



INTERNATIONAL GLACIOLOGICAL SOCIETY

International Symposium on  
**Verification and  
Validation of Cryospheric Models**  
– Bringing Data and Models Together –



Newcastle, UK  
4–9 August 2024

SECOND CIRCULAR  
March 2024  
[https://www.igsoc.org/event/northumbria\\_2024](https://www.igsoc.org/event/northumbria_2024)



The International Glaciological Society and Northumbria University will hold the next International Symposium on Verification and Validation of Cryospheric Models in Newcastle, United Kingdom, on 4–9 August 2024. Further information and regular updates will be posted on the [local website](#) hosted by Northumbria University.

## THEME

Cryospheric models that simulate land and sea ice dynamics, snow physics and permafrost processes have become mainstream tools to assess the past, present and future state of the Earth's frozen landscapes. In combination with observational data, they provide a powerful, physics-constrained method to address some of Earth science's most pressing questions. They form the backbone of sea-level rise projections, they underpin freshwater budget estimates of the world's glaciated mountain regions and oceans, and they are dynamically integrated with other components of the global climate system. The continued development, calibration and validation of cryospheric models should therefore remain at the forefront of ongoing research. This symposium will invite contributions by the international research community on a wide range of topics in the field of cryospheric model verification and validation, covering a range of different length and timescales. We invite contributions relating to numerical model developments, process-based studies and/or novel observational products. The focus of the symposium will be on improving numerical models and their interactions with the climate system, although cross-cutting interdisciplinary contributions are invited from a range of topics as detailed below.

## SESSIONS AND TOPICS

We seek papers and presentations on any timely topic related to the verification and validation of numerical models that simulate the cryosphere. All contributions may include and/or combine observational, numerical, theoretical, laboratory or conceptual approaches. Key focus areas include (but are not limited to):

- **Ice sheets and ice shelves:** observations and modelling of ice dynamics, basal and surface mass balance, with reference to past, present-day and/or future change



- **Mountain glaciers and ice caps:** advances in numerical simulations of glacier mass balance at local to global scales, new datasets for validation and calibration, and numerical assessments of cryospheric hazards
- **Snow and firn processes:** advances in numerical simulations and integration with novel observational datasets of firn processes, snow cover, snowpack properties and interactions with the climate system
- **Permafrost:** initialization and validation of thermal models, advances in the coupling to land surface schemes and GCMs
- **Sea ice:** advances in sea-ice physics and models, novel datasets and integration with coupled Earth-System models
- **Cryosphere–climate interactions:** feedbacks, attribution, tipping points
- **Advances in data-driven model initialization and calibration:** machine learning, emulators, uncertainty quantification
- **Model verification and model intercomparisons:** benchmark datasets, including lab measurements, and analytical approaches
- **Future perspectives:** the impact of model initialization, data gaps, data errors, under-constrained or missing physics

Detailed session descriptions will be posted on the [local website](#).

## MEETING FORMAT AND PROGRAMME

The symposium will be an in-person meeting only and provide a friendly and intellectually stimulating environment to facilitate face-to-face interactions and networking. The programme will include 15–20 min oral presentations, ample time for poster sessions, and a series of keynote speakers. Additional activities will include an opening Icebreaker reception, a banquet dinner and a choice of mid-symposium afternoon excursions.

## SIDE MEETINGS

The organizing committee welcomes requests from groups and organizations for spaces to host side meetings. A range of small to medium-sized meeting rooms for up to 50 people are available within the venue during the symposium, as well as the weekend before (3–4 August) or after (10–11 August). Please contact [jan.rydt@northumbria.ac.uk](mailto:jan.rydt@northumbria.ac.uk) for further details.



## ABSTRACT AND PAPER PUBLICATION

Participants wishing to present their work (oral or poster) at the Symposium will be required to submit an abstract through the IGS website by **6 April 2024**. Authors will be notified of the outcome by 21 April 2024, and accepted abstracts will be posted on the Symposium's website.

The Council of the IGS has decided to publish a thematic volume of the *Annals of Glaciology* on topics consistent with the Symposium themes. Participants and non-participants alike are encouraged to submit manuscripts for this *Annals* volume on the [IGS website](#).

## REGISTRATION FEES

All fees are in GBP, £

*Early registration until 21 May 2024*

– Participant (IGS member):	£500
– Participant (not IGS member):	£580
– Early-career or retired (IGS member):	£300
– Early-career or retired (not IGS member):	£350
– Accompanying person ( $\geq 12$ ):	£150
– Accompanying person ( $< 12$ ):	£100
– Accompanying person ( $\leq 6$ ):	Free

### *Surcharges*

– Registration after 21 May 2024:	add £80
– Registration after 14 July 2024:	add further £100

The fees include:

- **Participants:** the Icebreaker on Sunday 4 August, the midweek excursion, the Banquet on Thursday 8 August, light refreshments during all breaks at the venue and all lunches
- **Accompanying persons:** the Icebreaker, the midweek excursion and the Banquet. **It does not include attendance at the presentation sessions nor the refreshments and lunches during the week.**

**Non-member registration includes a year's membership of the IGS.**



For participants who are unable to attend the full Symposium, day tickets are available at one-third of the full fee they would otherwise be paying.

