

*“Sheffield is collaborating with Cambridge and Southampton universities in the BAE Systems/ Rolls-Royce University Technology Partnership. The aim of the partnership is to provide BAE Systems and Rolls-Royce with world-class research to support improvements to their design processes.”<sup>1</sup>*

- University of Sheffield website

## Sheffield University Military Projects 2001 - 2006

### Overall Statistics

| Total no. of projects | Minimum amount received from Projects | Ranking by:<br>a) no. of projects<br>b) amount (£) | Top 3 funders (by no. of projects)                   | Top 3 departments (by no. of projects)  |
|-----------------------|---------------------------------------|--|--|---|
| 79                    | £41,886,131                           | a) 9th<br><br>b) 4th                               | 1) Rolls Royce<br><br>2) EPSRC<br><br>3) BAE Systems | 1) Mechanical Engineering<br><br>2) Electronic and Electrical Engineering<br><br>3) Automatic and Control Systems Engineering |

### Management School

| Source/ Sponsor/ Partner | Project                             | Amount | Year                               |
|--------------------------|-------------------------------------|--------|------------------------------------|
| BAE Systems              | Payment of 2 Student's Tuition Fees | £?     | 2001 <sup>2</sup>                  |
| BAE Systems              | Payment of 1 Student's Tuition Fees | £?     | 2003 - 2005 inclusive <sup>3</sup> |

### School of Smart Structural Design

| Source/ Sponsor/ Partner  | Project  | Amount                          | Year                         |
|---|--|---------------------------------|------------------------------|
| Partners and Companies involved include:<br>Smiths Industries*<br>EADS Deutschland GmbH<br>Thales Avionics S.A.<br>BAE SYSTEMS (Operations) Ltd.<br>Eurocopter SAS<br>Israel Aircraft Industries Ltd (IAI)<br>University of Bristol<br>Trinity College London<br>and<br>University of Central | Technologies and Techniques for New Maintenance Concepts (TATEM) | An Approx. Total of €42,000,000 | Mar 2004 - 2008 <sup>4</sup> |

|            |  |  |  |
|------------|--|--|--|
| Lancashire |  |  |  |
|------------|--|--|--|

### **School of Mechanical Engineering**

| <b>Source/ Sponsor/ Partner</b>                            | <b>Project</b>   | <b>Amount</b> | <b>Year</b>                         |
|--|--|---------------|-------------------------------------|
| Rolls Royce  | Materials Damping Technology University Technology Partnership               | £?            | 1998 - present <sup>5</sup>         |
| EPSRC, Ministry of Defence and Rolls Royce Plc             | Functional Damping Coatings  | £311,937      | Jan 1999 - Dec 2001 <sup>6</sup>    |
| Rolls Royce  | Payment of 1 Student's Tuition Fees  | £?            | 2001 and 2002 <sup>7</sup>          |
| BAE Systems  | Funding for Research Fellowship  | £63,000       | Jan 2001 - Dec 2002 <sup>8</sup>    |
| Rolls Royce Plc  | Material Selection for Filled OGV  | £4,422        | Feb 2001 - April 2001 <sup>9</sup>  |
| Rolls Royce Plc  | Materials Damping University Technology Centre                               | £448,700      | April 2001 - Mar 2006 <sup>10</sup> |
| Rolls Royce Plc  | Fuel Assembly Damping Studies  | £15,412       | June 2001 - Oct 2001 <sup>11</sup>  |
| Rolls Royce Plc  | Fuel Assembly Damping Studies - Phase 3                                      | £20,000       | Feb 2002 - June 2002 <sup>12</sup>  |
| Rolls Royce Plc  | Damping Measurements System for Hard Coatings Research                       | £12,491       | Feb 2002 - Jan 2003 <sup>13</sup>   |
| Rolls Royce Plc  | Fans Damping Studies   | £12,908       | Oct 2002 - Oct 2003 <sup>14</sup>   |
| Rolls Royce Plc  | High Temperature Viscoelastic Filler   | £12,829       | Nov 2002 - Oct 2003 <sup>15</sup>   |
| Rolls Royce Plc  | Impact Resistance of Hard Damping Coatings                                   | £2,000        | Nov 2002 - Oct 2003 <sup>16</sup>   |
| Rolls Royce Plc  | Ageing Tests   | £3,594        | Nov 2002 - Jun 2004 <sup>17</sup>   |
| Rolls Royce Plc  | Characterisation of Viscoelastic Tapes                                       | £7,200        | Nov 2002 - Jun 2004 <sup>18</sup>   |
| Rolls Royce Plc  | Hard Coatings - Application of An Aerofoil and 'Cooling' Trials              | £6,400        | Dec 2002 - Oct 2003 <sup>19</sup>   |
| Rolls Royce Plc  | Aerospace Manufacturing Research Centre (AMRC) – Industrial Collaboration    | £400,000      | Jan 2003 - Sept 2006 <sup>20</sup>  |
| EPSRC and QinetiQ (Malvern)                                | Multi-Domain Microstructure Design of Smart Coupled Mechanical and EM Solids | £106,298      | May 2003 - July 2005 <sup>21</sup>  |
| EPSRC, Dowty Propellers (Smiths Group) and BAE Systems Plc | Scaling Effects in Notched Composites  | £221,171      | July 2003 - Sept 2006 <sup>22</sup> |
| Rolls Royce Plc  | Design Review of Large Radius Wind Turbine Generator                         | £4,475        | Sept 2003 - Oct 2003 <sup>23</sup>  |
| EPSRC, BAE Systems Operations Ltd and QinetiQ Ltd          | Identification of Non-Linear Continuous Structures                           | £55,209       | Sept 2003 - Aug 2006 <sup>24</sup>  |
| EPSRC and  | New Methods for Chatter  | £133,484      | June 2004 -                         |

