



Early Career Scientists: Welcome!

Marjon Moulai
IceCube Summer
School 2023



Early Career
Scientists:

Welcome!

Marjon Moulai


IceCube Summer
School 2023

Generally:
graduate students
and postdocs

350 People
58 Institutions
14 Countries

THE ICECUBE COLLABORATION

 **AUSTRALIA**
University of Adelaide

 **BELGIUM**
UCLouvain
Université libre de Bruxelles
Universiteit Gent
Vrije Universiteit Brussel

 **CANADA**
Queen's University
University of Alberta-Edmonton

 **DENMARK**
University of Copenhagen


 **GERMANY**
Deutsches Elektronen-Synchrotron
ECAP, Universität Erlangen-Nürnberg
Humboldt-Universität zu Berlin
Karlsruhe Institute of Technology
Ruhr-Universität Bochum
RWTH Aachen University
Technische Universität Dortmund
Technische Universität München
Universität Mainz
Universität Wuppertal
Westfälische Wilhelms-Universität
Münster


 **ITALY**
University of Padova


 **JAPAN**
Chiba University

 **NEW ZEALAND**
University of Canterbury

 **SOUTH KOREA**
Sungkyunkwan University

 **SWEDEN**
Stockholms universitet
Uppsala universitet

 **SWITZERLAND**
Université de Genève

 **TAIWAN**
Academia Sinica

 **UNITED KINGDOM**
University of Oxford

 **UNITED STATES**
Clark Atlanta University
Columbia University
Drexel University
Georgia Institute of Technology
Harvard University
Lawrence Berkeley National Lab
Loyola University Chicago
Marquette University
Massachusetts Institute of Technology
Mercer University

Michigan State University
Ohio State University
Pennsylvania State University
South Dakota School of Mines
and Technology
Southern University
and A&M College
Stony Brook University
University of Alabama
University of Alaska Anchorage
University of California, Berkeley
University of California, Irvine
University of Delaware
University of Kansas

University of Maryland
University of Nevada, Las Vegas
University of Rochester
University of Texas at Arlington
University of Utah
University of Wisconsin-Madison
University of Wisconsin-River Falls
Yale University

FUNDING AGENCIES

Fonds de la Recherche Scientifique (FRS-FNRS)
Fonds Wetenschappelijk Onderzoek-Vlaanderen
(FWO-Vlaanderen)

Federal Ministry of Education and Research (BMBF)
German Research Foundation (DFG)
Deutsches Elektronen-Synchrotron (DESY)

Japan Society for the Promotion of Science (JSPS)
Knut and Alice Wallenberg Foundation
Swedish Polar Research Secretariat

The Swedish Research Council (VR)
University of Wisconsin Alumni Research Foundation (WARF)
US National Science Foundation (NSF)



icecube.wisc.edu



How does the collaboration work?

- **Governance document version 9.3 (revised ~ yearly):**
 - <https://res.cloudinary.com/icecube/images/v1675358194/IceCube-governance-v9.3-20230202/IceCube-governance-v9.3-20230202.pdf>
 - You can always find the most up-to-date version at:
 - <https://icecube.wisc.edu/collaboration/organization/>
- **IceCube Collaboration Board (ICB):**
 - Comprised of 1-2 PIs from each institution.
 - Meets a few times during/around each collaboration meeting.
 - Each institution votes with a weight, $w = \text{int}(\sqrt{\# \text{ PhDs}})$
 - Early Career Scientists (ECS) get 1 vote
- Fee is paid by each institution to the “Common Fund”. The fee is proportional to the number of PhD scientists.
- **Ignacio Taboada** is our current spokesperson.
 - Spokesperson is elected by all PhD members



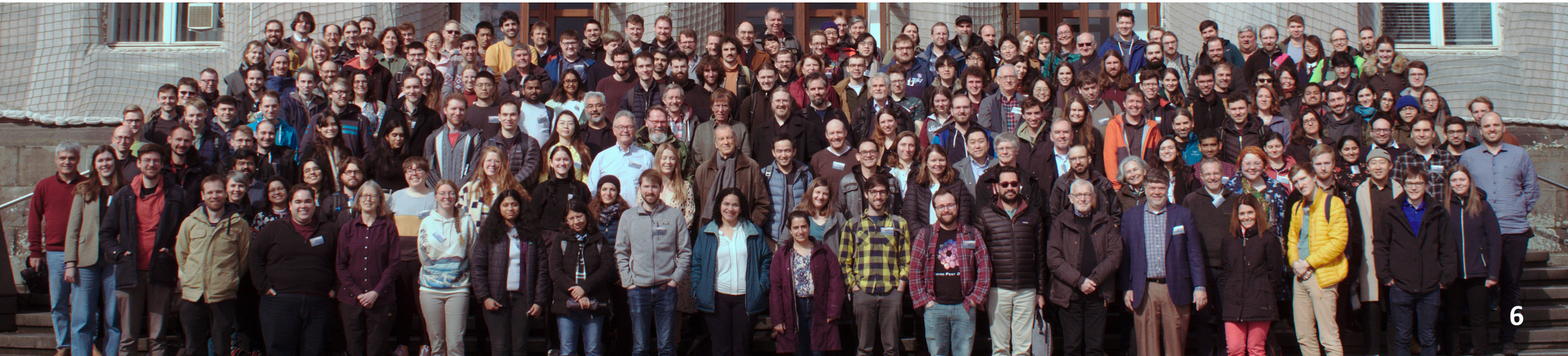
What does ICB do? Things like...

