UNIVERSITY OF CAMBRIDGE
Faculty of Law

CENTRE FOR THE STUDY OF EXISTENTIAL RISK
UNIVERSITY OF CAMBRIDGE

FUKUSHIMA FIVE YEARS ON – LEGAL FALLOUT IN JAPAN, LESSONS FOR THE EU

Old Library, Darwin College Cambridge, Silver St, Cambridge CB3 9EU

FRIDAY, 4 MARCH 2016 PUBLIC KEYNOTE LECTURE

17:30 Ramseyer – Nuclear Power and the Mob: Extortion and Social Capital in Japan

Nuclear reactors entail massive non-transferrable site-specific investments. The resulting appropriable quasi-rents offer the mob the ideal target. In exchange for large fees, it can either promise to "protect" the utility (and silence the reactor's local opponents) or "extort" from it (and desist from inciting local opponents). Using municipality-level (1742 cities, towns, villages) and prefecture-level (47) Japanese panel data covering the years from 1980 to 2010, I find exactly this phenomenon: when a utility announces plans to build a reactor, the level of extortion climbs. Reactors have broad-ranging effects on social capital as well. In general, the perceived health costs to nuclear power are highest for young families. As a result, if a utility announces plans for a new reactor, these families disappear. Yet these are the men and women who invest most heavily in the social capital that keeps communities intact. When they disappear, reliance on government subsidies increases, and divorce rates rise. Firms stay away, and unemployment climbs.

Prof J. Mark Ramseyer, Mitsubishi Professor of Japanese Legal Studies, spent most of his childhood in provincial towns and cities in southern Japan, attending Japanese schools for K-6. He returned to the U.S. for college. Before attending law school, he studied Japanese history in graduate school. Ramseyer graduated from HLS in 1982. He clerked for the Hon. Stephen Breyer (then on the First Circuit), worked for two years at Sidley & Austin (in corporate tax), and studied as a Fulbright student at the University of Tokyo. After teaching at UCLA and the University of Chicago, he came to Harvard in 1998. He has also taught or co-taught courses at several Japanese universities (in Japanese). In his research, Ramseyer primarily studies Japanese law, and primarily from a law & economics perspective.

18:45 *Drinks reception with Nobel laureate Prof Thomas Schelling, Club Room*

19:00 *Formal dinner, Dining Hall (included for speakers, dress code: dark suit and tie)*

SATURDAY, 5 MARCH 2016 EXPERT WORKSHOP

08:30 *Brunch, Dining Hall (optional, included with rooms at Darwin)*

08:45 *Registration, Old Library*

SESSION I: INTRODUCTION AND MORNING KEYNOTE – LAW AND THE (POLITICAL) ECONOMY

09:15 Prof Lord Martin Rees, Co-founder of CSER – Welcome Address

Julius Weitzdörfer, Charles & Katharine Darwin Research Fellow – Welcome Address

09:30 Weitzdörfer – Nuclear Power, Regulatory Capture, and the Case of Fukushima

With victims' claims between EUR 100 - 200 billion and an unprecedented number of 2.5 million claimants, Fukushima constitutes the largest civil liability case in legal history. This presentation is intended as a critical introduction to a few of the legal implications of the Fukushima Dai'ichi nuclear accident for Japan and the EU. When the nuclear catastrophe struck, Japan was faced with a practically insufficient, ambiguous nuclear liability regime. Due to a legislative compromise with the industry in 1961, insurance had been limited to the equivalent of not more than EUR 1.3 billion, and owing to Government funds to rescue TEPCO, no significant financial 'liability' was put on the plant operator – inadequate both in terms of justice and deterrence. The roots of the accident and its unresolved problems lie in the past. They can be explained with regulatory capture – a situation in which a regulatory agency is in fact dominated by the industry it is supposed to be regulating. In this way, Japan's infamous "nuclear village" has not only compromised necessary safety standards, but is continuing to prevent fundamental legal change. One of the areas of law where the catastrophe laid bare particularly serious regulatory failure is insurance and liability for nuclear accidents. This introduction critically analyzes the legislation's inadequacy to prevent, mitigate and compensate nuclear damage, as well as how the financial burdens of uninsured risk from nuclear power stations are thus to be borne by the public today. Despite recent amendments to dozens of laws and Japan's accession to the CSC, I conclude that, so far, nothing substantial has been accomplished to address the flaws of nuclear liability law in Japan. Moreover, these findings point to the unpleasant truth of critical deficiencies of nuclear law in Europe, which have not been addressed and will be discussed further in the following presentations.

