**IceCube Institutional Memorandum Of Understanding (MOU)**

**Scope of Work**

**Friedrich-Alexander-Universität Erlangen-Nürnberg**

**Erlangen Centre for Astroparticle Physics**

**Gisela Anton**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **7** (2 1 4)

**IceCube table:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS L3** | **Tasks** | WBS 2.1 | WBS 2.2 | WBS 2.3 | WBS 2.4 | WBS 2.5 | WBS 2.6 | **Grand Total** |
| Program Coordination | Detector Maintenance & Operations | Computing & Data Management | Data Processing & Simulation | Software | Calibration |
| KE | ANTON, GISELA  | 2.1.1 Administration | Institutional lead | 0.20 |   |   |   |  |  | 0.20 |
|  | **ANTON, GISELA TOTAL** | **0.20** |  |  |  |  |  | **0.20** |
| PO | GLÜSENKAMP, THORSTEN  | SimulationSoftware 2.5.2 / 2.5.3 | Track/Cascade reconstruction and simulation |  |  |  |  | 0.20 |  | 0.20 |
|  | **GLÜSENKAMP, THORSTEN TOTAL** |  |  |  |  |  | **0.20** |  | **0.20** |
| GR | KITTLER, Thomas  | Simulation Software 2.5.2 / 2.5.3 | Simulation verification, reconstruction development |  |  |  |  | 0.10 |  | 0.10 |
|  | **KITTLER, THOMAS Total** |  |  |  |  |  | **0.10** |  |  **0.10** |
| GR | Wrede, Gerrit | Simulation Software 2.5.2 / 2.5.3 | Novel reconstruction algorithms |  |  |  |  | 0.20 |  | 0.20 |
|  | **WREDE, GERRIT TOTAL** |  |  |  |  |  | **0.20** |  | **0.20** |
|  | FIEDLSCHUSTER,SEBASTIAN  | Simulation Software 2.5.2 / 2.5.3Calibration 2.6 | Photon propagation |  |  |  |  | 0.15 | 0.05 | 0.20 |
| GR | **FIEDLSCHUSTER, SEBASTIAN TOTAL** |  |  |  |  |  | **0.15** | **0.05** | **0.20** |
| **IceCube Total** |  |  | **0.20** |  |  |  | **0.65** | **0.05** | **0.90** |  |  |  |  |  |  |  |  |

**IceCube Upgrade table:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS L3** | **Tasks** | WBS 1.1 | WBS 1.2 | WBS 1.3 | WBS 1.4 | WBS 1.5 | WBS 1.6 | **Grand Total** |
| Project Office | Gen2 Hot Water Drill | Deep Ice Sensor Modules | Comms, Power & Timing | Characterization & Calibration | M&U Data systems integration |
| GR | SCHNEIDER, JUDITH | 1.3 | mDOM Hardware  |  |   |  0.20 |   |  |  | 0.20 |
|  | **SCHNEIDER, JUDITH TOTAL** |  |  | **0.20** |  |  |  | **0.20** |
| KE | REUBELT, JONAS | 1.3 | mDOM Hardware | 1.3 |  | 0.10 |   |   |   | 0.10 |  | 0.20 |
|  |  |  |  | **0.10** |  |  |  | **0.10** |
| KE | KALYEKIN, OLEG | 1.3 | mDOM Hardware | 1.3 |  | 0.10 |   |  |   | 0.10 |   |  |
|  |  |  |  | **0.10** |  |  |  | **0.10** |
| **IceCube Upgrade Total** |  |  |  |  | **0.40** |  |  |  | **0.40** |  |  |  |  |  |  |  |  |

**Faculty:**

Gisela Anton – Institutional Lead

Ulrich Katz - Faculty

**Post Docs:**Thorsten Glüsenkamp **–** development of new reconstruction algorithms and statistical

tools

**Grad Students:**

Thomas Kittler (PhD student) – Gen2 reconstruction studies

Gerrit Wrede (PhD student) – reconstruction studies and developments
of new deep-learning strategies for neutrino events

Judith Schneider (PhD student) – mDOM development

Sebastian Fiedlschuster (PhD student) – slow Magnetic monopoles

**Engineers:**

Jonas Reubelt – mDOM hardware

Oleg Kalyekin - mDOM hardware