Alakendra N. Roychoudhury

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Personal

Date of Birth: November 28, 1966
Marital Status: Married with one Child
Nationality/Race: Indian

Employment

Professor (Permanent, Full time), Department of Earth Sciences, University of Stellenbosch, Stellenbosch, South Africa (**01/2009 – Present**)

Department Chair and Professor, Department of Earth Sciences, University of Stellenbosch, Stellenbosch, South Africa (**10/2012 – 09/2017**)

Senior Lecturer (Permanent, Full time), Department of Geology, Geography and Environmental Studies, University of Stellenbosch, Stellenbosch, South Africa (**09/2008 – 12/2008**)

Senior Lecturer (**Permanent, Full time**), Department of Geological Sciences, University of Cape Town, Cape Town, South Africa (**07/2001 – 08/2008**)

Visiting professor (paid by U. of Paris), University of Paris VII - Denis Diderot, Paris, France (Spring 2003)

Lecturer, Environmental Sciences Program, Northwestern University, Evanston, IL, USA (01/1999 – 06/2001).

Education

Ph.D. Aqueous Geochemistry, School of Earth and Atmospheric Sciences, **Georgia Institute of Technology**, Atlanta, GA, USA.
Title: Biogeochemical Dynamics in Aquatic Sediments: Novel Laboratory and Field-Based Approaches.
Defended 12/98, **Graduated,** 03/99 (PhD advisor: Prof. Philippe Van Cappellen)

Minor: Environmental Engineering.

Interdisciplinary Certificate in Geohydrology, Georgia Institute of Technology, Atlanta, GA.

Master of Science and Technology, Applied Geology, Indian School of Mines, Dhanbad, India. (Now IIT)

Bachelor of Science, Holker Science College, Indore, India.

Professional Activities & Honors

- NRF research rating (through international peer review) – B3 (Internationally acclaimed scientist)
- Invited Theme Chair – Metal and Nutrient cycles, Goldschmidt 2022, Hawaii, USA

- Editorial board member, Results in Earth Sciences (2023 – Present)
- Editorial board member, Results in Geochemistry (2019 – 2022)
- Co-Director: Whales and Climate Change program (2018 – Present)
- Associate Editor, Frontiers in Environmental Sciences: Groundwater Resources and Management (2014 – 2019)
- Review Editor, Frontiers in Marine Science: Ocean Observation (2015 – present)
- Associate Editor, *Applied Geochemistry* 2006-2013
- Co-Editor, *Research Journal for Chemistry and Environment* 2004-2008
- Fellow, International Congress of Chemistry and Environment
- Council Member: International Association of GeoChemistry (IAGC) Aug 2004 – July 2012
- Scientific steering committee member, GEOTRACES (2012 – 2017)
- South African representative: International GEOTRACES PROGRAM
- Steering committee member: ACCESS
- Board of Governors: Somerset House Primary School (2015-present)
- IAGC 2007 to 2012 - Awards Committee (Vernadsky Medal and Ebelmen award)
- Geochemical Society Awards Committee 2010-2013 – C C Patterson Award
- Founder Member – AEON (Africa Earth Observatory Network)
- Board Member – Marine Research Institute (MA-RE), University of Cape Town, 2006 -
- Associate Member – Institute for Microbial Biotechnology and Metagenomics; University of the Western Cape 2007 - Present
- Member, International Association of GeoChemistry 2004-present
- Member, Geochemical Society, 1998 - present
- Co-coordinator – Benthic biogeochemistry BONUS-GOODHOPE program
- Scientific committee member – International conference on Applied Isotope Geochemistry 2007, Stellenbosch
- Listed in Marquis Who's Who in Science and Engineering, 7th Edition, 2003
- Devi Ahilya Bai Holker Gold Medal for 1st position in Order of Merit in Bachelor of Science, University of Indore, India.
- 2nd position in Order of Merit in Master of Science and Technology, Indian School of Mines, India.
- CS Kiang Award for Best Graduate Student Research, 1996, EAS, Georgia Institute of Technology, Atlanta.
- Best Teaching Assistant, 1997, EAS, Georgia Institute of Technology, Atlanta.
- Senator, Graduate Student Association, Georgia Institute of Technology, Atlanta.
- Executive member, Student Union, Holker Science College, India.

Review Activities

- Regularly act as reviewer for the Journals:
  - Applied Geochemistry
  - Biogeochemistry
  - Chemical Geology
  - Water Research
  - Marine Chemistry
  - Estuarine, Coastal and Shelf Science
  - Estuaries and Coasts
  - PALAIOS
  - Geoderma
  - Journal of Hazardous Material

- *the* Science of the Total Environment
- Journal of Geochemical Exploration
- Research Journal for Chemistry and environment
- Indian Journal of Marine Sciences
- African Journal of Marine Science

- Regularly act as reviewer for grant applications:
  - NRF (South Africa),
  - WRC (South Africa),
  - NSF (USA)
- Reviewer for NRF "Researcher Rating" evaluation applications
- Member, NRF Earth Science Panel to review 2005, 2006, 2007 Focus area funding proposals
- Project Steering Committee (5 projects) – Water Research Commission, South Africa

Invited Examiner

1. External examiner (PhD Thesis) Australian National University, Australia (2022)
2. External examiner (PhD Thesis) University of Otago, New Zealand (2021)
3. External examiner (MSc Thesis) Stellenbosch University (2003)
4. External examiner (MPhil Thesis) University of Zimbabwe (2004)
5. External examiner (MSc Thesis) RAU (2005)
6. External examiner BSc, Hon. - Environmental geochemistry, University of Natal, Durban (2003)
7. External examiner MSc - Chemistry for environmental engineers, University of Natal, Durban (2003)
8. External examiner BSc, 3rd year – Environmental geochemistry, University of Free State (2006 to present)
9. Alternate External examiner BSc, - Analytical Chemistry, University of the Western (2007) Cape

Committee Membership at Stellenbosch

1. **BIOGRIP** - Soil and Water Node, Advisory panel member (2021 – 2024)
2. DVC Research Task team member, **New SU Vision and Strategic Research Initiatives (2017)**
3. Member **University Research Subcommittee B** (2016/2017)
4. Member Selection Committee - Prof/Asso. Prof (Renewable & Sustainable Studies) – 2009
5. Member of Senate (2008 – present)
6. Faculty management committee (as Chair of Earth Sciences, 2012 - 2017)
7. Faculty representative to University research committee
8. Chair of many departmental committees.

Committee Membership at UCT

1. Science Faculty Research Committee – 2005 – 2008
2. Science Faculty Alumni Working Group – 2004 – 2005
3. Science Faculty Equity Committee – 2005 – Present
4. Project Implementation Committee, Marine Research Partnership – 2005 – Present
5. Environmental Thrust Committee, 2002-2004
6. Committee of Assessors: UCT PhD – 2001
7. Committee of Assessors: UCT PhD – 2001
8. National Research Foundation (Pretoria) – Earth Science Panel (Grants Review) – 2005
9. National Research Foundation (Pretoria) – Earth Science Panel (Grants Review) – 2006
10. Project Steering Committee – WRC (Pretoria) – 2001 - Present

11. Member, Selection committee – Lecturer/Senior Lecturer (UCT - EGS) – 2004 - 2005
12. Member, Selection committee – Lecturer/Senior Lecturer (UCT - Geological Sciences) 2004 - 2005
13. Member, Selection committee – Senior Secretary (UCT - Geological Sciences) - 2002
14. Member, Selection committee – Senior Secretary (UCT - Geological Sciences) - 2003
15. Member, Selection committee – Senior Secretary (UCT - Geological Sciences) - 2004
16. Member, Selection committee – Senior Technician (UCT - Geological Sciences) - 2004
17. Member, Selection committee – Senior Scientific Officer (UCT - Geological Sciences) - 2005
18. Member, Selection committee – Senior Scientific Officer (UCT - AEON) - 2005
19. Member, Selection committee – Senior Scientific Officer (UCT - AEON) – 2006-2007
20. Member, Selection committee – Chief Operating Officer (UCT - AEON) – 2007
21. Member, Selection committee – Coordinator: Strategic Research Initiatives (UCT - Research & Innovation) – 2003

