The 9th Kobe University Brussels European Centre Symposium

Smart Cities, Secure Societies: Breakthroughs in EU and Japan Research Cooperation

Organised jointly with Vrije Universiteit Brussel

Wednesday 24 October 2018
Vrije Universiteit Brussels

SPEAKERS AND MODERATORS' BIOGRAPHIES AND ABSTRACTS

Opening 9:15-10:00
(U-Residence CONFERENCE ROOM A)

Moderator **Prof. Ken-ichi Yoshida**, Kobe University (Japan)
Opening Addresses **Prof. Hiroshi Takeda**, President, Kobe University (Japan)
Prof. Dr. Romain Meeusen, Vice-Rector for Internationalisation, Vrije Universiteit Brussel (Belgium)
H.E. Mr. Kazuo Kodama, Ambassador of Japan to the European Union (Japan)
Mr. Patrick Child, Deputy Director-General, DG RTD, European Commission (Belgium)

Parallel Session 1 10:00-13:30
(U-Residence CONFERENCE ROOM A)

RESEARCH AND INNOVATION FOR SECURE SOCIETIES
Theme 1: Security Challenges in a Changing World 10:00-11:35
Theme 2: Disaster-Resilient Societies 11:55-13:30

Parallel Session 2 10:00-13:30
(U-Residence CONFERENCE ROOM B)

SMART CITIES, SMART SOCIETIES
Theme 1: Smart Cities: Energy and Mobility 10:00-11:35
Theme 2: Smart Cities: Citizens,Users and Life 11:55-13:30

Parallel Session 3 10:00-13:30
(U-Residence CONFERENCE ROOM C)

BETWEEN ORIENT & OCCIDENT: CULTURAL MEMORY & CULTURAL
Theme 1: Historical Context 10:00-11:35
Theme 2: Contemporary Challenges 11:55-13:30

Interactive Workshops and Brokerage Events A 14:30-17:00
(U-Residence CONFERENCE ROOM A)

Evidence-based Disaster Medicine: how can technology improve the response?

Interactive Workshops and Brokerage Events B 14:30-17:00
(U-Residence CONFERENCE ROOM A)

Rethinking Mobility, Reinventing Cityspaces: Smart Technologies for Smarter and More Liveable Cities

Interactive Workshops and Brokerage Events C 14:30-17:00
(U-Residence CONFERENCE ROOM A)

Food, Culture and History: a Cultural/Culinary Anthropology of East-West Exchanges

Closing Remarks 18:00-18-15
(U-Residence CONFERENCE ROOM A)

Prof. Matsuto Ogawa, Vice-President, Kobe University (Japan)
Prof. Dr. Romain Meeusen, Vice-Rector, Vrije Universiteit Brussel (Belgium)

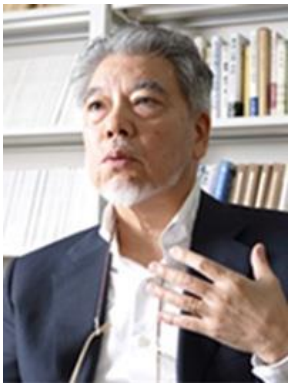
Organiser: Kobe University
Co-Organiser: Vrije Universiteit Brussel

PARALLEL SESSION 1 **10:00-13:30**

Room: CONFERENCE ROOM A

'RESEARCH AND INNOVATION FOR SECURE SOCIETIES'

Theme 1: Security Challenges in a Changing World



Prof. Kiyomitsu Yui **Moderator**

Executive Advisor to the President, Graduate School of Humanities, Kobe University (Japan)

Kiyomitsu Yui is Professor of Sociology at the Graduate School of Humanities, Executive Adviser to the President in Charge of International Collaboration, and Executive Director, Centre for EU Academic Collaboration, Kobe University. He has been a visiting scholar at Harvard University, and Asian Chair at Sciences Politiques Paris.

His main research subject is about sociological theory from G.H. Mead via T. Parsons to U. Beck. He is also interested in the process of modernization, second modernization, and popular culture in the comparative and global context. His publications include From 'This is Not a Pipe' to 'This is Not Fukushima': Global Disaster and Visual Communication, in The Consequences of Global Disasters, ed.by A. Elliott et.al.,2016, Routledge, and Multiple Modernities and Japan: Nagai Kafū and H.G. Wells, in New Steps in Japanese Studies, Ca' Foscari Japanese Studies Series 5, 2017.

Innovation of Higher Education and internationalization of Japanese Studies: the case of Kobe University

Prof. Kan Kimura

Director, Centre for Asian Academic Collaboration, Kobe University (Japan)

Professor Kan is a professor at the Graduate School of International Cooperation Studies, Kobe University and has previously been a visiting professor at Harvard University, the Australia National University, the Sejong Institute, and the University of Washington. He has published thirteen books and numerous articles and is an expert on the relationship between Korea (both North and South) and Japan.

Structural Change in Northeast Asia: Between Rising China and US Populism"

Northeast Asia is rapidly changing. North Korea suddenly changed their political stance and started negotiation with international society. The historical summit meeting between President Trump and Chairman Kim Jong-un is a result of this, and now the world is watching how their negotiation will change the Korean Peninsula situation.

However, such dramatic change in Korea is just a part of the structural change in Northeast Asia. Then how is the region changing and what are the reasons for this change? This presentation analyzes the changing situation in Northeast Asia by two elements: the rising of China and US populism.

Prof. Alexander Mattelaer

Institute for European Studies, Vrije Universiteit Brussel (Belgium)

Prof Dr Alexander Mattelaer is the director of the European Affairs programme at Egmont – the Royal Institute for International Relations – and an assistant professor at the Vrije Universiteit Brussel. His research interests include the politics of European integration, transatlantic relations, defence policy-making, and the ongoing redefinition of state sovereignty. Earlier he was the Assistant Director at the VUB Institute for European Studies as well as a Fulbright Schuman fellow at Harvard University and at the National Defense University. His teaching portfolio includes courses on the European Union, international security, and defence policy-making. He obtained his PhD in Political Science from the Vrije Universiteit Brussel and Master degrees from the University of Bath and the University of Leuven.

Europe-Japan relations beyond the post-Cold War period

During the period following the conclusion of the Cold War, the international system revolved around the expansion of multilateral institutions and the so-called rules-based order, which was ultimately underpinned by preponderant US power. With the 'unipolar moment' fading into history, however, the international system is entering a period of increasing tension and instability. As allies and trading partners of the US, European countries and Japan have largely benefitted from the past expansion of the 'liberal' rules-based order. Correspondingly, the crumbling of the latter would confront them with major economic, military and geopolitical challenges of their own. The rise of China and the domestic political developments within the US thus raise major questions for the future of the international system. In turn, this is prompting Japan and Europe to reflect on their own position in the world that lies beyond the 'post-Cold War' period. This paper paints an overview of European responses to the ongoing calibration of the international system. It does so with a view to exploring the question to what extent common interests and concerns can be found in Europe-Japan relations. The paper concludes with a set of observations on how the relationship between Japan and the European continent can be strengthened and consolidated.

Prof. Kristian Cedervall Lauta

Faculty of Law, University of Copenhagen (Denmark)

Kristian Cedervall Lauta is an Associate Professor at the Faculty of Law, University of Copenhagen and chairperson of the Copenhagen Center for Disaster Research (COPE). He is a leading expert within disaster law in general, the intersection of disasters and human rights in particular, and the main author of numerous international peer-reviewed articles and books on law and disaster risk. He is a member of the steering committee of the University of Copenhagen's Center for Sustainability Science and a co-PI of several international research projects, hereunder the H2020-project ESPREssO.

Overcoming obstacles for disaster prevention: Challenges and best practices from Europe and beyond

Over the last 30 years, societies have become increasingly efficient at managing natural hazards. Nevertheless, global vulnerability has increased dramatically because of population growth, urbanization and the increasing dependence on infrastructure. Europe is no exception in this regard. In order to reduce risks further in the future, Europe needs to address a new set of challenges.

"From management to governance" is an often used dictum, and is embodied in priority two of the Sendai Framework. This is increasingly becoming clear as the field of actors in disaster risk management is becoming larger and more complex, and as the private sector and civil society will play larger roles in the future, not least because of the focus on resilience. Disaster risk governance means using governance measures to support disaster risk management and risk reduction activities. Thus, rather than only addressing disasters by strengthening technical emergency capacities, disaster risk governance focuses on arranging, coordinating and organizing activities, priorities and strategies across all sectors and domains of society with the intent of reducing and managing disaster risks. The key message of the talk is how governance measures are needed to optimize disaster risk reduction, preparedness, prevention, response, and how such measures might look.