Julius Weitzdörfer is the 2014 Charles & Katharine Darwin Research Fellow of Darwin College. He teaches EU environmental and sustainable development law at the Faculty of Law, University of Cambridge. He studied journalism and Japanese in Leipzig and Tokyo (Waseda University). He then read law in Hamburg (Bucerius Law School, Max-Planck-Institute), Shanghai (Fudan University), Kyoto (Kyoto University) and Cambridge. He was an editor and co-host on educational television in Japan (NHK 3), an editorial assistant for the Journal of Japanese Law and is currently completing a monograph on financial crimes in Japan. His work covers dynamic fields of Japanese law, including criminal trials, consumer protection, disaster response and the Fukushima liability case. Julius' comparative interests lie in international disaster-, nuclear- and environmental-law, regulatory capture, and the regulation of risk. He currently serves as an external collaborator for the Interdisciplinary Centre for East Asian Studies, Frankfurt, and is funded by the Volkswagen Foundation.

10:00 Rövekamp – Nuclear Crisis Management: Lessons from Fukushima

The Fukushima nuclear crisis revealed a range of institutional shortcomings: Despite the existence and application of emergency laws efficient cooperation between the private plant operator, the regulatory authorities and the government on a national and regional level could not be established. Also coordination between different public entities like military, police and fire brigades proofed to be difficult. This aggravated the crisis as a nuclear accident does not allow for any response delays. Based on the issues in the aftermath of the Fukushima crisis this paper will identify potential similar problems in Germany and on the European Union level. It will then outline organizational and procedural minimum solutions, which need to be reflected by appropriate laws and regulations for an adequate preparedness for nuclear emergencies.

Prof Dr Rövekamp works as Professor of Asian Studies and Director of the East Asia Institute at the Ludwigshafen University of Applied Sciences in Germany. He furthermore serves as Honorary Research Fellow at the Hong Kong Institute of Asia Pacific Studies of The Chinese University in Hong Kong and at the WTO Center of Aoyama Gakuin University in Tokyo. Previously he worked in industrial enterprises and held senior management positions in Germany, Japan and China. His research interest covers issues of the political and economic systems in Asia. Recently he has translated the Fukushima crisis memoirs of Naoto Kan, the Japanese prime minister at that time, and commented on the crisis management performance.

