UK-China Workshop on Big Geospatial Data and Smart Cities

Supported by:
UK’s Foreign & Commonwealth Office
Ministry of Science and Technology of China
National Administration of Surveying, Mapping and Geoinformation of China

4 - 5 November 2015
Ningbo, China

Programme

Hosted by:
The University of Nottingham
Tongji University
China Telecom
China University of Mining and Technology
Chinese Academy of Surveying and Mapping
Ningbo Academy of Smart City Development
This workshop will discuss how the big geospatial data concept could potentially be used for smart transport management within the big cities of the UK and China. It will also explore the development of an effective UK-China collaboration by sharing findings, experiences and methodologies among leading UK-China academics, policy makers and other key industrial stakeholders who have an interest in these areas.

Traffic congestion costs the UK £30bn each year and £14bn of this cost is in London alone! There is an urgent need to develop a cohesive, detailed and comprehensive understanding of urbanisation and public transport systems and to find solutions to the worsening air pollution in the world’s biggest cities.

Over 80% of the information we are collecting has geolocation features. Jointly with its strategic partners in China, the Sino-UK Geospatial Engineering Centre has successfully delivered two “863” research projects in Shanghai with a focus on R&D of ubiquitous positioning and navigation solutions, big geospatial data acquisition, and data processing and analysis. These projects have enabled a much fuller understanding of essential traffic patterns (such as identifying the changes of 24-hour urban traffic hotspot distribution), through gathering instant road network information from crowd sourced data, offered by thousands of GPS-enabled floating cars on the road network.

This scoping workshop will present the key findings and methodologies in Shanghai and beyond to make valuable contributions in urban transport management. Our aim is to improve road transport sustainability, efficiency and safety, stimulate business and economic model innovation and build sustainable partnerships between China and the UK. The workshop is likely to open the door to both new and on-going conversations between people working in the fields of business/consumer analytics and computational analysis. Big Geospatial Data will ultimately bring significant social and economic benefits to the UK and China, and will help companies in both countries to improve their competitive advantage in this area.

Dr Xiaolin Meng
Chair of the UK-China Workshop on Big Geospatial Data and Smart Cities
UK Director of the Sino-UK Geospatial Engineering Centre
The University of Nottingham

Professor Guoping Qiu
Co-Chair of the UK-China Workshop on Big Geospatial Data and Smart Cities
Head of School of Computer Science
The University of Nottingham Ningbo China
Host Organisations
The University of Nottingham/ The University of Nottingham Ningbo China
Tongji University
China Telecom
China University of Mining and Technology
Chinese Academy of Surveying and Mapping
Ningbo Academy of Smart City Development

Workshop Organisers
Sino-UK Geospatial Engineering Centres:
The University of Nottingham
The Chinese Academy of Surveying and Mapping
China University of Mining and Technology
The University of Nottingham Ningbo China
Asia Business Centre, The University of Nottingham
Knowledge Exchange, The University of Nottingham Ningbo China (UNNC)
The International Doctoral Innovation Centre (IDIC), UNNC

Supporting Organisations
British Embassy Beijing
National Remote Sensing Centre of China
UbiPOS UK Ltd.
Wuhan University
China Railway Major Bridge Reconnaissance & Design Institute Co. Ltd.

Themes
Big Geospatial Data
Intelligent Transport Management
Smart Cities
Internet of Things
Connected and Driverless Vehicles
Cyber Security
Policy

Topics
Key Technologies of Big Geospatial Data
Demonstrations and Case studies
Issues, Solutions, and Future Trends in Big Geospatial Data for Smart Cities
Policy and Regulations on Smart Cities
International Cooperation

Participants: 50 by invitation only

Language: English

Venue: International Conference Centre, The University of Nottingham Ningbo China
宁波诺丁汉大学国际会议中心（中国浙江省宁波市泰康东路 199 号）
Workshop Chairs
Dr Xiaolin Meng, UK Director of the Sino-UK Geospatial Engineering Centre, The University of Nottingham
Professor Guoping Qiu, Head of School of Computer Science, The University of Nottingham Ningbo China

Organising Committee
Mr Jason Feehily, Asia Business Centre, The University of Nottingham/ Knowledge Exchange, UNNC
Ms Min Rose, Asia Business Centre, The University of Nottingham
Mr Mengchao Ye, Sino-UK Geospatial Engineering Centre, The University of Nottingham
Mr Adam Xu, Knowledge Exchange, The University of Nottingham Ningbo China
Dr Xiaoling Liu, The University of Nottingham Ningbo China
Dr Craig Hancock, The University of Nottingham Ningbo China
Mr Yang Gao, Sino-UK Geospatial Engineering Centre, The University of Nottingham

