JOYANTO ROUTH
Professor and Head of Vernadsky Section
Department of Thematic Studies – Environmental Change
Linköping University
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EDUCATION
Ph.D. (Geochemistry) Texas A&M University, USA (1993-98)
MS (Geology) Eastern Washington University, USA (1991-93)
M.Sc. (Applied Geology) University of Roorkee, India (1988-90)
B.Sc. (Honours Geology) Rajasthan University, India (1986-88)

RESEARCH INTERESTS
Biogeochemistry, Environmental geochemistry, Climate change and adaptation, Organic Geochemistry
My research focuses on paleoclimate reconstruction, monsoons, and pollution issues. One of my key interests is the application of biomarkers in environmental research. Current projects focus on these issues in many developing countries e.g., India (air pollution and respiratory impacts, monsoon reconstruction; groundwater arsenic issues), Nepal (carbon flux in mountain streams), Iran (climate-culture links in Bronze Age settlements), China (acid mine drainage, bioaccumulation of metals), and Kenya (soot, Lake Victoria eutrophication, and Holocene climate reconstruction).

PROFESSIONAL EXPERIENCE
2020- Full Professor, Linköping University
2018-20 Biträdande Professor, Linköping University
2011-2018. Senior Universitetslektor (Associate Professor), Linköping University
2010-2011. Forskare, Örebro University
2009-2011. Associate Professor, IISER-Kolkata (India)
2000-2009. Stockholm University
Forskare, Docent in Biogeochemistry (October 2004)
Forskarassistent in Biogeochemistry (2000-2004)
1998-2000. Geoscientist, Schlumberger-Geoquest, Houston (USA)
1998. Geochemist, ARCO, Plano, Texas (USA)
1993-1998. Research/Teaching Assistant, Texas A&M University, College Station (USA)
1991-1993. Teaching Assistant, Eastern Washington University, Cheney (USA)

RESEARCH GRANTS
Funded by various Swedish and international agencies since 2001 (VR, SIDA, Formas, Knut och Alice Wallenberg, EU, Swedish Institute, SWECO, Texas Advanced Resch Program). >50 m sek as PI.

Ongoing projects

Vetenskapsrådet (2021-24) Coal-based economies in developing countries: An environmental, health and cost evaluation around mega thermal power plants. J. Routh (PI), Sayantan Sarkar, Raja Dhar (co-PI).

Vetenskapsrådet (2017-22) The fate of organic carbon in small mountain rivers in the Himalayas: Implications for soil erosion and climate change. J. Routh (PI), S. Sharma (co-PI).

SUPERVISION (ongoing)
Ph.D.: Main supervisor (Dennis Njagi, Chen Luo); Co-supervisor (Rajendra Bhandari)
MSc: Amira Elbarmelgy, Furkan Özkan, Tebid Caprice, Ra'eesah Hendricks

Degrees finished up to 2018:
Ph.D. main supervisor: 6 students (Andrew Minu, Devanita Ghosh, Andrea Baker, Preetam Choudhary, Rajesh Ranjan, Supriyo Das)
PhD co-supervisor: 3 students (Kasun Gayantha, Gustaf Hugelius, Johanna Borgendahl)
Licensiat (Main supervisor: Supriyo Das, Aparajita Bhattacharya) (Co-supervisor: Gustaf Hugelius)
MSc thesis: 12 students (Wing Sze Chan, Katrin Germanisova, Sara Versano, Chen Luo, Yannis Arnis, Gustav Pajala, Gayatri Basapuram, Karolina Gurjarkaite, Moses Odihambo, Rajashi Roychoudhury, Vikas Kumar, Abhinav Kumar)
BSc thesis (20+ students)

Post-doctoral researchers (5): Dr. Dativa Shilla (2014-15, Tanzania), Dr. Kalpana Singhamshetty (2012-13, India), Dr. Supriyo Das (2009, Sweden), Dr. Sushmitha Baskar (2009-10; India), and Dr. Ambujum Saraswathy (2001-02, Japan/India).

TEACHING

I teach Ph.D., MSc, and undergraduate courses at Linköping Univ. In addition, I have taught at Stockholm Univ, IISER-Kol (India), Eastern Washington Univ and Texas A&M Univ (USA).

Graduate and undergraduate courses: Climate Science and Policy, Earth System Science, Environmental Science, Biogeochemical Cycles, Environmental Geochemistry, Organic Geochemistry, Hydrology, and Introductory Geology.

REVIEWER

Associate Editor: Applied Geochemistry (Elsevier), 2011- present
Associate Editor: Groundwater for Sustainable Development (Elsevier), 2015- present
Associate Editor: Current Pollution Reports (Springer), 2015- present
Associate Editor: Frontiers Earth Science, 2021- present
Editorial Board member: Toxics (Mdpi) 2020- present

Project Grants Reviewer
Norwegian Research Council, French Research Council, Singapore Research Council, German Research Council, IFS, NRC - Panel Member

INSTITUTIONAL RESPONSIBILITIES

Head, Vernadsky Unit, TEMA-M, Linköping Univ (2018-23)
Member of IISER-Kolkata Senate (2010-12)
Member Research Committee, IISER-Kolkata (2010)
Member Bio-Safety and Hazards Committee, IISER-Kolkata (2010)
Convener, Department of Earth Sciences, IISER-Kolkata (2010-12)
Board Member (2006-08), Department of Geology and Geochemistry, Stockholm University

Independent reviewer of departmental promotion and tenure
Linköping University, UCT-South Africa, IISER-Kolkata

PUBLICATIONS

85 peer-reviewed papers published, in review (3), >75 abstracts
Citations 2676, h-index 30 (Google Scholar); Researchgate score: 36.73

SELECTED PUBLICATIONS (last 4 years)

- Bhandari, R., **Routh, J.**, Sharma, S., Joshi, R. (2021). Contrasting lipid biomarkers in mountain rivers in the Nepal Himalayas: Organic matter characteristics and contribution to the fluvial carbon pool. *Geoscience Frontiers* 101231
- Gayantha K, **Routh, J.**, Krishnamurthy, A., Jean L, Roberts, P, Chandrajith, R. and Gleixner, G. (2020) Reconstruction of the Late Holocene climate and environmental history from Bolgoda North Lake, Sri Lanka using lipid biomarkers and pollen records. *Journal of Quaternary Science,* 1-12.
- Luo, C., **Routh, J.,** Dario, M., Sarkar, S., Wei, L., Lao, D., Liu, Y. (2020) Distribution and mobilization of heavy metals at an acid mine drainage-affected region in South China. *Science of Total Environment*, 724, 138122.
- Huguet, C., **Routh, J**., Fietz, S., Lone, M.A., Kalpana, M.S., Ghosh, P., Mangini, A.M., Kumar, V., and Rangarajan, R. (2018). Temperature and monsoon tango in a tropical stalagmite: Last glacial-interglacial climate dynamics *Nature Scientific Reports DOI:* 10.1038/s41598-018-23606-w.
- Gurjarkaite**,** K., **Routh, J.,** Djamali, M., Vaezi, A., Pohat, Y., Naderi Beni, M., Tavakohli, V., and Kylin H. (2018). Vegetation history and human-environment interactions through the late Holocene in Konar Sandal, SE Iran. *Quaternary Science Reviews* 194, 143-155.
- Ghosh, D., Bhadury, P**., Routh, J.** (2018). Coping with arsenic stress: Adaptations of arsenite-oxidizing bacterial membrane lipids to increasing arsenic levels. *Microbiology Open* DOI: 10.1002/mbo3.594.

PERSONAL

Date of birth: 1968-05-05