### Monday 20 November 2016

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<tr>
<th>Time</th>
<th>Session Description</th>
<th>Venue</th>
<th>Chair/Host</th>
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<tbody>
<tr>
<td>1300 - 1730</td>
<td>Welcome</td>
<td>Venue: Advanced Engineering Building, University of Queensland</td>
<td>Chair: Professor Rob Shepherd. Venue Provided by University of Queensland</td>
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<tr>
<td>1400 - 1415</td>
<td>Conference Opening</td>
<td>Mayor Graham Quirk, Lord Mayor of Brisbane, Australia</td>
<td>Professor Robert Shepherd, Bionics Institute, Australia</td>
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<tr>
<td>1415 - 1645</td>
<td>Session 1: Overview of Medical Bionics Design, Development and Commercialisation</td>
<td>Venue: Advanced Engineering Building, University of Queensland</td>
<td>Chair: Professor Rob Shepherd. Proudly Hosted by Advance Queensland</td>
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<tr>
<td>1415 - 1445</td>
<td>Building a Neural Prosthesis</td>
<td>Professor Jim Patrick AO, Cochlear Ltd, Australia</td>
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<tr>
<td>1445 - 1515</td>
<td>How to Successfully Combine a Career in Research and Industry</td>
<td>Professor Simon Malpas, University of Auckland, Millar Instruments Inc, New Zealand</td>
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<tr>
<td>1515 - 1545</td>
<td>Afternoon Tea and Poster Viewing</td>
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<tr>
<td>1545 - 1615</td>
<td>Taking a Device to Market: Highs, Lows and the Valley of Death – Revisited</td>
<td>Professor Malcolm Home, Howard Florey Institute, Global Kinetics, Australia</td>
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<tr>
<td>1615 - 1645</td>
<td>Taking a Device from an Idea to the Market</td>
<td>Dr. John Parker, Saluda Medical, Australia</td>
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<tr>
<td>1645 - 1930</td>
<td>Welcome Reception</td>
<td>Proudly Hosted by Saluda Medical</td>
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<tr>
<td>1945 - 2015</td>
<td>Twilight Poster Session</td>
<td>Proudly Hosted by The Bionics Institute of Australia and The Health Group - Griffith University</td>
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<tr>
<td>2015 - 2030</td>
<td>Twilight Poster Session</td>
<td>Venue: University of Queensland</td>
<td>Venue Provided by University of Queensland</td>
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<td>Time</td>
<td>Session Description</td>
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<tr>
<td>0730 - 1800</td>
<td><strong>Bionic Voice: A Motor Prosthesis to Restore Natural Control of Voice for Larynx Amputees</strong>&lt;br&gt;<strong>Dr. Farzaneh Ahmadi, MARCS Institute, University of Western Sydney, Australia</strong></td>
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<tr>
<td>0830 - 0850</td>
<td><strong>Combining Neural Prostheses and Drug Delivery</strong>&lt;br&gt;<strong>Dr. Andrew Wise, Bionics Institute, Australia</strong></td>
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<tr>
<td>0900 - 0930</td>
<td><strong>Bionic Array-Based Neurotrophin Gene Electrotransfer Drives Auditory Nerve Regeneration that Improves Hearing</strong>&lt;br&gt;<strong>Professor Gary Housley, University of New South Wales, Australia</strong></td>
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<tr>
<td>0945 - 1000</td>
<td><strong>Fabrication of a Soft and Stretchable Multi Electrode Array for 3D Neural Networks</strong>&lt;br&gt;<strong>Ms Aline Renz, Institute of Biomedical Engineering (ETH Zuerich), Switzerland</strong></td>
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<tr>
<td>1100 - 1120</td>
<td><strong>Bioelectronics for the Treatment of Inflammatory Bowel Disease</strong>&lt;br&gt;<strong>Professor John Furness, University of Melbourne / Florey Institutes, Australia</strong></td>
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<tr>
<td>1130 - 1150</td>
<td><strong>Commercialising Innovative Research and Technology in a Highly Regulated Environment</strong>&lt;br&gt;<strong>Mr Toby McSweeney, Hydrix, Australia</strong></td>
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<td>1200 - 1220</td>
<td><strong>Queensland Innovation</strong>&lt;br&gt;<strong>Ms Lea Diffey, Department of Science, Information Technology and Innovation, Queensland, Australia</strong></td>
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<tr>
<td>1230 - 1245</td>
<td><strong>Science and Innovation: Opportunities for New Manufacturing in Australia</strong>&lt;br&gt;<strong>Dr. Peter Riddles, Director, Science and Innovation Advisor, VicBio Pty Ltd, Australia</strong></td>