National and International Collaboration

Listed only those with whom successful project proposals or publications have resulted

1. JS Compton (University of Cape Town – Geological Sciences, South Africa)
2. A Wilkinson (University of Cape Town – Electrical Engineering, South Africa)
3. D Cowan (University of the Western Cape – Director, Center of Excellence, Biotechnology)
4. C Colvin (CSIR – Hydrogeochemistry group, Stellenbosch)
5. PMS Monteiro (CSIR – Coast Program, Stellenbosch)
6. M Vicci (Oceanography, University of Cape Town, South Africa)
7. K Findley (Cape Peninsula University of Technology, South Africa)
8. E Viollier (Univ. of Paris, France)
9. P VanCappellen (Utrecht University, The Netherlands)
10. J Kostka (Florida State University, USA)
11. J Routh (Stockholm University)
12. M Land (Stockholm University)
13. A Fransson (Norwegian Polar Institute, Norway)
14. M Cherici (Institute for Marine Research, Norway)
15. M Ardelan (NTNU, Norway)
16. S Staniland (University of Edinburgh)
17. Eva Bucciarelli (Institut Universitaire Européen de la Mer, Plouzane, France)
18. SCB Myneni (Princeton University, USA)
19. P. Lam (Woods Hole Oceanographic Institute, USA)
20. Andrew Bowie (University of Tasmania, Australia)
21. B Mackay (Griffith University, Australia)
22. A Tagliabue (University of Liverpool, UK)

Teaching Experience

University of Stellenbosch, *Professor* (09/08 – present)

Courses teaching

Environmental Geochemistry – Third Year Level
Hazardous waste site assessment – Honors Level
Marine Geochemistry – Honors Level
Geohydrology – Honors Level
Analytical Techniques – Honors Level

Students Graduated Under Supervision

7 Postdoctoral, 13 PhD, 26 MSc and 36 Honors students

Current Student Supervision

3 Postdoctoral students

Dr Saumik Samanta (4 years), Dr Ole Valk, Dr Clément Demasy

1 PhD (Primary Supervisor)

Thapelo Ramalepe

5 MSc Students

Ms Nadine Ellis, Ms Lide Jansen van Vuuren, Ms Miranda Sitofele, Ms Angela Wellham, Ms Ezelna Geremshuisen

5 Honors students

Ms Kayla Buchanan, Ms Kriyanka Pillay, Ms Alice Edwards, Mr Nicholas Mr Schapers, Simanga Mweli

University of Cape Town, *Senior Lecturer* (07/01 – 08/08)

Program coordinator – MSc Environmental Geochemistry Program

Courses taught

Aqueous environmental geochemistry – MSc Level
Hazardous waste site assessment – MSc Level
Transport-Reaction modeling – MSc Level
Environmental Geochemistry – Honors Level
Geology for Civil Engineers – First Year Level

Northwestern University, Evanston, *Lecturer* (01/99 – 06/01)

Courses taught:

Environmental Hazards: Is it fit to live in Chicago? Freshman Level
The environmental debate (Seminar) Freshman Level
Aqueous Environmental Geochemistry Graduate Level
Senior Research Seminar (Field/laboratory based) Senior Level

Student mentoring: 20 senior undergraduate students

Georgia Institute of Technology, Atlanta, (06/96 -12/98)

Laboratory instructor-General geology laboratory
Teaching Assistant-Introduction to chemical kinetics
Tutor (Calculus, Chemistry, Physics)-Freshman Experience

Postgraduate Students Graduated

PhD

Name	Title	Supervisor	Co-Supervisor
2006			
1. Meris Smith	Prediction, control and rehabilitation of iron encrustation in water supply boreholes, Western Cape, South Africa: A geochemical Approach	**AN Roychoudhury**	
2007			
2. Donovan Porter	An integrated geochemical and microbiological study of sulfate reduction in hypersaline pans.	**AN Roychoudhury**	D Cowan
3. Supriyo Das	Anthropogenic imprints preserved in the environmental record from an urban lake, Zeekovlei (South Africa): A multi-parameter geochemical approach (graduated at Stockholm University, Sweden)	J Routh	**AN Roychoudhury**
2013			
4. Bjorn von der Heyden	Distribution and characterization of marine iron-rich particles	**AN Roychoudhury**	SCB Myneni
2014			
5. Robert Hansen	Numeric geochemical modeling, incorporating systems theory and implications for sustainable development – study on East Rand Basin acid mine drainage, Witwatersrand, South Africa	**AN Roychoudhury**	
2016			
6. Andrea Baker	Geochemical records of palaeoenvironmental controls on peat forming processes in the Mfabeni peatland, Kwazulu Natal, South Africa since the Late Pleistocene	**AN Roychoudhury**	J Routh
7. Reckson Mulidzi	The effect of winery wastewater irrigation on the properties of selected soils from the South African Wine region	**C Clarke**	AN Roychoudhury
2019			
9. Sandi Smart	Modern-ocean ground-truthing of planktic foraminifer nitrogen isotopes: A proxy for surface ocean nutrient conditions	**AN Roychoudhury**	S Fawcett
2020			
10. Ryan Cloete	On the distribution and biogeochemical cycling of bioactive trace metals in the Southern Ocean	**AN Roychoudhury**	
2021			
11. Jean Loock	Austral summer and winter trace metal distribution in the Southern Ocean and Antarctic seasonal sea-ice.	**AN Roychoudhury**	
12. Margaret Ogundare	Carbon solubility pump: Carbon dioxide flux and ocean acidification below southern Africa	**AN Roychoudhury**	W Joubert
2022			
13. Natasha von Horsten	Insights into early winter Southern Indian Ocean dissolved iron distributions and remineralisation using excess barium	**AN Roychoudhury**	G Sarthou, E Bucciarelli, H Planquette

MSc by Research Thesis

Name	Title	Supervisor	Co-Supervisor
2006			
1. Warren Joubert	Seasonal Variability of Sediment Oxygen Demand and Biogeochemistry on The Namibian Inner Shelf	**AN Roychoudhury**	PMS Monteiro
2008			
2. Anne Vigneau	Kinetics and thermodynamics of biogenic silica dissolution in the Southern Benguela upwelling system	**AN Roychoudhury**	
2009			
3. Carla Mauger	The formation and origin of carbonate minerals in the Darling and Yzerfontein hypersaline pans, Western Cape, South Africa	JS Compton	**AN Roychoudhury**
2013			
4. Stephan le Roux	Physicochemical controls on the formation and stability of atacamite in the soil surrounding the Spektakel mine, Northern Cape Province, South Africa	C Clarke	**AN Roychoudhury**
2014			
5. Adrian Adams	The degradation of atrazine by soil minerals: effects of drying mineral surfaces	C Clarke	**AN Roychoudhury**
6 Raimund Rentel	Development and implementation of flow-injection analyser with chemiluminescence for detection of sub-nanomolar Fe in seawater	**AN Roychoudhury**	
2015			
7. Natasha von Horsten	Photosynthetic response of Southern Ocean phytoplankton under Fe and light limitations: Bioassay experiment.	S Fietz	**AN Roychoudhury**
2017			
8. Corné Engelbrecht	Hydrogeochemical characterization of groundwater and assessment of hydrological processes using environmental tracers in the Mokolo catchment, Limpopo, South Africa	**AN Roychoudhury**	
9. Ryan Cloete	Measurement and distribution of Dissolved Copper (DCu) and Zinc (DZn) in the Southern Ocean, Atlantic Sector: Validation of an improved seawater collection and ICP-MS based analytical technique.	**AN Roychoudhury**	
10. Jean Loock	The meridional biogeochemistry of bio-active trace metals cobalt and cadmium in the Southern Ocean, Atlantic Sector – A simultaneous ICP-MS quantification technique	**AN Roychoudhury**	
2021			
11. Andile Mkandla	The distribution of dissolved molybdenum along the 30˚ E meridian (GEOTRACES Process Study (GIpr07)): First assessment of the factors affecting its behaviour in the African sector of the Southern Ocean	**AN Roychoudhury**	

