

**Dr. Vikram Goel**

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DESIGNATION	Scientist - D (Antarctic Cryospheric Studies Group)
CONTACT INFORMATION	National Centre for Polar & Ocean Research, +91-832-2525-707 Headland Sada, Vasco Da Gama, Goa 403804  vikram@ncpor.res.in vikram.goel@outlook.com ORCID: 0000-0002-8393-0195
RESEARCH INTERESTS	Antarctic Glaciology, Geophysical data collection and analysis (incl. ground-penetrating radar and GNSS systems), Ice-flow modelling, Geographical Information Systems (GIS).
EDUCATION	<p><b>University of Oslo</b>, Oslo, Norway</p> <p>Ph.D., Antarctic Glaciology, June 2019</p> <ul style="list-style-type: none"> <li>• Thesis Topic: <i>Current status and past changes of ice rises in Dronning Maud Land, Antarctica</i></li> <li>• Advisors: Kenichi Matsuoka, Jon Ove Hagen and Thamban Meloth</li> </ul> <p><b>Indian Institute of Technology Kharagpur</b>, Kharagpur, WB, India</p> <p>M.Tech., Earth System Science &amp; Technology, May 2013</p> <ul style="list-style-type: none"> <li>• Thesis Topic: <i>Application of mid-latitude postfrontal shower characteristics to adverse weather avoidance model in aviation</i></li> <li>• Advisors: Thomas Hauf, and M K Dash</li> </ul> <p><b>University of Petroleum and Energy Studies</b>, Dehradun, UK, India</p> <p>B.Tech., Aerospace Engineering, May 2011</p> <ul style="list-style-type: none"> <li>• Thesis Topic: <i>Analysis of advanced deep space propulsion techniques</i></li> <li>• Advisors: Ugur Guven</li> </ul>
RESEARCH EXPERIENCE	<p><b>National Center for Polar &amp; Ocean Research</b>, Headland Sada, Vasco Da Gama, India Apr 2018 to Present</p> <p>Scientist - D (Nov 2023 - Present) Project Scientist - II (April 2022 - Nov 2023) Project Scientist - B (April 2018 to March 2022)</p> <ul style="list-style-type: none"> <li>• Led the geophysical survey component of the multinational (US-S.Korea-India-Norway-UK) collaborative field expedition RAICA-CP onboard the ice breaker RV/Araon. The team camped on Canisteo Peninsula ice rise in West Antarctica and drilled two 150-meter ice cores, complimented by 300 km+ of ground-based radar surveys.</li> <li>• Undertook the <i>41st Indian Scientific Expedition to Antarctica</i>. Conducted 500 km+ deep-sounding radar survey over Kamelryggen and Verbljud Ice Rises and other geophysical data. Leading the data analysis.</li> <li>• Undertook the <i>38th Indian Scientific Expedition to Antarctica</i> collecting various geophysical data in Nivlisen Ice Shelf and Leningrad Ice Rise.</li> <li>• Analyzed field-based and satellite data to determine mass balance of several ice rises.</li> <li>• Investigated the past evolution of several ice rises by using an ice-flow model to simulate observed internal stratigraphy.</li> <li>• Examined the regional characteristics of ice rises and suggested future direction of ice rise research.</li> </ul>

**Norwegian Polar Institute**, Tromsø, Norway Jan 2014 to Aug 2017

Research Fellow (Apr 2014 - Aug 2017)

- Investigated the current status and past evolution of ice rises in Dronning Maud Land, Antarctica.

Research Technician (Jan 2014 - Feb 2014)

- Participated in the *Norwegian Antarctic Research Expedition to Dronning Maud Land Antarctica*. Made glaciological measurements.

