PRANABENDU MOITRA

Assistant Professor
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***Research summary*:** I am a physical volcanologist. My research expertise includes investigating magma rheology, volatile outgassing and eruption explosivity associated with magma generation, migration and emplacement on the surface of the Earth with implications for volcanic hazard analysis. I also investigate volcanic eruption dynamics on the surface of other planetary bodies, such as the Moon and Mars to understand volatile cycling and the evolution of planetary interiors. I primarily integrate laboratory experiments and numerical modeling to tackle my research problems, with the aid of field/remote observations.

EDUCATION

PhD	Earth Science, Rice University	2009 – 2015
MSc	Applied Geology, Jadavpur University, India	2006 – 2008
BSc	Geology, Jadavpur University, India	2003 – 2006

PROFESSIONAL APPOINTMENTS

Faculty Member at the Arizona Astrobiology Center 2023 – present
University of Arizona

Assistant Professor Jan 2023 – present
Department of Geosciences, University of Arizona

Research Scientist July 2020 – Jan 1, 2023
Department of Geosciences, University of Arizona

Postdoctoral Research Associate Aug 2018 – June 2020
Lunar and Planetary Laboratory, University of Arizona

Adjunct Instructor Sep 2017 – Aug 2018
Department of Geology, University at Buffalo

Postdoctoral Associate Sep 2015 – Aug 2017
Center for Geohazards Studies, University at Buffalo

Graduate research and teaching assistant 2009 – 2015
Department of Earth Science, Rice University

Summer Fellow of Indian Academy of Sciences 2007 – 2008
National Center for Experimental Mineralogy and Petrology, India

GRANTS AND AWARDS

NASA SSW #80NSSC23K0530: Understanding Magmatic Volatile Loss and its Effect on the Prevalence of Effusive vs. Explosive Styles of Volcanism on the Moon. NASA Solar system Workings program. Role: **PI**. Co-I: J Barnes, A Mallik. Proposal period: 01/24/23-02/25/25. $133,613 (awarded to the University of Arizona)

NSF AAR #2408747: GLOW: Constraining Atmospheric Signatures of Magmatic Volcanism on Terrestrial Exoplanets. NSF Astronomy and Astrophysics Research Grants program. Role: **Co-PI**: PI S Ranjan. Proposal Period: 09/01//2024-08/31/27. $477,830

NASA # 23-PLANET23-0017: Investigating the urKREEP Origin of Lunar Silicic Magmas. Role: **Co-I**. PI: A Mallik. NASA FINESST program. Proposal Period: 08/01/24-07/30/26. $100,000.

NASA EW #80NSSC24K0543: How 'wet' is the Moon: Insight from hydrogen partitioning during lunar magma ocean crystallization. NASA Emerging Worlds program. Role: **Co-I**. PI: A Mallik. Proposal period: 02/01//24-01/31/27. $548,566

NASA's Astromaterials Allocation Review Board (AARB), awarded **new** lunar sample request **# 3405**. Role: **Science PI**. Sample PI: Jessica J. Barnes. Apollo 15 and Apollo 17 samples to arrive in the University of Arizona; analysis scheduled in Spring 2025.

NSF EAR #2113709: Collaborative Research: Experimental constraints on the solidification time scales and fragmentation of submarine lava flows. NSF Marine Geology and Geophysics program. Role: **PI**. Co-PI I Sonder. Proposal period: 08/01/21-07/31/25. $380,380 (awarded to the University of Arizona)

NSF EAR #2202666: Controls on explosive basaltic eruptions within the San Francisco Volcanic Field: Constraints from seismic imaging and multiphase magma ascent modeling. Jointly by NSF Geophysics, and Petrology and Geochemistry programs. Role: **Co-PI.** PI: E Kiser. Proposal period: 09/01/22-08/31/26. $752,750 (awarded to the University of Arizona).

