Prabhas Ranjan Gupta

Education

Master of Science, Environmental and Water Resources Engineering May 2012
The University of Texas at Austin (UT)
Grade Point Average: 3.92/4.00

Bachelor of Technology, Civil Engineering May 2010
Indian Institute of Technology (IIT) Guwahati, India
Grade Point Average: 8.53/10.00

Graduate Coursework
Geographic Information Systems (GIS) in Water Resources, Hydrogeophysics, Water Resources Planning and Management, Environmental Chemodynamics, Environmental Fluid Mechanics, Lake Hydrodynamical Modeling, Aquatic Chemistry, Sustainable Sites Initiative, Parallel Computing for Scientists and Engineers.

Experience

Graduate Research Assistant
Center for Research in Water Resources, The University of Texas at Austin
Nov 2010 - Jan 2011 & Jun 2011 - May 2012

- Customized user interface of surface water treatment plant operating reports for the Texas Commission on Environmental Quality (TCEQ).
- Used Visual Basic for Applications (VBA) to export water quality data from Microsoft Excel spreadsheets into Extensible Markup Language (XML) formats.

Consulting Intern
Ecosystem Design Group, Lady Bird Johnson Wildflower Center, Austin, Texas
Sep 2011 - Dec 2011

- Performed water balance analyses for a greyfield adjoining Comal Springs in New Braunfels, Texas.
- Worked with an interdisciplinary team of environmental consultants on site master plan development.

Teaching Assistant
Departments of Civil and Mechanical Engineering, The University of Texas at Austin
Jan 2011 - May 2011 & Sep 2011 - Dec 2011

- Served as a laboratory teaching assistant for over 100 undergraduates in courses on Experimental Fluid Mechanics, Fluid Mechanics and Hydraulic Engineering.
- Supervised experiments on viscosity measurement, pipe flow losses, wind turbines, lift and drag forces, hydraulic jumps, weirs, pipe networks, pumps, channel flow, etc.
- Lectured on engineering concepts and laboratory topics, graded homework and lab reports, provided performance feedback to students.

Summer Research Fellow, Indian Academy of Sciences
National Institute of Oceanography (NIO), Goa, India
Jun 2010 - Jul 2010

- Simulated effluent dispersion around sewage outfall in Bandra, Mumbai, using DHI MIKE 21 software.
- Developed a dissolved oxygen depletion model, digitized bathymetry, formatted met-ocean data.
- Worked independently and presented a detailed technical report on modeling results.

Academic Projects

Sinkhole Mapping in Edwards Aquifer Recharge Zone
Sep 2011 - Dec 2011

- Investigated a karst sinkhole in the Edwards Aquifer recharge zone using shallow geophysical techniques.
- Collected Electromagnetic (EM-31/EM-34), Electrical Resistivity (ER), Ground Penetrating Radar (GPR), Gravity and Seismic Refraction data across the study site.
- Led a group of undergraduate and postgraduate students in processing and analyzing geophysical data and in preparing a detailed technical report on the sinkhole.

Credit Documentation for Affordable Housing Development in Austin, Texas
Jun 2011 - Jul 2011

- Participated in pilot testing of the green landscape rating system designed by the Sustainable Sites Initiative.
- Assessed housing project compliance with stormwater runoff and stormwater quality benchmarks.
- Worked independently to research and compile information necessary for compliance documentation.

Water Evaluation and Planning (WEAP) Model Analysis for Jordan River Basin
Mar 2011 - May 2011

- Prepared a WEAP model for the Lower Jordan River basin by including major water sources and users.
- Predicted future water balance in five scenarios, considering the Red-Dead Sea canal and climate change.

Flood Mapping for Waller Creek, Austin, Texas
Sep 2010 - Dec 2010

- Modelled water surface elevations in Waller Creek using HEC-HMS and HEC-RAS software packages.
- Developed innovative floodplain maps using a digital elevation model and City of Austin's GIS datasets.

1-D Temperature Modeling of E.V. Spence Reservoir, Texas
Sep 2010 - Dec 2010

- Simulated E.V. Spence reservoir using the Dynamic Reservoir Simulation Model (DYRESM) program.
- Investigated dependence of vertical thermal stratification on wind speed, air temperature, cloud cover, etc.

2-D Grid Resolution Study for Lake Hydrodynamical Modeling
Sep 2010 - Dec 2010

- Simulated Lake Ontario using a box model with the Estuary and Lake Computer Model (ELCOM) program.
- Evaluated grid convergence by varying grid resolution and analyzing errors in lake metrics.

Groundwater Quality Evaluation in Brahmaputra Valley, Assam (Bachelor's thesis)
Aug 2009 - May 2010

- Supervised borehole drilling for sediment and groundwater collection in an Arsenic-affected village.
- Performed soil and groundwater sampling, vertical electrical sounding and resistivity imaging surveys.
- Analyzed sediments using energy dispersive X-ray spectroscopy, tested groundwater for inorganics.

Skills

- Experienced in using hydraulic modeling software like HEC-HMS, HEC-RAS, DHI MIKE 21, PIPE 2010.
- Proficient in using Geographic Information Systems such as ESRI ArcGIS 10.
- Proficient in programming in C, Fortran 90, VBA and MATLAB.
- Knowledge of design and drafting packages such as SAP2000 and AutoCAD.
- Experience with high-performance computing standards (OpenMP and MPI).

Certifications and Awards

- Engineer-in-Training (E.I.T) Certification, Texas Board of Professional Engineers (T.B.P.E)
- Associate Member, American Society of Civil Engineers (A.S.C.E.)
- Awardee, Erasmus Mundus Masters Scholarship (EURINDIA), European Union, 2010
- Recipient, Indian Academy of Sciences Summer Research Fellowship, 2010
- Test of English as a Foreign Language (TOEFL iBT): 117/120, Oct. 2009
- Graduate Record Examination (GRE): 1530/1600, Oct. 2009

Person Particulars

- Date of Birth: 11th September 1988
- Correspondence address: G-102, Kaveri Appts., Sector-6, Dwarka, New Delhi - 110075
- Correspondence e-mail: guptaprabhas@gmail.com
- Mobile: (+91)-8130733764

References

- Professor Desmond F. Lawler, Nasser I. Al-Rashid Chair in Civil Engineering, The University of Texas at Austin, dlawler@mail.utexas.edu, (+1)-512-471-4595
- Dr. Jeffrey G. Paine, Research Scientist, Bureau of Economic Geology, The University of Texas at Austin, jeff.paine@beg.utexas.edu, (+1)-512-471-1260
- Dr. P. Vethamony, Chief Scientist, National Institute of Oceanography, Goa (India), mony@nio.org, (+91)-832-2450473