

Chimote Manchester/IIT Kharagpur
PhD

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To whom it may concern,

I enthusiastically recommend Mugdha Chimote for your exciting Manchester/IIT Kharagpur PhD project "Understanding Large Igneous Provinces (LIPs) through the Deccan Traps: implications for flood basalts origin, emplacement and climate impact". I act as Mugdha's Director of Studies for her MSc Volcanology and the Environment degree and am her dissertation supervisor; I additionally teach Mugdha on two modules this academic year. Mugdha is making a most positive impression at Masters level, and building on the great potential that she has demonstrated with her excellent undergraduate and Masters track record from India, which includes a prestigious scholarship. I rate her top of our current cohort of Volcanology Masters students in the Lancaster Environment Centre and have sought her out to act as student ambassador. She is an excellent communicator and has notably already written a first-author journal publication on Deccan Traps lava.

I am delighted that Mugdha is carrying her dissertation research project with me, as the project, addressing the pyroclastic emplacement and deformation of a large-volume dacitic dyke at Chachahuén, Argentina, will allow Mugdha to gain and strengthen skills in detailed petrological characterisation and both textural and geochemical characterisation, and nicely compliment her earlier research on Deccan Traps lava. Mugdha has been highly proactive in the initial planning stages and is proving a pleasure to supervise. She will soon embark on months of detailed lab work. I know that Mugdha is keen to expand her skills and experience of diverse techniques, and she will have the opportunity to conduct quantitative microtextural characterisation with petrological microscopy and ImageJ analysis, use infra-red spectroscopy to determine water concentrations in groundmass and/or melt inclusions, and simultaneous thermal analysis (TGA-DSC) to characterise volatile species and melt crystallisation. Through this work, Mugdha will gain significant lab experience, and place new constraints on magma deformation and outgassing that we anticipate will form part of a collaborative publication with Steffi Burchardt and Tobias Schmiedel (Uppsala, Sweden).

Once her MSc dissertation research is complete, Mugdha will be ideally prepared for your LIP project, as she will come with experience of a range of relevant lab and field techniques, of working as part of a collaborative dual-institution research team, and of completing two in-depth independent research projects.



Mugdha makes insightful contributions to class discussions in volcanology and geological hazards, which reflect her sound geoscience background, knowledge of magmatic processes, and clarity of thought. She writes well (as demonstrated both by formal academic publications and experience as an editor and writer of popular science articles), and is contributing to undergraduate teaching this academic year, which will provide further experience. She is unfailingly proactive, positive, and motivated. It is a pleasure to interact with Mugdha as programme director and dissertation supervisor as she has excellent interpersonal skills and always comes to meetings fully prepared with ideas and proposals, which reflect good organisation, planning, and a vision of what she would like to achieve. I fully support Mugdha in her ambition to move into volcanology research and make an impact.

I know that Mugdha would relish the opportunity to study for your PhD, especially with the combination of fieldwork and laboratory analysis involved and the collaborative nature of your project. You would enjoy working with her.

If you require any further information, please do not hesitate to contact me.

Yours faithfully,



Dr Hugh Tuffen

Director of Studies, MSc in Volcanology and the Environment

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