Prof. Nicholas Schmerr
University of Maryland, College Park
Department of Geology
College Park, MD, USA

History of Employment:

2020-present	***Associate Professor***: University of Maryland College Park, Department of Geology, College Park, MD, USA.
2014-2020	***Assistant Professor***: University of Maryland College Park, Department of Geology, College Park, MD, USA.
2013-2014	***Assistant Research Scientist***: University of Maryland College Park, Department of Geology, College Park, MD, USA.
2010-2013	***Postdoctoral Researcher***: NASA Postdoctoral Program Fellowship, NASA Goddard Space Flight Center, Greenbelt, MD, USA.
2008-2010	***Postdoctoral Researcher***: Postdoctoral Research Fellow, Carnegie Institution. of Washington, Department of Terrestrial Magnetism, Washington, DC, USA.

Degrees:

2008	PhD	Geophysics	Arizona State University
2001	B.S.	Geology and Astronomy	Beloit College

Narrative of Research Experience:

Prof. Schmerr has over 20 years of geophysical research experience in the study of the detailed structure of planetary interiors and the near sub-surface. He is the PI of the Planetary Geophysics & Seismology Laboratory (PGSL) at the University of Maryland. He is involved in the instrument design, development, and testing of the next generation of planetary seismometers. Prof. Schmerr also leads the NASA SSERVI team GEODES (Geophysical Exploration of the Dynamics and Evolution of the Solar System) that supports the exploration of asteroids and the moon by using geophysical analogs on Earth for planetary research. He is a Co-I on the Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) Mission to Mars and member of the InSight Science Team, and he is a science team member of the Volatiles Investigating Polar Exploration Rover (VIPER) Mission to the Moon.

Recent Key Publications:

- **Schmerr, N**. (2015), Imaging Mantle Heterogeneity with Upper Mantle Seismic Discontinuities, in *The Earth's Heterogeneous Mantle*, edited by A. Khan and F. Deschamps, pp. 79-104, Springer International Publishing, http://dx.doi.org/10.1007/978-3-319-15627-9_3.
- Marusiak, A.G., **Schmerr, N.C.**, Pettit, E.C, Avenson, B., Bailey, S.H., Bray, V.J., Dahl, P., DellaGiustina, D.N., Wagner, N., Weber, R.C. (2022). The Detection of Seismicity on Icy Ocean Worlds by Single-Station and Small-Aperture Seismometer Arrays. Earth and Space Science, 9(3) e2021EA002065, https://doi.org/10.1029/2021EA002065.
- Huang, Q., **Schmerr, N.C.,** Beghein, C., Waszek, L., Maguire, R. (2022), 3-D Synthetic Modeling of Anisotropy Effects on SS Precursors: Implications for Mantle Flow in the Transition Zone. Geophysical Journal International, 229(2), 1212-1231 https://doi.org/10.1093/gji/ggab529.
- Waszek, L., Tauzin, B., **Schmerr, N. C.**, Ballmer, M. D., & Afonso, J. C. (2021). A poorly mixed mantle transition zone and its thermal state inferred from seismic waves. *Nature Geoscience*, *14*(12), 949–955. https://doi.org/10.1038/s41561-021-00850-w.

- Stähler, S. C., Khan, A., Banerdt, W. B., Lognonné, P., Giardini, D., Ceylan, S., Drilleau, M., Duran, A. C., Garcia, R. F., Huang, Q., Kim, D., Lekic, V., Samuel, H., Schimmel, M., **Schmerr, N.**, Sollberger, D., Stutzmann, É., Xu, Z., Antonangeli, D., Charalambous, C., Davis, P. M., Irving, J. C. E., Kawamura, T., Knapmeyer, M., Maguire, R., Marusiak, A. G., Panning, M. P., Perrin, C., Plesa, A.-C., Rivoldini, A., Schmelzbach, C., Zenhäusern, G., Beucler, É., Clinton, J., Dahmen, N., van Driel, M., Gudkova, T., Horleston, A., Pike, W. T., Plasman, M., & Smrekar, S. E. (2021). Seismic detection of the martian core. *Science*, *373*(6553), 443–448. https://doi.org/10.1126/science.abi7730.
- Knapmeyer-Endrun, B., Panning, M. P., Bissig, F., Joshi, R., Khan, A., Kim, D., Lekić, V., Tauzin, B., Tharimena, S., Plasman, M., Compaire, N., Garcia, R. F., Margerin, L., Schimmel, M., Stutzmann, É., **Schmerr, N.**, Bozdag, E., Plesa, A.-C., Wieczorek, M. A., Broquet, A., Antonangeli, D., McLennan, S. M., Samuel, H., Michaut, C., Pan, L., Smrekar, S. E., Johnson, C. L., Brinkman, N., Mittelholz, A., Rivoldini, A., Davis, P. M., Lognonné, P., Pinot, B., Scholz, J.-R., Stähler, S., Knapmeyer, M., van Driel, M., Giardini, D., & Banerdt, W. B. (2021). Thickness and structure of the martian crust from InSight seismic data. *Science*, *373*(6553), 438–443. https://doi.org/10.1126/science.abf8966.
- Khan, A., Ceylan, S., van Driel, M., Giardini, D., Lognonné, P., Samuel, H., **Schmerr, N.** C., Stähler, S. C., Duran, A. C., Huang, Q., Kim, D., Broquet, A., Charalambous, C., Clinton, J. F., Davis, P. M., Drilleau, M., Karakostas, F., Lekic, V., McLennan, S. M., Maguire, R. R., Michaut, C., Panning, M. P., Pike, W. T., Pinot, B., Plasman, M., Scholz, J.-R., Widmer-Schnidrig, R., Spohn, T., Smrekar, S. E., & Banerdt, W. B. (2021). Upper mantle structure of Mars from InSight seismic data. *Science*, *373*(6553), 434–438. https://doi.org/10.1126/science.abf2966.
- Haviland, H., Weber, R., Neal, C., Lognonne, P, Garcia, R., **Schmerr, N.**, Nagihara, S., Grimm, R., Currie, D., Dell'Agnello, S., Watters, T., Panning, M., Johnson, C., Yamada, R., Knapmeyer, M., Ostrach, L., Kawamura, T., Petro, N., Bremner, P., (2021) The Lunar Geophysical Network Landing Sites Science Rationale. *The Planetary Science Journal*, 3(40), https://doi.org/10.3847/PSJ/ac0f82.

Honors and Awards

2014	Doornbos Memorial Prize, Study of Earth's Deep Interior
2010-2013	Postdoctoral Position Fellowship, NASA
2008-2010	Postdoctoral Fellowship, Carnegie Institution of Washington
2008	Outstanding Student Paper Award, American Geophysical Union
2006-2007	Scientists Fellowship, Achievement Rewards for College
2003-2007	Graduate Research Fellowship, National Science Foundation
2000	James Ferwerda Science Scholarship, Beloit College
1997-2001	Presidential Scholarship, Beloit College
2001	Outstanding Teacher Assistantship Award, Beloit College
2000	Outstanding Teacher Assistantship Award, Beloit College

Professional Society Memberships

- American Geophysical Union
- Geological Society of America
- Seismological Society of America
- International Glaciological Society
- Society of Exploration Geophysicists