

**IceCube MOU Summary v7.2 2009.0930.xls**  
**M&O Core & Service - Scientists**

| v7.2 , September 30, 2009                                       |   | Head Count                |   | M&O CORE & SERVICE WORK                  |                                  |   |              |                           | SERVICE WORK ONLY                           |  |                                  |   |              |
|---|---|---------------------------|---|--|----------------------------------|---|--------------|---------------------------|---|--|----------------------------------|---|--------------|
| Institution<br>(Lead)   | Ph.D. scientists<br>Faculty<br>Se / Post Docs<br>Students | 2.1 Program<br>Management | 2.2 Detector<br>Operations &<br>Maintenance | 2.3<br>Computing &<br>Data<br>Management | 2.4<br>Triggering<br>& Filtering | 2.5 Data<br>Quality,<br>Reconstruction<br>& Simulation<br>Tools | Total        | 2.1 Program<br>Management | 2.2 Detector<br>Operations &<br>Maintenance | 2.3<br>Computing &<br>Data<br>Management | 2.4<br>Triggering<br>& Filtering | 2.5 Data<br>Quality,<br>Reconstruction<br>& Simulation<br>Tools | Total        |
|   |   |                           |   |  |                                  |   |              |                           |   |  |                                  |   |              |
| University of Alaska<br>(Katherine Rawlins)                     | 1 (1 0 0)   |                           | 0.02  |  |                                  | 0.40  | 0.42         |                           | 0.02  |  |                                  | 0.40  | 0.42         |
| Clark Atlanta<br>(George Japaridze)                             | 1 (1 0 0)   |                           | 0.02  |  |                                  |   | 0.02         |                           | 0.02  |  |                                  |   | 0.02         |
| Georgia Tech<br>(Ignacio Taboada)                               | 2 (1 1 2)   | 0.25                      | 0.43  | 0.20                                     | 0.25                             |   | 1.13         | 0.25                      | 0.43  | 0.20                                     | 0.25                             |   | 1.13         |
| LBNL<br>(Spencer Klein)   | 7 (3 4 1)   | 0.40                      | 1.14  | 0.20                                     | 0.25                             | 0.35  | 2.34         | 0.40                      | 0.49  | 0.20                                     | 0.25                             | 0.35  | 1.69         |
| Ohio State University<br>(James Beatty)                         | 3 (1 2 1)   | 0.05                      | 0.23  |  | 0.30                             | 0.40  | 0.98         | 0.05                      | 0.23  |  | 0.30                             | 0.40  | 0.98         |
| Pennsylvania State University<br>(Doug Cowen)                   | 6 (3 3 2)   | 0.30                      | 0.21  | 0.58                                     | 0.70                             | 0.47  | 2.26         | 0.30                      | 0.06  | 0.33                                     | 0.70                             | 0.47  | 1.86         |
| Southern University<br>(Ali Fazely)                             | 4 (3 1 0)   |                           | 0.02  | 0.30                                     |                                  | 0.60  | 0.92         |                           | 0.02  | 0.30                                     |                                  | 0.60  | 0.92         |
| University of California, Berkeley<br>(Buford Price)            | 3 (1 2 1)   | 0.20                      | 0.78  |  | 0.25                             | 0.50  | 1.73         | 0.20                      | 0.78  |  | 0.25                             | 0.00  | 1.23         |
| University of California, Irvine<br>(Steve Barwick)             | 2 (1 1 1)   |                           | 0.02  |  |                                  |   | 0.02         |                           | 0.02  |  |                                  |   | 0.02         |
| University of Delaware<br>(Paul Evenson, acting for T. Gaisser) | 7 (4 3 2)   | 0.30                      | 1.30  | 0.45                                     | 0.25                             | 0.30  | 2.60         | 0.30                      | 0.30  | 0.45                                     | 0.25                             | 0.30  | 1.60         |
| University of Kansas<br>(Dave Besson)                           | 1 (1 0 0)   | 0.10                      | 0.02  |  |                                  |   | 0.12         | 0.10                      | 0.02  |  |                                  |   | 0.12         |
| University of Maryland<br>(Greg Sullivan)                       | 7 (4 3 6)   | 0.60                      | 0.54  | 1.15                                     | 1.00                             | 1.40  | 4.69         | 0.60                      | 0.34  | 1.15                                     | 0.70                             | 1.00  | 3.79         |
| University of Wisconsin, River Falls<br>(Jim Madsen)            | 4 (2 2 0)   | 0.25                      | 0.05  |  |                                  | 0.60  | 0.90         | 0.25                      | 0.05  |  |                                  | 0.60  | 0.90         |
| University of Wisconsin, Madison<br>(Albrecht Karle)            | 18 (5 13 10)  | 1.38                      | 1.69  | 1.35                                     | 0.95                             | 2.60  | 7.97         | 0.96                      | 1.09  | 0.65                                     | 0.95                             | 2.10  | 5.75         |
| <b>US Institutions Subtotal</b>                                 | <b>68 (32 36 28)</b>                                      | <b>3.83</b>               | <b>7.09</b>                                 | <b>4.23</b>                              | <b>3.95</b>                      | <b>8.07</b>   | <b>27.17</b> | <b>3.41</b>               | <b>4.49</b>                                 | <b>3.28</b>                              | <b>3.65</b>                      | <b>6.67</b>   | <b>21.50</b> |
| DESY-Zeuthen<br>(Christian Spiering)                            | 10 (6 4 6)  | 0.40                      | 0.88  | 2.35                                     | 0.35                             | 0.30  | 4.28         | 0.40                      | 0.88  | 2.35                                     | 0.35                             | 0.30  | 4.28         |
