

## Schedule for SEAS DTC Conference, 13/14 July 2010 : Kilsyth Stream

### Day 1 - Tuesday 13 July 2010

|       |  |   |
|-------|--|---|
| 08:00 | Strathblane Hall : Registration / Cromdale Hall : Coffee / Tea [Sponsored by MBDA UK Ltd]  |   |
| 09:10 | Pentland Auditorium : Combined Welcome Session with EMRS DTC   |   |
| 10:10 | Brief break  |   |
| 10:15 | Pentland Auditorium : Plenary Session 1 : SEAS DTC Introduction  |   |
| 10:40 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |   |
| 10:55 | Kilsyth :<br>Session chair<br>John<br>Liddicoat<br>(Dstl)  | <b>Sensor Exploitation theme session, part 1</b> <ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Image-Based Mission Planning (Pier Luigi Dragotti, Imperial College London)</li> <li>– Automatic Target Recognition (Michael Outhouse, Deep Vision)</li> <li>– Exchanging 3D Multi-level Maps with Transformations to Support Multi-Modal Alignment (Simon Maskell, QinetiQ)</li> </ul> </li> </ul> |
| 11:55 | Brief break  |   |
| 12:10 | Kilsyth :<br>Session chair<br>John<br>Liddicoat<br>(Dstl)  | <b>Sensor Exploitation theme session, part 2 : Tactical Information Generation, Exchange and Registration (TIGER)</b> <ul style="list-style-type: none"> <li>• Presentations on TIGER (Mike Otter, SELEX Galileo) : <ul style="list-style-type: none"> <li>– Background</li> <li>– Technical Review</li> <li>– Performance</li> <li>– Way Forward</li> </ul> </li> <li>• Panel Questions and Answers / Wrap-up</li> </ul>   |
| 13:10 | Cromdale Hall : Lunch Break / Exposition [Sponsored by Roke Manor Research Ltd]  |   |
| 13:55 | Pentland Auditorium : Plenary Session 2 : Introduction to SEAS DTC Systems Exemplars   |   |
| 14:25 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |   |
| 14:40 | Pentland Auditorium / Strathblane Hall : Plenary Session 3 : Systems Exemplar 1 - Mine Countermeasures                                     |   |
| 16:20 | Cromdale Hall : Networking Reception (up to 1900) [Sponsored by BAE Systems]<br>Followed by Conference Dinner [Sponsored by SELEX Galileo] |   |

### Day 2 - Wednesday 14 July 2010

|       |   |  |
|-------|---|--|
| 09:00 | Kilsyth :<br>Session chair<br>Paul Webb<br>(Roke Manor<br>Research)   | <b>Communications and Control theme session, part 1</b> <ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Surface Wave Communication (Janice Hendry, Roke Manor Research)</li> <li>– RoKEx: Knowledge Exchange (Peter McBrien, Imperial College London)</li> <li>– Demonstration of future communication architecture (Mark West, Roke Manor Research)</li> <li>– SEAS DTC Acoustic Communications (Pete Hulbert, Roke Manor Research)</li> </ul> </li> </ul> |
| 10:00 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]  |  |
| 10:20 | Pentland Auditorium / Strathblane Hall : Plenary Session 4 : Systems Exemplar 2 - Land Transit  |  |
| 12:00 | Cromdale Hall : Lunch Break [Sponsored by Thales UK Ltd]  |  |
| 12:45 | Kilsyth :<br>Session chair<br>Chris Williams<br>(Dstl)  | <b>Communications and Control theme session, part 2</b> <ul style="list-style-type: none"> <li>• Presentations: <ul style="list-style-type: none"> <li>– Denial of Service Attacks in Autonomous Systems (Abbie West, Roke Manor Research)</li> <li>– Autonomous Control Theme Integrated Demonstration (Ed Sparks, Roke Manor Research)</li> <li>– Integrated Communications Demonstrator (Tom Nabarro, Roke Manor Research)</li> <li>– Robot Mapping (Vince Dobbin, WFS Defense)</li> </ul> </li> </ul>                                  |
| 13:45 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]  |  |
| 14:00 | Pentland Auditorium / Strathblane Hall : Plenary Session 5 : Systems Exemplar 3 - Heterogeneous Team of Assets in Complex Urban Environment |  |
| 15:40 | Cromdale Hall : Coffee / Tea / Networking [Sponsored by Rolls-Royce plc]  |  |