10:20 Faure – The Law and Economics of Nuclear Liability

The law and economics of nuclear liability has in fact meanwhile been described in many publications, including dissertations of Vanden Borre and Heldt. Not only law and economics scholars, but increasingly also tort lawyers and environmental scholars agree that the current shape of the international conventions does not correspond with the economic starting points. The current contribution will therefore not repeat in detail, but mainly briefly sketch what the fundamental problems are with the current international nuclear liability regime. It is more interesting to sketch how the regime could be improved by taking both a substantive as well as a procedural prospective. This contribution will argue that through learning from other regimes equally dealing with catastrophic risk important lessons can be drawn for a better shape of the nuclear liability at the international level. For example various domestic nuclear liability regimes (such as the US Price-Anderson Act, but also the nuclear liability regime in Germany) show features, which are considerably more in line with economic starting points than the international conventions. The same can be said for compensation awarded for a variety of natural hazards as well as for terrorism, where the government equally intervenes, but not through a subsidy (as in the nuclear conventions) but by acting as reinsurer of last resort and, moreover, charging a price for its intervention. Equally of interest is the compensation regime in case of marine pollution. It is striking that in that regime amounts are generated that are (currently) higher than under the nuclear liability conventions although the amount of the potential damage in case of an accident in case of a nuclear accident will often be substantially larger. Again, the marine pollution regimes also show that it is possible to generate high amounts of compensation without states subsidies. The contribution will not only show how beneficial learning from other (domestic as well as international) regimes (concerning catastrophic risk) can lead to suggestions for substantive improvements of the nuclear liability conventions. The comparison is equally useful to ask the question what would increase the likelihood that a better (i.e. more in line with the economic starting points) regime would be introduced at the international level as well. Political economy and public choice theory will be employed to show that for example in the marine pollution area higher amounts could be generated because a countervailing power was provided. This led to a reduced effect of the lobbying by the shipping industry and therefore to a regime that is generally more in line with economic principles. After having sketched these starting points in an introduction, a second section will look at “history’s future” by recalling (more particularly based on a study by Vanden Borre) why the international conventions have taken the (inefficient) shape, which they currently have. Next, section 3 will provide a simple law and economics analysis of nuclear liability by pointing at the need to have a strict liability, mandatory financial guarantees, unlimited liability as well as an exposure to liability of all the actors involved (and hence no exclusive channelling of liability). It will be argued that more particularly the exclusive channelling of liability and the financial limits in the international conventions, as well as the state subsidy in compensation provide substantial negative effects, more particularly an insufficient incorporation of the nuclear risk in energy prices. Section 4 will show how the nuclear liability regime could be improved by learning from the above-mentioned (domestic and international) alternative regimes dealing equally with catastrophic risk. Section 5 will use this comparison with other regimes to indicate how, equally relying on lessons from political economy, the likelihood of a regime change could be improved. Attention will especially be focused on the importance of access to information (referring for example to the Munich Re initiative to launch a regime for nuclear liability amounting to substantially higher amounts), the need of an EU initiative, along the lines of the suggestion for a regional compensation fund for oil pollution in the maritime sector which subsequently triggered the coming into being of a convention on supplementary funding for oil pollution damage. Finally attention will be paid to the question how a countervailing power can be organized against the nuclear lobby by using the potential of the (shadow) interest group representing all potential victims of a nuclear accident. It will be argued that in addition to (green) NGOs, also (non-nuclear) potential victim states and the media may play a positive role. Opting-out of the international regime by domestic legislators could be one way of triggering change at the international level. Section 6 concludes by evaluating the likelihood of a regime change at the international level, in line with economic starting points of nuclear liability, which constitute the core of the contribution.

Prof Dr Michael G. Faure LL.M. became academic director of the Maastricht European institute for transnational legal research (METRO) and professor of Comparative and International Environmental Law at

the law faculty of Maastricht University in September 1991. He still holds both positions today.
In addition, he is academic director of the Ius Commune Research School and member of the board of directors of Ectil. Since the first of February 2008, he is half time professor of comparative private law and economics at the Rotterdam Institute of Law & Economics (RILE) of the Erasmus University in Rotterdam and academic director of the European Doctorate in Law and Economics (EDLE) programme. Since 1982 he is equally attorney at the Antwerp Bar. He publishes in the areas of environmental (criminal) law, tort and insurance and economic analysis of (accident) law.

10:50 Discussant: Veuchelen

11:15 *Coffee break*

SESSION II: CHALLENGES FOR JAPAN – LAW AND SOCIETY

11:30 Kawamura – Adequate Causation and the Nuclear Suicides

Compared to the damage caused by nuclear evacuation, little attention has been paid to the (indirect) deaths, which resulted from the nuclear accident, especially suicide cases. A court decision in the summer of 2014 reminded us of this kind of nuclear damage. The decision by the district court in Fukushima on 24 August 2014 ordered TEPCO to pay damages to the heirs of a woman who had suffered from depression caused by the evacuation from her hometown and committed suicide. A controversial point in the lawsuit was the causation between the nuclear accident and the woman's suicide. The court applied two sets of criteria determining causation. The first set of criteria applied in this case was developed in traffic accidents case-law. The second set of causation criteria was developed by industrial accident public insurance authorities. This set of criteria is focused on the evaluation of stress levels applied in cases of suicide caused by over-work. Furthermore, during the fact finding stage, the court carefully assessed the victim's mental and emotional distress which resulted from the evacuation. This approach of the judiciary has encouraged other affected individuals to seek compensation for the suffering caused by evacuation in the immediate aftermath of the nuclear disaster.

