



Collaboration Report

M&O Review - March 2019

ICECUBE



IceCube Collaboration - Stockholm 2018

A remarkable and diverse group of ~300 scientists working in synergy with the M&O team to realize the project's science objectives

IceCube by the numbers*

*many thanks Catherine!

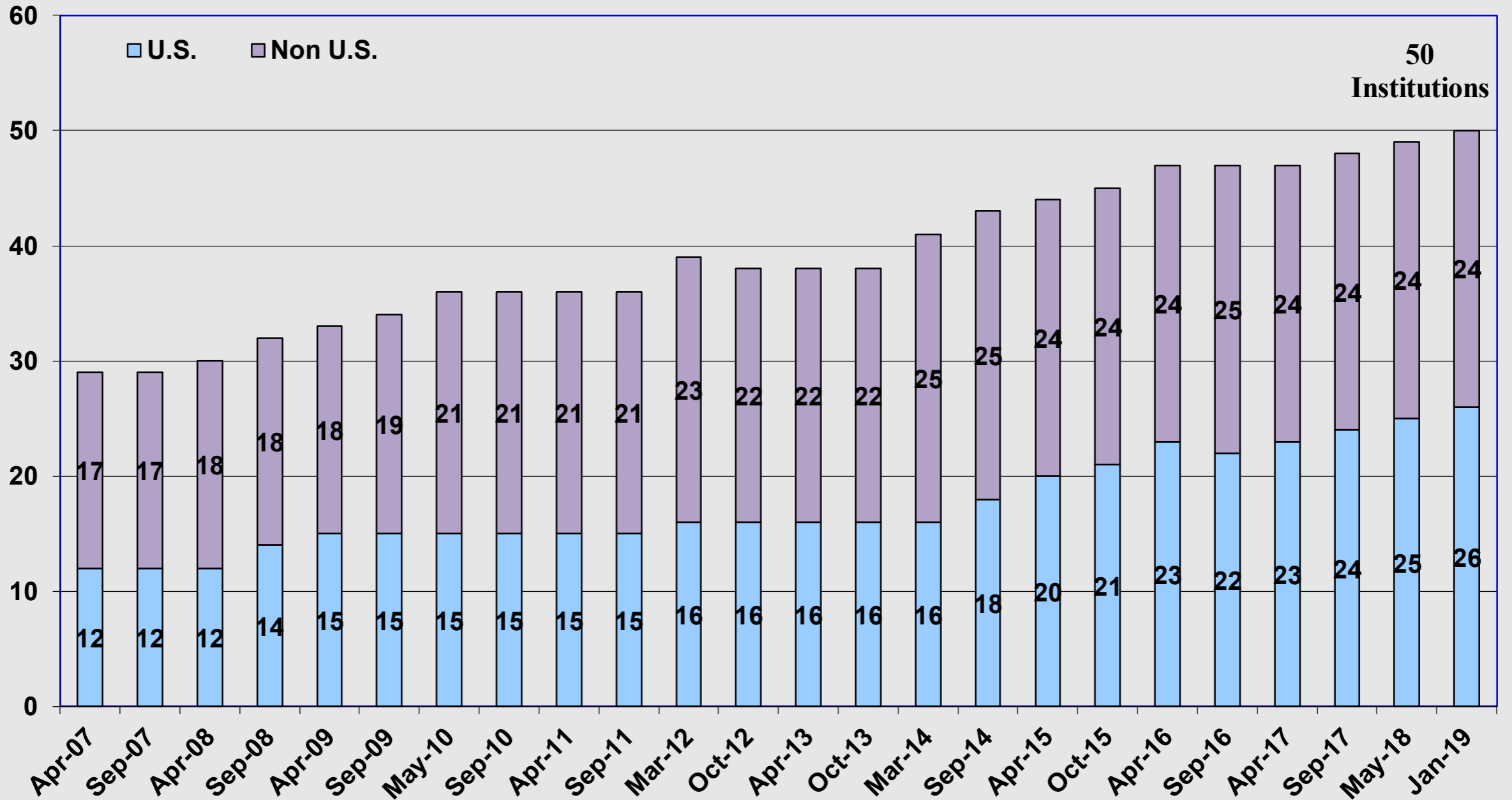
IceCube Collaborative Institutions

Joined IceCube:

EPFL Alabama G. Tech Ohio State Bochum Bonn Alberta Barbados Adelaide Geneva Stony Brook Munich SKKU Toronto NBI Erlangen Yale SDSMT Drexel MSU MIT Marquette Rochester Münster Queen's Texas UCLA Mercer

Left IceCube:

Utrecht Heidelberg Barbados EPFL Bonn Toronto Mons



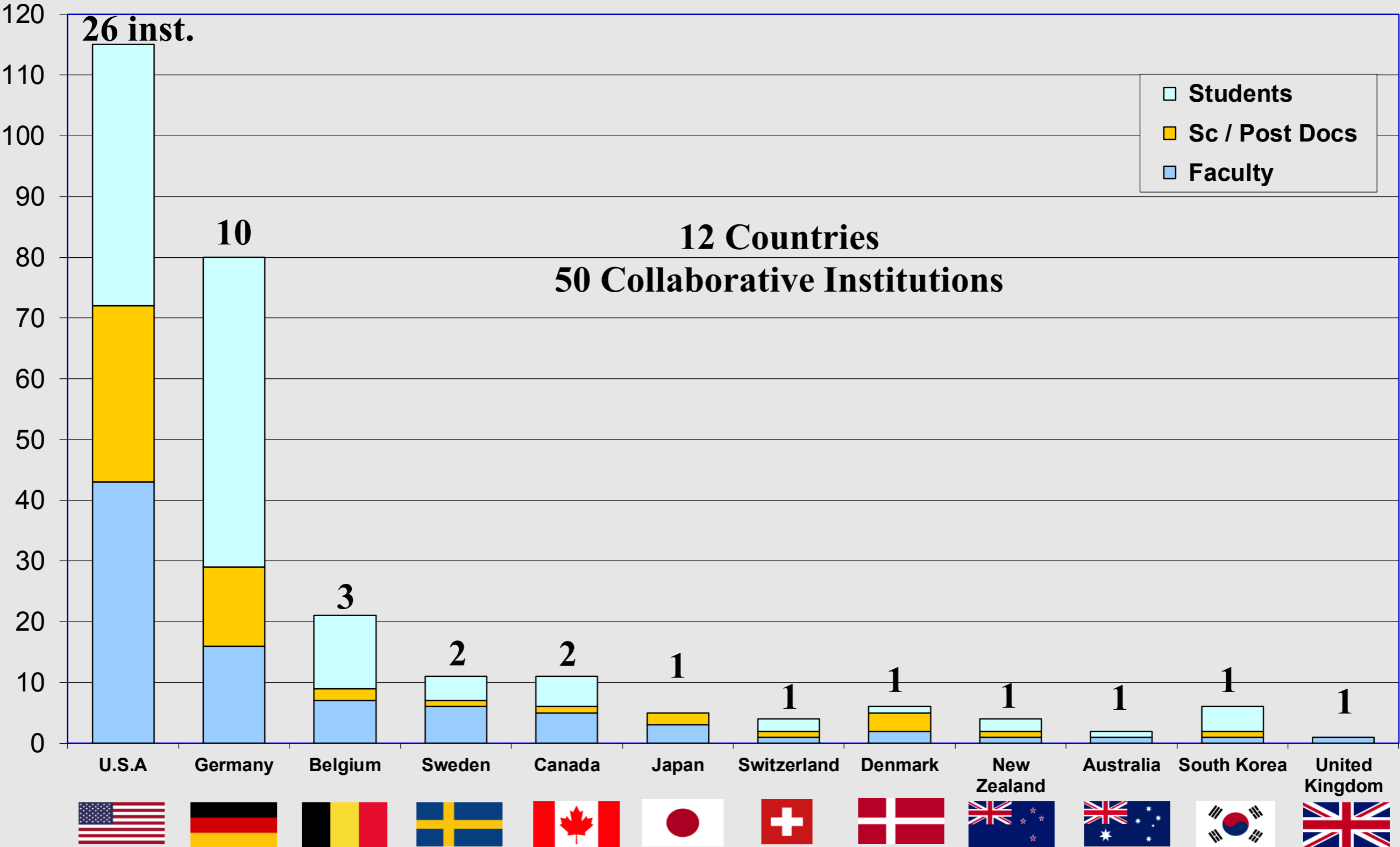
**50
Institutions**



Collaboration Meetings

IceCube Collaborative Institutions

IceCube M&O MoU Summary v 25.1, January 2, 2019



