



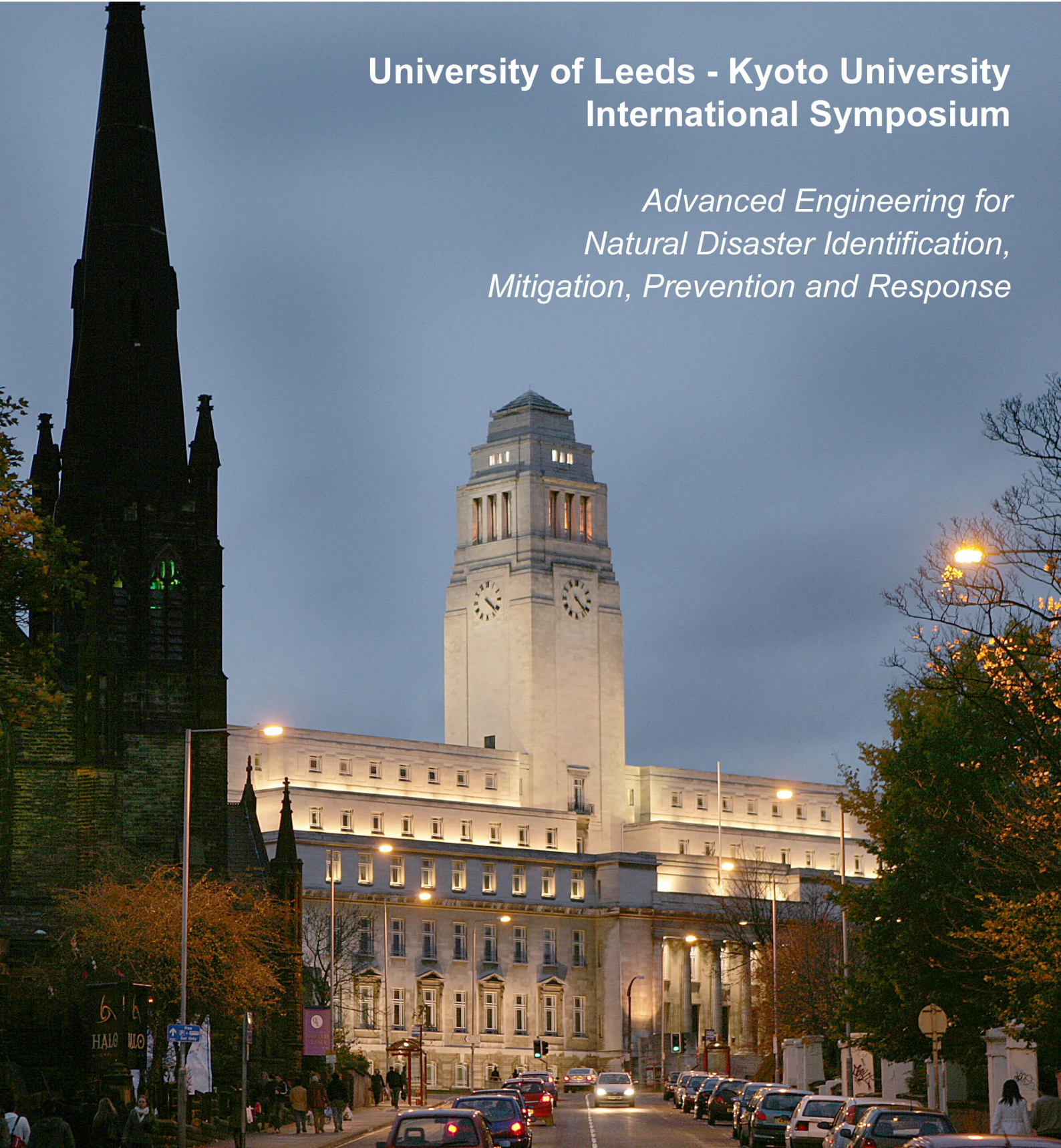
京都大学
KYOTO UNIVERSITY



UNIVERSITY OF LEEDS

University of Leeds - Kyoto University International Symposium

*Advanced Engineering for
Natural Disaster Identification,
Mitigation, Prevention and Response*



University of Leeds-Kyoto University
International Symposium:
**Advanced Engineering for Natural
Disaster Identification, Mitigation,
Prevention and Response**

17 – 19 September 2018
Leeds, UK

Organizing Committee:

Professor T. Sawaragi (Kyoto), Professor Hai-Sui Yu (Leeds),
Professor Y. Tachikawa (Kyoto), Dr Raul Fuentes (Leeds),
Dr Chiyoko Kanno (Kyoto), Dr Karen Steenson (Leeds).

Conference Organisers:

Kyoto University, Japan & University of Leeds, UK

University of Leeds- Kyoto University International Symposium:
**Advanced Engineering for Natural Disaster Identification,
Mitigation, Prevention and Response**
September 17 – 19, 2018, Weetwood Hall, Leeds, UK

General Information

The Faculty of Engineering is pleased to announce the first Leeds-Kyoto International Symposium on Advanced Engineering for Natural Disaster Identification, Mitigation, Prevention and Response. The Symposium will be held on 17th to 19th, September 2018, between Kyoto University and the University of Leeds, at Weetwood Hall.

Academic sessions held during the Symposium will include areas such as:

- Economics and Social Science;
- Robotics;
- Hydrology and Nature Based Solutions;
- Geotechnics and Structures; and,
- Remote sensing, Data Analytics and Artificial Intelligence.

The Symposium is one of a series, held by Kyoto University, to facilitate closer cooperation between institutions around the world and the University of Kyoto. This is the first time that the University of Leeds has taken part and it will assist the two Universities, to address strategic issues of common concern to both Japan and the United Kingdom.

Objectives

The objectives of the Symposium are to:

- Enhance research collaboration between the University of Leeds and Kyoto University in the fields of science and technology, especially, Civil and Mechanical Engineering for natural disaster identification, mitigation, prevention and response.
- The specific goals of the meeting will be: (1) to identify, draft and develop joint research projects; and, (2) to develop ideas for joint publications.
- Promote higher education collaboration working together with the RENKEI project.

University of Leeds

The University of Leeds is the third largest university in the Russell Group and has more than 33,000 students from 151 countries, and 7,800 staff. We help around 24,000 undergraduate and 9,000 postgraduate students reach their potential by learning alongside inspirational academics in a research-intensive environment. Our campus is a ten-minute walk from Leeds city centre, a vibrant, multicultural city, renowned as a centre for arts, sports, leisure, entertainment and nightlife. Students, researchers and staff also work on-site at St James's and Chapel Allerton hospitals in the city. The University of Leeds has a strong tradition – over 100 years of research and teaching excellence. It creates knowledge through research, disseminates it through student education and applies it to make a difference to society and the economy.

Kyoto University

Established in 1897, Koto University is the second oldest university in Japan and is one of seven national universities. Kyoto University is a comprehensive research university with a student body comprising ambitious young people from diverse cultural backgrounds who are pursuing studies in a wide variety of fields. The university's overall enrolment of 23,000 students includes approximately 2,000 international students from around 100 countries and regions throughout the world. The city of Kyoto is the capital of Kyoto Prefecture and was the Imperial Capital of Japan for over 1,000 years.

Programme

Arrival: Sunday 16th September 2018

Arrival, accommodation at Weetwood Hall, Leeds.

Day 1 and Day 2, Weetwood Hall

Day 1: Monday 17th September

08:45 – 09:00	Registration (Headingley Breakout)
09:00 - 09:45	Opening Ceremony (Cookridge Suite) Opening Address <i>Hai-Sui Yu, Deputy-Vice-Chancellor International, University of Leeds</i> <i>Kayo Inaba, Executive Vice-President for Gender Equality, International Affairs, and Public Relations, Kyoto University</i> Introduction to the University of Leeds and Kyoto University <i>Raul Fuentes, Pro Dean (International), Faculty of Engineering, University of Leeds</i> <i>Tetsuo Sarawagi, Vice-Dean, Graduate School of Engineering, Kyoto University</i> <u>Session 1</u> Introduction - Purpose and design of the workshop <i>Raul Fuentes (University of Leeds) and Yasuto Tachikawa (Kyoto University)</i>
09:45 - 10:00	<i>Tea/Coffee</i>
10:00 - 12:00	Keynote Lectures (30 minute + 10 discussion each) 1. "Novel design methods and strategies for seismic hazard mitigation". <i>Ioannis Anastasopoulos (ETH Zürich)</i> 2. "The inclusive approach to assessment of resilience of cultural heritage assets". <i>Roko Žarnić (University of Ljubljana)</i>
12:00 - 12:30	<u>Session 2</u> Introduction of participants <i>Raul Fuentes (University of Leeds) and Yasuto Tachikawa (Kyoto University)</i>

<u>Day 1: Monday 17th September</u>	
12:30 - 14:00	<i>Lunch (Woodland Suite)</i>
14:00 – 14:40	<p>Keynote Lecture (30 minute + 10 discussion)</p> <p>3. “On the role of agency in design of complex systems”</p> <p style="text-align: center;"><i>Sebastiaan Meijer (KTH Royal Institute of Technology)</i></p>
14:40 - 15:45	Interdisciplinary Session (Plenary Session)
15:45 - 16:00	<i>Tea/Coffee</i>
16:00 - 17:30	<p>Thematic Group Session for State-of-the-art review paper (Cookridge Suite and Moortown Room)</p> <p>Presentations and discussion.</p> <p>The purpose of this session is to draft the skeleton of a <i>Review paper</i> in each of the individual areas with a view to:</p> <ul style="list-style-type: none"> • Identify the state-of-the-art in each area. • Identify research gaps and need. • Rank the research needs in terms of importance to move the field forwards. • Identify needs for inter-disciplinary research in each area. <p>The session has been divided into different topics according to participants’ expertise. The areas covered will include:</p> <ul style="list-style-type: none"> • Robotics; Hydrology and Water resources; Geotechnics and Structures; Remote sensing; and, Design School (economics, sociology and data analytics), etc.
19:00	<i>Dinner (Jacobean Room)</i>

