Track record — relevant projects and publications

Relevant projects undertaken and books/journal papers published by the applicants are summarised as follows:

**Abbreviation**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPSRC</td>
<td>Engineering and Physical Science Research Council, UK</td>
</tr>
<tr>
<td>DTI</td>
<td>Department of Trade and Industry, UK</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
</tr>
<tr>
<td>NERC</td>
<td>Natural Environment Research Council, UK</td>
</tr>
<tr>
<td>ESRC</td>
<td>Economic and Social Research Council, UK</td>
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</tbody>
</table>

**Projects**

*University of Sheffield, (Dr. J. Wang and Dr. D. Stone)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding body</th>
<th>Project Title</th>
<th>Funding (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Industrial</td>
<td>Behaviour modelling of resonant power supplies</td>
<td>133,665</td>
</tr>
<tr>
<td>2001</td>
<td>EPSRC</td>
<td>Reliable, highly optimised lead acid battery</td>
<td>225,713</td>
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<tr>
<td>2001</td>
<td>EC</td>
<td>Electrical torque-boost system for downsized ICE engine vehicles</td>
<td>231,544</td>
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<tr>
<td>2002</td>
<td>EPSRC</td>
<td>Fuel cell and battery powered vehicles—Industry and academic network</td>
<td>62,554</td>
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<tr>
<td>2002</td>
<td>EC</td>
<td>Free-piston energy converter for series hybrid electric vehicles</td>
<td>371,707</td>
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<tr>
<td>2003</td>
<td>DTI</td>
<td>Intrinsically safe, optimised lead acid battery for 42 volt applications</td>
<td>247,102</td>
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<td>2003</td>
<td>Carbon Trust</td>
<td>Low cost, energy efficient linear compressors for refrigeration</td>
<td>197,420</td>
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<tr>
<td>2004</td>
<td>EPSRC</td>
<td>High integrity electrical machines and drive systems</td>
<td>405,400</td>
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<tr>
<td>2004</td>
<td>DTI</td>
<td>Zero emission small vehicle with integrated high temperature battery and fuel cell</td>
<td>186,218</td>
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<tr>
<td>2006</td>
<td>Yorkshire Forward</td>
<td>Electrical central heating control system</td>
<td>331,000</td>
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<tr>
<td>2006</td>
<td>EPSRC</td>
<td>Linear electromagnetic actuation system for active vehicle suspension</td>
<td>280,321</td>
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<td>2006</td>
<td>EC</td>
<td>More open electrical technologies --- WP7.24 Electrical network stability and power quality</td>
<td>114,000</td>
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<tr>
<td>2006</td>
<td>EPSRC</td>
<td>Advanced cell state of function models for HEV operation</td>
<td>147,957</td>
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<tr>
<td>2007</td>
<td>EPSRC/DTI</td>
<td>Optimised sensorless traction drives for personal mobility transport</td>
<td>276,733</td>
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<tr>
<td>2007</td>
<td>EPSRC</td>
<td>Power electronics for adverse high temperature environment</td>
<td>315,055</td>
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</table>

*University of Manchester (Dr. A. Sung and Prof. G. Levermore)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding body</th>
<th>Project Title</th>
<th>Funding (£)</th>
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<tbody>
<tr>
<td>2000</td>
<td>EPSRC, NERC, ESRC</td>
<td>Tyndall Centre for Climate Change Research</td>
<td>10,000,000</td>
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<tr>
<td>2000</td>
<td>EPSRC, NERC, ESRC</td>
<td>Tyndall; Accuracy of modelled extremes of temperature and climate change and its implications for the built environment in the UK</td>
<td>120,000</td>
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<tr>
<td>2001</td>
<td>EPSRC</td>
<td>Masters training package: SUSTAINABLE ELECTRICAL, CONTROL &amp; LIGHTING BUILDING SERVICES ENGINEERING</td>
<td>607,000</td>
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<td>2002</td>
<td>EPSRC, NERC, ESRC</td>
<td>Tyndall; The 40% House</td>
<td>71,000</td>
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<td>2003</td>
<td>Carbon Trust</td>
<td>Weather data with climate change scenarios</td>
<td>18,000</td>
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<td>2006</td>
<td>Barratt Development plc.</td>
<td>Low carbon smart homes (Barratt EcoSmart Show Village)</td>
<td>98,000</td>
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<td>2007</td>
<td>The Joule Centre</td>
<td>A review of smart meters</td>
<td>50,000</td>
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<td>2007</td>
<td>EPSRC</td>
<td>Sustainable cities: options for responding to climate change impacts and outcomes</td>
<td>360,000</td>
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</table>

