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

**Scope of Work**

**University of Rochester**

**Segev BenZvi**

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Labor Cat.** | **Names** | **WBS Level 3** | **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 | BenZvi,  Segev | Supernova System | Supernova DAQ |  | 0.05 |  |  |  |  | 0.05 |
|  | Simulation Software | Supernova and transient simulations |  |  |  |  | 0.05 |  | 0.05 |
|  | Reconstruction | Supernova light curve and transient monitoring tools |  |  |  |  | 0.05 |  | 0.05 |
|  |  | Administration | Supernova Working Group Co-convener  ICB | 0.05  0.05 |  |  |  |  |  | 0.10 |
|  |  | Education and Outreach | IceCube MasterClass | 0.05 |  |  |  |  |  | 0.05 |
|  | **Segev BenZvi Total** | |  | **0.15** | **0.05** |  |  | **0.10** |  | **0.30** |
| GR | Griswold,  Spencer | Supernova System | Supernova DAQ |  | 0.10 |  |  |  |  | 0.10 |
| Detector Monitoring | Monitoring shifts |  | 0.05 |  |  |  |  | 0.05 |
|  | **Spencer Griswold Total** | |  |  | **0.15** |  |  |  |  | **0.15** |
| GR | Cross,  Robert | Supernova System | Supernova DAQ |  | 0.25 |  |  |  |  | 0.25 |
|  | Simulation Software | Supernova and transient simulations |  |  |  |  | 0.05 |  | 0.05 |
|  |  | Detector Monitoring | Monitoring shifts |  | 0.05 |  |  |  |  | 0.05 |
|  | **Robert Cross Total** | |  |  | **0.30** |  |  | **0.05** |  | **0.35** |
| **Institution Name Total** | | |  | **0.15** | **0.50** |  |  | **0.15** |  | **0.80** |

**Faculty:**

Segev BenZvi

M&O

* Development of Supernova DAQ and simulation tools (USSR)
* SNDAQ release management and alert monitoring
* Analysis algorithms for supernovae and transient light curves
* Co-convener of Supernova Working Group
* Member of ICB

**Graduate Students:**

Robert Cross, Spencer Griswold

M&O

* SNDAQ development and release management
* Winterover training and primary winterover contact for SNDAQ
* Data Monitoring Shifter

Analysis

* Development of fast non-parametric algorithms for sub-threshold transient searches
* Calculation of upper limits of Galactic supernova rate since the start of IceCube operations