<u>Day 2: Tuesday 18th September</u>	
09:00 - 11:00	<p>Thematic Group Session for State-of-the-art review paper <i>continued</i> (Cookridge Suite and Moortown Room)</p> <p>Presentations and discussion.</p>
11:00 - 11:15	<i>Tea/Coffee</i>
11:15 - 12:30	<p>Thematic Group Sessions for summarizing the presentations and discussion.</p> <p>Each thematic group will report the presentations and discussion and we will identify potential ways to tackle the above research gaps together. The discussion summary may include:</p> <ul style="list-style-type: none"> • New collaborative research; academic exchange; new grants; new papers, etc. <p>Each group will make a summary of discussion in the distributed power point file and each thematic group leader will make a presentation in the wrap-up session.</p>
12:30 - 14:00	<i>Lunch (Woodland Suite)</i>
14:00 – 15:00	<p>RENKEI project: Kyoto University – University of Leeds collaboration (Cookridge Suite)</p> <p>Introduction of the RENKEI network</p> <p>Funding opportunities presentation (JSPS, Leeds, Kyoto)</p> <p>This session will provide information on the different existing funding mechanisms to promote combined research between Japan and the UK, and Kyoto and Leeds.</p> <p><i>Ms. Chika Itoi, Deputy Director and Ms. Ai Ozaki, International Programme Associate, JSPS, will be in attendance.</i></p>
15:00 – 15:45	<p>Interdisciplinary Session (Grand Challenges)</p> <p>The purpose of this session is to identify the Grand Challenges that require of a truly interdisciplinary approach to tackle them.</p>
15:45 - 16:00	<i>Tea/Coffee</i>
16:00 - 17:00	Wrap-up session (Cookridge Suite)
19:00	<i>Dinner</i>

Day 3: Wednesday 19th September

09:30	Coach from Weetwood Hall to Leeds University
10:00 – 13:15	Laboratory visits to the University of Leeds, including lunch
13:15 – 14:30	Travel to York
14:30 – 17:30	Sightseeing visit to York
17:30 – 18:30	Coach from York to Weetwood Hall, Leeds

Day 4: Thursday 20th September

Departure

CURRICULUM VITAE & RESEARCH INTERESTS



Kayo INABA

Executive Vice-President for Gender Equality,
International Affairs, and Public Relations
Kyoto University
Japan

Curriculum Vitae / Research Interests:

Education/Career

1973 Bachelor of Science, Nara Women's University, Japan
1975 Master of Science, Kyoto University, Japan
1978 Doctor of Science, Kyoto University, Japan

Research Interests: role of dendritic cells in the initiation and regulation of immune responses

Positions Held

2016–Present Guest Investigator, The Rockefeller University, New York
2014–Present Executive Vice-President for Gender Equality, International Affairs, and Public Relations, Kyoto University
2009–2013 Chairperson, Kyoto University Gender Equality Promotion Center 2009–2012
Assistant to the Vice President for General Affairs, Kyoto University
2007–Present Director, The Centre for Women Researchers, Kyoto University
2003–2005 Dean, Graduate School of Biostudies, Kyoto University
1999–2016 Visiting Professor, The Rockefeller University, New York
1999–2016 Professor, Graduate School of Biostudies, Kyoto University
1992–1999 Associate Professor, Graduate School of Science, Kyoto University
1986–1999 Visiting Associate Professor, The Rockefeller University, New York
1982–1986 Visiting Assistant Professor, The Rockefeller University, New York
1978–1992 Assistant Professor, Graduate School of Science, Kyoto University

Awards, Decorations, and Memberships

Feb. 2005 Outstanding Merit Award of the Journal of International Immunology
Mar. 2014 L'Oréal–UNESCO Award for Women in Science
July 2014 The Kyoto University Shishi Prize
Nov. 2014 The Akebono Prize (awarded to women who have made outstanding contributions to Kyoto Prefecture)
Dec. 2014 **Women Immunologist Award of the Japanese Society for Immunology (JSI)**
Nov. 2015 **Takeda Medical Prize**
Nov. 2016 **Medal with Purple Ribbon**

Board Member, The Japanese Society for Immunology

Vice-Chairperson, The Japanese Dendritic Cell Society
Member, The Society for Leukocyte Biology
Member, The New York Academy of Science
Member, The American Association of Immunologists

Publications

240 scientific papers in English in international journals
170 scientific papers in Japanese

Translator: *Exploring Immunology—Concepts and Evidence*, G. Gordon MacPherson, Jonathan M. Austyu, Tokyo Kagaku Dojin Co.Ltd., 2014



Hai-Sui YU

Deputy-Vice-Chancellor:
International

Professor of Geotechnical
Engineering

University of Leeds

Assistant: Sarah Touloupis
s.j.touloupis@adm.leeds.ac.uk

Curriculum Vitae / Research Interests:

Professor Yu leads on the development and delivery of the University's international strategy by working with teams across the University and stakeholders to boost the University's global profile and standing and generate research and educational opportunities with overseas partners. Professor Yu also holds the role of Professor of Geotechnical Engineering in the Faculty of Engineering.

Previously he was Pro-Vice-Chancellor (Global Engagement) and Professor of Geotechnical Engineering at the University of Nottingham, where he had overall responsibility for the University's international and global engagement strategy.

Professor Yu's research interest is in the field of geomechanics and geotechnical engineering, focussing particularly on theoretical and numerical modelling of geomaterials, micro-geomechanics, soil-structure interaction & foundation engineering, in-situ soil testing, and pavement & railway geotechnics. Throughout his academic career, Professor Yu has also worked with many leading institutions in the USA, Canada, Australia, New Zealand, China, Hong Kong, Taiwan, France, Austria, and Italy.

Professor Yu has published three books and over 240 refereed papers in leading international journals and conferences. He has successfully supervised many sponsored research projects and over 50 PhD students and postdoctoral research fellows. His research excellence is recognised internationally with many prestigious awards and prizes that he has received, which include the Telford Gold Medal of the Institution of Civil Engineers in 2000, the 1st James K Mitchell Lecturer of the International Society of Soil Mechanics and Geotechnical Engineering in 2004, the Outstanding Contribution Medal of the International Association of Computer Methods and Advances in Geomechanics in 2014, and the BGA Medal of the British Geotechnical Association (BGA) in 2015.

He was elected a Fellow of the Royal Academy of Engineering in 2011 for outstanding personal engineering achievement.

Organizing Committee:



Tetsuo SAWARAGI

Professor

Department of Mechanical Engineering and Science

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Tetsuo Sawaragi is a professor in the Dept. of Mechanical Engineering and Science in Kyoto University's Graduate School of Engineering. He received his B.S., M.S. and Ph.D. degrees in Systems Engineering from Kyoto University in 1981, 1983 and 1988, respectively. From 1991 to 1992, he was a visiting scholar in the Dept. of Engineering-Economic Systems of Stanford University. In addition to his professorship, he is currently in a position of Vice-Dean, Graduate School of Engineering, Kyoto University from 2017, and a member of Science Council of Japan (SCJ) from 2017. He is currently Vice-Chair of TC 4.5 on Human-Machine Systems (2011~) of IFAC and Vice-President of SICE (The Society of Instrument and Control Engineers, Japan). In the past, he was President of Human Interface Society, Japan, and President of ISCIE (The Institute of Systems, Control and Information Engineers, Japan). He is now engaged in the Program for Leading Graduate School of "Inter-Graduate School Program for Design Studies" that is an interdisciplinary education program on design attained by a collaboration of mechanical engineering, architectural engineering, informatics, psychology and management. This program is now being extended towards the center of excellence for nurturing Data-Centric Design innovators for the coming Super-Smart Society.

Research Interests:

He has been engaged in the researches on Systems Engineering, Cognitive Science and Artificial Intelligence, particularly in the development of human-machine collaborative systems including Human-Machine Interface design, Human-Robot Collaboration design, and design of Human-Centered Automation. His recent main interests are on the design of socio-technical systems and human-system co-creative risk management systems for establishing resilience against the disturbances.



Yasuto TACHIKAWA

Professor

Department of Civil and Earth Resources Engineering

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Prof. Yasuto Tachikawa works at Department of Civil and Earth Resources Engineering, Kyoto University in Japan. He received his doctor degree in the field of hydrology and water resources engineering at Kyoto University in 1996. He joined Kyoto University as a Research Associate of Faculty of Engineering in 1990; then an Associate Professor at Disaster Prevention Research Institute, Kyoto University in 1996; an Associate Professor at Graduate School of Engineering, Kyoto University in 2007; and Professor at Department of Civil and Earth Resources Engineering in 2013. Since 2014, he has been appointed as an Assistant to the Executive Vice President for International Affairs of Kyoto University.

Research Interests:

He specializes in hydrology and water resources engineering. His main expertise as a hydrologist is in the area of rainfall-runoff modeling and development of real-time flood prediction techniques. Hydrologic projections under a changing climate are also his interest. Recently, he and his group have worked for prediction of largest-class floods, non-stationary hydrologic frequency analysis, and development of a real-time flood stage prediction system using particle filters. Since 2014, He has been an Associate Editor of Journal of Hydrology. He serves as the Secretary of the Regional Steering Committee in Asia and the Pacific of UNESCO International Hydrological Programme since 2012, and was the vice-chairperson of UNESCO IHP Intergovernmental Council from June 2016 to June 2018.



Raul FUENTES

Associate Professor in Infrastructure Engineering

Pro-Dean International (Engineering)

School of Civil Engineering

University of Leeds

E-mail: r.fuentes@leeds.ac.uk

Curriculum Vitae:

Before joining the University of Leeds, Raul worked as a Lecturer in UCL, and previously in industry for companies like Atkins, May Gurney and Arup where he gained substantial experience in the planning, design and delivery of diverse civil engineering projects. He is still actively involved with practice acting as consultant in projects in the areas of instrumentation and monitoring, tunnelling and ground engineering.

After his arrival to Leeds he initiated the multi-Faculty collaboration with Prof Rob Richardson in the field of infrastructure robotics that eventually led to more funding, including the £4.2M Self-repairing Cities project.

He currently serves in the Board of Directors of the International Association for Automation and Robotics in Construction. He is past holder of a Royal Academy of Engineering / Leverhulme Senior Research Fellowship for 2016/17 and has involved in research projects with a value over £20M in his career.

Research Interests:

His interests can be divided into two distinct topics contributing to the overarching theme of Resilient Infrastructure:

1. "Disruptive technologies" - Robotics and Autonomous Systems, AI and Data Analytics, structural health monitoring and remote sensing.
2. "Flowing ground" and its interaction with structures - Landslides, geotechnical earthquake engineering, lateral spreading, liquefaction and soil erosion with a view to quantify their impact on the national infrastructure using complex soil-structure-fluid interaction methods.