## Schedule for SEAS DTC Conference, 13/14 July 2010 : Moorfoot Stream

### Day 1 - Tuesday 13 July 2010

|       |  |   |
|-------|--|---|
| 08:00 | Strathblane Hall : Registration / Cromdale Hall : Coffee / Tea [Sponsored by MBDA UK Ltd]  |   |
| 09:10 | <b>Pentland Auditorium : Combined Welcome Session with EMRS DTC</b>  |   |
| 10:10 | Brief break  |   |
| 10:15 | <b>Pentland Auditorium : Plenary Session 1 : SEAS DTC Introduction</b>   |   |
| 10:40 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |   |
| 10:55 | Moorfoot :<br>Session chair<br>Henry Tse<br>(BAE Systems)  | <b>Mission Planning &amp; Decision-making theme session, part 1</b><br><ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Norm Aware Agent Systems (Nir Oren, Kings College London)</li> <li>– Ground Based Air Defence under Uncertainty (Nikolaos Papadokos / George Tzallas-Regas, Imperial College London)</li> </ul> </li> </ul> |
| 11:55 | Brief break  |   |
| 12:10 | Moorfoot :<br>Session chair<br>Bob Taylor<br>(Dstl)  | <b>Mission Planning &amp; Decision-making theme session, part 2</b><br><ul style="list-style-type: none"> <li>• Presentations: <ul style="list-style-type: none"> <li>– Multiple Objective Optimisation applied to Route Planning (Antony Waldoock, BAE Systems)</li> <li>– Living Maps: Affordances-Attributed World Multi-Representations (Yiannis Demiris, Imperial College London)</li> </ul> </li> </ul>     |
| 13:10 | Cromdale Hall : Lunch Break / Exposition [Sponsored by Roke Manor Research Ltd]  |   |
| 13:55 | <b>Pentland Auditorium : Plenary Session 2 : Introduction to SEAS DTC Systems Exemplars</b>  |   |
| 14:25 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |   |
| 14:40 | <b>Pentland Auditorium / Strathblane Hall : Plenary Session 3 : Systems Exemplar 1 - Mine Countermeasures</b>                              |   |
| 16:20 | Cromdale Hall : Networking Reception (up to 1900) [Sponsored by BAE Systems]<br>Followed by Conference Dinner [Sponsored by SELEX Galileo] |   |

### Day 2 - Wednesday 14 July 2010

|       |  |   |
|-------|--|---|
| 09:00 | Moorfoot<br>Session chair<br>Graham Watson<br>(BAE Systems)  | <b>Systems Engineering research theme session, part 1</b><br><ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Resource-Driven Reconfiguration of AV Systems (Kevin Hammond, St Andrews University / Matthew Bolsover, Waterfall Solutions)</li> <li>– Modelling, Measuring and Predicting Emergent Behaviour in Cooperative Multi-Agent Systems (Ingrida Valiusaityte, BAE Systems)</li> <li>– Trusted Reasoning Engine – SUSAN (Samuel Halliday, ThinkTank Maths)</li> </ul> </li> </ul> |
| 10:00 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]   |   |
| 10:20 | <b>Pentland Auditorium / Strathblane Hall : Plenary Session 4 : Systems Exemplar 2 - Land Transit</b>  |   |
| 12:00 | Cromdale Hall : Lunch Break [Sponsored by Thales UK Ltd]   |   |
| 12:45 | Moorfoot :<br>Session chair<br>Bharat Patel<br>(Dstl)  | <b>Systems Engineering research theme session, part 2</b><br><ul style="list-style-type: none"> <li>• Presentations: <ul style="list-style-type: none"> <li>– Safety Certification of Autonomous Systems (Rob Alexander, University of York)</li> <li>– Certification of Autonomous Systems using formal method (Jiyong Choi, Cranfield University)</li> <li>– Quantum Games for Multi-Agent Collaboration (Hannu Rajaniemi, ThinkTank Maths)</li> <li>– MDA for Autonomous Systems (Glenn Callow, BAE Systems)</li> </ul> </li> </ul>                                  |
| 13:45 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]   |   |
| 14:00 | <b>Pentland Auditorium / Strathblane Hall : Plenary Session 5 : Systems Exemplar 3 - Heterogeneous Team of Assets in Complex Urban Environment</b> |   |
| 15:40 | Cromdale Hall : Coffee / Tea / Networking [Sponsored by Rolls-Royce plc]   |   |

