Curriculum Vitae

Edwin A. Bergin
Department of Astronomy
University of Michigan
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Ann Arbor, MI 48109-1090
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E-mail: ebergin@umich.edu

Personal Data

Born: February 15, 1967, Philadelphia, PA
Citizenship: United States

Current Research Interests

- Radio astronomy and molecular astrophysics
- Astrobiology: Tracing the interstellar water cycle from atomic oxygen in the interstellar medium to water in planetary bodies.
- Astrochemistry: Chemistry of star and planet formation - focused on formation of habitable worlds.

Education

1995 Ph.D. in Astronomy, University of Massachusetts
1989 B.S. in Astronomy and Astrophysics, Villanova University

Employment

2015 - Chair of Astronomy Department
2011 - present Professor of Astronomy
University of Michigan

2007 - 2011 Associate Professor of Astronomy
University of Michigan

2003 - 2007 Assistant Professor of Astronomy
University of Michigan

2000 - 2003 Astrophysicist
Harvard-Smithsonian Center for Astrophysics

1995 - 2000 Astronomer
Harvard-Smithsonian Center for Astrophysics

1990-1995 Research Assistant
Department of Physics and Astronomy
University of Massachusetts at Amherst

1989-1990, 1992 Instructor/Teaching Assistant
Department of Physics and Astronomy
University of Massachusetts at Amherst

1986-1989 Teaching Assistant
Department of Astronomy
Villanova University

Concurrent Positions and Honors

Visiting Professor École Normale Supérieure (Physics and Astronomy), Paris (July 2010)

University of Michigan Henry Russel Award (2008) for exceptional scholarship and conspicuous ability as a teacher. The Russel award is one of the highest honors the University bestows upon junior members of its faculty.

Medallion Award presented by Villanova University for Academic Excellence in Astronomy and Astrophysics

Diversity Efforts

Since 2014 Member of University of Michigan STRIDE committee (Strategies and Tactics for Recruiting In Diversity and Excellence). As part of committee we explore the current literature regarding bias over a range of areas. Committee members manage and are presenters in University of Michigan workshops designed to educate faculty on the presence and effects of implicit bias. In the workshops, we provide best practices for recruiting in diversity and excellence. Provided this same workshop on own initiative to Radboud University (Netherlands, 2015), Leiden University (Netherlands, 2015), University of Georgia (2016), Max Plank Institute for Astronomie (Germany; 2017), and National Radio Astronomy Observatory (2016). In fall 2017 scheduled to visit Penn State University on behalf of STRIDE, and Emory University at the request of the Dept. of Chemistry. Finally, as Chair I formed the Diversity, Equity, and Inclusion committee that places focus on fostering a welcome environment to everyone in the Department.

Publication Summary

284 refereed journal publications
12656 citations (NASA ADS Bumblebee)
> 1000 citations per year since 2011
h-index = 59 (59 papers with ≥ 59 citations)

Notable Professional Activities

Vice President, International Astronomical Union, Commission H2 (2015 - present)
Sackler Lecturer, Leiden Observatory (Dec. 2015)
NRAO Visiting Committee Chair (2013 - present)
Summary Talk - Universe Explored by Herschel, Nordwijk, the Netherlands, October 2013
Herschel/HIFI Instrument Co-Investigator
Principal Investigator of HEXOS (Herschel observations of EXtra-Ordinary Sources) Guaranteed Time Key Program (GTKP) – over 400 Hours of Herschel Time

Mentoring Summary

PhD Students - Chairman/thesis advisor:
Chris Merchantz (2016-present)
Tom Rice (2013-present)
Kamber Schwarz (2012-present)
L. Ilse Cleeves (PhD 2015)
Nathan Crockett (PhD 2013)

Jeffrey Fogel (PhD 2011)
John Tobin (PhD 2011) - co-advisor with L. Hartmann
Sarah Ragan (PhD 2009)

PhD Students - committee member, Department of Astronomy

Jaehan Bae (PhD 2017)
Melissa McClure (PhD 2015)
Tina Hsu (PhD 2014)
Laura Ingleby (PhD 2013)
Jo-Hsin Chen (PhD 2011) - University of Texas
Catherine Espaillat (PhD 2009)
Ajay Tannirkulam (PhD 2008)