INVITED SPEAKERS



Ioannis ANASTASOPOULOS

Professor of Geotechnical Engineering

Department of Civil, Environmental and Geomatic Engineering

ETH Zurich, Switzerland

E-mail: ixa@ethz.ch

Curriculum Vitae:

Prof. Ioannis Anastasopoulos has been Full Professor of Geotechnical Engineering at ETH Zurich since 2016. He specializes in geotechnical earthquake engineering and soil–structure interaction, combining numerical with experimental methods. He holds a PhD from the National Technical University of Athens (NTUA), an MSc from Purdue University, and a Civil Engineering Diploma from NTUA. He has been involved as a consultant in a variety of projects of significance in Europe, the US and the Middle East. His consulting work ranges from special seismic design of bridges, buildings, retaining walls, metro stations and tunnels, to harbour quay walls, and special design against faulting–induced deformation applying the methods he has developed. He currently serves as Associate Editor of *Frontiers in Earthquake Engineering*, and has sat on the panel of *Géotechnique* and of the *ICE Geotechnical Engineering Journal*. He is the inaugural recipient of the Young Researcher Award of the ISSMGE in Geotechnical Earthquake Engineering, and winner of the 2012 Shamsher Prakash Research Award.

Research Interests:

His research interests include the development of innovative seismic hazard mitigation techniques, faulting and its effects on infrastructure, site effects and slope stabilization, railway systems and vehicle–track interaction, seismic response of monuments, offshore geotechnics, and earthquake crisis management systems.



Sebastiaan MEIJER

Professor in Health Care Logistics

Department Head Biomedical Engineering and Health Systems

Vice-Dean School of Engineering Sciences in Chemistry, Biotechnology and Health

KTH Royal Institute of Technology

E-mail: smeijer@kth.se

Curriculum Vitae:

Sebastiaan is full professor of Health Care Logistics at KTH Royal Institute of Technology, Stockholm, Sweden and head of the department of Biomedical Engineering and Health Systems. He is also vice-dean for the School of Engineering Sciences in Chemistry, Biotechnology and Health at KTH. Meanwhile he is part-time associated with Delft University of Technology, The Netherlands. He leads GaPSlabs: a multi-disciplinary center for gaming and participatory simulation in complex systems like transport, logistics, health care, urban development and energy.

Sebastiaan received his PhD from Wageningen University in 2009, for which thesis he won the Special Category of the Deutscher Planspielpreis 2010 for best European PhD dissertation on gaming methodology. His publications are both in domain and in methodology oriented conferences and journals and won several best paper awards. He was an honorary visiting professor at IIT Bangalore, and visiting fellow at CSTEP, Bangalore, India at the Next Generation Infrastructure Lab. He was coordinator for EU projects within FP7 (PETRA, FABRIC (SP-coordinator)), and EIT ICT Labs (Activity Lines ‘Mobile Data for Control Rooms’, and ‘Process Simulation and Gaming Suite’). He leads the RGS projects between ProRail and TU Delft.

Research Interests:

1. The role of agency and expert engagement in design of complex systems
2. Gaming and participatory simulation methods to study and design sociotechnical and complex adaptive systems.
3. Digitalisation of the Health Care sector



Roko ŽARNIĆ

Professor in Construction Materials

Faculty of Civil and Geodetic Engineering

University of Ljubljana

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Curriculum Vitae:

The first half of 43 years of his research career Roko worked at Slovenian National Institute for Research in Materials and Structures (ZRMK) where he started his career in 1974 and from the position of Director General of ZRMK he joined the Faculty of Civil and Geodetic Engineering of University of Ljubljana where he established the Chair for Testing of Materials and Structures in 1995. In 1999 he was for six months a Fulbright visiting scholar at University of Colorado at Boulder, CO and in 2006 for six-month national detached expert to EU JRC Laboratory at Ispra, Italy. From 2010 to 2012 he was on duty of Minister of Environment and Spatial Planning of Republic Slovenia. During the EU Framework Programme 7 he was the Focus Area Cultural Heritage (FACH) within the European Construction Technology Platform (ECTP). For two years (2013-2015) he was individual expert appointed in his personal capacity to Horizon 2020 Advisory Group for Societal Challenge 5 'Climate Action, Environment, Resource Efficiency and Raw Materials'

He was a principal investigator and coordinator in number of international projects in total value of funds acquired for his research group about 4 M€ in the last twenty years.

Research Interests:

1. Development of repair and strengthening techniques based on heritage compatible materials (grouts) and composite materials (FRP, laminated glass, laminated wood).
2. Development of IT based protocols for data collection and their use in the processes of servation of heritage assets.

WORKSHOP ATTENDEES



Antonio ABELLAN FERNANDEZ

Lecturer in Engineering Geology | Geohazards

Institute of applied Geoscience

School of Earth and Environment

University of Leeds

E-mail: a.abellan@leeds.ac.uk

Curriculum Vitae:

Before joining the University of Leeds as Lecturer in Engineering Geology & Geohazards, Antonio was awarded with a research fellowship at the University of Cambridge (Scott Polar Research Institute), appointed as adjunct assistant professor at the department of Geological Sciences and Geological Engineering at Queens University (Canada) and also as a research & teaching assistant at the Risk Analysis Group of the University of Lausanne (Switzerland).

Antonio has contributed in more than 30 publications in leading peer reviewed international journals including Landslides, Remote Sensing, Engineering Geology, Natural Hazards and Earth System Sciences and Computers & Geosciences, where he has responsibilities on the Editorial Board. Antonio has been the main applicant and co-applicant in several successfully founded projects at European and National levels in Switzerland, Spain, Norway and the UK. He is actively participating in the organizing and scientific committee of multiple international conferences and he presented his research outcomes in multiple invited talks and more than 35 conferences.

Research Interests:

Monitoring, Modelling, Forecasting and Early Warning of landslides | 3D investigation of rock slopes | Drones, Terrestrial LiDAR, Structure-from motion photogrammetry | Smart instrumentation for Real-Time Monitoring and early warning systems | Earth observation: satellite / airborne LiDAR | Rainfall thresholds for Landslide initiation | Developing automatic workflows and algorithms for risk reduction |



Christian BERRETTA

Academic Research Fellow in Water Sensitive Urban Design

water@leeds

School of Civil Engineering

University of Leeds

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Curriculum Vitae:

Christian's background is civil and environmental engineering. His expertise is in urban hydrology and storm water management through Sustainable Drainage Systems (SuDS) or nature-based solutions to control flooding, point source and diffuse pollution. Before joining the University of Leeds in 2014, Christian was a Marie Curie Experienced Researcher at The University of Sheffield, UK, a Research Associate at the University of Florida, and a Postdoctoral Research Fellow at the University of Genoa (Italy).

He developed his research through several projects gaining experience in field and laboratory tests, implementation of long term monitoring program and numerical modelling. He is coordinating a multi-disciplinary research program on biofiltration systems for storm water management and a research project on drainage of railway systems in collaboration with Network Rail.

He is a member of EUROCITIES water working group and in this role he has been involved in the development of the EU Urban Water Agenda 2030.

Research Interests:

1. hydrological and pollutant removal processes in nature-based solutions
2. pluvial flood models at city scale
3. soil-vegetation behaviour in time in nature-based solutions/SuDS that influence the long-term performance
4. understanding and modelling railway drainage system performance
5. sustainable solutions for water and storm water management in low to middle income countries
6. drainage - solid waste - sanitation interactions in urban areas in developing countries



Onno BOKHOVE

Professor in Geophysical Fluid Dynamics

School of Mathematics

University of Leeds

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URL: <http://www1.maths.leeds.ac.uk/~obokhove/>

Curriculum Vitae:

Before joining the University of Leeds in 2013, Onno worked as a Reader at the University of Twente in The Netherlands, on water-wave modelling with the Maritime Research Institute Netherlands (MARIN) and granular flows with Tata Steel, IJmuiden, The Netherlands. These collaborations with industry continued (MARIN) and expanded in the UK. Onno led the EPSRC Living with Environmental Change Network “Maths Foresees” for three years (www1.maths.leeds.ac.uk/mathsforesees/). During this time two study groups on environmental challenges with Industry were organised (<http://www.turing-gateway.cam.ac.uk/event/tgmw41>), with challenges set by various stakeholders such as the Environment Agency, Met Office, JBA Trust, SWECO, and Fugro Geos.

Research Interests:

These network activities within “Maths Foresees” as well as the extreme Boding Day flood of 2015 in Leeds and Yorkshire accumulated in Onno’s recent and novel research on assessing flood mitigation measures such as Natural Flood Management:

1. Using flood-excess volume to show that upscaling beaver dams for protection against extreme floods proves unrealistic.
2. On using flood-excess volume in flood mitigation, exemplified for the River Aire Boxing Day Flood of 2015.
3. On using flood-excess volume to assess natural flood management, exemplified for extreme 2007 and 2015 floods in Yorkshire. Most prominent other research concerns water-wave modeling to investigate rogue waves and interactions with ships and wind-turbine mast, and designing a new wave-energy device.



Jordan BOYLE

Lecturer in Engineering Systems
School of Mechanical Engineering
University of Leeds
E-mail: j.h.boyle@leeds.ac.uk

Curriculum Vitae:

Jordan came to Leeds in 2006 to undertake a PhD in the School of Computing, using computational modelling to study the undulatory locomotion system of the nematode worm *C. elegans*, after which he obtained an EPSRC PhD+ Fellowship to develop a bio-inspired worm robot based on his computational model.

He went on to spend a year as a Postdoc on Medical Robotics in Mechanical Engineering, before becoming a Lecturer in 2012. He was involved in establishing the EPSRC National Facility for Innovative Robotic Systems (an advanced manufacturing facility at Leeds), and the recently-created Robotics At Leeds network (a cross-faculty network for robotics-related researchers at Leeds).

Research Interests:

Jordan has a diverse range of research interests including:

1. Bio-inspired locomotion (terrestrial and aquatic) for robotic applications.
2. Bio-inspired robot behavior, with a specific focus on simple invertebrate-based strategies, for individual and swarm robotics.
3. Novel manufacturing techniques, including multi-axis additive manufacturing, primarily aimed at producing better robots.



