

**Copy of IceCube M&O MoU SOW Summary v19 2015.1015.xlsx
Authors Contribution**

v 19.0, October 15, 2015	Authors Head Count				IceCube Authors: M&O Responsibilities (FTE)					
	Institution (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 Triggering & Filtering	WBS 2.5 Data Quality, Reconstruction & Simulation Tools	Total
University of Alabama (Dawn Williams)	3	(2 1 1)				0.45	0.25	0.35	0.20	1.25
University of Alaska (Katherine Rawlins)	1	(1 0 0)				0.02		0.20	0.20	0.42
Clark Atlanta (George Japaridze)	1	(1 0 0)				0.02				0.02
Drexel University (Naoko Kurahashi Neilson)	1	(1 0 0)			0.05			0.30		0.35
Georgia Tech (Ignacio Taboada)	1	(1 0 1)				0.23		0.25		0.48
LBNL (Spencer Klein)	5	(3 2 3)			0.13	0.24	0.53		0.15	1.05
Massachusetts Institute of Technology (Janet Conrad)	1	(1 0 2)			0.10	0.10			1.10	1.30
Michigan State University (Tyce DeYoung)	5	(2 3 2)			0.30	0.06	0.41		0.95	1.72
Ohio State University (James Beatty)	4	(1 3 0)				0.35	0.10		0.05	0.50
Pennsylvania State University (Doug Cowen)	4	(1 3 3)			0.40	0.82	0.33	0.47	0.92	2.94
South Dakota School (Xinhua Bai)	1	(1 0 1)			0.05	0.05			1.10	1.20
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)			0.05	0.25		0.50	0.15	0.95
University of California, Berkeley (Buford Price)	3	(1 2 0)			0.40	0.27		0.25	0.38	1.30
University of California, Irvine (Steve Barwick)	1	(1 0 1)				0.02				0.02
University of Delaware (Tom Gaisser)	7	(4 3 2)			0.45	1.05	0.00	0.20	0.90	2.60
University of Kansas (Dave Besson)	1	(1 0 0)			0.10	0.02				0.12
University of Maryland (Greg Sullivan)	6	(3 3 4)			1.20	0.96	1.63	0.40	0.73	4.91
University of Wisconsin, River Falls (Jim Madsen)	3	(3 0 0)			0.60	0.20			0.20	1.00
University of Wisconsin, Madison (Albrecht Karle)	20	(6 14 11)			2.23	4.00	1.50	0.30	2.60	10.63
Yale University (Reina Maruyama)	1	(1 0 1)			0.05	0.05			0.10	0.20
U.S. Institutions Subtotal	73	(38 35 34)			6.11	9.17	5.05	3.22	10.33	33.87
DESY-Zeuthen (Markus Ackermann)	8	(6 2 10)			0.60	0.17	1.65	0.35	1.25	4.02
RWTH Aachen (Christopher Wiebusch)	2	(1 1 9)			1.00	0.57	1.00	0.20	0.70	3.47
Universität Dortmund (Wolfgang Rhode)	2	(1 1 3)				0.03	0.55	0.40	0.50	1.48
Universität Mainz (Lutz Köpke)	2	(2 0 9)			0.50	0.70	0.30	0.50	0.25	2.25
Universität Wuppertal (Klaus Helbing)	2	(1 1 7)			0.10	0.50	0.20	0.45	0.60	1.85
Humboldt Universität Berlin (H.Kolanoski_interim)	1	(1 0 5)			0.10			0.20	0.05	0.35
Universität Bochum (Julia Tjus)	2	(1 1 3)				0.03		0.10	0.20	0.33
Technische Universität München (Elisa Resconi)	3	(1 2 3)				0.05			0.60	0.65
Universite Libre de Bruxelles (Juan Antonio Aguilar)	4	(1 3 3)			0.10	0.62	0.45	0.45	0.50	2.12
Universite de Mons (Evelyne Daubie)	1	(0 1 0)				0.10	0.55			0.65
University of Gent (Dirk Ryckbosch)	2	(1 1 3)			0.10	0.03			0.40	0.53
Vrije Universiteit Brussel (Catherine de Clercq)	5	(2 3 5)			0.20	0.12	0.25	0.50	3.00	4.07
Stockholm University (Klas Hultqvist)	5	(4 1 4)			0.30	0.06		1.25	0.35	1.96
Uppsala University (Olga Botner)	5	(3 2 2)			1.00	0.13	0.20	0.60		1.93
University of Alberta (Darren, Grant)	4	(2 2 2)			0.75		1.35	0.45	0.60	3.15
University of Oxford (Subir Sarkar)	1	(1 0 0)			0.10	0.02				0.12
University of Canterbury (Jenni Adams)	1	(1 0 2)			0.05	0.05		0.40	0.10	0.60
University of Adelaide (Gary Hill)	2	(1 1 1)							1.90	1.90
Chiba University (Shigeru Yoshida)	6	(2 4 2)				0.03	0.20	0.40	1.05	1.68
Université de Genève (Teresa Montaruli)	2	(1 1 3)			0.20	0.20		0.40	0.95	1.75
Universität Erlangen-Nürnberg (A. Kappes)	1	(1 0 4)			0.10				0.75	0.85
Niels Bohr Institute (Jason Koskinen)	1	(1 0 2)			0.30	0.06	0.30	0.25	0.30	1.21
University of Toronto (Kenneth Clark)	1	(1 0 0)					0.35		0.10	0.45
Sungkyunkwan University (Carsten Rott)	2	(1 1 4)			0.30	0.03		0.45	0.20	0.98
Non-U.S. Institutions Subtotal	65	(37 28 86)			5.80	3.50	7.35	7.35	14.35	38.35
Total U.S. & Non-U.S.	138	(75 63 120)			11.91	12.67	12.40	10.57	24.68	72.22

Changes since last official version are colored red