Prof. Piotr Kłodkowski
Centre for Comparative Studies of Civilisations, Jagiellonian University (Poland)

(born in 1964) Professor at the Centre for Comparative Studies of Civilisations of the Jagiellonian University in Cracow, Poland. A former diplomat and the Ambassador of Poland to India (2009-2014). A member of the Committee for Asia and Pacific, Ministry of Foreign Affairs, Poland, a member of the Advisory Board of "Muslim Perspectives" published by the Muslim Institute (Islamabad/London). In his research he focuses on international relations in South Asia and the Greater Middle East. From 2015 to 2017 he delivered lectures on South Asia at the NATO Defense College in Rome, and since January 2019 he is a Visiting Professor at the University of Rochester (USA).

The Issues of Political Security in South Asia and Its Implications for the EU and NATO

In the 21st century Asia is commonly believed to be a centre stage player in global policies. Although China and the United States are likely to dominate in the Asian Big Game for the next decade, other players, especially India, Japan, Indonesia, Vietnam or South Korea may exert a serious impact on the process of redefining the continental Realpolitik. The most crucial challenge for China and India is to meet their own energy security needs in the politically volatile environment, where the diversification options are quite limited. Beijing's plans to control the strategic transportation corridors on the Indian Ocean will be opposed by New Delhi, whose energy security depends to a large extent on the Middle East. Both Asian superpowers have clashing interests and ambitions in the region and both of them are ready to pursue their policies despite the vetoes of their mighty opponents. Another challenge that many Asian big players may face in the next decade is constructing a regional security mechanism which could prevent any serious military conflicts, especially in a situation when the American role in global affairs is likely to become more restrained.

Prof. Johanna Marta Guzik (on behalf of Prof. Adam Jelonek)
Institute of Middle and Far East Studies, Jagiellonian University (Poland))

Assistant Professor at the Institute of Middle and Far East Studies, Jagiellonian University in Krakow, Poland. Awarded MA and Philosophy Doctor from Jagiellonian University in 2004 and 2010, respectively. Since 2006 has been working at the Institute of Middle and Far East Studies, Jagiellonian University as a Lecturer and since 2011 as an Assistant Professor. In 2013 received a special award from JU Rector for her publication in Polish "Japan's policy towards Jewish issue 1932-1945". The research focuses on: contemporary Japanese society, Japan's social policy, Japanese minority policy, history of Japan, Korea – Japan relations, Poland, V4 and EU migration policy and multiculturalism.

Asia-born communities in Poland and the issue of crimes in 21st century committed by foreigners

The number of immigrants coming to Poland has been growing steadily posing a challenge not only in the sphere of cultural relations, but in security in general, especially when some individuals commit crimes. The scope of the acts against the law is vast ranging from offences and minor crimes to the serious ones. The presentations is designated to show the issue of crimes committed in Poland in the 21st century by foreigners with emphasis on Asia-born individuals.

Prof. Adam W. Jelonek
Institute of Middle and Far East Studies, Jagiellonian University (Poland)

Professor in Social Science (University of Warsaw). Ambassador Extraordinary and Plenipotentiary of Poland to Malaysia, Brunei and the Philippines during 2010-2014.

Director of the Institute of the Middle and Far East, Jagiellonian University in Krakow, 2005-2010, and from 2016. Rector's Representative for Internationalization, Jagiellonian University in Krakow from 2017.

Visiting Professor at Columbia University (US), Catholic University of Leuven (Belgium), Universiti Utara Malaysia, Nordic Institute for Asian Studies (Sweden) 2001, Beijing Academy of Social Science (China). His research focuses on sociology of social change and transformation, world system theory, dependency theories, political systems of South-East Asia, political anthropology of South-East Asia.

Foreign Migrants to Poland as an Entrepreneurs. Case of the Asian-born Communities.

According to the UN data, there are more than 210 million of international migrants in the world today, and their number is growing. This constant process of international migration is one of the most important challenges of our times, as seen from political, economic and social perspectives of both – host and home countries. Immigrants establish families, participate in political life, create networks, work, or create jobs for others. This is why, entrepreneurship of immigrants is one of the important aspects of migration, and a research area that attracts growing attention of scholars and policy makers from around the world. Recently, the economic side of immigration has also become one of the key issues for public institutions and policy makers in Poland. The presentation focuses on the current situation of selected Asian-born communities in Poland, with special attention given to their entrepreneurship.

Prof. Hiroshi Okumura
Graduate School of Humanities, Kobe University (Japan)

Dean of the Graduate School of Humanities, Kobe University, Japan. His research focuses on Japanese Modern History and Historical Materials Study. Commissioner of the National Task Force for the Japanese Cultural Heritage Disaster Risk Mitigation Network.

"Memory" preservation activities in disaster areas and its significance: From Hanshin-Awaji Earthquake to the Great East Japan Earthquake

This presentation is made based on "memory" preservation activities in disaster areas from the Hanshin-Awaji Earthquake in 1995 to the Great East Japan Earthquake in 2011. In an area hit by a large-scale disaster, there are two types of recoveries the community there should pursue: one is the recovery of hardware (such as rebuilding houses) the other is recovery of software, which is to recover the culture underlying the community. The community culture is based on historical records, documents, and memory. Therefore, to keep the memory of disaster areas, two kinds of preservation activities are possible. The first one is to 'rescue' and preserve damaged old documents and books, as well as memory of families and individuals. The second one is to collect and preserve records about the recovery process in disaster areas.

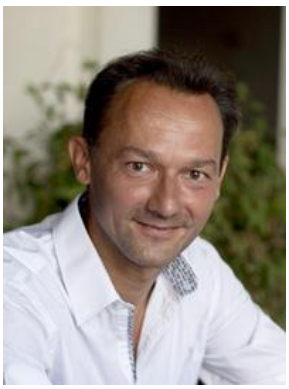
Prof. Dr. Ives Hubloue **Moderator**

Department of Emergency Medicine UZ Brussel and Research Group on Emergency and Disaster Medicine, Vrije Universiteit Brussel (Belgium)

Chair of the Department of Emergency Medicine of the Universitair Ziekenhuis Brussel (UZ Brussel) and of the Research Group on Emergency and Disaster Medicine at the Medical School of the Vrije Universiteit Brussel (ReGEDiM Brussels). He graduated in Medicine at the Vrije Universiteit Brussel (Belgium) in 1988 and started a residency in Internal Medicine (finished in 1993) followed by a training in emergency, intensive care and disaster medicine (finished in 1995). In 2003 he obtained his PhD in Medical Sciences. As a full professor at the medical school of the Vrije Universiteit Brussel he is involved in the teaching program for medical students (graduate). He is also the program director for the residency training in emergency medicine training (postgraduate) at the Vrije Universiteit Brussel. Besides this he is a Faculty member and Chair of the Strategic Management Board of the European Master in Disaster Medicine (EMDM, www.dismedmaster.com) course.

Saving lives: the use of new technologies in disaster medical response

Thousands of people are killed every year in natural and man-made disasters. Preparedness, response, recovery and mitigation are widely accepted steps of the disaster management cycle and are designed to aid emergency managers to plan for and minimize the impact of major incidents. More and more Emergency Medical Teams are relying on technologies to conduct their rescue missions and help those who have been affected. For instance, drones and robots have been used to locate survivors and transmit information to emergency teams. They have also been used to drop humanitarian aid. Not only in the response phase but also in the preparedness phase of disasters technology is playing a crucial role. For example fatalities from natural disasters can be reduced if the disaster can be predicted and advance warning given to people in the danger zone. Several disaster prediction technologies have been developed over the years (ex. Wildfire Prediction, Flood Prediction, Earthquake Prediction). A brief overview of some of these new technologies will be presented.



Dr. Gerlant van Berlaer

Department of Emergency Medicine UZ Brussel and Research Group on Emergency and Disaster Medicine, Vrije Universiteit Brussel (Belgium)

Gerlant van Berlaer is a pediatric emergency physician, pediatric intensivist and master in disaster medicine. He is Chief of Clinic for Pediatric Critical Care at the University Hospital in Brussels, Belgium. He is lecturer at the Medical Faculty of the Brussels University and for the European Master in Disaster Medicine, and participated in Humanitarian Medical Aid in Banda Aceh, Gaza, Haiti and Switzerland. He is member of the Research Group on Emergency and Disaster Medicine, course director for (Prehospital)Advanced Pediatric Life Support and invited Professor at several University Associations in Belgium. He obtained his PhD in Disaster Medicine in 2017 with a dissertation on "Disaster and humanitarian emergency response: the importance of field medical data registration". Next to that he was foster father of five, father of two, elected City Council member in his home town Grimbergen in Belgium and founder of PICARO (Pediatric International Catastrophe Aid and Relief Organization) that built the first earthquake proof schools in Haiti.