NASA's Astromaterials Allocation Review Board (AARB), awarded lunar sample request **# 3303**. Role: **Science PI**. Sample PI: Jessica J. Barnes. Apollo 15 and Apollo 17 samples arrived in the University of Arizona; analysis scheduled in Fall 2022

NSF REU Site: From the clouds to the core: A place-based REU for southwestern US community/tribal college students to increase under-represented group recruitment to the geosciences. Role: **Mentor**. PI: A Cohen, Co-PI: K Thirumalai. Proposal period: 11/01/22-10/31/25. $402,893

STUDENTS ADVISED

Graduate Students

Current:
Pratik Santra (PhD): Fall 2023 – present
Weiwei Ma (PhD): Fall 2024 – present
Carolyn Drake (MS): Fall 2025 -

Former:
Rebecca Fulton (MS): Fall 2022-Spring 2025

Undergraduate students

Current:
Angela Tatsch: Fall 2023 – present
Terra Aust: Fall 2025 –

Former:
Gianna Duberek: Fall 2022-Spring 2023
Amenah Albadi : Fall 2023-Spring 2024
Angus Grieve: Spring 2025 – present
Tristan Garcia: Summer 2023 (REU)
Eden Toliver: Summer 2024 (REU)

PEER-REVIEWED PUBLICATIONS

* and ** denote PhD students and undergraduate students, respectively, supervised by me.

Published/in press:

Moitra P, **Amenah A, **Tatsch A, *Santra P (2025), Flow- and fracture-driven bubble throat growth rates and dynamic permeability in crystallizing magma, Geochemistry, Geophysics, Geosystems, 26(2): e2024GC011932, doi:10.1029/2024GC011932.

Moitra P (2024), Rheological arrest vs. rapid growth of bubbles in crystal-rich magma, Earth and Planetary Science Letters, 646:118984, doi:10.1016/j.epsl.2024.118984.

Mallik A, Schwinger S, Roy A, **Moitra P** (2022), Controls on determining the bulk water content of the Moon. Meteoritics & Planetary Science. doi:10.1111/maps.13921.

Sonder I, **Moitra P** (2022), Experimental constraints on the stability and oscillation of water vapor film—a precursor for phreatomagmatic and explosive submarine eruptions. Frontiers in Earth Science, 1827. doi: 10.3389/feart.2022.983112.

Moitra P, Sonder I (2022), Vapor bubbles and velocity control on the cooling rates of lava and pyroclasts during submarine eruption. Journal of Geophysical Research - Solid Earth, 127, e2022JB024665. doi:10.1029/2022JB024665.

Moitra P, Houghton B F (2021), Porosity-permeability relationships in crystal-rich basalts from Plinian eruptions. Bulletin of Volcanology, 83(11), pp.1-11. doi:10.1007/s00445-021-01496-7.

Moitra P, Horvath D G, Andrews-Hanna J C (2021), Investigating the roles of magmatic volatiles, ground ice and impact-triggering on a very recent and highly explosive volcanic eruption on Mars, Earth and Planetary Science Letters, 567, p.116986. doi:10.1016/j.epsl.2021.116986.

Horvath D G, **Moitra P**, Hamilton C W, Craddock R A, Andrews-Hanna J C (2021), Evidence for geologically recent explosive volcanism in Elysium Planitia, Mars, Icarus, 114499, doi:10.1016/j.icarus.2021.114499.

Moitra P, Sonder I, Valentine G A (2020), The role of external water on rapid cooling and fragmentation of magma, Earth and Planetary Science Letters, 537, 116194, doi:10.1016/j.epsl.2020.116194.

Moitra P, Gonnermann M H, Houghton B F, Tiwary C S (2018), Fragmentation and Plinian eruption of crystallizing basaltic magma, Earth and Planetary Science Letters, 500, 97-104, doi:10.1016/j.epsl.2018.08.003.

Sonder I, Harp A, Graettinger A, **Moitra P**, Valentine G A, Büttner R, Zimanowski B (2018), Meter-scale experiments on magma-water interaction, Journal of Geophysical Research - Solid Earth, 123, 10597-10615, doi:10.1029/2018JB015682.

Moitra P, Sonder I, Valentine G A (2018), Effects of size and temperature-dependent thermal conductivity on the cooling of pyroclasts in air, Geochemistry, Geophysics, Geosystems, 19, 3623-3636, doi:10.1029/2018GC007510.

Moitra P, Gonnermann M H (2015), Effects of crystal shape- and size-modality on magma rheology. Geochemistry, Geophysics, Geosystems, 16, 1-26, doi:10.1002/2014GC005554.

Lee C T A, Morton D M, Farner M J and **Moitra P** (2015), Field and model constraints on silicic melt segregation by compaction/hindered settling: The role of water and its effect on latent heat release. American Mineralogist, 100, 1762-1777, doi:10.2138/am-2015-5121.

