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

**Scope of Work**

**Queen’s University**

**Ken Clark**

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 | Ken Clark | Engineering and R&D Support | Meeting Coordination  | 0.20 |   |   |   |   |  | 0.20 |
|  | Engineering and R&D Support | Production/Monitoring |  |   |   | 0.20  |  |  | 0.20 |
|  |  | Simulation Software | Low Energy Simulation Software updates |  |  |  |  | 0.10 |  | 0.10 |
|   | **Name of Key Person Total** |  | **0.20** |  |  | **0.20** | **0.10** |  | **0.50** |
| **SNOLAB Total**  |  | **0.20** |  |  | **0.20** | **0.10** |  | **0.50** |

**Note: Gen-2 contributions not relevant to IceCube M&O are highlighted in blue** (Total: 0.40 FTE)

**Faculty:**

Ken Clark – focused on the low energy simulation for IceCube (primarily DeepCore) and the proposal for Gen 2.

**Scientists and Post Docs:**

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**Grad Students:**

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**Computing Resources**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2016** | **2017** | **2018** |
|  | **CPU Cores**  | **GPU Cards** | **CPU Cores** | **GPU Cards** | **CPU Cards** | **GPU Cards** |
| **IceCube**  |  |  |  |  |  |  |
| **PINGU** |  | 45 years |  | 45 years |  | 45 years |
| **Gen2**  |  | 10 year |  | 10 years |  | 10 years |