

George D. McDonald

| Curriculum Vitae

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Planetary scientist with a focus on atmospheric radiation.

Professional Appointments

National Defense Science & Engineering Graduate Fellow **Atlanta GA**
Georgia Institute of Technology, School of Earth & Atmo. Sciences (EAS), PhD Candidate 2014-Present
Advisor: James Wray

Student Researcher **Ithaca NY**
Cornell University, Department of Astronomy, Undergraduate research for credit 2013-2014
Advisor: Alex Hayes

Education

B.A.: Physics, Cornell University, May 2014

Awards

NDSEG/DoD Fellow (2015-Present)

USMS Swimming Dixie Zone Top 10 (2016)

Kavli Summer Astrophysics Fellow (2016)

GT EAS Symp. Best Presentation (2016, 2015)

DPS Hartmann Student Travel Grant (2015)

LPI Career Development Award (2015)

GSA Stephen E. Dwornik Award (2014)

German Consulate NYC Book Award (2011)

Cornell Dean's List (2010)

Peer-reviewed Publications

[5]: **G.D. McDonald**, L. Kreidberg, E. Lopez. The sub-Neptune desert and its dependence on stellar type: Controlled by lifetime X-ray irradiation, *[Submitted]*

[4]: L. Ojha, M. Chojnacki, **G.D. McDonald**, A. Shumway, M.J. Wolff, M.D. Smith, A.S. McEwen, K. Ferrier, C. Huber, J.J. Wray, A. Toigo. Seasonal slumps in Juventae Chasma, Mars, *Journal of Geophysical Research: Planets* 122, 2017. <https://doi.org/10.1002/2017JE005375>

[3]: J.S. Mendez Harper, **G.D. McDonald**, J. Dufek, M.J. Malaska, D.M. Burr, A.G. Hayes, J. McAdams, J.J. Wray. Electrification of sand on Titan and its influence on sediment transport, *Nature Geoscience* 10, 260-265, 2017. <http://dx.doi.org/10.1038/ngeo2921>

[2]: **G.D. McDonald**, A.G. Hayes, R.C. Ewing, J.M. Lora, C.E. Newman, T. Tokano, A. Lucas, A. Soto, G. Chen. Variations in Titan's dune orientations as a result of orbital forcing, *Icarus* 270,

197-210, 2016. <http://dx.doi.org/10.1016/j.icarus.2015.11.036>

[1]: R.C. Ewing, **G.D. McDonald**, A.G. Hayes. Multi-spatial analysis of aeolian dune-field patterns *Geomorphology* 240, 44-53, 2015. <http://doi.org/10.1016/j.geomorph.2014.11.023>

Seminars

Georgia Tech: Planetary Seminar, School of EAS, Atlanta GA	Oct. 2016
NASA Ames: Space Science & Astrobiology Division Seminar, Moffett Field CA	Aug. 2016
UC Santa Cruz: Seminar, Kavli Summer Program in Astrophysics, Santa Cruz CA	July 2016
Georgia Tech: Geophysics Seminar, School of EAS, Atlanta GA	2018,"2016, 2015
WAS: Monthly Lecture Series, Westport Astronomical Society, Westport CT	2016, 2014
Cornell: Planetary Lunch Seminar, Dept. of Astronomy, Ithaca NY	2013, 2014

Conference Presentations *(first-authored, 5 most recent)*

[5]: **G.D. McDonald**, L. Kreidberg, E. Lopez (Oct. 2017). Planet occurrence in the sub-Neptune photoevaporation desert. *49th AAS Division for Planetary Sciences Meeting #300.06*, Provo UT.

[4]: **G.D. McDonald**, L. Ojha, T.H. McConnochie, M.D. Smith, J.J. Wray (Jan 2017). Water vapor retrievals over north polar craters with ice mounds: Constraints on sublimation rates. *6th Mars Atmosphere Modelling and Observation Workshop*, Granada Spain.

[3]: **G.D. McDonald**, L. Ojha, T.H. McConnochie, M.D. Smith, J.J. Wray (Dec 2016). Constraining the sublimation rate of the Louth crater ice mound with observations of atmospheric water vapor in the thermal infrared. *2016 American Geophysical Union Annual Meeting #P21B-2090*, San Francisco CA. [Accepted].

[2]: **G.D. McDonald**, L. Kreidberg, E. Lopez (Oct. 2016). Investigation of the sub-Neptune photoevaporation desert for M-dwarfs to Sun-like stars. *48th AAS Division for Planetary Sciences Meeting & 11th European Planetary Science Congress #122.33*, Pasadena CA.

[1]: **G.D. McDonald***, P. Corlies*, J.J. Wray, J.D. Hofgartner, S.M. Hörst, A.G. Hayes, L.R. Liuzzo, J. Buffo (Nov. 2015). Transmission windows in Titan's lower troposphere: Implications for IR spectrometers aboard future aerial and surface missions. *47th AAS Division for Planetary Sciences Meeting #310.12*, Washington DC. *Authors contributed equally

Teaching Experience

EAS 1601: 'Habitable Planet', Georgia Tech, Teaching Assistant Spring 2015

Professional Activities

Secretary: Planetary Society, Georgia Tech Chapter 2014-2015

Member: Department Seminar Committee, School of EAS, Georgia Tech 2014-2015

Public Outreach/Education

Co-Facilitator: Focus for Teens, 4-H Career Explorations: Earth & the Solar System July 2014

Volunteer: Cornell Spacecraft Planetary Imaging Facility, Outreach Activities

2013-2014

Memberships

American Astronomical Society
American Geophysical Union

Westport Astronomical Society

References

Professor James J. Wray
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Dr. Laura Kreidberg
(Collaborator)
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former Undergraduate Advisor)
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