

# **International Workshop on Advanced/Emerging Control Methods for Intelligent Vehicle and Hybrid Electrical Vehicle**

## **ORGANIZERS**



State Key Laboratory of Vehicular Transmission (Beijing Institute of Technology)

2<sup>nd</sup> April ~ 4<sup>th</sup> April, 2018

BEIJING INSTITUTE OF TECHNOLOGY

## SPONSORS



The University of Sheffield.



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## **TECHNICAL COMMITTEE MEMBERS**

<b>Prof Quanmin Zhu</b>	<b>University of the West of England</b>
<b>Prof Ziqiang Lang</b>	<b>The University of Sheffield</b>
<b>Prof Huosheng Hu</b>	<b>University of Essex</b>
<b>Prof Zidong wang</b>	<b>Brunel University, London</b>
<b>Prof Shuanghua Yang</b>	<b>Loughborough University</b>
<b>Dr Guido Herrmann</b>	<b>Bristol University</b>
<b>Prof Hamid Reza Karimi</b>	<b>Politecnico Milano</b>
<b>Prof Weicun Zhang</b>	<b>University of Science &amp; Technology Beijing</b>
<b>Prof Jing Na</b>	<b>Kunming University of Science and Technology</b>
<b>Prof Xuebo Jin</b>	<b>Beijing Technology and Business University</b>
<b>Dr Yue Ma</b>	<b>Beijing Institute of Technology</b>



### **Aim of the workshop:**

- To share Local / National / International intelligence and experiences that may contribute to the development of control system design of novel vehicle platform.
- To suggest and formulate the international cooperation on advanced and merging control methods for intelligent vehicle and Hybrid Electric Vehicle in the next step.
- To discuss the potential cooperation on the application of UK-China collaborations projects.

### **Topics of Workshop (Not limited to)**

- Modelling technologies of powertrain and ground vehicle;
- Methodologies of Fault Tolerant Control of powertrain and ground vehicle;
- Active and passive vibration control of powertrain and automotive;
- Applications of U model based control (model independent control) for miniature land-air vehicle;
- Dynamical coordinated control approach on hybrid electrical vehicle;
- Mode switch stability control of power split hybrid electrical vehicle;
- Advance control and artificial intelligent on the horizon.

Workshop Program:

Day 1: 2<sup>nd</sup> April, 2018

Time	Contents	Location
09h00 – 09h30:	<u>Opening ceremony:</u> Addressing speech and a brief introduction on the orientation of the workshop and the research team of BIT.	BIT International Communication Centre Building, Meeting Room 3
09h30 – 10h10:	<u>Speaker 1:</u> Prof Quanmin Zhu, University of the West of England <u>Topic:</u> China-UK academic research collaboration efforts	
10h10 – 10h50:	<u>Speaker 2:</u> Prof Ziqiang Lang, University of Sheffield <u>Topic:</u> Passive and Semi-active Vibration Control with Applications in Automobile Engineering	

10h50 – 11h05:	Coffee break	
	<u>Speaker 3:</u> Dr Yue Ma	
11h05 – 11h45:	<u>Topic:</u> Speed Prediction and Optimised Control of Heavy Duty Hybrid Electric Vehicle	
11h45 – 14h30	LUNCH	Dongting restaurant
	<u>Speaker 4:</u> Prof Huosheng Hu, University of Essex	
14h30 – 15h10:	<u>Topic:</u> Applications and Future Trend of AI and Intelligent Robots over Internet	BIT International Communication Centre Building, Meeting Room
	<u>Speaker 5:</u> Prof Hamid Reza Karimi, Politecnico di Milano	
15h10 – 15h50:	<u>Topic:</u> System Fault Diagnosis and Fault-tolerant Control Techniques: Application to Rotary Machines in Electric Vehicles	3

15h50 – 16h05:	Coffee break	
16h05– 16h45:	<p><u>Speaker 6:</u> Dr Guido Herrmann, University of Bristol</p> <p><u>Topic:</u> Parameter and Signal Estimation Methods for the Automotive Powertrain</p>	
16h45– 17h30:	Group discussions on potential cooperation on the application of UK-China collaborations projects.	
18h00	BANQUET	

Day 2: 3<sup>rd</sup> April, 2018

Time	Contents	Location
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09h30 – 10h10:	<u>Speaker 7:</u> Prof Zidong Wang, Brunel University, London <u>Topic:</u> Intelligent Data Analysis: Big vs Bad	
10h10 – 10h50:	<u>Speaker 8:</u> Prof Jing Na, Kunming University of Science and Technology <u>Topic:</u> Optimal Control in Engine and Suspension of Automobile	BIT International Communication Centre Building, Meeting Room 3
10h50 – 11h30:	<u>Speaker 9:</u> Prof Xuebo Jin, Beijing Technology and Business University <u>Topic:</u> Data Fusion and SLAM in Mobile Platform	
11h30 – 14h30:	LUNCH	Dongting restaurant
14h30 – 17h00:	Discussions and Supervisory on Projects of the Doctoral and Master Students of BIT	BIT International Communication Centre Building, Meeting Room 3

Day 3: 4<sup>th</sup> April, 2018 Technical Tour, Xishan Campus of BIT