Anthony (Tony) G COHN, FREng

Professor of Automated Reasoning
Director of Research and Innovation
School of Computing
University of Leeds
E-mail: a.g.cohn@leeds.ac.uk

Curriculum Vitae:

BSc and PhD degrees from the University of Essex, UK. 10 years as a lecturer at the University of Warwick. Joined the University of Leeds in 1990. Fellow of three AI Societies (AAAI, EurAI and AISB), the Royal Academy of Engineering. Editor-in-Chief of the journal *Spatial Cognition and Computation*, Emeritus Editor-in-Chief of the journal *Artificial Intelligence*. Distinguished Visiting Professor and High Level Expert at Tongji University, Shanghai. Recipient of the IJCAI Donald E Walker Distinguished Service Award, and the AAAI Distinguished Service Award. He has received substantial funding from a variety of sources including EPSRC, the Technology Strategy Board (TSB), DARPA, the European Union and various industrial sources.

Research Interests:

His research background is in knowledge representation and reasoning, but has broadened to many topics in AI. A theme running across most of his research is that of spatial information. His research interests range from theoretical work on spatial calculi and spatial ontologies, to cognitive vision, detection of archaeological residues using remote sensing techniques, modelling spatial information in the hippocampus, grounding language to vision, and integrating utility records and sensor data concerning the location of underground assets. A particular of focus at present is on Decision Support Systems for Infrastructure and the Built Environment, Human-like Robot Manipulation, and Robotics for City Maintenance.



Abbas DEHGHANI

Professor

Chair in Bio-Mechatronics and Medical Robotics

School of Mechanical Engineering

University of Leeds

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Curriculum Vitae / Research Interests:

Intelligent systems are usually the outcomes of multidisciplinary research and development. In particular Mechanical Engineering, Electronics and Computing as well as science of functional Materials play important roles in such systems.

Mechatronics and Robotics can have great impact on our lives. My research includes bio-mechatronics and bio-robotics which are multidisciplinary areas.

The human body combines intelligence with sophisticated sensors and actuators. Thus, being a fascinating example of natural bio-mechatronics, this makes it the most logical source of inspiration and study when designing and developing similar intelligent systems. Living creatures, in general, with unique characteristics provide great sources for learning and inspiration.

My current research covers distributed smart sensors, actuators, machine intelligence and control, for a wide range of applications in Healthcare, Assistive and Enhancive Robotic Technologies, Smart Cities and other areas. Examples include:

- Next generation of artificial limbs;
- Intelligent modular full body robotic exoskeletons;
- Soft robotics for independent living.
- Robotics to support smart cities and infrastructure

The outcome of these projects are aimed at improving the quality of life for people with disabilities, patients and the growing aging population as well as the general public. I work very closely with relevant industrial partners and therefore pathways to real applications are considered at the outset of such projects.

My teaching provides students with background on robotics and machine intelligence as well as bio-mechatronics and medical robotics.



Mehmet DOGAR

University Academic Fellow in Robotics

School of Computing

University of Leeds

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Curriculum Vitae:

I lead the [Robot Manipulation Lab](#) in the School of Computing. Previously, I was a postdoctoral researcher at CSAIL, MIT. I received my PhD from the Robotics Institute at Carnegie Mellon University.

I am a co-chair of the IEEE RAS Technical Committee on Mobile Manipulation, I have been an Area Chair for the Robotics: Science and Systems conference in 2017 and 2018, and I am Associate Editor for IEEE Robotics and Automation Letters.

Research Interests:

My research focuses on autonomous robotic manipulation. I envision a future where robots autonomously perform complex manipulation tasks in human environments. My manipulation planners use physics-based predictive models. My approach challenges the existing paradigm which is based on a geometric representation of the world and is limited to pick-and-place actions. The physics-based approach, on the other hand, enables a robot to interact with the environment with a rich set of actions such as pushing, tumbling, and throwing, as well as pick-and-place. I am also interested in planning and control for human-robot collaboration.



Kozo FURATA

Researcher

Department of Mechanical Engineering and Science

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Kozo Furuta is a JSPS researcher in the Department of Mechanical Engineering and Science in Kyoto University's Graduate School of Engineering. He received his B.S., M.S. and Ph.D. degrees in Mechanical Engineering and Science from Kyoto University in 2013, 2015 and 2018, respectively. He was the first graduate group of Design School, which is an interdisciplinary education program on design attained by a collaboration of mechanical engineering, architectural engineering, informatics, psychology and management. His master thesis focused on designing new materials for lithium-ion battery and the title of his doctoral thesis was "Sensitivity analysis and optimization methods for thermoelectric devices and their modules", which dealt with the optimum design methods in nanostructures.

Research Interests:

He has been engaged in the researches on optimum design methods, particularly in the development of structural optimization methods. His recent main interests are on the optimum design of thermoelectric materials with nanostructures, which needs knowledge of physics, applied mathematics, informatics, etc.



Yosuke HIGO

Associate Professor

Department of Urban Management

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Assoc. Prof. Yosuke Higo studied Civil Engineering at Graduate School of Engineering at Kyoto University from 1999 to 2004 and obtained a doctoral degree in engineering from Kyoto University in 2004. After working in a private research institute, Geo-Research Institute, Osaka, Japan, for two and a half years, he started a career as faculty at Kyoto University from 2006. Since 2013, he has been working as an associate professor of Department of Urban Management at Kyoto University. He serves as an expert in the field of civil engineering, especially geomechanics and geotechnical engineering. He has been an executive board of the international journal published by JGS, Soils and Foundations, since 2016 (an editorial board from 2013 to 2016), a domestic member of TC103 and TC105, and a member of TC201 of ISSMGE.

Research Interests:

His research interests include unsaturated soil mechanics, time-dependency behavior, material instability, strain localization, liquefaction, thermo-hydro-mechanical problems, and large deformation simulation. Recently, he and his group have worked on microstructural changes in unsaturated sands during deformation using x-ray micro tomography, and dynamic large deformation analysis of unsaturated soils using Material Point Method.



Ornella IUORIO, PhD, ARB, LEED GA

Lecturer in Architecture

Deputy Lead for “Energy and Sustainable Building”
Research Theme

School of Civil Engineering

University of Leeds

E-mail: o.iuorio@leeds.ac.uk

Curriculum Vitae:

Dr Iuorio is Lecturer B in Architecture at the University of Leeds since 2015 teaching in the Architectural Engineering Program. Educated in Architecture at the University of Naples “Federico II” (IT) and “Universita’ Gabriele D’Annunzio” in Chieti – Pescara (IT), she holds MArch (hons) degree in Architecture and a Ph.D in “Design, Analysis and Experimentation of Structures”.

While in Italy, she worked extensively on the dynamic analysis of lightweight steel systems, serving as research assistant and Co-I in several international research projects (e.g. FP6 PROHITECH, FP7 ELISSA, Cost Action C25, Cost Action C26, Relius 2010-2013, Faro, Reluis 2005-8), and developing the first real CFS application in Italy.

Before joining Leeds, Ornella developed her research carrier at the Massachusetts Institute of Technology in Boston (USA) within the Building Technology Program and the Structural Design Lab, where funded by a SUTD-MIT Postdoctoral fellowship, worked with Professor John Ochsendorf on Resilient of Historical neighbourhoods. Research findings have been published in more than 50 papers and 2 books. She currently serves as co-deputy leader for the “Energy and Sustainability Buildings” Research team, and as School Champion for Athena Swan.

Research Interests:

Her interests can be divided in two distinctive topics contributing to the theme of Resilient Buildings:

1. “Seismic Design of Lightweight Steel Structures” – mechanical characterization, experimental analysis of CFS systems, development of industrial applications, code development, seismic behaviour improvement while reducing embodied carbon.
2. “Retrofit of Existing buildings” – aimed at masonry historical buildings and reinforce concrete multi-storey buildings, development of structural retrofit techniques, integration of structural and energy retrofit, development of multicriteria analysis for sustainable integrated retrofit.



Jongrae KIM

Associate Professor in Aerospace Systems

School of Mechanical Engineering

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Curriculum Vitae:

Since obtaining his Ph.D. in 2002 from Texas A&M University at College Station, TX, the USA, he has been working on dynamics and control areas covering broad applications in engineering, biology and neuroscience. He developed a mission-planning algorithm for unmanned aerial vehicles funded by DARPA, USA. The algorithm won a mid-term project competition and became the final choice of algorithm by DARPA. Jongrae participated in the Ukube-1 project through the Royal Academy of Engineering Industrial Secondment Scheme. The project is a micro-satellite developing programme organised by the UK Space Agency. He developed an optimal design procedure of an attitude controller. The controller was implemented in the on-board computer of the satellite. During the whole operation period since the satellite was launched in 2014, the performance was maintained within a desired bound by the end of mission in 2015. He has been PI and Co-I in research grants with a value over £386k and £4.3M, respectively. He has published 28 journal papers and 48 conference papers in dynamics & control, systems/synthetic biology, and neurosciences.

Research Interests:

His main research interests are in the area of control theory, sensor fusion, robustness analysis, large-scale network analysis, dynamic system modelling & identification, mobile robotics, molecular biology, neuroscience, and parallel processing.



Sadao KUROHASHI

Professor

Department of Intelligence Science and Technology

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Curriculum Vitae:

Prof. Sadao Kurohashi received the B.S., M.S., and PhD in Electrical Engineering from Kyoto University in 1989, 1991 and 1994, respectively. He has been a visiting researcher of IRCS, University of Pennsylvania in 1994. He is currently a professor of the Graduate School of Informatics at Kyoto University. He was an editorial board member of Computation Linguistics, 2001-2003, and has been an associate editor of ACM Transactions on Asian and Low-Resource Language Information Processing from 2010. He received the 10th and 20th anniversary best paper awards from Journal of Natural Language Processing in 2004 and 2014 respectively, 2009 Funai IT promotion award, 2009 IBM faculty award, and 2010 NTT DOCOMO mobile science award, and 2017 Commendation for Science and Technology by the Minister of Education (MEXT).

Research Interests:

He has presented scientific papers in many national and international conferences and published in various journals and books in the field of Natural Language Processing. His current interests include machine translation, information retrieval, and knowledge engineering. He has been a principal investigator of JST CREST, Establishment of Knowledge-Intensive Structural Natural Language Processing and Construction of Knowledge Infrastructure since 2013. He also has served as a research supervisor of JST PRESTO, Fundamental Information Technologies toward Innovative Social System Design since 2016.