IceCube M&O MoU Summary v 25.1, January 2, 2019

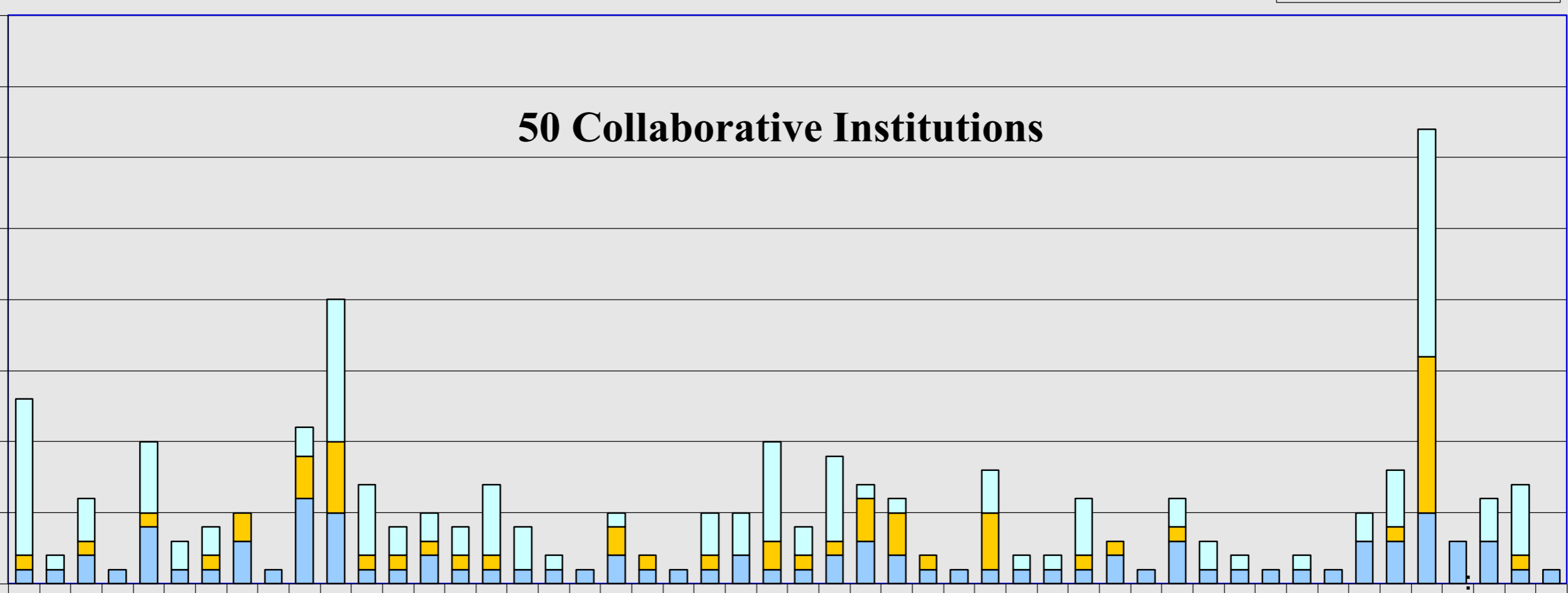


50 Collaborative Institutions

Head count

40
35
30
25
20
15
10
5
0

Aachen
Adelaide
Alabama
Alaska
Alberta
Bochum
Canterbury
Chiba
Clark Atlanta
Delaware
DESY
Dortmund
Drexel
Erlangen
Geneva
Gent
Georgia Tech
Humboldt
Kansas
LBNL
Marquette
Mercer
MIT
MSU
Munich
Münster
Mainz
Maryland
NBI
Ohio
Oxford
Penn State
Rochester
SDSMT
SKKU
Southern
SNOLAB
