Cole Nypaver

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EDUCATION

2023	**Ph.D. Geology** The University of Tennessee **Dissertation:** *A Multi-Wavelength Remote Sensing Investigation of Lunar Surface and Crustal Evolution.* **GPA:** 4.0
2019	**M.S. Geology** The University of Tennessee **Thesis:** *Deriving Lifetimes of Lunar Ejecta Constituents Using Remote Sensing Data: A Model for Lunar Erosion and Regolith Overturn.* **GPA:** 3.76
2017 *Cum Laude*	**B.S. Geology** Mercyhurst University. Erie, PA **Thesis**: *Geologic Mapping, Morphometric Characterization, and Statistical Analyses of Six Venusian Shield Fields: Insights into the Processes Related to their Formation.*

EMPLOYMENT HISTORY

2023-present	Smithsonian Institution Postdoctoral Fellow: NASM Center for Earth and Planetary Studies
2020-2023	Graduate Research Assistant: The University of Tennessee Dept. of Earth and Planetary Sciences
2017-2022	Graduate Teaching Assistant: The University of Tennessee Dept. of Earth and Planetary Sciences
2016	Planetary Geologic Mapping Intern: Mercyhurst University Geology Department

PUBLICATIONS

Fassett, C.I., Bramson, A.M, Cahill, J.T.S., Harris, C.P., Morgan, G.A, Neish, C.D., **Nypaver, C.A**., Patterson, G.W., Rivera-Valentin, E., Taylor, P.A., Thomson, B.J., and the Mini-RF Team (2023). Improved Orthorectification and Empirical Reduction of Topographic Effects in Monostatic Mini-RF S-band Observations of the Moon. *AAS Planetary Science Journal*, in press.

Lang, N. P., Dolanc, C., Beasley-Watson, K., Goodenow, K., Harris, K., Jackson, A., McCarthy, J., **Nypaver, C. A**., Schwab, N., Wood, T., (2023). Post-glacial tectonism and bluff erosion in northern Erie County, Pennsylvania, USA. *Field Excursions to the Appalachian Plateaus and the Valley and Ridge for GSA Connects 2023*, Brett T. McLaurin. https://doi.org/10.1130/2023.0066(04)

Morgan, G.A., Jawin, E.R., Campbell, B.A., Patterson, G.W., Bramson, A.M., **Nypaver, C.A**., Stopar, J.D. Jozwiak, L.M., Stickle, A.M., Bhiravarasu, S.S. (2023). Radar perspective of the Aristarchus pyroclastic deposit and implications for future missions. *AAS Planetary Science Journal*, in press.

Nypaver, C., Thomson, B. J., Moersch, J. E., Kring, D. A. (2023). A Thermophysical Investigation of Barringer Meteorite Crater Ejecta. *Earth and Space Science.* Under review.

Fassett, C. I., Beyer, R. A., Deutsch, A. N., Hirabayashi, M., Leight, C. J., Mahanti, P., **Nypaver, C.**, Thomson, B. J., Minton, D. A. (2022). Topographic Diffusion Revisited: Small Crater Lifetime on the Moon and Implications for Volatile Exploration. *Journal of Geophysical Research: Planets*, e2022JE007510. https://doi.org/10.1029/2022JE007510

Nypaver, C. and B. J. Thomson (2022). New observations of recently active wrinkle ridges in the lunar mare: Implications for the timing and origin of lunar tectonics. *Geophysical Research Letters*, e2022GL098975. https://doi.org/10.1029/2022GL098975.

Bramson, A. M., Carter, L. M., Patterson, G. W., Sori, M. M., Morgan, G. A, Jozwiak, L. M., **Nypaver, C.**, Cahill, J. T. S. (2022). Burial Depths of Extensive Shallow Cryptomaria in the Lunar Schiller-Schickard Region. *AAS Planetary Science Journal.* 3(9), 216. https://doi.org/10.3847/PSJ/ac8670.

Vanga, S., Fassett, C. I., Zanetti, M., **Nypaver, C.,** Thomson, B. J., Hirabayashi, M. (2022). Rock abundance on the lunar mare on surfaces of different ages: Implications for regolith evolution and thickness. *Geophysical Research Letters*, e2021GL096710. https://doi.org/10.1029/2021GL096710.