- Member applications – adding new institutions to IceCube
- Changes to the Governance Document
 - i.e. various coordinators in the collaboration
- Hear reports from:
 - ECS
 - Publications Committee
 - Speakers Committee
 - Analysis Coordinator
 - Upgrade and Gen2
 - Computing
- And more!



Collaboration meetings

- **Twice a year**
 - Generally spring meeting in Europe and fall meeting in U.S.
 - Generally every other U.S. meeting in Madison
- Very busy! ~5 days IceCube, often preceded by **pre-meetings** and followed by **post-meetings**
- Often lots of social events (organized and not) – see **#banana-party**
- Workload is often very high before the meetings. **The computer cluster will be very busy.**
- Meetings are intense! Pace yourself.
- **Suggestion:** Plan on taking it easy immediately after a collaboration meeting. If you traveled somewhere cool, consider taking a few days off there (if you can).



Early Career Scientists (ECS)

- From the governance document:
 - *“Member of the IceCube collaboration who has received their Ph. D. within 7 years of the most recent past January 1st, but who has not received an assistant professor or tenured position; or who is a graduate student who has been on the author list for two years.”*
- **ECS meetings:**
 - One at each collaboration meeting. Can be more, virtually, throughout the year.
 - Talk about issues relevant to young scientists
- **#ecs**
- https://wiki.icecube.wisc.edu/index.php/Early_Career_Scientists



ECS Reps

- There are two **ECS representatives**:
 - Marjon Moulai (WIPAC, 01/2022 - 12/2023)
 - Slack: @Marjon Moulai
 - marjon.moulai@icecube.wisc.edu
 - Lisa Schumacher (ECAP Erlangen, 01/2023 - 12/2024)
 - Slack: @lisajsch
 - lisa.schumacher@icecube.wisc.edu
- Elected by ECS. Serve 2-year terms. Must have PhD.
 - ***Think about whom you want to nominate to replace me!***
- We are a resource to whom you can bring collaboration concerns
 - We try to be friendly and helpful
- We run ECS meetings
- We attend and report at ICB meetings, and have a single vote



When do I join the author list?

- The author list:
<https://authorlist.icecube.wisc.edu/icecube>
- Talk to your advisor and/or institutional lead! The institutional lead is responsible for adding you.
- From the governance document:
“As a rule collaborators may become authors six months after joining the collaboration. They are normally removed from the list one year after leaving.”



How do I do an analysis in IceCube?



Analysis overview

IceCube Data Analysis

Coordinator: [Juanan Aguilar](#)✉

Deputy: [Naoko Kurahashi Nelson](#)✉

Analysis in the IceCube collaboration

If you want to perform an analysis on IceCube data, there are certain requirements on analysis review in order to prevent bias and to allow your co-authors to comment.

The document linked here summarizes the important steps.

[Analyses Gallery](#)✉

The link above shows all analyses currently under collaboration review.