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<td>1530 - 1800</td>
<td><strong>Session 4: Bionic Hearing: Improved Hearing Technology</strong>&lt;br&gt;**Venue: Advanced Engineering Building, University of Queensland</td>
<td><strong>Chair: Dr. Sophie Payne</strong></td>
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<td>1530 - 1550</td>
<td><strong>Current Focussing Techniques for Cochlear Implants: Experimental Studies</strong>&lt;br&gt;<strong>Professor James Fallon, Bionics Institute, Australia</strong></td>
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<td>1550 - 1620</td>
<td><strong>Using the Cochlear Implant's Electrodes to Detect Residual Cochlear Function During and After Surgery</strong>&lt;br&gt;<strong>Professor Stephen O'Leary, University of Melbourne, Australia</strong></td>
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<td>1630 - 1700</td>
<td><strong>Using Functional Near-Infrared Spectroscopy (fNIRS) to Understand Deafness and Brain Plasticity</strong>&lt;br&gt;<strong>Professor Colette McKay, Bionics Institute, Australia</strong></td>
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<td>1700 - 1720</td>
<td><strong>Predicting Specificity of Neural Stimulation via a Finite Element Model of the Human Cochlea</strong>&lt;br&gt;<strong>Mr. Luke Zhao, University of Sydney, Australia</strong></td>
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<td>1730 - 1745</td>
<td><strong>Bionic Voice: A Motor Prosthesis to Restore Natural Control of Voice for Larynx Amputees</strong>&lt;br&gt;<strong>Dr. Farzaneh Ahmadi, MARCS Institute, University of Western Sydney, Australia</strong></td>
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<td>1745 - 1800</td>
<td><strong>Fully Implantable Optogenetic System for Light Stimulation in Chronic Animals Experiment</strong>&lt;br&gt;<strong>Miss Beverly Chen, University of Auckland, New Zealand</strong></td>
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<td>1800 - 1900</td>
<td><strong>Optogenetics for the Application of Optical Stimulation of Cochlear Neurons</strong>&lt;br&gt;<strong>Dr. Rachael Richardson, Bionics Institute, Australia</strong></td>
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<td><strong>Human Bionics Interface General Meeting</strong>&lt;br&gt;<strong>Professor Dimity Dornan, Human-Bionics Interface, Australia</strong></td>
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<td>0730 - 1800</td>
<td><strong>REGISTRATION</strong></td>
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<td>0800 - 1000</td>
<td><strong>Session 5: Bionic Vision: Retinal Prosthesis</strong></td>
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<td><strong>Venue:</strong> Advanced Engineering Building, University of Queensland</td>
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<td><strong>Chair:</strong> Dr. Tania Kameneva</td>
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<tr>
<td>0800 - 0830</td>
<td><strong>Overview of the Bionic Vision Australia Research Program</strong></td>
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<td><strong>Professor Tony Burkitt, University of Melbourne, Australia</strong></td>
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<td>0830 - 0900</td>
<td><strong>Safety of Retinal Prostheses</strong></td>
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<td><strong>Dr David Nayagam / Dr Carla Abbott, Bionics Institute / Centre for Eye Research Australia, Australia</strong></td>
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<td>0900 - 0930</td>
<td><strong>Surgical Considerations for Retinal Prostheses</strong></td>
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<td><strong>Dr. Penny Allen, Centre for Eye Research Australia, Australia</strong></td>
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<td>0930 - 1000</td>
<td><strong>Development of a Second-Generation Suprachoroidal-Transretinal Stimulation Retinal Prosthesis</strong></td>
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<td><strong>Dr. Hiroyuki Kanda, Osaka University Graduate School of Medicine, Japan</strong></td>
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<td>1000 - 1030</td>
<td><strong>MORNING TEA AND POSTER VIEWING</strong></td>
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<td>1030 - 1230</td>
<td><strong>Session 6: Bionic Vision: CNS Prosthesis 2</strong></td>
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<td><strong>Venue:</strong> Advanced Engineering Building, University of Queensland</td>
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<td><strong>Chair:</strong> Dr. Nick Opie</td>
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<td>1030 - 1100</td>
