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## Education

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- 2019 **Princeton University**, Princeton, NJ  
Ph.D., Geosciences  
Thesis: Reconstructions of Ediacaran putative biomineralizers via a novel serial grinding and imaging technique  
Adviser: Adam Maloof
- 2011 **Cornell University**, Ithaca, NY  
B.Arch.  
Thesis: Reclaiming the old Union Carbide factory site in Bhopal, India  
Advisers: Vincent Mulcahy and Mary Woods

## Professional Experience

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- 2019→ **Neukom Postdoctoral Fellow**  
**Dartmouth College**, Hanover, NH  
I use three-dimensional morphological data to understand how environmental and biological processes lead to the varied morphologies of microbial buildups preserved in the rock record.
- 2011-2013 **Researcher**  
**Situ Studio**, Brooklyn, NY  
I developed specifications for GIRI (Grinding, Imaging and Reconstruction Instrument), part of the new Digital Fossil Reconstruction Lab at Princeton University. Additionally, I leveraged numerous architectural tools and methods to create visualizations and analysis for the Forensic Architecture project.

## Publications

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### Published

1. **Mehra, A.** and Maloof, A.C., 2018. A multiscale approach reveals that *Cloudina* aggregates are detritus and not *in situ* reef constructions. *Proceedings of the National Academy of Sciences of the United States of America*.

### Submitted/in review

2. MacLennan, S.A., Eddy, M.P., Merschat, A., **Mehra, A.**, Crockford, P., Maloof, A.C., Southworth, S., Schoene, B., 2019. Geologic evidence for an icehouse Earth prior to the Sturtian global glaciation. *In review*.
3. **Mehra, A.**, Watters, W.A., Grotzinger, J.P., Maloof, A.C., 2019. Three-dimensional reconstructions of the putative metazoan *Namapoikia* show that it was a microbial construction. *Submitted*.

In preparation

4. **Mehra, A.**, Samuels, B., and Maloof, A.C., 2019. A novel technique for producing three dimensional data using serial sectioning and semi-automatic image classification. *In prep.*
5. Eddy, M.P., **Mehra, A.**, Pamukcu, A., DesOrmeau, J.W., Maloof, A.C., and Schoene, B., 2019. Geochemical and textural evidence for efficient crystal settling in a large, silicic magma chamber. *In prep.*

## Conference Proceedings

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- 2019 **Mehra, A.**, Watters, W.A., Grotzinger, J.P., and Maloof A.C., *Namapoikia*, a baffling organism. Northeastern Geobiology Meeting, Amherst, MA, March 2019.
- 2018 **Mehra, A.** and Maloof A.C., Three dimensional reconstruction and morphological analysis of *Namapoikia*, a putative Ediacaran sponge fossil, using serial grinding and imaging. GSA Annual Meeting, Indianapolis, IN, November 2018.
- 2018 **Mehra, A.**, Geyman, E., and Maloof A.C., Analysis of channel morphology using high resolution, drone-derived imagery of the tidal flat at Triple Goose Creek, Andros Island. GSA Annual Meeting, Indianapolis, IN, November 2018.
- 2018 Bolton, H., **Mehra, A.**, Geyman, E., and Maloof A.C., Three-dimensional reconstructions of holocene and Neoproterozoic oolites to measure porosity, permeability, and volume-shape evolution of ooids. GSA Annual Meeting, Indianapolis, IN, November 2018.
- 2018 **Mehra, A.** and Maloof A.C., Three dimensional reconstructions of the earliest biomineralizers. Northeastern Geobiology Meeting, WHOI, April 2018.
- 2017 Maloof A.C. and **Mehra, A.**, Constraining the role of an Ediacaran biomineralizer using a multiscale methodology. GSA Annual Meeting, Seattle, WA, October 2017.
- 2017 **Mehra, A.** and Maloof, A.C., Using serial grinding and imaging techniques to produce three dimensional models of samples with weak density contrast. GSA Annual Meeting, Seattle, WA, October 2017.
- 2016 **Mehra, A.** and Maloof, A.C., Digital reconstructions of *Cloudina* populations: an in-depth, three dimensional study. AGU Fall Meeting, San Francisco, CA, December 2016.
- 2013 Maloof, A.C., Samuels, B., **Mehra, A.**, and Spatzier, A., An automated serial Grinding, Imaging and Reconstruction Instrument (GIRI) for digital modeling of samples with weak density contrasts. AGU Fall Meeting, San Francisco, CA, December 2013.

## Teaching Experience

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*All of the listed courses involved a significant fieldwork component that comprised a week-long trip to collect data for student research projects (locations in parentheses). As part of my teaching duties, I was responsible for preparing supplies and logistics, as well as helping students with both data collection—especially with drones, differential GPS, and surveying equipment—and data analysis.*

Fall 2016 Teaching Assistant  
**GEO 201:** Measuring climate change: Methods in data analysis & scientific writing  
(Utah and New Mexico, USA)

Spring 2016 Teaching Assistant  
**GEO 370:** Sedimentology  
(Andros Island, The Bahamas)

- Fall 2015* Teaching Assistant  
**FRS 124:** State of the Earth: Shifts & cycles  
(France and Spain)
- Fall 2014* Teaching Assistant  
**GEO 201:** Measuring climate change: Methods in data analysis & scientific writing  
(Utah and Nevada, USA)

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## Field Experience

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- 2019* Nadaleen Mountain, Yukon, Canada [2 weeks]  
*Three-dimensional morphology of an early Paleozoic clinoform succession*
- 2019* Silver Peak Range, Nevada [4 weeks]  
*Stratigraphic and morphological expression of Archaeocyathid buildups*
- 2018* Blue Ridge, Virginia, USA [1 week]  
*Evidence for a Neoproterozoic glaciation*
- 2017* North Cascades, Washington, USA [2 weeks]  
*Analysis of textures preserved in a fossilized magma chamber*
- 2017* Andros Island, The Bahamas [1 week]  
*Morphology and hydrology of a tidal channel network*
- 2016* Labrador, Canada [1 week]  
*Stratigraphic and environmental context of Cambrian Archaeocyathid reefs*
- 2015* Salient Mountain, Canada [6 weeks]  
*Mapping, measuring, and sampling from a fossil-bearing Ediacaran stromatolite reef system*
- 2014* Southern Namibia [8 weeks]  
*Multiscale study of Ediacaran putative biomineralizers from several microbially-mediated reefs*

## Awards and Honors

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- 2018* Grand prize, AGU Data Visualization and Storytelling Contest
- 2018* Hanna Fellowship, Princeton University
- 2017* Runner up, AGU Data Visualization and Storytelling Contest
- 2017* Fan Favorite, Princeton Research Day
- 2016* Runner up, AGU Data Visualization and Storytelling Contest
- 2016* Arnold Guyot Teaching Award

## University and Professional Service

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- 2016 - 2018* Vice President, Graduate Student Government
- 2015 - 2016* President, Graduate Student Government