**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): **3** (2 1 2)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 |  |  |  |  | 0.20 |  | 0.20 |
|  | **KITTLER, THOMAS Total** |  |  |  |  |  | **0.20** |  |  **0.20** |
| 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** |
| **Erlangen Total** |  |  | **0.20** |  |  |  | **0.60** |  | **0.80** |  |  |  |  |  |  |  |  |

**Faculty:**

Gisela Anton – Institutional Lead

Ulrich Katz - Faculty

**Post Docs:**Thorsten Glüsenkamp **–** Simulation and reconstruction of event signatures (cascades and tracks)

**Grad Students:**

Thomas Kittler (PhD student) – work includes verification of IceCube simulation software

Thesis/Analysis topics: performance studies for high-energy detector with multi-PMT DOMs

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

Thesis/Analysis topics: Deep-learning reconstructions of neutrino-induced signatures in IceCube

**Contribution to IceCube-Gen2:**

On the hardware side, mDOM electronics testing has been started by grad student Judith Schneider (not listed above, since Gen2 only) with help of temporary grad student Jonas Reubelt (not listed above, since Gen2 only) and supervision of Dr. Oleg Kalekin (not listed above, since Gen2 only). On the software side, Thomas Kittler and Thorsten Glüsenkamp are involved in mDOM reconstruction.