<td><strong>Engineering Development of the Monash Vision Group Bionic Eye</strong></td>
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<td><strong>Professor Arthur Lowery, Monash University, Australia</strong></td>
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<td>1100 - 1130</td>
<td><strong>Clinical Development of the Monash Vision Group Bionic Eye</strong></td>
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<td><strong>Professor Jeffrey Rosenfeld, Monash Institute of Medical Engineering (MIME), Australia</strong></td>
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<td>1130 - 1145</td>
<td><strong>Restricting Neural Activation using Focused Multipolar Electrical Stimulation in a Cat Model of Retinal</strong></td>
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<td><strong>Mr. Thomas Spencer, University of Melbourne, Australia</strong></td>
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<td>1145 - 1200</td>
<td><strong>A Systematic Approach to Finding Electrical Stimuli that Preferentially Stimulate the ON and OFF Pathways in Mouse Retina</strong></td>
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<td><strong>Mr. Sudarshan Sekhar, Institute for Ophthalmic Research, Eberhard Karls University, Tübingen, Germany</strong></td>
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<td>1200 - 1230</td>
<td><strong>Special Technology Lecture:</strong></td>
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<td><strong>No profession will be immune from the impact of exponential technology change</strong></td>
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<td><strong>Professor Hugh Bradlow, Chief Scientist, Telstra, Australia</strong></td>
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<td>1230 - 1315</td>
<td><strong>LUNCH</strong></td>
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<td>1315 - 1445</td>
<td><strong>POSTER SESSION 2</strong></td>
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<td>1445 - 1500</td>
<td><strong>AFTERNOON TEA</strong></td>
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<td>1500 - 1715</td>
<td><strong>Session 7: Neurobionics: Neural Interfaces for the CNS - Recording Technologies</strong></td>
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<td><strong>Venue:</strong> Advanced Engineering Building, University of Queensland</td>
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<td><strong>Chair:</strong> Professor David Grayden</td>
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<td>1500 - 1530</td>
<td><strong>Medical Bionics Approaches to the Treatment of Epilepsy</strong></td>
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<td><strong>Professor Mark Cook, St Vincent’s Hospital, Australia</strong></td>
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<td>1530 - 1600</td>
<td><strong>Novel Recording Techniques for Brain Machine Interfaces</strong></td>
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<td><strong>Dr. Tom Oxley, SmartStent, Australia</strong></td>
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<td>1600 - 1615</td>
<td><strong>Endovascular Neural Interface: Effect of Electrode Size on Recording Performance</strong></td>
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<td><strong>Dr. Sam John, University of Melbourne, Australia</strong></td>
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<td>1615 - 1630</td>
<td><strong>Reliability of Long-Term Subdural Electroceorticography</strong></td>
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<td><strong>Mr. Ewan Nurse, University of Melbourne, Australia</strong></td>
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<td>1630 - 1715</td>
<td><strong>Plenary Symposium: Bionics Toolboxes - Past, Present and Future</strong></td>
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<td><strong>Guest of Honour: Professor Peter Seligman, Bionics Institute, Australia</strong></td>
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<td><strong>Venue:</strong> Advanced Engineering Building, University of Queensland</td>
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<td><strong>Moderator:</strong> Professor Rob Shepherd</td>
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<tr>
<td>1900 - 2300</td>
<td><strong>Conference Dinner</strong></td>
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<td><strong>Proudly Hosted by FB Rice and the Office of the Lord Mayor</strong></td>
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<td><strong>Venue:</strong> Ithaca Auditorium, Brisbane City Hall</td>
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<td>0730 - 1415</td>
<td><strong>REGISTRATION</strong></td>
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<td>0800 - 1030</td>