*University of Manchester (Dr. M. Barnes)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding body</th>
<th>Project Title</th>
<th>Funding (£)</th>
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<tr>
<td>2002</td>
<td>EC</td>
<td>Microgrids</td>
<td>290,000</td>
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<td>2004</td>
<td>DTI</td>
<td>Grid compliant AC connection of offshore wind farms using a STATCOM, K/EL/00343</td>
<td>100,000</td>
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<tr>
<td>Year</td>
<td>EPSRC</td>
<td>Project Details</td>
<td>Funding</td>
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<tr>
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<tr>
<td>2005</td>
<td>EPSRC</td>
<td>UK-Microgrids</td>
<td>220,000</td>
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<tr>
<td>2006</td>
<td>EPSRC</td>
<td>Wind energy technologies</td>
<td>2,552,788</td>
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</table>

**University of Cranfield (D. J. Economou)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Funded by</th>
<th>Project Details</th>
<th>Funding</th>
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<tbody>
<tr>
<td>2003</td>
<td>Industrial</td>
<td>Novel load carrying platform with intelligent safety—Consultancy</td>
<td>37,000</td>
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<tr>
<td>2005</td>
<td>EC</td>
<td>GARTERU FM EG UAV Machine Reasoning and Path Planning</td>
<td>N/A</td>
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<tr>
<td>2005</td>
<td>EC</td>
<td>European Robotics Research Network, EURON</td>
<td>N/A</td>
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<tr>
<td>2006</td>
<td>Defence Technology Centre</td>
<td>Mapping of Urban Environments subject to airborne contamination using Sensor Swarms</td>
<td>339,087</td>
</tr>
</tbody>
</table>

**Publications**

**University of Sheffield, (Dr. J. Wang and Dr. D. Stone)**


University of Manchester (Dr. A. Sung and Prof. G. Levermore)

Book and standard


Paper


University of Manchester (Dr. M. Barnes)


**University of Cranfield (D. J. Economou)**


**Harbin Institute of Technology (Prof. C. C. Chan)**

**Book**


**Journal paper**


Tsinghua University (Prof. Zhengming Zhao 赵争鸣)

1. 袁立强，赵争鸣，陈昆仑，姜建国，光伏水泵系统的电磁兼容性设计，2002-7-15，《电工电能新技术》(New Technology in Energy and Electrical Engineering), 第 21 卷 第 3 期 P.25-27
3. 白华，赵争鸣，刘建政，孟朔，交流电机变频调速系统人机界面通讯，2003-3-15, 《电力自动化设备》(Electric Power Automation Apparatus) 第 23 卷 第 3 期 P.30-32
5. 郭向东，赵争鸣，孟朔, 董仲恒, 大中型变频调速高效电机的优化电磁设计，2003-3-15, 《电工技术杂志》(Electrical Technology Magazine) 第 3 卷 第 3 期 P42-44, 69
6. 关慧，赵争鸣，孟朔, 变频调速异步电场路场分析中的动态网格划分，2003-6-15, 《中小型电机》(Small and Medium Size Electrical Machines) 2003 第 30 卷 第 6 期 P.14-17
13. 郭伟，赵争鸣，同步磁阻永磁电机在电工作动器中的应用，2004-5-15, 《电机电器技术》(Electrical Machines and Apparatus Technology) 2004 第 5 卷 P.5
15. 张长军，孟朔，刘建政，赵争鸣, 异步电机矢量控制系统动态仿真方法，2004-8-15, 《北京科技大学学报》(Journal of Beijing University of Science and Technology) 第 26 卷 第 4 期 P.432~437
17. 郭伟, 赵争鸣, 新型同步磁阻永磁电机的转矩特性与控制分析, 2005-1-15，《电工技术学报》(Transactions of China Electro-technology) 2005 第 20 卷 第 1 期 P.54
22. 吴理博, 赵争鸣, 刘建政, 王健, 袁立强, 张海涛, 在高压大容量变频器的光电耦合器及光纤实现, 2005-12-15，《中国电机工程学报》(Transactions of China Electrical Engineering) 2005 第 25 卷 第 0 期 P.24
Vehicle-to-grid enabled renewable energy for home and transportation


Tsinghua University (Prof. Yi Jiang)

Book
1. Membrane based AC storage for fruit & vegetables, Tsinghua Press, 1992
5. Building energy efficiency technology and application, Building construction Press, 2005
6. Building environment system simulation and analysis --- DeST, Building construction Press, 2006
7. Temperature and humidity independent control air-conditioning system, Building construction Press, 2006

Journal paper
8. Y. Jiang, “A general model for analyzing thermal characteristics of a class of latent thermal energy storage systems”, J. of solar energy engineering, 1999