SUMANTA K. CHATTERJEE

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SUMMARY

- Six years of experience in teaching Earth and Environmental Science laboratory, lecture, and field courses to undergraduate students in a college and a university
- Experienced in training, evaluation, mentoring, and supervision of students of diverse educational, and cultural background, in a supportive learning environment
- Practical knowledge of laboratory, field, and classroom technologies in a collaborative academic setting

EDUCATION

Doctor of Philosophy in Geology GPA: 3.90/4.0
University of South Carolina, Columbia SC (USA) August 2012

Ph.D. dissertation: Analysis of a Middle Pennsylvanian channel complex in Pikeville, Kentucky

Master of Science in Applied Geology First Class in Geology
Indian Institute of Technology, Roorkee, UL (India) September 2005

M.Sc. thesis: Stable isotope investigation of groundwater flow regime in the eastern side of the Solani River

Bachelor of Science with honors in Geology First Class in Geology
University of Burdwan, WB (India) July 2003

EXPERIENCE

Licensed Geologist August 2019 – Present
Toronto, ON (Canada)

- Independent consultant working in field based projects, involving collection of data and analysis
- Create 2D/3D models in collaboration with other geoscientists to interpret Ontario geology for exploration activities

Instructor August 2014 – May 2019
University of Tulsa, Tulsa, OK (USA)

- Instructed Physical Geology lecture and lab (GEOL 1014 & GEOL 1010), Geology of National Parks (GEOL 1043), History of the Biosphere lecture and lab (GEOL 2003 & GEOL 2000), and Sedimentary Rocks And Processes lecture and lab (GEOL 3153 & GEOL 3151) with focus on hands-on learning
- Led field trips related to Physical Geology, Sedimentary Rocks and Processes, History of the Biosphere, and AAPG Student Chapter, and engaged students to study local and regional geology
- Regularly drove 12 passenger vans to field sites for overnight and weekend field trips

- Assisted and collaborated with other faculty members in organizing and conducting off-campus and overnight field trips in Physical Geology, History of the Biosphere, and Sedimentary Rocks and Processes
- Set up laboratory equipment and demonstrations, and ensured equipment were in good working order. Routinely maintained laboratory equipment and apparatus for smooth functioning of the labs and field trips
- Demonstrated the correct use of laboratory equipment to students and graduate teaching assistants, explained to them proper laboratory techniques, and instructed the students about lab safety procedures
- Evaluated student work and performance in the lab according to lab requirements of courses. Designed and evaluated laboratory quizzes and exams. Created, updated, and maintained report sheets. Maintained records of laboratory grades. Assessed and assigned final laboratory grades, and posted online in WebAdvisor
- Prepared syllabi, assignments, field manuals, maps, and handouts for labs, and field trips. Created and developed supplementary instructional materials such as working models, posters, information sheets etc. Prepared teaching materials with respect to the curricula, approved by the faculty of the department
- Supported students by providing additional assistance, outside of regularly scheduled laboratory hours
- Independently operated photocopiers, printers and plotters to generate teaching materials and posters
- Actively organized and participated in STEM fairs, Earth Days, outreach and student recruitment activities
- Regulalry checked inventory of lab supplies for restocking. Organized, operated, and maintained equipment such as iPads, microscopes, and GPS in good working condition for labs and field trips. Assisted in the organization, curation, and improvement of teaching collections
- Suggested new ideas for improvement in curricula and geology courses for consideration of the faculty. Developed and implemented new strategies in labs, field trips, and classes to facilitate student learning. Incorporated modern teaching techniques for effective instruction of geology courses, and engaging students
- Prepared and updated teaching materials for the labs, following recent advances of knowledge in Geology. Assessed new information to incorporate in lab and field courses to facilitate student learning. Maintained current knowledge in Geology, and attended conferences related to geoscience education. Researched literature to design, and write new experiments for experiential learning of students
- Supervised graduate teaching assistants who helped in instructing some labs, and proctoring exams
- Regularly attended faculty meetings, and served as a member in departmental committees

Visiting Assistant Professor August 2013 – June 2014

Illinois College, Jacksonville, IL (USA)

- Taught Earth's Physical Systems lecture and lab (EV 105), Physical Geology lecture and lab (EV 111), Historical Geology lecture and lab (EV 112), and Environmental Science lecture and lab (EV 224)
- Led off-campus and weekend field trips related to Physical Geology, Historical Geology, Earth's Physical Systems, and Environmental Science to study local geology, conduct experiments, or observe processes
- Set up laboratory equipment for demonstrations, and ensured routine maintenance of laboratory equipment and apparatus, for smooth operation of lab activities
- Demonstrated the correct use of laboratory equipment such as microscopes, digital meters, soil augers etc., and proper laboratory techniques, and instructed the students about safety procedures in lab and field
- Prepared teaching materials adhering to program curricula approved by the faculty. Participated in the revision of textbooks and lab manuals, for maintaining current knowledge in the courses