**Leibniz University Hannover**, Hannover, Germany Sep 2012 to Mar 2013

Masters Student

- Studied the safety and efficiency relationship for an adverse weather avoidance model in aviation for mid-latitude postfrontal showers  
Supervisor: Thomas Hauf

**University of Massachusetts Dartmouth**, MA, USA Jun 2012 to Jul 2012

Masters Intern

- Worked on enhanced web availability of satellite derived SST data for western North Atlantic Ocean for local fishermen  
Supervisor: James J. Bisagni

## PUBLICATIONS

### Peer-reviewed Papers

1. **Goel, V.**, Martín, C. & Matsuoka, K.: Evolution of ice rises in the Fimbul Ice Shelf, Dronning Maud Land, over the last millennium. *Antarctic Science*, 1–15, <https://doi.org/10.1017/S0954102023000330>, 2024.
2. Cavitte, M. G. P., Goosse, H., Matsuoka, K., Wauthy, S., **Goel, V.**, Dey, R., Pratap, B., Van Liefferinge, B., Meloth, T., and Tison, J.-L.: Investigating the spatial representativeness of Antarctic ice cores: A comparison of ice core and radar-derived surface mass balance, *The Cryosphere*, <https://doi.org/10.5194/tc-17-4779-2023>, 2023.
3. Frémand, A. C., Fretwell, P., Bodart, J., Pritchard, H. D., Aitken, A., Bamber, J. L., Bell, R., Bianchi, C., Bingham, R. G., Blankenship, D. D., Casassa, G., Catania, G., Christianson, K., Conway, H., Corr, H. F. J., Cui, X., Damaske, D., Damm, V., Drews, R., Eagles, G., Eisen, O., Eisermann, H., Ferraccioli, F., Field, E., Forsberg, R., Franke, S., Fujita, S., Gim, Y., **Goel, V.**, Gogineni, S. P., and 50 others: Antarctic Bedmap data: FAIR sharing of 60 years of ice bed, surface and thickness data , *ESSD – Ice/Glaciology*, <https://doi.org/10.5194/essd-15-2695-2023>, 2023.
4. **Goel, V.**, Morris, A., Moholdt, G. & Matsuoka, K. 2022. Synthesis of field and satellite data to elucidate recent mass balance of five ice rises in Dronning Maud Land, Antarctica. *Frontiers in Earth Science* 10, <https://doi.org/10.3389/feart.2022.975606>, 2022.
5. Pratap, B., Dey, R., Matsuoka, K., Moholdt, G., Lindback, K., **Goel, V.**, Laluraj, C.M., Meloth, T. Three-decade spatial patterns in surface mass balance of the Nivlisen Ice Shelf, central Dronning Maud Land, East Antarctica, *Journal of Glaciology*, 2021, 1–13, <https://doi.org/10.1017/jog.2021.93>, 2021.
6. **Goel V**, Matsuoka K, Berger CD, Lee I, Dall J, Forsberg R (2020). Characteristics of ice rises and ice rumples in Dronning Maud Land and Enderby Land, Antarctica. *Journal of Glaciology* 1–15. <https://doi.org/10.1017/jog.2020.77>, 2020.

7. Morlighem, M., Rignot, E., Binder, T., Blankenship, D., Drews, R., Eagles, G., Eisen, O., Ferraccioli, F., Forsberg, R., Fretwell, P., **Goel, V.**, Greenbaum, J.S., and 25 others. Deep glacial troughs and stabilizing ridges unveiled beneath the margins of the Antarctic ice sheet. *Nature Geoscience* 1–6. <https://doi.org/10.1038/s41561-019-0510-8>, 2019.
8. **Goel, V.**, Martin, C., and Matsuoka, K. (2018). Ice-rise stratigraphy reveals changes in surface mass balance over the last millennia in Dronning Maud Land. *Journal of Glaciology*, 64(248), 932-942. <https://doi:10.1017/jog.2018.81>, 2018
9. **Goel, V.**, Brown, J., and Matsuoka, K.: Glaciological settings and recent mass balance of Blåskimen Island in Dronning Maud Land, Antarctica, *The Cryosphere*, 11, 2883-2896, <https://doi.org/10.5194/tc-11-2883-2017>, 2017.

### Published Data

Published datasets at NPI data center ([data.npolar.no](http://data.npolar.no))

### White Papers

1. Matsuoka, K., Clifton, R., Blankenship, D., Cui, X., Eagles, G., Eisen, O., **Goel, V.** and 15 others: International collaboration is urgently needed for airborne surveys in Enderby Land to fill the largest RINGS data gap. *Zenodo*. <https://doi.org/10.5281/zenodo.7818281> , 2023.