**Abstract submission** (from 11 March 2024) and **online registration** (from 21 April 2024) are handled through the [IGS website](#). If you need assistance with either of those, please contact the IGS via [igsoc@igsoc.org](mailto:igsoc@igsoc.org). If you need to arrange a bank transfer or request a refund, please send an e-mail to [igsoc@igsoc.org](mailto:igsoc@igsoc.org).

Please check whether you will require a visa or letters of invitation. In both cases, please contact the IGS office at [igsoc@igsoc.org](mailto:igsoc@igsoc.org). Proof of registration is required for an invitation letter. The sooner you do this, the more likely it is that your visa will be processed in time.

The maximum number of on-site participants is capped at 250 to ensure a more intimate and interactive symposium.

#### EARLY CAREER SUPPORT

We are currently raising funds to support early career scientist travels. The call and further details will be published on the IGS and local website and will be distributed through the conference's mailing list. Notifications of funding will be sent to all applicants prior to the deadline for early registration on 21 May 2024.

#### VENUE

The Symposium will take place on the campus of Northumbria University, located near the city center of Newcastle, United Kingdom. Newcastle's beautiful city parks and quayside are a short walk away, as are the main shopping streets with numerous eating venues. Further details can be found on the [local website](#).





## ACCOMMODATION

We have partnered up with the NewcastleGateshead Initiative to provide hotel options with preferential rates. You can choose and book directly at [www.newcastlegateshead.com/IGSSymposium2024](http://www.newcastlegateshead.com/IGSSymposium2024).

Budget-friendly accommodation is available at the Trinity Square student residence in Gateshead. For more information and booking, please check the [local website](#).

## ICEBREAKER

Registration for the Symposium will start at 17:00 on Sunday 4 August at the event venue, followed by an icebreaker from 18:00. This fully catered event is a great opportunity to meet people before the start of the Symposium.

## BANQUET

The Banquet will take place on Thursday 8 August, 19:00–21:00, at [The Biscuit Factory](#), a 5-min walk away from the Symposium venue. The Biscuit Factory is an independent art gallery, located in the cultural quarter of Newcastle, Ouseburn. A former Victorian biscuit manufacturing warehouse, it now houses an exhibition space for local and national artists. A reception in the gallery will be followed by a 3-course dinner and the awards ceremony.

## MIDWEEK EXCURSIONS

On Wednesday 7 August, the main program will end at lunchtime. In the afternoon, participants can join an organized excursion in Newcastle or the surrounding areas. When registering, participants will be invited to subscribe to one of the following excursion options on offer:





- A city highlights guided tour in combination with a visit to Grey's Monument, Victorian tunnels or the Newcastle Castle
- A guided tour of the regional coastline and local geography.

Further details will be posted on the [local website](#).

## SYMPOSIUM ORGANIZATION

Magnús Már Magnússon (International Glaciological Society)

## SCIENCE STEERING COMMITTEE\*

Hilmar Gudmundsson (U. Northumbria, chair), Guðfinna Aðalgeirsdóttir (U. Iceland), Rachel Carr (Newcastle U.), Christine Hvidberg (U. Copenhagen), Adrian Jenkins (U. Northumbria), Ching-Yao Lai (Stanford U.), Brent Minchew (MIT), Ruth Mottram (Danish Met. Inst.), Frank Pattyn (U. Libre de Bruxelles), Andy Shepherd (U. Northumbria), Ted Scambos (U. Colorado), Jürg Schweizer (SLF Davos), John Woodward (U. Northumbria)

## EDITORIAL COMMITTEE\*

Chief Editor: H. Jiskoot

Associate chief editor (ACE) of *Annals*: Rachel Carr

Scientific Editors of *Annals*: Hilmar Gudmundsson, Christine Hvidberg, Adrian Jenkins, Ann Rowan (U. Bergen), Jürg Schweizer, Michiel van den Broeke (U. Utrecht)

\*Additional members of the Science Steering Committee and of the Editorial Committee may be added later.

## LOCAL ORGANIZING COMMITTEE

Jan De Rydt, Lindsay Connolly, Ruth Davy





## FURTHER INFORMATION

If you wish to attend the symposium, please register your interest online at <http://www.igsoc.org/symposia/2024/northumbria>. Information will also be updated on the IGS conference website, [https://www.igsoc.org/event/northumbria\\_2024](https://www.igsoc.org/event/northumbria_2024), and the local website, <https://www.northumbria.ac.uk/about-us/news-events/events/2024/08/igs-symposium-aug-2024/>, as it becomes available. Please use the symposium hashtag #IGSNorthumbria2024 when you tweet about it.

## IMPORTANT DATES

### *Verification and Validation of Cryospheric Models*

Opening of online abstract submission:	11 March 2024
Abstract submission deadline:	6 April 2024
Notification of abstract acceptance:	21 April 2024
Opening of online registration:	21 April 2024
Early registration deadline:	21 May 2024
Deadline for full refund:	21 June 2024
Deadline for refund on a sliding scale	14 July 2024
Late registration surcharge starts:	14 July 2024
Final deadline for registration	19 July 2024
Symposium starts:	4 August 2024

### *Annals of Glaciology volume 66*

Paper submission deadline:	31 December 2024
Final revised papers:	31 May 2025

The Call for Papers for the *Annals of Glaciology* is posted on [https://www.igsoc.org/annals/call\\_4\\_papers/](https://www.igsoc.org/annals/call_4_papers/). Accepted papers will be published as soon as authors have returned their proofs and all corrections have been made.

Publication of this *Annals* issue is scheduled for 2025.