Nypaver, C., Thomson, B. J., Fassett, C. I., Rivera-Valentín, E. G., Patterson, G. W. (2021) Prolonged Rock Exhumation at the Rims of Kilometer-Scale Lunar Craters. *Journal of Geophysical Research. Planets,* 126(7). https://doi.org/10.1029/2021JE006897.

Lang, N. P., McDowell S., **Nypaver C.**, Lee-Vidal B., Gibson B. M. (2019) Unraveling Volcanic and Related Processes Using Remotely Sensed Data Sets: Perspectives from a Miocene-Aged Volcanic Terrain in Northwest Arizona. *Geological Society of America Conference Field Trip Guide.* Sept. 19-21, 2019.

Nypaver, C., Lang, N.P., and Thomson, B.J. (2018) Geologic mapping, morphometric characterization, and statistical analyses of six Venusian shield fields: Insights into the processes related to their formation, in Poland, M., Garcia, M., Camp, V., and Grunder, A., eds., *Field Volcanology: A Tribute to the Distinguished Career of Don Swanson: Geological Society of America Special Paper 538*, p. 1–24, https://doi.org/10.1130/2018.2538(20).

Fassett, C., King, I.R., **Nypaver, C.,** Thomson, B.J. (2018) Temporal Evolution of S-band Circular Polarization Ratio of Kilometer-scale Craters on the Lunar Maria. *Journal of Geophysical Research*, 123, 3133-3143. https://doi.org/10.1029/2018JE005741

CONFERENCE PRESENTATIONS (First author only)

C. Nypaver, B. J. Thomson, J. E. Moersch, D. A. Kring. A Thermophysical Remote Sensing Investigation of Barringer Meteorite Impact Crater. Oral presentation: LPSC 2023. https://www.hou.usra.edu/meetings/lpsc2023/pdf/2479.pdf

C. Nypaver, B. J. Thomson, E. G. Rivera-Valentín, C. I. Fassett, G. W. Patterson. New Observations of Recently Active Wrinkle Ridges in the Lunar Mare: Implications for the Timing and Origin of Lunar Tectonics. Oral presentation: LPSC 2022. http://www.hou.usra.edu/meetings/lpsc2022/pdf/2140.pdf.

C. Nypaver, B. J. Thomson, E. G. Rivera-Valentín, C. I. Fassett, G. W. Patterson. Investigating Tectonically Induced Mass Wasting as a Cause for Enhanced Boulder Populations on the Lunar Maria. Poster presentation: LPSC 2022. http://www.hou.usra.edu/meetings/lpsc2022/pdf/2145.pdf.

C. Nypaver, B. J. Thomson, E. G. Rivera-Valentín, C. I. Fassett, G. W. Patterson. Prolonged Boulder Exhumation at the Rims of Kilometer-Scale Craters on the Lunar Maria. Oral presentation: GSA 2021. https://www.hou.usra.edu/meetings/lpsc2019/pdf/2483.pdf.

C. Nypaver, B. J. Thomson, E. G. Rivera-Valentín, C. I. Fassett, C. D. Neish, G. W. Patterson, A. K. Virkki, P. A. Taylor. Prolonged Boulder Exhumation at the Rims of Kilometer-Scale Craters on the Lunar Maria. Oral presentation: LPSC 2021. https://www.hou.usra.edu/meetings/lpsc2020/pdf/2258.pdf

C. Nypaver, B. J. Thomson, M. C. McCanta, G. W. Patterson, J. T. Cahill, S. S. Bhiravarasu. Prolonged Roughness at Simple Lunar Impact Crater Rims. Poster presentation: LPSC 2019. https://www.hou.usra.edu/meetings/lpsc2019/pdf/2483.pdf.

C. Nypaver, B. J. Thomson, G. W. Patterson, S. S. Bhiravarasu, C. D. Neish, L. M. Jozwiak, J. T. Cahill. Improved Geospatial Control of Mini-RF Bistatic Observations. Poster presentation: LPSC 2019. https://www.hou.usra.edu/meetings/lpsc2019/pdf/2483.pdf.

C. Nypaver, B. J. Thomson, D. Burr, C. I. Fassett, C. Neish, W. Patterson, J. T. Cahill. Constraining lifetimes of lunar crater ejecta using multiple remote sensing datasets. Oral presentation: LPSC 2019. https://www.hou.usra.edu/meetings/lpsc2019/pdf/2483.pdf.

