Project Organization, Coordination, and Advisory Mechanisms

Kael HANSON
Director of Operations

IceCube Management and Operations

NSF Site Visit March 16, 2020





Outline

- M&O organization
- IceCube Coordination Committee
- Software and Computing Advisory Committee
- International Oversight and Finance Group





University of Wisconsin - Madison

- R. Blank, Chancellor
- S. Ackerman, Vice Chancellor for Research and Graduate Education (VCRGE)

National Science Foundation

International Oversight and Finance Group

Foreign Funding Agencies

Wisconsin IceCube Particle Astrophysics Center (WIPAC)

- K. Hanson, Director
- J. Madsen, Executive Director
- K. Chorlton, HR, Bsnss & Admin M. O'Keefe, Communications
- D. Comerford, Busnss IT Support

IceCube Neutrino Observatory

- F. Halzen, Principal Investigator K. Hanson, Director of Operations
- A. Karle, Associate Director for Science & Instrumentation
 - J. Madsen, Associate Director for **Education & Outreach**

Science Advisory Committee

B. Barish, Caltech, Chair Software & Computing

Advisory Panel

M. Delfino, PIC, Chair Education & Outreach **Advisory Panel**

Collaboration Board

Spokesperson & Executive Committee Chair, D. Grant (MSU)

Publication Com. Chair, S. BenZvi (Rochester) Speakers Com. Chair, J. Kiryluk (SUNY) Future Gen2 Coordinators,

A. Karle (UW) & M. Kowalski (DESY)

Maintenance & Operations

Detector M&O -J. Kelley, UW Manager

Run Coordination, M. Kauer (UW) D. Glowacki (UW) DAQ,

Supernova DAQ, S. BenZvi (Rochester) Processing & Filtering, E. Blaufuss (Maryland) IceTop Operations, S. Tilav (Delaware)

IceCube Live, M. Frère (UW)

Calibration -S. Blot (DESY) / A. Hallgren (Uppsala)

Data Processing & Simulation Serv - J.C. Diaz-Velez (UW)

Offline Data Production, R. Snihur (UW) Simulation Production, K. Meagher (UW)

Program Coordination - C. Vakhnina (UW)

Collaboration Simulation Production Centers:

Belgium: IIHE-Brussels; Canada: Alberta; Japan: Chiba Germany: DESY, Aachen, Dortmund, Wuppertal, Mainz

US: UW (NPX, GZK, CHTC, OSG), UMD, UDEL, LBNL/NERSC, PSU, Alabama

South Pole Logistics, R&D Support – J. Haugen (UW)

Quality & Safety – M. Zernick (UW)

Computing & Data Management - B. Riedel,

UW Manager

Data Storage Systems & Cybersecurity, S. Barnet (UW)

South Pole System & Test System, R. Auer (UW)

Data Transfer and Archive P. Meade (UW) Data Management, J. Bellinger (UW)

Distributed Computing, V. Brik (UW)

Data Processing, A. Sheperd (UW) Networking and Facilities, S. Barnet (UW)

Production Software, D. Schultz (UW)

Data Archive at DESY, K. Leffhalm (DESY) Data Archive at LBNL. S. Klein (LBNL)

Software - A. Olivas (Maryland)

IceTray Framework/Development, D. LaDieu (Maryland) Simulation Software, A. Olivas (Maryland)

T. Yuan (UW) Offline Processing Software,

Committee E. Blaufuss (Maryland)

Coordination

Committee Chair.

P. Desiati (UW)

Resource

Coordination,

C. Vakhnina (UW)

TFT Coordination,

N. Kurahashi Neilson

(Drexel) &

R. Moore (Alberta)

Real-Time Oversight

Technical & Science Working Groups

Analysis Coordinator -

Anna Franckowiak (DESY)

Analysis Working Groups:

Diffuse

Neutrino Sources

Beyond Standard Model

Cosmic Rays

Oscillation

Supernova

Technical Working Groups:

Real time Calibration

Systematics & Reconstrctn

Systematics Coordinator



March 10, 2020

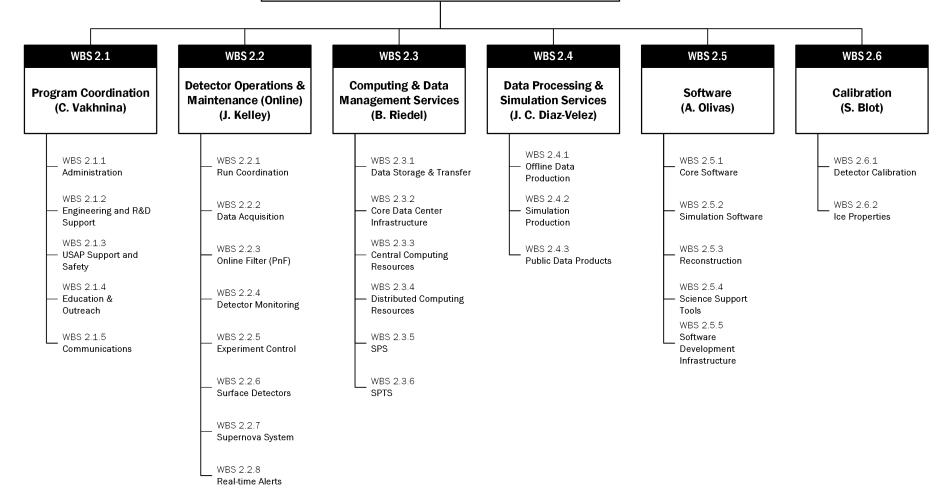


IceCube Neutrino Observatory

F. Halzen - Pl

K. Hanson - Director of Operations

A. Karle – Assoc Director for Science and Instrumentation
J. Madsen – Assoc. Director for Education and Outreach







FTE Resources

WBS L2	NSF M&O Core	NSF Base Grants	U.S. Institutional In-Kind	Europe & Asia Pacific In-Kind	Grand Total
2.1 Program Management	5.08	0.40	4.26	6.40	16.14
2.2 Detector Operations & Maintenance	13.48	1.98	3.75	9.05	28.26
2.3 Computing And Data Management Services	7.85	0.05	1.38	2.00	11.28
2.4 Data Processing & Simulation Services	3.50	0.95	1.05	3.25	8.75
2.5 Software	4.05	1.90	5.93	11.15	23.03
2.6 Calibration	1.05	1.30	1.75	3.90	8.00
Grand Total	35.01	6.58	18.12	35.75	95.46





IceCube Coordination Committee





ICC Members

- Paolo Desiati (Chair)
- Catherine Vakhnina, IceCube Resource Coordinator
- Kael Hanson, Director of Operations
- Darren Grant, IceCube Spokesperson
- Albrecht Karle, Assoc. Director for Science and Instrumentation
- L2 Coordinators
- Erik Blaufuss, Realtime Ops Chair
- Anna Franckowiak, Analysis Coordinator
- Working group technical leads





ICC Scope / Authority

- Match resources (labor, computing, cash) with needs.
- Top-level resource arbitration notable recent action of ICC was rejection of proposal to reprocess from IceCube raw data: "Pass 3" reprocessing.
- TFT board remains forum for online filtering / data stream transmission arbitration.
- Monthly phone calls with bi-weekly "IceCube Technical" phone calls.
- Introduction of WG Technical Leads has led to better participation / representation of WG interests in overall ICC decision making a resource prioritization.
- Scope has expanded to cover in-kind contributions to the IceCube Upgrade.
- Link to meeting minutes / presentations





Software and Computing Advisory Panel





Membership

- Manuel Delfino (Chair, former Director of Port d'Informacia Cientifica, Barcelona)
- Sridhara Dasu (Chair, UW Physics, CMS)
- Peter Couvares (Syracuse, LIGO)
- Miron Livny (ex-officio, UW-Madison, OSG)

New members in Blue

- Peter Elmer (Princeton, IRIS-HEP, CMS)
- Terry Schalk (UC Santa Cruz, LSST)
- Frank Wuertheim (UC San Diego/SDSC, CMS, OSG)
- Mark Neubauer (Univ Illinois Urbana Champain, ATLAS)





Scope

The IceCube Software & Computing Advisory Panel (SCAP) is composed of experts in the fields of software development and scientific computing. The SCAP advises the IceCube spokesperson and director of operations on the most efficient and effective computing resources for IceCube, including on-line computing; on-line and off-line data processing and filtering; off-line computing facilities; and simulations and analysis tools support. The spokesperson and the director of operations appoint the SCAP members and the chairperson.





Status of SCAP

- Full document of responses to 2018 recommendations.
- As reported during last M&O Review major points:
 - Appoint M&O computing coordinator: B. Riedel in this position since late 2018
 - Goal for 10x computing to test scalability of software / middleware: 2019 *CloudBurst* experiment confirmed that we could scale to 50x capacity the largest cloud simulation in history.
- 2020 SCAP planned for 28-29 April currently being planned a virtual meeting due to ongoing Coronavirus travel restrictions.





International Oversight and Finance Group





Scope

- Created in 2004 to provide oversight and financial coordination among the international funding agencies that supported the IceCube MREFC: USA, Germany, Sweden, Belgium.
- Meets annually briefed by Collaboration Spokesperson, Director of Operations, Principal Investigator, and others as appropriate.
- Role has changed as IceCube transitioned from construction to operations.
 Review of and decisions rendered on:
 - Common Fund payments and expenditures,
 - · Review of MoU scope of work between ICNO and collaborating institutions,
 - Concurrence on M&O Plans,
 - Funding issues and coordination,
 - Future facility expansion planning and coordination.





Membership

- James Whitmore (NSF/MPS/PHY)
- Vladimir Papitashvili (NSF/OPP/ANT)
- Christian Stegman (DESY/DFG, Germany)
- Marc Hempel (BMBF, Germany)
- Leif Eriksson (VR, Sweden)
- Laurent Favart (FNRS, Belgium)
- Jorgen d'Hondt (FWO, Belgium)
- Ryohei Kobayashi (MEXT, Japan)



