATE CHANGE AND MIGRATION DISCOURSE

Cláudia Santos, University of Lisbon, Portugal

João Morais Mourato, University of Lisbon, Portugal

The climate (change)-migration nexus remains a hot topic in scientific and policy debates. But the role of climate change in migratory mobility and non-mobility decisions is still highly controversial. Taking stock of a critical literature review, in this presentation we will briefly (i) outline the obstacles and consequences in establishing a causality between climate change and migration. In addition, we will (ii) examine how contextualised studies on communities' perceptions have been proposed in the context of Small Island Developing States (SIDS) as a way to demystify and overcome the predominant migration discourse. Such studies allow for migration-related motivations to be known and reverse the invisibility of the "climate refugees" by giving them a voice. We (iii) advocate the need to further extend research to other actors, as much of the potential for transforming local realities lays within local power structures. Understanding how influential actors think and operate, in parallel with the communities, offers the possibility to overcome pre-conceived notions and assumptions of why people move or stay put. Ultimately, we make a case for multilevel perceptions as fundamental to unveil how different migration narratives coexist and set the path forward for more adequate policymaking.

## SOCIO-ECOLOGICAL JUSTICE IN A MORE-THAN-HUMAN WORLD

Özge Yaka, Universität Potsdam, Germany

Nature – and environment – has long been maintained as external to human life and society. The climate crisis, however, has unveiled a fact that had been ignored by humanity for some centuries: ecological embeddedness of our social existence. The current situation does not only challenge the long established duality of the social and the ecological, but also calls for a rethinking of our social and political categories which remain short of responding to the problems of the Anthropocene. Justice is among those categories that should be rethought in relation with the problems and struggles of our time. Drawing on an extensive empirical research on grassroots environmental struggles against run-of-river hydropower plants in Turkey, this paper develops a notion of socio-ecological justice, in a close conceptual dialogue with the literatures on environmental and ecological justice. It proposes that the grassroots struggles for environmental commons produces emergent justice claims that the conceptual framework of environmental justice remains short of translating. Such a work of translation requires framing the relational existence of human societies and non-human environments as a matter of justice, as the justice those struggles demand makes the distinction between social and ecological justice redundant. In this manner, the notion of social-ecological justice aims to go beyond the established conception of environmental justice, as the un/fair distribution of environmental hazards and benefits. Socio-ecological justice derives inspiration from empirical data to maintain that what we experience and identify as injustice and what we demand as justice necessarily involves our transversal connection to our environments. Hence the idea of social justice should reinvent itself as socio-ecological justice in order to respond to the challenges of our more-than-human world and to assist our “progressive composition” (Latour, 2004) in this common world.

## SUFFERING BODIES AT THE INTERSECTION OF NATURE AND SUBNATURE: CONCEPTUALIZING THE BODY AS SCALE OF ENVIRONMENTAL INJUSTICE

Filip Alexandrescu, Research Institute for the Quality of Life, Romania

Ionut Anghel, Research Institute for the Quality of Life, Romania

Anca Mihai, University of Bucharest, Romania

Alina Pop, Christian University, Romania

Lucrina Stefanescu, Babes Bolyai University, Romania

Julia Adorjani, Babes Bolyai University, Romania

In concluding her analysis of the proliferating expulsions in the current phase of capitalism, Saskia Sassen (2017) calls for a return to “ground level” in order to re-theorize the recently observed forms of social and economic dispossession. In this paper we argue that one of the key sites to observe these processes are the bodies of those expelled from the economy, citizenship and liveable space (Sassen 2014, 2015). We rely on the recent work on the invisibilization of suffering (Herzog 2020) to re-construct the body as a scale shaped by the intersection of urban subnatures (or the “socio-natural detritus of industrial urbanization: mud, garbage, debris” – Gissen 2009: 24) and the exposure to the elements (heat and cold, floodwater and storms). The analysis is based on recent field research (2019) carried out in several makeshift Roma ghettos at the margins of Târgu Mureş and Miercurea Ciuc, two middle-sized cities in Transylvania, Romania. We use semi-structured interviews and observations to reconstruct bodies as the outer limit of expulsions but also as sites of resistance. In constructing the body as the intersection of natural / subnatural elements, we draw on an explicit comparison with the suffering of migrants and refugees making their way across the South-Eastern reaches of the Europe (Schindel 2019). We conclude by drawing some broader implications of the body as the ultimate scale of environmental injustice, but also as site of intellectual and political provocation.

## STUDYING ENVIRONMENTAL MIGRATIONS FROM MIGRANTS' AND REFUGEES' PERSPECTIVES. FROM HUMAN ECOLOGY TO POLITICAL ECOLOGY

Inês Vieira, Nova University of Lisbon, Portugal

The broad field of environmental migrations has been developing substantially in the last years, namely within science and policymaking. Yet, the way of defining the intersections of environmental issues and human mobilities may vary, namely between the major scientific and policy realms and the lay conceptions of the protagonists of mobilities. How do migrants and refugees define the meanings and importance of environmental issues in their countries of origin? How do these issues relate with other factors, namely at the social, political and economic levels? How complex might these interplays be if we consider post-colonial migratory movements? This reflection departs from a Ph.D. work on Human Ecology (Vieira, 2019) with a qualitative approach. The research was developed with Ethiopian and Eritrean migrants and refugees in Italy (Bologna, 2012) and Cape Verdean migrants in Portugal (Lisbon, 2013, 2015). The aim was to explore the reflexivity of migrants and refugees and their representation on environmental issues in the countries of origin, interrelated with other drivers of mobility and framed within their own experiences of mobility towards Southern Europe. The main results on how these migrants and refugees defined environmental issues (nature and physical environment; the environment among structural issues; environmental disasters; ecological modernization and social change) and pondered their interplay within migration drivers will be considered. These varied senses attributed to "the environment", as well as the reflection on the post-colonial paths considered in this work, have marked the move from human ecology to political ecology — from broadly considering the influences of society in the environment and of the environment in society, to pondering critical approaches towards unequal systems that frame resources (natural included) and social costs that derive from environmental crisis, and which highlight class, gender and racialization-based divisions.

## ECOLOGICAL VIOLENCE AND SOCIAL CONFLICTS: SOCIOLOGICAL STUDY OF MULTIPLE EFFECTS OF WATERMELON FARMING IN SOUTH-EASTERN OASES MOROCCO

Ahmed Elkhatabi, University of Meknès, Morocco

The danger threatening the Zagora region in south-eastern Morocco owing to the rapid degradation of the environment by watermelon farming is worsening day by day. This disastrous agriculture contributes to a process of groundwater degradation as it requires huge amounts of water, more than two thirds of the reserves, with an intensive and indiscriminate use of the chemicals operating an ecological violence. This situation brings about tensions between the most vulnerable social categories deprived of access to vital resources on the one hand, and the large and medium-sized farmers arriving from other regions on the other. The authorization for an agriculture destroying the ecosystem led to a collective mobilization of the population named "Revolt of thirst". The question that arises is what role does this ecological violence play in triggering social tensions, in the absence of the influence of social mediation institutions? Our work is therefore based on a hypothesis inspired by the theory of conflict that says that the higher the environmental degradation is, the higher the possibility of triggering social conflicts without establishing causal links between the two variables. The field work has shown that natural and environmental factors push people to demonstrate against the exclusion and deprivation of access to resources and to defend their oases heritage, which creates a feeling of insecurity.



## THE ROLE OF ENVIRONMENTAL ASSESSMENT IN PROMOTING SUSTAINABLE REGIONS

Alexandra Polido, University of Aveiro, Portugal

Globally there is an urgent need to address environmental and social challenges, demanding for a paradigm shift towards sustainability. Strategic Environmental Assessment (SEA) is paramount to integrate sustainability in decision-making processes. Previous work showed that SEA advances sustainability in context-specific territories through governance and community empowerment, decision-making paradigm change, and resilience enhancement. Even though the dominant EA scholarship focuses on rationality and process effectiveness to achieve sustainability, the empirical reality is that SEA processes have a strong political, institutional, and cultural dimension which are affected by different stakeholders. This research aims at understanding how the different stakeholders affect SEA towards sustainability. To achieve the aim, it was used a case-study research design using the SEA of the Portuguese Centro Region Operational Programme 2014-2020. The SEA process was scrutinised through document analysis to the SEA report, semi-structured interviews to practitioners and decision-makers, and a questionnaire survey to all key stakeholders involved in the SEA process. Preliminary results show that it is necessary to improve mechanisms to strengthen cooperation between stakeholders, and empowerment of practitioners and local stakeholders. Overall, this research contributes for the enhancement of knowledge of environmental policies, planning and sustainability within SEA processes.

## ARE STAKEHOLDER PERCEPTIONS OF ECOLOGICAL CONDITION A REASONABLE PROXY FOR FIELD DATA?

Julia Baird, Brock University, Canada

Ryan Plummer, Brock University, Canada

Marilyne Jollineau, Brock University, Canada

Gillian Dale, Brock University, Canada

Stakeholder perceptions, or stakeholder evaluations (i.e., collecting data from those familiar with a site or case study), are often used as a proxy in the social sciences for measured outcomes in environmental management and governance research. The use of stakeholder evaluations has been defended as a legitimate and effective means to evaluate ecological outcomes of stewardship efforts including conservation initiatives and policies, integrated coastal management and marine protected areas, environmental governance, and adaptive co-management. Specifically, stakeholders are considered knowledgeable about the outcomes of initiatives in which they are engaged and may be best situated to make these assessments. However, the ability of stakeholders to accurately assess ecological conditions is disputed in the literature. Perceptions are considered by some to be a poor proxy because they can be subjective, reliant on respondents' memories, biased in multiple ways and are potentially very variable. Accordingly, we conducted a pilot study to examine the extent to which data collected by a technical expert in the field aligned with data collected from stakeholders with a) no training (approximating a site visitor assessment); and, b) a training session and resources (approximating a structured citizen science approach). The study site was a native grassland restoration initiative on Niagara Parks property in the Niagara Region of Ontario, Canada. Results indicate that stakeholder perceptions are similar to a technical expert's assessment when provided at a coarse level, but when requiring specific information about ecological condition there are significant differences. The implications of these findings and future research directions will be discussed.

## VISUAL TOOLS FOR INCLUSIVE PUBLIC PARTICIPATION IN EIA DECISION-MAKING PROCESSES

Ana Roque de Oliveira, University of Lisbon, Portugal  
Maria Partidário, University of Lisbon, Portugal

The literature is prolific on the use of visual tools and their potential to promote inclusive public participation, bridging multiple stakeholders' perspectives, concerns, and priorities. This is particularly the case with the literature on environmental planning and management, and generally with the literature on communication. However, the literature is significantly less abundant on the use of visual tools within environmental impact assessment. The authors conducted a literature review of environmental planning and impact assessment related decision-making processes, comparing key benefits and challenges of visual tools, and assessing whether technical, cognitive, social and emotional effects/dimensions of visual tools were (equally) considered. Also, they assessed the actual capacity of visual tools to promote and enhance inclusive public participation. Finally, they assessed whether the visual tools were designed in each case - fit for purpose - to promote public participation, as well as the extension of public involvement in the design of the visual tools. The analysis show that: (i) the literature largely dwells upon ad hoc evaluations of visual tools employed, indicating that normally they are present, with predefined choices. Public participation processes inclusive of local or indigenous knowledge need to properly address issues of confidentiality and prior informed consent, as well as take into consideration differences in language, values, concepts and styles of expression that might impact the way environmental assessment is visually represented; (ii) visual tools are not made to fit the reality that they intend to serve; and (iii) seldom is the public involved in the design and choice of visual tools.

## THE ENVIRONMENTAL CONSEQUENCES OF ARMED CONFLICTS

Ivan Zaytsev, MGIMO University, MSIR, Russian Federation

The investigation was devoted to the impact of armed conflict on the global environment and consequences of such impact for humans and nature. Today's society witnesses never-ceasing conflicts, civil wars fading in one region and erupting in another. Confrontations lead to deaths of people, large-scale destruction of countries' infrastructure, material damage, refugees, diseases, destroyed monuments, hunger. Environmental impact is one of the most painful and relevant topics on the agenda. Explosions and burning of ammunition lead to air, soil and water pollution. Destruction and flooding of industrial enterprises result in emissions of harmful substances into atmosphere. Bombs craters, clusters of abandoned military equipment and rebel camps disrupt natural landscapes, pollute rivers, and destroy vast spaces of productive land. In this regard, the United Nations organization, World Health organization, World Wildlife Fund, other international communities, states leaders are extremely concerned about this problem, which threatens all the humanity. The present research issue is based on study of military conflicts occurring in the world since 1945, cases of Sino-Vietnamese confrontations, Iran-Iraq, Iraq-Kuwait wars, African conflicts, today's confrontations in Ukrainian Donbass and Syria. The investigation applied to: 1) analysis of historical data; 2) monitoring of world mass media and actual statistics; 3) event-analysis; 4) United Nations, WWF, European Union, other institutions statements research. It is hard to overestimate the significance of environmental impact on human health, children in the first place. Direct consequences are population loss, mortality, disability, genetic consequences of the use of weapons of mass destruction. It is substantial to realize that sustaining healthy ecosystems and total monitoring of events, should become a common global strategy aimed at ceasing conflicts in the world.