|  |   |          |                                     |
|--|---|----------|-------------------------------------|
| Boeing Integrated Defence Systems                            | Avoidance: Prediction Methodologies                                     |          | June 2007 <sup>25</sup>             |
| Rolls Royce Plc  | Polymer Impregnation and Impact Resistance of Hard Coatings             | £3,595   | Sept 2004 - July 2005 <sup>26</sup> |
| Rolls Royce Plc  | Materials Damping University Technology Centre (UTC)                    | £529,235 | Jan 2006 - Dec 2007 <sup>27</sup>   |
| EPSRC, Rolls Royce Plc and Boeing Integrated Defence Systems | Process Damping in Milling: Theory, Experiment, and Practical Solutions | £284,744 | Mar 2006 - Mar 2010 <sup>28</sup>   |
| Rolls Royce Plc  | AFTSTU Installation   | £13,771  | May 2006 - July 2006 <sup>29</sup>  |

### **School of Nursing**

| <b>Source/ Sponsor/ Partner</b> | <b>Project</b>                      | <b>Amount</b> | <b>Year</b>                 |
|---------------------------------|-------------------------------------|---------------|-----------------------------|
| Rolls Royce                     | Payment of 1 Student's Tuition Fees | £?            | 2002 and 2003 <sup>30</sup> |

### **School of Probability and Statistics**

| <b>Source/ Sponsor/ Partner</b>   | <b>Project</b>  | <b>Amount</b> | <b>Year</b>                        |
|-----------------------------------|---|---------------|------------------------------------|
| QinetiQ                           | Payment of 1 Student's Tuition Fees   | £?            | 2005 <sup>31</sup>                 |
| EPSRC, Rolls Royce Plc and others | Managing Uncertainty in Complex Models: a Step Change in Understanding how Models Perform | £2,167,671    | June 2006 - May 2010 <sup>32</sup> |

### **School of Education**

| <b>Source/ Sponsor/ Partner</b> | <b>Project</b>                      | <b>Amount</b> | <b>Year</b>        |
|---------------------------------|-------------------------------------|---------------|--------------------|
| Ministry of Defence (MoD)       | Payment of 1 Student's Tuition Fees | £?            | 2001 <sup>33</sup> |