Matteo LEONETTI

Lecturer in Machine Learning

School of Computing

University of Leeds

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Curriculum Vitae:

Matteo is a lecturer in Machine Learning and leads the [Sensible Robots Research Group](#). His work focuses on decision making, automated reasoning, and reinforcement learning for mobile robotics. Before joining the University of Leeds, Matteo was a post-doc at the University of Texas at Austin, where he worked on mobile service robots. At Austin, Matteo also co-led a project with the Air Force Research Laboratory on Curriculum Learning. Before that, Matteo was a post-doc at the Italian Institute of Technology, where we worked on the FP7 project PANDORA on persistent autonomy for underwater vehicles. He graduated from Sapienza University of Rome, where, among other things, he led the SPQR robot soccer team at the international competition RoboCup.

Research Interests:

Matteo works in decision making for autonomous robots, from high-level decisions to low-level control. His research is centered on reinforcement learning, and often also involves automated reasoning and planning. He studies adaptation for long-term autonomy. Currently, he is mostly active in the following research lines:

1. Curriculum learning for reinforcement learning: Humans teach every task of significant complexity by breaking it down into a series of simpler tasks, of increasing difficulty, for the student to go through as their skills progress. Matteo studies how this form incremental learning can be applied to autonomous agents, and how the agents can design their own curriculum for a particular target task.
2. Service robots: Matteo works on several aspects of service robotics, which mostly focus on: long-term autonomy and adaptation, human-robot interaction, and skill learning and manipulation.



Norio MAKI

Professor

Disaster Prevention Research Institute

Kyoto University

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Curriculum Vitae:

Prof. Norio Maki studied Architecture and Planning at Graduate School of Engineering at Kyoto University from 1988 to 1996 and obtained a doctoral degree in engineering from Kyoto University in 1997. After working as a research associate at Department of Global Environment Engineering at Kyoto University from 1996 to 1997, and Earthquake Mitigation Research Center, RIKN and a senior researcher at National Research Institute for Earth Science and Disaster Prevention from 1998-2005, he worked at Disaster Prevention Research Institute, Kyoto University as an associate professor from 2005 to 2014. Since 2014, he is a professor of Disaster Prevention Research Institute at Kyoto University. He is responsible for the public and international relations at DPRI as a deputy director. Dr. Norio Maki serves as an expert in the field of disaster management and planning, especially on post-event response and recovery.

Research Interests:

His current research interests are disaster reduction planning, emergency management system, a long-term recovery process from catastrophic disasters. He works as a planner for a long term recovery plan and disaster reduction plan for local governments. Recently he and his group also works for pre-disaster recovery planning targeting catastrophic disasters.

Hiroyuki MATSUI

Professor

Department of Management Science

Graduate School of Management

Kyoto University

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Curriculum Vitae:

Prof. Hiroyuki Matsui studied System Science and Social Engineering at Interdisciplinary Graduate School of Science and Engineering at Tokyo Institute of Technology, from 1990 to 1995 and obtained a Ph.D (Engineering) from Tokyo Institute of Technology, in 1998. After working as a research associate at Department of Social Engineering at Tokyo Institute of Technology from 1995 to 1998. He worked at Department of Information and Policy Science, Aichi Gakuin University as a lecturer from 1998 to 2001. In 2001 he became an associate professor of Graduate school of Economics at Kyoto University. Since 2012, he has been a Professor in the Graduate School of Management, Kyoto University. Further since 2017, he is the deputy director of the Kyoto University Library Network and manages the Kyoto University Repository for Navigating Academic Information (KURENAI) and Open Access.

He is a key member of U-Mart Project which it is in one of the artificial market research projects of the top in Japan. He is and has been a regular reviewer for several journals and conferences, and has served in program committees of many conferences, such as the International Simulation And Gaming Association (ISAGA), the World Congress on Social Simulation (WCSS) and others.

Research Interests:

He has researched about various fields relevant to the ICT support for realizing citizens' participation in municipal affairs in the planning theory. His current interests include gaming/multiagent simulation, and research and education on organization design using gaming simulation.



Fumitoshi MATSUNO

Professor

Department of Mechanical Engineering and Science

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Fumitoshi Matsuno received the Dr. Eng. degree from Osaka University in 1986. In 1986 he joined the Department of Control Engineering, Osaka University. He became a Lecturer in 1991 and an Associate Professor in 1992, in the Department of Systems Engineering, Kobe University. In 1996 he joined the Department of Computational Intelligence and Systems Science, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology as an Associate Professor. In 2003 he became a Professor in the Department of Mechanical Engineering and Intelligent Systems, University of Electro-Communications, Tokyo. Since 2009, he has been a Professor in the Department of Mechanical Engineering and Science, Kyoto University. He holds also posts of a president of the Institute of Systems, Control and Information Engineers (ISCIE) and a vice-president of NPO International Rescue System Institute.

Dr. Matsuno received many awards including the Outstanding Paper Award in 2001, 2006 and 2017, Takeda Memorial Prize and Tomoda Memorial Prize in 2001 and 2017 from the Society of Instrument and Control Engineers (SICE) respectively, the Prize for Academic Achievement from Japan Society of Mechanical Engineers (JSME) in 2009, and the Best Paper Award in 2013 from Information Processing Society of Japan.

He is a Fellow member of the SICE, the JSME, the Robotics Society of Japan (RSJ) and a member of the IEEE among other organizations.

He served as a co-chair of IEEE RAS Technical Committee on Safety, Security, and Rescue Robotics (SSRR), an Editor-in-Chief of Journal of RSJ, an Editor of Journal of Intelligent and Robotic Systems, a chair of Steering Committee of SICE Annual Conference, a General Chair of IEEE SSRR2011 and IEEE/SICE SII2011, SWARM2015, SWARM2017 etc.

He is an Editor of Journal of Robotics and International Journal of Control, Automation and a Deputy Editor of Journal of Artificial Life and Robotics and an Associate Editor of Advanced Robotics etc. and on the Conf. Editorial Board of IEEE CSS.

Research Interests:

His current research interests lie in robotics, swarm intelligence, control of distributed parameter system and nonlinear system, and rescue support system in disaster.



Alison McKay

Professor of Design Systems

Director of Leeds Socio-Technical Centre

School of Mechanical Engineering

University of Leeds

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Curriculum Vitae:

Alison is a Chartered Engineer and Fellow of the Institution of Mechanical Engineers. Her research centres on socio-technical aspects of engineering design systems and the networks of organisations that both develop and deliver products to market, and support them through life to disposal or reuse. The focus of her personal research lies in the establishment of systematic and, where possible, well-founded underpinnings for such systems, in particular, for the definition of product data. This has led to research on extended enterprise network structures and their alignment with the delivery of business strategy, issues in environmental and social dimensions of sustainable product design, and the establishment of computer aided design systems to support early design activity (when new shapes are being defined) and so enhance designers' creativity and innovation. Her research is positioned in the context of stage gate processes that typify current industry practice. It aims to facilitate improved modes of working through the exploitation of digital technology and to establish design methods and tools to support systematic evaluation of design alternatives at decision gates.

Sample publications:

- Chau, H.H.; McKay, A.; Earl, C.F.; Behera, A.K.; De Pennington, A. (2018) Exploiting lattice structures in shape grammar implementations. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM*, **32** (2), pp. 147-161
- McKay, A.; Sammonds, G.; Ahmed-Kristensen, S.; Irnazarow, A.M.; Robinson, M; (2017) "Using embedded design structures to unravel a complex decision in a product development system". ICED17, 21st International Conference on Engineering Design, August 2017.
- Clegg, C.; Robinson, M.; Davis, M.; Bolton, L.; Pieniazek, R.; & McKay, A. (2017). Applying organizational psychology as a design science: A method for predicting malfunctions in socio-technical systems (PreMiSTS). *Design Science*, 3, E6. doi:10.1017/dsj.2017.4



Bill MURPHY

Senior Lecturer in Engineering Geology

Pro-Dean International (Environment)

School of Earth and Environment

University of Leeds

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Curriculum Vitae:

Bill Murphy is an engineering geologist with expertise in landslides, particularly those in rock slopes triggered by strong earthquakes. He has been involved in field investigations of seismically-triggered landslides in Chile, El Salvador, New Zealand and Taiwan amongst others. He has an interest in how seismic waves interact with heterogeneous slopes to induce rock slides and how these evolve during shaking. In addition to his interests in rock slope stability, he also has an interest in the effects of heating on the mechanical properties of rock masses and on the risks posed by landslides to seafloor infrastructure. His research has been funded by NERC, EPSRC, Newton Fund and Industry.

Bill sat on the editorial board of *Geotechnique* (2011-2018) and is a current member of the editorial board of “*Engineering Geology*”. His technical expertise has resulted in consulting activities related to engineering geological problems on large projects ranging from the Queensferry Crossing Bridge near Edinburgh to the Hinkley Point C Nuclear Power Station. He is one of the authors of the recently issued design guidance for the use and management of rock netting systems.

Research Interests:

1. Landslide mechanics and strong earthquakes – how earthquakes cause landslides and the distribution of strong shaking on slopes.
2. Mechanics and patterns of submarine landslides and the risk to seafloor infrastructure.
3. The effects of heating on the performance of rock and rock masses for very long design life structures.

Nikolaos NIKITAS

Associate Professor in Structural Dynamics and Engineering

School of Civil Engineering

University of Leeds

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Curriculum Vitae:

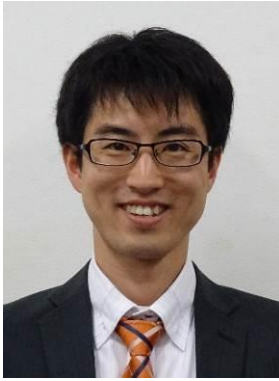
Nikolaos has a Civil Engineering background, which he tried to enrich through two quite non-mainstream PhDs; one in Mechanics of Materials on the micro/nano scale in the University of Edinburgh (as a Marie Curie Early Career Researcher for the SizeDepen FP6 RTN) and one in bridge aerodynamics in the University of Bristol (on an EPSRC doctoral scholarship). He professionally entered academia in 2011, becoming a Lecturer in the University of Bristol and only after a year he joined Leeds as a Lecturer B.