**RUMO À TRANSIÇÃO ENERGÉTICA SUSTENTÁVEL:  
PRINCIPAIS FATORES E DESAFIOS**

Carla Fernandes, Universidade Nova de Lisboa,  
Portugal  
Paulo Duarte, Instituto de Defesa Nacional, Portugal

Ao longo da história, a energia teve um papel fundamental no progresso da civilização humana. Foi a descoberta de novas fontes de energia que possibilitou a evolução económica e social da humanidade. Desde a revolução industrial do século XVIII, que hidrocarbonetos são as fontes energéticas dominantes. Fontes altamente poluentes que têm contribuído para enormes custos ecológicos associados à emissão de carbono, que por sua vez, tem impacto nas mudanças climáticas antropogénicas e na sustentabilidade ambiental global. Perante os desafios enfrentados pelas sociedades modernas contemporâneas impõe-se uma transição para um futuro sustentável da energia, com base na produção e consumo de energia mais eficiente e com baixo carbono. Esta transição energética é um processo complexo e longo, que inclui múltiplos atores envolvendo questões políticas, tecnológicas, organizacionais e sociais. Nesta apresentação iremos analisar os fatores podem influenciar a transição energética, avaliando igualmente os impactos que a atual transição energética poderá ter para a geopolítica da energia.

**PESQUISA E PROSPEÇÃO DE PETRÓLEO NA COSTA  
ALGARVIA À LUZ DO QUADRO EUROPEU DE COMBATE  
ÀS ALTERAÇÕES**

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Portugal

No período decorrido entre 2007 e 2015 o governo português celebrou contratos de concessão com empresas petrolíferas destinados à pesquisa e exploração de hidrocarbonetos em território e mar português. A presente comunicação apresenta os resultados do trabalho de investigação realizado entre 2015 e 2017, analisando os contornos dos diversos processos que marcaram a celebração por parte do Estado Português de contratos de concessão para a pesquisa e exploração de hidrocarbonetos, em contraponto com os objetivos nacionais, europeus e internacionais assumidos por Portugal em matéria de alterações climáticas. O caso de estudo selecionado para análise diz respeito à atribuição de concessões na bacia algarvia, especificamente na região de Tavira, à luz do contexto atual de agravamento e manifestação de alterações profundas no clima terrestre. Para tal, foi realizada uma extensa pesquisa documental, e posterior tratamento de dados recolhidos, nomeadamente em tratados europeus, decretos-leis, artigos científicos, edições sob a forma de livro, artigos informativos e artigos de opinião. Entrevistámos ainda professores, investigadores e ativistas integrados em áreas de investigação relacionadas com geologia, alterações climáticas, energias renováveis e ativismo ambiental. A primordial conclusão a que chegámos diz respeito ao carácter contraditório da postura portuguesa em convenções internacionais dedicadas à discussão do combate às alterações climáticas, assumindo objetivos de neutralidade carbónica e promovendo o abandono da dependência de energias fósseis nas próximas décadas, enquanto promoveu e aprovou o interesse de companhias petrolíferas nos recursos fósseis presentes no subsolo e no mar português.

## DESENVOLVIMENTO SUSTENTÁVEL E INDÚSTRIA EXTRATIVISTA DE PETRÓLEO: CONTRADIÇÕES E TENSÕES EM MACAÉ/RJ-BRASIL

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O município de Macaé fica na Região Norte Fluminense no Estado do Rio de Janeiro, Brasil. Desde os anos 1970, quando a Petrobrás iniciou suas operações Offshore e escolheu Macaé como local para instalar sua base de prospecção de petróleo no mar. A cidade passou por uma profunda transformação com explosão demográfica e urbanização acelerada. A expansão de Macaé segue três ciclos da indústria extrativista do petróleo no Brasil. Primeiro, a instalação da sede da Petrobrás após iniciar as operações offshore na região. Em seguida, a abertura do mercado com a quebra do monopólio de exploração do petróleo pela Petrobrás, com a promulgação da Lei 9.478 de 1997, essa lei abriu o mercado e fez crescer o parque industrial na cidade. Por fim, o início das operações de extração do petróleo do pré-sal, em 2008. Há uma contra-mola de resistência com o surgimento de movimentos sociais ambientais. As tensões provocadas contribuem para que Macaé estabeleça uma forte legislação ambiental e crie um mecanismo de participação política, o Conselho Municipal de Meio Ambiente e Desenvolvimento Sustentável. O caminho que percorre o município é tentar superar a contradição entre ter como principal fonte econômica a indústria extrativista do petróleo e construir um desenvolvimento sustentável para o município, especialmente por conta dos movimentos sociais ambientais locais concentrarem suas energias para a viabilização da Agenda 21. O trabalho que se apresenta, é um estudo exploratório de pesquisa em andamento para doutorado em ciências ambientais, tem como metodologia revisão de bibliografia, análise de sites e documentos institucionais e de indicadores econômicos, sociais e ambientais. Os resultados preliminares indicam que as contradições entre a poluente indústria do petróleo e um desenvolvimento sustentável não estão resolvidas. O que se percebe é que cada vez mais se distancia das perspectivas do desenvolvimento sustentável, inclusive com o esvaziamento da Agenda 21 local.

## LABORATÓRIOS VIVOS E PROCESSOS DE COCRIAÇÃO: A EXPERIÊNCIA PORTUGUESA

Isabel Silva Cruz, Investigadora independente, Portugal

Os Laboratórios Vivos (LL) são campos de experimentação de inovações tecnológicas centradas em práticas sustentáveis (mobilidade, eficiência energética, desenvolvimento rural sustentável, saúde) e promovem novas formas de governança da sustentabilidade (Bulkeley et al., 2015, McGuirk et al., 2014, McCormick et al., 2013, e Frantzeskaki e Loorbach 2010). Os LL constituem redes locais nas quais instituições públicas, instituições de conhecimento (universidades), empresas e sociedade (modelo quadruple-helix) desempenham um papel central na definição e construção de processos de cocriação, promovendo a reflexão sobre as questões da sustentabilidade baseada no desenvolvimento de soluções tecnológicas inovadoras, no teste das mesmas e na aprendizagem através da inovação. Segundo Van den Bosch e Rotmans (2008) o processo de aprendizagem, no âmbito da “Experimentação de Transição”, permite que uma multiplicidade de atores sociais “desenvolva novas formas de pensar (cultura), fazer (práticas) e organizar (estruturar)” através de um “processo (inter) ativo de aquisição e desenvolvimento de novos conhecimentos, competências ou normas e valores.” Como envolver diferentes atores sociais num processo de cocriação e como avaliar o impacto das inovações tecnológicas na mudança do comportamento dos consumidores em práticas sustentáveis de consumo permanecem questões a melhorar nos ULL (Gust Project; NESTA). Em Portugal os Laboratórios Vivos surgem na década de 90 e assumem um papel central no desenvolvimento socioeconómico do país (Azeiteiro et al., 2017; Oliveira e Amaral Brito, 2013). Neste artigo propomo-nos apresentar uma tipologia dos Laboratórios Vivos portugueses centrada na relação entre a área de intervenção e o modelo de cocriação. Concretamente, pretende-se demonstrar que existe uma associação entre a criação de valor centrada em produtos e em sistema tecnológicos e o “fazer em conjunto” e entre a criação de valor centrada no sistema societal e o “aprender em conjunto”.

## Panel organizers | Organizadores do painel

Francisco Venes, Universidade de Coimbra, Portugal

Rita Campos, Universidade de Coimbra, Portugal

A Oficina de Ecologia e Sociedade (ECOSOC, CES-UC), fundada em 2011, é um grupo de trabalho do Centro de Estudos Sociais da Universidade de Coimbra que reúne investigadorxs que adotam na sua pesquisa uma abordagem crítica da ecologia em colaboração com ativistas e movimentos sociais que estão no terreno, pensando e co-produzindo em conjunto resistências e alternativas à crise ecológica. Ao longo dos seus 8 anos de trabalho, a ECOSOC, CES-UC tem desenvolvido atividades de investigação, extensão e formação avançada sobre um vasto conjunto de temas. Este é o primeiro de três painéis que busca articular a discussão sobre colonialismo, extrativismos e resistências. Nestas três comunicações procuramos discutir formas de violência social e ambiental perpetradas na Bolívia, nos territórios indígenas das Américas e na Guiné-Bissau, bem como as respetivas formas de resistência. O colonialismo tem-se pautado pela tentativa de aniquilação da identidade, vontade, expressão, autonomia do Outro, ao mesmo tempo que implanta dominação económica, extração de recursos e controlo da produção. Este painel analisa aspetos sociopolíticos, económicos e climáticos de antigas e novas formas de colonialismo ecológico, contribuindo para a reflexão das continuidades e especificidades dos colonialismos, sua expressão presente e relação histórica com formas de dominação ecológica, extrativismo, o capitalismo verde e a falência produtiva. Será que a economia sustentável é socialmente viável? De que forma se reproduzem as desigualdades existentes? A reflexão acerca do imperialismo à procura de lítio na Bolívia, conivente com o recente golpe, permite discutir a transição energética no contexto do capitalismo verde. A análise do extrativismo industrial e da economia hipster nos territórios indígenas das Américas debruça-se sobre a usurpação do universo simbólico. A produção de arroz na Guiné-Bissau propõe um olhar crítico sobre os discursos acerca da resiliência climática.

## CONFLITOS AGRÁRIOS-ECOLÓGICOS NO BRASIL: DESAFIOS METODOLÓGICOS

Marco Malagoli, Universidade Federal Fluminense, Brasil, Universidade de Coimbra, Portugal

Vemos no Brasil o crescimento de análises e militâncias interseccionais na crítica das políticas ambiental e agrária, ainda que muitas delas pareçam ainda não superar metodologicamente a tradicional dicotomia “sociedade/natureza”. A questão agrária é frequentemente caracterizada pela violência e concentração da propriedade da terra como um resultado de desigualdades geradas pelo capital e por obstáculos político-jurídicos contra a luta pela terra no país. Por outro lado, vemos também os últimos governos brasileiros assumirem posicionamentos anti-ecológicos, ao considerarem o tema da conservação ambiental uma afronta ao humanismo e um obstáculo ao crescimento econômico. Entretanto, os crescentes conflitos e degradações no campo brasileiro integram cadeias de agências de humanos e não-humanos, que nos cobram compreensão e ação para além destas ontologias políticas, pois assim são produzidas. O enfraquecimento dos instrumentos e espaços institucionais de controle público sobre a ação degradante de empresas e de programas governamentais tem sido justificado pela busca do bem-estar social, sustentada pelo crescimento econômico a qualquer custo. Temos testemunhado o aumento dos casos de desastres e conflitos socioambientais, assim como a violência no campo, fenômenos de mais longa duração que podem ser compreendidos como efeitos da singular subordinação periférica da América Latina: sua histórica (e produzida) dependência do capitalismo central, imersa no paradigma neo-extrativista; um peculiar tipo de elite nacional (retrógrada); as armadilhas da democracia liberal, e assim por diante. Proponho um debate a partir de algumas das contribuições dos ecofeminismos e de perspectivas pluriversais das ontologias políticas, de modo a buscar quadros analíticos não-dicotômicos para o grave cenário atual agrário-ecológico brasileiro. Como poderíamos/deveríamos abordar os conceitos de trabalho (categoria praxiológica central) e de metabolismo sócio-ecológico nestes desafios?

## CONCEITO DE SERVIÇOS ECOSISTÉMICOS ENQUANTO PROMOTOR DA TRANSIÇÃO ALIMENTAR SUSTENTÁVEL E JUSTA? ANÁLISE DO CONCEITO DESDE A PERSPETIVA DAS CIÊNCIAS SOCIAIS

Sérgio Pedro, Universidade de Coimbra, Portugal  
Lúcia Fernandes, Universidade de Coimbra, Portugal

O sistema alimentar contemporâneo, nas suas dimensões global e local, é um elemento central do debate sobre a sustentabilidade do planeta e o futuro da vida que o habita. Simultaneamente, e intrinsecamente inter-relacionada com a necessidade de transição dos sistemas alimentares devido aos impactos das mudanças climáticas, é urgente o desenvolvimento de soluções concretas para a proteção e regeneração do meio ambiente, bem como o apoio à adoção pelo sector de metodologias sustentáveis de produção de alimentos. Os dados disponíveis evidenciam que as práticas sustentáveis de produção de alimentos e os conhecimentos tradicionais aplicados à agricultura fornecem serviços ecossistémicos (SE) que promovem a sustentabilidade, segurança alimentar, bem como a mitigação e adaptação às alterações climáticas. A adoção de uma política de valorização dos SE gerados pelo setor agrícola pode representar um caminho para uma mudança de paradigma. No entanto, a adoção de tal conceito e consequentes medidas de política pública baseadas no mesmo depende da existência de uma análise crítica do conceito de SE (Schröter et al., 2014), abordando o mesmo desde uma perspectiva biocêntrica e enquanto ferramenta fomentar e apoiar a transição para sistemas alimentares mais sustentáveis e justos (Alkon e Agyeman, 2011). Tal reflexão é tão mais relevante quando decorre o processo de revisão da Política Agrícola Comum da União Europeia, no qual a inclusão dos SE no seu quadro operativo se coloca como hipótese. Mobilizando a perspetiva das ciências sociais para a análise do conceito de SE, a presente comunicação irá identificar possíveis vias de implementação de medidas legislativas de SE, bem como, suas correspondentes implicações na alteração para metodologias mais sustentáveis de produção de alimentos e valorização do património imaterial aplicado ao sector agrícola, recorrendo a métodos de avaliação de impacto de sustentabilidade.

