

ROBOTICS FOR HAZARDOUS ENVIRONMENTS

Institution of
**MECHANICAL
ENGINEERS**

Seminar

20 November 2018

DoubleTree by Hilton Hotel, Coventry

KEY SPEAKERS INCLUDE:

Lucy Martin, Head of Robotics,
**Engineering and Physical Sciences Research
Council (EPSRC)**

Abbie Huddy, Platform Delivery Manager,
Airbus Defence and Space

Rustam Stolkin, Director,
National Centre for Nuclear Robotics

James Kell, Technologist – In-Situ Repair,
Rolls-Royce

Darren Potter, Capability Leader, Plant Intervention
and Modelling – Nuclear Operations,
National Nuclear Laboratory



SUPPORTING ORGANISATIONS:



EVENT PARTNERS:



Book your place today: www.imeche.org/robotics

ROBOTICS FOR HAZARDOUS ENVIRONMENTS

20 November 2018,

DoubleTree by Hilton Hotel, Coventry

ROBOTIC USE IN HAZARDOUS ENVIRONMENTS CAN HELP REDUCE RISK TO HUMAN OPERATORS AND ENGINEERING EQUIPMENT. THE ROBOTICS FOR HAZARDOUS ENVIRONMENTS SEMINAR WILL EXPLORE THE CUTTING-EDGE OF ROBOTIC DEVELOPMENTS FOR HARSH AND HAZARDOUS WORKING ENVIRONMENTS, AND HOW ENGINEERING CHALLENGES CAN BE ADDRESSED

Gain insight into **designing for locomotion**, innovations in **grasping, sensing and manipulating** objects, and the role of **AI and autonomy** in a robotic future. Learn how to make the most of developments in robotics for hazardous environments, including the **space, nuclear, offshore, construction, aviation and oil and gas** industries.

Meet and discuss the growth of the UK robotics industry and the impact on end users, operators, maintenance engineers, robotics specialists, designers and manufacturers. Join our **dedicated exhibition space** shared with robotics experts from our **co-located Robotics and Automation in Manufacturing seminar**.

KEY PROGRAMME HIGHLIGHTS:

- **Airbus Defence and Space** address challenges encountered when introducing the ExoMars rover mission to Mars
- **Rolls-Royce** explore how robotics can be used for in-situ repair and inspection
- The **University of Oxford** address sensing and mapping for industrial inspection of oil and gas facilities
- **Q-Bot Limited** present on autonomous exploration robots and how they can modernise the construction industry
- **Advanced Robotic Technology Ltd** outline the role of robotics in decommissioning in making the process safer, faster and cheaper

ATTEND THIS SEMINAR TO:

- Hear insights from leading organisations using and developing robotics including **Rolls-Royce, National Nuclear Laboratory, Airbus Defence and Space, and Wood Group**
- Understand how robotics can **improve safety, efficacy and cost efficiency**, with case studies from a nuclear decommissioning environment
- Learn about the latest developments in **autonomous robotic technology** across hazardous industries
- Meet and discuss with robotics experts and end users from **academia, research, space, aviation, construction, nuclear, rail and oil and gas**

TECHNICAL ADVISORY COMMITTEE:

David Hopper, Principal Consultant and Director
Advanced Robotic Technology Ltd

Rustam Stolkin, Director
National Centre for Nuclear Robotics

BOOK YOUR PLACE TODAY
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TERMS AND
CONDITIONS
APPLY

PROGRAMME

TUESDAY, 20 NOVEMBER 2018	
08:30	REGISTRATION AND REFRESHMENTS
09:00	CHAIR'S OPENING REMARKS Kevin Blacktop, Chair, National Robotics Network
	DEPLOYMENT OF ADVANCED ROBOTICS
09:10	ROBOTICS: THE VIEW FROM EPSRC, UK RESEARCH AND INNOVATION Lucy Martin, Head of Robotics, Engineering and Physical Sciences Research Council (EPSRC)
09:40	ADVANCED ROBOTICS FOR NUCLEAR AND OTHER HIGH CONSEQUENCE INDUSTRIES Rustam Stolkin, Director, National Centre for Nuclear Robotics
	MAINTENANCE AND OPERATIONS
10:10	INTELLIGENTENGINE: ROBOTIC IN-SITU REPAIR AND INSPECTION James Kell, Technologist - In-Situ Repair, Rolls-Royce
10:40	QUESTION AND ANSWER SESSION
10:55	SPEED NETWORKING AND REFRESHMENT BREAK
	OVERCOMING CHALLENGES IN ADOPTION OF ROBOTICS
11:35	HOW TO SAVE BILLIONS OF POUNDS IN NUCLEAR DECOMMISSIONING: ROBOTICS David Hopper, Principal Consultant and Director, Advanced Robotic Technology Ltd
11:55	FROM LAB TO DEPLOYMENT: HOW TO HARNESS THE BENEFITS OF RAS INNOVATIONS IN NUCLEAR DECOMMISSIONING Darren Potter, Capability Leader, Plant Intervention and Modelling – Nuclear Operations, National Nuclear Laboratory
12:15	FROM PROBLEM TO OPPORTUNITY: HOW TO DELIVER THE BENEFITS OF RAS INNOVATIONS IN THE NUCLEAR INDUSTRY John Brotherhood, Engineering Development (Remote Handling Group), Wood Group
12:35	QUESTION AND ANSWER SESSION
12:50	NETWORKING LUNCH
	GRASPING, SENSING AND MANIPULATING
13:50	A HELPING HAND FOR HAZARDOUS ROBOTICS Rich Walker, Managing Director, Shadow Robot Company
14:20	SENSING AND MAPPING FOR INDUSTRIAL INSPECTION OF OIL AND GAS FACILITIES Maurice Fallon, Departmental Lecturer, University of Oxford
14:50	QUESTION AND ANSWER SESSION
15:00	NETWORKING REFRESHMENT BREAK
	DESIGNING FOR ENVIRONMENTAL CHALLENGES
15:30	ROBOTS ON THE RED PLANET: DESIGNING THE EXOMARS MISSION Abbie Huty, Platform Delivery Manager, Airbus Defence and Space
	AUTONOMY AND ARTIFICIAL INTELLIGENCE
16:00	AUTONOMOUS EXPLORATION ROBOT TO EMPOWER PEOPLE AND MODERNISE THE CONSTRUCTION INDUSTRY Tom Lipinski, Co-Founder and CIO, Q-Bot Limited
16:30	QUESTION AND ANSWER SESSION
16:40	ARTIFICIAL INTELLIGENCE AND INCREASED AUTOMATION: ADDRESSING THE CHALLENGE Ian Morgan, Principal Engineers for Plant, Network Rail Rob Buckingham, Director, United Kingdom Atomic Energy Authority, Head of RACE Further panellists to be announced
PANEL DISCUSSION	<ul style="list-style-type: none"> Understanding the current capabilities of AI and the predicted impact The interaction between AI, autonomy and increased automation at large Addressing the ethical question of increased automation in engineering, and the impact on jobs
17:10	CHAIR'S CLOSING REMARKS
17:20	END OF SEMINAR

For the most up-to-date and detailed programme for the event, please visit www.imeche.org/robotics

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

HOW TO BOOK YOUR PLACE

FEES AND CHARGES

Registration fees include entry to the sessions, refreshments and a copy of the conference proceedings.

Seminar	Standard Rate
Member, Institution of Mechanical Engineers / Supporting Organisation	£280 + VAT = £336
Non-member	£350 + VAT = £420
Full-time Student/Retired	£120 + VAT = £144

Group booking discounts are available. Contact us for more information.

THREE WAYS TO BOOK

- 1 Online:
www.imeche.org/robotics
- 2 Email:
eventenquiries@imeche.org
- 3 Phone:
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Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

CONDITIONS OF BOOKING

Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

CANCELLATION

For a refund (minus £25+VAT admin charge), cancellations must be received at least 30 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid. The Institution is not

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LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

CONFERENCE VENUE

DoubleTree by Hilton Hotel Coventry
Paradise Way
Walsgrave Triangle
Coventry
CV2 2ST

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OTHER EVENTS TO LOOK FOR



ROBOTICS AND AUTOMATION IN MANUFACTURING

20 November 2018, Coventry

With insights from organisations pioneering the use of the latest robotics and automation technologies in their manufacturing processes, join this seminar to gather best practice strategies to optimise efficiency and deliver ROI.

www.imeche.org/roboticsautomation



THE INSTITUTION OF MECHANICAL ENGINEERS' ANNUAL DINNER 2018

22 November 2018, Bristol

Join the Institution in celebration of engineering excellence – and in particular 50 years of supersonic travel – at the newly-opened museum Aerospace Bristol, housing the final Concorde ever built, which will provide the spectacular backdrop for a memorable night of networking and fine dining.

www.imeche.org/annualdinner

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