JOURNAL  
REVIEWER

- Journal of Glaciology
- Earth and Space Science
- Journal of Geophysical Research: Earth Surface

AWARDS

- travel award of 7000 Norwegian Kroner (700 Euro) to attend SCAR (Scientific Committee on Antarctic Research) RINGS Action Group Workshop in Tromsø, Norway, June 2022
- Travel award of \$500 from the SCAR Physical Sciences group to attend Polar 2018, Davos, Switzerland, Jun 2018.
- Best oral presentation at the International Glaciological Society Nordic Branch Meeting, Reykjavik, Iceland, Oct 2014
- DAAD (German Academic Exchange Service) IIT Master Thesis Scholarship

CONFERENCES

### Talks

- SCAR Open Science Conference 2022 Online  
Title: “*Glaciological site survey to determine an optimal coring site in coastal Dronning Maud Land, Antarctica*” Aug 2022
- IGS Nordic Branch Meeting 2020 Online  
Title: “*Characteristics of ice rises in Dronning Maud Land, Antarctica*” Nov 2020
- SCAR Open Science Conference 2020 Online  
Title: “*Present and past evolution of Fimbul Ice Shelf region, East Antarctica: Ground-based investigations over three ice rises*” Aug 2020
- Climate Change Impacts, Vulnerabilities, and Adaptation (CCIVA), Indian Institute of Technology, Kharagpur, West Bengal, India  
Title: “*Characteristics of ice rises and rumples in Dronning Maud Land, Antarctica*” Mar 2019
- International Glaciological Society Nordic Branch Meeting, Tromsø, Norway  
Title: “*Glaciological settings and recent mass balance of Blaskimen Ice Rise, Antarctica*” Oct 2016
- International Glaciological Society International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, San Diego, USA  
Title: “*Glaciological settings and recent mass balance of Blaskimen Ice Rise, Antarctica*” Jul 2016

- 12th International Symposium on Antarctic Earth Sciences, Goa, India  
Title: *“Recent thickening of the Blaskimen Ice Rise in Dronning Maud Land Antarctica”* Jul 2015
- International Glaciological Society Nordic Branch Meeting, Reykjavik, Iceland  
Title: *“Current status and past changes of ice rises in Dronning Maud Land, Antarctica– Initial results from Blaskimen”* Oct 2014

#### Posters

- SCAR RINGS Action Group Workshop  
Title: *“Geophysical survey to determine an optimal ice coring site in coastal Dronning Maud Land”*, at the SCAR RINGS Workshop, Tromsø, Norway June 2022
- *“Current Status and Past Evolution of Ice Rises in Dronning Maud Land, Antarctica”*, at the Polar 2018 conference, Davos, Switzerland Jun 2018
- *“This is APECS (Association of Polar Early Career Scientists)”*, at the CHESS all staff meeting, Bergen, Norway Mar 2016

#### Attended

- *“Arctic Frontiers 2017 (Arctic - Hindu-Kush Himalayan Science Policy dialogue)”* Jan 2017
- *“APECS World Summit 2015, Sofia, Bulgaria,”* June 2015

#### LEADERSHIP AND OTHER ACTIVITIES

- **Early career researcher representative to the SCAR’s RINGS Action Group**, Oct 2021 - Present
  - Co-organized and chaired a panel discussion on ‘Lessons from previous projects’ during the SCAR RINGS Action Group workshop, Tromsø, Norway, June 2022
  - Led organising and chairing of Session 10 during the SCAR Open Science Conference 2020 Online, Aug 2020
- **Part of APECS (Association of Polar Early Career Scientists) leadership as a council member** from 2015-2021
  - Led the project group to organise “APECS annual online conference 2019: Breaking Barriers”
  - Co-organized and chaired a breakout session during the APECS World Summit 2018, Davos, June 2018
  - Organized APECS Panel discussion on “Work-Personal life balance” during the IGS Nordic Branch Meeting, Tromsø, 2016

#### Sessions chaired

- *Chaired a session during SCAR Open Science Conference 2020 Online* Aug 2020
- *Chaired a session during APECS annual online conference 2019: Breaking Barriers* Mar 2018
- *Chaired a session during APECS annual online conference 2018: Butterfly effect* Mar 2018
- *Chaired a session during APECS annual online conference 2017: Outside the box* Mar 2017
- *Chaired a session at the International Glaciological Society Nordic Branch Meeting, Tromsø, Norway* Oct 2016
- *“Chaired a session at the CHESS all staff meeting, Bergen”* Mar 2016