## FROM PEASANTS TO URBAN WORKERS AND BACK: DEBATING AGRO-ECOLOGY AS SOCIO- ENVIRONMENTAL JUSTICE IN ROMANIA

Irina Velicu, Universidade de Coimbra, Portugal  
Andreea OGREZeanu, Universidade de Coimbra,  
Portugal

To be a 'peasant' has long been a vulnerable social category, rendered ridiculous in Romania: the violent phenomenon of depeasantisation that started during the dictatorship continues with other means, having to face the fact that, more than half of the Romanian population lives in rural areas. An ageing population, barely surviving with subsistence agriculture or displaced for work in urban centres, seems to be of no concern for political parties and authorities. The absence of debate is, however, a presence: the presence of the post-political consensus about the future as urban-industrial, which gradually invisibilizes peasants as unproductive social category. Land grabbing has become a widespread process all over Romania, as in other global South regions of the world. By proclaiming themselves ostentatively 'tarani si taranci' (male and female peasants), a new movement is emerging, which challenges land grabbing and industrial agro-food in Romania. Eco-ruralis, part of Via Campesina, is a peasant association that, in the last decade, grew in numbers from few hundred to more than ten thousand members in Romania. This paper critically investigates the new processes of feeding the nation' its own (traditional) products. We ask: Who and under which conditions still wants land for agriculture? How and why do participants in Ecoruralis embody and perform 'just food' in the specific material, geographical and socio-political context of post-socialist Romania? Based on in-depth interviews with new and life-long peasants' (families), we look at re-subjectification processes, agro-ecological visions beyond dualisms of power relations, and the implied visions of land/food/socio/environmental justice.

## RETIRANTES DAS SECAS DO NORDESTE BRASILEIRO ENTRE OS PRIMEIROS REFUGIADOS CLIMÁTICOS

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As alterações climáticas transformaram-se em poucas décadas num dos principais problemas civilizacionais. Além dos diversos impactos, uma preocupação específica liga-se aos chamados refugiados ou migrantes climáticos atingidos pela ocorrência mais frequente de fenómenos extremos. Ainda que a temática seja relativamente recente, historicamente sempre existiram refugiados climáticos no semiárido nordestino (Brasil), cuja fuga das secas levava ao esvaziamento temporário do interior. A severidade e rapidez das secas que afetam a região têm entre as figuras de destaque o chamado retirante, também designado flagelado das secas, o elemento mais fragilizado na hierarquia social e que mais depressa é afetado pela estiagem prolongada. Até à Grande Seca de 1877-1879 não havia nenhuma política pública de suporte aos atingidos pela seca, existia apenas apoio assistencialista com base em peditórios realizados nas grandes cidades. A partir dessa data é organizada a resposta a este problema social que afetava sobretudo os mais pobres. Além da assistência alimentar e com possíveis doenças, aos homens é dado trabalho no ciclo da borracha da Amazônia e posteriormente na construção de linhas de caminho-de-ferro, barragens e outras obras do Nordeste. A representação sobre o retirante não melhorou apesar dessas iniciativas, que sendo vítima da seca e desigualdade vê aprofundar o estigma que recai sobre si, por exemplo, que o associam à violência e saque, de tal modo que, no estado do Ceará, nas secas de 1915 e 1932, foi colocado em campos de concentração. Através da nossa proposta damos visibilidade ao problema e recuperamos histórica e socialmente a figura do retirante para que se reconheça no momento do enfrentamento dos atuais problemas climáticos. Para tal, reconstruímos as suas representações a partir de notícias publicadas no Diário de Natal no período 1939-1989, da literatura, de artigos científicos, de publicações dos próprios retirantes e histórias de vida.



### OBJECTIVATING RISK: HOW ENVIRONMENTAL EXPERTISE SHAPES DRR AND CCA IN COLOMBIA AND BRAZIL

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Conceptually based on the chapter published in the 2017 Routledge Handbook on Disaster Risk Reduction including Climate Change Adaptation, this paper explores the operationalization of one of its strands into an applied research project: the analysis of the objectivation of risk through processes of expert knowledge production. Almost the totality if not all institutions working on Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) in the international and national arenas tend to objectivate risk. Although the concept of DRR has evolved over the last six decades from an emergency-centred to a more integrated disasters-development dialogue risk remain objectivated. In spite of this transformation intimately bound to the evolution of both the prevailing policy frameworks of DRR and CCA brought about by the changing conceptualizations of disasters brought about by epistemological debates risk. This is not a conflict free arena insofar scholars from the technical and natural sciences work to consolidate a scientific body of knowledge regarding hazards, whilst social scientists link this with the idea of disasters as socially constructed processes. On the whole, both DRR and CCA as domains of knowledge and policy production at the level of multi-lateral agencies and international institutions tend to disregard key sociological transformations. In particular, the debate on the relationship between development and the project of modernity is not taken on board because it is considered not relevant for the advancement of scientific knowledge. With a focus on Colombian and Brazilian institutions and scholarship, the paper takes the debate into the domain of applied discourses entailing the IPCC, UNISDR and the national institutions explore how the practices of risk objectification are reflected in applied policies, policy measures, textual frames, meaningful discourses, texts, speeches, etc.

### EXPLAINING REPRESENTATIONS OF ENVIRONMENTAL RISKS IN FORMER MINING YEARS: HISTORY OR PERCEPTION?

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Filip Alexandrescu, Romanian Academy, Romania  
Monika Meltzer, Babeş-Bolyai University, Romania  
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Sustainable development of polluted mining areas is of great interest to governments, local population, mining companies, NGOs and other stakeholders. There is currently a need to assess the long-term sources of unsustainability, especially how environmental conditions and risks constrain opportunities of community development and economic revitalization. Only when local communities agree on the seriousness of the risks they face, and on the course of action they must take, can the prospect of sustainable local revitalization and development be seriously considered. We investigate the social representations of environmental risks in one of the most polluted mining areas in Romania, where long-lasting mining activities for gold, silver and polymetallic ores extraction and recent mine closures affected both the environment and the socio-economic factors. Environmental risks in the study area include heavy metal contamination of underground and surface waters, waste heaps and tailing dams stability issues and landscape degradation. To identify common sense knowledge of such risks, 39 in-depth semi-structured interviews were conducted in April 2019 with stakeholders from the study area (local authorities, community opinion leaders, mining industry representatives). Interviews were transcribed and submitted to a quali-quantitative analysis. Preliminary results show that environmental risks are generally poorly acknowledged by stakeholders or flatly denied. The social risks following the reduction or closing of mining activities are seen by participants in the study as far more acute than the environmental ones. We advance the explanatory proposition that the intensity of representations is linked to the degree of dynamism of the socio-economic environments. Fast-paced transformations in the environment generate concern but also expectations of resolution of environmental problems, whereas slow changing/immobile environments are conducive to low perception/low concern.



## DISASTER RISK REDUCTION MEASURES CONCERNING FLOODING: DOES GREEN INFRASTRUCTURE MAKE THE CUT IN ROMANIA?

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Currently, it is discussed that anthropogenic factors influence the construction of disasters determined by flooding. In Romania, according to EM-Dat, in the last 30 years approximately 47 disasters resulted at the intersection of flooding and human communities; this makes Romania the country with the highest frequency of disasters by flooding in the European Union. The objective of this paper is to explore the options available for reducing the disaster risk in Romania and the perceptions of various stakeholders towards these options, with a focus on green infrastructure. I analyse (a) data collected within a sociological inquiry in 2017 (N=26 interviews) with professionals working in the sphere of disaster risk reduction from both public and non-profit organisations (N=11), as well as with locals who experienced more than one disaster determined by flooding in rural areas in the last 30 years (N=15) from Romania and (b) regional and country reports concerning protective infrastructure (green and otherwise). Currently, despite the fact that regionally, the use of green infrastructure for disaster reduction in Romania is unrecognised, at local level various stakeholders implement green infrastructure measures to protect communities, such as reforestation and riverbank protection. Starting from sociologists Robert A. Stallings proposal, this paper aims to present the perceptions of different stakeholders towards best measures to reduce the disaster risk related to flooding.

## IDENTIFYING LIABILITY, DENYING RESPONSIBILITY: ENVIRONMENTAL SECURITY AND THE OUTSET OF CLIMATE-RELATED INSECURITY

Fábio Reis, University of Coimbra, Portugal

The research seeks to answer the following question: “to what extent can environmental security foster environmental stewardship and ensure the protection of individuals against climate-related insecurity?”. The argument focuses on the concept of environmental security, which manifests itself paradoxically: on the one hand, the concept has gained momentum in both academic and political spheres – promoting a multilevel approach to environmental issues, consolidated through the creation of international environmental regimes; on the other hand, the concept has been vastly approached through a traditional security lenses – which neglects the prevention of transnational environmental harm, and impairs any efforts to protect individuals against climate-related insecurity. Despite the influence exerted by environmental stewardship and the rise of environmental multilateralism, global environmental governance is currently ill-suited to address climate-related insecurity – with evidence suggesting a decline of States’ responsibility for individual’s protection. Given that environmental concerns are mostly discussed within a traditional security framework, “climate security” and political “extraordinary measures” have become the main guidelines for environmental security, in detriment of a broad, reliable approach to address climate-related vulnerability.

## CRIANÇAS E MOBILIDADE ESCOLAR: A RESISTÊNCIA À MUDANÇA

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Rita Ribeiro, Universidade do Minho, Portugal  
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Na maioria das cidades, a circulação é altamente condicionada pela intensidade do tráfego associada ao transporte e mobilidade das crianças realizada predominantemente de forma individual e com recurso a automóvel particular. Neste sentido, as deslocações de crianças entre a casa e a escola impõem diversos questionamentos de ordem sociológica, relacionados com orçamentos familiares, usos do tempo, relações de género, disponibilidade de meios de transporte, localização das escolas e, em sequência, as políticas de mobilidade. Trata-se de uma discussão importante atendendo ao interesse em fomentar o uso de meios de transporte de carácter mais sustentável nas cidades, como andar a pé ou em transporte coletivo. A comunicação incide sobre o olhar das próprias crianças acerca da mobilidade entre a casa e a escola, incluindo a forma como a descrevem e a avaliam. Procura-se também debater até que ponto correspondem a narrativas que espelham traços dos modos de vida nas sociedades modernas, marcadas pela busca constante de reduzir os tempos dependidos em deslocação, mesmo quando envolvem crianças. A comunicação baseia-se numa pesquisa realizada com uso da metodologia qualitativa, recorrendo ao grupo de foco com crianças de idades compreendidas entre os 10 e 12 anos a frequentar escolas numa cidade portuguesa. Através de desenho e interações em grupos de foco, as crianças revelaram-se bastante críticas no que se refere à avaliação do grau de “sustentabilidade” dos meios de transporte usados. Todavia, um considerável número revela baixa disposição para mudar de práticas e optar pelo transporte coletivo e/ou outros modos mais sustentáveis de transporte, em alternativa ao persistente uso do carro. A comunicação faz alguns questionamentos sobre estes resultados demonstrando o interesse no desenvolvimento de medidas que promovam a melhoria da qualidade de vida das crianças a partir de mudanças no transporte e formas de deslocação entre a casa e a escola.

## PORQUE DEVEMOS CONSIDERAR NOVAS FORMAS DE COMUNICAÇÃO DE MODA

Paula Melo Cunha de Assis, Universidade Lusófona, Portugal

A indústria da moda ainda está entre as mais poluentes e antiéticas do mundo, solicitando uma renovação total sobre como abordar os consumidores de forma mais eficaz para que mudanças significativas possam acontecer. O desafio é desenvolver estratégias de marketing e projetos que possam influenciar os comportamentos dos consumidores, estilos de vida e, em última instância, forçar a indústria a mudar de "fora para dentro". Como a comunicação de projetos sustentáveis pode influenciar a mentalidade e o estilo de vida do consumidor em um período mais curto, resultando em hábitos mais sustentáveis? A abordagem se concentra em uma pesquisa do campo do marketing de moda, como campanhas, com o objetivo de identificar através de análises e entrevistas os elementos que não tocam os consumidores. Ou seja, os elementos com fracos resultados no que diz respeito à mudança do comportamento do consumidor. Também irá pesquisar uma vasta gama de estilos de vida e os tipos de abordagem que melhor se adequam a cada um deles. Desta forma, se obterá uma comunicação mais eficaz, apresentando soluções mais concretas em relação à moda sustentável. Espera-se que com esta análise se possam fazer alguns ajustes reais no papel da comunicação e dos meios de comunicação e na forma como estes transmitem a informação. Consequentemente, os compromissos e adaptações dos cidadãos desenvolver-se-ão à medida que tomarem consciência de soluções práticas e acessíveis. Em conclusão, é importante compreender que uma melhor utilização da comunicação e dos meios de comunicação é crucial para o futuro. No que diz respeito à moda, são fortemente necessárias mudanças drásticas e urgentes. Pensar em novas estratégias para mostrar aos consumidores e designers como eles podem mudar seus comportamentos é fundamental. Entretanto, o objetivo mais importante é alcançar os cidadãos que ainda não estão conscientes da gravidade da atual crise ambiental. Num futuro próximo, todos precisarão não só saber o que fazer, mas principalmente como fazê-lo. A comunicação da Moda precisa começar a priorizar a educação em vez de simplesmente o consumo.

