

# Curriculum vitae with track record (for researchers)

Role in the project    Project manager     Project partner

## Personal information

First name, Surname:	Einar, Ólason		
Date of birth:	21.08.1978	Sex:	M
Nationality:	Icelandic		
Researcher unique identifier (ORCID):	0000-0001-7911-5713		
URL for personal website:	<a href="https://www.nersc.no/staff/einar-olason">https://www.nersc.no/staff/einar-olason</a>		

## Education

Year	Faculty/department - University/institution - Country
2012	PhD – Institute of Oceanography – University of Hamburg - Germany
2007	MSc – Department of Geophysics – University of Iceland - Iceland
2004	BSc – Department of Physics – University of Iceland - Iceland

## Positions - current and previous

Year	Job title – Employer - Country
2020-	Research leader – Nansen Environmental Research Center - Norway
2014-2020	Researcher – Nansen Environmental Research Center - Norway
2012-2014	Postdoc – Max Planck Institute for Meteorology - Germany
2005-2007	Research assistant – Icelandic Meteorological Office - Iceland

## Career breaks

Year	Reason
2009-2010	8 months paternity leave

## Project management experience

Year	Project owner - Project - Role - Funder
2021-2025	The Nansen Center – Multi-scale Sea-Ice Code (MuSIC) – Principal Investigator – Research Council of Norway

2021-2027	CNRS – The Scale-Aware Sea-Ice Project (SASIP) – Co-lead – VESRI (Schmidt Futures)
2020-2023	The Nansen Center – Atmosphere-Sea Ice interactions in the new Arctic (ARIA) – Work package leader – Research Council of Norway
2018-2021	The Nansen Center – Atmosphere-Ocean-Ice interactions in Polar and Sub-polar Regions (AOI) - Principal Investigator - Bjerknes Centre for Climate Research
2017-2020	The Nansen Center – Fractal Properties of Sea Ice Leads and their impact on the Arctic physical and biological environments (FRASIL) - Work package leader – Research Council of Norway
2015-2017	The Nansen Center - Waves in a next-generation sea ice model (NEXTWIM) – Work package leader – Research Council of Norway

### Other relevant professional experiences

Year	Description - Role
2023-	Employee's representative to the board of the Nansen Center
2021-	Co-lead of European Climate Research Alliance's Arctic collaborative project
2020	Session chair for the session "SEA-ICE, Enhanced Assimilation and Improved Forecast and Models" at ESA's 2020 European Polar Science Week
2020-	Overseas coordinator for ArCSII project Norway-Japan partnership for education and research on Arctic climate variability and remote impacts (Japanese funded)
2018-2019	Member of the Union Board for Forskerforbundet at the Nansen Center
2017-2022	Substitute employee's representative to the board of the Nansen Center
2015-2022	Guest lecturer for one week on sea ice dynamics at BSc level at UNIS, Svalbard

## Track record

### Publications

20 publications were published in peer-reviewed journals, and one is under review, with six as the first author. In addition to two book chapters (not peer-reviewed).

### Under review:

Regan, H. C., Rampal, P., **Ólason, E.**, Boutin, G., and Korosov, A.: Modelling the evolution of Arctic multiyear sea ice over 2000–2018, *The Cryosphere Discuss.* [preprint], doi: 10.5194/tc-2022-211, in review.

### Accepted:

Boutin, G., **Ólason, E.**, Rampal, P., Regan, H., Lique, C., Talandier, C., Brodeau, L., and Ricker, R.: Arctic sea ice mass balance in a new coupled ice-ocean model using a brittle rheology framework, *The Cryosphere Discuss.* [preprint], doi:10.5194/tc-2022-142, 2023.

### Published:

Rheinlæender, J. W., Davy, R., **Ólason, E.**, Rampal, P., Spensberger, C., Williams, T. D., Korosov, A. and Spengler, T.: Driving mechanisms of an extreme winter sea ice breakup event in the Beaufort Sea, *Geophysical Research Letters* 49(12), doi:10.1029/2022gl099024, 2022.