- Evaluated student work and performance in the lab according to lab requirements of the courses. Created and evaluated laboratory quizzes and exams. Created, updated, and maintained report sheets. Maintained records of laboratory grades in Moodle. Assessed and assigned final laboratory grades, and posted in Moodle
- Prepared syllabi, assignments, maps, and handouts for labs, lectures, and field trips. Created supplementary instructional materials such as working models, videos of experiments or phenomena, and diagrams to engage students, and support student learning
- Mentored and provided assistance to students, outside of regularly scheduled office hours
- Actively participated in student preview days, academic seminars, faculty meetings, and college societies
- Inventoried, organized, and upgraded laboratory space, curated teaching collections, and maintained bulletin boards, with regular updates on new information on student research, and career opportunities

Geologist/Imaging Specialist December 2012 – June 2013
PetroArc International, Houston, TX (USA)

- Digitized and assembled high resolution images of thin sections, plugs, cuttings, and cores
- Controlled quality, and analyzed geology of post-production images, for superior client-centered service
- Maintained equipment in working condition, and established priorities to achieve deadlines
- Trained, supervised, and mentored new employees for onboarding

Volunteer Geologist October 2012 – November 2012
American Tall Ship Institute, Oxnard, CA (USA)

- Designed syllabus and geology modules for educational sails program in the west coast, for at-risk school students, to regenerate interest in education and science in a fun way
- Assisted instructors and sailors in teaching and sailing during educational sails
- Participated in day to day activities including maintaining a tall ship and assisting the crew

Instructional Assistant August 2006 – July 2012
University of South Carolina, Columbia, SC (USA)

- Instructed the following labs: Introduction to the Earth, Environment of the Earth, and Earth System through Time
- Taught lab materials, coordinated lab activities and field trips, designed and graded quizzes, and proctored exams for instructors teaching high-enrollment courses
- Supervised and graded a seminar course (GEOL 801/399) consisting of undergraduate and graduate students, to study anthropogenic impacts on the Everglades. Led a field trip to Florida for collection of data for team projects, and presentations

Instructor January 2012 – May 2012
University of South Carolina, Columbia, SC (USA)

- Lectured GEOL 305 (Earth System Through Time) as an instructor
- Designed course syllabus, prepared lectures for presentation, graded exams and quizzes, and posted

grades online in Blackboard

- Supervised a graduate student as an instructional assistant, teaching GEOL 305 lab for the first time

Project Assistant July 2010 – August 2011

Santee Cooper Clean Coal Project, SC (USA)

- Generated more than 300 samples for chemical analysis to study grain-size control on contaminants in a clean coal project
- Devised an improved method for sample analysis, and established best practices for sample generation
- Helped project supervisor in statistical analyses of data using MS Excel

Project Assistant Summers 2007 & 2008

Bureau of Economic Geology, Austin, TX (USA)

- Digitized carbonate thin sections from different ages, and variety of depositional environments
- Helped in identification of microfossils and structures, and annotated high resolution photomicrographs using Adobe Photoshop and PDF
- Assisted in creating a CD based virtual website, for teaching carbonate petrography to undergraduates

FIELD EXPERIENCE

- Guadalupe Mountains, Texas: interpreted carbonate depositional systems and sequence stratigraphy
- Okefenokee Swamp, Georgia: collected peat samples for microtome sectioning and analysis of macerals
- Appalachian Mountains, Kentucky: studied regional geology, and collected samples for analysis with students of the University of South Carolina
- Appalachian Mountains, Kentucky: measured sections with students from the University of Michigan
- Ph.D. Dissertation: multiple field trips to the Appalachians, to collect data and samples for analyzing a Middle Pennsylvanian outcrop in Pikeville, Kentucky
- Everglades National Park, Florida: investigated anthropogenic impacts on the ecology of salt marshes
- Occidental Petroleum's THUMS Island facilities, California: inspected drilling and production operations of rigs, and gained first-hand idea of the rigs and how they operated
- MS Thesis: collected groundwater samples from the foothills of the Himalayas for oxygen stable isotope analysis, to investigate regional disparity in availability of groundwater
- Shiwalik Mountains, India: interpreted regional geology and mapped stratigraphic units
- Singhbhum Shear Zone, India: mapped structures and analyzed directions of stresses
- Raniganj Coal Fields, India: studied Gondwana age sedimentary structures and prepared rose diagrams

PUBLICATIONS

- Chatterjee, S.K., 2018, Occurrences of growth faults and implications for regional transport in the Seminole Formation in NE Oklahoma, 2018 GSA Southeastern Section Meeting (April 12-13) in Knoxville, Tennessee (poster)