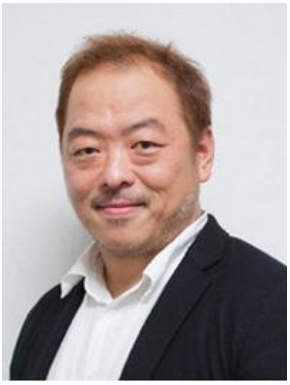
Building disaster-resilient societies: the role of technology, data-gathering and research

The importance of (new) technologies in facilitating the gathering of data at all levels cannot be overestimated, but we must make sure all developments enhance knowledge that can be used to improve preparedness and response, resilience of disaster-prone countries, in order to be of benefit to the affected populations.

User-based and –friendly developed technology must allow field health workers in and from all over the globe to collect data without interfering with their first priority: caring for and treating patients under time restraints.

Nevertheless, those data are needed for different reasons: timely surveillance, accountability of emergency medical team personnel, professionalization and improvement of team composition and the accuracy of drugs and materials and logistics during emergency humanitarian interventions, building resilience in disaster-prone countries and regions, mitigation, for training and simulation purposes, and for scientific research aiming to improve the humanitarian response.

The final goal is to make the need for international EMT's fade, as the focus shifts towards building local preparedness and resilience, allowing regions at risk to be optimally prepared for most sudden or unexpected events.



Prof. Osamu Tsukihashi
Graduate School of Engineering, Kobe University (Japan)

Associate Professor at Graduate School of Engineering, Kobe University, Japan. Awarded The Prize of AIJ 2015 from Architectural Institute of Japan, and D. of Eng. from Kobe University, Japan, in 2014. After working for the Tohoku Institute of Technology as a lecturer, joined Kobe University as an academic member. His research focuses on Architecture and Urban Design. Deputy director of Kobe University Center for Resilient Design from 2017.

Lost Homes Project and Memories of Hometown

The Great East Japan Earthquake destroyed many towns and villages in seconds at the coastal area of the Pacific Ocean in the Tohoku area, Japan on March 11, 2011.

"Lost Homes Project", aims to restore lost towns and villages by 1:500 scale models in order to inherit and preserve memories accumulated in local scenery, environment and life. Volunteer architecture students throughout Japan make the models to represent the lost towns which existed on the land before.

"Town of Memories Workshop" aims to construct models of "Town of Memories" with memories of victims of the disaster. Bringing blank, white architectural models to the venues of workshop, we ask local participants of the workshop about the memories they remember by seeing the models. Then, we describe their memories on the models. Remarks on memories about towns, told by the participants through the models, are registered as "tweets", which turn into "Memory Flags" and add colors on the models. The scenery of a town of memories is formed gradually by participants who can paint the models and comment on the models. The models make the locals remember the lost sceneries with a variety of memories, which do not appear on maps.

Prof. Akihiko Hokugo
Graduate School of Engineering, Kobe University
Director, Center for Resilient Design, Kobe University (Japan)

Professor at Graduate School of Engineering, Kobe University, Japan. Awarded Ph.D. from Kobe University, Japan, in 1985. After working for Institute for Fire Safety and Disaster Preparedness, Japan as a researcher, joined as Senior Researcher and Head of Smoke Control System Research, Building Research Institute, Ministry of Construction, Japan. From October 1997, he has been associate professor and professor of Kobe University. He has been conducting research activities on fire safety for urban & built environments and disaster risk management. His core areas of research include evacuation safety, with focus on the wide-scale urban evacuation of vulnerable people, such as infants, the elderly and persons with reduced mobility.

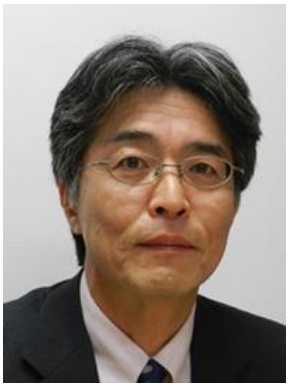
Designing inclusive disaster risk reduction in hyperaging society: assistive technologies to enhance community based disaster preparedness

On 11 March 2011, Japan was affected by one of the most destructive earthquake and tsunami ever recorded in the modern era. The 2011 Great East Japan Earthquake took place in the world's most hyperaging country, where one person in four is considered elderly: the earthquake, followed by a tsunami, resulted in about 16,000 casualties, of which 65% were 65 years and older, besides those who died while assisting their older relatives and neighbors in last-mile evacuation. Overall, elderly, infants and anyone with reduced mobility that needs special assistance for evacuation constitute what we could call as vulnerable people. Understanding the survival experiences of vulnerable people and their supporters is crucial to design more effective strategies for the evacuation safety based on inclusive disaster risk reduction priorities. In this presentation, we will discuss the potential of assistive technologies to enhance the resilience of community-based disaster preparedness, by addressing evacuation cases of vulnerable people that have been documented in recent disasters, and experimental cases of community-based evacuation drills by elderly and infants in urban environments, as the results of research that aims for the development of a methodological model to evaluate the effectiveness of evacuation planning from coastal hazards.

PARALLEL SESSION 2 **10:00-13:00**

'SMART CITIES, SMART SOCIETIES' **Room: CONFERENCE ROOM B**

Theme 1: Smart Cities: Energy and Mobility



Prof. Hisashi Tamaki **Moderator**

Graduate School of System Informatics, Kobe University (Japan)

Hisashi Tamaki received his B.E., M.E. and Ph.D. degrees in Electrical Engineering from Kyoto University in 1985, 1987 and 1993, respectively. From 1990 until 1995, he was with Kyoto University, Japan. Since 1995, he has been with Kobe University, Japan, and currently he is a Professor at the Graduate School of System Informatics. His research interests include system optimization, emergent computation and agent-based simulation. He is a member of IEEE, IEEJ, SICE, ISCIE and ISIJ.

Energy grids: Towards a self-sustainable decentralized energy systems

The renewal of conventional energy systems is an important countermeasure against global warming effects and natural disasters, and a self-sustainable decentralized energy system is one of the promising solutions for future sustainable and resilient societies. The "Nushima project" and the "Santica project", both of which have been supported by the Ministry of Environment, Japan, attempt to construct a prototype of a self-sustainable decentralized energy system based on DC power feeding and the utilization of renewable energy, and to investigate a system of controlling the air conditioning at underground shopping malls by understanding and predicting the environmental conditions using IoT technologies, respectively. In this presentation, the outline of the projects and the main results of the experiments are presented.

Prof. Chikara Ohta

Graduate School of Science, Technology and Innovation, Kobe University (Japan)

He received B.E., M.E. and Ph. D degrees in communication engineering from Osaka University in 1990, 1992 and 1995, respectively. After graduating, he worked at Gunma University and University of Tokushima. In Nov. 2002, he joined Kobe University. Since 2015, he has been a Professor of the Graduate School of System Informatics. Since April 2016, he has also been a Professor of the Graduate School of Science, Technology and Innovation. He was an Editor of the IEICE Trans. on Communications and an Editor-in-Chief of the IEICE Communications Express. His current research interests include wireless access networks and multi-hop wireless networks.

Efficient and reliable packet transfer protocol for wireless multi-hop bidirectional communications

Cyber-physical systems (CPS) are expected to play an important role to make cities smarter. CPSs are networked computational systems that interact with the physical world. One such example is intelligent energy-efficient buildings. Wireless multi-hop networks (WMNs) are networks which can connect devices deployed in a wide area thanks to packet relay functions. In this sense, WMNs could be an infrastructure for CPS. In CPS, bidirectional communications, e.g., those for sensing and actuating, can occur.

In this presentation, I would like to talk about our recent study on efficient and reliable packet transfer protocol for wireless multi-hop bidirectional communications. In the case of bidirectional communications in WMNs, there is a possibility that packet collision and retransmission owing to the hidden node problem decrease efficiency of throughput. To cope with this problem, we have proposed a packet transmission scheme named inter-flow network coding with a passive acknowledgment (IFNCPA). In this presentation, I would like to briefly explain the protocol of IFNCPA and the simulation results that were conducted to examine the effectiveness of IFNCPA in terms of the collection ratio and end-to-end delay.