He really enjoys working on a broad range of topics particularly relevant to complex, multibody, dynamic interaction problems spanning from wind to earthquake to human loading and bridging scales from the nano of material dislocations (i.e. avalanche-like deformation of materials) to the macro of large infrastructural assets (i.e. structural monitoring in full-scale). He is a specialist in experimental dynamics and system identification for a wide range of applications, while he led and managed the proposal for the EPSRC Strategic Equipment Grant that funded the Leeds Multi-Axis Shaking Table facility (see EP/L022648/1). His multidisciplinary and multiscale work includes full-scale monitoring and inverse analysis of landmark/major bridges (the Clifton Suspension Bridge, UK; the Ting Kau Bridge, HK; the Oresund Bridge, SE-DK), wind tunnel testing in state-of-the-art unique facilities (National Research Council, CN), shaking table tests (BLADE, UK) and physical modelling for novel structural systems (e.g. offshore wind turbines, dynamic facades). He is the structural dynamics expert in a Newton-Picarte Award (EP/N03435X/1) that attempts, among others, to apply aerodynamics' advances in soil-structure interaction and link UK and Chile through a unique impact case study, while more recently he contributed to the multi-million National Centre for Infrastructure Materials (EP/P017169/1) in Leeds as a co-Investigator.

Research Interests:

Nikolaos has a mix of research interests including (but not limited to):

1. Full-scale dynamic monitoring together with the very relevant damage identification, model updating and early warning system developing
2. Sizing dynamic interactions as unfolded in large scale flexible structures like bridges, grandstands and wind turbines
3. Understanding the mechanics/dynamics of human body when standing, walking and/or "receiving" different types of vibrations



Kyohei NOGUCHI

Assistant Professor

Department of Civil and Earth Resources Engineering

Graduate School of Engineering

Kyoto University

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Curriculum Vitae:

Assistant Professor Kyohei Noguchi studied Civil Engineering at Kyoto University from 2008 to 2017. He obtained a bachelor's degree in engineering from Faculty of Engineering at Kyoto University in 2012, and a master's degree and a doctoral degree in engineering from Graduate School of Engineering at Kyoto University in 2014 and 2017, respectively. His supervisor was the late Professor Hiromichi Shirato from Kyoto University.

Dr. Noguchi has been working as assistant professor at Department of Civil and Earth Resources Engineering at Kyoto University since 2017. He serves as an expert in the field of civil engineering, especially wind engineering. He is a member of Japan Society of Civil Engineers (JSCE) and Japan Association for Wind Engineering (JAWE).

Research Interests:

He specializes in wind engineering. An area of expertise is the evaluation of airborne sea salt concentrations and salt amounts deposited on bridge girders using a computational fluid dynamics (CFD) technique, which is related with the corrosion problem of a steel member. Development of a mitigation method of salt deposition based on the flow field control is also his interest. Additionally, he has also worked on wind tunnel experiments and/or CFD simulations to investigate and solve wind-induced vibration problems of bridges including vortex-induced vibration, galloping, and flutter.



Chrysothemis PARASKEVOPOULOU

Lecturer/Assistant Professor (outside the UK) in Rock Mechanics and Tunnelling Engineering

School of Earth and Environment

University of Leeds

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Curriculum Vitae:

Chrysothemis is a Geotechnical/Tunnel/Mining Engineer with post-graduate studies on the Design and Construction of Underground Works at NTUA (Greece). In September 2016, she completed her doctorate (PhD) studies at Queen's University in Canada. In 2014, she started working in a joint Research Project between Queen's University and ETH (the Swiss Federal Institute of Technology) on time-dependent laboratory testing, spending almost 2 years at ETH. In 2017, Chrysothemis was appointed Lecturer (Assistant Professor outside the UK) to teach MSc and undergraduate courses on Rock Mechanics and Tunnelling Engineering at the University of Leeds (UK). Chrysothemis is also the manager/director of the Rock Mechanics/Engineering Geology and Geotechnical (RMEGG) Laboratory and leads the RMEGGh Research Group. Her professional background involves working currently as Independent Consultant on rock engineering (tunneling, mining and geotechnical) projects and in the past as an Engineer in both private and the public sector through professional positions. In Greek, her first name (Chrysothemis) means Golden (-chryso) Natural Law - Justice (-themis), in case you were wondering.

Research Interests:

Her interests involve anything to do with the interaction of structures and ground and subsurface. More Specifically:

1. Time-dependent behaviour of rocks and rock mass (rock and structure). Long-term strength estimation and prediction in rock materials;
2. Fracture Mechanics and coupled processes;
3. Advanced numerical modelling and analysis in geotechnical engineering (tunnelling, slope stability, foundations);
4. Improved methodologies and techniques on laboratory and field assessment; and,
5. Risk assessment of engineering projects in geotechnical and rock engineering. Reliability in the design methods of geotechnical/tunnelling projects.



Jouni PAAVOLA

Professor of Environmental Social Science

Director of the ESRC Centre for Climate Change Economics and Policy (CCCEP)

School of Earth and Environment

University of Leeds

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Curriculum Vitae / Research Interests:

I am Professor of Environmental Social Science and Director of the ESRC funded Centre for Climate Change Economics and Policy (CCCEP) in the School of Earth and Environment. I am leading the CCCEP second phase research theme on enabling rapid transitions in mitigation and adaptation.

My research interests focus on environmental governance institutions and their environmental, economic and social justice implications, particularly with regard to climate change, biodiversity and ecosystem services. I have published 70 peer-reviewed articles from my research in journals such as *Science*, *Ecology and Society*, *Ecological Economics* and *Energy Policy*. I was member of the Scientific Committee of the European Environment Agency (EEA) in 2008-2016. I am member of the editorial boards of *Ecological Economics* and *Environmental Policy and Governance*, and Section Editor of *Global Sustainability*, a new Cambridge University Press journal.

Before joining SRI in 2006, I was Senior Research Associate in the Centre for Social and Economic Research on the Global Environment (CSERGE) at the University of East Anglia and Research Fellow in the Oxford Centre for the Environment, Ethics and Society (OCEES) at Mansfield College. I completed an interdisciplinary Ph.D. in Resource Development (Environmental and Development Studies) in 2000 at Michigan State University in USA. Earlier I was Senior Researcher at Tampere University of Technology in Finland.



Jeff PEAKALL

Professor of Process Sedimentology

Academic Lead - Sorby Environmental Fluid Dynamics Laboratory

School of Earth and Environment

University of Leeds

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Curriculum Vitae:

Jeff is a geologist by training, who is interested in particulate dynamics and fluid flow, across a wide range of problems, from sediments in environmental systems, through to multiphase flows in industrial systems. He is the academic lead for the NERC recognized Sorby Environmental Fluid Dynamics Laboratory, a world-leading laboratory for the measurement of flows in both Clearwater and opaque particulate flows. Jeff is also a theme leader for the EPSRC Centre for Doctoral Training in Fluid Dynamics.

Jeff's work integrates a wide range of approaches, including physical experimentation, measurements of flows in natural systems, CFD and analytical modelling, and geological fieldwork, in order to understand the fundamental processes of different flow types. He has led NERC and EU grants on a range of environmental processes, and has worked extensively with the nuclear industry, and with EPSRC funding, on industrial problems. He consults for hydrocarbon companies, and for Speedo International.

Research Interests:

His interests can be divided into three distinct topics that look at fluid flow and particulate dynamics across a range of fields:

1. Sediments in industrial systems – gas in sediments, in situ acoustic measurements of particulate suspensions, flow processes around structures.
2. Environmental sedimentary processes – areas of interest include deep sea channels, rivers, bedforms, transitional flows, gravity current dynamics, debris flows, fluidization and sedimentary injection, subaqueous hydraulic jumps, and tsunamis.
3. Drag reduction in sharks and swimwear.



Robert RICHARDSON

Professor Robert C Richardson, CEng, FIMechE

Director of the Institute of Design, Robotics and Optimisation (iDRO) & Director of the EPSRC National Facility for Innovative Robotic Systems

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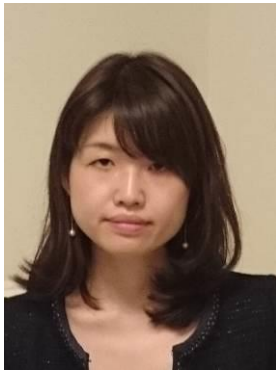
Curriculum Vitae:

Professor Robert Richardson is a Professor of Robotics, in the School of Mechanical Engineering, University of Leeds. As PI and Director of the EPSRC National Facility for Innovative Robotic systems, he leads a major EPSRC investment to physically create robust robotic devices. He is co-Director and robotics lead for the EPSRC Grand Challenge to develop autonomous infrastructure inspection robots. He led the UK robotics resilient infrastructure strategic challenge event, on behalf the EPSRC RAS network that brings together international researchers to explore the area of robotics infrastructure research. He is lead author of the UK white paper 'Robotic and Autonomous Systems for Resilient Infrastructure' and co-author on the UK white paper 'Robotics for Emergency Response, Disaster Relief and Resilience'. In 2011 he led an international team to develop and deploy robots into the Great Pyramid of Giza, Egypt, that discovered writing hidden for 4000 years. In 2016 he developed and deployed autonomous surface water survey robots to map glacial melt lakes in Nepal, doubling the known mapping data of these lakes.

Research Interests:

His interests can be divided into two distinct topics contributing to the overarching theme of Resilient Infrastructure:

1. Researching into to a broad range of infrastructure robotics platforms including drone based technologies, novel ground robots including robots designed to enter bore holes in mines and other confined spaces; and,
2. He is developing novel approaches to fabricate advanced robotic structures using hybrid 3D printing and assembly processes.



Mai SAWADA

Assistant Professor

Department of Urban Management

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Kyoto University

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Curriculum Vitae:

Assistant Prof. Mai Sawada studied Civil Engineering at Graduate School of Engineering at Kyoto University from 2006 to 2008 and obtained a master degree in engineering from Kyoto University in 2008. After working as a researcher at R&D of Taisei cooperation from 2008 to 2012, she entered doctoral course of Graduate School of Engineering at Kyoto University and obtained doctoral degree in engineering from Kyoto University in 2016. Since 2016, she is an assistant professor of Department of Urban Management at Kyoto University. Dr. Mai Sawada serves as an expert in the field of civil engineering, especially geotechnical engineering. She is responsible for a course on experiments on soil mechanics.

