

Christopher N. Shingledecker

Department of Chemistry
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CURRENT POSITION	<i>Ph.D. Candidate</i> , University of Virginia
RESEARCH FOCUS	Astrochemical modeling, High-performance Computing, Radiation Chemistry
EDUCATION	<i>Bachelor of Science with Highest Honors</i> , Chemistry University of Virginia, Charlottesville, VA, May 2013 Concentration: Physical Chemistry Minor: Astronomy <i>Doctor of Philosophy</i> , Chemistry University of Virginia, Charlottesville, VA, expected May 2018 Concentration: Theoretical Computational Astrochemistry
AWARDS & HONORS	2013 Oscar R. Rodig Excellence in Chemistry Award 2015 DOE NNSA Stewardship Science Graduate Fellowship: Honorable Mention 2017 NASA ROSES Proposal Writing Retreat Winner
PROFESSIONAL ASSOCIATION MEMBERSHIP	<ul style="list-style-type: none">• Phi Beta Kappa honor society• Phi Theta Kappa honor society• Mu Alpha Theta honor society• Alpha Chi Sigma professional chemistry fraternity• American Astronomical Society• American Chemical Society
SCIENTIFIC ORGANIZING COMMITTEES	2016/2017 Astrobiology Graduate Conference (AbGradCon) University of Virginia, Charlottesville, VA, USA, June 2017
REFEREEING DUTIES	since 2017 ACS Earth & Space Chemistry
OTHER ACTIVITIES	2015-2017 <i>House Treasurer</i> , Alpha Chi Sigma fraternity, $\alpha\kappa$ Chapter 2012-2013 <i>Chapter Reporter</i> , Alpha Chi Sigma fraternity, $\alpha\kappa$ Chapter

PAPERS

McGuire, B. A., Burkhardt, A. M., Shingledecker, C. N., Kalenskii, S., Herbst, E., Remijan, A. J., McCarthy, M. C. (2017) Detection of Interstellar HC₅O in TMC-1 with the Green Bank Telescope, *The Astrophysical Journal, Letters*

Shingledecker, C. N., Le Gal, R., Herbst, E. (2017) A New Model of the Chemistry of Ionizing Radiation in Solids: CIRIS, *Physical Chemistry Chemical Physics*

Shingledecker, C. N., Bergner, J., Le Gal, R. A., Hincelin, U., Oberg, K. I., Herbst, E. (2016) On the Use of [DCO⁺]/[HCO⁺] to Infer Cosmic-ray Ionization Rates: The Effects of Nuclear Spin, *The Astrophysical Journal*

Abplanalp, M. J., Gozem, S., Krylov, A. I., Shingledecker, C. N., Herbst, E., Kaiser, R. I. (2016) A study of interstellar aldehydes and enols as tracers of a cosmic ray-driven nonequilibrium synthesis of complex organic molecules, *Proceedings of the National Academy of Sciences*, 113, pp 7727-7732

Loomis, R., Shingledecker, C., Langston, G., McGuire, B., Dollhopf, N., Burkhardt, A., Corby, J., Carroll, P., Turner, B., Remijan, A. (2016) Non-Detection of HC₁₁N toward TMC-1: Constraining the Chemistry of Large Carbon-Chain Molecules, *Monthly Notices of the Royal Astronomical Society*, submitted

Burkhardt, A. M., Dollhopf, N. M., Corby, J. F., Carroll, P. B., Shingledecker, C. N., Loomis, R. A., Booth, S. T., Blake, G. A., Herbst, E., Remijan, A. J., McGuire, B. A. (2016) CSO and CARMA observations of L1157. II. chemical complexity in the shocked outflow, *The Astrophysical Journal*

McGuire, B. A., Carroll, P. B., Dollhopf, N. M., Crockett, N. R., Corby, J. F., Loomis, R. A., Burkhardt, A. M., Shingledecker, C. N., Blake, G. A., Remijan, A. J. (2015) CSO and CARMA Observations of L1157. I. A Deep Search for Hydroxylamine (NH₂OH), *The Astrophysical Journal*

Loomis, R., McGuire, B., Shingledecker, C., Johnson, C., Blair, S., Robertson, A., Remijan, A. (2014) Investigating the Minimum Energy Principle in Searches for New Molecular Species - The Case of H₂C₃O Isomers, *The Astrophysical Journal*

CONFERENCE TALKS & POSTERS

Invited Talk - Wellesley College: Dept. of Chemistry, *Cosmic Rays Bite the Dust: An Introduction to the CIRIS Model*, Wellesley, MA, June 2017

Talk - International Symposium on Molecular Spectroscopy, *A New Model of the Chemistry of Ionizing Radiation in Solids*, Urbana-Champaign, IL, June 2017

Talk - Astrobiology Graduate Conference, *Cosmic Irradiation of Interstellar Ices as a Means of Forming Prebiotic Molecules*, Charlottesville, VA, June 2017

Talk - Tuesday UVa/NRAO Astronomy (TUNA) Lunch Talk Series, *Modeling Cosmic Ray Induced Interstellar Chemistry*, Charlottesville, VA, May 2017

Poster - American Chemical Society 253rd National Meeting, *Simulating the chemistry of ionizing radiation in solids*, San Francisco, CA, April 2017

Poster - Second Workshop on Experimental Laboratory Astrophysics, *Cosmic-ray Induced Interstellar Grain Chemistry: A New Microscopic Monte Carlo Approach*, Kauai, HI, February 2015

Poster - Astrobiology Graduate Conference, Temperature Gradients in Meteorites During Atmospheric Entry, Troy, NY, July 2014

Talk - Distinguished Majors Symposium, Analysis of the Chemistry of Protoplanetary Disks: The Search for the Water Snow-line. University of Virginia, Charlottesville, VA, April 2013

COMPUTER SKILLS

Languages & Software: Fortran, C, IDL, Python, BASIC, PBS, SLURM, Bash, SRIM, Mathematica, MPI, OpenMP, Coarray Fortran, L^AT_EX
Operating Systems: BSD Unix, Linux, Windows, Mac OS X, Plan 9 from Bell Labs

REFERENCES

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