Prof. Joeri Van Mierlo

Mobility, Logistics and Automotive Technology Research Centre, Vrije Universiteit Brussel (Belgium)

Prof. Dr. ir. Joeri Van Mierlo is a key player in the Electromobility scene. He is professor at the Vrije Universiteit Brussels, one of the top universities in this field.

Prof. Dr. ir. Joeri Van Mierlo leads the MOBI – Mobility, Logistics and automotive technology research centre (http://mobi.vub.ac.be) with a multidisciplinary and growing team of 100 staff members.

He is expert in the field of Electric and Hybrid vehicles (batteries, power converters, energy management simulations) as well as the environmental and economical comparison of vehicles with different drive trains and fuels (LCA, TCO).

Prof. Van Mierlo is Vice-president of AVERE (www.avere.org), the European Electric Vehicle Association. He chairs the EPE chapter "Hybrid and electric vehicles" (www.epe-association.org). He is an IEEE Senior Member.

He is the co-author of more than 500 scientific publications. He is editor in chief of the World Electric Vehicle Journal.

e-Mobility challenges and prospects

It is an exciting period of time, where the transition towards more sustainable mobility via the introduction of electric vehicles is taking place. What are the benefits and barriers for the e-mobility developments? Driving range, charging infrastructure availability and especially cost are perceived as important barriers for the market take-up of electric vehicles. Driving range is defined by o.a. battery performance. The challenge of infrastructure lies in the return on investment. And the cost will evolve by technological improvement, market take-up and in the meantime policy support.

The purchase price of electric vehicles is currently higher than that of conventional vehicles, however the driving cost is lower. Based on a Total Cost of ownership (TCO) different vehicle technologies can be compared.

How to compare the environmental performance of different vehicle technologies? Vehicles with lower tailpipe emissions are perceived as cleaner. However, does it make sense to look only to tailpipe emissions? Limiting the comparison only to these emissions denies the fact that there are emissions involved during the production of a fuel and the vehicle itself. Therefore, the complete life cycle (LCA) of the vehicle should be included in order to avoid problem shifting from one life stage to another.

Prof. Thierry Coosemans

Vrije Universiteit Brussel (Belgium)

Thierry Coosemans obtained his PhD in Engineering Sciences from Ghent University in 2006. After several years in the industry, he became a member of the MOBI research team at the VUB, where he works now as the 'Electric and Hybrid Vehicle' team leader. He is currently involved in the scientific support for the Green Energy Park Zellik, Flanders Make and had an active role in the Living Labs Electric Vehicles Flanders. On a European level, Thierry was and is involved in the H2020 and FP7 projects SafeDrive, OPERA4FEV, SuperLIB, Smart EV-VC, Batteries20202, GO4SEM, FIVEVB, ELIPTIC, MOBILITY4EU, COLHD, FUTURE-RADAR, OBELICS, REDIFUEL CEVOLVER and GO4SEM, which he coordinated. His main research interests are electric and hybrid propulsion systems, performances of electric-vehicle fleets under real-life conditions, including in a V2G perspective, as well as the development of CO2-neutral local energy systems. Thierry Coosemans is an active member of EARPA and EGVIA.

Electric Vehicles and Decentralized Energy Production: a Perfect Match

In order to meet the growing energy needs within the sustainable limits of the planet's natural resources and to mitigate climate change, energy systems are currently in transition towards more sustainable systems by accommodating higher percentages of renewable resources and evolving towards more distributed energy generation. To anticipate such changes, industry and market are looking for solutions for flexible electricity generation and balancing supply and demand. On the other hand, for similar reasons of climate change and local air quality, the transport is in transition towards electrification. Electrification of transport, which involves an integration into the electricity system, presents various challenges for the grid (such as variable grid demand, peak grid load) and for the users (such as range restrictions, cost), yet also has great potential to reduce GHG emissions. Considering that energy storage is costly on the one hand and considering that electric vehicles' battery capacity is unused for the largest part of the time, electric vehicles can be proposed as moving energy storage units that can be used for balancing the main electricity grid or local energy system (LES) in potentially an economical viable manner. However, to accustom such functionalities, both vehicles and chargers must be capable of variable and bi-directional power transmission and require intelligence and communication with the local grid operator, features that require further research. Moreover, user acceptance and business models regarding these functionalities are largely unknown, untested and uncertain in the already heavily scrutinized market of electric vehicles. The Green Energy Park in Zellik, an ambitious new project of the VUB in collaboration with the Brussels Health Campus will develop a living lab in which innovative V2G concepts will be implemented in real-life circumstances. The site comprises a local energy system including a thermal and an electric grid serving 70 companies. The potential of including an electric fleet in a sustainable energy management strategy will be assessed.

Prof. Cathy Macharis

Mobility, Logistics and Automotive Technology Research Centre, Vrije Universiteit Brussel (Belgium)

Cathy Macharis is Professor at the Vrije Universiteit Brussel. Her research group MOBI – (Mobility, Logistics and Automotive Technology) is an interdisciplinary group focusing on sustainable logistics, electric and hybrid vehicles and urban mobility. Her research focuses on how to include stakeholders within decision and evaluation processes in the field of transport and mobility. She has been involved in several regional, national and European research projects dealing with topics such as the implementation of innovative concepts for city distribution, assessment of policy measures in the field of logistics and sustainable mobility, development of a multi actor multi criteria analysis framework, etc. She published several books and wrote more than 100 papers. She is the chairwoman of Brussels Mobility Commission and vice-chair of Nectar (Network on European Communications and Transport Activities Research). Please visit our website: http://mobi.vub.ac.be/

Rethinking Mobility for a Human City

Several technological advancements have recently emerged that create new possibilities and will change our travel behaviour dramatically. At the same time mobility problems such as congestion and air pollution are on the rise due to urbanisation and other societal trends. The new technologies and mobility concepts, such as autonomous vehicles, ride-sourcing, mobility as a service or free-floating car sharing, all have a potentially considerable impact on how people and goods travel around in urban areas. While these new technologies provide new opportunities to tackle long-standing problems, they do not automatically lead to better liveability for everyone. The question is: how can we rethink mobility to create a human city? A city that is liveable and healthy for everyone; where it is pleasant to stay or visit; where human activities are supported by a mobility system and not vice versa, i.e. it is not the mobility system that defines how people should live. How can we achieve new technologies that are answering real problems rather than being promoted out of commercial interest or generating unnecessary needs that are counterproductive? Autonomous vehicles, for example, may lead to more travel demand and longer trips promoting urban sprawl; unfavourable modal shift from active modes and public transport to individual vehicles. Mobility as a service may well be the future of multimodal transport systems, but at the same time, without sound regulation, it may actually lead to a less accessible transport system for specific population segments (low-income, digitally illiterate). This presentation will highlight how new concepts and innovations should be combined with accompanying regulatory and policy frameworks to ensure that the smart city of the future will indeed be a human city. We propose the concept of the 5Ps for a human city: proximity, place for humans, prosperity for all, participation and finally passion. We review the potential inhuman aspects of recent technological and other innovations (e.g. autonomous vehicles, mobility as a service, internet and communication technologies, car-sharing, ride-sourcing [e.g. UBER]) through some recent examples and data and propose mitigation tools to create a human city. We argue that public policy and regulation can play a crucial role in ensuring that the citizens' interests are put in front of commercial and technological interests. In addition, the increasing role of digitalised public participation and crowdsourcing will play a crucial role in influencing urban development in the near future.

Prof. Zhi-wei Luo **Moderator**

Graduate School of System Informatics, Kobe University (Japan)

Zhiwei Luo received a B.S. degree in engineering from Huazhong University of Science and Technology in 1984 and obtained his Master and Doctoral Degree in Engineering at Nagoya University in 1991 and 1992, respectively. He is now a professor at the Graduate School of System Informatics, Kobe University and a guest professor of Zhejiang University. He was honored to be a Fellow of the Society of Instrument and Control Engineers (SICE) in Japan. He led basic research of bio-mimetic control systems at RIKEN, and developed the world's first human care robot RI-MAN, which was selected by TIME magazine as the Best Invention of 2006. Now, he is promoting health engineering, such as robots for human rehabilitation and virtual reality technologies for evaluating human high order cognitive functions in everyday life. He is pushing a new research field called computational robotics to study super redundant biologic motor control functions and human-robot interface.