Research Interests:

She specializes in geotechnical engineering. Her main expertise as a geotechnical engineer is unsaturated soil mechanics and conservation of geoheritages. The topic of her doctoral thesis is the conservation of Japanese historical burial mounds damaged by natural forces and human activities. She studied the mechanism of rainfall induced slope failure in a burial mound and the restoration of a damaged burial mound using a capillary barrier. She has wide range of interests in unsaturated soil mechanics through conservation of geoheritages such as seepage flow, slope stability, dynamic behaviors, evaporation, heat conduction, etc.



Yoshikazu TAKAHASHI

Professor

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Curriculum Vitae:

Prof. Yoshikazu Takahashi studied civil engineering at Graduate School of Engineering at Kyoto University from 1994 to 1996 and started to work as a research associate at Faculty of Engineering, Kyoto University since 1996. He obtained a doctoral degree in engineering from Kyoto University in 2002 and worked as a research fellow at the Department of Civil Environmental Engineering, University of California, Berkeley, USA in 2003-2004. After back to Japan, he worked as an associate professor at Disaster Prevention Research Institute and Faculty of Engineering, Kyoto University from 2006 to 2016. Since 2017, he is a professor of Department of Civil and Earth Resources Engineering at Kyoto University. Prof. Yoshikazu Takahashi serves as an expert in the field of civil engineering, especially earthquake engineering.

Research Interests:

He specializes in earthquake engineering of civil infrastructures, especially bridges. Experimental and analytical researches are conducted to evaluate the seismic performance of civil infrastructures. Especially, the development of high seismic performance structure, the evaluation of structural control technologies is investigated. Also, the methodology of hybrid simulation of structural systems is another research topic. The software framework for hybrid simulation, OpenFresco, is distributed from UC Berkeley and is widely used to conduct distributed hybrid simulation by controlling and connecting heterogeneous experimental facilities all over the world.



Yusuke TAKAHASHI

Associate Professor

The Hakubi Centre for Advanced Research

Division of Cognitive Psychology in Education

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Curriculum Vitae:

Dr. Yusuke Takahashi studied educational and developmental psychology and behavioral genetics at Department of Cognitive and Behavioral Sciences, Graduate School of Arts and Sciences at the University of Tokyo from April 2003 to March 2008 and obtained a Ph.D. in interdisciplinary science from the University of Tokyo in March 2008. After working as a postdoctoral research fellow awarded by the Japan Society for the Promotion of Science at both Keio University in Tokyo and University of Illinois at Urbana-Champaign from April 2008 to March 2011, he worked as an assistant professor at Center for the Promotion of Excellence in Higher Education, Kyoto University. After that two-year appointment, he joined as the faculty at both Collaborative Graduate Program in Design and Graduate School of Education from April 2013 to September 2016. Since October 2016, he is now an associate professor of both the Hakubi Center for Advanced Research and Graduate School of Education. Since September 2017, he also worked as an honorary visiting scholar at University College London with a research fund from Kyoto University for two years.

Research Interests:

His primary research focus is to understand the underlying individual differences in personality (or non-cognitive skills) development across the lifespan and their relations to everyday life style and physical health as well as various forms of psychopathology. Another research focus is human behavioral genetics using genetically informative samples, in particular genetic and environmental factors influencing the development of personality and associated internalizing and externalizing behaviors during adolescence and adulthood. Recently he is keen to apply more stringent statistical designs to elucidate and disentangle the causal pathways towards physical, psychological, and social health in larger datasets.



Atsushi TAKAI

Assistant Professor

Graduate School of Global Environmental Studies

Kyoto University

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Curriculum Vitae:

Asst. Prof. Atsushi Takai studied Civil Engineering at Faculty of Engineering from 2002 to 2006 and Environmental Engineering at Graduate School of Engineering until 2008 at Kyoto University, and obtained a doctoral degree in Global Environmental Studies from Kyoto University in 2014. He joined the Kyoto University faculty in 2010 after several years of experience working for Takenaka Corporation, which is one of the largest construction companies in Japan, as an engineer involved with many ground decontamination projects. He is currently an assistant professor of Graduate School of Global Environmental Studies and of Faculty of Engineering at Kyoto University. He spent one year at Jacobs School of Engineering of University of California, San Diego, in 2015, to do research about Energy Geotechnics. He has been an editorial board member of *Soils and Foundations* which is one of the core geotechnical journals in the world. He has received many prestigious awards including the JSCE Young Researcher Award, the JSCE Best Paper Award, the JGS Young Researcher Award and the ISSMGE Outstanding Young Geotechnical Engineer Award.

Research Interests:

Dr. Takai specializes in the areas of Environmental Geotechnics. His main achievements are of barrier performance of clay barriers, utilization of naturally contaminated soils and rocks, and treatment and management of waste including disaster waste. From his research experience in the U.S. about Energy Geotechnics, he is currently expanding his research interest to environmental and geotechnical issues induced by temperature change, with a particular emphasis on thermal ground improvement using renewable thermal energy and temperature effects on behavior of toxic elements.



Satoshi TAKAYA

Assistant Professor

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Curriculum Vitae:

Assistant professor Satoshi Takaya studied Civil Engineering at Graduate School of Engineering at Kyoto University from 2004 to 2009 and obtained a doctoral degree in engineering from Kyoto University in 2009. Since 2009, he is an assistant professor of Department of Civil and Earth Resources Engineering at Kyoto University. Dr. Takaya has been studying on deterioration mechanism of construction materials, and his achievements is highly evaluated. So far, he received awards including young researcher's paper award of Japan Society of Civil Engineering (JSCE) and the best paper awards of Japan Society of Material Science (JSMS).

Research Interests:

He is studying in concrete engineering field. His main interest is to make clear mechanism of construction materials with chemical approach. Especially, recently he utilizes Raman spectroscopy for study on reinforcement corrosion, Alkali silica reaction and UV degradation of organic coating materials. And consequently, he made clear influence of environment on corrosion products, and discovered that there is a possibility to evaluate reactivity of aggregate and degradation grade of coatings with Raman spectroscopy.



Tomohiro TANAKA

Assistant Professor

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Curriculum Vitae:

Assistant Prof. Tomohiro Tanaka studied civil engineering at Graduate School of Engineering at Kyoto University from 2012 to 2016 and obtained a doctoral degree in engineering from Kyoto University in 2016. After working as a postdoctoral fellow at Department of Civil Engineering at Kyoto University from 2016 to 2017, he became an assistant professor of Graduate School of Global Environmental Studies at Kyoto University. Dr. Tomohiro Tanaka serves as an expert in the field of civil engineering, especially hydrology and water resources engineering.

Research Interests:

He specializes in hydrology and water resources engineering. His main expertise as a hydrologist is in the area of rainfall-runoff/flood-inundation modeling and flood risk assessment. Hydrologic projections under a changing climate are also his interest. His Ph. D. research theme was “” and now he is extending his research work to the development of more advanced flood risk assessment and its integration with policy decision making, collaborating with the Ministry of Land, Infrastructure, Transportation and Tourism (MLIT) and a private insurance company.



Mark TRIGG

Research Academic Fellow in Water Risk

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Curriculum Vitae:

I am a professional scientist and chartered engineer with experience in hydrology, hydrogeology and hydraulics. I have particular interests in integrated catchment management, flood risk and water resource issues and I have experience working in many climates and countries. The common theme throughout my career has been the movement of water in the both the natural and man-made environments.

I am a member of steering committee for the Global Flood Partnership (GFP). The GFP is a cooperation framework between scientific organisations and flood disaster managers worldwide to develop flood observational and modelling infrastructure, leveraging on existing initiatives for better predicting and managing flood disaster impacts and flood risk globally. My key research input to this effort has been testing the credibility and usability of global flood model outputs.

Research Interests:

I study river systems from the global to the infrastructure scale. I am most interested in how we connect these scales and what new science we can learn from those experiments, as well as how that knowledge can help address key societal challenges. Core topic areas are river hydrodynamics and the connectivity of rivers and floodplains, with strong links to geomorphology, hydrology and environmental engineering. I am also interested in disruptive technologies (methods and datasets) and always up for trying something different. I am particularly motivated by traditionally data-scarce contexts where new, low cost – high tech, field methods, numerical modelling, remote sensing, and local knowledge can provide new insights and applications.



Jan-Dirk SCHMÖCKER

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Curriculum Vitae:

He initially studied at the Technical University Berlin and then graduated from the University of Newcastle in 2000. After completing his MSc he stayed in Newcastle as a Research Assistant before joining Imperial College London in 2002. In June 2004 the university awarded him funding for the completion of his PhD which has the title “Dynamic capacity-constrained transit assignment”. Part of his doctoral research was completed in Japan. In 2007 Jan-Dirk left Imperial College London, joining Tokyo Institute of Technology as a Visiting Associate Professor. In 2010 he took up his current position at Kyoto University. His teaching focus in Kyoto is the “International Undergraduate Course of Global Engineering” where he teaches a range of subjects. Jan-Dirk is editorial board member of several journals, associate editor of the “Journal of Intelligent Transportation Systems” and co-founder of the conference series “Transit Data”.

Research Interests:

His main research topic is modelling of passenger behaviour in networks including aspects such as fare structures, crowding, bunching and real-time information. Jan-Dirk’s current research interests further look at long-term demand adaptation to transport infrastructure investments, technological advances and trends such as "shared mobility". Last year he edited a book titled "Public Transport Planning with Smart Card Data". He is currently the PI of projects involving Toyota (on car sharing), Hitachi (on using AI for bus service control) and has recently been awarded funding for a bilateral project funded by JST (Japan) and MOST (Israel) for a project titled “Tourists’ Flow Patterns Identification and Information Provision for Safe Evacuation”.