Dr Hiroki Kawamura, MA in Law (Waseda University, Tokyo), Dr jur (Freie Universität Berlin), is research associate for the Japanese Law and its Cultural Foundations (Prof Bälz) at the Faculty of Law, Goethe-University Frankfurt and part-time Lecturer for Japanese Law at the University of Trier, Germany. After the graduate study at the Waseda University, Tokyo he came to Berlin for his research project "History of Legal Advice in Germany". Between 2008 and 2012 he was the research associate at the Institute for Sociology of Law, Freie Universität Berlin. In October of 2012 he moved to Frankfurt am Main to join the Research Focus 'Extrajudicial and Judicial Conflict Resolution' (funded by LOEWE research initiative of the State of Hesse).

11:55 Kawazoe – Nuclear Evacuation Orders and their Social Consequences

Fukushima has faced a triple disaster, earthquake, tsunami and nuclear radiation. In a aftermath of these complex disasters, Iwaki City, in Fukushima Prefecture, epitomizes the experience of Fukushima as it was not only hit by the above mentioned disasters, but also had to accept nuclear evacuees from neighboring towns. Within a society of victims suffering from various types and degrees of damage stemming from different root causes, laws and policies after Fukushima brought about social conflict within society and divided the affected into victims and non-victims or, in the case of Iwaki, the hosting residents and the evacuees. In my talk, I will show how victims are framed legally and socially, focusing on the multilayers of sense of victimhood and the categorization of victims, and explain the process and the logic of the social conflict which was created in the aftermath of disaster.

Saori Kawazoe is a PhD Student at Waseda University, Faculty of Letters, Arts, and Science, currently a Research Fellow at Iwaki Meisei University in the Disaster Archive Project, and works as a Part-time Lecturer in social research at Toyo University. She holds an MA in Sociology and a BA in International Liberal Studies from Waseda University and has been conducting extensive fieldwork with evacuees in the Fukushima area for over four years.

12:15 Doi – The Trial against TEPCO Executives

The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission (NAIIC) concluded in July 2012 that the nuclear power plant accident following the Great East Japan Earthquake on March 11, 2011, had undoubtedly been a "manmade disaster" (Introduction of the commission report, p. 3). While the NAIIC pointed out "the lack of a sense of responsibility in protecting the lives of the people and the society by present and past government administrations, regulators and TEPCO" (p. 3), it focused on the aspect of organizational and institutional defects rather than "mistakes by specific individuals" (p. 15). However, 1,324 residents in Fukushima who lost their everyday life after the accident took a step forward by filing a complaint and an accusation against TEPCO executives and administrative officers for negligent homicide and bodily harm in the pursuit of social activities (Art. 211 Jap. Penal Code). The Public Prosecutors Office found that the evidence is insufficient to support the prosecution and suspended the charges against all suspects. Yet the fifth Committee for the Inquest of Prosecution in Tokyo concluded that the charges against three TEPCO executives who were responsible for the security management of the nuclear plant, are appropriate to prosecute. The second decision on July 2015 obliged the designated attorneys appointed by the court to file formal charges. Thereby, the criminal trial raises the question of individual responsibilities for the Fukushima nuclear power plant accident in addition to the large-scale civil law proceedings for damages. The function of the Committee for the Inquest of Prosecution lies in reflecting common sense on the discretionary exercise of formal charges by a citizen review of non-prosecution. The decision for prosecution has been reformed to be legally binding in 2004, which has turned that democratic institution into the body finally in charge in respect to public prosecution. In this regard, the prosecution of the TEPCO executives is often viewed to manifest the public opinion. What are the differences between the decision by the prosecutors with professional legal skills and the decision by the committee relying upon common sense? This presentation describes the points at issue by comparing both the arguments raised by both the prosecutor and the committee concerning (1) the assessments of facts relevant for legally required foresight of the accident and (2) the controversy between the theory of concrete foresight and of reasonable foresight.

