

UK-China Science Bridges: R&D on 4G Wireless Mobile Communications (EPSRC Grant Ref.: EP/G042713/1)

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Background of Science Bridges Awards

- The Research Councils wish to enhance linkages with USA, China, and India to
 - Accelerate the deployment of research knowledge
 - Deepen and strengthen current research links
 - Enable the acquisition of new skills and encourage wealth creation through improving the transfer of research and expertise from the research base to businesses and other users by building science and innovation bridges with world-class universities and high-tech businesses.
- Competitiveness of UK-China Science Bridges:
 - Outline proposals: 10 out of 42 were invited for development into full proposals.
 - Full proposals: 4 out of 10 were successful.

EP/G/042713/1: R&D on 4G Wireless Mobile Communications

- Duration: 3 years (01/06/2009-31/05/2012)
- Value: £1,174,258 (fEC) or £939,623 (RC contribution)
- Motivation: Why 4G wireless communications?
 - It is extremely important to ensure that the profile and global influence of the UK is sustained in *Wireless Communications*, which is a, perhaps the, critical element in future global ICT strategy.
 - The fourth generation (4G) wireless communication technologies are required to provide real-time interactive multimedia services.
 - It is crucial and timely that the UK forms effective collaborations with China in 4G.
 - China is an ambitious and increasingly significant country in the development of wireless communications technology.
 - Huge potential market: the world's largest mobile subscriber population (601M mobile subscribers; penetration rate: 45% in 06/2008).
 - Strong support from the government, industry, and Chinese universities: FuTURE project
 - UK's R&D in wireless communications:
 - Mobile VCE: 6 academic, 18 industrial members
 - No long-term joint research initiative between the UK and China in wireless communications.

- Aims of the project:
 - To become fully connected with top universities and telecom companies in 4G R&D in China.
 - To build on the existing substantive collaboration among key UK-China partners and further strengthen and broaden current research links.
 - To create, initially, a UK-China panel within Mobile VCE and, ultimately, a UK-China Joint R&D Centre for 4G Wireless Mobile Communications, enabling long-term sustainable collaboration.

□ Collaboration Consortium:

• China Consortium

Academic Partners	1) BUPT: Prof. Ping Zhang & Prof. Xiaofeng Tao
	2) HUST: Prof. Xiaohu Ge
	3) Shandong Univ.: Prof. Dongfeng Yuan
	4) SJTU: Prof. Youyun Xu
	5) Southeast Univ.: Prof. Xiaohu You
	6) THU.: Prof. Zhisheng Niu & Prof. Zhigang Cao
	7) XDU.: Prof. Jiandong Li and Prof. Hailin Zhang
Industrial Partners	1) SHRCWC: Prof. Songlin Feng
	2) Huawei Technologies Co., Ltd.: Mr Jun Shu
	3) ZTE: Mr Tao Zhang
	4) China Mobile: Dr Chunfeng Cui
	5) Jushri Wireless Techno.: Prof. Zhiyong Bu
	6) CATR: Prof. Guili He and Prof. Denian Shi

• UK Consortium

Academic Partners	1) HWU: Dr Cheng-Xiang Wang
	2) UoE: Prof. Peter Grant & Dr Harald Haas
	3) Univ. of Bristol: Prof. J. McGeehan & M. Beach
	4) Univ. of Southampton: Prof. Lajos Hanzo
	5) Univ. of Bedfordshire: Prof. Jie Zhang
	6) Univ. College London: Dr Yang Yang
Industrial Partners	1) Mobile VCE, Dr Walter Tuttlebee
	2) 18 industrial members of Mobile VCE
Associate Members	1) Prof. Hamid Aghvami, King's College London
	2) Prof. Alistair G. Burr, Univ. of York
	3) Dr Ian Glover, Univ. of Strathclyde
	4) Dr Xuanye Gu, BT Group Chief Techno. Office
	5) Prof. Z. Sun & Prof. R. Tafazolli, Univ. of Surrey

□ Work Programme (WP)

- WP1: A delegation of 25 UK researchers visit Chinese partners, with 5 one-day workshops.
 - Milestone 1 (M1): All partners know each other; a collaboration agreement in place.
- WP2: Exchange of 30 researchers between UK and Chinese universities
 - M2: Full interaction of UK and Chinese academic consortium members
- WP3: Joint-organisation of two four-day international workshops
 - M3: Raise wider awareness of UK-China collaboration activities; publicise outcomes
- WP4: Prototype development and test of 4G wireless mobile communication technologies
 - M4: Prototype development and verification of 4G wireless technologies
- WP5: Direct commercialisation of mature 4G technologies and building trial 4G wireless communication networks by industrial partners
- WP6: A delegation of 25 Chinese researchers visit UK partners (a three-day project workshop)
 - M5: New 4G products; creation of a UK-China R&D Centre in 4G.

