



## Program of the 5<sup>th</sup> OGGM workshop

20 – 24 September 2021, Neuharlingersiel, Germany

**Monday 20th, 15:00 - Friday 24th, 12:00 September 2021** (at [Jugendherberge DJH resort, Neuharlingersiel](#)). Workshop dedicated to the OGGM model and its wider community, and all interested in large-scale glaciology.

**Travel information:** you have to organize your trip to and from [Norden city](#), which is the closest railway station with long-distance trains. From there, the organizers will pick you up and bring you to Neuharlingersiel (of course, you can also come directly to the youth hostel, if you prefer). Please also see the COVID travel information rules below.

### Topics:

- current state of OGGM, recent and future developments, code development and possibilities
- glacier-related hydrology at different spatial and temporal scales
- global glacier evolution, model intercomparison & climate projections
- glacier-ocean interaction (parameterization, calibration, calving, tidewater ...)
- glacier observation from different techniques (in situ, remote sensing ...)
- glaciers in the past / reconstruction, spin-up and model initialisation
- uncertainty analyses, past & future model calibration
- spatial variability of glacier mass change at different scales
- surface mass balance
- ice thickness inversion
- OGGM for education





### **Program overview:**

The workshop will focus on interactions between all participants, either newcomers in the OGGM community or more established members, users or developers of the model... in a flexible, open and informal way. It can be summarized in two words: exchange and discussion!

Each day, the workshop will be a mix between presentations of the OGGM community members (**between 10 to 20 minutes, often in the mornings, followed by 10 to 20 minutes of questions and discussion**), thematic group discussions (hydrology, calibration, tidewater, global simulation...) and hands-on sessions (mostly in the afternoons). The workshop program will start on Monday 20th at 15:00 and will end on Friday 24th at 12:00.

The organisers will also try to organize an excursion, which will probably take place Thursday morning. Furthermore, we plan to use the workshop to prepare a collective and collaborative presentation about the future of OGGM and global scale glacier modelling in general.

### **Accommodation:**

Most of us will have a private bedroom and share a bathroom with one other person. WIFI is free to use on site. Main meals (breakfast, lunch, dinner) will be served in the restaurant, there will be coffee breaks served in our seminar rooms. There is also a bar, fitness center, etc. for various extra-workshop activities; the beach is a ~20 minute walk away - water availability at the beach depends on the tides :-).

### **COVID travel information:**

We will follow the rules in place in the youth hostel. At arrival, all participants will have to present documentation either of complete vaccination (final shot + 15 days), recovery and first shot, or an "official" test (i.e., PCR or antigen, no self-test) not older than 24 hours. There is a test station providing free tests a 10 minute walk from the youth hostel.



## Session overview:

presentation session in red ; hands-on session in blue ; group discussion session in gray

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>Morning</b>		Glaciological data, model calibration, validation & comparison	Recent model developments	<b>Excursion</b>	The future of OGGM
<b>Early afternoon</b>	Introduction & general overview	A. OGGM Introduction & beginner tutorials B. Hydrology	A. How to contribute to OGGM ?  B. Open discussion	Glacier evolution: past and future	
<b>Late afternoon</b>	Glacier hydrology	OGGM-edu introduction & tutorials	Uncertainties	Open discussion	

We really encourage everybody to present something (current work, future work, past work, collaborative work, results, ideas, projects, ...) to better get to know each other. Even if you feel you don't have something to present that's directly OGGM-related, we welcome a contribution!!! We have time for that :-)



## Program details:

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- **Monday 20<sup>th</sup> September**

**Session: Introduction (15h - 16h ; chair: Nicolas Champollion)**

15h - 15h15: The organizers - Welcome and presentation of the participants

15h15 - 16h: Fabien Maussion - OGGM project overview

16h - 17h: Coffee break and room check-in !

**Session: Glacier-related hydrology (17h - 18h15 ; chair: Fabien Maussion)**

17h - 17h30: Erik Holmgren - Using OGGM for basin water availability analysis

17h30 - 18h: Sarah Hanus - Large-scale glacio-hydrological model coupling to assess contribution of mountain runoff to water resources

18h - 18h15: Nicolas Champollion - Glacier modelling in 5 years? (flip chart)

18h30 - 20h: Dinner

20h - 21h30: Ice breaker - Pub quiz !