### **School of Engineering Materials**

| <b>Source/ Sponsor/ Partner</b>     | <b>Project</b>  | <b>Amount</b> | <b>Year</b>                        |
|-------------------------------------|---|---------------|------------------------------------|
| EPSRC, Rolls Royce Plc and others   | Plasma Deposition of Constrained Layer Damping Treatments   | £200,395      | Feb 1999 - July 2001 <sup>34</sup> |
| EPSRC and Ministry of Defence       | Rare Earth Iron Boron Thin Film Magnets   | £22,827       | Dec 2000 - Aug 2003 <sup>35</sup>  |
| BAE Systems Plc                     | Electroactive Polymer Composites and their Use in Smart Microwave Absorbers   | £11,928       | Oct 2001 - Apr 2003 <sup>36</sup>  |
| QinetiQ and Farnborough (DERA)      | Materials by Design: Prediction of Properties from Molecular Level  | £180,000      | Jan 2005 - Sept 2006 <sup>37</sup> |
| EPSRC, QinetiQ (Malvern) and others | Basic Technology: Nanorobotics - Technologies for Simultaneous Multidimensional Imaging & Manipulation of Nanoobjects | £1,847,850    | Jan 2005 - Dec 2008 <sup>38</sup>  |

### **School of Molecular Biology and Biotechnology**

| <b>Source/ Sponsor/ Partner</b>           | <b>Project</b>            | <b>Amount</b> | <b>Year</b>                        |
|---|---------------------------|---------------|------------------------------------|
| Defence Science and Technology Laboratory | Glycoprotein Purification | £57,995       | Sept 2002 – Feb 2003 <sup>39</sup> |

### **School of Automatic Control and Systems Engineering**

| <b>Source/ Sponsor/ Partner</b>                            | <b>Project</b>  | <b>Amount</b>  | <b>Year</b>                        |
|--|---|--|------------------------------------|
| Rolls Royce Plc  | Control Systems Engineering University Technology Centre                          | £1,155,060   | 2000 – 2004 <sup>40</sup>          |
| Rolls Royce  | Multivariable Control of Gas Turbine Engines (ANTLE)                              | £48,000  | 2000 - 2004 <sup>41</sup>          |
| Rolls Royce  | Support of EPSRC CASE students  | £44,000  | 2000 - 2004 <sup>42</sup>          |
| Rolls Royce Plc  | Control and Systems Engineering University Technology Centre, established in 1993 | £513,355   | Oct 2002 - Sept 2004 <sup>43</sup> |
| Rolls Royce  | Control and Systems Engineering University Technology Centre                      | £764,430   | Oct 2004 - Dec 2007 <sup>44</sup>  |
| Consortium of UK Industry, Government and Regional Bodies. | ASTRAEA Programme - Intelligent Agent Engine Management for UAVs                  | £167,000<br><br>Part of a £32,000,000 project led by BAE Systems | 2006 – 2007 <sup>45</sup>          |

### **School of Psychology**

| <b>Source/ Sponsor/ Partner</b>                                  | <b>Project</b>  | <b>Amount</b> | <b>Year</b>                           |
|--|---|---------------|---------------------------------------|
| QinetiQ  | ISB Early Detection of Dyslexia Project   | £55,000       | Oct 2002 - Nov 2004 <sup>46</sup>     |
| EPSRC under the Novel Computation Initiative and BAE Systems Plc | Integrated Computation for Autonomous Agents: A Novel Approach based on the Vertebrate Brain: Reverb: Reverse Engineering the Invertebrate Brain. Partners of the project include: <ul style="list-style-type: none"> <li>• University of Manchester</li> <li>• University of Bristol</li> <li>• University of Cambridge</li> <li>• University of Wales, Aberystwyth</li> <li>• University of Oxford and</li> <li>• University of Dundee</li> </ul> Project is part of the Adaptive Behaviour Research Group. | £1,893,234    | April 2005 - April 2010 <sup>47</sup> |

### **Institute of Work Psychology**

| <b>Source/ Sponsor/ Partner</b>       | <b>Project</b>  | <b>Amount</b>            | <b>Year</b>               |
|---------------------------------------|---|--------------------------|---------------------------|
| Economic and Social Research Council, | Economic and Social Research Council, Centre for Organisation | Contributions 2003-2006; | 2001 - 2006 <sup>48</sup> |

|  |  |   |  |
|--|--|---|--|
| EPSRC,<br>Rolls-Royce and<br>BAE Systems | and Innovation, established October 1996. Linked to the University of Sheffield's Management School and co-funded projects involve Sheffield's Engineering Department and School of Health and related research.     | EPSRC,<br>NHS,<br>Rolls Royce,<br>BAE Systems<br>funding:<br>£1,040,000<br>(NB of which<br>industry<br>funded<br>£436,301)<br><br>Sheffield<br>University<br>funding:<br>£1,630,000<br><br>ESRC<br>funding:<br>£1,250,000 |  |
| BAE Systems Plc and<br>Rolls Royce Plc   | Design University Technology Partnership - Human Factors and Innovation. Collaborators include: <ul style="list-style-type: none"> <li>• University of Cambridge and</li> <li>• University of Southampton</li> </ul> | £?  | 1998 - 2006<br>initially <sup>49</sup> |