## BOICOTE, COMPROMISSO E ESTRATÉGIA: UMA ANÁLISE DE DISCURSOS EM TORNO DO CONSUMO DE ORIENTAÇÃO VEGANA

Nádia Carvalho Nunes, Universidade de Lisboa, Portugal

A literatura científica em torno do consumo ético tem vindo a demonstrar que estas práticas de consumo são pontuadas por tensões resultantes da ponderação de fatores como o preço, qualidade, conveniência, convenções culturais partilhadas com outros e contextos de interação. Tais tensões são resolvidas no quotidiano, traduzindo-se, muitas vezes, numa flexibilização das escolhas de consumo. Esta comunicação pretende explorar os discursos em torno das escolhas e compromissos no domínio do consumo ético, assentando numa categoria particular: o consumo ético de orientação vegana. No âmbito do projeto de doutoramento intitulado “Veganismo e Identidade: Reflexividade e Sentido Prático no Domínio do Consumo Ético” (financiado pela FCT com a bolsa SFRH/BD/140401/2018), foram conduzidos três grupos focais com consumidores de orientação vegana, correspondendo à primeira etapa da pesquisa empírica. Tomando-se os trade-offs nas escolhas de consumo enquanto dimensão de análise, procurou-se explorar os processos de tomada de decisão entre produtos veganos e não-veganos, bem como os posicionamentos face ao consumo de produtos de origem vegetal comercializados por corporações não-vegas. A análise sugere que a convergência de diferentes motivações (como sejam o veganismo, o comércio justo e um impacto ambiental reduzido) e constrangimentos (e.g., preço) pode levar a que, na impossibilidade de assegurar todos os atributos desejáveis num mesmo produto, se façam compromissos, com base numa ponderação de benefícios relativos. Por outro lado, verificaram-se posicionamentos divergentes face ao consumo de produtos de origem vegetal comercializados por corporações não-vegas: de um lado, o boicote, aliado ao apoio a negócios veganos, de comércio justo e pegada ecológica reduzida. De outro, o consumo destes produtos, encarado por estes participantes não como uma contradição nas suas práticas, configurando inclusivamente uma decisão estratégica tendo em vista o crescimento do veganismo.

## O PROCESSO DE PLANEAMENTO ESTRATÉGICO EM MUNICÍPIOS DE BAIXA DENSIDADE POPULACIONAL

Celestino Almeida, Instituto Politécnico de Castelo Branco, Portugal

Deolinda Alberto, Instituto Politécnico de Castelo Branco, Portugal

Domingos Santos, Instituto Politécnico de Castelo Branco, Portugal

Luís Quinta-Nova, Instituto Politécnico de Castelo Branco, Portugal

No decorrer da vivência da autonomia autárquica o processo de tomada de iniciativa é a base para a dinâmica evolutiva do território, pois além da implementação das políticas nacionais, cabe às autarquias a definição de soluções para responder às expectativas das respetivas populações. É neste contexto que o planeamento estratégico emerge como instrumento privilegiado para a intervenção no território. Em 2004, a autarquia de Vila Velha de Ródão lançou ao Centro de Estudos de Desenvolvimento Regional do Instituto Politécnico de Castelo Branco o desafio para a elaboração de um plano estratégico para o concelho. Daqui resultou a constituição de uma equipa multidisciplinar que, com base em metodologias de auscultação direta e participativa, produziu um documento que foi validado pela autarquia e instituído como o plano das intervenções estratégicas a implementar nos anos seguintes. Passados 15 anos procedeu-se à avaliação da execução das intervenções então propostas; atendendo a esta avaliação e às novas dinâmicas experienciadas no concelho, a edilidade considerou pertinente rever o plano estratégico municipal. A presente comunicação descreve e discute o processo de planeamento estratégico que esteve na base da realização do primeiro “Plano Estratégico da Município de Vila Velha e Ródão”, e explora as linhas de orientação seguidas numa ótica de continuidade para um segundo plano estratégico.

Panel organizers | Organizadores do painel

Luís Silva, CRIA, Universidade Nova de Lisboa, Portugal  
Amélia Frazão Moreira, Universidade Nova de Lisboa, Portugal

O estado do ambiente é uma das principais preocupações da nossa era. Problemas como as alterações climáticas, a poluição, as catástrofes naturais, a desflorestação, o esgotamento dos recursos naturais, a extinção de espécies e a perda de habitats e ecossistemas naturais não só sinalizam a crescente degradação do meio ambiente como também afetam negativamente as condições e a qualidade de vida no planeta Terra, tanto dos humanos como dos outros seres vivos. Dado que o mau estado do meio ambiente é resultado da ação antrópica, urge repensar e reformular o modo como o Homem se relaciona com o meio ambiente, a fim de garantir a sustentabilidade do Planeta e da vida na Terra. Embora a crise ambiental tenha uma escala global, ela manifesta-se, produz efeitos e tem suscitado respostas/reações e estratégias adaptativas regional e localmente variáveis que importa documentar e estudar de modo empiricamente sustentado. Assim sendo, este painel acolhe “etnografias locais da crise ambiental global”, concretamente comunicações baseadas em trabalhos de investigação de índole etnográfica em curso ou já realizados à escala local acerca da questão ambiental dentro e fora de Portugal.

## THE SHARING OF NATURAL RESOURCES BETWEEN MENDE PEOPLE AND NON-HUMAN PRIMATES IN THE TROPICAL FOREST OF GOLA (SIERRA LEONE)

Isa Aleixo Pais, Cardiff University, UK

F. Borges, Universidade Nova de Lisboa, Portugal

B. Barca, Instituto Gulbenkian de Ciência, Portugal

Amélia Frazão Moreira, Universidade de Lisboa, Portugal

B.S. Turay, RSPB/Gola Rainforest National Park, Sierra Leone

M.W. Bruford, RSPB/Gola Rainforest National Park, Sierra Leone

Tânia Minhós, RSPB/Gola Rainforest National Park, Sierra Leone

At a time that human population is rapidly growing, and the natural habitat is declining at unprecedented rates, it is essential to understand how humans continue to coexist with some of the most threatened species on Earth. Forests not only are the primary habitat for several non-human primates, they also play a central role in people's lives for example by providing material for construction, fuel, and traditional medicine. Our study aims to identify the primary wild plants used mutually by local people and two endangered primates in Gola Rainforest National Park, Sierra Leone. We implemented a metabarcoding approach to characterise the diet of the upper Guinean red colobus (*Piliocolobus badius*  $N \approx 100$ ) and the western chimpanzee (*Pan troglodytes verus*  $N \approx 8$ ). In addition, we conducted semi-structured interviews in ten forest edge communities to assess people's use of wild plants. Our social results conclude that 74% of the interviewees living within 4 km of the protected National Park rely on wild plants for their daily activities. Several of these wild plants used by people were found in the diet of western chimpanzees. Although red colobus diet and human wild plant use preferences did not overlap at similar levels to those of chimpanzees, behavioural observations indicate a degree of co-use in wild plants for shelter and movement of red colobus. This multidisciplinary approach of social sciences coupled with next generation sequencing aims to inform conservation management at Gola and contribute to a growing body of research that supports the co-existence between humans and wildlife.

## POLITICAL ECOLOGIES OF TRANSITION: RESOURCE POLITICS AND CONTESTATION IN THE PORTUGUESE LITHIUM RUSH

António Maria Pusceddu, CRIA, ISCTE-IUL, Portugal

Lithium has become a 'timely asset'. Strongly linked to the 'clean' mobility paradigm, it has acquired a special position in the socio-technological imaginary of carbon free technologies and energy transition. Though not a fuel, it is commonly referred to as 'white oil', thus retaining all the powerful meanings associated with oil, but cleared from its negative environmental connotations. In the last few years, lithium prospecting applications in Portugal skyrocketed. In 2017 the government launched the national lithium strategy for assessing the potentials of national resources and the feasibility of industrial development projects, based on the prospective increase of lithium-ion batteries market demand, especially for the automotive industry. An international bid for prospecting and exploration has been announced by the government, with the aim of attracting foreign investors. This sudden interest for the mineral wealth of remote mountainous regions unleashed the opposition of local populations. Assurances of 'green' mining and new development prospects have not prevented the mushrooming of local platforms against lithium exploration, critically mindful of the socio-environmental legacy of past mining boom and bust cycles. As a result, the lithium rush has rapidly become a controversial subject in national debates about energy politics, ecological transition and sustainable development. Drawing on ongoing research on the Portuguese 'lithium rush', this paper addresses the politics of energy transition as a field of conflict deeply entangled with the political economy of contemporary industrial restructuring. Focusing on a few case studies in rural northern regions, the paper examines the socio-economic frictions underlying the local contestation of lithium-driven development and its legitimacy as the basis for a sustainable socio-ecological transition. Approaching resource-making as a social and political process, it aims at illuminating the contested meanings of transition and sustainability in the local responses to the global environmental crisis.

## MOVIMENTOS SOCIAIS E FEMINISMO: UM OLHAR SOBRE A GREVE CLIMÁTICA ESTUDANTIL DO ALGARVE

Catarina Leal, CRIA, ISCTE-IUL, Portugal

Somos a voz de uma geração que sabe que a acção individual não é suficiente e que problemas sistemáticos exigem soluções sistemáticas.» Esta frase abre o último comunicado da greve climática global de 27 de Setembro de 2019. Popularizados pela jovem sueca Greta Thunberg, vários movimentos estudantis ecologistas têm surgido em diferentes localidades e parecem integrar a lógica de outros “movimentos sociais” que surgem não só como uma reacção política ao fracasso do Estado e das instituições em negociar e apresentar soluções convincentes para a vida económica, social e cultural das populações, como também representam o surgimento de novos sujeitos políticos. Para além das pessoas que se poderão ver representadas na dicotomia que opõe classe trabalhadora vs. burguesia, vemos o surgimento de novos agentes que complexificam e interseccionam a condição de classe com outras camadas de condições sociais – como o género e a etnia: gays, camponeses, indígenas, imigrantes, negros, mulheres, estudantes e ecologistas passam a ocupar diferentes esferas públicas e políticas. A comunicação que proponho resulta do trabalho de campo desenvolvido no âmbito da minha pesquisa doutoral “Festas dos Maios e manifestações ecologistas: natureza e património na região do Algarve” (PD/BD/142937/2018) e debruçar-se-á sobre as expressões do movimento “greve climática estudantil” do Algarve. Neste contexto, pude observar que os protestos são organizados maioritariamente por jovens mulheres estudantes do Ensino Secundário. Assim, pretendo reflectir sobre a emergência destes novos sujeitos políticos e sobretudo sobre questões de género no contexto de movimentos sociais, explorando as associações recorrentes da mulher à natureza, sobre a dicotomia espaço doméstico vs espaço público e, por fim, compreendendo o poder e a agência das mulheres em processos de crítica e de justiça social. A apresentação convocará pequenos excertos de vídeos - como exemplo: <https://vimeo.com/369367647>.

## INFRAESTRUTURAS DE ENERGIA SOLAR FOTOVOLTAICA, USO DA TERRA E IDENTIDADE SOCIAL EM ALCOUTIM

Luís Silva; CRIA - Universidade Nova de Lisboa, Portugal  
Siddhart Sareen, University of Bergen, Norway

As infraestruturas de energia co evoluem e são influenciadas não apenas por fatores técnicos, mas também por fatores regulatórios e institucionais, bem como por contextos socioculturais. Dado que as centrais de energia solar exigem acesso à terra e à rede elétrica, o recente aumento do número de infraestruturas de energia solar interage com as especificidades locais. Esta comunicação aborda a interseção de grandes centrais solares fotovoltaicas, alterações no uso da terra e identidade social no município de Alcoutim. Especial atenção é dedicada às atitudes e discursos locais relativamente à construção de uma central fotovoltaica com 220 MW de potência instalada. As atitudes e percepções públicas sobre as infraestruturas de energia solar assumem uma importância renovada à luz do leilão de energia solar de 2019 em Portugal, que promete triplicar a potência solar instalada até 2021, bem como do respetivo Plano Nacional de Energia e Clima 2030, que prevê uma meta de quase 10 GW de potência instalada de energia solar na próxima década. Com base num estudo de caso multiescalar em curso sobre a captação de energia solar em Portugal durante a década de 2010, esta comunicação visa contribuir para um campo de pesquisa crescentemente referido como “renovabilidades críticas”, com algumas preocupações frequentemente tratadas em trabalhos sobre energia e ética. Refletimos sobre as lições deste estudo de caso não apenas para a implantação futura da potência solar fotovoltaica solar em Portugal, mas também para a prática académica - onde se situam as geografias energéticas e a antropologia da energia em relação à vertente das renováveis críticas? Qual é a abordagem moralmente defensável e intelectualmente generativa para o estudo etnográfico da captação de energia solar que é vital para a transição para uma economia de baixas emissões de carbono, mas que tem efeitos mistos para a equidade social, devido à existência de padrões socio-espaciais desiguais?

