IceCube M&O MoU SOW Summary v22 2017.0430.xlsx
Authors Contribution

v 22.0, April 30, 2017			Authors Head Count				IceCube Authors: M&O Responsibilities (FTE)						
Institution	Institutional Lead	Institution	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	Alabama	3	(2	1	1)	0.35				0.35	0.65	1.35
University of Alaska	Katherine Rawlins	Alaska	1	(1	0	0)		0.20			0.20		0.40
Clark Atlanta	George Japaridze	Clark Atlanta	1	(1	0	0)		0.02					0.02
Drexel University	Naoko Kurahashi Neilson	Drexel	2	(1	1	2)	0.05	0.50			0.55		1.10
Georgia Tech	Ignacio Taboada	Georgia Tech	1	(1	0	2)		0.25					0.25
LBNL*	Spencer Klein	LBNL	5	(3	2	2)	0.13	0.24	1.08		0.15		1.60
Marquette University	Karen Andeen	Marquette	2	(1	1	0)	0.20	0.55					0.75
Massachusetts Institute of Technology	Janet Conrad	MIT	2	(1	1	4)	0.55			0.50	0.95	0.15	2.15
Michigan State University*	Tyce DeYoung	MSU	4	(2	2	2)	0.35	0.03	0.25	0.28	0.38	0.50	1.79
Ohio State University	James Beatty	Ohio	2	(1	1	0)	0.05	0.05		0.05			0.15
Pennsylvania State University*	Doug Cowen	Penn State	4	(1	3	3)	0.50	1.52	0.10		0.30		2.42
South Dakota School	Xinhua Bai	SDSMT	1	(1	0	0)	0.10	0.02		0.10	0.55		0.77
Southern University	Ali Fazely	Southern	3	(2	1	0)		0.02	0.30		0.60		0.92
Stony Brook University	Joanna Kiryluk	Stony Brook	1	(1	0	2)	0.10	0.35		0.20	0.05	0.10	0.80
University of California, Berkeley	Buford Price	UC-Berkeley	1	(1	0	0)	0.10						0.10
University of California, Irvine	Steve Barwick	UC-Irvine	1	(1	0	1)		0.02					0.02
University of Delaware*	Tom Gaisser	Delaware	6	(4	2	2)	0.35	1.45			0.55		2.35
University of Kansas	Dave Besson	Kansas	1	(1	0	0)		0.02					0.02
University of Maryland*	Greg Sullivan	Maryland	6	(3	3	3)	1.40	1.84	0.50	0.10	1.10		4.94
University of Rochester	Segev BenZvi	Rochester	1	(1	0	1)		0.35			0.40		0.75
University of Texas at Arlington	Benjamin Jones	Texas	1	(1	0	1)	0.05	0.65			0.25		0.95
University of Wisconsin, River Falls*	Jim Madsen	UW-River Falls	3	(3	0	0)	0.60				0.10	0.20	0.90
University of Wisconsin, Madison	Albrecht Karle	UW-Madison	18	(6	12	14)	2.23	2.90	0.20	1.40	1.50	2.95	11.18
Yale University	Reina Maruyama	Yale	1	(1	0	0)		0.05			0.05		0.10
U.S. Institutions Subtotal			**71**	**(41**	**30**	**41)**	**7.11**	**11.02**	**2.43**	**2.63**	**8.03**	**4.55**	**35.77**
DESY-Zeuthen	Marek Kowalski	DESY	10	(6	4	9)	0.65	1.22	1.20	0.25	0.50	0.10	3.92
RWTH Aachen	Christopher Wiebusch	Aachen	2	(1	1	10)	0.60	0.42	0.25	0.45	0.85	0.60	3.17
Universität Dortmund	Wolfgang Rhode	Dortmund	2	(1	1	6)		0.83		0.30	1.00		2.13
Universität Mainz	Lutz Köpke	Mainz	3	(2	1	8)	0.25	2.05					2.30
University of Münster	Alexander Kappes	Münster	1	(1	0	6)	0.20				0.10		0.30
Universität Wuppertal	Klaus Helbing	Wuppertal	2	(1	1	5)		0.93			0.40	0.20	1.53
Humboldt Universität Berlin	Marek Kowalski	Humboldt	1	(1	0	1)						0.20	0.20
Universität Bochum	Julia Tjus	Bochum	1	(1	0	3)		0.18			0.10		0.28
Technische Universität München	Elisa Resconi	Munich	1	(1	0	4)		0.05		1.00	0.50		1.55
Universite Libre de Bruxelles	J. A. Aguilar Sanchez	ULB	2	(1	1	3)	0.20	1.07		0.20	0.55		2.02
University of Gent	Dirk Ryckbosch	Gent	2	(1	1	4)	0.05	0.03		0.55	0.05		0.68
Vrije Universiteit Brussel	Catherine de Clercq	VUB	4	(2	2	2)	0.30	0.72			0.50		1.52
Stockholm University	Klas Hultqvist	Stockholm	4	(3	1	1)	0.60	0.91					1.51
Uppsala University	Olga Botner	Uppsala	3	(3	0	2)	0.90	0.48			0.25		1.63
University of Alberta	Darren Grant	Alberta	5	(3	2	3)	0.20	0.50		0.95	0.30	0.45	2.40
University of Oxford	Subir Sarkar	Oxford	1	(1	0	0)	0.20						0.20
University of Canterbury	Jenni Adams	Canterbury	2	(1	1	2)	0.05	0.30			0.05	0.10	0.50
University of Adelaide	Gary Hill	Adelaide	2	(1	1	1)					1.90		1.90
Chiba University	Shigeru Yoshida	Chiba	6	(3	3	1)		0.23		0.05	0.70	0.60	1.58
Université de Genève	Teresa Montaruli	Geneva	2	(1	1	3)	0.30	0.10		0.10	1.40		1.90
Universität Erlangen-Nürnberg	Gisela Anton	Erlangen	3	(2	1	1)	0.20				0.65		0.85
Niels Bohr Institute	Jason Koskinen	NBI	4	(2	2	3)	0.25	0.16		0.35	0.25	0.25	1.26
Sungkyunkwan University	Carsten Rott	SKKU	2	(1	1	5)	0.30	0.80				0.55	1.65
SNOLAB / Queen's University	Ken Clark	SNOLAB	1	(1	0	0)			0.10		0.10		0.20
Non-U.S. Institutions Subtotal			**66**	**(41**	**25**	**83)**	**5.25**	**10.98**	**1.55**	**4.20**	**10.15**	**3.05**	**35.18**
Total U.S. & Non-U.S.			**137**	**(82**	**55**	**124)**	**12.36**	**21.99**	**3.98**	**6.83**	**18.18**	**7.60**	**70.94**

Changes since last official version are colored red

* IceCube M&O Subawardee Institutions