### **School of Physics and Astronomy**

| <b>Source/ Sponsor/ Partner</b>                            | <b>Project</b>   | <b>Amount</b> | <b>Year</b>                           |
|--|--|---------------|---------------------------------------|
| EPSRC,<br>Dstl – Joint Grant Scheme<br>(JGS)<br>and others | UK Condensed Matter Physics Experiments with the FOM Free Electron Laser (FELIX). Involves other universities, including: <ul style="list-style-type: none"> <li>• Heriot-Watt University</li> </ul> | £386,514      | Oct 1998 -<br>Mar 2002 <sup>50</sup>  |
| Ministry of Defence (MoD)                                  | Disclosure of Chemical Warfare Agents Using Photoluminescent Molecular Materials   | £85,596       | Nov 2002 -<br>Sept 2004 <sup>51</sup> |
| Defence Science and<br>Technology Laboratory               | Feasibility Study of Position - Sensitive Detector for use in X-Ray or Neutron Back Scatter Imaging  | £17,372       | June 2003 -<br>May 2004 <sup>52</sup> |
| EPSRC and<br>QinetiQ (Malvern)                             | Quantum Cryptography using Quantum Dot Single Photon Emitters  | £223,638      | Oct 2004 -<br>Mar 2008 <sup>53</sup>  |

### **Advanced Manufacturing Research Centre (AMRC)**

| <b>Source/ Sponsor/ Partner</b> | <b>Project</b> | <b>Amount</b> | <b>Year</b> |
|---------------------------------|----------------|---------------|-------------|
|---------------------------------|----------------|---------------|-------------|

|   |  |   |                                  |
|---|--|---|----------------------------------|
| Department for Trade and Industry (DTI),<br>European Regional Development Fund,<br>The Boeing Company,<br>Rolls Royce and<br>Smiths Group | Advanced Manufacturing Research Centre. Brings together Engineering Research with International Engineering Companies. | £18,000,000<br>Flagship<br>Partnership<br>Project | Current as of 2004 <sup>54</sup> |
|---|--|---|----------------------------------|

### **School of Civil and Structural Evaluation**

| <b>Source/ Sponsor/ Partner</b>          | <b>Project</b>               | <b>Amount</b> | <b>Year</b>                          |
|--|------------------------------|---------------|--------------------------------------|
| Defence Science<br>Technology Laboratory | Special Equipment Evaluation | £26,081       | Dec 2002 -<br>Dec 2003 <sup>55</sup> |

### **School of Chemistry**

| <b>Source/ Sponsor/ Partner</b>   | <b>Project</b>   | <b>Amount</b> | <b>Year</b>                          |
|---|--|---------------|--------------------------------------|
| Defence Science<br>Technology Laboratory  | Fundamental Studies of Water and Chemical Permeation in Polymer Blends                         | £66,032       | Jan 2003 -<br>May 2006 <sup>56</sup> |
| Defence Science<br>Technology Laboratory  | Extension to Project: "Fundamental Studies of Water and Chemical Permeation in Polymer Blends" | £16,508       | Jan 2003 -<br>May 2006 <sup>57</sup> |
| EPSRC,<br>Defence Science<br>Technology Laboratory –<br>Joint Grant Scheme (JGS)<br>and QinetiQ Ltd | New Energetic Binders and Other Novel Materials  | £186,092      | Dec 2003 -<br>Nov 2006 <sup>58</sup> |

### **Aerospace Engineering**

Aerospace Engineering with a Year in North America (MEng/ AEAm) describes how... "We work closely with key players in the aerospace industry, including Airbus UK, BAE Systems, Boeing and Rolls-Royce, to ensure that you graduate as a front-runner in the jobs market." <sup>59</sup>