<td><strong>Session 8: Neurobionics: Neural Interfaces for the CNS - Neuromodulation</strong></td>
<td>Room: Advanced Engineering Building, University of Queensland</td>
<td>Chair: Professor Linda Richards</td>
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<tr>
<td>0800 - 0830</td>
<td>New Applications and New Technologies for Deep Brain Stimulation</td>
<td>Professor Hugh McDermott, Bionics Institute, Australia</td>
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<td>0830 - 0900</td>
<td>Deep Brain Stimulation for Parkinson's Disease - Tailored by Neural Biomarkers</td>
<td>Dr. Wes Thevathasan, Royal Melbourne Hospital / Bionics Institute, Australia</td>
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<td>0900 - 0930</td>
<td>Objective Instrumented Measures of Disease Severity in Movement Disorders</td>
<td>Dr. Thushara Perera, Bionics Institute, Australia</td>
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<td>0930 - 1000</td>
<td>Recent Advances in Deep Brain Stimulation</td>
<td>Professor Peter Silburn, University of Queensland, Australia</td>
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<td>1000 - 1015</td>
<td>In Vivo Evaluation of Miniaturized Deep Brain Stimulation Electrodes</td>
<td>Dr. Joel Villalobos, Bionics Institute, Australia</td>
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<td>1015 - 1030</td>
<td>Signal Quality of a Stent-Based Neural Interface with Visual Evoked Potentials</td>
<td>Miss Giulia Gerboni, University of Melbourne, Australia</td>
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<td>1030 - 1100</td>
<td><strong>MORNING TEA AND POSTER VIEWING</strong></td>
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<tr>
<td>1100 - 1300</td>
<td><strong>Session 9: Enabling Technologies</strong></td>
<td>Room: Advanced Engineering Building, University of Queensland</td>
<td>Chair: Dr. Mohit Shivdasani</td>
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<tr>
<td>1100 - 1130</td>
<td>Powering Implantable Devices</td>
<td>Professor David Budgett, University of Auckland, New Zealand</td>
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<td>1130 - 1200</td>
<td>The Development of an Artificial Heart Pump</td>
<td>Professor Steve Wilton, University of Queensland, Australia</td>
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<td>1200 - 1230</td>
<td>Stretchable Electronics for Spinal Cord Stimulation and In Vivo Strain Sensing</td>
<td>Professor Janos Voros, University of Zurich and ETH, Switzerland</td>
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<td>1230 - 1245</td>
<td>Wearable Arbitrary Current Stimulus Generator</td>
<td>Dr. Paul Breen, The MARCS Institute, University of Western Sydney, Australia</td>
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<td>1245 - 1300</td>
<td>Miniature Closed-loop Optogenetic Stimulation Device</td>
<td>Professor Abbas Kozani, Deakin University, Australia</td>
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<td>1300 - 1345</td>
<td><strong>LUNCH</strong></td>
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<tr>
<td>1345 - 1700</td>
<td><strong>Session 10: Looking Back and Moving Forward</strong></td>
<td>Room: Advanced Engineering Building, University of Queensland</td>
<td>Chair: Professor Rob Shepherd</td>
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<tr>
<td>1345 - 1415</td>
<td>A History of Retinal and Cortical Visual Prostheses</td>
<td>Dr. Phil Lewis, Anatomics Pty Ltd, Australia</td>
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<tr>
<td>1415 - 1445</td>
<td>Human-Bionics Interface: Great Strides towards Real-life Impact</td>
<td>Proudly Hosted by PwC Australia</td>
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<td>1445 - 1515</td>
<td>Restoring Cutaneous and Proprioceptive Somatosensory Function with Nerve Stimulation after Hand Amputation</td>
<td>Associate Professor Greg Clark, University of Utah, USA</td>
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<td>1515 - 1530</td>
<td><strong>AFTERNOON TEA</strong></td>
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<td>1530 - 1600</td>
<td>Driving Innovation Towards the Development of a High Resolution-High Data Transfer Neural Interface</td>
<td>Dr. Philip Alvelda, Program Manager of Neural Engineering System Design (DARPA BTO), USA</td>
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<td>1600 - 1630</td>
<td>Bionic Technologies for repairing and enhancing Sensorimotor, Autonomic, and Cognitive Functions</td>
<td>Dr. Douglas Weber, Electrical Prescriptions Program, DARPA, USA</td>
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<td>1630</td>
<td><strong>Conference Closes</strong></td>
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