### ONLINE SURVEY AS MULTI-FUNCTIONAL TOOL RESEARCHING AND ENGAGING RIGA PORT NEIGHBORHOODS' INHABITANTS

Janis Daugavietis, University of Latvia, Latvia

The paper focuses on the use of a semi-experimental online survey in an interdisciplinary action research-oriented environmental research project entitled “Living Next to the Port: Eco-narratives, Local Histories and Environmental Activism in the Daugava Delta” (2018-2021). This project involves representatives of different disciplines (folklore, oral history and narratives studies; environmental science; anthropology; sociology) and it aims to launch the environmental humanities’ approach and to restart environmental sociology in Latvian scholarship. One of its methods is non-representative online survey. When designing an online survey (which was open to everyone and we promoted it relatively intensively on social networks), the basic function of which is obtaining quantitative data on the environmental, neighborhood and community attitudes of residents of five Riga Port neighborhoods, we also thought of other functions. First, the questionnaire contains an unconventional number of open-ended questions. This was a demand for both the ‘qualitative wing’ of the project group and a general desire to integrate the analysis of qualitative and quantitative data into the study. Secondly, this survey was seen as a means of informing and engaging citizens. Aware that the online survey is not a neutral means of obtaining and communicating data, we deliberately included in the questionnaire questions that could serve to stimulate the ecological awareness of citizens and civic participation. Third, we also used the survey as a potential interviewee recruitment tool (semi-structured interviews are another core method of this study). In the paper, I will analyze how this ‘open’ online survey was useful for the action research and qualitative approach tasks described above, as well as the virtual engagement and information of the population, on the one hand, and how reliable is the quantitative data obtained for traditional socio-statistical analysis.

### SCHOOL STRIKE FOR THE CLIMATE: ECOLOGICAL ATTITUDES AND ACTIVISM OF HIGH-SCHOOL STUDENTS IN CROATIA

Tijana Trako Poljak, Faculty of Humanities and Social Sciences, Croatia

Ecological activism of Greta Thunberg helped increase awareness of young people around the world on climate change and motivate them to raise their voices on burning social-ecological issues. Young people are an important social group as their pro-environmental education can have direct consequences on their pro-environmental behaviour as adults. Furthermore, they can exert pro-environmental influence on their parents and peers. Finally, as they constitute a large body of future voters and consumers, their potential demand for environmentally friendly products and services could be significant for political and economic decision-makers. As young people represent future generations of adults who will have to deal with direct consequences of present-day ecological (in)action, their increased investment in more effective and efficient solutions to ecological issues is hardly surprising. However, there is a notable lack of scientific literature that focuses on this population and “School Strike for the Climate” movement in particular. The main aim of this paper is to present findings from qualitative empirical research conducted in two parts. The first part consists of “desk” research on global “School Strike 4 Climate” movement and qualitative content analysis of existing media content on the movement in Croatia. The second part consists of the results from deep semi-structured interviews conducted in 2020 with N=9 organizers and participants of “School Strike 4 Climate Croatia” protests in the capital Zagreb. Additionally, we will look at these findings in the light of available quantitative data on attitudes of ecological attitudes and activism of Croatian youth. This systematic approach offers a deeper understanding of environmental literacy as well as motivations and forms of ecological activism among Croatian youth.



## THE ECOLOGICAL CULTURE IN THE SYSTEM OF SPIRITUAL VALUES

Daria Shemetova, MGIMO University, Russian Federation

Tatiana Yarovova, MGIMO University, Russian Federation

Among the fundamental spiritual values an attitude towards the nature can be called one of the most significant ones. This article is dedicated to the problem of creating and strengthening the ecological culture in the system of spiritual and moral development. Mass media, religion, family, state policy are the most powerful agents of 'ecological socialisation' and their influence on the ecological values is shown in the article. The new ecological paradigm is based on the 'ecocentric' worldview. Thus, the ecological imperative represents driven by the nature and supported by the society principle of the excluding any possibility of harming animate and inanimate nature. The supreme value, according to this paradigm, is the harmonious development of the nature and a human being, pursuing the goal of high meeting the needs of the human society and the whole environmental society. The paper is focused on the factors influencing the environment-oriented behaviour. During the study students were interviewed in order to determine the level of ecological culture and to obtain their views on possible solutions to the ecological problems, in particular, the technology development was taken into account.

## ENVIRONMENTAL CONCERN IN THE PRACTICES OF SELF-PRESERVATION BEHAVIOR

Daria Lebedeva, Higher School of Economics, Russian Federation

In line with the theory of postmaterialist values (Inglehart, 1995), environmental concern is theorized as a result of the fundamental shift in human beliefs and values towards care for the environment. Following this tradition, pro-environmental attitudes and behaviour are justified as civil responsibility, care for the planet, and sustainable development. However, in Russia public opinion polls highlight that environmental practices are mostly performed out of concern for the 'egoistic' individual wellbeing or resource savings. Moreover, having a high level of ecological concern, the direct involvement of Russian citizens in pro-environmental practices remains low, while responsibility is shifted to the state and big business. This phenomenon emphasizes that we must find a peculiar way to address pro-environmental behaviour in the case of unfinished transition towards postmaterialist values. In order to tackle the gap between meanings of ecological practices for the state and the general public, we are going to focus on the justifications people attach to individual ecological practices. The linkage between pro-environmental practices and everyday vital aspects of people's lives is apparent through the discourse of health-preservation behavior. The study is guided by the following research question: how individuals justify their ecological practices in relation to their health-related behaviour. While in the previous sociological work paid little attention to one's intrinsic justifications of pro-environmental practices, the present research will contribute to capturing the deeper meanings of ecological practices for individuals. We believe that this approach to the problem through personal meanings will help to identify various values people attach to ecological practices (including egoistic reasons), and, hence, to discover the drivers of pro-environmental practices for their further promotion.



## THE CRYSTAL-CLEAR ARCTIC: CULTURAL REPRESENTATIONS AND SOCIAL DISCOURSES

Markku Lehtimäki, University of Turku, Finland

We want crystal-clean water, and we want clean air--the cleanest ever" (Donald Trump). In cultural narratives and social discourses, including political speeches, the Arctic is often represented as a world of crystalline purity frozen in time and space. But, obviously, this "crystal clear" image of the Arctic is historically situated and discursively produced. It is well known by now that the Arctic does change; it is in constant transformation. It moves through time and space, shaped by natural forces, human agency, and social practices. On the one hand, rapidly escalating climate change is seen as an opportunity to utilize mineral resources in the Arctic, increase use of the Northeast and Northwest Passages for maritime transport, and exploit potential natural resources; on the other hand, we can hardly ignore the fatal consequences of climate change, either for local people and their cultures in the Arctic or for future civilizations on a larger scale. Therefore, I argue, it is crucially important to analyze those various cultural representations and social discourses--from literary texts and visual artworks to social media and political speeches, including Trump's symptomatically puritan images of cleanliness--that give conflicting meanings to the changing environment of the Arctic. Apparently, in recent decades, the geographical North has become a new centre of attention for public interest, global media, politics and culture, and expanding academic studies. As suggested in my paper, however, natural sciences, politics, economics, and technology and the strategies they produce have not focused enough on the changing conditions of human and non-human lives in the Arctic. I contend that both human experiences and natural spaces are part of the Arctic reality, and these both must be approached and analysed with the help of interdisciplinary cultural studies and social sciences and their highly developed methods and concepts, including critical discourse analysis.

## Panel organizer | Organizadora do painel

Susana Batel, ISCTE-IUL - University Institute of Lisbon, Portugal

In the last decades, large-scale renewable energy generation and associated infrastructures (RET), such as high voltage power lines, have been increasingly deployed as one of the main mitigation measures of climate change (Ellis & Ferraro, 2016). However, this energy transition has generated many conflicts, mainly at a local level, with local communities often contesting the deployment of RET (Wüstenhagen, Wolsink & Bürer, 2007). Social sciences' research has been very prolific in the last years in attempting to understand local opposition, and mainly with a view to overcome it and facilitate the move from fossil fuels to renewables (see Aitken, 2010). However, more recently some authors started to highlight how this energy transition is being often performed in unjust, undemocratic and unequal ways (Batel, 2018; Labussière & Nadai, 2018; Wolsink, 2018). This panel aims to contribute to this call for more critical approaches to energy transitions, by identifying some of the limitations of the existent literature on energy transitions (Bridge et al., 2018) and specifically on the social acceptance of RET (Wüstenhagen et al., 2007); and by discussing how new ways of articulating social and environmental theories and associated research methodologies can help overcoming those limitations and foster a critical approach. In particular, this will be done by discussing and proposing new ways of accounting for and examining the role of power relations and energy justice in: how imaginaries of energy transitions are created, negotiated and contested in between policy-makers/planners/developers and publics/local communities (R. Wallace); how collective memories and practices of past energy landscapes and transitions shape current narratives of energy transitions (S. Küpers); and how energy transitions still reflect, recreate and reproduce colonialist practices, globally, inter-nationally and intra-nationally (S. Batel).

## SOCIAL IMAGINARIES AND MODES OF ENGAGEMENT: THEORETICAL PROPOSALS FOR OVERCOMING SOME LIMITATIONS IN THE RESEARCH ON ENERGY TRANSITIONS

Ross Wallace, University Institute of Lisbon, Portugal

A considerable amount of social science literature has attempted to deal with the uncertainty and conflict associated with the deployment of large-scale renewable energy infrastructure. However, much of the research on “social acceptance” (Wüstenhagen, Wolsink & Bürer, 2007) has been criticised for its lack of a critical approach (Batel, 2018), which means that power relations have been largely absent from analysis. One of the implications of this is that research has mostly examined how local communities respond to the representations, discourses and practices of policymakers, planners and energy developers regarding the energy transition (Ellis et al., 2007; Batel, 2018). The same treatment has not been applied to the perspective and experiences of local communities themselves. There is thus a need to investigate if citizens and communities harbour alternative “imaginaries” and to what extent they can be articulated, generalised and successfully defended. This paper proposes that it might be useful to import sociological theories on how individuals and collectives imagine and project themselves into the future (e.g. Mische, 2014; Jasanoff & Kim, 2015). Specific focus will be given to the pragmatic sociology of critique (Thévenot and Boltanski, 2006; Blokker, 2011) and the theory of social representations (Moscovici, 1972) - perspectives which emphasise meaning-making, the material environment, moral values and the critical capacity of citizens. This proposal will consider imaginaries as representations that can coordinate diverse stakeholders but also as entangled with power relations and that can thus serve to (re)produce specific governance structures, subjectivities and landscapes. The theoretical synthesis that it deploys will be a much-needed contribution to the social science literature on energy transitions by overcoming the focus on opposition as locally isolated and self-interested.

## HOW DOES TIME SHAPE RESPONSES TO RENEWABLE ENERGY PROJECTS? MAKING THE CASE FOR A HISTORICAL DIMENSION IN SOCIAL ACCEPTANCE RESEARCH

Sophia Küpers, University Institute of Lisbon, Portugal

Responses to energy transitions projects are not set in stone. Communities and individuals can respond to the deployment of large-scale renewable energy projects in many ways (Batel, 2018) and responses may evolve over time. Contrasting a strong current of social science research focused on opposition towards renewable energy projects (Ellis & Ferraro, 2016), I will draw attention to the possibility that responses are not static and that they may be rooted in historical experience with energy projects and landscape change. Large scale renewable energy projects, such as wind farms, play a central role in the current transition to a low carbon energy system (EWEA, 2016). They do not only bring along new technology and political processes but are projects of social change with new rules and new practices. People engage with such projects and infrastructure in discourses and practices of everyday life. Showing how these practices and discourses may be rooted in collective and individual memory, is the central aim of my contribution (for further reading see Crowe & Li, 2020; Enns and Bersaglio, 2019). Drawing on the concept of *longue durée* (Braudel, 1949) and a framework of critical environmental justice (Pellow, 2016; Sovacool et al. 2017; Ryder, 2018), I will show how current responses fit into a longer history of people relating to energy projects and material infrastructure by giving insights into the underlying power relations, national and local narratives and everyday interactions that shape people's responses to the new infrastructure. As such descriptions and analyses require an in-depth understanding of subjective collective realities, I will also highlight the value of historical ethnographic methods for investigating people's relations to energy transitions over time.

## ENERGY TRANSITION AND ENERGY COLONIALISM: A CRITICAL REVIEW

Susana Batel, University Institute of Lisbon, Portugal

Governments, namely in the global North, are fostering the deployment of large-scale low carbon and associated energy infrastructures to mitigate climate change and as part of the so-called energy transition. However, deployment often raises opposition from local communities (Wüstenhagen, Wolsink & Bürer, 2007). Social sciences' research aiming to understand opposition has been steadily increasing over recent decades (Ellis & Ferraro, 2016), but has largely overlooked how opposition to energy infrastructures often stems from, reveals and may also promote colonialist practices (Lennon & Scott, 2017; Batel & Devine-Wright, 2017; de Onís, 2018). This paper discusses the importance of uncovering and examining energy colonialism in its psycho-social, cultural, institutional and political dimensions, for creating energy democracies. To this end, it first proposes some non-reified definitions of energy colonialism in its relationship with neo- and carbon colonialism, energy justice and post-colonial and decoloniality approaches. Second, based on several examples, I reflect upon state of the art research that reveals how energy colonialism occurs at different levels or scales: globally, inter-nationally; and intra-nationally, both in the relations between urban and rural areas and in the relations between developers and community members. In so doing, the paper also illustrates how energy colonialism is enacted through different voices, namely, through governmental and corporate practices; the media; and everyday discourses. While performing these reflections and analyses on energy colonialism and related practices, I will also critically discuss the notions of Global South and Global North, namely by proposing their unpacking and the adoption of more fine-grained lenses to look at different energy geographies and cultures, such as Southern European semi-peripheries.