Moitra P, Gonnermann M H, Houghton F B, Giachetti T (2013), Relating vesicle shapes in pyroclasts to eruption styles. Bulletin of Volcanology, 75, 1-14, doi:10.1007/s00445-013-0691-8.

In revision/under review/submitted:

Spring I, Mallik A, J Kirk, **Moitra P**, Borg L, Hervig R, Trace Element Analyses of Plagioclase from Troctolite 76535 and Implications for Mg-suite Petrogenesis (*in revision for Meteoritics & Planetary Science*)

Moitra P, Mallik A, Barnes J, Andrews-Hanna J C, Water: the key driver of explosive volcanism on the Moon (*submitted to Journal of Geophysical Research-Solid Earth*).

In preparation/to be submitted:

*Fulton B, **Moitra P**, Effect of melt-domain size on the stability of vapor films: Implications for explosive submarine volcanic eruptions (*to be submitted to Bulletin of Volcanology*).

Moitra P, Bubble controls on crystallization in magma (*to be submitted* to *Earth and Planetary Science Letters*).

*Santra P**, Moitra P**, Barnes, J, Mallik A, New insights on lunar volcanic eruption dynamics through analyzing 74001/2 glass beads (*to be submitted* to *Meteoritic and Planetary Sciences*).

Tatsch A, Moitra P**, Extensional rheology of crystallizing magma (*to be submitted* to *Geophysics, Geochemistry, Geosystems*).

PROFESSIONAL SERVICES

Organization of International conferences:
Primary convener of session "Understanding effusive to highly explosive styles of basaltic eruptions: Insights from field, experiment and modeling" in International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), 2023, Rotorua, New Zealand
Co-convener of session "Volcanotectonic Processes and Landforms Across the Solar System" in International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), 2023, Rotorua, New Zealand
Primary convener of session "The Storage, Transport, and Eruption of Magma Using Field Observations, Laboratory Approaches, and Modeling" in American Geophysical Union (AGU), 2020, 2021, 2022
Co-convener of session "Magma crystallization, fragmentation, and their roles on volcanic eruption" in JpGU-AGU joint meeting, 2020, Chiba, Japan
Co-chair of Session V019 (Developments in Magma-Water Interaction: Field Work, Experiments, and Computation) in American Geophysical Union (AGU), 2018
Primary convener and co-chair of Session V.4 (Just add water: hazards variation in lava flows, steam-driven and hydromagmatic explosive eruptions) in International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), 2017, Portland, Oregon

Reviewer:
Peer reviewed journals: *Nature Communications; Science Advances; Geology*; *Earth and Planetary Science Letters; Geophysical Research Letters*; *Journal of Geophysical Research-Solid Earth; Geochemistry, Geophysics, Geosystems*; *Journal of Volcanology and Geothermal Research; Bulletin of Volcanology; Earth, Planets and Space; Solid Earth Discussions*
Funding Agencies: *National Science Foundation, USA; NASA, USA (Panelist); Natural Sciences and Engineering Research Council of Canada*

SCIENTIFIC PRESENTATIONS

Santra, P, **Moitra P**, Barnes, J, Mallik, A, 2024. Investigation of the Dynamics of Explosive Lunar Eruption From the 74001/2 Glass Bead Textures. American Geophysical Union, Fall Meeting. [ORAL]

Tatsch, A**, Moitra P**, 2024. Extensional Rheology of Crystallizing Magma: Insights from Capillary Breakup (CaBER) and Filament-Stretching (FiSER) Rheometry. American Geophysical Union, Fall Meeting. [ORAL]

Spring I., Mallik A., Kirk J., **Moitra P.**, Borg L., Hervig R, 2024. Trace element analyses of plagioclase from troctolite 76535 and implications for Mg-suite petrogenesis on the Moon. 55th Lunar and Planetary Science Conference. [ORAL]

Mallik A., Schwinger S., **Moitra P**., Roy A, 2024. Water Outgassing During Magma Ocean Crystallization and the Potential Endogenous Origin of Water-Ice in the Permanently Shadowed Regions of the Moon. 55th Lunar and Planetary Science Conference. [ORAL]

Fulton, R, **Moitra P**, 2023. Effects of clast sizes on the time scales of stable vapor films with implications for the explosivity of shallow submarine eruptions. American Geophysical Union, Fall Meeting. [POSTER]

