

DEB P. JAISI

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1. EDUCATION

- PhD in Geology, Miami University, Oxford, OH 2007
- MS in Engineering & Applied Geology, Asian Institute of Technology, Thailand 2003
- MSc in Geology, Tribhuvan University, Kathmandu, Nepal 1998
- BSc in Science, Tribhuvan University, Kathmandu, Nepal 1994

2. RESEARCH EXPERIENCES

- *Postdoctoral Research Associate* 2007-Present
Departments of Geology and Geophysics, and Environmental Engineering, Yale University, New Haven, CT
Biogeochemical cycling of phosphorus in soil and sediments and fractionation of oxygen isotopes in phosphates; characterization, stability and mobility of nano-materials in the environments
- *Research Assistant* 2003-2007
Miami University, Department of Geology, Oxford, OH
(Bio)geochemical and redox cycling of metals; aqueous and mineral-water/bacteria-water interface geochemistry; heterogeneous redox reactions of metals and radionuclides (iron and technetium), sorption/desorption, mineral dissolution and transformation
- *Research Associate* 2003-2003
Asia Link Project, Asian Institute of Technology, Bangkok, Thailand
Transport of contaminant and leachate in geosynthetic and granular drainage materials; swelling properties of clays and fault gauge
- *Lecturer* 1999-2001
Trichandra Campus, Tribhuvan University, Kathmandu, Nepal
Geological mapping of complexly folded belt of the Lesser Himalaya in Nepal including tracer beds, primary sedimentary structures, first and second generation folding
- *Engineering Geologist* 1998-1999
Impregilo SpA, Civil Contractor for Kali Gandaki 'A' Hydroelectric Project, Syangja, Nepal
Interpretation of rock structure to regional geology, core logging, rock mass rating, cut slope and tunnel slope stability analysis

3. GRANT HISTORY

Small Research Grants

- EMSL User (Internal) Grant, Pacific Northwest National Laboratory 2008
- GDL Foundation Research Fellowship 2007
- Bateman Research Grant 2007

Student Research Grants

- Student Research Grant, International Association of Mathematical Geology 2006
- Student Research Grant, Clay Minerals Society 2004, 2006
- Student Research Grant, Geological Society of America 2005
- John Teagle Memorial Grant, American Association of Petroleum Geologists 2004
- Outstanding Student Research Grant, Royal Nepal Academy of Science and Technology 1997

Travel Grants

- Student Travel Grant, Geological Society of America 2005, 2006
- Corporate Activities Program Travel Grant, American Society for Microbiology 2005
- Student Travel Grant, Clay Mineral Society 2004, 2005, 2007
- Travel Grants, Graduate Student Association, Miami University 2005, 2006
- Support Travel Grants, Department of Geology, Miami University 2004, 2005, 2006

4. HONORS AND AWARDS

Medal/Decoration

- Deeswasmongkul Prize (Outstanding performance in MS degree) 2003
- Mahendra Vidhya Bhusan (Gold Medal, Conferred by His Majesty the King of Nepal) 1999

Awards

- GDL Foundation Fellowship 2007
- Interdepartmental Bateman Postdoctoral Fellowship, Yale University 2007
- First Geology Doctoral Award, Miami University 2007
- Graduate School Achievement Award, Miami University 2005, 2006, 2007
- Robert C. Reynolds, Jr. Research Award, Clay Mineral Society 2006

Scholarships

- Asian Development Bank Scholarship 2001
- Outstanding Student Scholarship, Royal Nepal Academy of Science and Technology 1997
- Outstanding Student Scholarship, Tribhuvan University, Nepal 1992, 1995

5. PUBLICATIONS

PUBLISHED

1. **Jaisi, D.P.**, Saleh, N., Blake, R.E., Elimelech, M. (2008). Transport of single-walled carbon nanotubes in porous media: filtration mechanisms and reversibility. *Environmental Science and Technology*, **42**, 8317–8323.
2. **Jaisi, D.P.**, Liu, C., Dong, H., Blake, R.E., Fein, J. (2008). Fe²⁺ sorption onto NAu-2. *Geochimica et Cosmochimica Acta*, **72**, 5361–5371.
3. **Jaisi, D.P.**, Ji, S., Dong, H., Eberl, D., Blake, R., Kim, J-W. (2008). Role of microbial Fe(III) reduction and solution chemistry in aggregation and settling of suspended particles in the Mississippi River delta plain, Louisiana, USA. *Clays and Clay Minerals*, **56**, 416-428.
4. **Jaisi, D.P.**, Dhital, M.R., Panthee, S. (2008). Geology of the Kusma-Behadi fold belt area, Lesser Himalaya, central west Nepal, *Himalayan Geology*, **29**, 118-125.