Local Arrangement
Ms Mia Shen, Knowledge Exchange, UNNC
Ms Jenny Fan, The International Doctoral Innovation Centre, UNNC
Ms Rebecca Jin, Provost Office, UNNC
Mr Yang Gao, Sino-UK Geospatial Engineering Centre, The University of Nottingham
Ms Cathy Yi Zang, Chinese Academy of Surveying and Mapping
Mr Mengchao Ye, Sino-UK Geospatial Engineering Centre, The University of Nottingham
Ms Roxanne Parnham, Sino-UK Geospatial Engineering Centre, The University of Nottingham
Ms Jessica Wang, The International Doctoral Innovation Centre, UNNC
Ms Kelly Yao, Knowledge Exchange, UNNC
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UK-China Workshop on Big Geospatial Data and Smart Cities

会议日程 / Agenda

4 - 5 November 2015
2015 年 11 月 4-5 日
International Conference Centre, The University of Nottingham Ningbo China (UNNC), Ningbo, China
宁波诺丁汉大学国际会议中心（中国浙江省宁波市泰康东路 199 号）

时间表 / Schedule

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<th>11 月 4 日星期三</th>
<th>11 月 5 日星期四</th>
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<td>Time</td>
<td>4 November Wednesday</td>
<td>5 November Thursday</td>
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<tr>
<td>上午</td>
<td>报到注册 Registration</td>
<td>技术报告 Technical Sessions</td>
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<tr>
<td>Lunch</td>
<td>自助餐 Buffet</td>
<td>自助餐 Buffet</td>
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<tr>
<td>下午</td>
<td>开幕式和大会报告 Opening Ceremony &amp; Plenary Sessions</td>
<td>University Events</td>
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<tr>
<td>晚上</td>
<td>欢迎晚宴 Welcome Banquet</td>
<td>晚宴 Banquet</td>
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会议报到注册 / Registration

时间：2015 年 11 月 4 日(星期三)
地点：宁波诺丁汉大学国际会议中心
时间：10:00 – 12:00

Date: Wednesday 4 November 2015
Venue: International Conference Centre, UNNC
Time: 10:00 – 12:00

时间 / Time 安排 / Activity

| 时    | 会议报到注册(索菲特酒店大堂以及宁波诺丁汉大学国际会议中心)
|       | Registration at Sofitel Hotel and International Conference Centre, UNNC
|       | 会议安排的车辆上午 11 点 40 离开酒店去会场
|       | Workshop Transport (11.40am to UNNC) |
|       | 自助餐 (宁波诺丁汉大学罗宾汉餐厅)
|       | Buffet (Robin Hood Restaurant, UNNC) |
| 10:00–12:00 | |
| 12:00–13:00 | |
## Opening Ceremony & Plenary Session

**Date:** Wednesday 4 November 2015  
**Venue:** International Conference Centre, UNNC  
**Time:** 13:00 – 17:10

### Opening Ceremony

**Host:** Dr Xiaolin Meng, UK Director of the Sino-UK Geospatial Engineering Centre, The University of Nottingham

<table>
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<tr>
<th>Time/Time</th>
<th>Event Description</th>
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<tr>
<td>13:00–13:30</td>
<td>Introduction to VIP Guests and Workshop Objectives (10 minutes)</td>
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<tr>
<td>13:30–13:55</td>
<td>Welcome Speech by Prof Sir David Greenaway, Vice Chancellor, The University of Nottingham (20 minutes)</td>
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</table>

### Plenary Session 1

**Host:** Dr Guifei Jing, Deputy Director General of the National Remote Sensing Centre of China, MoST

<table>
<thead>
<tr>
<th>Time/Time</th>
<th>Event Description</th>
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</table>
Speaker: Dr Guifei Jing, Deputy Director General of the National Remote Sensing Centre of China, MoST |
| 13:55–14:20 | Topic: Solving Urban Challenges with Data  
Speaker: Mr Alex Efimov, Head of Space, KTN, Innovate UK |
| 14:20–14:45 | Topic: Support of FCO Science and Innovation Team in China  
Speaker: Ms Karen Maddocks, Head Beijing Science and Innovation Team, British Embassy Beijing |
| 14:45–15:10 | Topic: Current Challenges in Real-World Data Mining Applications  
Speaker: Professor Uwe Aickelin, Head of School of Computer Science, The University of Nottingham |
| 15:10–15:30 | MoU Signature Ceremony  
Lobby, International Conference Centre, UNNC  
Group Photo/ Coffee and Tea Break  
Group Photo/ Coffee and Tea Break  
Group Photo/ Coffee and Tea Break |