- Ólason, E.**, Boutin, G., Korosov, A., Rampal, P., Williams, T., Kimmritz, M., Dansereau, V. and Samaké, A.: A new brittle rheology and numerical framework for large-scale sea-ice models, *Journal of Advances in Modeling Earth Systems* 14(8), doi:10.1029/2021ms002685, 2022.
- Bouchat, A., Hutter, N., Chanut, J., Dupont, F., Dukhovskoy, D., Garric, G., Lee, Y., Lemieux, J.-F., Lique, C., Losch, M., Maslowski, W., Myers, P. G., **Ólason, E.**, Rampal, P., Rasmussen, T., Talandier, C., Tremblay, B. and Wang, Q.: Sea ice rheology experiment (SIREx), part I: Scaling and statistical properties of sea-ice deformation fields, *Journal of Geophysical Research: Oceans*, doi:10.1029/2021jc017667, 2022.
- Hutter, N., Bouchat, A., Dupont, F., Dukhovskoy, D., Koldunov, N., Lee, Y., Lemieux, J.-F., Lique, C., Losch, M., Maslowski, W., Myers, P. G., **Ólason, E.**, Rampal, P., Rasmussen, T., Talandier, C., Tremblay, B. and Wang, Q.: Sea ice rheology experiment (SIREx), part II: Evaluating linear kinematic features in high-resolution sea-ice simulations, *Journal of Geophysical Research: Oceans*, doi:10.1029/2021jc017666, 2022.
- Ólason, E.** and Wilborn, H.: Når sjøis sprekker, *Naturen* 145(2-03), 112–118, doi: 10.18261/issn.1504-3118-2021-02-03-06, 2021.
- Williams, T., Korosov, A., Rampal, P., and **Ólason, E.**: Presentation and evaluation of the Arctic sea ice forecasting system neXtSIM-F, *The Cryosphere*, 15, 3207–3227, doi:10.5194/tc-15-3207-2021, 2021.
- Ólason, E.**, Rampal, P., and Dansereau, V.: On the statistical properties of sea ice lead fraction and heat fluxes in the Arctic, *The Cryosphere*, doi:10.5194/tc-15-1053-2021, 2021.
- Boutin, G., Williams, T., Rampal, P., **Ólason, E.**, and Lique, C.: Wave–sea-ice interactions in a brittle rheological framework, *The Cryosphere*, doi:10.5194/tc-15-431-2021, 2021.
- Blockley, E., et al: The future of sea ice modeling: where do we go from here?, *Bulletin of the American Meteorological Society*, 101(8), doi:10.1175/BAMS-D-20-0073.1, 2020.
- Rampal, P., Dansereau, V., **Ólason, E.**, Bouillon, S., Williams, T., Korosov, A., and Samaké, A.: On the multi-fractal scaling properties of sea ice deformation, *The Cryosphere*, doi:10.5194/tc-13-2457-2019, 2019.
- Samaké, A., Rampal, P., Bouillon, S., **Ólason, E.**: Parallel implementation of a Lagrangian-based model on an adaptive mesh in C++: Application to sea-ice. *Journal of Computational Physics*, doi:10.1016/j.jcp.2017.08.055, 2017.
- von Schuckmann, K., ..., **Ólason, E.**, ...: The Copernicus Marine Environment Monitoring Service Ocean State Report. *Journal of operational oceanography*, 9(2), doi:10.1080/1755876X.2016.1273446, 2016.
- Ólason, E.**: A dynamical model of Kara Sea land-fast ice, *Journal of Geophysical Research: Oceans*, 121(5), 3141–2158, doi:10.1002/2016JC011638, 2016.
- Rampal, P., Bouillon, S., Bergh, J.E., **Ólason, E.**: Arctic sea-ice diffusion from observed and simulated Lagrangian trajectories. *The Cryosphere* 10(4), doi:10.5194/tc-10-1513-2016, 2016.
- Rampal, P., S. Bouillon, **E. Ólason**, and M. Morlighem, neXtSIM: a new Lagrangian sea ice model. *The Cryosphere*, 10, 1055–1073, doi:10.5194/tc-10-1055-2016, 2016.
- Ólason, E.** and D. Notz: Drivers of variability in Arctic sea-ice drift speed. *Journal of Geophysical Research: Oceans*, 119(9), 5755–5775, doi:10.1002/2014JC009897, 2014.
- Ólason, E.** and Harms, I.: Polynyas in a dynamic-thermodynamic sea-ice model. *The Cryosphere*, 4(2), doi:10.5194/tc-4-147-2010, 2010
- Björnsson, H., **Ólason, E.** Jónsson, T., Henriksen, S.: Analysis of a smooth seasonal cycle with daily resolution and degree day maps for Iceland, *Meteorologische Zeitschrift*, 16(1), doi: 10.1127/0941-2948/2007/0188, 2007
- Björnsson, H., Jonsson, T., Gylfadottir, S.S., and **Ólason, E.**: Mapping the annual cycle of temperature in Iceland, *Meteorologische Zeitschrift*, 16(1), doi:10.1127/0941-2948/2007/0175, 2007
- Book chapters:**
- Johannessen, O.M., Sandven, S., Davy, R., and **Ólason, E.**: Marginal Ice Zone and Ice-Air-Ocean Interactions in Sea Ice in the Arctic: Past, Present and Future, Johannessen, O.M., Bobylev, L.P., Shalina, E.V., Sandven, S. (eds), Springer, 2020.
- Bouillon, S., Rampal, P., and **Ólason, E.**: Sea ice modelling and forecasting in *New Frontiers in Operational Oceanography*, Chassignet, E.P. (editor), GODAE OceanView, 2018.