Duberek, G**, Moitra P**, 2023. Effect of Crystals on Bubble Coalescence and the Development of Magma Permeability. American Geophysical Union, Fall Meeting. [E-Lightning]

Moitra P, Mallik A, Barnes J, Andrews-Hanna J C, 2022. Controls of fO_2-based C-O-H solubility and diffusive bubble growth on explosive volcanic eruptions on the Moon. Lunar and Planetary Science Conference. [ORAL]

Moitra P, 2021. Rheological arrest vs. rapid growth of bubbles in crystal-rich magmas during volcanic eruptions. American Geophysical Union, Fall Meeting. [ORAL]

Moitra P, Horvath D G, Andrews-Hanna J C, 2021. Roles of Magmatic Volatile, Ground Ice, and Impact Triggering on the Dynamics of the Most Recent Explosive Volcanic Eruption on Mars. GSA Annual Meeting (*Invited;* ORAL).

Moitra P, Horvath D G, Andrews-Hanna J C, 2021. Roles of Magmatic Volatile, Ground Ice, and Impact Triggering on the Dynamics of the Most Recent Explosive Volcanic Eruption on Mars, Lunar and Planetary Science Conference. [ORAL]

Moitra P, Sonder I, 2020. Effect of relative lava-water motion on the spreading and fragmentation of submarine lavas, American Geophysical Union, Fall Meeting. [ORAL]

Haviland H, Karunatillake S, Rani A, **Moitra P**, Ojha L, Baratoux D, Susko D, 2020, Characterizing Martian Volcanic Provinces' Magmatic Evolution and Chemistry through Equations of State Modeling Initial Study. American Geophysical Union, Fall Meeting. [POSTER]

Mallik A**,** Schwinger S, **Moitra P**, Roy A, 2020. Controls of Hydrogen Partitioning on the Formation of 'Wet' Reservoirs During Lunar Magma Ocean, American Geophysical Union, Fall Meeting. [eLightning]

Moitra P, Horvath D G, Andrews-Hanna J C, 2019. Explosive magma-water on Mars: Insights from a young pyroclastic deposit in Elysium Planitia, Mars, American Geophysical Union, Fall Meeting. [ORAL]

Sonder I, **Moitra P***, Valentine G A, 2019. Magma-to-water heat transfer rates with implications for quench-induced fragmentation. American Geophysical Union, Fall Meeting. [*Presenter; POSTER]

Sonder I, Harp A, Graettinger A, **Moitra P**, Valentine G A, Büttner R, Zimanowski B, 2019, Geometry and Time Dependencies of Intense Magma-Water Interaction Experiments on Decimeter and Meter Scale. American Geophysical Union, Fall Meeting. [*Invited;* ORAL]

Horvath D G, **Moitra P**, Andrews-Hanna J C, 2019. Explosive magma-water on Mars: Insights from a young pyroclastic deposit in Elysium Planitia, Mars, Lunar and Planetary Science Conference, 2019. [ORAL]

Moitra P, Horvath D G, Andrews-Hanna J C, 2019. A Late Amazonian phreatomagmatic tephra deposit in Elysium Planitia, Lunar and Planetary Science Conference, 2019. [POSTER]

Moitra P, Sonder I, Valentine G A, 2018. Magma-to-water heat transfer rates with implications for quench-induced fragmentation. American Geophysical Union, Fall Meeting. [POSTER]

Sonder I, Harp A, Graettinger A, Valentine G A, **Moitra P**, Büttner R, Zimanowski B, 2018. Meter-Scale Experiments on Magma-Water Interaction, American Geophysical Union, Fall Meeting. [POSTER]

Moitra P, Sonder I, Valentine G A, 2017. Magma-to-water heat flux: Insight from pool-boiling experiments, International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Portland, Oregon, USA. [POSTER]

Sonder I, Harp A, Graettinger A, Valentine G A, **Moitra P**, Büttner R, Zimanowski B, 2017. Explosive Magma-Water Explosive Experiments: Premix Conditions on Decimeter Scale, International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Portland, Oregon, USA. [POSTER]

Moitra P, Sonder I, Valentine G A, 2016. Magma-to-water heat flux estimates from laboratory experiments, Postdoctoral symposium, University at Buffalo. [POSTER]

Moitra P, Gonnermann M H, Houghton B F, Crozier J, 2015. Combined effect of permeability and crystallization on the explosive eruption of basaltic magma, American Geophysical Union, Fall Meeting. [ORAL]