**Host:** Professor Uwe Aickelin, Head of School of Computer Science, The University of Nottingham

### Plenary Session 2

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<tr>
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<th>Event Description</th>
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<tbody>
<tr>
<td>15:30–15:55</td>
<td>Topic:位置服务的无缝定位技术</td>
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### 技术报告/ Technical Sessions

<table>
<thead>
<tr>
<th>时间/Time</th>
<th>技术报告/ Technical Session 1</th>
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</table>
| **09:00–09:20** | 报告题目：支持主动交通安全的地理空间信息工程  
Topic: Geospatial Engineering for Active Transport Safety  
报告人：方守恩教授，同济大学党委副书记  
Speaker: Prof Shouen Fang, Vice President of Tongji University |
| **09:20–09:40** | 报告题目：智慧城市弹性和数据货币价值：英国口岸和供货渠道教训  
Topic: Smart City Resilience and Data Monetisation: Lessons from UK Ports and Supply Chains  
报告人：Duncan Shaw 博士，诺丁汉大学商学院  
Speaker: Dr Duncan Shaw, Nottingham University Business School |
| **09:40–10:00** | 报告题目：开发满足贫困人群的智慧城市框架  
Topic: Can the Smart City Framework Align with the Needs of the Poor?  
报告人：宋丽娜教授，英国诺丁汉大学  
Speaker: Professor Lina Song, The University of Nottingham |
| **10:00–10:20** | 报告题目：国际博士创新研究中心：一个跨国界、跨学科、跨部门协同创新的高端人 |

**时间**: 2015 年 11 月 5 日(星期四)  
**地点**: 宁波诺丁汉大学国际会议中心  
**时间**: 09:00 – 10:20  
**主持人**: 张继贤教授，中国测绘科学研究院院长，中英地理空间信息联合研究中心主任

**Date**: Thursday 5 November 2015  
**Venue**: International Conference Centre, UNNC  
**Time**: 09:00 – 10:20  
**Chair**: Professor Jixian Zhang, President of Chinese Academy of Surveying and Mapping, Director of the Sino-UK Geospatial Engineering Centre
<table>
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<tr>
<th>Time</th>
<th>Technical Session 2</th>
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<td>10:20–10:50</td>
<td><strong>Coffee/Tea Break</strong></td>
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<tr>
<td>10:50–11:10</td>
<td><strong>报告题目：影像和惯导组合的精密三维视觉导航定位技术研究</strong>&lt;br&gt;<strong>Topic:</strong> Precision Navigation based on 3D Vision by Fusion of Images and IMU&lt;br&gt;**报告人：**刘春教授，同济大学测绘与地理信息学院&lt;br&gt;<strong>Speaker:</strong> Professor Chun Liu, College of Surveying and GeoInformatics, Tongji University</td>
</tr>
<tr>
<td>11:10–11:30</td>
<td><strong>报告题目：集成公众数据建设空间数据基础设施所面临的挑战</strong>&lt;br&gt;<strong>Topic:</strong> Integrating Crowd-sourced Data into Spatial Data Infrastructures (SDI’s) - the Quality Assurance Challenge&lt;br&gt;**报告人：**Mike Jackson 教授，OGC 欧洲主席&lt;br&gt;<strong>Speaker:</strong> Professor Mike Jackson, Chair of OGC Europe</td>
</tr>
<tr>
<td>11:30–11:50</td>
<td><strong>报告题目：室内定位技术的开发</strong>&lt;br&gt;<strong>Topic:</strong> Indoor Positioning Technologies&lt;br&gt;**报告人：**王坚教授，中国矿业大学环测学院副院长&lt;br&gt;<strong>Speaker:</strong> Professor Jian Wang, Deputy Dean of Environment Science and Spatial Informatics, China University of Mining and Technology</td>
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<tr>
<td>11:50–12:15</td>
<td><strong>报告题目：集装箱运输系统和 GPS 大数据分析</strong>&lt;br&gt;<strong>Topic:</strong> A Container Transportation System for Ningbo Port and Big GPS Data Analysis for Container Trucks&lt;br&gt;**报告人：**白瑞斌博士，宁波诺丁汉大学计算机学院副院长&lt;br&gt;<strong>Speaker:</strong> Dr Ruibin Bai, Deputy Head of School of Computer Science, University of Nottingham Ningbo China</td>
</tr>
<tr>
<td>12:15–12:30</td>
<td><strong>会议总结</strong>&lt;br&gt;<strong>Workshop Summary</strong></td>
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<tr>
<td>12:30–13:30</td>
<td><strong>自助餐 (罗宾汉餐厅)</strong>&lt;br&gt;<strong>Buffet (Robin Hood Restaurant, UNNC)</strong></td>
</tr>
</tbody>
</table>
其它信息/ Other Information