Ass Prof Kazushige Doi is associate professor in criminal law at the University of Kitakyushu, Fukuoka. He finished LLB studies (2005) and LLM studies (2007) at Meiji University, Tokyo as well as LLM studies (2012) at the Philipps University of Marburg, Germany. His research interests lie in the mechanisms and manners of the conflict resolution in criminal cases. His former works cover sanctions against theft in criminal and private law and comparative analyses on Victim-Offender-Mediation in Japan and Germany.

12:35 Discussant: Ramseyer

13:00 *Lunch break, Dining Hall (included for speakers, The Richard King Room)*

Photo Exhibition 'Living here in Fukushima - 3.11 and after', 1 Newnham Terrace

SESSION III: SOLUTIONS FOR THE EUROPEAN UNION – LAW, TECHNOLOGY AND DEMOCRACY

14:15 Lauta – Lost in Translation: On what Europe failed to learn from 3-11

3-11 affirmed the modern world's worst disaster-nightmare. The triple disaster not only revealed how deeply vulnerable highly technological and developed societies are towards extreme natural hazards, it

simultaneously confirmed that technology is in itself among humanity's worst enemies. In a report drawn up by an independent parliamentary commission in the aftermath of the disaster, it is concluded that it was a disaster "made in Japan". In other words, that the particularities inherent in Japanese culture led to the horrible outcome of the disaster; and accordingly, any attempt to address the root causes of the disaster should therefore include a broader look on cultural, societal and legal institutions in the broadest conceivable sense. While the disaster presented a unique insight into the vulnerabilities and exposure of the Japanese society, it simultaneously offered, and called for, an opportunity to reflect upon the vulnerabilities and exposure of highly developed societies in general. Coincidently, the disaster occurred in the midst of the European negotiations on a new Union Civil Protection Mechanism. Yet, the disaster seemed to remain largely a "Japanese" phenomenon. In this paper I set out to critically investigate the impact 3-11 had on the adoption of new disaster regulation in the European Union, and to question why it did not to a larger extent shape the new European disaster framework.

Ass Prof Kristian Cedervall Lauta is Assistant Professor with the Centre for International Law, Conflict and Crisis at the Faculty of Law, University of Copenhagen. His research regards the intersection between law and disasters. He is presently co-heading the interdisciplinary research project Changing Disasters, and is among the founding members of COPE, Copenhagen Center for Disaster Research.

14:35 Tromans – Nuclear Law in the UK: A Practitioner's Perspective

The UK's "nuclear renaissance" has raised a number of significant issues in terms of the permitting and regulation of new nuclear power stations. The UK government has made what are probably unprecedented efforts to smooth the path for the necessary investment, in terms both of streamlining consenting procedures and in providing financial support. The justification processes for both the EPR and ABWR have been completed and in the case of the EPR have survived legal challenge. The GDA process continues. EDF's Hinkley Point C project has obtained development consent, despite legal challenge. The challenge is now to get these projects licensed and built. The licensing process operates in a totally different environment to that governing existing nuclear power stations. Regulators and operators must contend with safety in a post-Fukushima world and with security in an age of potential nuclear terrorism. Furthermore, the key financial and technological capacity may not naturally reside with the operator, but with parent companies and reactor suppliers. Ensuring that the operator has full control of the installation, and the means to exercise it effectively and intelligently, poses a further challenge. This presentation will look at some of these issues from the perspective of a lawyer who has been involved in the nuclear industry for two decades, and who is involved with a number of the current projects.

Stephen Tromans QC is a barrister specialising in energy, infrastructure and environmental law. He has a particular focus on nuclear law and has worked with both EDF and Horizon in relation to their current projects in the UK. He is the author of the leading textbook, "Nuclear Law" and is a board member of the UK arm of the International Nuclear Lawyers' Association (INLA UK). He represented the Nuclear Industries' Association in successfully defending the legal challenge to justification of the EPR reactor design.

