

Curriculum Vitae Jennifer B. Bergner

Education

Ph.D. Chemistry & Chemical Biology	Harvard University, 2019
M.A. Chemistry & Chemical Biology	Harvard University, 2016
B.S. Chemistry	University of Virginia, 2013

Research Positions

NASA Hubble-Sagan Postdoctoral Fellow University of Chicago, Department of the Geophysical Sciences	2019 – present
Graduate Student Harvard-Smithsonian Center for Astrophysics	2014 – 2019 <i>Advisor: Karin Öberg</i>
Undergraduate Research Assistant University of Virginia, Chemistry Department	2013 <i>Advisor: Eric Herbst</i>

Awards & Distinctions

International Astronomical Union PhD Prize, Division H (Interstellar Matter & the Local Universe)	2020
Robert L. Brown Outstanding Dissertation Award, National Radio Astronomy Observatory	2020
NASA Hubble-Sagan Postdoctoral Fellowship	2019
Fireman Dissertation Award, Harvard Astronomy Department	2019
Rodger Doxsey Travel Prize, American Astronomical Society 223rd meeting	2019
Distinction in Teaching Award, Harvard Bok Center	Spring 2016 & Spring 2017
Graduate Research Fellowship Program, National Science Foundation	2014 – 2019
Outstanding Senior in Chemistry at UVA, American Chemical Society Virginia Section	2013
Distinguished Major in Chemistry: Highest Distinction, University of Virginia	2013
Harrison Undergraduate Research Award, University of Virginia	2012
Jefferson Public Citizen Award, University of Virginia	2011 & 2012

Publications

First author

An evolutionary study of volatile chemistry in protoplanetary disks Bergner, J. B. , Öberg, K. I., Bergin, E. A., et al. The Astrophysical Journal, 898, 97	August 2020 ADS
Detection of phosphorus-bearing molecules towards a Solar-type protostar Bergner, J. B. , Öberg, K. I., Walker, S., Guzmán, V. V., Rice, T. S., & Bergin, E. A. The Astrophysical Journal Letters, 884, 2	October 2019 ADS
Organic complexity in protostellar disk candidates Bergner, J. B. , Martín-Doménéch, Öberg, K. I., et al. ACS Earth & Space Chemistry, 3, 1564	July 2019 ADS
A survey of C ₂ H, HCN, and C ¹⁸ O in protoplanetary disks Bergner, J. B. , Öberg, K. I., Bergin, E. A., Loomis, R. A., & Pegues, J. The Astrophysical Journal, 876, 25	April 2019 ADS
Oxygen atom reactions with C ₂ H ₆ , C ₂ H ₄ , and C ₂ H ₂ in ices Bergner, J. B. , Öberg, K. I., & Rajappan, M. The Astrophysical Journal, 874, 115	March 2019 ADS
A survey of CH ₃ CN and HC ₃ N in protoplanetary disks	

- Bergner, J. B.**, Guzmán, V. G., Öberg, K. I., Loomis, R. A., & Pegues, J. April 2018
The Astrophysical Journal, 857, 69 ADS
- Methanol formation via oxygen insertion chemistry in ices
Bergner, J. B., Öberg, K. I., & Rajappan, M. August 2017
The Astrophysical Journal, 845, 29 ADS
- Complex organic molecules towards embedded low-mass protostars
Bergner, J. B., Öberg, K. I., Garrod, R. T., & Graninger, D. M. June 2017
The Astrophysical Journal, 841, 120 ADS
- Kinetics and mechanisms of the acid-base reaction between NH_3 and HCOOH in interstellar ice analogs
Bergner, J. B., Öberg, K. I., Rajappan, M., & Fayolle, E. C. October 2016
The Astrophysical Journal, 829, 85 ADS
- Significant contributor*
- The TW Hya Rosetta Stone Project I: Radial and vertical distributions of DCN and DCO^+
Öberg, K. I., Cleeves, L. I., **Bergner, J. B.**, et al. November 2020
The Astrophysical Journal, in press arXiv
- An ALMA survey of H_2CO in protoplanetary disks
Pegues, J., Öberg, K. I., **Bergner, J. B.**, et al. February 2020
The Astrophysical Journal, 890, 142 ADS
- A new, rotating hot corino in Serpens
Martín-Doménech, R., **Bergner, J. B.**, Öberg, K. I., & Jørgensen, J. K. August 2019
The Astrophysical Journal, 880, 130 ADS
- Carbon chain molecules toward embedded low-mass protostars
Law, C. J., Öberg, K. I., **Bergner, J. B.**, & Graninger, D. July 2018
The Astrophysical Journal, 863, 88 ADS
- On the inference of the cosmic-ray ionization rate from the HCO^+ -to- DCO^+ abundance ratio: The effect of nuclear spin
Shingledecker, C. N., **Bergner, J. B.**, Le Gal, R., Öberg, K. I., Hincelin, U., & Herbst, E. October 2016
The Astrophysical Journal, 830, 151 ADS
- Collaborator*
- The TW Hya Rosetta Stone Project IV. A hydrocarbon rich disk atmosphere
Cleeves, L. I., Loomis, R. A., Teague, R., et al. incl. **Bergner, J. B.** February 2021
The Astrophysical Journal, in press arXiv
- The TW Hya Rosetta Stone Project III. Resolving the Gaseous Thermal Profile of the Disk
Calahan, J. K., Bergin, E., Zhang, K., et al. incl. **Bergner, J. B.** February 2021
The Astrophysical Journal, 908, 8 ADS
- The TW Hya Rosetta Stone Project II: Spatially resolved emission of formaldehyde hints at low-temperature gas-phase formation
Terwisscha van Scheltinga, J., Hogerheijde, M. R., Cleeves, L. I., et al. incl. **Bergner, J. B.** November 2020
The Astrophysical Journal, in press arXiv
- An Unbiased ALMA Spectral Survey of the LkCa 15 and MWC 480 Protoplanetary Disks
Loomis, R. A., Öberg, K. I., Andrews, S.M., et al. incl. **Bergner, J. B.** April 2020
The Astrophysical Journal, 893, 101 ADS
- Sulfur chemistry in protoplanetary disks: CS and H_2CS
Le Gal, R., Öberg, K. I., Loomis, R. A., Pegues, J., & **Bergner, J. B.** May 2019
The Astrophysical Journal, 876, 72 ADS
- Desorption kinetics and binding energies of small hydrocarbons
Behrard, A., Fayolle, E. C., Graninger, D. M., **Bergner, J. B.**, et al. April 2019
The Astrophysical Journal, 875, 73 ADS
- The distribution and excitation of CH_3CN in a solar nebula analog
Loomis, R. A., Cleeves, L. I., Öberg, K. I., et al. incl. **Bergner, J. B.** June 2018
The Astrophysical Journal, 859, 131 ADS
- CO diffusion and desorption kinetics in CO_2 ices
Cooke, I. R., Öberg, K. I., Fayolle, E. C., Peeler, Z., & **Bergner, J. B.** January 2018
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The Astrophysical Journal, 852, 75	ADS
N ₂ and CO desorption energies from water ice Fayolle, E. C., Balfe, J., Loomis, R. A., Bergner, J. B. , Graninger, D., Rajappan, M., & Öberg, K. I.	January 2016 ADS
The Astrophysical Journal Letters, 816, L28	
Sphingosine-1-phosphate receptor 1 reporter mice reveal receptor activation sites in vivo Kono, M., Tucker, A. E., Tran, J., Bergner, J. B. , Turner, E. M., & Proia, R. L.	May 2014 JCI
The Journal of Clinical Investigation, 124, 2076	