Moitra P, Gonnermann M H, Houghton B F, Crozier J, 2014. The effect of microlite and permeability on the Plinian eruption of basaltic magma, American Geophysical Union, Fall Meeting. [POSTER]

Moitra P, Gonnermann M H, 2014. The effect of crystal shape, size and bimodality on the maximum packing and the rheology of crystalline magma, European Geosciences Union, General Assembly. [ORAL]

Moitra P, Gonnermann M H, 2013. Buoyant bubble rise through concentrated particulate suspensions with potential application to crystallizing magmas, International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Japan. [POSTER]

Moitra P, Gonnermann M H, Houghton F B, Giachetti T, 2013. Relating vesicle shapes in pyroclasts to eruption styles, IAVCEI Scientific Assembly, Kagoshima, Japan. [ORAL]

Moitra P, Gonnermann M H, 2013. Relating vesicle shapes in pyroclasts to eruption styles, ESCI 404, SEM: Department Research. [ORAL]

Moitra P, Gonnermann M H, 2012. Vesicle shapes, bubble overpressure and fragmentation during explosive eruptions. ESCI 404, SEM: Department Research. [ORAL]

Moitra P, Gonnermann M H, Houghton F B, 2011. Characterization of pumice textures to calculate bubble growth rate using Capillary number. American Geophysical Union, Fall Meeting. [POSTER]

Moitra P, Gonnermann M H, 2011. Fragmentation of basaltic magma in Plinian style eruption. ESCI 404, SEM: Department Research. [ORAL]

Moitra P, Gonnermann M H, Houghton F B, 2010. Rheological effect of microlites on the Plinian eruption of basaltic magma. American Geophysical Union, Fall Meeting. [POSTER]

Moitra P, Gonnermann M H, 2010. Fragmentation of basaltic magma in Plinian style eruption. ESCI 404, SEM: Department Research. [ORAL]

HONORS

The Torkild Rieber Award for high academic standing 2014
Earth Science, Rice University, USA

Junior Research Fellowship, University Grants Commission, India 2008

Rank holder (within top 10 percent) in Graduate Aptitude Test for Engineering (Geology and Geophysics) organized by Ministry of Human Resources and Development, India 2007

Summer Research Fellowship, Indian Academy of Sciences 2006

PRACTICAL, ANALYTICAL AND OTHER SKILLS

Computer skills: Programming in MATLAB (fluent), experience in using shared computational cluster facility, image analysis using ImageJ, FFmpeg and MATLAB, familiarity with other software: ANSYS, COMSOL and Python

Lab skills: Rotational, oscillatory and extensional rheometer, High-Temperature furnace/experiments, Gas permeameter, He-pycnometer, Tap-density analyzer, Particle size analyzer, Secondary Electron Microscopy (SEM), Optical Microscopy, High-speed imaging and analysis

TEACHING EXPERIENCE

Primary instructor for 3-credit undergraduate seminar course on Volcano-Fluid Mechanics, Department of Geosciences, University of Arizona Fall 2024

Primary instructor for 3-credit undergraduate course on Planetary Geoscience, Department of Geosciences, University of Arizona Spring 2024, 2025

Primary instructor for 3-credit undergraduate course on Mineralogy, Department of Geosciences, University of Arizona Fall 2023

Primary instructor for 3-credit undergraduate course on Mineralogy, Department of Geosciences, University of Arizona Fall 2023

Primary instructor for 3-credit undergraduate course on Planetary Geoscience, Department of Geosciences, University of Arizona Fall 2022

Primary instructor for 3-credit undergraduate course on Earth Stories: Interpreting our Dynamic Planet, Department of Geosciences, University of Arizona Spring, Summer, Fall 2022

Primary instructor for 3-credit undergraduate course on Earth: From Birth to Date, Department of Geosciences, University of Arizona Spring, Summer, Fall 2021

Primary instructor for 3-credit advanced undergraduate/graduate course on Advanced Geofluids and Geomechanics, Department of Geology, University at Buffalo Spring 2018

Primary instructor for 4-credit undergraduate course on Petrology, Department of Geology, University at Buffalo Spring 2018

Primary instructor for 4-credit undergraduate course on Sedimentary Geology and Paleontology, Department of Geology, University at Buffalo Fall 2017

