

## HEVC 2016

### Conference Programme

 2 – 3 November 2016 | IET London: Savoy Place,  
 London, UK

<b>2 November 2016</b>	
<b>08:30</b>	<b>Registration, refreshments and exhibition</b>
<b>09:20</b>	<b>Conference Chair welcome</b> Adrian Vinsome, Head of Energy Research, <i>Cenex, UK</i>
<b>09:30</b>	<b>Keynote:</b> <b>HEV – Advanced technology for real world users</b>  Andy Eastlake, Managing Director, <i>LowCVP</i>
<b>Session 1: Use Profiles</b> Chair: Andy Eastlake, <i>LowCVP, UK</i>	
<b>10:00</b>	<b>1.1</b> <b>Derivation of real-world driving cycles corresponding to traffic situation and driving style on the basis of markov models and cluster analyses</b> R Liessner, A Dietermann, B Baeker, <i>TU Dresden, Germany</i> , K Luepkes, <i>Daimler AG, Germany</i>
<b>10:20</b>	<b>1.2</b> <b>Challenges of hybridisation of off-highway machinery</b> D G Corrochano, <i>JCB Research, UK</i> , L Harper
<b>10:40</b>	<b>1.3</b> <b>Determining factors for electric bus infrastructure choices</b> R Beekman, <i>Amsterdam University of Applied Sciences, Netherlands</i>
<b>11:00</b>	<b>Refreshments and exhibition</b>
<b>Session 2: Battery Management</b> Chair: Miguel A. Gama, <i>Jaguar Land Rover, UK</i>	
<b>11:30</b>	<b>2.1</b> <b>Accelerating state-of-charge estimation in FPGA-based battery management systems</b> X Tian, B Jeppesen, T Ikushima, <i>Altera (now part of Intel), UK</i> , F Baronti, R Morello, <i>University of Pisa, Italy</i>
<b>11:50</b>	<b>2.2</b> <b>Cell voltage measurements in an operating battery</b> R Ball, <i>TMETC, UK</i>
<b>12:10</b>	<b>2.3</b> <b>Real-time SoH diagnosis and prognosis methods to estimate ageing causes and effects in parallelized li-ion batteries</b> C Pastor-Fernandez, W Dhammika Widanage, J Marco, <i>WMG The University of Warwick, UK</i> , M A Gama-Valdez, <i>Jaguar Land Rover, UK</i>
<b>12:30</b>	<b>Lunch, networking and exhibition</b>
<b>Session 3: Poster session 1</b> Chair: Robert Ball, <i>Tata Motors, UK</i>	
<b>13:35</b>	<b>P2</b>

	<b>Investigation of Characteristics Regarding Lithium-ion Battery Cells for an Electric Race Car Application</b> S Nordang, <i>Norwegian University of Science and Technology, Norway</i> , T Toftveag
13:40	<b>P4</b> <b>Demand side management of electric vehicle car parks to increase the integrated solar power capacity within an existing radial distribution network</b> M Kiaee, A J Cruden, S M Sharkh, <i>University of Southampton, UK</i>
13:45	<b>P7</b> <b>The challenge of low-carbon-vehicle (LCV) adoption in an oil-driven economy; Nigerian's story</b> J O Adegoke, <i>Birmingham City University, UK</i> , A C Cole, <i>Cranfield University, UK</i>
<b>Session 4: Infrastructure Design</b> Chair: Adrian Vinsome, <i>Cenex, UK</i>	
13:50	<b>4.1</b> <b>Regulating EV demand: Distribution Network Operator perspective on electric vehicles</b> O E Babalola, <i>UK Power Networks, UK</i>
14:10	<b>4.2</b> <b>Which factors influence the success of public charging points of electric vehicles?</b> M Kooi, K Van Montfort, M Vargas, R Van Den Brink, <i>University of Applied Science Amsterdam, Netherlands</i> , G Van Der Poel, <i>Over Morgen, Netherlands</i>
14:30	<b>4.3</b> <b>My Electric Avenue: Integrating electric vehicles into the electrical networks</b> J D Cross, <i>EA Technology, UK</i> R Hartshorn, <i>SSE Power Distribution, UK</i>
14:50	<b>4.4</b> <b>The new generation of smart power stations for electric vehicles</b> C Mayousse, T Dubois, L Panes Vallejo, A Nai Oleari, <i>Altran, France</i>
15:10	<b>Refreshments and exhibition</b>
<b>Session 5: Thermal Management</b> Chair: Robert Ball, <i>Tata Motors, UK</i>	
15:45	<b>5.1</b> <b>Use of metallic phase change materials for heat storage in electric and hybrid vehicles</b> W Kraft, M Klein Altstedde, <i>German Aero Space Center, Institute of Vehicle Concepts, Germany</i>
16:05	<b>5.2</b> <b>Thermal management strategies for integrated hybrid vehicle subsystems</b> S Robinson, <i>Jaguar Land Rover, UK</i> , A Picarelli, V Avila, <i>Claytex, UK</i>
16:25	<b>5.3</b> <b>Thermal management of a low cost range extender for electric vehicles</b> A Agarwal, L Rodrigues, D Liu, A Lewis, S Akehurst, C J Brace, <i>University of Bath, UK</i> , G Kirkpatrick, <i>Tata Motors European Technical Centre, UK</i> , L Ash, <i>Ashwoods Electric Motors, UK</i>
16:55	<b>5.4</b> <b>Thermal analysis of lithium-ion pouch cells under aggressive automotive duty cycles with minimal cooling</b> D Worwood, E Hosseinzadeh, Q Kellner, J Marco, D Widanalage, D Greenwood, P Jennings
17:15	<b>Conference Chair's closing remarks</b> Adrian Vinsome, Head of Energy Research, <b>Cenex, UK</b>
17:20	<b>HEVC drinks reception</b> <i>IET London: Savoy Place - The Maxwell Library</i>