PhD Students - committee member, Dept. of Atmospheric, Oceanic, and Space Sciences

Shannon Curry (PhD 2013)
Kristen Mihalka (PhD 2012)
Tamara McDunn (PhD 2012)
Amanda Brecht (PhD 2010)
Jon Kadish (PhD 2007)
Ben Lynch (PhD 2005)

Post-Doctoral Fellows:

Ke (Coco) Zhang (2015 - present)
Nick Indriolo (2014 - present)
Fujun Du (2012 - present)
Rudd Visser (2010 - 2015)
Cecile Favre (2012 - 2015)
Justin Neill (2011 - 2013)
Shiya Wang (2008-2011)
Thomas Bethell (2006-2011)
Sebastien Maret (2004-2007)

Undergraduates:

William Waalkes, Winter 2014
Dana Anderson, Chem 399, Summer 2012
Trevor McNeil, Summer 2010, 2011, 2012
Andrew Burkhardt, Summer 2012 - present
Ashwin Yerasi Summer 2008
Todd Wilkerson, AST399
Sean Carmody, AST 399
Shaneen Braswell, Summer 2004
David Tobin, AST 399

University of Michigan Service Activities

Member, STRIDE Committee, 2014 to present
Chair, Astrobiology Search Committee 2013/14
Member, Dept. Curriculum Committee, 2011 to present
Undergraduate Astronomy Advisor - 2011 to 2015
Individual Concentration Program Proposal Panel - 2011 to 2014
Member Astronomy Department Long-Range Planning Committee 2009-2010

Organizer of First Joint Astronomy/AOSS meeting 2010, 2011, 2012
Member, Faculty Advisory Group on Library Web redesign 2008
Member, Science Library Faculty Advisory Committee 2007-2010
Member and Chair, Astronomy Department Chair Advisory Committee 2008-2009
Team Member (representing Department of Astronomy), STEP Program 2007-2008
Member, Department Computing Committee 2003-2005
Member, Extra-galactic faculty search committee 2005
Chair, Star Formation faculty search committee 2004
Member, Graduate Admission Committee 2004, 2011, 2014
Member, Magellan Time Allocation Committee, 2003-2006

External Service Activities

Max Plank Institute for Astronomy Visiting Committee (2015 - present)
Member, NASA Far-Infrared Surveyor Science and Technology Definition Team (2016)
NRAO Visiting Committee (Representing AUI), Chair (2014-)
SPICA Focal Plane Instrument Review, Science Panel Member (2011-2013)
ALMA North American Science Advisory Committee (2011-2014)
NASA SOFIA Science Steering Committee (2006-2010)
NRAO GBT Telescope Allocation Committee (2005-2008)
NRAO Users Committee (2009-)
NOAO Telescope Allocation Committee (2008, 2011)
Spitzer Cycle 3 and 6 TAC
American Astronomical Society
International Astronomical Union
Referee for ApJ, A&A, PASJ
NSF ISM Grant Review Panel (twice as member and once as chair)
NASA Astrophysics Theory Review Panel (once as member and once as chair)

Funding History
Complete Listing Given in Table 1

Total Funds Awarded Since Arriving at Michigan	$> \$4{,}000{,}000$
Total Funds Awarded As Principal Investigator	$> \$2{,}000{,}000$

Book Chapters and Reviews

Bergin, E. A. 2014. Astrobiology: An astronomer's perspective. American Institute of Physics Conference Series 1638, 5-34.

van Dishoeck, E. F., Bergin, E. A., Lis, D. C., & Lunine, J. I. 2014, *Water: from Clouds to Planets*, Protostars and Planets VI, University of Arizona Press

Pontoppidan, K. M., Salyk, C., Bergin, E. A., et al. 2014, *Volatiles in Protoplanetary Disks*, Protostars and Planets VI, University of Arizona Press.