Junichi SUSAKI

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Curriculum Vitae:

Assoc. Prof. Junichi Susaki received B.S., M.S. and Ph.D. degrees in Civil Engineering from the University of Tokyo, Tokyo, Japan, in 1995, 1997 and 2000, respectively. After working as a research associate and lecturer at Tokyo University of Information Sciences, Chiba, Japan, he worked as lecturer at Institute of Industrial Science, The University of Tokyo from 2004 to 2007. In Feb. 2005, he was seconded to Asian Institute of Technology (AIT), an international university in Thailand, as a Japan International Cooperation Agency (JICA) expert in the field of remote sensing, and worked as a visiting assistant professor for two years. In March 2007, he moved to Kyoto University, and has been an Associate Professor of Departments of Urban Environmental Engineering, and Civil and Earth Resources Engineering, Graduate School of Engineering.

Dr. Susaki joined Institute of Electrical and Electronics Engineers, Inc. (IEEE) in 2001, and has been Senior Member since 2016. He has been serving in International Society of Photogrammetry and Remote Sensing (ISPRS) as Secretary of WG VII/1 (working group of “Physical Modelling and Signatures in Remote Sensing”) from 2012 to 2016, and Co-chair of WG III/2 (working group of “Microwave Remote Sensing”) from 2016 to 2020. In addition, he has also been serving as the member of award committee in Asian Conference on Remote Sensing (ACRS) from 2016.

Research Interests:

Dr. Susaki specializes surveying and geoinformatics in civil engineering. His current research interests include urban monitoring and modeling using synthetic aperture radar (SAR), optical sensors and light detection and ranging (LiDAR) for applications such as disaster mitigation and environmental change analysis. For these years, his research group has focused on production of urban density change and land subsidence maps using multi-temporal SAR images. He has been principal investigator of various Earth observation projects, e.g. Advanced Land Observing Satellite (ALOS), Advanced Land Observing Satellite-2 (ALOS-2), and Global Change Observation Mission (GCOM) by Japanese Aerospace Exploration Agency (JAXA), and Polarimetric and interferometric SAR2 (Pi-SAR2) by National Institute of Information and Communications Technology (NICT), Japan.



Nobuhiro UNO

Professor

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Curriculum Vitae:

After obtaining master degree in engineering at Kyoto University in 1990, Prof. Nobuhiro Uno worked as an engineer at Yokohama city municipality. Since 1991 he worked as research associate and associate professor at Graduate School of Engineering and obtained a doctoral degree in engineering from Kyoto University in 1997. In a year from Nov. 1997 he studied potential of automated highway system as a visiting scholar at University of Delaware, USA. From 2006 to 2016 he worked as an associate professor at Graduate School of Management of Kyoto University which provides MBA program in addition to Graduate School of Engineering. Since 2016, he is a professor of Department of Civil and Earth Resources Engineering at Kyoto University. He served as a core member of Regional Committee of International Symposium on Transport Network Reliability in 2015.

Research Interests:

Prof. Nobuhiro Uno belongs to Geoinformatics laboratory and has strong interests in data-oriented transport management research. So as to mitigate congestion and safety issues in transport, he intends to theoretically and practically analyze both travel behaviour under provision of information and driver behaviour with vehicular conflicts through effective utilization of ICT. He also studies driving behavior under hazardous environment by using driving simulator to contribute to safer evacuation.



Natalie VAN DER WAL

Marie Sklodowska-Curie Research Fellow

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Curriculum Vitae / Research Interests:

I am the Principal Investigator of my EU Horizon 2020 Project ‘Evacuation’ (~€200k, 2018-2020); and, was Work Package Leader of EU Horizon 2020 Project ‘Impact’ (~€1.6M, 2015-2017). My qualifications are: PhD Artificial Intelligence & Psychology, MSc Cognitive Science, BSc Cognitive and Clinical Neuropsychology (Vrije Universiteit Amsterdam, the Netherlands), MSc and BSc Media & Culture (Universiteit van Amsterdam, the Netherlands).

My research interested include: decision-making, evacuation simulation, psychology, social computational science, agent-based modelling, group affect, and human factors during emergency situations. My mission is to improve safety and security with evidence-based research and technology.

I am specialised in social computational modelling of cognitive and affective processes in groups as well as evidence-based, experimental, emergency communication research. I am both a psychologist and a computer scientist. I work with Professor Wändi Bruine de Bruin in the Centre for Decision Research and the Leeds University Business School. Previously, I worked as an Assistant Professor at the dept. of Computer Science, Vrije Universiteit, NL, a Senior Research Fellow at the Socio-Technical Centre of the Leeds University Business School, UK, and as a Researcher at CAMS Forcevision, Royal Dutch Navy, NL.



Katy WRIGHT

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Curriculum Vitae:

Before joining the University of Leeds, Katy worked as a researcher at the University of Sheffield, and at the UNESCO Centre at the University of Coleraine (Northern Ireland). Previously, she worked in a number of third sector and public sector roles in community development and education.

Katy's research has focused on community engagement and participation, which has included research on community consultation in Nationally Significant Infrastructure Projects, using the proposed Tidal Lagoon Swansea Bay development as a case study. Her work has involved examining barriers to meaningful engagement and exploring the relationship between participation and changing socioeconomic contexts. She has a particular interest in the social role of large-scale infrastructure.

More recently, she has been developing work on community resilience and is currently under contract with Routledge to produce a monograph on this topic. This book draws on critical sociological insights into vulnerability and risk and explores what factors support or undermine collective resilience to short-term and long-term challenges, and how community resilience is shaped at different levels of analysis.

Research Interests:

1. Community resilience
2. The social role of large-scale infrastructure
3. Community engagement and consultations



Tim WRIGHT

Professor of Satellite Geodesy

Director of NERC COMET

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Curriculum Vitae:

Tim Wright has been at Leeds since 2006, initially as a Royal Society University Research Fellow and (since 2012) as Professor of Satellite Geodesy. His work has been at the forefront of developing the use of satellite radar interferometry (InSAR) for measuring tectonic and volcanic deformation. He has published more than 90 articles in major international journals, and his work is highly cited.

Tim co-leads LICS, a NERC large grant to "Look Inside the Continents from Space" and he is director of the UK Natural Environment Research Council's Centre for the Observation and Modelling of Earthquakes, Volcanoes and Tectonics (COMET). He is a founding director of SatSense Ltd, a Leeds spinout company that uses satellite data to provide precision deformation data.

In 2014 Tim received the AGU Geodesy Section Award, and in 2015 he was the British Geophysical Association's Bullerwell lecturer and received the Rosenstiel Award from the University of Miami. He was the Royal Astronomical Society's 2017 Harold Jeffreys Lecturer.

Research Interests:

Tim is interested in understanding the earthquake deformation cycle and associated hazard. Specifically:

1. Making high precision measurements of ground movement over tectonic and volcanic regions.
2. Building models that link deformation to underlying physical processes and associated earthquake hazard.



Shane XIE

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Curriculum Vitae:

Professor Shane Xie joined the University of Leeds as Chair in Robotics and Autonomous Systems in 2017. He has been in New Zealand for 20 years before moving to the UK. He worked at the University of Auckland as a lecturer (2003-2005), Senior Lecturer (2006-2009), Associate Professor (2010-2011) and Chair Professor (2011-2017), and was appointed as Director of the Institute of Disability Science and Technology at University College London in 2010.

Prof Xie is an elected fellow of IPENZ ([Institution of Professional Engineers New Zealand](#)), a Strategic Scientist of Wuhan University of Technology and a Chutian Scholar of Huazhong University of Science and Technology in China. He was the David Bensted Fellow, Simon Fraser University, Canada. He played a leadership role in the establishment of the Mechatronics Engineering programme and was the Director of a Master of Engineering Programme on Medical devices and Technologies (2010-2017) at the University of Auckland.

Prof Xie led many government funded research projects as Principle Investigator and so far has completed over 50 funded research projects totalling over \$30M of research contracts from government granting agencies and industries in New Zealand and overseas. The projects he led have been closely engaged with local industries and overseas. He also led 5 overseas projects totalling over \$5M, funded by the National Natural Science Foundation of China and the Federal Ministry of Education and Research of Germany. He has also actively contributed to other large government funded projects over \$30M. One project he involved as an Associated Investigator was supported by The Medical Technologies Centre of Research Excellence (CoRE) totalling \$23M from 2015 to 2020.

Prof Xie has published more than 400 refereed papers and 7 books in areas largely related to advanced robotics and mechatronics technologies for medical and rehabilitation. He has supervised over 100 postgraduate students in the field of Mechatronics and Robotics Engineering including 23 post-doctoral fellows/visiting fellows, 42 PhDs, 38 MEng students, and over 140 BE project students. He was invited to be the Editor or Technical Editor of five reputable international journals. He was the Technical Editor of IEEE/ASME Transaction on Mechatronics (2013-2017), the Editor-in-Chief for the International Journal of Biomechatronics and Biomedical Robotics; the Associate Editor of Mechatronics, Elsevier, International Journal of Mechatronics and Manufacturing Systems, International Journal of Advanced Mechatronic Systems, and International Journal of Mechatronics and Intelligent Manufacturing.

Research Interests:

1. Human-robot Interaction, Robotics and Autonomous Systems, AI and Data Analytics;
2. Assistive/Rehabilitation Robotics, Orthotics and Exoskeletons, Brain Computer Interface.



Tomomi YAGI

Professor

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Curriculum Vitae:

Prof. Tomomi Yagi graduated from Faculty of Engineering, Kyoto University in 1990 and obtained a master's degree in engineering from Graduate School of Engineering at Kyoto University in 1992. He studied at Royal Institute of Technology, Sweden (KTH) from 1992 to 1997 and obtained Licentiate of Engineering from Dept. of Mechanics in 1994 and Ph.D. from Dept. of Structural Engineering in 1997.

After working as a research associate, an assistant professor and an associate professor at civil engineering related departments at Kyoto University from 1997 to 2013. Since 2013, he is a professor of Department of Civil and Earth Resources Engineering at Kyoto University. He is responsible for the international education and student exchange programs.

Dr. Tomomi Yagi serves as an expert in the field of civil engineering, especially bridge engineering and wind engineering. He has been involved in construction projects of long-span bridges and also in design codification for bridge structures.

Research Interests:

He specializes in bridge aerodynamics and wind engineering. He has been working on wind-induced vibrations of structures, such as flutter phenomena, vortex-induced vibrations and so on. As for the fundamental researches, he has investigated to solve the generation mechanisms of flow-induced vibration of fundamental bluff bodies (non-streamlined bodies). For the application, he is also interested in the control of various kinds of aerodynamic vibrations on bridge decks, towers and cables to realize the long-span bridges.

NOTES



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