Dr. Kaustubh Hakim

PERSONAL INFORMATION

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Phone: +41 31 631 3669 Nationality: Indian Center for Space and Habitability University of Bern Gesellschaftsstrasse 6 3012 Bern, Switzerland

EMPLOYMENT

Feb. 2019 – present, *PostDoc*, Center for Space and Habitability, Bern, Switzerland Geochemical cycles in rocky exoplanets

July 2010 – Aug. 2012, *Analyst*, Nomura, Mumbai, India Product development and maintenance for global equities trade monitoring tools

May 2009 – July 2009, *Developer*, IBM, Bangalore, India Software development for the hardware verification of IBM PowerPC computers

May 2008 – July 2008, *Trainee*, Omega Electronics, Jaipur, India Development of a RFID-based educational training kit and demonstration of a sales video

May 2007 – June 2007, *Trainee*, TATA Power, Mumbai, India Analysis of the pressure-temperature calibration process of the transmitters of power station

EDUCATION

Sep. 2014 – Dec. 2018, Ph.D., Astrophysics, University of Amsterdam, The Netherlands *Thesis:* Diving deep into rocky exoplanets

Sep. 2012 – July 2014, M.Sc., Astronomy & Astrophysics, KU Leuven, Belgium *Thesis:* The interior structure of super-Earths

Aug. 2006 – July 2010, B.Tech., Electronics Engineering, IIT Kharagpur, India Thesis: s-MAC protocol for Wireless Sensor Networks

DISTINCTIONS

July 2014, Graduated M.Sc. degree with magna cum laude, KU Leuven

July 2010, Graduated B.Tech. degree with Honours, IIT Kharagpur

Apr. 2006, Secured 99.9 percentile among 0.5 million candidates in all-India engineering entrance examinations, IIT-JEE and AIEEE

Publications (Peer-reviewed)

Hakim, K., et al., Geochemistry of the inorganic carbon cycle on rocky exoplanets (in preparation).

Hakim, K., van den Berg, A., Vazan, A., Höning, D., van Westrenen, W., Dominik, C. (2019), Thermal evolution of rocky exoplanets with a graphite outer shell, Astronomy & Astrophysics (in press).

Hakim, K., Spaargaren, R., Grewal D.S., Rohrbach A., Brendt J., Dominik, C., van Westrenen, W. (2019), Mineralogy, structure and habitability of carbon-enriched rocky exoplanets: A laboratory approach, *Astrobiology* 19, 7.

Hakim, K., van Westrenen, W., Dominik, C. (2018), Capturing the oxidation of silicon carbide in rocky exoplanetary interiors, *Astronomy & Astrophysics 618*, L6.

Hakim, K., Rivoldini, A., Van Hoolst, T., Cottenier, S., Jaeken, J., Chust, T., Steinle-Neumann, G. (2018), A new ab initio equation of state of hcp-Fe and its application to the interior structure and mass-radius relation of rocky super-Earths, *Icarus* 313, 61–78.

SELECTED
CONFERENCE
TALKS

Sep. 2019, European Planetary Science Congress, Geneva, Switzerland

Apr. 2017, Formation and Dynamical Evolution of Exoplanets, Aspen, Colorado, USA

Mar. 2017, the 48th Lunar and Planetary Science Conference, Houston, Texas, USA

May 2016, the 71st Netherlands Astronomy Conference, Nunspeet, The Netherlands

Apr. 2016, the 13th Netherlands Geology Congress, Veldhoven, The Netherlands

May 2015, Exoplanet Conference, Lund, Sweden

COMPUTATIONAL SKILLS

Languages/Software: Python, Shell scripting, Java, MySQL, C, Fortran90, Mathematica, MATLAB

TEACHING/ SUPERVISION EXPERIENCE

Teacher for Planetary Science (Exoplanets lecture), MSc (2018)

Primary Supervisor for Dieke Beentjes, BSc (2018), Rob Spaargaren, BSc (2016)

Teaching Assistant for Interstellar & Circumstellar Matter, MSc (2015–2017)

ADVANCED TRAINING COURSES

July 2016, New Directions in Planet Formation, Lorentz Center, Leiden, The Netherlands

Oct. 2015, Application of X-ray metrology for material science research, Enschede, The Netherlands

Mar. 2015, the 45th Saas-Fee course on From Protoplanetary Disks to Planet Formation, Swiss Society for Astrophysics & Astronomy, Les Diablerets, Switzerland

SERVICE/ ORGANIZATIONAL WORK

Sep. 2016 – Sep. 2017, *PhD Representative*, PhD-PostDoc Council, API Institute for Astronomy, University of Amsterdam

May 2015, Organizer, Planetary and Exo-Planetary Science Network (NWO-PEPSci) PhD-PostDoc Meeting, University of Amsterdam

Sep. 2012 – July 2014, Student Representative, Permanent Education Committee, MSc in Astronomy and Astrophysics, KU Leuven

SCIENCE COMMUNICATION/ OUTREACH

May 2019, Public science talk in the Astronomy on Tap event, Bern, Switzerland

Mar. 2017, Participated in FameLab Amsterdam – a science communication workshop and competition

Aug. 2016, Gave a science talk for bachelor students at University of Los Andes, Bogotá, Colombia

FORMER RESEARCH EXPERIENCE

July – Aug. 2014, Nicolaus Copernicus Astronomical Center, Warsaw, Poland Data reduction pipeline of *Canada-France-Hawaii-Telescope* for *SuperWASP* exoplanets

Sep. – Oct. 2013, Mercator Telescope, Roques de las Mouchachos Observatory, La Palma, Spain Spectroscopic study of three Kepler planet candidates

Mar. – June 2013, Belgian Institute for Space Aeronomy, Brussels, Belgium Study of Earth's magnetopause based on the data from *Ampte/IRM* and *Cluster* spacecrafts