### **School of Electronic and Electrical Engineering**

| <b>Source/ Sponsor/ Partner</b>   | <b>Project</b>   | <b>Amount</b> | <b>Year</b>                            |
|---|--|---------------|--|
| EPSRC,<br>DERA Malvern,<br>Boeing Integrated Defence<br>Systems<br>and others   | Focused Ion Beam Machining and Deposition Applications to Functional and Structural Materials Research | £326,365      | Nov 2001 -<br>July 2005 <sup>60</sup>  |
| EPSRC<br>Close Interactions will be maintained with leading UK companies in the field including:<br>• DERA (Malvern) and<br>• Marconi | Support for the EPSRC Central Facility for III-V Materials at Sheffield.                               | £6,475,939    | July 2002 –<br>June 2006 <sup>61</sup> |

|  |   |          |                                     |
|--|---|----------|-------------------------------------|
| Ministry of Defence (MoD)  | GaN Heteristructural Field Effective Transistors for High Power Applications                    | £84,324  | Apr 2003 - Mar 2006 <sup>62</sup>   |
| Rolls Royce Plc  | TAPETherM Power Electronic Demonstrator Phase 1   | £19,915  | Sept 2003 - Feb 2005 <sup>63</sup>  |
| Ministry of Defence  | High Sensitivity Avalanche Photodiodes for Imaging and Range Finding                            | £100,000 | Oct 2003 - Sept 2006 <sup>64</sup>  |
| Rolls Royce Plc  | UTC in Advanced Electrical Machines and Drives  | £73,426  | Jan 2004 - Dec 2004 <sup>65</sup>   |
| BAE Systems Plc  | Avalanche Photodiodes   | £91,000  | Apr 2004 - Mar 2005 <sup>66</sup>   |
| Ministry of Defence (MoD)  | GaN-Based Heterostructure Field Effect Transistors (HFETs) for High Power Operation             | £83,968  | Apr 2004 - Mar 2005 <sup>67</sup>   |
| BAE Systems Plc  | Infrared Quantum Dot Intersubband Photodetectors  | £94,560  | Apr 2004 - Mar 2006 <sup>68</sup>   |
| Rolls Royce Plc  | Rolls Royce University Technology Centre in Advanced Electrical Machines and Drives             | £141,253 | Jan 2005 - Dec 2005 <sup>69</sup>   |
| QinetiQ and Farnborough (DERA)   | Smart Electromagnetic Structures  | £200,000 | Mar 2005 - Nov 2006 <sup>70</sup>   |
| Rolls Royce Plc  | SUAVE Project   | £40,000  | April 2005 - Aug 2005 <sup>71</sup> |
| BAE Systems Avionics Ltd   | Infrared Quantum Dot Intersubband Photodetectors  | £82,880  | April 2005 - Mar 2006 <sup>72</sup> |
| British Aerospace Defence Ltd  | GaN-Based Heterostructure Field Effect Transistors (HFETs) for High Power Operation             | £83,972  | April 2005 - Mar 2006 <sup>73</sup> |
| Rolls Royce Plc  | TAPETherM Power Electronic Converter Phase 2  | £21,547  | June 2005 - May 2006 <sup>74</sup>  |
| Ministry of Defence (MoD)  | Novel Low Voltage InAs Avalanche Photodiodes for Affordable 2D IR Detectors                     | £14,980  | Oct 2005 - Mar 2006 <sup>75</sup>   |
| Rolls Royce Plc  | Development of Test Facility  | £25,000  | Dec 2005 - Mar 2006 <sup>76</sup>   |
| Rolls Royce Plc  | SUAVE   | £56,820  | April 2006 - Dec 2006 <sup>77</sup> |
| EPSRC, BAE Systems and others  | Simulation of Electromagnetic Field Exposure in Resonant Environments                           | £351,627 | May 2006 - April 2010 <sup>78</sup> |
| EPSRC<br>Project receiving academic expertise from:<br><ul style="list-style-type: none"> <li>• University of Leeds</li> <li>• University of Cambridge</li> <li>• Heriot-Watt University and</li> <li>• University of St. Andrews</li> </ul> The project is also | Nano- and Micro-scale Integration of Glass-on-Semiconductor for Photonic Components Engineering | £419,102 | Aug 2006 - July 2010 <sup>79</sup>  |

|   |                                     |    |                                  |
|---|-------------------------------------|----|----------------------------------|
| supported by industrial partners which includes:<br>• QinetiQ |                                     |    |                                  |
| EPSRC and BAE Systems   | Emergent Behaviour in Organisations | £? | Current as of 2007 <sup>80</sup> |