2022			
12. Tara de Jong	Fluorescence detection of trace aluminium using a sequential injection analyser	**AN Roychoudhury**	

MSc by coursework and thesis (Environmental Geochemistry)

Name	Title	Supervisor	Co-Supervisor
2003			
1. Naadira Haniff	Trace metal accumulation in urban sediments, Black River, Western Cape, South Africa	**AN Roychoudhury**	
2. Lidia Lopes	Sorption of the platinum-group elements in selected solid matrices	**AN Roychoudhury**	
3. André Smith	Geochemistry of a pristine fynbos ecosystem in the Harold Porter National Botanical Gardens and Kogelberg Biosphere Reserve	JS Compton	**AN Roychoudhury**
4. Keir Soderberg	Geochemistry of the fynbos ecosystem in a Table Mountain Group sub-catchment of the Olifants River, Western Cape, South Africa	JS Compton	**AN Roychoudhury**
2004			
5. Michale Starke	The partitioning and mobility of metals in the Blesbokspruit	**AN Roychoudhury**	
6. Greg Merrett	Groundwater redox conditions at a petroleum contaminated site, Kuils River, South Africa: Pathways for BTEX biodegradation	**AN Roychoudhury**	
7. Jacques Petersen	A Geochemical investigation of ground water and soils affected by evaporation pond seepage at the Namakwa Sands Mineral Separation Plant (MSP)	**AN Roychoudhury**	
8. Wijanand Germs	A geochemical investigation into the occurrence and fate of nitrogen and phosphorus in the lower Olifants River, Western Cape	JS Compton	**AN Roychoudhury**
9. Arthur Taylor	A trace metal study of sediments from the Olifants and Berg River estuaries and the off-shore mud belt	**AN Roychoudhury**	JS Compton
10. Ruth Mitchell	An investigation into the lithological source of iron in the Kammanassie Mountain aquifer	M Smith	**AN Roychoudhury**
11. Stephen Weber	An investigation of the primary sources of the Cape Town brown haze	H Annegarn	**AN Roychoudhury**
2005			
12. Daniel Folefoc	Geochemical study of soil salinity in a toposequence near Riebeeck West, South Africa	M Smith	**AN Roychoudhury**

2006		
13. Dean McCormick	An investigation into in situ biodegradation under sulfate-reducing conditions in a petroleum contaminated shallow aquifer	**AN Roychoudhury**

Research Experience

Funded project proposals:

1. Roychoudhury AN and Mackay B (2023-2026) Humpback whales in changing climate – Phase II, **Donor funding AUD 1,900,000 -** South African grant component (**AUD 800,000**)
2. Roychoudhury AN and Chow, R (2022) Establishment of Hydrogeology Field-School. Seed funding - **SU Strategic Funds R3,250,000**
3. Fransson A, Thomalla SJ, Roychoudhury AN (2019/20 – 2022/23) Southern Ocean phytoplankton community characteristics, primary production, CO_2 flux and the effect of climate change (Project SANOCEAN) **South Africa – Norway bilateral grant, R 3,182,000** – South African grant component.
4. Roychoudhury AN and Mackay B (2018-2021) Humpback whales in changing climate, **Donor funding AUD 4,019,503-** South African grant component (AUD **1,250,797**)
5. Roychoudhury AN (2018-2020) Distribution and Speciation of Bioactive Trace Elements in Southern Ocean, **NRF SANAP, R 1,820,000**
6. Roychoudhury AN (2017-2019) TracEx: Establishment of Center of excellence in Trace and experimental Biogeochemistry, **Donor funding**, **R 17 Million**
7. Roychoudhury AN (2017-2019) Nanoparticles at Air-Sea interface. **NRF Competitive Rated Researcher Grant, R 1,550,000**
8. Roychoudhury AN (2015) ICP-MS mass spectrometer for ultra-trace metal analysis. **National Equipment Program, NRF, R 2,699,000**
9. Roychoudhury AN (2015-2017) Speciation and interaction of iron nanoparticles in Southern Ocean, **NRF SANAP, R 1,353,500**
10. Roychoudhury AN (2014 – 2016) Iron nanoparticles in environment, **NRF Competitive Rated Researcher Grant, R 1,427,220**
11. Fietz, S and Roychoudhury, AN (2014- 2016) Southern Ocean Phytoplankton adaption to mimicked future changes in light and iron availability – molecular bases and modeling, **South Africa – Norway bilateral grant, R 2,421,712 + NOK 1,453,027**
12. Roychoudhury, AN (2012 – 2014) Bioactive trace metals in the Southern Ocean: Capacity development and an integrated measurement-modeling approach to understand ocean primary productivity, **NRF SANAP, R 1,200,000**
13. Roychoudhury, AN (2011) Building of a class 100 clean laboratory at Earth Sciences, **Stellenbosch University Strategic funds and co-funding from DST, R 2,200,000**
14. Roychoudhury, AN and Bucciarelli, E (2011-2013) Speciation of iron nanoparticles in Southern Ocean. **Bilateral grant NRF, South Africa and France R200,000**
15. Roychoudhury, AN, Speciation of dissolved iron in Southern Ocean. **Discretionary funds, Vice Rector, Research, University of Stellenbosch, R200,000**
16. Roychoudhury AN and Routh, J (2010-2012) High-resolution millennial scale climate and precipitation variability in South Africa: Impacts on terrestrial ecosystems and societal development. **Bilateral grant NRF, South Africa and SIDA Sweden. R500,000 + SKr450,000**
17. Roychoudhury AN (2010 – 2012) Method development and measurement of Si and Ge isotopes using femtosecond MC-LA-ICPMS and MC-ICPMS: productivity and

ecosystem change over glacial-interglacial periods in Benguela Upwelling System. **NRF-DEAT, R846,640**

