

Jannatul Ferdous

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Education

PhD in Geology, GPA: 3.80 Dec 2019
(Expected)
University of Houston, Houston, TX

Thesis: Geochemical analysis & age determination of Martian meteorites.

Advisor: Dr. Alan Brandon

MS in Geology, GPA: 3.83 (1st position) May 2012

University of Dhaka, Dhaka, Bangladesh

Thesis: Assessing risk of arsenic transport in Dhaka City groundwater.

Advisor: Dr. Kazi Matin Ahmed

Major courses: Depositional System, Well-log Geophysics, Hydro-geochemistry, GW Resource Management, Hazards & Waste Management

BS in Geology, GPA: 3.60 (1st position) August 2010

University of Dhaka, Dhaka, Bangladesh

Selected Major Courses: Geochemistry, Geophysics, Hydrogeology, Petroleum Geology, Engineering Geology, GIS, Remote Sensing, Paleontology, Mineralogy, Structural Geology, Sedimentology, Petrography, Stratigraphy

Technical Skills

- **Software:** ImageJ, Petrolog3, Isoplot4, MELTS, Glitter, ArcGIS, ERDAS IMAGINE, RockWare, Microsoft Office
- **Programming language:** Python, MATLAB
- **Instruments:** Electron Microprobe, SEM, Optical Microscope, LA-ICP-MS, Global Positioning System (GPS), Clinometer

Research Experience

SEM & EMP lab analysis, NASA-JSC July 2017 - Present

- Identify & analyze mineral phases from BSE-images
- Construct elemental & composite maps
- Perform Electron Microprobe analysis for major element concentrations
- Calibrate results obtained from Electron Microprobe

LA-ICP-MS lab analysis, University of Houston Dec 2015

- Prepare sample mount using epoxy
- Perform Laser Ablation for trace element concentrations
- Calibrate results obtained from Laser Ablation

ICP-MS lab training & lab safety training, University of Houston Feb - May 2014

- Digested rock samples using acids and prepared solutions
- Analyzed major and trace elements

MS thesis completion at EAWAG, Fall 2011

Swiss Federal Institute of Aquatic Science and Technology, Switzerland

- Constructed input data using ArcGIS for Logistic Regression Model
- Analyzed lithology and arsenic data
- Calibrated output and analyzed risk
- Prepared and interpreted depth layers, probability maps and ROC curves

Other Experiences

2006 - 2011

- Identified rocks, minerals and fossils in hand specimen and thin section
- Measured structural dip-strike using clinometer
- Analyzed and interpreted geological maps, seismic maps and well-logs
- Measured water EC, pH, temperature, dissolved O₂, turbidity, alkalinity

Work Experience

Graduate Teaching Assistant & Tutor- University of Houston.
Mineralogy, Physical Geology, Petrography-

Jan 2015 - Present

- Teach labs and instruct on-campus field trips
- Prepare and grade exams and assignments
- Tutor students individually at Geological Learning Center

Retail Sales Associate- Old Navy, Houston, TX.

Feb - Dec 2014

Attended customers, handled cash register, marked-down price, ticketed, merchandized

Customer Service Representative- Jack in the Box, Houston, TX.

Sep - Nov 2013

Attended customers in the front and drive through, handled cash register

Academic Achievements

- Marathon Oil Scholarship for Outstanding Graduate Work, University of Houston
- Outstanding Academic Achievements Scholarship, University of Houston
- Graduate Student Tuition Fellowship, University of Houston
- EPP fellowship, EAWAG, Switzerland
- Dean Award for academic excellence, University of Dhaka
- Prime Minister Gold Medal, Dhaka
- University Grant Commission Scholarship, Dhaka
- Government Scholarship, University of Dhaka

April 2016
May 2015
January 2015
Fall 2011
July 2011
August 2010
August 2010
2006 - 2011

Publications

Brandon A D, **Ferdous J**, Peslier A H (2017) - Evaluating Crustal Contamination Effects on the Lithophile Trace Element Budget of Shergottites. Goldschmidt Conference, Paris 2017 abstr.

Ferdous J, Brandon A D, Peslier A H and Pirotte Z (2017) - Evaluating crustal contributions to enriched shergottites from the petrology, trace elements, and Rb-Sr and Sm-Nd isotope systematics of Northwest Africa 856. *Geochimica et Cosmochimica Acta*, vol.211, page 280-306.

<https://doi.org/10.1016/j.gca.2017.05.032>

Brandon A D, **Ferdous J**, Peslier A H (2017) - Evaluating Crustal Contamination Effects on the Lithophile Trace Element Budget of Shergottites, NWA 856 as a Test Case. 48th LPSC abstr. (# 1039)

Ferdous J, Brandon A D, Peslier A H and Pirotte Z (2016) - Basaltic Shergottite NWA 856: Differentiation of a Martian Magma. Poster at 47th LPSC (# 2621) and at Research Day 2016, University of Houston.

Ferdous J, Ahmed K M, Sultana S, Amini M, Berg M and Johnston R (2013) - Assessing the risk of arsenic transport in the upper Dupi Tila aquifer of Dhaka city from the surrounding shallow aquifers. JGWR (ISSN: 2321- 4783) vol.2, Issue1, June 2013 by AGGS, India.

Ferdous J, Ahmed K M, Sultana S, Amini M, Berg M and Johnston R. (2012) - Using logistic regression to model arsenic risk in Dhaka city, Bangladesh. Sandac News vol.13 of EAWAG, Switzerland.

Activities

Membership

- Society of Exploration Geophysics (SEG) Present
- American Association of Petroleum Geologists (AAPG) Present
- Houston Geophysical Society (HGS) Present

Event Organizer, Student Chapter, University of Dhaka 2010 - 2012