IceCube M&O MoU SOW Summary v24.0 2018.0510
Authors Contribution

v 24.0 May 10, 2018		Authors Head Count				IceCube Authors: M&O Responsibilities (FTE)						
Institution	Institutional Lead	Ph.D. Authors	Faculty	Scientists / Post Docs	Ph.D. Students	WBS 2.1 Program Management	WBS 2.2 Detector Operations & Maintenance	WBS 2.3 Computing & Data Management	WBS 2.4 Data Processing & Simulation	WBS 2.5 Software	WBS 2.6 Calibration	Total
University of Alabama*	Dawn Williams	3	(2	1	1)	0.35	0.20	0.05		0.40	0.65	1.65
University of Alaska	Katherine Rawlins	1	(1	0	0)		0.25			0.20		0.45
Clark Atlanta	George Japaridze	1	(1	0	0)		0.02					0.02
Drexel University	Naoko Kurahashi Neilson	2	(1	1	2)	0.05	0.50			0.55		1.10
Georgia Tech	Ignacio Taboada	1	(1	0	2)		0.25					0.25
LBNL*	Spencer Klein	4	(2	2	0)	0.13	0.24	1.08		0.05		1.50
Marquette University	Karen Andeen	2	(1	1	0)	0.20	0.55					0.75
Massachusetts Institute of Technology	Janet Conrad	2	(1	1	4)	0.55			0.50	0.95	0.15	2.15
Michigan State University*	Tyce DeYoung	2	(2	0	2)	0.30	0.03			0.05	0.25	0.63
Ohio State University	James Beatty	2	(1	1	0)	0.05	0.05		0.05			0.15
Pennsylvania State University*	Doug Cowen	5	(1	4	4)	0.50	1.17			0.63		2.30
South Dakota School of Mines & Technology*	Xinhua Bai	1	(1	0	1)	0.18	0.02		0.15	1.45		1.80
Southern University	Ali Fazely	3	(2	1	0)		0.02	0.30		0.60		0.92
Stony Brook University	Joanna Kiryluk	1	(1	0	2)	0.15	0.10		0.30			0.55
University of California, Berkeley	Buford Price	1	(1	0	0)	0.10						0.10
University of California, Irvine	Steve Barwick	1	(1	0	1)		0.02					0.02
University of California, Los Angeles	Nathan Whitehorn	1	(1	0	0)							
University of Delaware*	Tom Gaisser	8	(5	3	2)	0.35	1.45		0.25	0.50		2.55
University of Kansas	Dave Besson	1	(1	0	0)		0.02					0.02
University of Maryland*	Greg Sullivan	5	(3	2	2)	1.15	1.49	0.50	0.10	0.50		3.74
University of Rochester	Segev BenZvi	1	(1	0	1)	0.15	0.35			0.30		0.80
University of Texas at Arlington	Benjamin Jones	1	(1	0	1)	0.05				0.25	0.70	1.00
University of Wisconsin, River Falls*	Jim Madsen	3	(3	0	0)	0.60				0.10	0.20	0.90
University of Wisconsin, Madison	Albrecht Karle	18	(6	12	14)	2.23	3.10	0.10	1.60	1.10	3.20	11.33
Yale University	Reina Maruyama	1	(1	0	0)		0.05			0.05		0.10
U.S. Institutions Subtotal		**71**	**(42**	**29**	**39)**	**7.09**	**9.87**	**2.03**	**2.95**	**7.68**	**5.15**	**34.77**
DESY-Zeuthen	Marek Kowalski	11	(6	5	10)	0.95	1.27	1.20		0.50	0.30	4.22
RWTH Aachen	Christopher Wiebusch	2	(1	1	9)	0.35	0.42	0.20	0.45	0.95	0.90	3.27
Universität Dortmund	Wolfgang Rhode	2	(1	1	6)		0.83		0.30	1.00		2.13
Universität Mainz	Lutz Köpke	3	(2	1	5)	0.25	1.60			0.45		2.30
University of Münster	Alexander Kappes	2	(1	1	2)	0.30					0.20	0.50
Universität Wuppertal	Klaus Helbing	2	(1	1	5)		0.93			0.40	0.20	1.53
Humboldt Universität Berlin	Marek Kowalski	1	(1	0	1)						0.20	0.20
Universität Bochum	Julia Tjus	1	(1	0	2)		0.18			0.10		0.28
Technische Universität München	Elisa Resconi	1	(1	0	4)		0.05		0.50	0.50		1.05
Universite Libre de Bruxelles	J. A. Aguilar Sanchez	2	(1	1	2)	0.50	0.57			0.50		1.57
University of Gent	Dirk Ryckbosch	2	(1	1	4)	0.05	0.03		0.55	0.05		0.68
Vrije Universiteit Brussel	Catherine de Clercq	3	(2	1	3)	0.40	0.72			0.35		1.47
Stockholm University	Klas Hultqvist	4	(3	1	2)	0.30	0.56			0.20		1.06
Uppsala University	Olga Botner	3	(3	0	2)	0.40	0.41			0.25		1.06
University of Alberta	Darren Grant	6	(3	3	4)	0.70	0.60	0.45	1.40	0.45	0.45	4.05
University of Oxford	Subir Sarkar	1	(1	0	0)	0.20						0.20
University of Canterbury	Jenni Adams	2	(1	1	2)	0.20	0.15			0.15	0.15	0.65
University of Adelaide	Gary Hill	2	(1	1	1)					1.90		1.90
Chiba University	Shigeru Yoshida	5	(3	2	0)	0.10	0.20	0.80	0.00	0.70	0.25	2.05
Université de Genève	Teresa Montaruli	2	(1	1	2)	0.35	0.10		0.40	1.75		2.60
Universität Erlangen-Nürnberg	Gisela Anton	3	(2	1	2)	0.20				0.85		1.05
Niels Bohr Institute	Jason Koskinen	4	(2	2	2)	0.25	0.13		0.35	0.25	0.35	1.33
Sungkyunkwan University	Carsten Rott	2	(1	1	5)	0.30	0.80				0.75	1.85
SNOLAB / Queen's University	Ken Clark	1	(1	0	0)					0.10		0.10
Non-U.S. Institutions Subtotal		**67**	**(41**	**26**	**75)**	**5.80**	**9.55**	**2.65**	**3.95**	**11.40**	**3.75**	**37.10**
Total U.S. & Non-U.S.		**138**	**(83**	**55**	**114)**	**12.89**	**19.41**	**4.68**	**6.90**	**19.08**	**8.90**	**71.86**

Changes since last official version are colored red

* IceCube M&O Subawardee Institutions