18. Roychoudhury AN, and Clarke, C (2009-2011) Nanoparticles in environment: unraveling a mechanistic understanding for surface reaction processes. **NRF-Blue Skies, R1, 246,500**
19. Roychoudhury AN (2007 – 2009) Biogeochemistry of the Southern Ocean: interactions between nutrients, dynamics, and ecosystem structure. **SANAP, R764,500**
20. Roychoudhury AN (2006 – 2008) Biogeochemical cycle of silica in the Central Benguela Upwelling System: Dissolution kinetics and flux measurements. **NRF-DEAT, R494,000**
21. Roychoudhury AN and Colvin, C (2006-2008) Biogeochemical controls on the plant biodiversity within a saltmarsh ecosystem in the West Coast National Park: Impact of saltwater-groundwater interaction on porewater chemistry and vegetation. **WRC, R398,400**
22. Roychoudhury AN and Land, M (2006) Environmental change and Biogeochemical Cycle of Silica in the Central Benguela Upwelling System: Silica dissolution kinetics, flux and isotope measurements. **NRF-SIDA (Sweden) Skr 75,000 (Planning grant)**
23. Roychoudhury AN and Cowan, D (2005 – 2008) An integrated geochemical and microbiological study of dissimilatory sulphate reduction in extreme environments with a special emphasis on hypersaline systems. **NRF, R360,000**
24. Roychoudhury AN and Wilkinson, A (2004 - 2005) A development of a micro-electrical resistance tomography technique to quantify two-dimensional dispersion in porous media. **NRF, R128,000**
25. Roychoudhury AN (2004 - 2005) Trace metal dynamics in near shore sediments of South Africa: An integrated field and laboratory study. **DEAT and NRF, R246,000**
26. Roychoudhury, AN and Routh, J (2003 - 2005) Trace metal dynamics in near shore marine sediments – Elandsbaai, South Africa. Joint research grant under the South African - Swedish research partnership program. **NRF (South Africa) R249,500 + SIDA (Sweden) SKR 298,000**
27. Roychoudhury AN and Cowan, D (2003-2004) Life in extreme environments: An integrated geochemical and microbiological study of sulfate reduction in hypersaline pans, Western Cape, South Africa. **NRF**, **R190,000**
28. Compton, JS and Roychoudhury AN (2002) Environmental geochemistry of surface and groundwaters of the fynbos ecosystem, Western Cape. **NRF**, **R101,000**

Grants from Industries and other sources

29. Construction of an ultra-clean (class 10) geochemical laboratory. Rector's Strategic funds, University of Stellenbosch and CSIR, **R2200000**
30. An investigation of the effects of effluent irrigation on soil and groundwater geochemistry. **Sasol Technology (Pty) Ltd., R25,000**
31. Impact of evaporation pond seepage on groundwater and soil chemistry. **Namakwa Sands, R26,500**
32. Delineation of redox conditions in a petroleum contaminated aquifer. **K & T Environmental Consultants, R10,000**

Past research projects:
Northwestern University, Evanston, (01/99 – 06/2001)

1. Nitrogen farming: Can it be a successful concept to reduce pollution and attain an ecological balance in riparian wetlands. (2001 – 2002,)

2. Life in extreme environments: An integrated geochemical and microbiological study of dissimilatory sulfate reduction. (2000 – 2001 – URGC, Northwestern University)
3. Implementation of a multidisciplinary undergraduate research course in the Environmental Sciences Program. (1999-2000– The Searle Center for Teaching Excellence)
4. Sulfate reduction in hydrothermal springs of Yellowstone National Park: A project to involve undergraduate students in research. (1999-2000,– Hewlett Fund)
5. The future of wetland reconstruction: The progress of Melody Knoll Project's On-Site wetland mitigation at Conway Farms, Lake Forest, IL.
6. Nitrate reduction in constructed wetlands: Des Plaines river wetland demonstration site.
7. Kinetics of sulfate reduction in freshwater wetlands.
8. Trace metal contamination in black lagoon sediments, Detroit, MI.
9. Development of a sediment extraction scheme for organic rich sediments.
10. Shoreline protection systems of Lake Michigan: Analysis and performance predictions of beach/breakwater systems at Sunrise Park and Fort Sheridan, IL.

Georgia Institute of Technology, Atlanta, *Graduate Research Assistant* (01/93 -06/96)

11. Development of a reactor to study kinetics of biogeochemical reactions.
12. Geomicrobiological influence on iron-sulfur cycling in saltmarsh sediments of Sapelo Island, GA.
13. Kinetics of biogenic silica dissolution in the Southern Ocean.
14. Effect of anoxia on the iron-phosphate cycling in deep-sea sediments of Orca basin, Gulf of Mexico.
15. Transport-reaction modeling of major elements in fresh water and marine sediments.

Johns Hopkins University, Baltimore, *Graduate Research Assistant* (09/91 - 12/92)

16. Critical evaluation of effects of tectonics and seismic events on landslides.

Indian School of Mines, Dhanbad, *Research Fellow* (06/90 - 06/91)

17. Developed a method for hazard zonation in relation to hill slope stability in NE Himalayas based on photogeological mapping and soil and rock strength parameters.

Invited talks

1. Department of Civil and Environmental Engineering, Northwestern University (2001)
2. Department of Molecular and Cell Biology, UCT (2002)
3. Department of Chemical Engineering, UCT (2003)
4. CSIR, Stellenbosch, Coastal Biogeochemistry Section (2003)
5. University of Paris, France (2003)
6. University of Brest, France (2003)
7. Focus on Wetlands, City of Cape Town (2004)
8. CSIR, Stellenbosch, Hydrogeochemistry Section (2005)
9. Science Faculty Seminar Series, UCT (2006)

List of Peer Reviewed Publications

Citation data collected from Google Scholar: total citations 3942, h-index 29, i10-index 53

80 Jasper de Bie, Serena B. Lee, Jan-Olaf Meynecke, Elisa Seyboth, Saumik Samanta, Marcello Vichi, Alakendra Roychoudhury, and Brendan Mackey (Submitted 2023) Agent-based modelling of the southward coastal migration of humpback whales off eastern Australia**.** *Marine Mammal Science*

79 Saumik Samanta and Alakendra Roychoudhury (Submitted 2023) Rising Atmospheric Lead Emissions in Southeast Asia: An Unsettling Global Challenge in the Making. *ES&T Letters*,

78 J. Duan, R. Cloete, J. C. Loock, A. Lanzirotti, M. Newville, A. Martinez-Garcia, D. M. Sigman, P. J. Lam, A. N. Roychoudhury, S. C.B. Myneni (In revision 2023) Biogenic-to-Lithogenic Handoff of Particulate Zinc Controls the Zn-Cycle in the Southern Ocean. *Science*

77 Raquel F. Flynn, Lumi Haraguchi, Jeff McQuaid, Jessica M. Burger, Percy Mutseka Lunga, Luca Stirnimann, Saumik Samanta, Alakendra N. Roychoudhury, and Sarah E. Fawcett (2023) Nanoplankton: the dominant vector for carbon export across the springtime Southern Ocean. *Science Advances*, V9(48), 1-17, doi: 10.1126/sciadv.adi3059

76 Elisa Seyboth, Olaf Meynecke, Jasper De Bie, Alakendra N Roychoudhury, Ken Findlay (2023) A review of post-whaling abundance, trends, and recent changes in distribution and migration patterns of Southern Hemisphere humpback whales. *Frontiers in Marine Sciences,* doi: 10.3389/fmars.2023.997491

75 Asmita Singh, Susanne Fietz, Sandy J. Thomalla, Nicolas Sanchez, Murat V. Ardelan, Sébastien Moreau, Hanna M. Kauko, Agneta Fransson, Melissa Chierici, Saumik Samanta, Thato N. Mtshali, Alakendra N. Roychoudhury and Thomas J. Ryan-Keogh (2023) Absence of photophysiological response to iron addition in autumn phytoplankton in the Antarctic sea-ice zone. *Biogeosciences*, V20, 3073–3091, doi: 10.5194/bg-20-3073-2023

74 Jan-Olaf Meynecke, Saumik Samanta, Jasper De Bie, Elisa Seyboth, Subhra Prakash Dey, Giles Fearon, Marcello Vichi, Ken Findlay, Alakendra Roychoudhury and Brendan George Mackey (2023) Do whales really increase the oceanic removal of atmospheric carbon? *Frontiers in Marine Science: Marine Megafauna* doi: 10.3389/fmars.2023.1117409

73 Saumik Samanta, Ryan Cloete, Subhra Prakash Dey, Jan-Lukas Menzel Barraqueta, Jean C Loock, Jan-Olaf Meynecke, Jasper de Bie, Marcello Vichi, Alakendra N Roychoudhury (2023) Exchange of dissolved Pb from Indian to Atlantic Ocean is driven by Agulhas Current and atmospheric Pb input from South Africa. *Scientific Reports* V13, 5465, doi: 10.1038/s41598-023-32613-5