Stockholm
Stony Brook
Texas
UC-Berkeley
UC-Irvine
UCLA
Uppsala
ULB
UW-Madison
UW-River...
VUB
Wuppertal
Yale



IceCube M&O MoU Head Count Summary

v24.0, May 2018

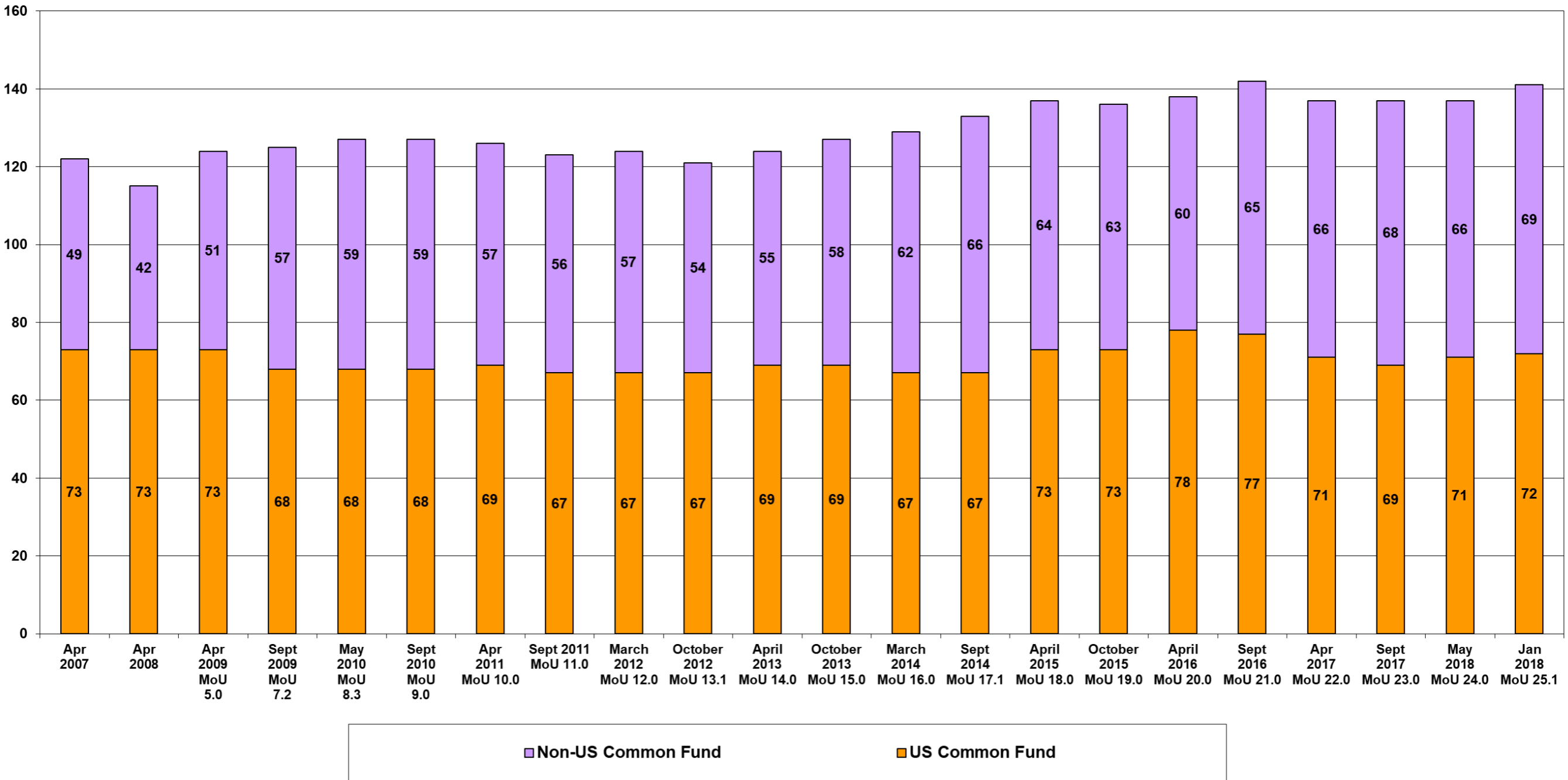
	Head Count				
	Ph.D. Authors	Faculty	Scientists / Post Docs	Students	Total
U.S. Institutions Subtotal	71	42	29	39	110
Non-U.S. Institutions Subtotal	67	41	26	75	142
Total U.S. & Non-U.S.	138	83	55	114	252
	a + b	(a)	(b)	(c)	a + b + c

