

Abhinav Shailendra Jindal

asj59@cornell.edu

CURRENT AFFILIATION

Ph.D. Candidate, Department of Astronomy and Space Sciences, Cornell University

EDUCATION

Cornell University, Department of Astronomy and Space Sciences

Ithaca, NY

Ph.D. – Astronomy

Aug '16 – Present

Advisor: Dr. Alexander Hayes

Indian Institute of Technology, Guwahati

Guwahati, India

B.Tech. – Engineering Physics

Jul '12 – May '16

PROFESSIONAL APPOINTMENTS

Cornell University – Ph.D. Student

Aug '16 – Present

Hobart & William Smith Colleges – Adjunct Faculty

Spring '22

RESEARCH INTERESTS

Theme: Using topography to decipher the processes that shape various planetary surfaces

- Cometary geology and surface processes
 - Venus internal structure and geomorphology
 - Titan hydrology and surface processes
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JOURNAL PUBLICATIONS

- [1] **A.S. Jindal**, S.P.D. Birch, A.G. Hayes, O.M. Umurhan, R. Marschall, J.M. Soderblom, J-B. Vincent, and D. Bodewits. Topographically Influenced Evolution of Large-scale Changes in Comet 67P/Churyumov-Gerasimenko's Imhotep Region. *Planetary Science Journal*, 3, 193 (2022).
 - [2] **A.S. Jindal**, A.G. Hayes, S. Birch, F. Özyurt. Using Photoclinometry to Generate a Sediment Budget on comet 67P/Churyumov-Gerasimenko. *Geophysical Research Letters* (in prep.).
 - [3] M.N. Barrington, S.P.D. Birch, **A.S. Jindal**, A.G. Hayes, P. Corlies, J.-B. Vincent, C. Valdez. Morphologic Evolution and Regolith Transport of Smooth Terrains on Comet 67P/Churyumov-Gerasimenko. *Planetary Science Journal*, in review (2022).
 - [4] S.A. Moruzzi, P. Corlies, S.P.D. Birch, A.G. Hayes, J.M. Soderblom, N.W. Kutsop, M.N. Barrington, and **A.S. Jindal**. Sub-Image Resolution Properties of Comet 67P/Churyumov-Gerasimenko from Hapke Modeling. *Planetary Science Journal*, in review (2022).
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SELECTED RECENT CONFERENCE TALKS

- [1] Using a Two-Layered Thermal Model to Explain the Origin of Dynamic Changes on Comet 67P/Churyumov-Gerasimenko. In *53rd LPSC, 2022*.
- [2] Evolution of the Imhotep Basin on Comet 67P/Churyumov-Gerasimenko. In *AGU Fall Meeting, 2020*.
- [3] Using tectonic deformations along canals to constrain lithospheric structure & mantle convection. *International Venus Conference Hokkaido (Japan), 2019*.

TEACHING EXPERIENCE

Hobart & William Smith Colleges, *Lead lecturer and course designer*

- PHYS 112: "Introduction to Astronomy" Spring '22

Cornell University; *Guest Lecturer*

- Astro 1102: "Our Solar System" (1x) Spring '19
- Astro 1199: "Are We Alone in the Universe" (1x) Summer '21 & '22
- Astro 2201: "The History of the Universe" (2x) Spring '18
- Astro 2202: "A Spacecraft Tour of the Solar System" (2x) Fall '19, & (1x) Fall '21

Cornell University; *Teaching Assistant*

- Astro 1101: "From New Worlds to Black Holes" Fall '16, Fall '17 (*Head TA*)
- Astro 1102: "Our Solar System" Spring '17, '19
- Astro 2201: "The History of the Universe" Spring '18
- Astro 2202: "A Spacecraft Tour of the Solar System" Fall '19

ADMINISTRATIVE/SERVICE ROLES

Cornell University; *President, Astronomy Graduate Network* Mar '19 - Mar '20

- The Astronomy Graduate Network serves to represent the interests of graduate students in the astronomy department and foster a sense of community and well-being.

Cornell University; *Climate and Diversity Committee* Aug '19 - Present

- Serving as a graduate student representative on the committee which seeks to promote an environment of collaboration, inclusion, mentorship, and respect within the department.

Cornell University; *Mentor-Mentee Program* Aug '21 - Aug '22

- Served as a mentor and helped set-up the Mentor-Mentee Program which seeks to help incoming graduate students get acclimated to life in graduate school.

Cornell University; *Graduate Admissions Committee* Jan-April '21

- Served on the committee responsible for making decisions on graduate student admissions

Cornell University; *Colloquium Committee* July '20 - July '22

- Helped identify and invite speakers for weekly colloquia in the Astronomy department.

UNDERGRADUATE MENTORING

Fiona Powers Özyurt (Wellesley College) Spring '21 - Present

- Generating digital terrain models to measure sediment transport on comet 67P

Cynthia Valdez (UC Berkeley) Summer '20

- Tracking meter to decameter scale changes in the smooth terrains of comet 67P

AWARDS & OUTREACH

Cranson & Edna B. Shelley Outstanding Teaching Assistant Award 2018

Volunteer for Expanding Your Horizons (EYH) conference at Cornell University

Cornell Astronomy "Ask an Astronomer" team member

Volunteer with Cornell's Spacecraft Planetary Imaging Facility

Volunteer for "Museum in the Dark" (outreach event at the Museum of the Earth in Ithaca)