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Abstracts and Conference Presentations

1. Saumik Samanta, Kayla Buchanan, Alakendra N Roychoudhury (2023) Is marginal sea ice a source of Fe and impacts productivity in South Atlantic? SOOS Symposium, Hobart, Australia, 14 – 18 August.
2. Saumik Samanta, Ryan Cloete, Lide Jansen van Vuuren, Alakendra N Roychoudhury (2023) Seasonal cycling of Fe in the marginal ice zone of Southern Ocean around zero meridian: linkage to phytoplankton bloom. SOOS Symposium, Hobart, Australia, 14 – 18 August.
3. R. Cloete, S. Samanta, Nadine Ellis, Lide Jansen van Vuuren, Corentin Baudet, Pierrick Penven, Steven Herbette, Alakendra Roychoudhury, Eva Bucciarelli and Helene Planquette (2023) Iron and mesoscale eddy dynamics in the South West Indian Ocean. Goldschmidt Conference, Lyon, France, 9 – 14 July.
4. Satish Myneni, Jianshu Duan, Ryan Cloete, Daniel M. Sigman, Phoebe J. Lam, Antonio Lanzirotti, Matthew Newville, Alfredo Martinez-Garcia and Alakendra Roychoudhury (2023) Speciation of Particulate Zn in the Southern Ocean: Implications for Zn-cycling. Goldschmidt Conference, Lyon, France, 9 – 14 July.
5. A. Ringard, H. Planquette, Eva Bucciareli, R. Cloete, A.N. Roychoudhury (2023)

Spatial and temporal variability of particulate iron and manganese in the Atlantic sector of the Southern Ocean: spring vs winter. Goldschmidt Conference, Lyon, France, 9 – 14 July.

6. Lide Jansen van Vuuren, Saumik Samanta, Ryan Cloete, Alakendra N Roychoudhury (2023) Seasonal cycling of dissolved Fe in the South Atlantic marginal ice zone of the Southern Ocean. Goldschmidt Conference, Lyon, France, 9 – 14 July.
7. Saumik Samanta, Lide Jansen van Vuuren, Ryan Cloete, Alakendra N Roychoudhury (2023) Dissolved iron dynamics in the marginal ice zone and spring blooms. ASLO Aquatic Sciences Meeting, Palma De Mallorca, Spain, 4 – 9 June.
8. S Fietz, K Kangueehi, S Samanta, AN Roychoudhury, F Eckardt (2023) Trace metal concentrations and solubility in aerosols over the oceans south of South Africa. ASLO Aquatic Sciences Meeting, Palma De Mallorca, Spain, 4 – 9 June.
9. Susanne Fietz, Andrea Baker, Charlotte S. Mille[c], B. David A. Naafs, Francien Peterse, Jemma Finch, Marc Humphries, Enno Schefuß, Alakendra N. Roychoudhury, and Joyanto Routh (2023)Terrestrial temperature evolution of southern Africa during the Late Pleistocene and Holocene: evidence from the Mfabeni Peatland. GSSA GEOCONGRESS, Stellenbosch, South Africa, 11 – 13 January.
10. Margaret Ogundare, Warren Joubert, Agneta Fransson, Melissa Chierici, Alakendra Roychoudhury (2022) Winter carbonate properties in the South Atlantic Ocean. 5th International Symposium on the Ocean in High CO2 World, Lima, Peru 12 – 17 September.
11. Ryan Cloete, Jean Loock, Natasha Ren van Horsten, Saumik Samanta, Thato Mtshali, Susanne Fietz, Helene Planquette and Alakendra Narayan Roychoudhury (2022) Winter Copper and Nickel distributions from the Indian sector of the Southern Ocean. Goldschmidt conference, Hawaii, USA 10 - 15 July.
12. Saumik Samanta, Ryan Cloete, Jan Lukas Menzel Barraqueta, Jean Loock and Alakendra Narayan Roychoudhury (2022) Decadal evolution of dissolved lead in the Cape Basin: the role of Agulhas Current in transporting anthropogenic lead from Southern Africa. Goldschmidt conference, Hawaii, USA 10 - 15 July.
13. Natasha Ren van Horsten, Helene Planquette, Geraldine Sarthou, Thomas J Ryan-Keogh, Nolwenn Lemaitre, Thato Mtshali, Alakendra Narayan Roychoudhury and Eva Bucciarelli (2022) Early winter barium excess in the Southern Indian Ocean as an annual remineralisation proxy (GEOTRACES GIPr07 cruise). Goldschmidt conference, Hawaii, USA 10 - 15 July.
14. Subhra Prakash Dey, Marcello Vichi, Giles Fearon, Elisa Seyboth, Ken P. Findlay, J.-O. Meynecke, Jasper De Bie, Serena Blyth Lee, Saumik Samanta, Alakendra N. Roychoudhury, Brendan Mackey (2022) Oceanographic anomalies coinciding with humpback whale super-group occurrences in the Southern Benguela. Ocean Sciences Meeting, Online 24 Feb – 4 Mar.
15. R. Flynn, J. McQuaid, L. Haraguchi, P. Ramlet, A. Roychoudhury, J. Burger, and S. Fawcett (2022) Nanoplankton: A vector for carbon export across the springtime Southern Ocean. Gordon Research Conference: Biogeochemical Processes Across Space and Time. Castelldefels, Spain. April 30 – May 1
16. A. Fransson, M. Chierici, M. Ogundare, T. Hattermann, W. Joubert, H. Kauko, M. Ardelan, P. Monteiro, S. Moreau, T. Mtshali, T. Ryan-Keogh, A. Roychoudhury, A. Singh, L. de Steur, N. Sanchez, S. Thomalla. (2020) Ocean CO_2 chemistry, air-sea CO_2 fluxes and ocean acidification in the ice-covered Southern Ocean in autumn, near the coast off Dronning Maud Land/Kong Håkon VII Sea. SOOS Weddell Sea-