14:55 Heldt – Hindrance or Benefit: The Role of Public Participation in the Nuclear Sector

Public opinion of nuclear energy varies throughout the European Union. Just as there is no universal consensus amongst European citizens towards the use of nuclear energy, there is no common position amongst the Member States either. Article 194 TFEU leaves the freedom of choice of energy sources to the Member States, which leads to a broad energy mix within the European Union. Nuclear energy currently is part of this European Energy mix and it is unlikely that this will entirely change during the next decades. Given the diverging opinions between Member States and also the European public, an involvement of civil society in the decision-making processes surrounding the commercial use of nuclear energy is of crucial importance. This contribution will therefore raise the question whether even in such a technical field as nuclear energy, an over-reliance on science and experts can lead to flawed regulation and that these flaws could potentially be remedied by a stronger involvement of the public. In trying to answer this question the presentation will

discuss theoretical justifications for public participation, including the effect that such participation can have on the legitimacy of the regulatory process and also the quality of the regulatory norms. It will also show that existing tools on public participation and access justice in the European Union currently do not guarantee a meaningful engagement of the public in the nuclear sector.

Dr Tobias Heldt studied at Maastricht University and received his Bachelor in European Law in 2010 after which he continued to do a Master in European Corporate and Commercial Law. In 2011 he started his doctoral research at the METRO research institute of Maastricht University, which he finished in October 2015. His doctoral thesis, entitled "A European Legal Framework for Nuclear Liability - Rethinking current approaches", dealt with issues of nuclear liability and the quest for effective incentives to enhance nuclear safety within the European Union and to come to a more transparent and inclusive scrutiny of the nuclear sector. During his PhD research Tobias Heldt was also working as a Legal Adviser for the Belgian Nuclear Research Center (SCK•CEN).

15:15 Discussant: Faure

15:45 *Tea time and opportunity for networking with the speakers*

SESSION IV: SOLUTIONS FOR THE EUROPEAN UNION – LAW AND RISK

16:15 Veuchelen – Safety: Consequences of Fukushima for the EU and Euratom

This paper will highlight how, in the European Union, nuclear law in general, and nuclear safety law in particular, has suffered from inherent contradictions resulting from the origins of Euratom in 1957. The national politics steering this completely new industrial sector in Europe prevented Euratom from realising its commitment to become a true supranational community. It will be argued herein that Euratom has failed to integrate the essential EU regulatory acquis in health and environmental protection and the constitutional principles of democratically-based and enforceable regulation as a whole. In its 58 years of existence, the first goal of Euratom--to promote the nuclear industry--has not found a true counterweight in democratic decision making and protection from its risks. It is incomprehensible that a recent EU Commission report states that the EU has the “most advanced legally binding and enforceable regional framework for nuclear safety in the world.” To unravel this bold statement, in this paper we will look at the EU Nuclear Safety Directives as secondary regulation to the Euratom Treaty, and how binding regulation was avoided with weak forms of national Peer-Reviews and by lack of procedural law, which would have made the general legal duties of “Justification” and “ALARA” transparent and enforceable. The main issue to be addressed by this paper is how to understand the legal and political mechanisms behind Euratom’s inability to reach integrated EU safety regulation. Such mechanisms prevented, from the very beginning of Euratom until now, the establishment of a strong and integrated legal regime, which would regulate the nuclear energy sector in the EU.

Ludo Veuchelen graduated with a Master’s Degree in Law from Leuven University. Since 1990 he has been involved directly in the field of nuclear and environmental law at the Belgian Nuclear Research Centre, SCK•CEN (Brussels/Mol), a Foundation of Public Utility. He co-founded the PISA research group ("Program of Integration of Social Sciences in Nuclear Science and Technology"/"Nuclear Law&Liability") and was the mentor of 5 PhD Research Students. Ludo Veuchelen is also the past Chairman of Working Group No1 of INLA (the International Nuclear Law Association), "Regulation and Safety". He is also an invited lecturer and Free Collaborator at the Law Faculty of the University of Ghent (Public law/Energy and Environmental Law) and Associated Researcher at KULeuven Economic Law. From June 2015, he is active as Distinguished International fellow at the ERASMUS University of Rotterdam, RILE, Law&Economics.