Systematic Innovation of Health Robotics for Aging Society

Following the industry revolution and modernization, we are now facing the serious challenge of an aging society. Modern science and technology greatly enriched our social life and changed our viewpoints and values. Aging society will make us aware of the importance of health and social environment, and thus promote the huge market for health engineering and health services. Facing the aging society, robotics will not only increase their effort in manufacturing, but also contribute to health, medical and social welfare directly in homes and in the street, in turn changing our lives and even social economy and culture. The Health Renaissance Century is coming. This talk first introduces the development of human care robot RI-MAN, and then proposes to construct a systematic innovation platform for health robots and scientific evaluation systems. The talk then presents a systematic structure as well as examples of health robotics and their applications.

Prof. Nobutada Fujii

Graduate School of System Informatics, Kobe University (Japan)

Nobutada Fujii received his B.Eng. and M.Eng. degrees from Kobe University, and D.Eng. degree from The University of Tokyo, respectively. He is an associate professor at the Graduate School of System Informatics, Kobe University, after being a member of Kobe University and The University of Tokyo working as a Research Fellow of the JSPS, a research associate and an associate professor. His major research topics are about Autonomous De-centralized Manufacturing Systems, Emergent Synthesis, Service Engineering and Open Innovation.

Urban design through the festival
- A platform for research and education -

A brand-new festival "078", Zero-Nana-Hachi in Japanese pronunciation, started last year in Kobe to create a new platform for research and education where new methodologies can emerge for urban design. "078" consists of seven domains: music, film, interactive, fashion, food, kids and anime. However, the festival is not a simple aggregation of predefined events; cross or trans-disciplinary fields can be created, for example new cross-domains of music and ICT can be established. This type of new-style festival is not only a stimulus to enhance the urban life-style of citizens but also an experimental platform for research and

education. New ideas can be created by crossing domain knowledge or applying the latest results to other domains. In turn, the created idea can be also revealed or tested at the field of the festival.

In the presentation, how to use and apply such festivals to design the urban life-style is discussed. The relationship between the festival and ideathon in the university class, which is a new style of workshop, is also discussed from the viewpoints of open innovation, education and research.

Dipl.-Ing. Dipl.-Wirt.Ing.Annegret Klein-Hessling
ISEA – RWTH Aachen University (Germany)

Annegret Klein-Hessling was born in Germany in 1986. She received her Diploma degree in electrical engineering and her Diploma degree in industrial engineering from the RWTH Aachen University, Germany, in 2012. Since October 2012, she has been working as a research associate at the Institute of Power Electronics and Electrical Drives (ISEA) at the RWTH Aachen University, Germany. In 2018, Annegret successfully completed her PhD studies and started as a chief engineer at ISEA. Her research interests include the field of electrical drives and their control.

Fast Charging Ready?
Infrastructure, Topologies and Key Enabling Components

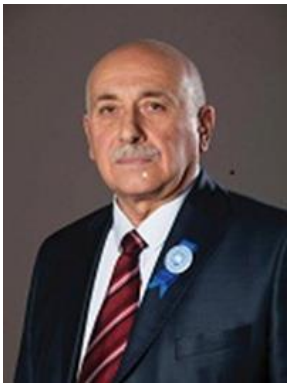
From the perspective of OEMs and users, fast charging is seen as an option to make electric vehicles a 100% alternative to todays' conventional cars. In the presentation, we will analyze typical use pattern of vehicles to identify the possible demand for fast charging. This results in the demand and technology for fast charging infrastructure. Furthermore, the impact of fast charging on the design and lifetime of batteries is discussed. The second part of the presentation covers the impact on the grid infrastructure in urban environments. In particular, in an urban environment, the installation of fast or high-power charging stations is challenging. Different solutions for ac distribution grids are presented and compared to modern multi-terminal dc links concepts. Lastly, the impact of fast charging on the electrical drivetrain is discussed.

Theme 1: Historical Context

Prof. Hiroko Masumoto **Moderator**
Kobe University (Japan)

Professor of Graduate School of Humanities and Professor of German studies at Kobe University. Awarded MA and PhD from Hiroshima University, Japan. Visiting Scholar with "Swiss Government Excellence Scholarships for Foreign Scholars" at Bern University, Switzerland from 1994 to 1995. After working at Himeji Dokkyo University, Japan, from 1987 to 2007, joined Kobe University as an academic member. My research focuses on modern and contemporary German literature.

Prof. Marc Jacobs
Vrije Universiteit Brussel (Belgium)



Prof. Vakhtang Licheli
Faculty of Humanities, Tbilisi State University (Georgia)

2017: Lectures in Ca Foscari University, Italy (invited Prof.)
2015: Lectures in Innsbruck University, Austria (invited Prof.)
2013: Lectures in Leiden University, Netherlands (invited Prof.)
2011: Lectures in Innsbruck University, Austria (invited Prof.)
2011-present: Director of Institute of Archaeology, Ivane Javakhishvili Tbilisi State University
2007-2011: Director of Institute of Archaeology and Ethnology, Ivane Javakhishvili Tbilisi State University.
2002-2005: Lecturer of the Faculty of History, Ivane Javakhishvili Tbilisi State University.

Unknown script of 10thC BC from Central Transcaucasia as a result of international communication

The Grakliani Hill settlement and necropolis are situated in the central part of the South Caucasus, in Georgia. Chronology of site: 1. The Paleolithic Age. 2. Calcholitic Age. 3. Early Bronze Age. 4. Late Bronze/Early Iron Age. 5. The "Developed" Iron Age (the 8th-7th centuries BC). 6. The 6th century BC. 7. The 5th-4th centuries BC. 8. The 4th-3rd centuries BC. 9. The 3rd-2nd centuries BC. 10. The 2nd-1st centuries. 11. 3rd-4th centuries AD.

On the third terrace of Grakliani Hill in the sanctuary of 10th c BC two signs of different scripts were discovered: the "A inscription" preserved on the western altar and the "B inscription" in the central part of the building.

It seems that the "B inscription" is one of the local versions of Aramaic script (first time discovered on the territory of Caucasia).

Letters of the "A inscription" totally differ from the "B inscription".

Those inscriptions are the most northern samples of writing of the first half of 1st mill. BC, clearly showing intensive relations with neighboring countries.

Prof. Akira Furuichi

Graduate School of Humanities and Faculty of Letters, Kobe University (Japan)

Associate Professor at Graduate School of Humanities and Faculty of Letters, Kobe University, Japan. PhD from Osaka City University, Japan in 2004. After working for Osaka Museum of History as curator and for Hanazono University as associate professor and lecturer, he joined Kobe University as an academic faculty member. His research focuses on issues of political authority and state formation, architectural expressions of authority, and debates over the nature of state authority, with particular focus on the ancient Japan.

State Formation and International Relations in Ancient Japan

The Japanese Archipelago received not only the influence of the cultures from the Chinese continent or Korean Peninsula, but also that of elements like Buddhism, which originated in India. The present presentation will focus on the development of the Japanese national state from the 3rd to the 7th centuries, with an emphasis on specific, as well as imported elements.

Starting from the existence of the monumental key-hole shaped tombs (3rd century), there are views that emphasize the despotic character of Wa, Japan; however, the tombs and the shared funerary rites simply indicate the existence of political alliances. The relationships between the central ruling group and the power-holding factions from various territories were unstable, and the power of the emperor was not that of an authoritarian ruler.

In the 6th century, a new royal line, with a much wider support, started to promote the unification of society in Wa. However, the rights and interests in the Korean Peninsula were gradually lost. The creation of an authoritarian power of the ruler of Wa, and the introduction of such a governing system were greatly influenced by the Korean states. Moreover, Buddhism was used as a tool to unify the political system in the Wa society.

Mr. Oscar Wrenn

Master Student, Sainsbury Institute for the Study of Japanese Arts and Cultures, University of East Anglia (United Kingdom)

Studied social anthropology at the London School of Economics between 2011 and 2014, before spending three years as an English teacher in a rural community in Kagoshima, Japan. Has spent the last year in the Centre for Archaeology and Heritage at the Sainsbury Institute for the Study of Japanese Arts and Cultures, working on a number of different projects relating to Japanese archeology, and the connections between the cultural heritage of the UK and Japan. Is currently studying for an MA in International Development at the University of East Anglia.