会议地址/ Workshop Location

International Conference Centre, The University of Nottingham Ningbo China (UNNC), Ningbo, China
宁波诺丁汉大学国际会议中心（中国浙江省宁波市泰康东路 199 号）

住宿/ Accommodation

宁波万达索菲特大饭店/ Hotel Sofitel Wanda Ningbo

地址/ Address: 浙江省宁波市鄞州区四明中路 899 号
邮政编码: 315192
Phone: +86 574 2889 9888

会务组为各位参会代表在宁波万达索菲特大饭店预留了个房间。会议价格为单间 600 元/天，含单人早餐一份，双人间 658 元/天，含两人早餐一份。入住时请告知会议名称或宁波诺丁汉大学预订即可。

We have booked rooms in the Hotel Sofitel Wanda Ningbo for the participants. The rate is 600RMB per king-bed room, free breakfast for 1 adult, and 658 RMB per twin-bed room, free breakfast for 2 adults. Guests just have to give the workshop name or UNNC name during check-in.

接驳班车 Shuttle Bus Between UNNC and Hotel

会务组安排了酒店至会场的接送巴士，接送时间如下：
11月 4 日上午 11：40 从万达索菲特酒店出发，至宁波诺丁汉大学国际会议中心
11月 4 日下午 5：30 从宁波诺丁汉大学国际会议中心出发，至万达索菲特酒店
11月 5 日上午 8：40 从万达索菲特酒店出发，至宁波诺丁汉大学国际会议中心
11月 4th 11:40 am from Sofitel Hotel to UNNC
11月 4th 5:30 pm from UNNC to Sofitel Hotel
11月 5th 8:40 am from Sofitel Hotel to UNNC
参会人员名单/ Workshop Participants

中方代表/ China Delegation

宋超智博士，中国国家测绘地理信息局副局长
Dr Chaozhi Song, Deputy Director General of National Administration of Surveying, Mapping and Geoinformation of China

景贵飞博士，科技部国家遥感中心副主任
Dr Jing Guifei, Deputy Director of National Remote Sensing Centre, Ministry of Science and Technology

张敏教授，中铁大桥勘测设计院有限公司总经理
Professor Min Zhang, General Manager of China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.

黄燕庆教授，中铁大桥勘测设计院有限公司副总经理
Professor Yanqing Huang, Deputy General Manager of China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.

张继贤教授，中国测绘科学研究院院长
Professor Jixian Zhang, President of Chinese Academy of Surveying and Mapping

王权教授，国家测绘地理信息局卫星中心主任
Professor Quan Wang, Director General of the Satellite Surveying and Mapping Application Center of National Administration of Surveying Mapping and Geoinformation of China

王倩博士，中国国家测绘地理信息局科技与国际合作司巡视员
Dr Qiyan Wang, Director General of Department of Science, Technology & International Cooperation and President of NASG/UN Project Office, National Administration of Surveying, Mapping and Geoinformation of China

王晓国先生，陕西省测绘地理信息局副局长
Mr Xiaoguo Wang, Deputy Director General of Shanxi Administration of Surveying, Mapping and Geoinformation

方守恩教授，同济大学党委副书记
Professor Shouen Fang, Vice President of Tongji University

范京生博士，中国卫星导航定位协会副秘书长
Dr Jingsheng Fan, Deputy Secretary of GNSS and LBS Association of China

顾德道教授，宁波智慧城市研究院院长
Professor Dedao Gu, President, Ningbo Academy of Smart City Development

刘源教授，中国电信上海副总工程师
Professor Yuan Liu, Deputy Chief Engineer of China Telecom Shanghai

汪云甲教授，中国矿业大学环境与测绘学院院长
Professor Yunjia Wang, Dean of Environment Science and Spatial Informatics, China University of Mining and Technology
Professor Qing Wang, Head of Key Lab of Inspection and Monitoring Technologies for Field Scientific Observations of Ministry of Land and Resources, Southeast University

Dr Jianping Ou, Head of Strategy Department of China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.