| RWTH Aachen<br>(Christopher Wiebusch)                           | 3 (1 2 12)  | 0.20                      | 0.09  | 1.45                                     | 0.30                             | 0.80  | 2.84         | 0.20                      | 0.09  | 1.45                                     | 0.30                             | 0.80  | 2.84         |
| Universität Dortmund<br>(Wolfgang Rhode)                        | 1 (1 0 4)   |                           | 0.03  | 0.65                                     |                                  |   | 0.68         |                           | 0.03  | 0.65                                     |                                  |   | 0.68         |
| Universität Mainz<br>(Lutz Köpke)                               | 1 (1 0 7)   | 0.15                      | 1.00  | 0.45                                     |                                  | 0.20  | 1.80         | 0.15                      | 1.00  | 0.45                                     |                                  | 0.20  | 1.80         |
| Universität Wuppertal<br>(Klaus Helbing)                        | 3 (2 1 7)   | 0.40                      | 0.60  | 0.40                                     | 0.20                             | 0.50  | 2.10         | 0.40                      | 0.60  | 0.40                                     | 0.20                             | 0.50  | 2.10         |
| MPI Heidelberg<br>(Elisa Resconi)                               | 2 (1 1 3)   | 0.50                      | 0.05  |  |                                  | 0.60  | 1.15         | 0.50                      | 0.05  |  |                                  | 0.60  | 1.15         |
| Humboldt Universität Berlin<br>(Hermann Kolanoski)              | 2 (1 1 0)   | 0.40                      | 0.03  |  | 0.55                             | 0.50  | 1.48         | 0.40                      | 0.03  |  | 0.55                             | 0.50  | 1.48         |
| Universität Bonn<br>(Marek Kowalski)                            | 2 (1 1 2)   | 0.20                      | 0.03  |  | 0.60                             | 0.20  | 1.03         | 0.20                      | 0.03  |  | 0.60                             | 0.20  | 1.03         |
| Universität Bochum<br>(Julia Becker)                            | 1 (1 0 2)   | 0.10                      | 0.03  |  |                                  | 0.50  | 0.63         | 0.10                      | 0.03  |  |                                  | 0.50  | 0.63         |
| Université Libre de Bruxelles<br>(Daniel Bertrand)              | 4 (2 2 3)   | 0.30                      | 0.23  | 0.50                                     | 0.20                             |   | 1.23         | 0.30                      | 0.23  | 0.50                                     | 0.20                             |   | 1.23         |
| Université de Mons-Hainaut<br>(Philippe Herquet)                | 1 (1 0 1)   |                           | 0.03  | 0.30                                     |                                  |   | 0.33         |                           | 0.03  | 0.30                                     |                                  |   | 0.33         |
| University of Gent<br>(Dirk Ryckbosch)                          | 3 (1 2 4)   | 0.10                      | 0.03  |  |                                  | 0.50  | 0.63         | 0.10                      | 0.03  |  |                                  | 0.50  | 0.63         |
| Vrije Universiteit Brussel<br>(Catherine de Clercq)             | 4 (2 2 1)   |                           | 0.03  | 0.20                                     | 0.20                             |   | 0.43         |                           | 0.03  | 0.20                                     | 0.20                             |   | 0.43         |
| Stockholm University<br>(Per Olof Hulth)                        | 6 (4 2 2)   | 0.60                      | 0.06  | 0.70                                     | 0.80                             | 0.35  | 2.51         | 0.60                      | 0.06  | 0.70                                     | 0.80                             | 0.35  | 2.51         |
| Uppsala University<br>(Olga Botner)                             | 4 (3 1 2)   | 0.50                      | 0.03  |  | 0.50                             |   | 1.03         | 0.50                      | 0.03  |  | 0.50                             |   | 1.03         |
| University of Oxford<br>(Subir Sarkar)                          | 2 (1 1 0)   |                           | 0.02  |  |                                  | 0.50  | 0.52         |                           | 0.02  |  |                                  | 0.50  | 0.52         |
| University of Canterbury<br>(Jenni Adams)                       | 3 (2 1 3)   |                           | 0.12  |  |                                  | 0.50  | 0.62         |                           | 0.12  |  |                                  | 0.50  | 0.62         |
| Chiba University<br>(Shigeru Yoshida)                           | 3 (1 2 3)   |                           | 0.03  |  | 0.40                             | 0.60  | 1.03         |                           | 0.03  |  | 0.40                             | 0.60  | 1.03         |
| Ecole Polytechnique Federale de<br>Lausanne (Mathieu Ribordy)   | 2 (1 1 2)   | 0.10                      | 0.03  |  |                                  | 0.25  | 0.38         | 0.10                      | 0.03  |  |                                  | 0.25  | 0.38         |
| <b>Non-US Institutions Subtotal</b>                             | <b>57 (33 24 64)</b>                                      | <b>3.95</b>               | <b>3.35</b>                                 | <b>7.00</b>                              | <b>4.10</b>                      | <b>6.30</b>   | <b>24.70</b> | <b>3.95</b>               | <b>3.35</b>                                 | <b>7.00</b>                              | <b>4.10</b>                      | <b>6.30</b>   | <b>24.70</b> |
| <b>Total US &amp; Non-US</b>                                    | <b>125 (65 60 92)</b>                                     | <b>7.78</b>               | <b>10.44</b>                                | <b>11.23</b>                             | <b>8.05</b>                      | <b>14.37</b>  | <b>51.87</b> | <b>7.36</b>               | <b>7.84</b>                                 | <b>10.28</b>                             | <b>7.75</b>                      | <b>12.97</b>  | <b>46.20</b> |