5. **Jaisi, D.P.**, Dong, H., Morton, J.P (2008). Partitioning of Fe(II) in reduced nontronite (NAu-2) to reactive sites: reactivity in terms of Tc(VII) reduction, *Clays and Clay Minerals* **56**, 175-189.
6. **Jaisi, D.P.**, Glawe, U. (2008). Cover slope stability of the hazardous waste landfill at Sa Kaeo, Thailand: drainage and slope stability considerations. (In press: *Journal of Engineering, Nepal*).
7. **Jaisi, D.P.**, Dong, H., Liu, C. (2007). Kinetic analysis of microbial reduction of Fe(III) in nontronite. *Environmental Science and Technology*, **41**, 2434-2444.
8. **Jaisi, D.P.**, Dong, H., Liu, C. (2007). Influence of biogenic Fe(II) on the extent of microbial reduction of Fe(III) in clay minerals nontronite, illite, and chlorite. *Geochimica et Cosmochimica Acta*, **71**, 1145-1158.
9. **Jaisi, D.P.**, Dong, H., Kim, J.W., He, Z., Morton, J. (2007). Nontronite particle aggregation induced by microbial Fe(III) reduction and exo-polysaccharide production. *Clays and Clay Minerals*, **55**, 98–109.
10. **Jaisi, D.P.**, Glawe, U., Bergado, D.T. (2006). Reply to the discussion on the paper: Hydraulic behavior of geosynthetic and granular landfill drainage materials in the Sa Kaeo landfill, Thailand by Aigen Zhao, *Geotextiles & Geomembranes*, **24**, 262-264 (*Discussion paper*).
11. **Jaisi, D.P.**, Kukkadapu, R.K., Eberl, D.D., Dong, H. (2005). Control of Fe(III) site occupancy on the extent and rate of microbial Fe(III) reduction in nontronite. *Geochimica et Cosmochimica Acta*, **69**, 5429-5440.
12. **Jaisi, D.P.**, Glawe, U., Bergado, D.T. (2005). Hydraulic behavior of geosynthetic and granular landfill drainage materials in the Sa Kaeo Landfill, Thailand. *Geotextiles & Geomembranes*, **23**, 185-204.
13. Dhital, M.R., Paudel, L.P., Shrestha, R., Thapa, P.B., Oli, C.B., Paudel, T.R., **Jaisi, D.P.** (1998). Geological map (1:50,000 scale) of the area between Kusma, Syangja and Galyang, western Nepal, Lesser Himalaya. *Bulletin of the Central Department of Geology*, Tribhuvan University, Kathmandu, Nepal.

6. SYNERGISTIC ACTIVITIES

Reviewer of Professional Journals

- Clays and Clay Minerals
- Environmental Science & Technology
- Geomicrobiology Journal
- Journal of Geophysical Research-Biogeosciences
- The Science of the Total Environment

Professional Contribution

Co-convening the session “Frontiers in Nanogeoscience” in Goldschmidt 2008 conference, Vancouver, Canada

7. PROFESSIONAL MEMBERSHIP

Member, Sigma-XI, the Scientific Research Society
 Member, International Association for Mathematical Geology (IAMG)
 Member, Geological Society of America (GSA)
 Member, American Society of Civil Engineers (ASCE)
 Member, American Geophysical Union (AGU)
 Member, Clay Mineral Society (CMS)
 Past-Member, American Association of Petroleum Geologists (AAPG)
 Member, American Society of Microbiology (ASM)
 Past-Executive Member, Nepal Geological Society (NGS)