## Schedule for SEAS DTC Conference, 13/14 July 2010 : Tinto Stream

### Day 1 - Tuesday 13 July 2010

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| 08:00 | Strathblane Hall : Registration / Cromdale Hall : Coffee / Tea [Sponsored by MBDA UK Ltd]  |  |
| 09:10 | Pentland Auditorium : Combined Welcome Session with EMRS DTC   |  |
| 10:10 | Brief break  |  |
| 10:15 | Pentland Auditorium : Plenary Session 1 : SEAS DTC Introduction  |  |
| 10:40 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |  |
| 10:55 | Tinto :<br>Session chair<br>Hector Figueiredo<br>(BAE Systems)   | <b>Algorithms and Architectures theme session, part 1</b> <ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Robustness Functions for Decision Support and Analysis in Autonomous Systems (David Nicholson, BAE Systems)</li> <li>– Decentralised Sensor Management for Target Acquisition and Tracking (George Mathews, BAE Systems)</li> <li>– Bayesian Optimisation for Sensor Set Selection (Michael Osborne, University of Oxford)</li> <li>– Decentralized Adaptive Subgradient Methods for the Asymptotic Minimization of Time-Varying Convex Functions (Renato Cavalcante, University of Southampton)</li> </ul> </li> </ul> |
| 11:55 | Brief break  |  |
| 12:10 | Tinto :<br>Session chair<br>Phil Brown<br>(Dstl)   | <b>Algorithms and Architectures theme session, part 2</b> <ul style="list-style-type: none"> <li>• Presentations: <ul style="list-style-type: none"> <li>– The BAE Systems Wildcat Data Sets (Richard Simpson, BAE Systems)</li> <li>– Driveable Terrain Detection Update (Julia Will, BAE Systems)</li> <li>– Towards Exploiting Text in Natural Scene Images for <i>Literate</i> Robotics (Ingmar Posner, University of Oxford)</li> <li>– Visual SLAM with Moving Reference Frames (Gabe Sibley, University of Oxford)</li> </ul> </li> </ul>   |
| 13:10 | Cromdale Hall : Lunch Break / Exposition [Sponsored by Roke Manor Research Ltd]  |  |
| 13:55 | Pentland Auditorium : Plenary Session 2 : Introduction to SEAS DTC Systems Exemplars   |  |
| 14:25 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by MBDA UK Ltd]   |  |
| 14:40 | Pentland Auditorium / Strathblane Hall : Plenary Session 3 : Systems Exemplar 1 - Mine Countermeasures                                     |  |
| 16:20 | Cromdale Hall : Networking Reception (up to 1900) [Sponsored by BAE Systems]<br>Followed by Conference Dinner [Sponsored by SELEX Galileo] |  |

### Day 2 - Wednesday 14 July 2010

|       |   |  |
|-------|---|--|
| 09:00 | Tinto :<br>Session chair<br>Dave Morgan<br>(Rolls-Royce)  | <b>Propulsion, Power Generation and Energy Management theme session, part 1</b> <ul style="list-style-type: none"> <li>• Theme introduction</li> <li>• Presentations: <ul style="list-style-type: none"> <li>– Very Long Endurance Propulsion Systems (Mark Husband, Rolls-Royce)</li> <li>– Developments within IEPNEF to Provide Active Power Management and Mission Planning using Intelligent Agent Techniques (Vince Lowe, Rolls-Royce / Max Ong, University of Sheffield)</li> </ul> </li> </ul> |
| 10:00 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]  |  |
| 10:20 | Pentland Auditorium / Strathblane Hall : Plenary Session 4 : Systems Exemplar 2 - Land Transit  |  |
| 12:00 | Cromdale Hall : Lunch Break [Sponsored by Thales UK Ltd]  |  |
| 12:45 | Tinto :<br>Session chair<br>Brian Ryman<br>(Dstl)   | <b>Propulsion, Power Generation and Energy Management theme session, part 2</b> <ul style="list-style-type: none"> <li>• Presentations: <ul style="list-style-type: none"> <li>– Dynamic Planning for Intelligent Power Management (Mike Hook, Roke Manor Research)</li> <li>– Intelligent Power Management: the Development of a Functional Architecture (Derek Wall, Rolls-Royce and Ben Morley, BAE Systems)</li> </ul> </li> </ul>   |
| 13:45 | Cromdale Hall : Coffee / Tea / Exposition [Sponsored by Rolls-Royce plc]  |  |
| 14:00 | Pentland Auditorium / Strathblane Hall : Plenary Session 5 : Systems Exemplar 3 - Heterogeneous Team of Assets in Complex Urban Environment |  |
| 15:40 | Cromdale Hall : Coffee / Tea / Networking [Sponsored by Rolls-Royce plc]  |  |