Primary instructor for 4-credit undergraduate course on Mineralogy, Department of Geology, University at Buffalo	Fall 2017
Organizer of Volcanology Seminar, University at Buffalo	Spring 2016
Teaching Assistant in grading/organizing ESCI 301 (Introduction to the Earth), Rice University	Spring 2015
Teaching Assistant in grading/organizing ESCI 101 (The Earth), Rice University	Spring 2014
Substitute lecturer for ESCI 429 (Volcanic and Magmatic Processes); Lecture delivered on Magma Rheology, Rice University	Fall 2013
Teaching Assistant on field trip to New Mexico and grading for ESCI 334 (Geological & Geophysical Techniques), Rice University	Spring 2011
Organizer of department seminar for ESCI 403 (Department Research Seminar), Rice University	Fall 2010
Private tutor for grades 6-12 and undergraduate geology majors, Kolkata, India	2008

INVITED TALKS

Granular Matter Gordon Research Conference, Easton, Massachusetts	2026
American Association of Physics Teachers, Tucson, Arizona	2024
Center for Earth Sciences, Indian Institute of Science, Bangalore, India	2024
Department of Geosciences, University of Arizona, Arizona	2022
The Asian School of the Environment and Earth Observatory of Singapore, Nanyang Technological University, Singapore	2022
The Geological Society of America (GSA), Oregon	2021
International Volcanology Seminar, Jointly by U Oregon and Smithsonian Inst.	2020
Geosciences and Lunar and Planetary Laboratory, University of Arizona, Arizona	2020
Earth and Environmental Sciences, Vanderbilt University, Tennessee	2019
Planetary Geosciences Group, Brown University, Rhode Island	2019
Graduate School of Oceanography, University of Rhode Island, Rhode Island	2018
Woods Hole Oceanographic Institute, Massachusetts	2017

GEOLOGY FIELD EXPERIENCE

Leading field trips (as the primary instructor) to Bennett Beach-Zoar Valley-Lockport-Glen Park, Buffalo, New York, as part of the Sedimentary Geology and Paleontology course, Department of Geology, University at Buffalo	2017
Field study on volcanoclastic rocks and volcanic structures at Zuni Salt Lake-Valles Caldera-Fish Canyon tuff-Summer Coon, New Mexico and Colorado	2017
Field study on volcanic eruption deposits in Valles Caldera, New Mexico	2012
Structural geology field trip in Albuquerque, New Mexico	2012
Field study on mafic-silicic magma interactions in Bernasconi Hills, San	2011

Jacinto, California

Field study on volcanic eruption deposits in Big Bend, Texas	2011
Field study on eruption deposits in the Cascade Range, California	2009
Field study on underground and open-cast mining in Jharkhand, India	2008
Structural geology field trip in and around Ghatshila, India	2007
Field study on modern sedimentary deposits and paleontology, Chandipur, India	2006
Field study on metamorphic petrology in and around Jabalpur, India	2005
Field study on general geology of Maithon area, India	2004

WORKSHOPS ATTENDED

Uncertainty in Geo-science: A workshop on hazard analysis, Center for Geohazards Studies, SUNY, Buffalo, New York	2016
FEMA Volcano Crisis Awareness training, Center for Geohazards Studies, SUNY, Buffalo, New York	2015
Fundamentals of 3D Quantitative Analysis of Geological Materials Using Computed Tomography (CT) facility, University of Texas at Austin, Texas	2014
RHEA: A collaborative database for rheological magmatic properties, International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Kagoshima, Japan	2013
Melts, glasses and magmas, Ludwig Maximilian University, Munich, Germany	2012
Short Course, Porous Material Inc., Ithaca, New York	2010

OUTREACH/SYNERGISTIC ACTIVITIES

Maintaining Rice University Earth Science's EQ-1 Seismograph	2014
Volunteered as demonstrator in Rice University Earth Science Annual Girl Scout Day outreach program	2010
Elected class representative of Science Faculty Students' Union, Jadavpur University, India	2007
Geological field trip manager, Jadavpur University, India	2006
Co-convener of the annual festival SANSKRITI 2005 of Science Faculty Students' Union, Jadavpur University, India	2005
Performed in intra-university theater, Jadavpur University, India	2004

MEMBERSHIP WITH PROFESSIONAL SOCIETIES

American Geophysical Union (AGU)

The Geological Society of America (GSA)

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Rhea (a collaborative database for rheological magmatic properties)