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

**Scope of Work**

**Stony Brook University**

**Joanna Kiryluk**

**Ph.D Scientists** (Faculty Scientist/Post Doc Grads): **1** (1 0 2)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS Level 3** | **Tasks** | **Funds Source** | **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  | Joanna Kiryluk | Online Filter (Pnf) | Cascade WG co-chair | Inst In-Kind |  | 0.25 |   |  |   |  | 0.25 |
|  |  | Administration | Member of ICC, ICB member, Speakers committee member | Inst In-Kind | 0.05 |   |   |   |   |  | 0.05 |
|  |  | Education and Outreach  | Masterclasses  | Inst In-Kind | 0.05 |  |  |  |  |  | 0.05 |
|  | **Joanna Kiryluk Total** |  |  | **0.10** | **0.25** |  |  |  |  | **0.35** |
| GR | Yiqian Xu | Online Filter (Pnf) | Cascade Filter | Base Grants |   |  0.05 |   |  |   |  | 0.05 |
|  |  | Offline Data Production  | Cascade L3 scripts | Base Grants |  |  |  | 0.10 |  |  | 0.10 |
|  |  | Detector Monitoring | Detector Monitoring | Base Grants |   | 0.05 |   |   |  |  | 0.05 |
| ~~Detector Calibration~~ | ~~Flashers/Standard Candle~~ | ~~Base Grants~~ |  |  |  |  |  | ~~0.10~~ |  ~~0.10~~ |
|  |  | Offline Data Production | Pass2 verification |  |  |  |  | 0.10 |  |  |  0.10 |
|  | **Yiqian Xu Total** |  |  |  | **0.10** |  | **0.20** |  |  | **0.30** |
| GR | Hans Niederhausen | Reconstruction | Cascade reconstruction | Base Grants |  |  |  |  | 0.05 |  | 0.05 |
|  | Simulation Production | Cascade L3 simulation  | Base Grants |  |  |  | 0.10 |  |  |  0.10 |
|  | **Hans Niederhausen Total**  |  |  |  |  |  | **0.10** |  **0.05** |  | **0.15** |
| **Stony Brook University Total** |  |  | **0.10** | **0.35** |  | **0.30** | **0.05** |  |  **0.80** |  |  |

**Faculty:**

Joanna Kiryluk – Cascade/tau WG lead, ICB member, Simulation production coordination committee member, Speakers committee member

**PhD Students:**

Hans Niederhausen – Low energy cascades, cascade reconstruction, simulations

Thesis/Analysis topics: Atmospheric and astrophysical diffuse neutrino induced cascade flux measurement (multi-year cascade data)

 Yiqian Xu – cascade filter, flasher/standard candle, detector monitoring

Thesis/Analysis topics: Neutrino-nucleon cross section measurement using all-sky cascades (multi-year cascade data)