16:35 Heffron – Energy Law in the UK after Fukushima Daiichi

The nuclear energy industry in the United Kingdom (UK) has made progress over the last five years since Fukushima. This has been as a result of the new introduction of energy law. The lessons from Fukushima have been for the most part been taken into account and the 'nature' of a nuclear accident is not the biggest hurdle to overcome in order to build new nuclear energy in the UK. This paper places the Fukushima-Daiichi accident into context in the overall operation of the nuclear energy industry with a focus on international action, and more UK specific issues such as finance and electricity market structure. Further, over the last five years there has been a realisation that energy law needs to achieve a number of balanced objectives. The UK is seen within the EU as one of the leaders in the development of energy law. Consequently, as a result of a more unified approach to formulating energy law, this paper argues that nuclear law (including nuclear liability law) is no longer seen in isolation as it has been in the past. There is a harmonisation of law occurring across the energy sources and this is contributing to a more positive outlook post the Fukushima-Daiichi accident than was predicted.

Dr Raphael Heffron is a Senior Lecturer in Energy and Natural Resources Law at the Energy and Natural Resources Law Institute at Queen Mary University of London. Raphael is currently the Co-Chair of the UK Energy Law and Policy Association; Visiting Professor in Energy Law at the International Hellenic University (Greece); and an Associate Researcher at the Energy Policy Research Group at the University of Cambridge. Raphael read for his PhD at Trinity Hall, University of Cambridge. He is also a trained Barrister-at-Law and was called to the Bar in July 2007 in the Republic of Ireland. He holds degrees from the University of Cambridge (MPhil, PhD), the University of St. Andrews (MLitt), and Trinity College Dublin (BA, MA). Raphael's research has involved funding from UK national research councils (the ESRC, and the EPSRC), and is currently funded by the EU (in a Horizon 2020 project). He has acted as a consultant for the World Bank and London think tanks. Formerly Raphael held permanent lectureships at the University of Leeds and the University of Stirling (Scotland) where he was also was a Lecturer in Law and the Programme Director for the LLM in International Energy Law and Policy. In the past he has held visiting positions at Massachusetts Institute of Technology, MA, USA (Visiting Student), The University of Texas at Austin, TX, USA (Visiting Scholar), and the British Institute for International and Comparative Law (Visiting Research Fellow). At the University of Cambridge, Raphael was a Teaching Fellow at the Faculty of Economics and also a Research Assistant at the Department of Engineering.

16:55 Ameye – Fukushima, Which Lessons for Channelling and Suppliers' Liability?

World-wide, almost all legal regimes transfer third party liability for nuclear accidents exclusively towards the operator of a nuclear power plant. This is called "channelling" and implies that the operator of a nuclear installation is exclusively liable for damages, either legally or economically. Irrespective of their possible contribution, none of the other players – suppliers of nuclear material or fuel, transporters of nuclear material or fuel to and from the nuclear power plant, subcontractors, test operators, consultants, nuclear plant designers and constructors – bears any responsibility towards third parties in the event of a nuclear accident. Channelling is an oddity of nuclear liability law. It deviates from the nuts and bolts of ordinary tort law provided by both civil law and commercial law systems. The present paper will not consider all above-listed players that are exempted from liability following the channelling principle, but will focus on designers and constructors. Indeed, the question will be examined whether, in this day and age, liability should still be exclusively channelled to the operator when a nuclear accident is partly or entirely due to design or construction faults or deficiencies. The paper will, firstly, analyse the origin and *raison d´être* of the principle of channelling liability towards the nuclear power plant operator, both as regards the so-called "legal" and "economic" channelling regimes. It will then proceed to review the sustainability of "channelling" in a "mature" nuclear sector, which currently faces massive technological challenges at the dawn of a nuclear renaissance. In doing so, this author will examine to which extent the most popular form of channelling – legal channelling – is sustainable in the light of recent developments in the nuclear sector or whether it would be advisable, on the contrary, to introduce liability of designers and constructors (architects-engineers) of nuclear power plants. Special

attention will be paid to both the fact that nuclear energy is not an embryonic industry anymore, and that new reactor technologies are likely to alter the involvement of designers and constructors. To accurately assess the question from a pragmatic, industry-oriented perspective, the paper considers the outcome of a consultation held on the issue with, on the one hand, nuclear power plant operators and, on the other hand, nuclear designers and constructors. Due to the limited responses to the survey, it has not been possible to draw any statistically relevant conclusions. However, the opinions of the consulted stakeholders – who all requested anonymity – have been inserted, where appropriate, throughout the body of the present paper. One should keep in mind that these inputs are not of a representative, but merely indicative nature.