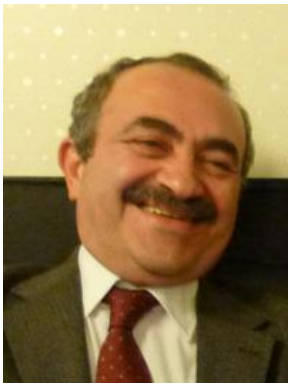
Cultural Memory, World Heritage and the Universal Value of Japan's Sacred Heritage

One of the main justifications for the inclusion of the 'Sacred Island of Okinoshima and Associated Sites in the Munakata Region' on the UNESCO World Heritage List in 2017, was that it is regarded as testimony to the exceptional continuity of tradition embodied in the component parts of the nominated property. This paper will set this nomination in the context of the role that such sacred sites play in Japanese cultural memory. To this end, we briefly review other sacred World Heritage sites in Japan and consider some of the challenges such designation can bring. We conclude with some proposals for enhanced comparative research that places such sites in a global setting.

Prof. Yoshihiko Shiratori **Moderator**

Graduate School of Humanities, Kobe University (Japan)

Professor of Sociology at Graduate School of Humanities, Kobe University, Japan. After studying at Kyoto University, Tokyo University and University of Paris, I, being granted a Research Fellowship for Young Scientists of Japan Society for Promotion of Science, and working for Sugiyama Jogakuen University, joined Kobe University as an academic member. My research focuses on History of sociology, French sociology and Higher education.



Prof. Alexander Kartozia

Faculty of Humanities, Tbilisi State University (Georgia)

2013- Full Professor, Faculty of Humanities, Ivane Javakhishvili Tbilisi State University
2005-20012 Visiting Professor, Faculty of Cultural Studies, European University Viadrina Frankfurt (Oder)
1998-2004 Minister of Education of Georgia
1997-1998 Director of the National Library of Georgia
1989-1997 Head of the Chair of German Philology, Tbilisi State University
1986-1989 Researcher, Experimental Phonetics Laboratory, Tbilisi State University
Research Fellow of the Alexander von Humboldt Foundation (1994-1995; 2005)
Research Fellow of the Thyssen Foundation (2007-2008)
His research focuses on Translation Studies, Caucasian Studies, Cultural Studies, Linguistics and Germanistics.

Tracing Keywords. An Insight into the Georgian Culture

After Raymond Williams' "Keywords: a Vocabulary of Culture and Society" keyword became one of the central terms (just keywords) of the Cultural Studies. The Oxford English Dictionary defines Keyword as a word serving as a key to a cipher or a word that is of great importance or significance. In any national culture keywords can be found. Usually they are considered as untranslatable and thus incomprehensible for others. A well-known example of a keyword is the Portuguese 'saudade': "Saudade – only Portuguese people can feel it, because only Portuguese people own this word" (Fernando Pessoa).

A study of keywords shows that they – at least quite a number of them – are borrowings from other languages.

Tracing the origin of "borrowed keywords" in Georgian, the presentation describes cases both of "falsifying" of a word history via folk etymology and of "reinterpretation" of keywords via using them in modern cultural context.

Prof. Toshio Miyake
Department of Asian and North African Studies, Ca' Foscari University of Venice (Italy)

Associate professor at the Department of Asian and North African Studies, Ca' Foscari University of Venice. After receiving a Phd in Asian Studies at Ca' Foscari University (2005), he conducted fieldwork on Japanese popular cultures and representations of Italy in Japan (JSPS Postdoc fellow, Kyoto University) and in Italy (Marie Curie fellow, Ca' Foscari University). His main research interests are in Occidentalism, Orientalism, and self-Orientalism in Italy/Europe–Japan/Asia relations. He is the author of monographs on the representations of the "West" (Occidentalismi, 2010) and on monsters (Mostri del Giappone, 2014) in modern and contemporary Japan.

Is Japan 'East' or 'West'? Civilization, Nation and Race in Fascist Italy

This talk will address Orientalism of Japan in modern and Fascist Italy in order to explore its relation with the specific construction of Italian, European and 'Western' identity. Moreover, it will address the intertwined process of Occidentalism, Orientalism and self-Orientalism (A. Gramsci 1929-35, F. Coronil 1996, Miyake 2014). Particular attention will be paid to the implications of this process in terms of cumulative intersection of heterogeneous identification and othering categories: civilization ('West/East'), region ('Europe/Asia'), nation ('Italy/Japan'), race/ethnicity ('white/yellow').

The overall aim is not only to offer a contribution to a historical investigation of how issues of nation, culture and race have framed the ideas of the 'Japan' and the 'East' in modern Italy, but also to stimulate a more critical understanding of the theoretical and methodological assumptions naturalizing past (and present) discourses and memories about the 'West', the 'East', 'Italy' and 'Japan'.

Prof. Andreas Regelsberger
Department of Japanese Studies, Trier University (Germany)

Professor of Japanese studies at Trier University, Germany. Awarded Magister and PhD from Hamburg University, Germany in 2003 and 2008, respectively. After working for Hamburg University as a research and teaching assistant, joined Trier University as an academic member. Worked as visiting professor at Western Michigan University, Kalamazoo from 2012 to 2014. Returned to Trier University in 2014 as professor. His research focuses on Japanese theater, pre-modern Japanese literature and contemporary Japanese poetry.

Theatre histories East-West: The construction of identities

During the Edo period (1603-1868) the classical nō drama became the official theatre of the shogunate (shikigaku) and in Europe in the period of nation states during the second half of the 19th century theatre played a crucial role in many countries such as Germany and Italy but also in France, England and Spain. After the opening of Japan in the Meiji period (1868-1912) several attempts have been made to modernize theatre and to foster the idea of a national theatre. In my paper I would like to tackle the construction of national identity in theatre(s) in Japan and some European countries and how aesthetic ideas were transferred into national concepts.

Prof. Anne Sauvagnargues
Department of Philosophy, University Paris Nanterre (France)

Full Professor at Paris West University in 2010, Chair of the Department of Philosophy from 2011 to 2015, Associate Professor in Philosophy of Art at the ENS Lyon in 2003: Habilitation, in 2008, and thesis, Aesthetics and Philosophy in the Work of Gilles Deleuze in 2003, cum laude. Actively engaged in international research in contemporary French philosophy on Deleuze, Guattari, Simondon, and Foucault, I am also involved in the relations between French and German aesthetics since the 18th century, and the anthropological turn of Western metaphysics, and published numerous works, including Deleuze and Art (Bloomsbury 2013), Artmachines: Deleuze, Simondon (Edinburgh UP 2016), and Deleuze. L'empirisme transcendental (PUF, 2010, forthcoming in English).

Deterritorialisierung – Deterritorialization. Towards a New Ecological Encounter between East and West

Deterritorialisierung – deterritorialization. Towards a New Ecological Encounter between East and West

How can the concept of deterritorialization help us to conceive relationship between Orient and Occident? I will introduce some key concepts in contemporary French philosophy – such as Deleuze's deterritorialization, or Simondon's and Augustin Berque's conceptions of milieu – in order to understand cultural relationship not only in terms of dialectical confrontation or metaphysical understanding, but as an ecological encounter. From this Western point of view, this encounter has played a role of orientation, forcing us to think beyond our traditionally binary concepts, such as nature and culture, subject and object, East and West. I will argue that the figure of Japanese thought (philosophy and art) played a crucial role to open up a conception of subjectivity not only centred on humans nor limited to Europe, that may be of utmost importance in the age of anthropocene.

Prof. Ives Hubloue **Session producer/leader**
Vrije Universiteit Brussel (Belgium)

Prof. Hakan Altintas
Haceteppe University (Turkey)

Mr Gino Claes
Federal Public Service Health (Belgium)

Mr Anthony De Backer
Federal Public Service Health (Belgium)

Dr. Hilde De Clerck
Federal Public Service Health (Belgium)

Mr Frank de Jong
Vrije Universiteit Brussel (Belgium)

Ms Justine Debosschere
Federal Public Service Health (Belgium)

Ms Vanessa Debreyne
B-FAST Health Department, Federal Public Service Health (Belgium)

Dr.Trevor Jain
University of Prince Edward Island (Canada)

Ms Klara Leroy
Federal Public Service Health (Belgium)

Mr Raman Madan
Federal Public Service Health (Belgium)

Prof. Garik Markarian
Rinicom Ltd (United Kingdom)

Prof. Thomas Neumuth
University of Leipzig (Germany)

Dr. Ionut Olaru
SMURD (Romania)

Dr Raido Paasma
University of Tartu (Estonia)

Dr Alina Petrica
SMURD (Romania)

Prof. Akihiko Hokugo
Kobe University (Japan)

Dr. Marcelo Farah Dell'Aringa
CRIMEDIM – Università del Piemonte Orientale (Italy)

Prof. Osamu Tsukihashi
Graduate School of Engineering, Kobe University (Japan)

