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

**Scope of Work**

**Humboldt-Universität zu Berlin**

**Marek Kowalski, Hermann Kolanoski**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **2** (2 0 5)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS L3** | **Tasks** | **WBS 2.1** | **WBS 2.2** | **WBS 2.3** | **WBS 2.4** | **WBS 2.5** | **Grand Total** |
| Program Management | Detector Maintenance & Operations | Computing & Data Management | Triggering & Filtering | Data Quality, Reconstruction & Simulation Tools |
| KE | KOWALSKI, MAREK | Simulation Programs  | Simulation tools |   |   |   |  |  0.05 | 0.05 |
|   | **KOWALSKI, MAREK Total** |  |  |  |  |  | **0.05** | **0.05** |
| GR | VOGE, MARKUS | Physics Filters | Online L2 Filter, single event stream |   |  |  | 0.20  |  | 0.20 |
|   | **VOGE, MARKUS Total** |  |  |  |  | **0.20** |  | **0.20** |
|  | STASIK, ALEXANDER | Physics Filters | Alert System for follow-up |   |   |   | 0.30 |   | 0.30 |
|   | **STASIK, ALEXANDER Total** |  |  |  |  | **0.30** |  | **0.30** |
|   | USNER, MARCEL | Reconstruction, Analysis Tools | Spline fits with anisotropy |  |   |   |  |  0.30 | 0.30 |
|   | **USNER, MARCEL, Total** |  |  |  |  |  | **0.30**  | **0.30** |
|   | DE WITH, MAIKE | Reconstruction, Analysis Tools | Reconstruction Release Manager, Maintain Reconstruction Framework |  |   |   |  |  0.25 | 0.25 |
|   | **DE WITH, MEIKE Total** |  |  |  |  |  | **0.25** | **0.25** |
| **HU Total** |  |  |  |  |  | **0.50** | **0.60** | **1.10** |

**Faculty:**

Marek Kowalski – supervision of students and high energy cross-section calculation

 Hermann Kolanoski – supervision of students and IceTop data analyses

**Ph.D. Students:**

Markus Voge – Online L2 Filter

 Thesis/Analysis topics: optical follow-up

Andreas Homeier – Optimization and operation of optical follow-up

 Thesis/Analysis topics: X-ray follow-up

Marcel Usner – Spline fits to photonics tables, particle reconstruction software

 Thesis/Analysis topics: tau neutrino detection

Lukas Schulte – PINGU neutrino mass hierarchy sensitivity

 Thesis/Analysis topics: PINGU sensitivity and prototype sensor

Alexander Stasik – Operation of online system

 Thesis/Analysis topics: Search for high energy emission from

Meike de With - Reconstruction coordination

Thesis/Analysis topics: search for WIMPs from galaxy clusters

**Diploma/Master Students:**

 Dustin Hebecker (development of a wavelength shifting light sensor)

 Thomas Erhardt (PINGU event reconstruction)