**Software development:**

- Lead developer of the neXtSIM sea-ice model developed at NERSC.
- Main developer of the sea-ice component of the ICON earth-system model while at the Max Planck Institute.
- Developed the dynamical component of the sea-ice model coupled to VOM (Vector-Ocean-Model) and HAMSOM (Hamburg Shelf Ocean Model) models developed at the University of Hamburg

**Selected conference and workshop attendance:**

- *2020 European Polar Science Week*, virtual event. Session chair for the session “SEA-ICE, Enhanced assimilation and improved forecast and models”. Invited talk for the session “Digital Twin Arctic”.
- *The IGS 2019 Sea-Ice Symposium: Sea Ice at the Interface*, 2019, Winnipeg, Canada. Invited talk for the session “Challenges in high-resolution sea-ice modelling”.
- *Defining a cutting-edge future for sea ice modelling*, 2019, Laugarvatn, Iceland (invited attendance). Workshop organised by Met Office, CNRS, and DOE, in conjunction with the NEMO Sea Ice Working Group and the CICE Consortium.
- *Workshop on Improved satellite retrievals of sea-ice concentration and sea-ice thickness for climate applications*, 2017, Hamburg, Germany (invited talk). Organised by the Integrated Climate Data Center (ICDC), the University of Hamburg, and the Max-Planck Institute for Meteorology (MPI-M).
- Attendance at several specialised and general workshops and conferences, including EGU General Assembly, AGU General Assembly, ESA’s Living Planet Symposium, IGS’ Sea-Ice Symposiums, and The International Ice Charting Working Group (IICWG) meetings.

**Dissemination and outreach activities:**

- Appearance in the Bjerknes Center’s 2020 advent calendar (<https://youtu.be/I9luZ3uP7wI>)
- Interview with the Bjerknes Center’s podcast team on sea-ice modelling (<https://bjerknessenteret.podbean.com/e/nextsim-the-next-generation-of-ice-forecast/>, 2019)
- Regular participation in forskningsdagene; a yearly local research outreach program for high school students.
- Radio interview with Icelandic national broadcaster on sea-ice research (Tilraunaglasíð: Ísinn í Karahafi, <http://podcast.ruv.is/tilraunaglasid/2012.08.17.mp3>, 2012)