Dr. Harald Veen
International Committee of the Red Cross/WHO (Switzerland)

Dr Gerlant van Berlaer
Department of Emergency Medicine UZ Brussel and Research Group on Emergency and Disaster Medicine, Vrije Universiteit Brussel (Belgium)

Prof. Johan von Schreeb
Karolinska Institute (Sweden)

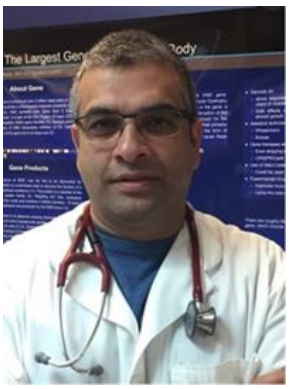
Ms Vanessa Debreyne

B-FAST Health Department, Federal Public Service Health (Belgium)

Vanessa Debreyne has been working at the Federal Public Service Health Belgium for twelve years, and since May 1st she's co-coordinating the project "EMT2". The aim of this project is to upgrade the field hospital of the FPS Health to an Emergency Medical Team Type 2 (EMT 2) that will be deployable as part of the European Emergency Response Capacity (EERC). The upgrade of the field hospital to an EMT 2 will run according to the Guidelines and Standards of the World Health Organization (WHO).

Besides this project, she's coordinating a number of projects for B-FAST (Belgian First Aid and Support Team), such as generic function, training for volunteers, and B-FAST interdepartmental.

Interactive workshop / Brokerage event: Evidence-based Disaster Medicine: how can technology improve the response?



Dr.Trevor Jain

University of Prince Edward Island (Canada)

Dr Jain graduated from Dalhousie medical school in 1999. After completing specialization in Emergency medicine he initiated and subsequently became the Director of Paramedicine Programs both at Holland College as well as University of Prince Edward. He completed his Masters in Disaster Medicine in 2013. He has over 30 years experience in the Army deploying to multiple locations and environments. He works at a Canadian provincial referral center as an Emergency Medicine Specialist. He is currently completing his PhD with a focus on Disaster Medicine. His current research is on the use of unmanned aerial vehicles by emergency medicinal services at mass casualty incidences.

Unmanned Aerial Vehicles within the disaster medicine framework

Introduction

The proliferation of unmanned aerial vehicles (UAV) technology has the potential to change the situational awareness of incident commanders. The aim of this study was to compare UAV to standard practice (SP) in hazard identification using paramedic students during a simulated MCI.

Methods

A randomized controlled study was conducted with twenty-one paramedic students randomized in an UAV group or SP group. All were given a lecture on UAV technology and scene hazards. Subjects entered a multi vehicle MCI scenario having been informed that there were 7 hazards to be identified. The UAV group remained at the UAV ground station while the standard practice group approached the scene. Time to identification and order of hazards was recorded.

Results

The mean time (SD, range) to identify the hazards were 3'41" (1'37", 1'48"-6'51") and 2'43" (55", 1'43"-4'38") in UAV and SP groups respectfully corresponding to a mean difference of 58"(P=0.11). A non parametric permutation test showed a significant (P=0.04) difference in the hazard identification order driven by two hazards; fuel and workplace hazardous material information system placard.

Conclusion

This study demonstrated no difference in time to hazard identification. A statistical difference in the order of hazard identification was identified.

Dr. Marcelo Farah Dell'Aringa
CRIMEDIM – Università del Piemonte Orientale (Italy)

Medical doctor, graduated from Universidade de São Paulo, Brazil (2008), he specialized in Intensive Care Medicine and worked as an intensivist at the Trauma ICU of the same University from 2014-2017. He is also a graduate of the European Master in Disaster Medicine (2016).

Since 2017, Marcelo works at the CRIMEDIM (Research Centre in Emergency and Disaster Medicine), in Italy, as a researcher and advisor in educational projects. He has been a collaborator in many educational projects held in Italy, India, Brazil and Portugal and his main fields of studies are the impact of disasters on health systems and disaster risk

Prof. Hisashi Tamaki **Session producer/leader**
Graduate School of System Informatics, Kobe University (Japan)

Prof. Zhi-wei Luo **Session producer/leader**
Graduate School of System Informatics, Kobe University (Japan)

Prof. Cathy Macharis
Mobility, Logistics and Automotive Technology Research Centre, Vrije Universiteit Brussel (Belgium)

Prof. Joeri van Mierlo **Session producer/leader**
Mobility, Logistics and Automotive Technology Research Centre, Vrije Universiteit Brussel (Belgium)

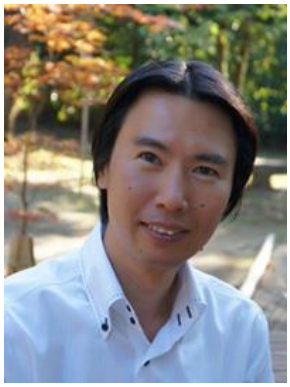
Prof. Takateru Urakubo
Graduate School of System Informatics, Kobe University (Japan)

Prof. Takeshi Uchitane
Center for Computational Social Science & Research Institute for Economics and Business Administration, Kobe University (Japan)

Prof. Sheng Cao
Graduate School of System Informatics, Kobe University (Japan)

Prof. Thierry Coosemans
Vrije Universiteit Brussel (Belgium)

Mr. Kenji Matsuno
Mission of Japan to the European Union (Japan)



Prof. Takateru Urakubo

Graduate School of System Informatics, Kobe University (Japan)

Dr. Takateru Urakubo received the B.E., M.E., and Ph.D. degrees in aeronautics and astronautics from Kyoto University, Kyoto, Japan, in 1996, 1998, and 2001, respectively. In 2001, he joined Kobe University, Kobe, Japan, as an Assistant Professor, where he is currently an Associate Professor with the Graduate School of System Informatics. From 2007 to 2009, he was a Visiting Research Scientist at Carnegie Mellon University, Pittsburgh, PA, USA. His current research interests include nonlinear dynamical systems, nonlinear control theory, and autonomous robots.

Development and Flight Test of a Tilt-rotor UAV

Unmanned Aerial Vehicles (UAVs) are expected to do many tasks such as inspection, surveillance, monitoring, transportation and delivery for making cities smarter. Although multirotor UAVs are widely spread, their flight speed is not so fast and their flight time is also limited due to the battery capacity. Tilt-rotor type UAVs can achieve the tasks in a wider range with a higher speed. By switching the flight mode between rotary-wing mode and fixed-wing mode, they have both the capability of vertical take-off and landing as rotary-wing aircraft and that of efficient high-speed cruise as fixed-wing aircraft.

We are currently developing a tilt-rotor UAV whose wingspan is about 2.0 [m]. In this poster, we present several prototypes of tilt-rotor UAV that we have developed so far, and their flight test results. A pair of coaxial rotors with a tilt mechanism is mounted in the fuselage of UAV to generate lift and propulsion. Three small rotors are installed in the front nose, left and right wing tips, to stabilize the attitude of UAV in hovering flight. In 2015, by using a prototype of the UAV, we performed its flight test successfully.

Prof. Takeshi Uchitane

Center for Computational Social Science & Research Institute for Economics and Business Administration, Kobe University (Japan)

Dr. Takeshi Uchitane received his Bachelor, Master, and Ph. D degrees from Osaka University in 2008, 2010, and 2013, respectively. After his graduation, he became a Postdoctoral Researcher in RIKEN Advanced Institute for Computational Science from April 1, 2013. He joined Kobe University on October 1, 2016 as Project Associate Professor and he joined CCSS – Centre for Computational Social Science in Kobe University at July 1, 2018. He was also a Visiting Scientist in RIKEN Advanced Institute for Computational Science from April 1, 2017.

He became a member of IEEE Computational Intelligence Society (CIS). He became a main developer of free software named "Organizing Assistant for Comprehensive and Interactive Simulations (OACIS)" which is a job management software for large scale simulations. His research interests include summarizing social phenomena via big social data analysis and executing large scale social simulations. He has published over 50 research articles in International Journals, Domestic Journals, International Conferences, and Domestic Conferences, and edited books.

Sensing Human Mobility on A Day-Event via Wi-Fi Probe Request Signals

According to population concentration to urban cities, it is strongly required to evaluate integrative city functions among electric power, human mobility and economic money flow both in the day-to-day and in some special event. However, it is difficult to build an integrated city model to treat various city functions, moreover it is also difficult to obtain social data per personal unit, although the amount of available data via the Internet is getting larger.