DML online workshop, October 2020

17. Menzel Barraqueta J. L., Singh A., Samanta S., Viljoen J.J., Haraguchi L., Mtshali T., Fawcett S., Roychoudhury A. (2020) Responses from sub-Antarctic phytoplankton communities to short-term trace metal incubations in early austral spring and links with the biogeochemical signature of sea ice. SCAR 2020, Hobart, 3 – 7 August
18. S Samanta, J-L Menzel Barraqueta, R Cloete, J Loock, J. Viljoen, A Roychoudhury (2020) The functional role of marginal sea ice in trace metal dynamics in the Southern Ocean SCAR 2020, Hobart, 3 – 7 August
19. Margaret O Ogundare, Agneta Fransson, Melissa Chierici, Warren Joubert and Alakendra N Roychoudhury (2020). Variability of sea-air carbon dioxide flux in autumn across the weddell gyre and South Atlantic Ocean. SCAR 2020, Hobart, 3 – 7 August
20. L. Yovan, A.N. Roychoudhury, K. Balakrishna, (2019) Use of statistical methods and geospatial techniques in understanding riverine trace metal geochemistry, AGU Fall meeting, San Francisco USA, 9 - 13 December
21. S. Samanta, A.N. Roychoudhury (2019) Synthesis of dissolved Pb and Pb isotope data of global oceans: Sources, cycling and mixing. Goldschmidt conference, Barcelona, Spain, 18 - 23 August
22. R. Cloete, J.C. Loock, S. Fietz, A.N. Roychoudhury (2019) First Cadmium and Zinc measurements from the Indian sector of the Southern Ocean. Goldschmidt conference, Barcelona, Spain, 18 - 23 August
23. N. Van Horsten, E. Bucciarelli, H. Planquette, D. Gonzalez-Santana, T. Mtshali, A.N. Roychoudhury, G. Sarthou (2019) Early winter dissolved Fe distribution in the Southern Indian Ocean (GEOTRACES GIPr07 cruise). Goldschmidt conference, Barcelona, Spain, 18 - 23 August
24. L. Yovan, A.N. Roychoudhury, K. Balakrishna, M. Chadaga, H.N. Udaya Shankar (2019) Use of statistical methods and geospatial techniques in understanding riverine trace metal geochemistry, Goldschmidt conference, Barcelona, Spain, 18 - 23 August
25. S.M. Smart, H. Ren, S.E. Fawcett, R. Schiebel, M. Conte, P.A. Rafter, K.K. Ellis (2018) Decoding Planktic Foraminifera-bound Nitrogen Isotopes: Clues from the Modern Ocean, AGU Fall meeting, Washington DC, USA, 10 – 14 December.
26. S.M. Smart, S.E. Fawcett, H. Ren, R. Schiebel, M.A. Weigand, A.N. Roychoudhury, G.H. Haug, D.M. Sigman (2018) Ground-truthing the Foraminifera-bound Nitrogen isotope paleo-proxy in the modern Southern Ocean, Ocean Science Meeting, Portland, USA, 11 – 16 February.
27. A. Baker, N. Pedentchouk, J Routh, A.N. Roychoudhury (2017) Climatic variability in Mfabeni peatlands (South Africa) since the late Pleistocene. 28th IMOG, Florence, Italy, 17 – 22 September.
28. A.N. Roychoudhury, R. Cloete, J. Loock, T. Mtshali, S. Fietz (2017) Bioactive trace elements (Cu, Zn, Cd and Co) in the Southern Ocean. Goldschmidt conference, Paris, France,13 – 18 August
29. K. Kangueehi, S. Fietz, A.N. Roychoudhury, F. Eckardt, J. van Holdt (2017) Dust transport pathways and bioavailability of dust emissions from Southern Africa, Goldschmidt conference, Paris, France, 13 – 18 August
30. S. Fietz, R. Cloete, J. Loock, R. Philibert, A.N. Roychoudhury, N. van Horsten, T. Mtshali, S. Thomalla (2016) Response of Southern Ocean Phytoplankton to iron and light limitation 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016

31. R. Cloete, J. Loock, T. Mtshali, S. Fietz, A.N. Roychoudhury (2016) The distribution and controls of bioactive trace elements (Cu and Zn) in the Atlantic Sector of the Southern Ocean. 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016
32. J. Loock, R. Cloete, T. Mtshali, S. Fietz, A.N. Roychoudhury (2016) The seasonal distribution and controls of bioactive trace elements cadmium and cobalt in the Southern Ocean, Atlantic sector. 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016
33. K. Kangueehi , F. D. Eckardt, A. N. Roychoudhury, J. Von Holdt , S. Fietz (2016) Aerosol trace metal concentration and dissolution from known dust sources in Southern Africa. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016.
34. Viljoen JJ, Fietz S and Roychoudhury AN (2016) Analysis of photosynthetic pigments and CHEMTAX determination of phytoplankton community composition in the Southern Ocean. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016
35. J. Loock, R. Cloete, S. Fietz, T. Mtshali, A.N. Roychoudhury (2016) The Seasonal Distribution and Controls of Bioactive Trace Elements Cadmium and Cobalt in the Southern Ocean, Atlantic Sector. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016.
36. S. Fietz, R. Cloete, J. Loock, R. Philibert, A.N. Roychoudhury, N. van Horsten, T. Mtshali, S. Thomalla (2016) Response of Southern Ocean Phytoplankton Communities to Trace Metal and Light Availability. Ocean Sciences Meeting, New Orleans, USA February 21 – 26, 2016
37. A. Baker, J. Routh and A.N. Roychoudhury (2014) Biomarker records of environmental changes and their climatic inferences in Mfabeni peatland (South Africa) since the late Pleistocene. 2014 Annual Geological Society of America conference, Vancouver, Canada, October 19 -22, 2014.
38. R. Rentel, E. Bucciarelli, T.N. Mtshalli and A.N. Roychoudhury (2014) Development and Implementation of Flow injection analyser with chemiluminescence detection of sub-nanomolar total Fe in seawater. 15th Southern African Marine Science Symposium, Cape Town, South Africa, July 15 – 18, 2014
39. Andrea Baker, Joyanto Routh, Nikolai Pedentchouk, Maarten Blaauw, Alakendra N. Roychoudhury (2013) Biomarker and n-alkane stable carbon isotope records of climatic and environmental controls in Mfabeni peatlands (South Africa) since the late Pleistocene. IMOG, Canary Island, Spain, March 21 – 23, 2013
40. A.N. Roychoudhury and D. Porter (2013) Dissimilatory Sulfate Reduction in Hypersaline Environments: What is Regulating Sulfate Uptake? 23rd Annual V M Goldschmidt Conference, Florence, Italy, August 25 –31, 2013
41. B.P. von der Heyden, A.N. Roychoudhury and S.C.B. Myneni (2013) Quantification and speciation study of the marine solid-phase iron pool. 23rd Annual V M Goldschmidt Conference, Florence, Italy, August 25 –31, 2013
42. Andrea Baker, Joyanto Routh, Nikolai Pedentchouk, Maarten Blaauw, Alakendra N. Roychoudhury (2013) Biomarker and *n*-alkane stable Carbon isotope records of Climatic and environmental controls in Mfabeni peatlands (South Africa) since the late Pleistocene. IMOG 2013, Tenerife, Spain, September 16-20, 2013.
43. Satish Myneni, Alakendra Roychoudhury, Tolek Tyliszczak, Gustavo Martinez, Bjorn van der Heyden (2012) Speciation of colloidal Fe in terrestrial and marine environments using synchrotron X-ray spectroscopy and microscopy. 22nd Annual V M Goldschmidt Conference, Montreal, Canada June 24-29, 2012.