Teaching & Mentoring Experience

Teaching Fellow, Harvard University Astronomy 203 – The Interstellar Medium Physical & Life Sciences 1 – Introduction to the Physical Sciences	Spring 2017 Spring 2015, 2016
Lecturer, Harvard Banneker and Aztlán Institutes Exoplanets, two week intensive	Summer 2016, 2017, 2018
Teaching Assistant, University of Virginia Introductory Organic Chemistry	Fall 2012, Spring 2013
Undergraduate research mentees: Serena Wurmser (Harvard University) Salma Walker (California State University, Northridge; Harvard Banneker and Aztlán Institutes)	
Science Education Undergraduate Mentoring Workshop Series, Harvard University	2018

Outreach & Service

EDI Discussion Series, University of Chicago Department of the Geophysical Sciences Organizer & Facilitator	2020
5-year EDI strategic plan working group, University of Chicago Physical Sciences Division	2020
JWST Master Class Participant (STScI) and Workshop Leader (University of Chicago & Northwestern University)	2019-2020
Harvard Banneker & Aztlán Institutes Peer mentor, Lecturer, Research supervisor	2016–2018
Astrobiology Graduate Conference Outreach Organizer	2017
Reviewer for The Astrophysical Journal, Astronomy & Astrophysics, ACS Earth & Space Chemistry, Nature Communications, NASA ROSES	

Research Talks

ACS National Meeting, “Astrochemical Complexity in Planetary Systems” Session (<i>invited</i>)	<i>Postponed, April 2021</i>
Astrochemistry Discussions, Phosphorus Day (<i>invited</i>)	February 2021
Physics & Astronomy Colloquium, Dartmouth College (<i>invited</i>)	January 2021
43rd COSPAR Scientific Assembly, “Pre-biotic and Complex Molecules in the Universe” Session	January 2021
American Geophysical Union, "Accretion and Differentiation of Rocky Planets" Session (<i>invited</i>)	December 2020
Origins of Life Speaker Series, University of Chicago Physical Sciences Division (<i>invited</i>)	October 2020
National Radio Astronomy Observatory Colloquium (<i>invited</i>)	October 2020
Astrochemical Frontiers, Quarantine Edition	June 2020
ISSI ‘Provenances of Solar System Relics’ Team Meeting, Bern Switzerland	February 2020
Planetary Science Colloquium, MIT (<i>invited</i>)	November 2019
Lake Michigan Exoplanets Meeting, Chicago IL	November 2019
Hubble Fellows Symposium, Washington, D.C.	October 2019

SOFIA Colloquium, NASA Ames Research Center (<i>invited</i>)	October 2019
223rd AAS Meeting Dissertation Presentation, Seattle WA	January 2019
Submillimeter Array Science Seminar, Harvard CfA (<i>invited</i>)	January 2019
Molecular Physics Seminar, Institut de Physique de Rennes (<i>invited</i>)	December 2018
Geophysical Sciences Seminar, University of Chicago (<i>invited</i>)	November 2018
Star, Planets, and Formation Journal Club, University of Michigan	November 2018
Astronomy Post-Doctoral Fellows Seminar Series, Yale University	October 2018
ORIGINS Seminar, University of Arizona	October 2018
Tuesday UVa/NRAO Astronomy seminar, NRAO Charlottesville	October 2018
Institute for Theory & Computation Lunch Seminar, Harvard CfA (<i>invited</i>)	September 2018
Astronomy Seminar, University of Connecticut (<i>invited</i>)	September 2018
42nd COSPAR Scientific Assembly, Pasadena CA	July 2018
Astrochemistry: Past, Present, & Future, Pasadena CA	July 2018
Harvard University Chemistry and Chemical Biology Research Symposium	January 2018
Astrochemistry Seminar, University of Leiden	July 2017
ACS National Meeting, "Frontiers of Solar System Chemistry" Symposium	August 2016