## INTERSECTIONALITY AND CLIMATE POLICY MAKING: THE INCLUSION OF SOCIAL DIFFERENCE BY FOUR SWEDISH GOVERNMENT AGENCIES

Benedict Singleton, University of Gothenburg, Sweden  
Nanna Rask, University of Gothenburg, Sweden  
Gunnhildur Lily Magnúsdóttir, Malmö University, Sweden  
Annica Kronsell, University of Gothenburg, Sweden

Climate change effects, views and approaches vary based on geographical location, class, gender, age and other climate relevant social factors. It is thus relevant to explore how various government bodies involved in dealing with climate change frame and act on social difference across diverse societies. This article performs a literature-based discourse analysis upon four Swedish government agencies: the Transport Administration, the Energy Agency, the Environmental Protection Agency and the Innovation Agency in order to explore how the different agencies frame social difference: what is made visible; what is obscured; what are the implications? A purposive, collated sample of literature was collected through online searches and personal communications with agency staff. Intersectional theory was applied to the sampled literature. The article finds that while each agency articulates an awareness of social difference, this tends to manifest in broad terms. It argues that this has the effect of obscuring differential climate impacts and effects of climate action, potentially having environmental justice implications. Finally, the article concludes by proposing that incorporating intersectional approaches will support more effective and equitable climate action in Sweden.

Panel organizer | Organizador do painel

Luiz Carlos Brito Lourenço, Universidade de Brasília, Brasil/Universidade de Lisboa, Portugal

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O painel apresentará quatro comunicações sobre a governança aplicada na gestão dos recursos hídricos no Brasil. Em vigor desde 1997, a chamada “Lei das Águas” definiu uma política nacional pela qual água é um bem de domínio público, limitado, dotado de valor económico, de uso múltiplo, prioritário ao homem e aos animais. Corpos hídricos são propriedades federal ou estaduais geridas igualmente por “usuários e comunidades” sempre a partir de uma bacia hidrográfica, unidade territorial responsável pelo conjunto de sub-bacias. A primeira comunicação relata a participação do investigador na gestão do comitê para o Rio Itapocu (SC), bacia localizada no sul do país, cuja área de extensão assemelha-se à do rio Vouga, em Portugal. A segunda comunicação reporta avanços apontados em reuniões de autoridades municipais - na discussão da construção de emissário submarino para esgotamento sanitário - partilhados com a sociedade civil em uma ilha atlântica: trata-se de Florianópolis (SC), uma atração imobiliária povoada por 500 mil pessoas com 87% de saneamento já considerado adequado (IBGE, 2019). A terceira comunicação amplia o debate para a dimensão nacional ao abordar o desempenho do Comitê Nacional de Recursos Hídricos, instância máxima federal, sobre a validação na prática da integração e articulação com outras políticas setoriais à luz das perspectivas teóricas da gestão integrada e a ecossistêmica. A quarta comunicação complementa e encerra o painel com a revisão de três vértices contexto nacional: água, alimento e energia. É de conhecimento público que os seguidos desastres ambientais no Brasil resultaram da intervenção humana motivada sob o prisma de curto prazo dos mercados internacionais, revelando fragilidades institucionais, que desconsideraram os efeitos das Alterações Climáticas, a débito de biomas e indivíduos.

## GOVERNANÇA DE UMA BACIA HIDROGRÁFICA NO BRASIL: A EXPERIÊNCIA DO RIO ITAPOCU

Felipe Augusto H. D. Oliveira, Universidade de Lisboa, Portugal

A Bacia Hidrográfica do Rio Itapocu está localizada a nordeste do estado de Santa Catarina, a qual compõe a Região Sul do Brasil. Abrange uma população estimada de 450.000 habitantes distribuídos numa área de gestão correspondente a 3.160km<sup>2</sup> envolvendo 12 municípios. Em grande parte da bacia tem por características naturais as presenças da floresta ombrófila densa (referida por “Mata Atlântica”), da floresta ombrófila mista nas áreas mais altas e de formações litorâneas (restinga e manguezal) próximas à foz. Em relação ao clima, registra-se majoritariamente uma pluviosidade alta (até 1.800 mm/ano em zonas de maior precipitação), com a incidência cada vez mais frequente de chuvas concentradas, eventos que causam transtornos como enchentes e outros igualmente críticos. Em linhas gerais, seus rios são curtos e rápidos nas áreas de cabeceiras da Serra do Mar. Porém, são longos e lentos nas planícies, que abrigam as mais variadas atividades econômicas, como a agricultura irrigada do arroz e o cultivo da banana, e o desenvolvimento de indústrias metal-mecânicas e têxteis, a aquicultura e mineração. Dados do plano de gerenciamento de recursos hídricos colocam entre os principais usos da água a agricultura irrigada o abastecimento público e a aquicultura, somando 87,68% do uso total da Bacia, sendo o restante destinados à indústria, à mineração e à criação animal. No Brasil, o gerenciamento dos recursos hídricos foi introduzido pela chamada «Lei das Águas» (Lei 9.433, de 1997), cujo capítulo III determina atribuições aos Comitês de Bacias Hidrográficas. Assim, o presente caso analisa o desempenho entre os anos de 2013 e 2019 do Comitê Itapocu (criado pelo decreto estadual 2.919, de 2001, juntamente com outros 15 Comitês estaduais), que atua dentro de suas possibilidades na gestão dos recursos hídricos daquela bacia.

## A PARTICIPAÇÃO DA SOCIEDADE NA QUESTÃO DAS ÁGUAS RESIDUAIS NO MUNICÍPIO DE FLORIANÓPOLIS (SC)

Diego Fiel Santos, Universidade Federal de Juiz de Fora, Brasil

Esta comunicação versa sobre a governança do saneamento no município brasileiro de Florianópolis (capital do estado de Santa Catarina) e busca compreender a participação da sociedade na discussão sobre as ações voltadas à coleta e ao tratamento das águas residuais. A pesquisa tem por fundamentação a abordagem da governança sob a perspectiva da ampliação do engajamento de distintos atores sociais, e também da efetiva prática democrática na gestão de recursos comuns. Nesse sentido, a investigação buscou entender as distintas formas de participação cívica no desenho e implementação de ações governamentais de uma agenda comum e, conseqüentemente, como o envolvimento desses atores sociais pode influenciar o processo decisório das ações voltadas para a coleta e o tratamento das águas residuais. Em uma abordagem qualitativa foram analisadas informações obtidas em distintas formas de espaços de interação sobre as ações voltadas à discussão da questão do saneamento. Observa-se que os atores sociais mais atuantes representam associações comunitárias e autarquias, como a companhia municipal de saneamento, a prefeitura e seus órgãos de controle e fiscalização. Durante os debates, os interesses que são colocados por cada uma das partes e a condução do processo demonstram as assimetrias que estão associadas à figura de cada ator social, seja enquanto indivíduo ou representante de pessoa jurídica. Ações de obstrução e os procedimentos de tramitação legal do processo configuram os poderes de cada ator social e mostram a importância da participação comunitária. Em particular, foram acompanhadas algumas discussões sobre a implementação do emissário submarino em Florianópolis (SC) é possível observar que a ação coordenada pela participação comunitária consegue postergar a proposta apresentada enquanto solução para a destinação final das águas residuais, oferecendo alternativas.

## SUSTENTABILIDADE E INTEGRAÇÃO DE POLÍTICAS PÚBLICAS: QUESTÕES INSEPARÁVEIS

Rosa Maria O. M. Mancini, Universidade de São Paulo, Brasil

Trataremos nesta apresentação de fatores considerados orientadores da política de gestão de recursos hídricos do Brasil: integração, articulação e os aspectos que constam da base legal da política nacional (Lei 9.433/1997; capítulo III). Para entender o alcance dos conceitos de integração e articulação e o respectivo diálogo com a prática, serão apresentadas duas perspectivas: (i) a gestão integrada adotada pela rede “Global Water Partnership”, intitulada “Integrated Water Resources Management”, e (ii), aquela ecossistêmica fundamentada pela Fundação Nova Cultura da Água (fundada em Saragoça em 1998). Em seguida, avaliaremos como as questões da integração entre políticas e perspectivas têm ocorrido no âmbito do fórum central das discussões da política de águas do país, o Conselho Nacional de Recursos Hídricos (CNRH). Essa avaliação se dará por meio do levantamento e análise das pautas tratadas nos 20 anos de existência deste Conselho, que foram organizados em seis grandes tópicos: regras de funcionamento; instrumentos de gestão; gestão integrada da água; articulações setoriais; educação ambiental; e, apresentações. Daremos destaque à avaliação da discussão da política de água e sua interface com outras políticas setoriais, com o apoio de gráficos que mostram quando e com qual intensidade temas chave de políticas setoriais são tratados no CNRH. Por fim, avaliaremos o alcance da integração e como esta pode ser aprimorada para enfrentamento de problemas atuais.

## ÁGUA, ALIMENTO E ENERGIA: UM VÉRTICE DE DEMANDAS E RISCOS

Luiz Carlos de Brito Lourenço, Universidade de Brasília, Brasil/Universidade de Lisboa, Portugal

O Brasil é detentor da maior reserva de água doce do planeta, tanto em superfície quanto em seus volumosos aquíferos. Para suprir a explosão demográfica e a mobilidade social previstas para este século, a água é elemento determinante na geração de alimentos e energia. Resultado de investimento científico, o Brasil exerce condição ímpar na latitude tropical como potência agroalimentar global, ao empregar menos de 1% da vazão disponível nos rios nacionais estimada em 280 mil m<sup>3</sup>/s (Embrapa, 2019). Apesar de “limpa”, a energia hidrelétrica das usinas na Amazônia (Tucuruí, Jirau e Belo Monte) causaram impactos ambientais e conflitos com os ribeirinhos. Origem de fluxos migratórios contínuos no passado, o Semiárido Nordeste é um polígono de 1.348 municípios, que enfrenta longas estiagens registradas ainda quando colônia (1721-1727). Recebeu açudes, represas, cisternas e, mais recentemente, a polêmica transposição do rio São Francisco, sujeita, entretanto, a alertas de risco de sustentabilidade (CGU, 2018). Com 84,7% de habitantes concentrados em áreas urbanas (IBGE, 2015), o adensamento populacional das metrópoles e a redução de espaços arborizados impermeabilizam solos e comprometeram os lençóis freáticos frente à variabilidade da precipitação pluviométrica por todo um território tropical. A desigualdade das condições de habitação de 5.570 municípios do país revela informações de que 70% deles não dispõem de tratamento de esgotos (ANA, 2018), e que apenas 22 municípios dentre as 100 maiores cidades do país têm oferta de água potável para 100% das respectivas populações (Trata Brasil, 2019). Tentativas de correção dos défices sanitários estão sob revisão de seu marco legal pelo Congresso Nacional, que aspira investimentos. Questões elementares persistem e agravam crises hídricas (S. Paulo, Rio de Janeiro e Brasília, 2014-2018). O risco está no descumprimento de compromissos de sustentabilidade, responsabilidade e transparência para benefício do ambiente e da sociedade.

### PUBLIC ACCEPTANCE OF LOW EMISSION AREAS: AN EXPLORATORY STUDY

Sergi López-Asensi, CIEMAT, Spain  
Christian Oltra, CIEMAT, Spain  
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Introduction: Cities around the world are implementing policy measures such as low emissions areas to reduce hazardous levels of urban air pollution. However, the lack of public acceptance, partially driven by a negative perception of the personal impacts of these measures and a resistance to change, often makes decision makers reluctant to implement new and effective air pollution reduction measures. This study investigates the public acceptance of the Low Emissions Area implemented in Barcelona from January 2020. Method: This is a qualitative study based on focus groups. Two focus groups with lay citizens were conducted to explore the perceived benefits and costs associated with the Low Emission Area of Barcelona as well as the self-reported motives for acceptance or non-acceptance of this measure. A survey will be conducted in the coming months. Results: We analyze participants' beliefs in relation to the effectiveness of the measure, the perceived personal and societal costs and benefits, participants' motives for acceptance and preference for alternative policy measures. Discussion: We discuss with previous social research on public attitudes and acceptance of policy measures to reduce urban air pollution. We discuss implications for public engagement in urban air pollution reduction.

### GRASSROOTS INNOVATION MOVEMENTS CREATE ALTERNATIVE PATHWAYS FOR DEVELOPMENT: THE CASE OF COMMUNITY DEVELOPMENT BANKS IN BRAZIL

Lívia Mara Borges Silva, ISCTE-IUL, Portugal  
André de Freitas Girardi, ISCTE-IUL, Portugal

The disparities caused by the neoliberal model in the last years make it necessary to look for new ways of organizing economies. Therefore, other problem-solving approaches have been explored by local actors to address social, economic, and environmental issues in its territory. This perspective is often associated with Grassroots Innovation Movements (Gibson-Graham, 2006). Our empirical object is the Community Development Banks (CDBs) network in Brazil. These self-organized "banks" can be seen as an alternative to mainstream banking systems, having the potential to organize local economic circuits for the benefit of the local communities (França Filho et al., 2012; Seyfang, & Longhurst, 2013). The main objective of this research is to understand how the CDBs can serve as laboratories for the emergence of alternative development pathways. Methodologically, this approach focuses on micro-level by exploring the case of the two currently most important CDBs for the network (Mumbuca and Palmas). Their cases can contribute to the macro-level by transferring the knowledge developed through successful practices. The cases will be analysed through the lenses of an analytical framework that involves 4 interconnected concepts: broader contexts (what global and local contexts the initiatives are located?), framings (what are the narratives and who they favour and why?), spaces and strategies (in which arenas the initiatives play?), and pathways (what kind of alternative pathways to sustainability emerge from these initiatives?) (Smith et al., 2017). The research to be presented is a preliminary result of an ongoing research in the network of CDBs in Brazil.