44. A. N. Roychoudhury, B von der Heyden, SCB Myneni (2011) Chemical characteristics of iron-rich nano- and colloid-sized particles in the South Atlantic and Southern Oceans, 3rd GEOTRACES. Data-Model Synergy Workshop, Barcelona, Spain. Nov 14 - 17, 2011
45. A. N. Roychoudhury, S. Staniland & D. Cowan (2011) A new strain of Comamonas Testosteroni isolated from heavy-metal contaminated site in the Zambian Copperbelt: Adaptation to cobalt and other heavy metals. In (ed. Bohdan Kribek) Mining and the Environment: Proceedings of Inaugural workshop IGCP/SIDA project, Kitwe, Zambia. October 17 – 18, 2011. Pp. 61-63, ISBN 978-80-7075-119-0**,** *Invited Talk*
46. R. N. Hensen, A. N. Roychoudhury and C. Clarke (2011) Determination of anthropogenic influence from non-parametric statistics on regional soil data and surface water contaminant transport hydrogeochemical modelling: Implications for groundwater contamination - Okiep Copper District, Namaqualand, South Africa. In (Ed. Adams, S) Groundwater: Our source of security in an uncertain future. pp. 48 – 56. ISBN 978-0-620-50725-7. Proceedings GSSA/IAH Conference, Pretoria, South Africa, Sep 19-21, 2011.
47. A. N. Roychoudhury, B.P. von der Heyden, and S.C. B. Myneni (2011) The Fe L_3-edge as a probe for Fe oxide speciation. 21st Annual V M Goldschmidt Conference, Prague, Czech Republic, Aug. 14-19, 2011
48. B.P. von der Heyden, A. N. Roychoudhury and S.C. B. Myneni (2011) Chemical speciation of Fe-rich colloids and nanoparticles in the Southern Ocean. 21st Annual V M Goldschmidt Conference, Prague, Czech Republic, Aug. 14-19, 2011
49. C.E.Clarke, N. Newmark, S.G. le Roux, R. Hansen and A.N. Roychoudhury (2011) The formation and stability of secondary Cu mineral phases in the soils of the O'kiep Copper District. Soil Science Society of South Africa, Combined Congress 2011, Pretoria South Africa, Jan. 17 – 20, 2011.
50. B.P. von der Heyden, S.C. B. Myneni and A. N. Roychoudhury (2010) Chemistry and Mineralogy of Fe-Rich Marine Nanoparticles, West Coast of South Africa. 20th Annual V M Goldschmidt Conference, Knoxville, USA Jun 13-18, 2010
51. A. N. Roychoudhury, S. Staniland, M. Tuffin and D. Cowan (2009) Cobalt uptake and resistance to trace metals in *Comamonas testosteroni* isolated from heavy-metal contaminated sites in the Zambian Copperbelt, 19th Annual V M Goldschmidt Conference, Davos, Switzerland, Jun 21-26, 2009.
52. S. Das, J. Routh and A. N. Roychoudhury (2009) 1000-year sedimentary record of cyanobacterial fluctuation in Verlorenvlei, South Africa. 19th Annual V M Goldschmidt Conference, Davos, Switzerland, Jun 21-26, 2009.
53. S. Das, J. Routh, A. N. Roychoudhury, and M.J.W. Veldhuis (2009) Primary productivity in near shore waters, a pigment biomarker evidence from Western Cape Province, South Africa. The 24th International Meeting on Organic Geochemistry, Bremen, Germany September 6 – 11, 2009.
54. A. N. Roychoudhury, S. Staniland and D. Cowan (2008) Microbially mediated cobalt cycling? 33rd International Geological Congress, Oslo, Norway, Aug 11 – 20, 2008.
55. S. Das, J. Routh and A. N. Roychoudhury (2008) Elemental geochemistry in Verlorenvlei, South Africa, 33rd International Geological Congress, Oslo, Norway, Aug 11 – 20, 2008.
56. A. Sako and A. N. Roychoudhury (2008) Adsorption and mobility of platinum group-elements in surficial soils and sediment, 33rd International Geological Congress, Oslo, Norway, Aug 11 – 20, 2008.

57. S. Staniland, A. N. Roychoudhury and D. Cowan (2008) Cobalt resistance, uptake and possible cycling in *Comamonas testosteroni*, isolated from heavy-metal contaminated sites in the Zambian Copperbelt. Bio-08, SASM congress, Grahmstown, South Africa, Jan 21-25, 2008.
58. S. Das, J. Routh and A. N. Roychoudhury (2007) Source and historic change in polycyclic aromatic hydrocarbons (PAHs) input in a shallow lake, Zeekoevlei, South Africa. The 23rd International Meeting on Organic Geochemistry, Torquay, UK September 9 – 14, 2007.
59. A. N. Roychoudhury, D. Porter and D. Cowan (2007) Sulfate reduction across a salinity gradient in hypersaline coastal pans. 17th Annual V M Goldschmidt Conference, Cologne, Germany, Aug 19- 24, 2007.
60. S. Das, J. Routh and A. N. Roychoudhury (2007) Phosphorus sedimentation and release processes in a shallow hyper-eutrophic lake, Zeekoevlei in South Africa. 17th Annual V M Goldschmidt Conference, Cologne, Germany, Aug 19- 24, 2007.
61. A. N. Roychoudhury (2006) Molybdenum sequestration in saltmarsh sediments: Role of sulfate reduction, reactive iron and vegetation. 16th Annual V M Goldschmidt Conference, Melbourne, Australia, Aug 27- Sep 01, 2006.
62. S. Das, J. Routh and A. N. Roychoudhury (2006) Environmental Aspects of Selected Trace metals in Soils and Waters surrounding Singaran Nala, Raniganj Coalfield. 7th International symposium on Environmental Geochemistry. 24-27 September, Beijing, China.
63. S. Das, J. Routh and A. N. Roychoudhury (2005) Trace metals in water column and sediment from Zeekoevlei, South Africa. 15th Annual V M Goldschmidt Conference, Moscow, Idaho, USA, May 20-24, 2005.
64. A. N. Roychoudhury and P. M. S. Monteiro (2005) Trace metal dynamics in Southern Benguela Upwelling System. 8th International conference on the Biogeochemistry of Trace Elements, 3-7 April, Adelaide, Australia.
65. S. Das, J. Routh and A. N. Roychoudhury (2005) Geochemical Study of sediments from Lake Zeekoevlei, South Africa. 8th International conference on the Biogeochemistry of Trace Elements, 3-7 April, Adelaide, Australia.
66. A. N. Roychoudhury and G. L. Merrett (2004) Anaerobic degradation of hydrocarbons in a contaminated aquifer. International conference on Soil and Groundwater Contamination: Risk assessment and remedial measures, December 8-11, Hydrabad, India
67. A. N. Roychoudhury and G. L. Merrett (2004) Petroleum contamination in a shallow sandy aquifer: Pathways for BTEX biodegradation. Geoscience Africa 2004, July 12 -16, Johannesburg, South Africa.
68. M. Smith, A. N. Roychoudhury and R. Mitchell (2004) Controls on the distribution of dissolved iron in the Table Mountain Group aquifer, Klein Karoo. Geoscience Africa 2004, July 12 -16, Johannesburg, South Africa.
69. D. Porter, A. N. Roychoudhury and D. Cowan (2004) Sulfate-reduction in hypersaline environment: A biogeochemical study. Geoscience Africa 2004, July 12 -16, Johannesburg, South Africa.
70. A. N. Roychoudhury (2004) Accumulation of Sulfate on the Early Earth. 14th Annual V M Goldschmidt Conference, June. 5-11, Copenhagen, Denmark.
71. D. Porter, A. N. Roychoudhury and D. Cowan (2004) An integrated geochemical and microbiological study of sulphate-reduction in hypersaline pans. 14th Annual V M Goldschmidt Conference, June. 5-11, Copenhagen, Denmark.
72. A. N. Roychoudhury (2003) Sulfate metabolism across a thermal gradient. Thermophiles2003, Sep. 14 - 19, Exeter, UK. *Invited talk*