Evelyne Ameye is a private EU Competition and Nuclear Law Specialist at Evelyne Ameye Legal Services, which she founded in 2014. She is Belgian; worked at the European Commission and for US law firm Mayer Brown in Brussels and Paris before moving to Madrid. She drafted a Legal Study on Harmonising Nuclear Liability in Europe for the European Commission and was hired by the EU as an Expert with a view to drafting a Directive in this sense. She has published many articles on Nuclear Liability and regularly advises clients on nuclear law issues. She was ranked in Chambers & Partners for her own, independent practice in 2015. She is a member of the Internal Nuclear Law Association.

17:15 Bergkamp – Regulation in the Risk Society after Fukushima

Five years after the 2011 Fukushima nuclear meltdown, we should ask what the influence has been, or, maybe, will be, of this accident on the regulation of the nuclear power industry and more generally of industrial activities. Did Fukushima "change everything," as some anticipated, or was its impact more modest? At first impression, although media coverage has been significant, Fukushima's influence on regulation is hard to measure, and is complex and varied. For one, the accident has provided ammunition to the anti-nuclear and anti-technology movement, and intensified the debate about regulation in the risk society. Following the disaster, some governments, including Germany, have decided to discontinue nuclear power generation all together or postpone new built. But there are also forces, including the fight against climate change, pushing in another direction. A recurring theme has been the lessons the Fukushima accident taught us, and how these learnings should shape risk management and regulation going forward. Roughly, these lessons include general recommendations regarding how society deals with risk, and specific recommendations aimed at improving the management of risks at nuclear power plants. The latter include recommendations specific to siting decisions, nuclear power plant design and construction, tsunami countermeasures, accident (on-site) and emergency (off-site) response systems, organizational management, and a series of measures relating to nuclear oversight by and of governmental authorities. This paper focuses on the general lessons and what they mean for risk regulation. The term 'risk regulation' refers here to both public and private law mechanism to manage risks. I distinguish recommendations inspired by the kind of 'risk society' thinking that Ulrich Beck and his followers endorsed, and recommendations that are aimed at improving rational, science-based risk management. These two perspectives reflect fundamentally different views on who should decide and how decisions should be made, and, ultimately, on the kind of society we should want. A consequence is that these perspectives result in tensions that are hard to reconcile. In the end, reconciliation requires political leadership and reconfirmation of constitutional government.

Prof Lucas Bergkamp, who is both a medical doctor and lawyer, is a partner in the Brussels office of the international law firm of Hunton & Williams and heads the firm's European regulatory practice. His practice focuses on issues at the interface of law, policy, and science. He has a broad experience in plant- and product-related environmental and health and safety law, and the relations between risk regulation and other areas of law, including administrative law and trade law. From 1997 until 2007, he was a Professor of Environmental Liability Law at Erasmus University Rotterdam, and currently teaches in the Energy, Environmental, and Climate Change Law program of the Universities of Leuven and Malta.

17:35 Discussant: Heldt

18:00 CONCLUDING REMARKS AND LESSONS TO TAKE HOME

18:15 *End of workshop*

19:00 *Informal dinner, The Mill Pub, across the River Cam at 14 Mill Ln (registration obligatory)*

SUNDAY, 6 MARCH 2016 OPTIONAL CULTURAL ACTIVITIES

08:30 until 14:00 *Brunch, Dining Hall (optional, included with rooms at Darwin)*

09:00 until dusk *Punt tours of Cambridge on the River Cam, Silver Bridge (GBP 14)*

13:00 *Photo Exhibition 'Living here in Fukushima - 3.11 and after', 1 Newnham Terrace*

15:30 *Evensong, King's College Chapel (free admission and choral service)*