## 3 November 2016

**08:30 Refreshments and exhibition**

**09:00 Keynote:**  
**Future mobility & energy demands – the role for hybrid and electric vehicles in an integrated transport system**

**Neville Jackson**, Group Technology Director, **Ricardo Plc**

### **Session 6: Vehicle Systems Integration**

**Chair:** Neville Jackson, *Ricardo Plc, UK*

**09:30 6.1**  
**Optimisation of driver and driving assistance systems of electric vehicles by a static vehicle mass estimation**  
 H Fechtner, U Spaeth, B Schmuelling, *University of Wuppertal, Germany*

**09:50 6.2**  
**Passenger safety assurance of a composite intensive, multimaterial fully- electric urban car**  
 I Eguia, *Tecnalia Research and Innovation, Spain*, M S Pedersen, *Ecomove APs, Denmark*, J Holtz, *Technische Universitat Berlin, Germany*, R Molinero, *ZF-TRW, Germany*, M Tress, *TRL Limited, UK*, R Torres, *Grupo Antolin, Spain*, J Finez, *Business Innovation Brokers, Spain*

**10:10 6.3**  
**Sizing of a MAGSPLIT power split hybrid powertrain**  
 J G Birchall, S D Calverley, D Black, *Magmatics Limited, UK*

**10:30 6.4**  
**Optimal braking control for independent four-motor-wheel driven electric vehicle**  
 H Yu, M Huang, *Wuhan University of Technology, China*, A Strang Wood, *University of Bradford, UK*

**10:50 Refreshments and exhibition**

### **Session 7: Power Electronics**

**Chair:** Pete James, *Lyra Electronics, UK*

**11:20 7.1**  
**Reactive power correction for an inductive power transfer system for EV application: circuit and control**  
 S G Cimen, A Popp, B Schmuelling, *University of Wuppertal, Germany*

**11:40 7.2**  
**High-frequency and high-efficiency bidirectional DC-DC converter for electric vehicle supercapacitor systems**  
 M Rana, N McNeill, *University of Bristol, UK*

**12:00 7.3**  
**Gallium nitride - delivering its promise in automotive applications**  
 G L Patterson, J A Roberts, *GaN Systems Inc, Canada*

**12:20 7.4**  
**Real time active power measurement for the validation of electric traction drives**  
 A Stock, J Teigelkötter, *University of Applied Sciences Aschaffenburg, Germany*, K Lang, *Hottinger Baldwin Messtechnik GmbH, Germany*

**12:40 Lunch, networking and exhibition**

### **Session 8: Poster session 2**

**Chair:**

**13:45 P10**  
**Prediction of necessary public charging infrastructure of electric vehicles**

	K Van Montfort, G Van Der Poel, J Visser, R Van Den Hoed, <i>University of Applied Science Amsterdam, Netherlands</i>
13:50	<b>P13</b> <b>Hybrid vehicle engineering: A vehicle to hybridise engineers</b> A J Allen, <i>WMG University of Warwick, UK</i>
<b>Session 9: Charging Technology</b>	
<b>Chair:</b> Dr Neville McNeill, <i>University of Strathclyde, UK</i>	
13:55	<b>9.1</b> <b>Off-vehicle energy store selection for high rate EV charging station</b> T S Bryden, A J Cruden, G Hilton, B H Dimitrov, C Ponce de León, <i>University of Southampton, UK</i> N Taylor, <i>Jaguar Land Rover, UK</i> , A Mortimer, <i>SgurrEnergy Limited, UK</i>
14:15	<b>9.2</b> <b>Flexible low voltage DC lighting &amp; charging networks</b> K Smith, S Galloway, G Burt, <i>University of Strathclyde, UK</i>
14:35	<b>9.3</b> <b>Economic and environmental feasibility, architecture optimisation, and grid impact of dynamic charging of electric vehicles using wireless power transfer</b> B J Limb, B Crabb, R Zane, C McGinty, J C Quinn, <i>Utah State University, USA</i> , T H Bradley, <i>Colorado State University, USA</i>
14:55	<b>9.4</b> <b>Supercharging using a grid storage battery system</b> P James, <i>Lyra Electronics, UK</i>
15:15	<b>Refreshments and exhibition</b>
<b>Session 10: End of Life Management</b>	
<b>Chair:</b> Dr James Marco, <i>University of Warwick, UK</i>	
15:45	<b>10.1</b> <b>End-of-Life considerations for HV and 48V batteries</b> P Gupta, <i>Tata Motors European Technical Centre Plc, UK</i>
16:05	<b>10.2</b> <b>Implications of battery legislation for hybrid and electric vehicles</b> M Green, <i>Michael Green Consulting, UK</i>
16:25	<b>10.3</b> <b>Full life cycle management for hybrid and electric vehicle batteries</b> S Haig, <i>Axion Consulting, UK</i>
16:45	<b>Conference Chairs final remarks</b> Adrian Vinsome, Head of Energy Research, <b>Cenex</b> , <i>UK</i>
17:00	<b>Close of conference</b>