- Chatterjee, S.K., and Cohen, A.D., 2018, A Forward Stratigraphic Model of a Middle Pennsylvanian Forced Regressive Channel Complex in the Appalachian Basin of Eastern Kentucky, Journal of Sedimentary Research (final draft)

- Chatterjee, S.K., 2013, Relevance of integrated and high-resolution facies models in geological sequestration of CO2 in the Illinois Basin, Geological Society of America Annual Meeting (October 27-30, 2013) in Denver, Colorado (poster)

- Chatterjee, S.K. and Cohen, A.D., 2011, Parameters controlling stratigraphy of a Middle Pennsylvanian incised valley fill in eastern Kentucky, Geological Society of America Annual Meeting (October 9–12, 2011) in Minneapolis, Minnesota (poster)

- Chatterjee, S.K., Cohen, A.D., and Kendall, C.G.St.C., 2011, A high-resolution study of depositional facies and architecture of Fords Branch outcrop: A Middle-Pennsylvanian sedimentary sequence near Pikeville, Kentucky, SEPM Special Publication: Outcrops Revitalized - Tools, Techniques and Applications, p. 249-267

- Chatterjee, S.K., and Cohen, A.D., 2010, Back-stripping as a tool to understand an ancient channel system and associated depositional environments, Earth and Ocean Sciences Graduate Day (February 4, 2010), University of South Carolina, Columbia (poster)

SKILLS & INTERESTS

General:

- Teaching (lab/field/web/class)
- Intercultural Experience
- Research and Analysis

Geoscience:

- Field Geology
- Microscopy
- Carbonate Petrography
- Laboratory Geology
- Introductory Geology
- Paleoenvironment
- Sedimentology
- Stratigraphy
- Paleontology

Computer:

Software:

- MS Office
- ArcGIS
- Adobe Illustrator & Photoshop
- Python
- Google Earth
- SQL

COURSES INTERESTED IN TEACHING

- Earth Science Field School
- Introductory Geology
- Carbonate Petrology
- Sedimentology
- Energy Resources
- Forensic Geology
- Stratigraphy
- Historical Geology
- Advanced Field Geology

PROFESSIONAL SHORT COURSES

- 3D Seismic Stratigraphy and Seismic Geomorphology: Predicting Lithologies Ahead of the Drill Bit 21st Century Style, by Henry W. Posamentier, Chevron Energy Technology Company, In: AAPG/SEG Spring Break Student Expo (March, 2008), University of Oklahoma, Norman

- Applications of Sequence Stratigraphy to Exploration and Development, by Roger M. Slatt, Ward Chair Professor of Reservoir Characterization, University of Oklahoma, In: AAPG/SEG Spring Break Student Expo (March, 2009), University of Oklahoma, Norman

- Geology and Geophysics Applied in Industry, by Fred W. Schroeder, ExxonMobil Upstream Research Company, University of South Carolina, Columbia

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SUPERVISION OF STUDENT RESEARCH

- Ugur Yuce (MS, Non-Thesis Report): Interpretation of Depositional Environment and Stratigraphy of Upper Pennsylvanian Hogshooter Formation in Tulsa County Oklahoma

- David L. Floore, and Julie M. McDonald (Current BS Students, Undergraduate Research): Spatial Distribution and Characterization of Sedimentary Outcrops in the Turkey Mountain Using GIS

AWARDS & ACTIVITIES

- Stephen F. Taber Award for Outstanding Teaching – 2011
- Taber Award for Graduate Research – 2010
- Website Reviewer, NAGT Activity Review Camp, Earth Educators' Rendezvous 2016 (Madison, WI)
- Book Chapters Reviewer: Kortz and Smay, Geology In Focus (First Edition)
- Lead the University of Tulsa AAPG Student Chapter Hiking Trip to study the Turkey Mountain geology
- Participated in the University of Tulsa STEM Fair organized for student recruitment purposes
- National Scholarship – 2003 for outstanding performance in B.Sc. (Hons.) exam
- Geological Society of America Student Travel Grant – 2011
- American Association of Petroleum Geologists (AAPG), Member (10026635)
- Geological Society of America (GSA), Member (9136084)
- National Association of Geoscience Teachers (NAGT), Member (10202427)
- Co-advisor of OASIS in Illinois College
- Member of ICE in Illinois College
- Faculty volunteer in helping new students move-in in Illinois College
- Faculty volunteer in helping new students move-in in the University of Tulsa
- Graduate student volunteer on Discovery Day, University of South Carolina, 2010 & 2011
- Graduate student volunteer at 2011 Region II Science & Engineering Fair, University of South Carolina
- Coordinator, Annual Geoscience Festival 2005, IIT Roorkee