Dr Hua Liu, General Manager of Bridge and Tunnel Inspect and Retrofit Co., Ltd. of China Railway Major Bridge Reconnaissance & Design Institute Co., Ltd.

Mr Siqing Guo, Chairman of Stonex, China

Mr Wei Sun, Chairman of Harbin Dadi Reconnaissance and Surveying and Mapping Ltd.

Mr Fanghua Sun, General Manager of Shanghai Global Satellite Navigation Technology Co., Ltd.

Mr Zhaoxing Hu, Manager of Big Data and ITS Project, China Mobile LBS Base

Professor Lianbi Yao, College of Surveying and Geoinformatics, Tongji University

Professor Caixue Ma, Head of College of Public Administration, Huazhong Agricultural University

Professor Chun Liu, College of Surveying and Geoinformatics, Tongji University

Professor Jian Wang, Deputy Dean of Environment Science and Spatial Informatics, China University of Mining and Technology

Professor Jie Zhen, Chinese Academy of Surveying and Mapping

Mr Zhonghuan He, Chief Engineer of Chongqing Institute of Surveying and Mapping, National Administration of Surveying, Mapping and Geoinformation of China

Mr Chongguo Ran, Chairman of Guangdong SuperSIT Spatial Information Technology Industry Development, Inc.

Mr Weiqing Mao, Chief Engineer of Shanghai Surveying and Mapping Institute
Dr Guoliang Chen, Environment Science and Spatial Informatics, China University of Mining and Technology

Dr Qiuzhao Zhang, Environment Science and Spatial Informatics, China University of Mining and Technology

Ms. Yi Zang, Division of Science and Technology, Chinese Academy of Surveying and Mapping

Dr Pouria Amirian, Principal Research Scientist in the Area of Data Science, Ordnance Survey

Mr Alex Efimov, Head of Space at The Knowledge Transfer Network (Innovate UK)
Catapult

Duncan Shaw 博士，诺丁汉大学商学院大数据讲师
Dr Duncan Shaw, Assistant Professor (Lecturer) in Information Systems, The University of Nottingham

叶军女士，UbiPOS UK Ltd. 总裁
Mrs Jun Ye, CEO of UbiPOS UK Ltd.

白瑞斌博士，宁波诺丁汉大学计算机学院副院长
Dr Ruibi Bai, Deputy Head, School of Computer Science, The University of Nottingham Ningbo China

林雨女士，英国驻华大使馆科技创新官员
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Dr Craig Hancock, Department of Civil Engineering, The University of Nottingham Ningbo China

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Dr Xiaoling Liu, Assistant Professor of University Nottingham Ningbo China

何敏女士，诺丁汉大学亚洲商务中心高级主管
Ms. Min Rose, Senior Executive, Asia Business Centre, Business Engagement and Innovation Services, The University of Nottingham

潘阳女士，信息经济处副处长，英国贸易投资总署
Ms Sherry Pan, Deputy Head of Information Economy Sector, UKTI

孔亮先生，信息经济处高级贸易投资主管，英国贸易投资总署
Mr Sam Kong, Senior Trade & Investment Officer (Information Economy), UKTI

叶孟超先生，诺丁汉大学中英地理空间信息联合研究中心行政主管
Mr. George Ye, Centre Administrator of Sino-UK Geospatial Engineering Centre, The University of Nottingham

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   邮箱/Email: mia.shen@nottingham.edu.cn

3. Ms Rebecca Jin (Ningbo/宁波)
4. Ms Yi Zang (Beijing/北京)
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6. Ms Jenny Fan (Ningbo/宁波)
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   邮箱/Email: jenny.fan@nottingham.edu.cn

7. Dr Xiaoling Liu (Ningbo/宁波)
   电话/Tel: (86) 18368410170
   邮箱/Email: xiaoling.liu@nottingham.edu.cn

8. Ms Min Rose (Nottingham/诺丁汉)
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   邮箱/Email: min.rose@nottingham.ac.uk

致谢/Acknowledgements

本次研讨会得到哈尔滨市大地勘察测绘有限公司独家赞助，在此表示感谢。
This workshop is partially sponsored by Harbin Dadi Reconnaissance and Surveying and Mapping Ltd. The organisers of the workshop would like to express their appreciations to the great support provided.