73. A. N. Roychoudhury (2002) Sulfate respiration in extreme environments: A kinetic study. 12th Annual V M Goldschmidt Conference, Aug. 18-23, Devos, Switzerland. *Geochim. Cosmochim. Acta*, V66 (15A), pp. A652.
74. S. Fishbain , A. N. Roychoudhury, and D. A. Stahl (2001) Sulfate reduction rates in relationship to the diversity of sulfate reducers in extreme environments of Yellowstone National Park. Am. Soc. Microbiol. Annual Meeting, May 20 – 24, Orlando.
75. S. C. Patel, and A. N. Roychoudhury (2001) Dissimilatory sulfate reduction: A primitive respiratory pathway for microbial life forms living in extreme environments. GSA North-Central section meeting, Normal, IL, April 23-24.
76. D. J. Gandor, J. Rege, and A. N. Roychoudhury (2001) Sulfate reduction in a contaminated back water lake: Heavy metal recycling. GSA North-Central section meeting, Normal, IL, April 23-24.
77. A. N. Roychoudhury, D. A. Stahl, and S. Fishbain (2000) Sulfate reduction in hydrothermal springs of Yellowstone National Park: Initial results. AGU fall meeting, Dec. 15-19, SanFransisco.
78. M. A. Hanna, A. N. Roychoudhury, and M. S. Atkins (2000) Life in extreme environments: survival of flagellated protozoa in deep-sea hydrothermal vents. GSA North-Central section meeting, Indianapolis, April 6-7, V. 32(4), A-16.
79. K. James, A. N. Roychoudhury (2000) Trace metal contamination in black lagoon sediments. GSA North-Central section meeting, Indianapolis, April 6-7, V. 32(4), A-1
80. A. N. Roychoudhury, (1999) Efforts to start a multidisciplinary undergraduate research: Environmental Sciences Program at the Northwestern University. GSA annual meeting, Denver, Oct. 25-28, *GSA Abstracts with Programs*, 31(7).
81. A. N. Roychoudhury, P. Van Cappellen, K. Lowe, T. DiChristina and J. Kostka (1999) Iron-sulfur dynamics in saltmarsh sediments: an integrated geochemical and microbiological study. GSA annual meeting, Denver, Oct. 25-28, *GSA Abstracts with Programs*, 31(7).
82. J. Kostka**,** A. N. Roychoudhury, C. Koretsky, and P. Van Cappellen, (1999) Rates and controls of microbial respiration in saltmarsh sediments. Sixth symp. on Biogeochemistry of Wetlands, Fort Lauderdale, July 11-14.
83. K. Lowe, A. N. Roychoudhury, P. Van Cappellen, and T. DiChristina (1999) Seasonal shift in population density of iron-reducing bacteria from coastal salt marsh sediment. Am. Soc. Microbiol. annual meeting, Chicago, May 30-June 3.
84. J. Kostka**,** and P. Van Cappellen, A. N. Roychoudhury, (1999) Rates and controls of microbial respiration in saltmarsh sediment. Am. Soc. Microbiol. annual meeting, Chicago, May 30-June 3.
85. Goldstein, S. T., P. Van Cappellen, A. N. Roychoudhury, Koretsky, C, (1998) Preservation of saltmarsh foraminifer in experimental arrays deployed below the sediment-water interface, Sapelo Island, Georgia (USA). GSA annual meeting, Toronto, Oct. 26-29.
86. Walker, S. E., P. Van Cappellen, A. N. Roychoudhury, Koretsky, C, (1998) Differential preservation of experimentally deployed molluscan carbonate below the sediment-water interface. GSA annual meeting, Toronto, Oct. 26-29.
87. J. Kostka**,** A. N. Roychoudhury, and P. Van Cappellen, (1998) Changing patterns of microbial respiration in salt marsh sediments across a gradient of spartina alterniflora growth forms. ASLO, St. Louis, June 7-12.
88. A. N. Roychoudhury, K. Lowe, T. DiChristina (1998) Spatial and Temporal variability in microbial community structure of redox-strained salt marsh sediments.

Conference on Southeast Coastal Ocean Research (SECOR), Savannah, GA, April 7-10.

89. J. Kostka**,** A. N. Roychoudhury, and P. Van Cappellen, (1998) Changing patterns of sulfate reduction in salt marsh sediments across a gradient of spartina alterniflora growth forms. Conference on Southeast Coastal Ocean Research (SECOR), Savannah, GA, April 7-10.
90. P. W. Inglett, E. Viollier, and A. N. Roychoudhury (1998) A new idea for marsh coring: the wedge. Conference on Southeast Coastal Ocean Research (SECOR), Savannah, GA, April 7-10.
91. K. Lowe, C. Moore, A. N. Roychoudhury, P. Van Cappellen, and T. DiChristina (1998) Spatial and temporal variability in Microbial community structure and geochemical signals of redox-stratified saltmarsh sediments. Am. Soc. for Microbiol., Atlanta, May 17-21.
92. A. N. Roychoudhury and P. Van Cappellen, (1998) Biogeochemical cycle of silica in the Antarctic Ocean: Kinetic and thermodynamic controls on biogenic silica dissolution fluxes. Ocean Science Meeting, Feb. 9-13, San Diego.
93. P. Van Cappellen, A. N. Roychoudhury, E. Viollier, K. Lowe, T. DiChristina and J. Kostka (1998) Spatial and temporal variability of the iron and sulfur cycles in salt marsh sediments: An integrated geochemical and microbiological study. Ocean Science Meeting, San Diego. Feb. 9-13.
94. A. N. Roychoudhury, P. Van Cappellen, P. Inglett, E. Viollier, (1997) Iron cycling in saltmarsh sediments: Results of sequential solid phase extraction of iron and total reduced sulfur. AGU fall meeting, Dec. 8-12, SanFransisco.
95. E. Viollier, P. Van Cappellen, A. N. Roychoudhury, P. Inglett, K. Hunter, (1997) Kinetics of biogeochemical processes in salt marsh sediments. 213th ACS National Meeting, April 13-17, SanFransisco.
96. E. Viollier, A. N. Roychoudhury, P. Van Cappellen, E. Ingall, G. Michard, D. Jezequel, and G.Sarazin, (1997) On the coupling of Iron and Manganese with trace element cycling in permanent anoxic basins (Pavin lake, France and Orca Basin, Gulf of Mexico). ASLO 1997 Aquatic Sciences Meeting, Feb 10 -14, Santa Fe, New Mexico.
97. P. Van Cappellen, E. Viollier, A. N. Roychoudhury, S. Dixit, E. Ingall, L. Clark, T. Lyons, and A. Cruse (1997) Cycling of Iron and Manganese at the oxic-anoxic boundary of the Orca Basin (Gulf of Mexico). ASLO 1997 Aquatic Sciences Meeting, Santa Fe, Feb 10 -14, New Mexico.
98. A. N. Roychoudhury, J. Carrion, L. Qiu, P. Van Cappellen, (1996) Kinetics of biogenic silica dissolution in sediments of the Indian sector of the Southern Ocean. I. Experimental determination using flow-through reactors. International Symposium on Geology and Geophysics of the Indian Ocean, Oct. 21-25, Dona Paula, India.
99. A. P. Van Cappellen, and A. N. Roychoudhury, (1996) Kinetics of biogenic silica dissolution in sediments of the Indian sector of the Southern Ocean. II. Silica early diagenesis. International Symposium on Geology and Geophysics of the Indian Ocean, Oct. 21-25, Dona Paula, India.
100. A. N. Roychoudhury, and P. Van Cappellen (1996) Application of a Plug-Flow through reactor to quantify reaction kinetics in deep-sea sediments. National Symposium/Group Discussion on Quaternary Paleoceanography and Paleoclimate of Arabian sea. Annual general meeting of the Geological Society of India, Mangalore. October 15 -18. *Invited Tallk*
101. E. Viollier, A. N. Roychoudhury, P. Van Cappellen, and T. DiChristina (1996) In situ determination of rate expression for biologically mediated reactions in

sediments and soils: Potentialities of a new plug-through reactor and first results. Gordon Conference on Environmental Sciences: Water. New Hampton, New Hampshire. June 23-28.

102. A. N. Roychoudhury, and P. Van Cappellen (1995) Parameterization of transport and adsorption of solutes in a slow-flow sediment plug reactor. V. M. Goldschmidt Conference, University Park, Pennsylvania, May 24-26.
103. A. N. Roychoudhury and P Van Cappellen (1995), Transport and adsorption of ammonia in undisturbed sections of natural sediments. AGU fall meeting, SanFransisco, Dec. 11-15. EOS 76(46), 196.
104. A. N. Roychoudhury, Yifeng Wang and P. Van Cappellen (1994), Flow-through reactors: kinetics of biogeochemical reactions in sediments. AGU spring meeting, Baltimore, May 23-27. EOS 75(16), 139.