v25.1, January 2019

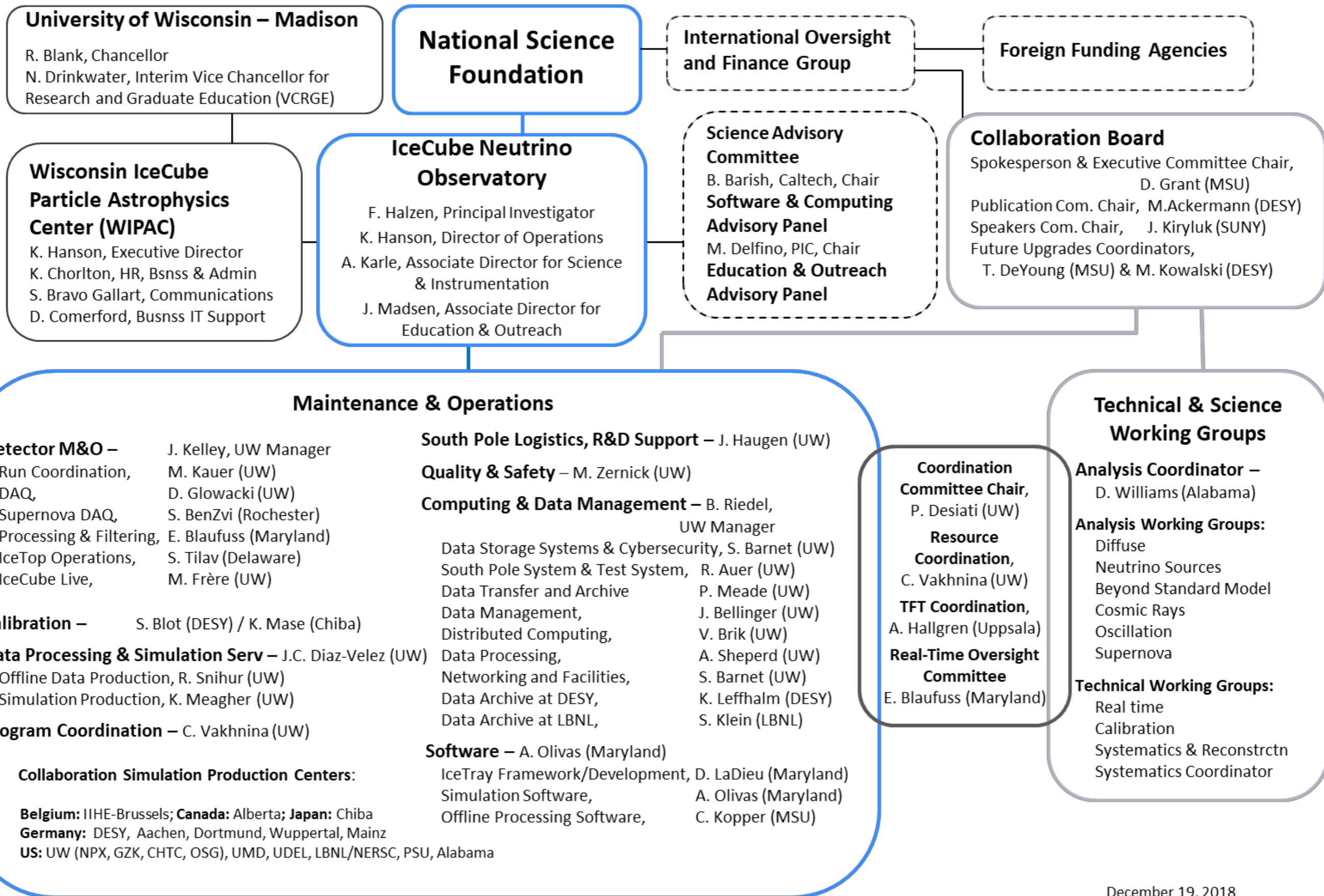
	Head Count				
	Ph.D. Authors	Faculty	Scientists / Post Docs	Students	Total
U.S. Institutions Subtotal	72	43	29	43	115
Non-U.S. Institutions Subtotal	69	44	25	82	151
Total U.S. & Non-U.S.	141	87	54	125	266
	a + b	(a)	(b)	(c)	a + b + c