In the poster presentation, I introduce Wi-Fi probe-request signals as a social data per personal unit in urban cities. Recently, most people have mobile devices like smart phone and tablet PC. Such devices often broadcast the Wi-Fi probe-request signal in several minute cycles to find a new Wi-Fi router and to keep the network connection. Because the signal includes device IDs, it is possible to estimate not only the number of persons but existence time of certain persons on a near field of signal receiver position. This novel measurement method can find from 50% to 80% persons on a point. Moreover, gathering such data on several places on an event field, some interesting trend like a power-law distribution of person mobility, are found.

Prof. Sheng Cao
Graduate School of System Informatics, Kobe University (Japan)

Dr. Sheng Cao received his Ph.D. degree in 2017 from the Graduate School of System Informatics at Kobe University under the supervision of Dr. Zhiwei Luo.

He is mainly concerned with problems in system analysis and control, robotic rehabilitation, and biomechanics analysis.

Research on Human-Robot Interaction for Ageing Society

With the rapid development of aging society, the robot that can support our everyday life as well as care and rehabilitation so as to reduce care supporters' stress is highly anticipated. In order for the robot to perform these support tasks in our living environment, the interaction problem in human-robot cooperation task is required to be designed circumspectly.

In order to complete the specified task well in the human-robot interaction, it is necessary to estimate the object's physical parameter for robot's gesture control. For example, in research of nursing care robot, we estimate the human's center of gravity in full body manipulation in the physical care tasks with contact forces and contact points in the dual arm of robot.

The robot's safety is also required, which may even more serious than the industry robots in production lines. One of the most important properties of the robot's safety is its passivity. The control law of robot which make the robot satisfy its passivity can be established by considering two factors; one comes from the robot's time-varying desired position and another one comes from the robot's model uncertainties.

Last but not least, comfortable and high efficiency structure of robot for rehabilitation task is required. In recent years, cable-driven exoskeleton robots became popular to be researched as rehabilitation devices for their lightweight, low moving inertia, ease of the transformation and cheapness. We developed a control law considering the cable's tension constraint and making robots able to complete the tracking task and be passive.

Mr. Kenji Matsuno
Mission of Japan to the European Union (Japan)

Economic Attaché at the Mission of Japan to European Union. After graduating from Hitotsubashi University (BA, Social Sciences, focusing on administrative laws), he joined Ministry of Land, Transport, Infrastructure and Tourism of Japan where he engaged in policy development and coordination in various fields including urban development, real estate market, civil aviation and disaster risk management. He was awarded M.A (international relations and international economics) from Johns Hopkins School of Advanced International Studies.

Smart City- Japanese Policies and Cooperation with EU

Recent socio-economic challenges such as maintaining public services in ageing communities, labour shortages in various industries (healthcare, transport, construction, hospitality etc.), intensifying disasters and terrorism threats put more pressure on policymakers to come up with innovative solutions.

At the same time, the progress in automated vehicles, drones, sensing and other technologies has shown possibilities to provide solutions to these challenges.

Under such circumstances, policymakers in Japan and Europe have been keen in creating an environment where these new technologies can be put in place by developing regulatory frameworks, providing fields for pilot projects and other assistances.

Japan and Europe can develop better solutions by sharing experiences, technologies and other resources. In the session, I would like to provide a brief overview of recent policies in Japan related to the smart city and the status of cooperation between Japanese and European cities.

Prof. Hiroko Masumoto **Session producer/leader**
Kobe University (Japan)

Prof. Marc Jacobs
Vrije Universiteit Brussel (Belgium)

Dr. Rusdan Gorgiladze
Independent Scholar

Prof. Ken-ichi Yoshida
Graduate School of Science, Technology and Innovation, Kobe University (Japan)

Prof. Vakhtang Licheli
Faculty of Humanities, Tbilisi State University (Georgia)

Prof. Akira Furuichi
Graduate School of Humanities and Faculty of Letters, Kobe University (Japan)

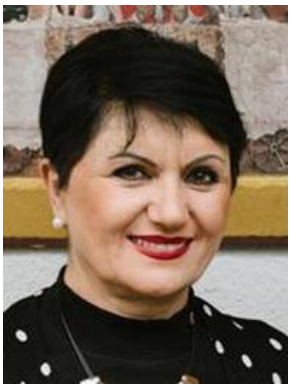
Prof. Toshio Miyake
Department of Asian and North African Studies, Ca' Foscari University of Venice (Italy)

Prof. Andreas Regelsberger
Department of Japanese Studies, Trier University (Germany)

Prof. Yoshihiko Shiratori
Graduate School of Humanities, Kobe University (Japan)

Prof. Anne Sauvagnargues
Department of Philosophy, University Paris Nanterre (France)

Mr Oscar Wrenn
Master Student, Sainsbury Institute for the Study of Japanese Arts and Cultures, University of East Anglia (United Kingdom)



Dr. Rusdan Gorgiladze
Independent Scholar

2011-present: Independent Scholar
2007-2010: Harvard Alumni Association (HAA), Regional Director for Eastern Europe
2005-2006: Consultant, UNESCO: International Institute for Educational Planning (IIEP),
2000-2004: First Deputy Minister of Education, Republic of Georgia
1998-2000: Head of International Public Relations Office, State Chancellery, Republic of Georgia
1996-1998: Fellow, Harvard University Weatherhead Center for International Affairs
1993 – 1998: Chief State Advisor to the President of the Republic of Georgia (E. Shevardnadze)
1981-1992: Neuropsychologist, Republican Clinical Hospital Tbilisi/Georgia
His research focuses on Cultural Studies, Food History

The Georgian Flavor and the Georgian 'Supra'

The presentation is about the cuisine and festive traditions of Georgia in the context of the world culinary culture.

Georgia is an integral part of the Near East, and throughout history it has experienced the influence of many cultures. The country has many unknown treasures, and one of its greatest is the Georgian flavor. We will follow the trail of the basic foodstuffs and spices used in Georgia to create this flavor.

The Georgian feast is a strictly ritualized performance where every detail is of importance: the amount of food and the abundance of dishes, their flavor, their color, their order of serving and their forms of presentation. But the Georgian feast, the 'supra', is not merely food and carefully selected wines. Besides being an almost sacred act of hospitality, it is a social gathering where everyone tries to display their wisdom and their benevolence towards their fellow-guests.

Prof. Ken-ichi Yoshida
Graduate School of Science, Technology and Innovation, Kobe University (Japan)

After a Master obtained at Kyoto University in 1989, he got the position of Assistant Professor at Fukuyama University in 1990 and obtained a PhD at Kyoto University in 1993. After a Post-Doc experience at INRA Jouy-en-Josas, France, from 1996 to 97, he moved to Kobe University in 2004 as Associate Professor, and was promoted to be Professor of Applied Microbiology in 2009. He has specialized in structural and functional genomics of bacteria including Bacillus subtilis and its relatives since the very beginning of his career to date. He was once awarded the prize for "Encouragement of Young Scientists" (2002) and twice the prize for "Excellent papers" from the Japan Society for Bioscience, Biotechnology, and Agrochemistry (2008 and 2014). He received the "Fermentation and metabolism research award" (2006) from Japan Bioindustry Association (JBA) and the prize from NAGASE Science Technology Foundation (2009). He served as a Program Officer (Scientific Research Senior Specialist) in the Research Promotion Bureau in Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT) (2005-2007). Currently, in addition to his full-professor position, he also serves as the executive director in Kobe University Brussels European Centre (2014 to date).

A global Japanese Icon: the tale of Japanese sake - history, culture, and technology.

Sake is an alcoholic drink made from fermented rice. Often referred to as “Nihonshu” in Japanese (to differentiate it from "sake" which in Japanese can also refer to alcohol in general), the drink enjoys widespread popularity and is served at all types of restaurants and drinking establishments. And as interest in Japanese cuisine has grown internationally, sake has started to become a trendy and recognizable drink around the world.

The foundations of good sake are quality rice, clean water, koji mold and yeast. They are combined and fermented in precise processes that have been refined over the centuries. Typically filtered (although unfiltered products are also available), the resulting clear to slightly yellowish rice wines have an alcohol content of around 15 percent and relatively mild flavor profiles, ranging from light and crisp to richer, more substantial, fruity notes. Sake pairs well with almost any kind of food but compliments the delicate flavors of traditional Japanese meals particularly well.

The purpose of this presentation is to introduce you the history, culture, and technology in Sake making. Additionally, an experience of Sake tasting will be kindly offered by one of our local producers, Kikumasamune.