### **Miscellaneous**

| <b>Source/ Sponsor/ Partner</b> | <b>Project</b>  | <b>Amount</b> | <b>Year</b>            |
|---------------------------------|---|---------------|------------------------|
| BAE Systems                     | Honorary Degree (Deng) to the Chairman of BAE Systems | £?            | Jan 2002 <sup>81</sup> |

### **Other projects of note**

| <b>Project ending 2000, School of Physics and Astronomy</b> |   |               |                                    |
|---|---|---------------|------------------------------------|
| <b>Source/ Sponsor/ Partner</b>                             | <b>Project</b>                              | <b>Amount</b> | <b>Year</b>                        |
| EPSRC, QinetiQ (Malvern) and others                         | Intersub-Band Infra Red Quantum Well Lasers | £181,072      | June 1997 - Oct 2000 <sup>82</sup> |

### **Notation**

\* In May 2007 Smiths Group completed the sale of its aerospace business, containing the bulk of its military-related production, to General Electric.  
£? Denotes projects whose value and/or date we were unable to discover.

### **Endnotes**

<sup>1</sup> "Case Studies: Rolls Royce and the University Technology Centres". [University of Sheffield, Business and Industry, Our Industrial Portfolio](http://www.shef.ac.uk/business/portfolio/rr.html). <http://www.shef.ac.uk/business/portfolio/rr.html>. 8 May 2007.

<sup>2</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

<sup>3</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

<sup>4</sup> "TATEM". [University of Sheffield, Smart Structural Design, Research](http://www.shef.ac.uk/structures/research/tatem.html). <http://www.shef.ac.uk/structures/research/tatem.html>. 8 May 2007.

<sup>5</sup> "Case Studies: Rolls Royce and the University Technology Centres". [University of Sheffield, Business and Industry, Our Industrial Portfolio](http://www.shef.ac.uk/business/portfolio/rr.html). <http://www.shef.ac.uk/business/portfolio/rr.html>. 8 May 2007.

<sup>6</sup> "Details of Grant". [Engineering and Physical Science Research Council](http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/M26985/01). <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/M26985/01>. 8 May 2007.

<sup>7</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

<sup>8</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

<sup>9</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

<sup>10</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.



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- <sup>11</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>12</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>13</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>14</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
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- <sup>18</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>19</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>20</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>21</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/R97313/01>. 8 May 2007.
- <sup>22</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/R89479/01>. 8 May 2007.
- <sup>23</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>24</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/S06776/01>. 8 May 2007.
- <sup>25</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/S49858/01>. 8 May 2007.
- <sup>26</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>27</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>28</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/D052696/1>. 8 May 2007.
- <sup>29</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>30</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>31</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.

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- <sup>32</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=EP/D048893/1>. 8 May 2007.
- <sup>33</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>34</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/M36144/01>. 8 May 2007.
- <sup>35</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/R00395/01>. 8 May 2007.
- <sup>36</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>37</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>38</sup> "Details of Grant". Engineering and Physical Science Research Council. <http://gow.epsrc.ac.uk/ViewGrant.aspx?GrantRef=GR/S85689/01>. 8 May 2007.
- <sup>39</sup> Sarah Fulton. Deputy Academic Secretary and Head of research Office, University of Sheffield. 16 June 2006. Sent to Fellowship of Reconciliation.
- <sup>40</sup> "Research: Contracts". University of Sheffield, Department of Automatic Control and Systems Engineering, Research. <http://www.shef.ac.uk/acse/research/contracts>. 8 May 2007.
- <sup>41</sup> "Research: Contracts". University of Sheffield, Department of Automatic Control and Systems Engineering, Research. <http://www.shef.ac.uk/acse/research/contracts>. 8 May 2007.
- <sup>42</sup> "Research: Contracts". University of Sheffield, Department of Automatic Control and Systems Engineering, Research. <http://www.shef.ac.uk/acse/research/contracts>. 8 May 2007.
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