IceCube Ph.D. Authors Head Count

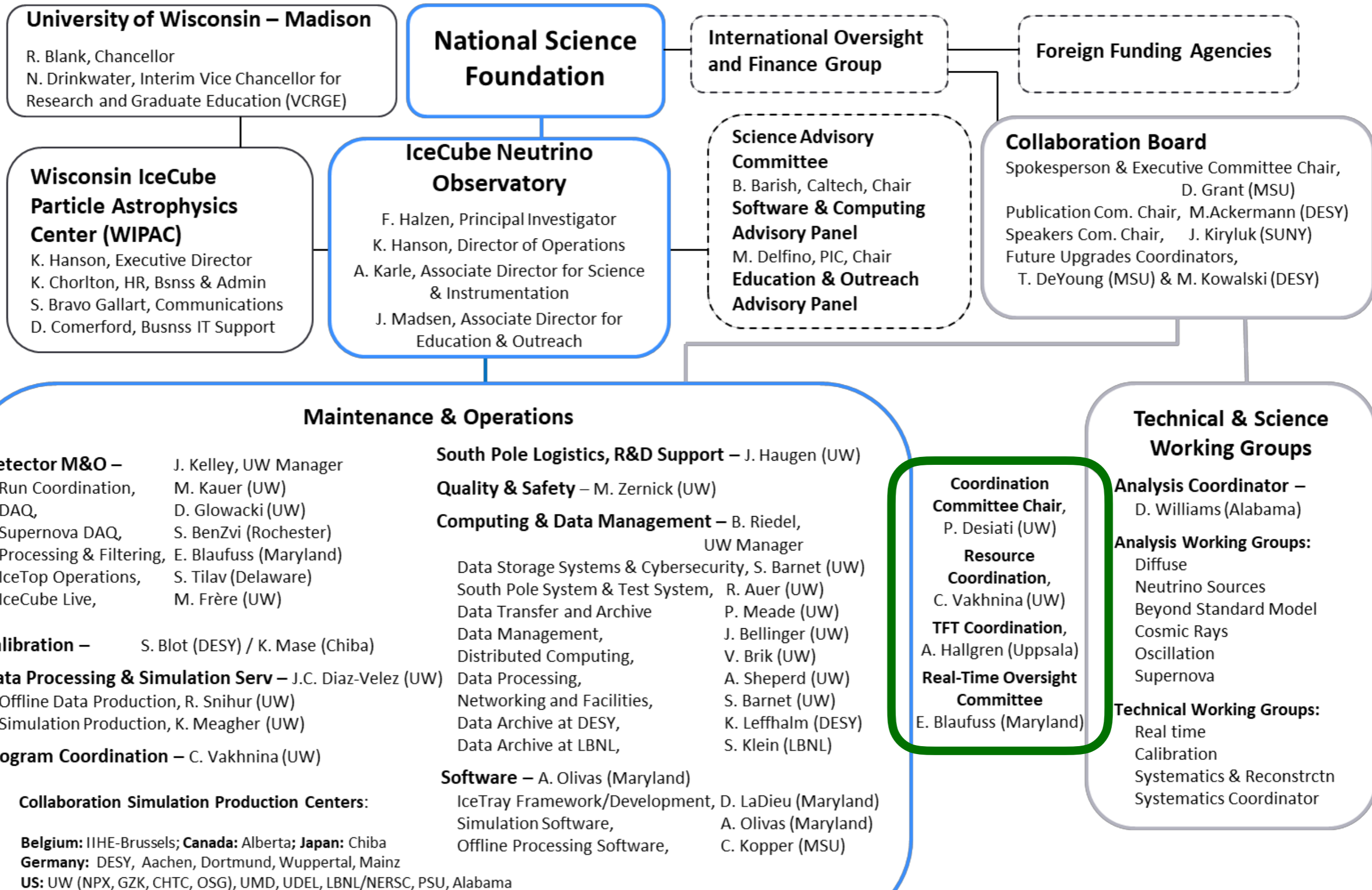
IceCube Collaboration - Ph.D. Authors Head Count



Collaboration organization chart:



Collaboration organization chart:



Board Activities

On average approximately 30 items are discussed in depth (and often voted* on) each year:

- institutional and associate memberships
- policy development and updates
- memoranda of understanding (MOUs) with other projects
- amendments to the collaboration governance

*Voting on items takes place confidentially via GoogleForms

Board Activities (2018)

Collaboration membership:

- institutional membership may be considered for any group via application to the board (received by the spokesperson)
- associate membership (typically for a dedicated analysis or hardware topic) occurs via application sponsored by an IceCube member institution.
- typically for new institutions in a country with existing members guidance is sought on the impact to the on-going funding and activities; for new countries (eg. China in 2018) broader guidance is solicited from lead project agencies.

7 applications; 3 full member; 3 associate member; 1 institutional update

Board Activities (2018)

Policy development and updates:

- implemented new policies for code of conduct, ombudsperson and formal complaints
- updated publication policies, including handling of corresponding authorship

Board Activities (2018)

MOUs with partner projects:

- implemented a standardized template for MOU agreements to streamline the process
- agreements generally have 3 year periods, renewable
- MOUs have been used extensively both for the TXS analyses/publications and the recent M77 results.

6 new and updated MOUs in the past year. General MOU signed with ANTARES to ease joint analyses. Upcoming in 2019 is re-negotiation of agreements with LIGO/Virgo.

Board Activities (2018)

Governance amendments:

- introduced a “dormant institute” clause to accommodate the natural life-cycle of a mature collaboration

Further future collaboration meetings

Spring 2018 - Madison WI USA

Fall 2019 - Chiba Japan

Spring 2020 - Brussels Belgium

Fall 2020 - Location X, North America

Spring 2021 - Aachen Germany