C. Nypaver, B. J. Thomson, D. Burr, C. Fassett, C. Neish, W. Patterson, A. Stickle. Radar Properties of Impact Ejecta on the Lunar Maria: A Model for Degradation and Age. Poster presentation: LPSC 2018. https://www.hou.usra.edu/meetings/lpsc2018/pdf/2560.pdf.

C. Nypaver and N.P. Lang. A Structural Analysis of Devonian-Aged Bedrock in Four-Mile Creek, Erie, Pa. Poster presentation: NE GSA 2017. doi : 10.1130/abs/2017NE-291261

C. Nypaver, N. P. Lang, B. J. Thomson. Geologic Processes and Stratigraphies Recorded within Venusian Shield Fields. Oral presentation: GSA, 2016. doi:10.1130/abs/2016AM-285503.

C. Nypaver, N.P. Lang, E. Baker, B.J. Thomson. Reconnaissance 1:5M scale geologic mapping of the Mahuea Tholus (V-49) quadrangle, Venus. Poster presentation: LPSC 2016. https://www.hou.usra.edu/meetings/lpsc2016/pdf/1338.pdf.

AWARDS (=$80,949)

2023	Smithsonian Institution Postdoctoral Fellowship ($64,952)
2022	Geological Society of America: Planetary Geology Division Dwornik Award – Honorable Mention
2022	Jimmy and Eileen Cheek Graduate Student Medal of Excellence: UTK College of Arts and Sciences nominee
2021	University of Tennessee Graduate School Student/Faculty Research Award ($3,298)
2020	University of Tennessee, Department of Earth and Planetary Sciences Excellence in Teaching Award ($500)
2020	Tennessee Space Grant Consortium Excellence in Outreach and Research Award ($350)
2020	University of Tennessee, Department of Earth and Planetary Sciences Geoclub Rock Solid Award
2019	University of Tennessee College of Arts and Sciences Fellowship ($12,000)
2019	Tennessee Space Grant Consortium Excellence in Outreach and Research Award ($300)
2019	University of Tennessee, Department of Earth and Planetary Sciences Colloquium Presentation Award($400)
2019	University of Tennessee, Department of Earth and Planetary Sciences Geoclub Rock Solid Award
2019	University of Tennessee Graduate Student Senate Excellence in Service Award
2018	University of Tennessee Graduate School Student/Faculty Research Award ($4,796)
2018	University of Tennessee, Graduate Student Senate, Travel Grant ($250)
2018	University of Tennessee, Department of Earth and Planetary Sciences ($400)

TEACHING APPOINTMENTS

Graduate Teaching Assistant - *University of Tennessee*

2022	Geology 454: GIS for Geoscientists
2020-2022	Geology 104: Exploring the Planets
2019	Geology 450: Geomorphology
2019	Geology 104: Exploring the Planets
2018	Geology 104: Exploring the Planets
2018	Geology 104: Exploring the Planets
2017	Geology 101: Introduction to Geology

Graduate Teaching Assistant – *Mercyhurst University*

2017	Geology 455: Field Methods: Mojave Natl. Preserve

SERVICE

2018- present	Lunar Reconnaissance Orbiter Mini-RF: Science Team Member
2021	Executive Secretary: NASA proposal review panel
2018- 2020	McClung Museum of Natl. History: Student Instructor of Geology
2018- 2019	University of Tennessee Geoclub Event and Merchandise Coordinator
2018- 2019	University of Tennessee EPS Director of Brown Bag Seminars
2016	Executive Secretary: NASA proposal review panel
2015 – 2016	Mercyhurst University Geology Club Vice President
2014 – 2015	Mercyhurst University Geology Club Treasurer

SOFTWARE PROFICIENCIES

Esri ArcGIS products (ArcGIS Pro, ArcMap, ArcCatalog)
Integrated System of Imagers and Spectrometers: V3 (ISIS3)
L3 Harris ENVI/IDL

Mathworks MATLAB
Python/C++ programming

FIELD EXPERIENCES

2015 Field Methods in Geology – Mercyhurst University: Geol 255
2017 TA for Field Methods: Mojave Natl. Preserve – Mercyhurst University: Geol 455
2019 Geological Society of America Annual Meeting Field Trip (Lang et al., 2019)
2022 A Drone-Based Remote Sensing Analysis of Barringer Meteor Crater Ejecta (Nypaver et al., 2023 *under review*)