



University of
Strathclyde

IET The Institution of
Engineering and Technology

Institution of
**MECHANICAL
ENGINEERS**

Sponsored by the IET
Robotics & Mechatronics
TPN, and IMechE,
organized by the
Strathclyde Space
Institute & SMeSTech lab.

Present and Future Robotics In Space Applications

29th – 30th October 2015

Dear Colleagues,

It is an exciting time for robotics. Robotic systems are increasingly being used in dealing with the challenges of space and other extreme environments where it is impossible to have a human presence or where robots can accomplish new tasks that humans cannot.

This Space Robotics Symposium sponsored by IET Robotics & Mechatronics TPN and IMechE, organised by Strathclyde Space Institute and SMeSTech provides a platform for researchers to share innovative research and application findings in this rapidly-evolving field. This Symposium aims to provide a platform for researchers, academics, industrialists and engineers to share the latest developments and future ideas or position papers in robotics. It is intended to run this Symposium by inviting researchers, industrialists and other who are interested in the topic and wish to present their ideas or work undertaken. It is also aimed to provide opportunities for European researchers to present and explore some potential research ideas with a view to develop them into possible research project proposals for the upcoming Horizon 2020 calls under the Strategic Research Cluster (SRC) in Space Robotics Technology. It is also planned to compile works into a formal proceeding published after the Symposium. New extended abstracts of papers on robotics are solicited for presentations and discussions at the symposium and full papers will be included in a book to be published.

The Symposium will cover a range of topics including, but not limited to:

- Orbital robotic design, modelling and simulation;
- Manipulators, end-effector design, modelling for tele-operations and tele-presence;
- Applications and trends in linked fields of space and terrestrial robotics;
- Robotic Control Operating Systems, robotic operating systems (ROS);
- Planetary Rovers, Airborne Robots, Satellite Robotics, Micro/Nano Robotics;
- Estimation and Learning for Robotic Systems, Artificial Intelligence;
- Human-Robot Interaction, Humanistic Interfaces, Human-Robot Cooperation;
- Mobile Systems and Mobility, Planning Algorithms, Robot Perception;
- Latency in space robotic handling and control;
- Autonomy & Control systems, Distributed Control & Communications;
- Swarm Robotics, Cooperation, Superscalar and Multi-Agent Systems;
- Field Robotics, Navigation and Localisation;
- Electronics and Mechatronics for Harsh Environments.

Submitted papers will be reviewed and accepted papers will be programmed for a 20-minute presentation. A poster session will be held to facilitate networking.



CALL FOR PAPERS

2015 Space Robotics Symposium 29th – 30th October 2015



Several research idea exploration sessions will be organised to facilitate networking and project proposal matching among delegates with similar interests in presenting and exploring research ideas of mutual interest.

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Who should attend?

- Researchers, academics, and industrialists working in space robotics or general robotics or related fields;
- Researchers, academics, and industrialists interested in the present or future of space robotics;
- Anyone with an interest in working with other potential partners to develop a research proposal for a future European project;
- Anyone interested in intelligence, autonomy, or other robotic fields;
- Anyone looking for a career in this exciting and rapidly-evolving field;
- Anyone interested in commercial opportunities for innovative technologies.

◆ SYMPOSIUM CHAIRS

Dr. Gianfranco Visentin, Head of Automation and Robotics Section, European Space Agency, and Professor Xiu T Yan, Director of SMeSTech, Strathclyde Space Institute

◆ INTERNATIONAL SCIENTIFIC ADVISORY BOARD

- Ingo Ahrns, Airbus Defence and Space
- Dr. Elie Allouis, Airbus Defence and Space
- Dr. Jordi Artigas, Institute of Robotics and Mechatronics, German Aerospace Centre
- Prof. David Bradley
- Prof. Richard Brown, Centre for Future Air-Space Transport Technology, SSI
- Dr. Abbas Dehghani, Centre for Mechatronics and Robotics, University of Leeds
- Stephane Estable, Airbus Defence and Space
- Prof. Paolo Gasbarri, Sapienza Università di Roma
- Prof. Richard Holdaway, Rutherford Appleton Laboratory Space
- Ms Sue Horne, the UK Space Agency
- Dr. Daniel Jones, the UK Space Agency
- Dipl.-Ing. Roberto Lampariello, Institute of Robotics and Mechatronics, German Aerospace Centre
- Dr Nicholas Lockerbie, Centre for Space Science and Applications, SSI
- Prof. Colin McInnes, University of Glasgow
- Bernd Maediger, Airbus Defence and Space
- Prof. Phil Moore, Chairman of the Mechatronics Forum
- Mr. Nassir Oumer, Institute of Robotics and Mechatronics, DLR
- Prof. Giovanni Palmerini, Sapienza Università di Roma



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◆ INTERNATIONAL SCIENTIFIC ADVISORY BOARD (cont'd)

- Josef Sommer, Airbus Defence and Space
- Prof. Leo De Vin, Karlstad University
- Prof. Massimiliano Vasile, Advanced Space Concepts Laboratory, SSI
- Dr. Gianfranco Visentin, Head of Automation and Robotics Section, European Space Agency (Co-Chair)
- Prof Chris Welch, International Space University
- Detlef Wilde, Airbus Defence and Space
- Prof. Xiu T Yan (Co-Chair) Strathclyde Space Institute – SMeSTech

◆ CONFERENCE REGISTRATION FEE

Registration fee: £200

Full registration fee includes the Book of Abstracts and an electronic version of the symposium proceedings, entrance to all sessions, lunches, coffee breaks and conference dinner.

◆ SUBMISSION GUIDELINES

Symposium information including fees and page limits is online at:

http://www.strath.ac.uk/dmem/events/spacerobotics_symposium/

The Extended abstracts for the Symposium should be uploaded at:

http://onlinelearning.dmem.strath.ac.uk/spacerobotics_submissions

New extended abstracts of papers on robotics are solicited for presentations and discussion, and full papers will be included in a book to be published in 2016.

◆ IMPORTANT DATES

Extended abstracts or Short Paper Manuscripts Due:	August 24, 2015
Acceptance Notification for Papers:	September 14 th , 2015
Final Symposium and Poster Information Due:	September 28 th , 2015
Symposium Date:	29 th -30 th October, 2015
Camera ready paper submission for the book:	April 2016
Approximate Date of Publication in the book:	July 2016

◆ SYMPOSIUM ORGANISATION

Symposium Coordinator: Dr. Mark A. Post spacerobotics@dmem.strath.ac.uk

Venue: Technology & Innovation Centre at the University of Strathclyde

99 George St., Glasgow, United Kingdom. G1 1RD