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- **Tuesday 21<sup>th</sup> September**

7h30 - 9h: Breakfast

**Session: Glaciological data, model calibration, validation and comparison (9h - 12h ; chair: Michael Zemp)**

9h - 9h30: Inès Dussaillant - A mass-balance observational calibrated estimate for every glacier in the RGI



9h30 - 10h15: Michael Zemp - Glacier observations for calibration and validation of current and future OGGMs

10h15 - 10h30: Coffee break

10h30 - 11h: Alexis Caro - Morpho-topographic and climate variables than explain the glacier changes and glacier mass balance simulation across Andes (8-55°S)

11h - 11h30: Nicolas Champollion - Elmer/Ice and OGGM comparison over the glaciers of the Mont-Blanc massif

11h30 - 12h: Fabien Maussion - Current parameterizations options in OGGM and their influence

12h30 - 14h: Lunch

**Session: Hands-on / parallel group discussion (14h - 17h30 ; chair: Anouk Vlug)**

14h - 15h30 (hands-on): Fabien Maussion - Beginner introduction and tutorials

15h30 - 16h: Coffee break

16h - 17h30 (hands-on and discussion): Patrick Schmitt, Erik Holmgren, Fabien Maussion - OGGM-edu: presentation and tutorials (*all participants are welcome, we are looking for inputs about how to make the platform useful to all!*)

18h - 20h: Dinner

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- **Wednesday 22<sup>th</sup> September**

7h30 - 9h: Breakfast

**Session: Recent developments (9h - 12h ; chair: Lilian Schuster)**

9h - 9h30: Jan-Hendrik Malles - Marine-terminating glaciers in OGGM and implications for global mass change projections



9h30 - 10h: Hamid Mojtabavi - Parametrizations of debris cover impacts implemented in OGGM

10h - 10h30: Coffee break

10h30 - 11h: Patrick Schmitt - Flowline glacier bed estimation with numerical modelling and cost minimization

11h - 11h30: Lilian Schuster - The next generation of OGGM's surface mass balance models and uncertainty quantification framework

11h30 - 12h: Marius Schäfer - Ice flow modelling in the wet Andes

12h30 - 14h: Lunch

**Session: Hands-on / parallel group discussion (14h - 17h30 ; chair: Fabien Maussion)**

14h - 15h30 (hands-on): Fabien Maussion - Advanced topics and: How to contribute to OGGM ?

14h - 15h30 (group brainstorm): open-topics (tidewater, projections ...) / free time

15h30 - 16h: Coffee break

16h - 17h30 (group discussion): Ben Marzeion - Uncertainties / Data assimilation / Uses of data / Calibration

18h - 20h: Dinner

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- **Thursday 23<sup>th</sup> September**

7h30 - 9h: Breakfast

**Session: Glacier evolution, past and future - part I (9h - 10h ; chair: Julia Eis)**

9h - 9h30: Larissa van der Laan - Reconstructing Etonbreen over the LIA using OGGM and field data



9h30 - 10h: Julia Eis - Reconstructing past glacier changes: From synthetic experiments to the real world application

10h - 12h30: **free time**

12h30 - 14h30: **Excursion:** trip on a fishing vessel (no lunch at the youth hostel, please make sure you get something to eat before the excursion, there is lot of options around the harbour)

**Session: Glacier evolution, past and future - part II (15h - 18h ; chair: Nicolas Champollion)**

15h - 15h30: Anouk Vlug - The contribution of different climate forcings on the global glacier climatic mass balance over the last millennium

15h30 - 16h: Fabien Maussion - Legacy of climate mitigation on global glacier change

16h - 16h30: Nicolas Champollion - Global simulations using OGGM, GloGEM and CMIP6 forcing & importance of half degree warming

16h30 - 17h: coffee break

17h - 18h (group brainstorm): Sarah Hanus / Nicolas Champollion - Hydrological applications of OGGM

18h30 - 20h: Dinner

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- **Friday 24<sup>th</sup> September**

7h30 - 9h: Breakfast

**Session: The future of OGGM (9h - 12h ; chair: Ben Marzeion)**

9h30 - 12h:

- Nicolas Champollion - Preliminary overview about “building together the future of OGGM” (results from the flip chart)
- Anouk Vlug - OGGM in the next decade: scientific recommendation, research questions, research plans, proposals, etc.



- (group discussion): open-topics (tidewater, projections, geometry, feelings of the OGGM community ...) / free time

12h30 - 14h: Lunch