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

**Universität Mainz**

**Lutz Köpke**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **2** (2 0 7)

**Scope of Work**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 | Köpke, Lutz | | Administration | Supernova group co. | 0.25 |  |  |  |  | 0.25 |
|  | **Köpke, Lutz Total** | | |  | **0.25** |  |  |  |  | **0.25** |
|  | BÖSER, SEBASTIAN | | Administration | PINGU software coordinator | 0.25 |  |  |  |  | 0.25 |
|  | **BÖSER; SEBASTIAN Total** | | |  | **0.25** |  |  |  |  | **0.25** |
| GR | BAUM, VOLKER | | SuperNova  Operations | SN Operations |  | 0.25 |  |  |  | 0.25 |
|  | Reconstruction/ Analysis Tools | Low energy systematics |  |  |  |  | 0.10 | 0.10 |
|  | **BAUM, VOLKER Total** | | | |  | **0.25** |  |  | **0.10** | **0.35** |
|  | EBERHARDT, BENJAMIN | | SuperNova  Operations | SuperNova  Operations |  | 0.20 |  |  |  | 0.20 |
|  | **EBERHARDT, BENJAMIN Total** | | | |  | **0.20** |  |  |  | **0.20** |
|  | WIEBE, KLAUS | | Data Quality | Low energy systematics |  |  |  |  | 0.20 | 0.20 |
|  | **WIEBE, KLAUS Total** | | |  |  |  |  |  | **0.20** | **0.20** |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | STEUER, ANNA | Data Quality | Veto systematics at low energy |  |  |  | 0.20 | 0.20 | |  | Physics Filters | Filter verification |  |  | 0.20 |  | 0.20 | | | | | | | | | | | |
|  | **STEUER, ANNA Total** | | |  |  |  |  | **0.20** | **0.20** | **0.40** |
|  | EHRHARD, THOMAS | Simulation Production | | SimProd maintenance |  |  | 0.30 |  |  | 0.30 |
|  | **EHRHARD, THOMAS Total** | | |  |  |  | **0.30** |  |  | **0.30** |
|  | SANDROOS, JOAKIM | | Physics Filters | Low-Energy filter /HiveSplitter |  |  |  | 0.20 |  | 0.20 |
|  | **SANDROOS, JOAKIM** | | |  |  |  |  | **0.20** |  | **0.20** |
|  | UM GR | Detector Monitoring | | Detector Monitoring |  | 0.05 |  |  |  | 0.05 |  |
|  | **UM GR Total** | | |  |  | **0.05** |  |  |  | **0.05** |
| **UM Total** | | |  |  | **0.50** | **0.50** | **0.30** | **0.40** | **0.50** | **2.20** |

**Faculty:**

Lutz Köpke – SN working group coordinator

Sebastian Boeser – PINGU software coordinator

**Ph.D. Students:**

Volker Baum – SN DAQ

Thesis/Analysis topics: Search for Low-Energy GRBs

Benjamin Eberhardt – SN DAQ

Thesis/Analysis topics: SN Position and Energy

Anna Steuer – Filter (specific task to be defined)

Thesis/Analysis topic:

Klaus Wiebe – cascade reconstruction

Thesis/Analysis topics: Solar Wimps with Cascades

Markus Archinger – INGU R&D Hardware Development

Thesis/Analysis topic: IceCube Gen2 studies with alternative sensors

Thomas Ehrhard Local SimProd maintenance

Thesis/Analysis topic: Sensitivity to the mass hierarchy of the PINGU

Detector

Joakim Sandroos Neutrino cross section systematics, low energy filter

Thesis/Analysis topic: Measurement of the atmospheric neutrino flux

with DeepCore

*We expect two or three additional PhD students to join before fall with service tasks still to be defined*

**Diploma/Master Students:**

Gerald Krückl Thesis/Analysis topics: sterile neutrinos with starting tracks

Esther del Pino Characterization of wavelength shifting sensors in IceCube

Carl-Christian Fösig Development of a read-out system for new sensors in IceCube-

Gen2”