Name Argha Banerjee

Present position Assistant Professor,
Earth and Climate Science
Indian Institute of Science Education and Research Pune
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Date of birth 2nd February, 1981

Research Interests Himalayan glaciers

Education

Ph. D. (2004 - 2010)
Department of Theoretical Physics
Tata Institute of Fundamental Research, Mumbai, India

M.Sc. in Physics (2002 - 2004)
Indian Institute of Technology Kanpur, India

B.Sc. in Physics (1999 - 2002)
Jadavpur University, Kolkata, India

Past positions

Post Doctoral Fellow (2010 - 2012)
The Institute of Mathematical Sciences, Chennai, India

INSPIRE Faculty Fellow (2013 – 2015)
Department of Earth Sciences
Indian Institute of Science Education and Research Kolkata
Mohanpur, India

Awards and Fellowships

National Talent Search Scholarship, NCERT (1997)
Joint CSIR-UGC Junior Research Fellowship (2003)
INSPIRE Faculty Fellowship Award, DST (2012)

Others Scientific Editor, Journal of Glaciology

Grants

1. Observation and modelling of the water cycle in Chandra and Upper Alaknanda Basins, funded by HiCOM, NCAOR (2018)
2. *A scoping proposal to build a two-dimensional ice-flow model for basin-scale glacier simulation in the Himlaya*, funded by Ministry of Earth Sciences, Govt of India (2016–2018).
3. *Numerical modeling and field studies of debris covered glaciers in Indian Himalaya*, funded by Dept of Science and Technology, Govt of India under INSPIRE Faculty Award Scheme (2013-2018).
4. *Glaciers in Upper Alalknanda-Saraswati valley and Climate change*, a multi-institutional project funded by The Institute of Mathematical Sciences, Chennai (2012-2017).
5. *Measurement and modeling of supraglacial debris layer properties of Hamtah glacier*, funded by Dept of Science and Technology, Govt of India (2014-2017).

Publications

1. Sunil S Singh, Argha Banerjee, Harish C Nainwal, R Shankar: stimation of the total sub-debris ablation from point-scale ablation data on a debris-covered glacier, acceptd in *Journal of Glaciology* (2019).

2. R R Wijngaard*, J F Steiner, P D A Kraaijenbrink, C Klug, S Adhikari, Argha Banerjee, F Pellicciotti, L P H van Beek, M F P Bierkens, A F Lutz, and W W Immerzeel: Modelling the response of the Langtang Glacier and the Hintereisferner to a changing climate since the Little Ice Age, Frontiers in Earth Sciences, 7, 143 (2019).

3. Argha Banerjee, Tejal Shirsat, and Reshama Kumari: Prevalence of power-law profiles in passive margin escarpments, *Journal of Geophysical Research: Earth Surface*, 123, 1699–1709 (2018).

4. Argha Banerjee, and Bilal A Wani: Exponentially decreasing erosion rates protect the high-elevation crests of the Himalaya, *Earth and Planetary Science letters* 497, 22 (2018).

5. Mishra, A., Negi, B. D. S., Argha Banerjee, Nainwal, H. C., and Shankar, R.: Estimation of ice thickness of the Satopanth Glacier, Central Himalaya using ground penetrating radar. *Current Science 114* (4), 785-791 (2018).

6. S Laha, R Kumari, S Singh, A Mishra, T Sharma, Argha Banerjee, HC Nainwal, R Shankar: Evaluating the contribution of avalanching to the mass balance of Himalayan glaciers, *Annals of glaciology* 58 (75), 110 (2017).

7. Argha Banerjee: Brief communication: Thinning of debris-covered and debris-free glaciers in a warming climate, *The Cryosphere* 11 (1), 133 (2017).

8. Argha Banerjee and Mohd Farooq Azam: Temperature reconstruction from glacier length fluctuations in the Himalaya, *Annals of Glaciology* 57 (71), 189 (2016).

