**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 1)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 |  | 0.10  |   |   |   |  | 0.10 |
|  | Simulation Software | Supernova and transient simulations |  |   |   |   | 0.05 |  | 0.05 |
|  | Reconstruction | Supernova light curve and transient monitoring tools |  |   |   |   | 0.05 |  | 0.05 |
|  |  | Administration | Realtime Oversight Committee (ROC)ICB | 0.050.05 |  |  |  |  |  | 0.10 |
|  |  | Education and Outreach | IceCube MasterClass | 0.05 |  |  |  |  |  | 0.05 |
|   | **Segev BenZvi Total** |  | **0.15** | **0.10** |  |  | **0.10** |  | **0.35** |
| GR | Cross,Robert | Supernova System | Supernova DAQ |   | 0.20 |   |   |   |  | 0.20 |
|  | Simulation Software | Supernova and transient simulations |   |  |   |   | 0.20 |  | 0.20 |
|  |  | Detector Monitoring | Monitoring shifts |  | 0.05 |  |  |  |  | 0.05 |
|   | **Robert Cross Total** |  |  | **0.25** |  |  | **0.20** |  | **0.45** |
| **Institution Name Total**  |  | **0.15** | **0.35** |  |  | **0.30** |  | **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
* Member of Realtime Oversight Committee (ROC)
* Member of ICB

**Graduate Students:**

Robert Cross

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