## PORTUGUESE SUSTAINABLE SCHOOLS GOVERNANCE AND LOCAL COMMUNITIES: A PRELIMINARY ANALYSIS OF ECO-SCHOOLS

Leonor Prata, University of Lisbon, Portugal

The Eco-schools programme, recognized by the United Nations as the largest international network of sustainable schools, was introduced in Portugal by ABAE (Associação Bandeira Azul Europeia) in 1996 and today covers approximately one in every five Portuguese public schools. Schools set up an intergenerational multi-stakeholder 'Eco-Commissions' which engage in annual cycles of auditing, designing action plans and developing whole school and community-wide projects which address sustainability issues at a local level. This study aims to contribute to the body of knowledge regarding the agency of educational communities in sustainable development as well as climate change adaptation and mitigation and is particularly relevant given the Portuguese government's National Plan for Environmental Education (ENEA2020) and the understudied role of ABAE's Eco-School programme in Portugal. This paper represents a doctoral research which addresses this programme in Portugal, and aims to understand the approach developed nationally at the NGO level, characterize the Eco-Schools Network and identify typologies of implementation of this programme at the school level- particularly whether it facilitates the development of whole-school participative sustainable communities which foster democratic action competence. The methodological approach mobilizes quantitative and qualitative methods, primarily through bi-annual longitudinal documental analysis of annual Eco-School reports submitted to ABAE in the period 2006-2018 in a sample of 42 included lower secondary level Portuguese public schools. This paper presents an overview of preliminary results regarding the governance of the Programme by Eco-School Commissions in sampled schools and the level of participation of the school's local community.

## CULTIVATING ENVIRONMENTAL STEWARDSHIP: IDENTIFYING LEVERAGE POINTS FOR SUSTAINABILITY TRANSFORMATION

Sherman Farhad, Brock University, Canada

Julia Baird, Brock University, Canada

Ryan Plummer, Brock University, Canada

Stewardship, sustainability science, and transformations have become interwoven strands in scholarly discourse about the science and action required for sustainability of the earth system. Institutions can be central to this enterprise as potential levers for a social change. In this work, we seek to understand how and why opportunities for environmental stewardship can be cultivated in organizations through two key features of the diffusion of innovation theory: (1) communication, and (2) opinion leaders and change agents. Analysis of diffusion requires a systemic perspective and complex thinking. We therefore apply a network approach to comprehensively document the information flows, communication structures and key players of institutional dynamics. Our investigation is empirical and focuses on the Niagara Parks Commission. We conducted a survey of all managers (147) within Niagara Parks in 31 departments across the organization using the online survey platform Qualtrics. We received responses from 26 departments (with 66 individual respondents). We analyzed the flow of information, and its frequency, in general and about environmental stewardship among departments by collecting and analyzing social network data. Key players in the network were identified using two methods: in-degree centrality and an open question about influential individuals. Findings from our study highlight: the importance of pre-existing general communication networks among departments, which has furthered the diffusion of environmental stewardship culture; that actors, within and outside the organization, can be influential agents of change; and the potential for the theory of diffusion of innovation to inform thinking about leverage points. These findings have direct implications for organizations in considering how to continue to build a culture of environmental stewardship, and also for scholarship that draws on leverage points for sustainability transformation.

### A CONCEPTUAL FRAMEWORK FOR RESEARCH ON PROPERTY RIGHTS OF URBAN NATURAL RESOURCES AND SUSTAINABILITY

Jieling Liu, University of Lisbon, Portugal,  
Hita Unnikrishnan, University of Sheffield, UK,  
Burnell Fischer, Indiana University, USA,  
Erik Nordman, Grand Valley State University, USA

Urban natural resources such as parks, green spaces, urban wetlands, and street trees are important for the sustainability of increasingly urban society. However, quantifying benefits obtained from them is particularly challenging, given that ecosystem services derived from them may not be economically quantifiable. For example, it is difficult to estimate the economic benefits obtained from regulating, cultural or supporting services. Challenges of measuring urban ecosystem services may further be affected by context – cities within the Global South may derive significant benefits from ecosystem services that are difficult to measure. Further, what constitutes urban natural resources is interpreted differently by various schools of thought. These multiple imaginations get entangled with economic understandings of resource benefits and associated property rights regimes, leading to often inequitable and unsustainable urban governance regimes. It is imperative that we develop an understanding of where, how and in what contexts they are defined and further what configurations of property rights regimes are thus brought about. In this paper, we map different interpretations of what constitutes urban natural resources, actors, and property rights arrangements through a systematic review. We relate these pluralities to existing methods of quantifying services obtained from urban natural resources, especially ecological, economic, and humanitarian benefits. We then draw attention to the challenges involved in measuring urban ecosystem services by drawing on theories of property rights, equity, and sustainability. Based on our review, we propose a conceptual framework that encapsulates the complexities of urban ecosystem services and property rights arrangements. Our study provides a first step towards disentangling the ambiguities around understanding what constitutes urban natural resources and provides directions towards their equitable and sustainable management.

### COMPARATIVE ANALYSIS OF ENVIRONMENTAL POLICY AND LEGAL REGULATION: RUSSIA, FRANCE, QATAR

Anastasia Rudenko, MGIMO University, Russian Federation

The world community and governments take various measures to regulate the environmental situation. However, having different potentials, countries choose priority areas for themselves. The author compares the environmental situation of 3 countries: the Russian Federation, France and Qatar. The researcher focuses on measures and goals adopted in different countries, analyzing international treaties, agreements and international conferences. The Government of the Russian Federation adopted a national project. The main areas and goals are focused on the efficient processing of waste and the elimination of unauthorized landfills within the boundaries of cities. In addition, the project focuses a set of measures to reduce the volume of pollutants in the air. Preserving biological diversity and improving the quality of drinking water are also key objectives. The second country in this study is France, which passed a new law after experts published a report on the catastrophic effects of climate change. The law is reviewing a 40% reduction in fossil fuel consumption by 2030 and the closure of the last coal-fired power plants in 2022. A 50% reduction in the nuclear energy sector, previously planned for 2025, has been postponed to 2035. The report analyzes the measures taken in countries with strict regulation and government policy is not focused on maintaining a balance of the environment. Qatar has the largest percentage of carbon emissions per capita of all countries on the planet. These numbers are 3 times more than in the United States. Residents of this country receive electricity and water for free. Water in this country is called "liquid electricity", as it is obtained by desalination of saltwater. Thus, people use 50 percent more resources than Earth can recover in a year. The economic crisis is forcing organizations to save on environmental compliance. The author develops options for regulating and improving the environmental situation in hazardous areas.

## THE “GRIDLOCK ECONOMY” OF PORTUGUESE FORESTS (?)

Manuel Francisco Pacheco Coelho, University of Lisbon, Portugal

Property rights are in the core of the problem of natural resources management. Last decades of the 20th century have shown many problems arisen from the emergence of commons mismanagement and under-defined property rights (“Tragedy of the Commons”). In the 80s, a new concept, “anticommons”, was developed to put in evidence some problems one can see as the mirror image of traditional “Tragedy of the commons”; Anticommons conceptualization that explains “a type of property in which everyone always has rights respecting the objects in the regime, and no one, consequently, is ever privileged to use any of them except as particularly authorized by others”. In this sense, “anticommons” is seen as a property regime in which multiple owners hold effective rights of exclusion in a scarce resource. The problem stands in this: coexistence of multiple exclusion rights creates conditions for suboptimal use of the common resource. There are only a few empirical studies on anticommons tragedies in the real world, most of them focusing on pharmaceuticals industry. The research question of this paper is the following: Is the current structure of forest regimes in Portugal the cause of an emerging “Tragedy of the Anticommons” and the fires one of the associated effects? The research identifies the causes of the phenomenon of underutilization of private forest in Europe. This arises from the small size of the property that prevents the exercise of rights of use. It is a problem of spatial anticommons. In the Portuguese case, the economic consequences of the alteration of the forest property regime are analyzed. For the current period, post-74, the property-rights regime can be classified as one of limited exclusion and, in practice, it facilitates the emergence of an “anticommons tragedy”. Fire as other externalities can be seen as “sub-products” of this tragedy.

## THE OIL PRODUCTION IN THE MIDDLE EAST: THE POSITIVE CONTRIBUTION TO OVERCOMING THE CLIMATE EMERGENCY

Laurita Mikhina, MGIMO University, Russian Federation

Not long ago the European parliament declared a global «climate and environmental emergency». It called all EU countries to commit to net zero greenhouse gas emissions by 2050. Nowadays the governments of the different countries began to understand the importance of the environmental pollution. The CO<sub>2</sub> is a dangerous greenhouse gas, and in this case the oil production is the cause of 65 of all greenhouse gases. The major oil producing countries are settled in the Middle East. However, active development of shale projects has become a challenge for middle Eastern oil too. In light of the recent oil market turmoil, the importance of alternative energy sources has increased significantly. The fall in oil prices has forced all producer countries to join the race for energy efficiency. Given competitors in the market such as Russia, Iran and North America, long-term dynamics could deprive the middle East of a dominant position in the global oil industry. Still, we must not forget about another resource, which is abundant in the middle East. The sun! The potential contained in the development of solar energy could change this outlook for the Middle East. And the countries made the assertive decisions. In concept of my research I will: a) shed some light on the positive experience and prospects within these climate challenges in the Middle East; b) demonstrate on the graphics the inquisitive data on the possibilities in replacement of the oil production with the alternative new sources of energy; c) compare the contribution of the Arabic countries to the sustainable climate protection; d) depict the financial role of the cooperation of the US and the Middle East in an oil production industry and how the situation might change if some criteria will be met. In my report I will put an emphasis on explaining the inquisitive role it plays in influencing the climate protection and how it acts as an example to the other countries abiding the international law.

Panel organizer | Organizadora do painel  
Jessica Verheij, University of Lisbon, Portugal

In between the prominent and well-known Expo'98 area and Lisbon's historic center, lies a spatially and socially fragmented territory, characterized by multiple geographic barriers, urban segregation and social contradictions. Isolated from the rest of the city due to a lack of infrastructure, public transport and public services, the eastern side of Lisbon is currently witnessing significant transformations that will mark this area and its residents for years to come. These transformations are part of a new moment of urban change occurring in Lisbon and other Portuguese cities. Lisbon being elected European Green Capital 2020, we question the consequences of the city's vision of urban sustainability promoted by the Lisbon municipality, and its local achievements in the east side of Lisbon. Starting from this local context, we discuss urban change in other urban areas in Portugal in order to reflect different perspectives regarding sustainable mobility, green space and public policies, based on empirical research and on-the-ground experience. We aim to question to what extent the transformations in these, until now, forgotten territories are contributing to urban sustainability and social justice.

## ENVIRONMENTAL JUSTICE & GREEN SPACE DEVELOPMENT IN MARVILA, LISBON

Jessica Verheij, University of Lisbon, Portugal

As urban greening has become a prevalent tool in the context of sustainable urban planning and climate change adaptation, Lisbon has been expanding its green spaces and developing green corridors across the city. Partly due to its urban greening strategies, the city was elected European Green Capital 2020 by the European Commission and continues to build and rehabilitate green space throughout its territory. Whereas urban greening is often depicted as a mere technical exercise without significant trade-offs, studies in the field of environmental justice and urban political ecology have emphasized how, in fact, urban green spaces are intimately connected to issues of justice, power relations and governance structures. This communication is built on the idea that green spaces are socio-political productions related to processes of inclusion and exclusion and to existing social inequalities. I seek to apply these critical lenses to analyze ongoing processes in Marvila, a fragmented area of Lisbon where green space development is employed as a way to transform this post-industrial territory into a logic of growth and redevelopment. Taking notice of the need to place public participation at the center of environmental justice, I build on several cases to address to what extent the local population has the ability to intervene in the decision-making processes. The cases range from municipality-led development at the Tejo waterfront, to the rehabilitation of allotment gardens and a community-based and grassroots initiative for a public garden. By focusing on the role of public participation, I seek to question how green space development in Marvila can contribute to environmental justice and how processes of inclusion and exclusion determine the decision-making process.