9. H C Nainwal, Argha Banerjee, and others: Shrinkage of Satopanth and Bhagirath Kharak Glaciers, India, from 1936 to 2013, *Annals of Glaciology* 57 (71), 131. (2016)

10. Argha Banerjee and R. Shankar: Estimating the avalanche contribution to the mass balance of debris covered glaciers, *The Cryosphere Discuss.*, 8, 641-657, doi:10.5194/tcd-8-641-2014, (2014).

11. Argha Banerjee, and R. Shankar: On the response of Himalayan glaciers to climate change, *Journal of Glaciology* 59 (215), 480 (2013).

12. Sambuddha Sanyal, Argha Banerjee, Kedar Damle, and Anders W. Sandvik: Antiferromagnetic order in systems with doublet $S_{\rm tot}=1/2$ ground states, *Phys. Rev. B* 86, 064418 (2012) .

13. Sambuddha Sanyal, Argha Banerjee, and Kedar Damle: Vacancy-induced spin texture in a one-dimensional S=1/2 Heisenberg antiferromagnet, *Phys. Rev. B* 84, 235129 (2011).

14. Argha Banerjee**,** Kedar Damle, and Fabien Alet: Impurity spin texture at the critical point between Néel-ordered and valence-bond-solid states in two-dimensional SU(3) quantum antiferromagnets, *Phys. Rev. B* 83, 235111 (2011).

15. Argha Banerjee, Kedar Damle, and Arun Paramekanti: Néel to staggered dimer order transition in a generalized honeycomb lattice Heisenberg model, *Phys. Rev. B* 83, 134419 (2011).

16. Argha Banerjee and Kedar Damle: Generalization of the singlet sector valence-bond loop algorithm to antiferromagnetic ground states with total spin Stot = 1/2 , *J. Stat. Mech.* P08017 (2010).

17. Argha Banerjee, Kedar Damle, and Fabien Alet: Impurity spin texture at a deconfined quantum critical point, *Phys. Rev. B* 82, 155139 (2010).

18. Argha Banerjee, Sergei V. Isakov, Kedar Damle, and Yong Baek Kim: Unusual liquid state of hard-core Bosons on pyrochlore lattice, *Phys. Rev. Lett*. 100, 047208 (2008).

19. Argha Banerjee et al.: Fiber optic sensing of liquid refractive index , *Sensors and Actuators, B: Chemical*, 123 (1), pp. 594-605 (2007).

Conferences/Workshops

1. Contributed talk in Workshop on '*Impacts of global change on the dynamics of snow, glaciers and runoff over the Himalayan Mountains with particular reference to Uttarakhand*', GBPIHED, Almora, 2012.
2. Contributed talk in International Symposium on '*Cryosphere and Climate Change (C3)*', SASE, Manali, 2012.
3. Attended Karthaus Summer School on *Ice Sheets and Glaciers in the Climate System*, 2012.
4. Attended Training on glacier studies, climate change and remote sensing, DCCC, IISC, Bangalore, 2013.
5. Taught in Indo-Swiss training programme on Capacity Buiding in Himalayan Glaciology, JNU, New Delhi, 2013.
6. Contributed talk in *National Conference on Himalayan Glaciology*, Shimla, 2014.
7. Contributed talk in *International Symposium on Glaciology in High-Mountain Asia*, Kathmandu, Nepal, 2015.
8. Organised and taught at Modelling Mountain Glacier Dynamics, Oct 2015, ECS, IISER Pune.
9. Invited talk on "Glacier fluctuations in the Himalaya", Seminar Series of IDP in Climate Studies, 2016, IIT Bombay, Powai.
10. Invited talk on "Shrinking glaciers in the Himalaya", NCAOR, GOA, 3rd March, 2017.
11. Invited talk on "Modeling Himalayan Cryosphere", National conference on Himalayan Cryosphere (NCHC-2017), DCCC, IISC, Bangalore, 2017.
12. Contributed talk in National Conference on Polar Sciences (NCPS-2017), May 16-17, 2017.
13. Invited talk on "Modeling Himalayan Glaciers", Center for Modelling and Simulation, Savitribai Phule Pune University, 19th August, 2017.