



UWE Bristol Exhibition and Conference Centre (ECC)

Tuesday 12<sup>th</sup> December 2017

| Time  | Event  |
|-------|--|
| 08.30 | Coffee & Registration  |
| 08.45 | Introduction   |
| 09.00 | <p><i>Assistive Robotics to Support Independent Living – Challenges and Opportunities</i><br/> <b>Dr. Praminda Caleb-Solly, Associate Professor at UWE/Head of Electronics &amp; Computer Systems, Designability</b><br/>           She will talk about working in healthcare research and development at the boundaries between academia and industry with an emphasis on the deep involvement of the stakeholders and end-users of the services to be developed.</p>   |
| 09:30 | <p>4 Presentations - 15mins each (12mins + 3 for Q&amp;A)</p> <p>Luke Wood, Ben Robins, Kerstin Dautenhahn, Gabriella Lakatos, Dag Syrdal and Abolfazl Zaraki. Utilising humanoid robots to assist children with autism learn about Visual Perspective Taking</p>  |
| 09:45 | <p>Greg Chance, Aleksandar Jevtic, Praminda Caleb-Solly, Guillem Alenya, Carme Torras and Sanja Dogramadzi</p>   |
| 10:00 | <p>Wenqiang Chi, Giulio Dagnino and Guang-Zhong Yang. Learning-based Robotic Task Planning for Endovascular Catheterization</p>  |
| 10:15 | <p>Matthew Lewis and Lola Cañamero. Robin: An Autonomous Robot for Diabetic Children</p>   |
| 10.30 | Coffee Break   |
| 10.50 | <p><i>Artificial Intelligence in Health &amp; Life Science</i><br/> <b>Dr. Lester Russell, Senior Director EMEA Scale Team, Intel Corporation</b><br/>           As Senior Director of Health &amp; Life Sciences in EMEA, Dr Russell draws on his combined skills and experience in clinical, commercial and health service roles to talk about the ways in which “the black box” of AI can be used for social good. By adopting ICT to improve healthcare he will highlight not only the potential applications for artificial intelligence in health and life sciences, but also the barriers to its adoption and practical implementation.</p> |
| 11.20 | <p><b>One Minute Fame:</b> 1 Minute Poster Presentations</p>   |
| 12.30 | Lunch: Posters, Networking and Robot Demos   |



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| 14.00 | <p><i>Robotics and AI for nuclear - translating advanced research methods to a conservative, high consequence industry</i></p> <p><b>Prof. Rustam Stolkin, Chair in Robotics, Royal Society Industry Fellow, Birmingham University</b></p> <p>He will talk about the challenges facing our community as it takes on the use of robotics in the nuclear industries, including making the connection between low Technology Readiness Level (TRL) fundamental academic research and high TRL R&amp;D in close association with this very conservative industry.</p> |
| 14.30 | 4 Presentations - 15mins each (12mins + 3 for Q&A)  |
| 14:50 | Mateja Kovacic and Andy Lockhart. Geographies of Robotization and Automation  |
| 15:05 | Bidan Huang, Yiming Yang and Guang-Zhong Yang. Parallel Task Planning for Multi-Robot Coordination  |
| 15:20 | Sergi Molina, Grzegorz Cielniak, Tomáš Krajník and Tom Duckett. Modelling and Predicting Rhythmic Flow Patterns in Dynamic Environments   |
| 15:35 | Ololade Obadina, M. Hasan Shaheed and Kaspar Althoefer. A Modified Computed Torque Control Approach for a Teleoperation Master-Slave Robot Manipulator System   |
| 15.50 | Coffee Break  |
| 16:10 | <p><i>Aerial Robotics at Southampton</i></p> <p><b>Prof. Jim Scanlan, Professor in Design, Department of Engineering &amp; Environment, Southampton University</b></p> <p>He will talk about his experiences in carrying out research in Extreme Environments Robotics, with a special focus on Emergency Response, Disaster Relief and Resilience. Similarly, Prof. Scanlan will include dealing with the challenges of ascending the TRLs.</p>  |
|       | 4 Presentations - 15mins each (12mins + 3 for Q&A)  |
| 16:30 | Bruna Maciel-Pearson and Toby P. Breckon. An Optimised Deep Neural Network Approach for Forest Trail Navigation for UAV Operation within the Forest Canopy  |
| 16:45 | Alan Millard and James Williams. Conversational human-swarm interaction using IBM Cloud   |
| 17:00 | Cara Williamson. Bio-inspired path planning for UAVs in urban environments  |
| 17:15 | Yi Lu, Carsten Maple, Tariq Sheik, Mehrdad Dianati and Alex Mouzakitis. On Decision-making for Computation Offloading in Cloud-assisted Autonomous Vehicle Systems  |
| 17.30 | Drinks Reception  |
| 17.30 | Awards for best demo/poster/paper & Concluding Remarks  |



## Speaker Biographies

**Dr. Praminda Caleb-Solly** is Associate Professor in Independent Living Systems in the Faculty of Engineering and Technology, at the University of the West of England, Bristol, Theme Leader for Assisted Living in the Bristol Robotics Lab and Head of Electronics and Computer Systems at Designability, a charity and not-for-profit organization that designs assistive technology.

Praminda has over 15 years of research experience and her research portfolio comprises National and European funded projects. Her current portfolio of projects includes assistive robotics technology to support older adults with ageing related impairments, intelligent data processing for smart home sensing, understanding children's use of powered mobility, and adaptive interfaces for driverless cars. She has also co-designed an app for self-management of anxiety, SAM. Her research involves using participatory design methods to understand how to develop and evaluate multimodal interfaces that facilitate intuitive and safe interaction, in addition to the use of intelligent algorithms for system learning and adaptation.

**Prof. Rustam Stolkin** serves as the Senior Birmingham Fellow in Robotics, based in the Department of Mechanical Engineering at University of Birmingham since 2008. His training included undergraduate and master's degrees in Engineering from Oxford University, and a PhD in Robot Vision undertaken between University College London and UK imaging industry. He also as an Assistant Professor (Research) at Stevens Institute of Technology, USA, 2004-2008. Rustam is an interdisciplinary engineer with diverse research interests, although his main focus is on robotics. Interests include vision and sensing, robotic grasping and manipulation, robotic vehicles, human-robot interaction, AI and machine learning. He is actively involved in applied robotics and imaging projects with industry and has funded collaborations with nuclear industry, defence industry, industrial robotics industry, and manufacturing industry.

**Dr. Lester Russell** graduated in medicine from the University of Southampton in 1983 and worked as a doctor for 16 years. In 2000 he set up e-gp.com, a medical consultations business; a year later, he left his GP practice and took on a portfolio career that included advising on the reorganisation of NHS Direct. He joined Fujitsu in 2004 to help manage the company's relationship with NHS clinicians. Since 2008 Russell, 54, who still practises part-time, has led the development of Fujitsu's healthcare and life-sciences business. He received an MBA from Open University Business School in 1997.

**Prof. James P Scanlan** is Professor of Design within Engineering and the Environment at the University of Southampton. Professor Scanlan received a materials science degree from Manchester University in 1977. He then spent over 12 years in the aerospace industry in a variety of roles, his final post being Head of Manufacturing Research at BAe regional aircraft. Whilst at BAe, Jim studied for an MSc at Salford University in aerospace design, and was sponsored by British Aerospace to study for a year at Cranfield University on a manufacturing management fellowship programme. Professor Scanlan joined the University of the West of England in 1990 and completed a PhD in 1995 in computer modelling of the Aerospace Design Process. In September 2004 he accepted a post at Southampton University as director of design within the Computational Engineering Design Centre (CEDC).