## “PEDALAR POR MARVILA” – REFLEXÕES PARA UMA MOBILIDADE URBANA MAIS DEMOCRÁTICA E SUSTENTÁVEL EM LISBOA

Henrique Chaves, Universidade Nova de Lisboa, Portugal

No quotidiano marvilense é habitual encontrar crianças andando de bicicleta nas suas ruas, ocupando o espaço público, em diálogo e conflito com os carros. Vários bairros de Marvila encontram-se isolados, uns dos outros e face ao resto da cidade. Isto deve-se a uma série de motivos, nomeadamente, ruas largas, poucas ligações pedonais ao resto da cidade, descontinuidade das calçadas, terrenos extensos e baldios, transportes públicos deficitários e também a forma arquitectónica destes bairros. Partindo deste cenário, o Grupo Comunitário 4 Crescente (moradores dos bairros Marquês de Abrantes, Chalé, Alfinetes e Salgadas e várias entidades que vêm desenvolvendo trabalho no território) apresentou duas propostas para o Orçamento Participativo da CML de 2018. Uma proposta dedicava-se à criação de um amplo jardim num dos terrenos baldios — “Transformar Marvila com Jardim” — e uma outra proposta — “Pedalar por Marvila” — tinha como objectivo a ligação dos bairros marvilenses e a freguesia ao resto da cidade através de ciclovias e melhorias na circulação pedonal. Pretendo refletir sobre a importância da constituição da Cicloficina Crescente para a articulação desta proposta, pensando a sua relação com residentes de Marvila (com especial destaque para as crianças) e também com um público mais alargado que se move de bicicleta. Procurarei também refletir sobre a construção desta proposta para a mobilidade urbana sustentável, pensando as suas formas discursivas, diálogos, avanços, recuos e os seus possíveis conflitos.

## NEW MUNICIPAL VISIONS ON POST-INDUSTRIAL RIVERSIDE LISBON. THE CASE OF MARVILA AND BEATO

João Carlos Martins, University of Lisbon, Portugal

The riverside Marvila and Beato presents a long and interesting social history. It is possible to find some historical artefacts of Roman and Arab presence, the Clerical use in the XIII century, the Nobles and Royal family leisure use of the Palaces and Farms in the XVI century, the XIX century installation of industrial warehouses. In 1965, Marvila is programmed as a social housing area, a process that clearly has failed. The industrial era ended in the late 1980's leaving an urban context marked by urban voids. In result, a new urban use of these territories has been promoted directly or indirectly by municipal powers. As a municipal proposal, the new Eastern Parque Ribeirinho from Braço de Prata to Matinha expresses this new relation between Lisbon residents and the Tagus River. By the same manner, the re-use of the old Military Maintenance factory in Xabregas, under the designation of Beato Creative Hub, promises a new place of creativity, innovation and economic development. Indirectly, Lisbon municipality allows the urban function change in the space of the old Guns and Munitions factory, Braço de Prata, oriented to high social classes' accommodations, as it is happening on Prata Riverside Village. A traditional driver of urbanization favoured the clerical and noble concentration, as well as the industrial use of these territories in the past: a good connection to the Tagus River. In past times and today, the relation between Lisbon residents and the riverside becomes increasingly determinant: once as a space of work, today as a leisure spot or concentration of high-income housing. The objective of this presentation is to question the aims and objectives of this new relation with the riverside, where the former industrial and harbour use of the territory is removed and the territory is open to new users, not only on housing and new non-pollutant economic activities, but also as a leisure territory, reconnecting Lisbon residents with its river.

## PARTICIPATORY SUSTAINABLE STRATEGIES FOR SHORT-TERM CHANGE: THE MULTIDISCIPLINARY REGENERATION OF A VALLEY IN THE ATLANTIC DIFFUSE CITY

David Pereira-Martínez, University of Porto, Portugal, University of Coruña, Spain

The relationship between environment and society has normally been considered under the framework of conventional territorial planning, carried out by experts (engineers, architects) and focused on the long-term results. Such an approach faced difficulties in provoking real change as quickly as is needed by environmental challenges. This research discusses an alternative (compatible) approach based on participation and short-term processes which can achieve faster tangible change in terms of present and future sustainability. This methodology is applied to the integral regeneration strategy of a valley within a diffuse city on the Atlantic coast. Firstly, participatory processes are relevant in territorial strategies because they enable people to re-discover and to re-evaluate their environment. According to participation literature, individual experts' opinions are overestimated, so the strategy takes advantage of local knowledge, multidisciplinary - biology, urbanism and archaeology - and medium levels of participation - tours, talks and meetings with owners, neighbours, and activists - in order to achieve environmental, social, and heritage restitution. Secondly, the focus on short-term decisions is effective in participation since it serves to concentrate efforts on tangible changes. The strategy assumes the current planning and land ownership and within them proposes secondary policies and temporary non-monetary releases. The former serve to order and qualify the protected areas, forests, and organic crops. The latter agreements enable the Council to create a sustainable landscape park on private terrains. Thus, avoiding a radical interventionist expert master plan, the strategy achieves a participative win-win soft deal with short-term benefits for both the community and the environment: plantation of local species, new pathways, school activities, wildlife studies, etc. These changes produce a better situation to discuss long-term sustainable planning

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A Oficina de Ecologia e Sociedade (ECOSOC, CES-UC), fundada em 2011, é um grupo de trabalho do Centro de Estudos Sociais da Universidade de Coimbra que reúne investigadorxs que adotam na sua pesquisa uma abordagem crítica da ecologia em colaboração com ativistas e movimentos sociais que estão no terreno, pensando e co-produzindo em conjunto resistências e alternativas à crise ecológica. Ao longo dos seus 8 anos de trabalho, a ECOSOC, CES-UC tem desenvolvido atividades de investigação, extensão e formação avançada sobre um vasto conjunto de temas. Este é o primeiro de três painéis que busca articular a discussão sobre colonialismo, extrativismos e resistências. Nestas três comunicações procuramos discutir formas de violência social e ambiental perpetradas na Bolívia, nos territórios indígenas das Américas e na Guiné-Bissau, bem como as respetivas formas de resistência. O colonialismo tem-se pautado pela tentativa de aniquilação da identidade, vontade, expressão, autonomia do Outro, ao mesmo tempo que implanta dominação económica, extração de recursos e controlo da produção. Este painel analisa aspetos sociopolíticos, económicos e climáticos de antigas e novas formas de colonialismo ecológico, contribuindo para a reflexão das continuidades e especificidades dos colonialismos, sua expressão presente e relação histórica com formas de dominação ecológica, extrativismo, o capitalismo verde e a falência produtiva. Será que a economia sustentável é socialmente viável? De que forma se reproduzem as desigualdades existentes? A reflexão acerca do imperialismo à procura de lítio na Bolívia, conivente com o recente golpe, permite discutir a transição energética no contexto do capitalismo verde. A análise do extrativismo industrial e da economia hipster nos territórios indígenas das Américas debruça-se sobre a usurpação do universo simbólico. A produção de arroz na Guiné-Bissau propõe um olhar crítico sobre os discursos acerca da resiliência climática.

## GREEN IMPERIALISM AND THE BOLIVIAN COUP

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Bolivia's president Evo Morales was ousted by a military coup on 10 November 2019. The US, Brasil and Germany were quick to recognise the new military "transitional" government led by the right-wing, white Christian extremist Jeanine Anez, despite its reduced support and signs of racial and perpetual violence. The role the OAS played in the coup, and the international support for the anti-Morales opposition, reminds of the worst years of American interventionism and operation Condor. One of the main reasons for the international interest in the coup is economic: Lithium. Lithium, the basic material for batteries in electronica and electric cars, is considered the new gold in a world that must deal with climate change. Bolivia has the world's largest resources of this material, and Morales was planning to use this strategic resource to modernise the national industry and diversify international trade. Reason enough why the US, Canada, Brazil and some European countries had interests in supporting a "regime change". We have been used to international interventionism supporting regime changes for the sake of fossil fuels; Iran, Iraq, Syria... Here it seems that we are watching the symbolic birth of a new phenomenon: Green Imperialism. This paper will combine theories of imperialism, such as Lenin's theory of financial capital and Luxemburg's theory on primitive accumulation, theories of sub-imperialism, like Marini's, and dependency with theories on ecological colonialism and green capitalism, such as Moore and Foster, to engage with this phenomenon.

## PLASTIC SHAMANS, SUPERFOOD HIPSTERS, PACHAMAMA DEALERS AND OTHER EXTRACTIVISMS. NEW ISSUES OLD RESISTANCES

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Since the beginning of colonial invasions extractivism in its various ways appropriated of the resources, lands and territories, and even of the bodies of indigenous men and women throughout the world. Their knowledges have been both undervalued and almost got extinct (through epistemicides as stated by Santos, 2004) by the imposition of westernized eurocentric sciences. At the same time when those indigenous knowledges resulted in increased interest for agrochemical and pharmaceutical transnational corporations they became object of extractivism (biopiracy) to obtain immense profits through patents. Added to it new kinds of extractivism arose in the form of cultural appropriations in different ways: white western men and women disguised as fake shamans (plastic shamans as named by indigenous peoples, Arregui, 2011) approaching those communities whose use of diverse plants in shamanic rituals have become desired objects promoting a new kind of tourism arriving to indigenous communities; the robbery of indigenous textile art by white western fashion designers; the hipsterization of some traditional indigenous foods like quinoa making big profits out of a continuous stealing practice with huge negative impacts on indigenous peoples revealing forms of neocolonialism that I refer as pachamama dealers. Through these neocolonial ways of cultural appropriation and with fashionable and exotizing approaches to pachamama and buen vivir, indigenous peoples and their territories already in dispute become even more vulnerable. With this paper I intend to reveal and analyze all these extractivisms affecting indigenous peoples and knowledges but also their own ways of living, being and resisting them.



## COLONIALISMO E CLIMA AFOGANDO ARROZ: VULNERABILIDADE E RESISTÊNCIA NOS MANGAIS DO SUL DA GUINÉ-BISSAU

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As alterações climáticas motivaram repetidos protestos que aspiram a que, desta vez (após a COP25), se concretizem políticas públicas e económicas que revertam a condição de um mundo em imprevisível transformação. Desde a Conferência do Rio de Janeiro, em 1992, os discursos de intenções têm permanecido como tal. Esta dimensão abstrata e de narração já mitológica, contrasta com a materialidade das alterações climáticas vividas nas margens da Guiné-Bissau e noutros contextos. Os agricultores que cultivam arroz nas franjas de mangal – o arroz é o principal alimento desde a Gâmbia à Serra Leoa – há muito que estão em contacto com um “mar que tem cada vez mais força” e com a “chuva que vem tarde e não chega ao fim”. Desde 1980 (pelo menos) que os agricultores do sul da Guiné-Bissau descrevem mudanças climáticas com as quais se confrontam. As estratégias sociais, económicas e tecnológicas não são adiabáveis, têm sido (re)produzidas apesar dos desarranjos climáticos e da inação do norte global. Numa dimensão regional, o arroz de mangal como estratégia de produção, consumo e comércio tem resistido a agressões várias, com fases de disrupção e reativação em várias aldeias. Durante os onze anos de resistência armada ao colonialismo (1963-1974), a administração portuguesa bombardeou arrozais, florestas e aldeias no sul do país. Uma das consequências foi, não só a destruição de colheitas anuais, mas a incapacitação do sistema tecnológico de diques e canais que assegura a gestão hidráulica a longo prazo de unidades territoriais conectadas por espaços comunicantes. A partir de Cablola, aldeia no sul da Guiné-Bissau, retrata-se a produção orizícola face à agressão colonial e à expressão climática da sua continuidade após 1974. Disrupção e reativação, vulnerabilidade e resistência são conceitos úteis para analisar as intermitências da produção de arroz em Cablola e permitem pensar criticamente o significado e utilidade da noção de resiliência nestes contextos.

## LUTAS POR JUSTIÇA AMBIENTAL NA “CAPITAL NACIONAL DO PETRÓLEO” (MACAÉ, RJ, BRASIL) E SEU ENTORNO

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Este resumo trata de um projeto coletivo que engloba as pesquisas do Grupo de Pesquisa em Estudos Socioambientais e Ecologia Política, da Universidade Federal do Rio de Janeiro (UFRJ). O objetivo é apresentar uma reflexão acerca das lutas por justiça ambiental em Macaé e seu entorno e as relações conflituosas em torno de um modelo de desenvolvimento extrativista, no contexto teórico da ecologia política, muito ligada ao tema da justiça ambiental. Falamos em injustiça ambiental para dizer que os problemas ambientais não afetam indistintamente a toda a humanidade. Há desigualdades na distribuição dos efeitos da poluição e na distribuição das riquezas geradas pelo trabalho. Dessa forma, esses estudos sobre ambiente, sociedade e poder se dividem em três frentes: 1) participação e movimentos sociais: participação em espaços de controle social sobre questões ambientais; 2) práticas e dinâmicas relacionadas à agroecologia, populações tradicionais e camponesas; 3) percepções do ambiente por diferentes atores sociais, usos diversos do ambiente em dimensões físicas, materiais e socioculturais. Estudos de caso envolvendo o tema da luta por justiça ambiental compõem este trabalho, utilizando pesquisas qualitativa e quantitativa, a partir do uso de entrevistas e questionários, observação participante e análise documental. Os resultados preliminares identificaram os seguintes conflitos: lutas por titulação e garantia da função social da terra para cultivo de alimentos por camponeses e quilombolas, em oposição ao uso da terra por setores do agronegócio para acumulação de capital; resistência ao domínio do mercado por grandes corporações, por meio de circuitos curtos e descentralizados de circulação de alimentos produzidos por agricultores familiares; exclusão de áreas de pesca artesanal pela indústria do petróleo; conflitos relacionados à implantação de um porto, devido aos impactos socioambientais; desapropriação de áreas de moradia por proximidade com área protegida.