Analysis organization / Working groups

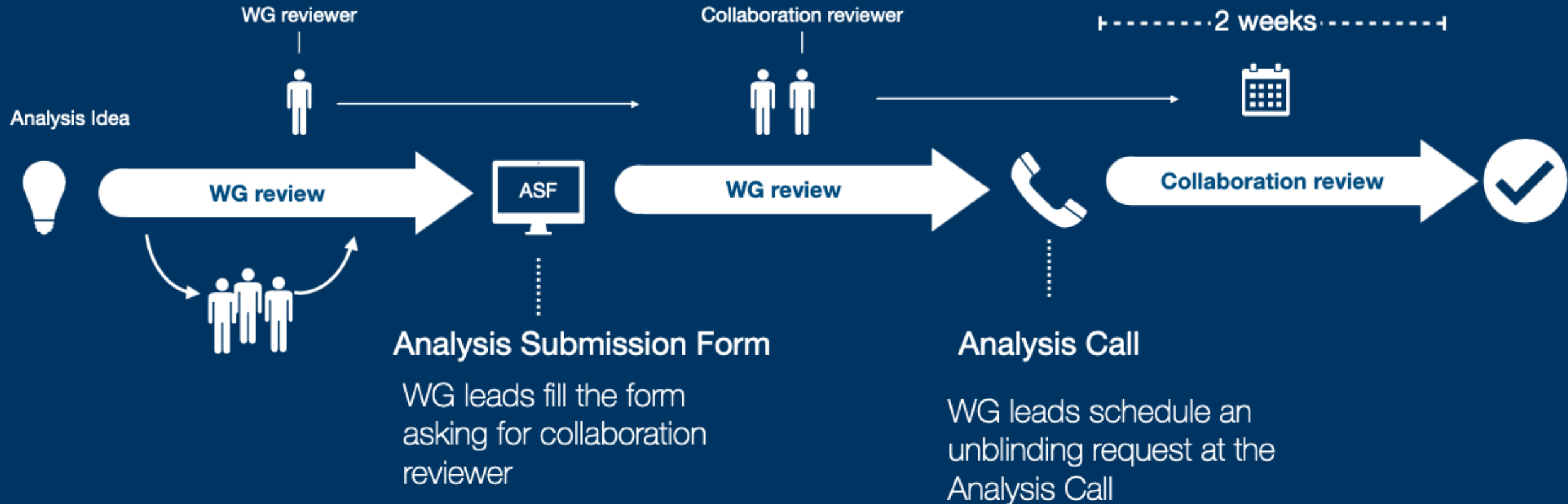
Technical working groups	Working group convenors		Systematics Cookbook✉
Calibration	Martin Rongen ✉		Dawn Williams ✉
Simulation			
Reconstruction	Shiqi Yu ✉		Thorsten Glüsenkamp ✉
Realtime	Marcos Santander ✉		
Physics working groups	Working group convenors		
Beyond the Standard Model	Carlos Argüelles ✉		Carlos de los Heros ✉
Cosmic rays	Matthias Plum ✉		Agnieszka Stanislaw Leszczynska ✉
Diffuse/Atmospheric ν	Brian Clark ✉		Lu Lu ✉
Neutrino Oscillations	Summer Blot ✉		Philipp Eller ✉
Neutrino Sources	Lisa Schumacher ✉		Nahee Park ✉
Supernova	Erin O'Sullivan ✉		Gwen de Wasseige ✉



Analysis Review



https://wiki.icecube.wisc.edu/images/0/0f/Analysis_in_the_IceCube_collaboration_-_2021-05-10.pdf



IceCube analysis links

See page 1 of:

https://wiki.icecube.wisc.edu/images/0/0f/Analysis_in_the_IceCube_collaboration_-_2021-05-10.pdf

Analysis overview

https://wiki.icecube.wisc.edu/index.php/Analysis_overview



How do I give an IceCube talk at a conference?

1. Ask your advisor
2. Ask your working group leads
3. Ask Speakers Committee
icecube-speakerscom@icecube.wisc.edu
https://wiki.icecube.wisc.edu/index.php/Speakers_Committee

Make sure your plots are approved!

Start asking for permission early!

See page 2:

https://wiki.icecube.wisc.edu/images/0/0f/Analysis_in_the_IceCube_collaboration_-_2021-05-10.pdf



Useful resources

IceCube information lives in a variety of places.

I suggest you double check that what you find is not obsolete!

- **Wiki:** <https://wiki.icecube.wisc.edu/>
 - Working groups, phone calls, analyses, papers
- **Docushare:** <https://docushare.icecube.wisc.edu/dsweb/HomePage>
- **Software:** <https://software.icecube.wisc.edu/>
- **Events:** <https://events.icecube.wisc.edu/>
- **Mailing lists:** <http://lists.icecube.wisc.edu/>
- **Slack:** <https://icecube-spno.slack.com/>
- **Galleries (photos/figures):** <https://gallery.icecube.wisc.edu/internal/main.php>
<https://icecube.wisc.edu/gallery/>
- **Google Drive:** <https://drive.google.com/drive/folders/0ByNbmXZGFYM7QUxJWXINcUNrLVE?resourcekey=0-qi3LE1suN3PJhPGDaPg1A&usp=sharing>
- **New User Welcome Letter:** https://wiki.icecube.wisc.edu/index.php/New_User_Welcome_Letter
- **Info for Newbies:** <https://wiki.icecube.wisc.edu/index.php/Newbies>



Some Slack channel recommendations

- #idontgetit** Ask IceCube-related questions you don't know where else to ask, or that you want to ask anonymously
- #ecs** For Early Career Scientists (ECS)
- #icecube-it** IT related issues: "Is cobalt/the cluster down?"
- #software** "Can someone add me to the IceCube github?"
- #gradstudents**
- #job-postings**
- #madison** If you are visiting Madison!
- #banana-party** Informal social events/organizing: "Does anyone at IceCube Summer School want to go to the Terrace?"