Bergin, E. *The Chemical Evolution of Protoplanetary Disks.* published in Physical Processes in Circumstellar Disks Around Young Stars, ed. P. Garcia, (University of Chicago Press: Chicago)

Bergin, E. and Tafalla, M., *Cold Dark Clouds: The Initial Conditions for Star Formation*, Annual Reviews of Astronomy and Astrophysics, 45, 339

Bergin, E., Aikawa, Y., Blake, G., and van Dishoeck, E. 2006, *The Chemical Evolution of Protoplanetary Disks*, Protostars and Planets V, 751

Irvine, W. and Bergin, E. 2000 *Molecules in Comets: the ISM-Solar System Connection*, IAU197 Astrochemistry: From Molecular Clouds to Planetary Systems, 197, 447

Langer, W., van Dishoeck, E., Bergin, E., Blake, G., Tielens, A., Velusamy, T., and Whittet, D. 2000, *Chemical Evolution of Protostellar Matter* , Protostars and Planets IV, 29

Organizing Committee's

Co-Chair IAU Symposium 332 - Astrochemistry VII: Through the Cosmos from Galaxies to Planets Chair, Gordon Research Conference, Origins of Solar Systems, Holyoke, MA (to be held June 2017)
Member, Scientific Organizing Committee, Fractionation of Isotopes in Space: from Solar Systems to Galaxies (Oct. 2016)
Member, Scientific Organizing Committee, Water in the Universe, Nordwijk, the Netherlands (April 2016)
Co-Organizer, International Astronomical Union Focus Meeting 15, Search for water and life's building blocks in the universe, Honolulu, Hawaii (August 2015)
Deputy Chair, Gordon Research Conference, Origins of Solar Systems, Holyoke, MA (June 2015)
Member, Scientific Organizing Committee, From Exoplanets to Distant Galaxies, SPICA's New Window on the Cool Universe, Tokyo, Japan (June 2013)
Member, Scientific Organizing Committee, Transformational Science with ALMA: From Dust to Rocks to Planets Formation and Evolution of Planetary Systems, Kona, Hawaii (April 2013)
Member, Scientific Organizing Committee, Exciting CO in the Local and High-Redshift Universe, Leiden, Netherlands (Feb. 2012)
Member, Scientific Organizing Committee: The Molecular Universe: an International Meeting on the Physics and Chemistry of the Interstellar Medium
Member, Scientific Organizing Committee, New Light on Young Stars: Spitzer's View of Circumstellar Disks
Member, Scientific Organizing Committee, The Early Phase of Star Formation - The Future of the Field
Member, Scientific Organizing Committee, Far-Infrared Astronomy from Space: A Community Workshop about the Future
Member, Committee on the Future of the SMA (Smithsonian Astrophysical Observatory)
Member, Scientific Organizing Committee, Spitzer Science Symposium (summary of results from the Spitzer cold mission to be held in Oct. 2009)

Table 1: E. Bergin Funding History

Role	Program Title	Funding Agency	Grant Period	Budget ($ K)
PI	Collaborative Research: Making a Habitable Planet	NSF	09/01/15-08/31/18	275.1
PI	Tqhe Evolution of the Volatile Inventory in Gas-Rich Planet-Forming Disks	01/01/16-12/31/18	NASA XRP	243.3
PI	Following the Carbon Trail in Planetary Formation	NSF INSPIRE	09/15/13-08/31/16	606.9
PI	Water and Organics: A Lens to View the Coupled Physics and Chemistry of Protoplanetary Disks	NASA	05/02/12-05/01/15	376.7
PI	Herschel Open Time 2 Priority 2	NASA-JPL Herschel	09/10/13-09/30/15	404.5
PI	Herschel Open Time 2	NASA-JPL Herschel	4/01/12-06/30/15	404.5
PI	Herschel Open Time 1	NASA-JPL Herschel	02/23/11-06/30/15	211.6
PI	Chemical Probes of Disk Accretion and Planet Formation	NSF	09/15/10-08/31/15	565.9
PI	Herschel Guaranteed Time Observer FY10 US Participation in Flight Instruments	NASA-JPL Herschel	08/16/12-09/30/15	173.9
PI	Herschel Guaranteed Time Observer FY10 US Participation in Flight Instruments	NASA-JPL Herschel	12/03/09-11/30/12	347.8
Co-I	Evolution on Infall and Envelope-Disk Accretion in Protostars	NASA-JPL Spitzer	06/11/09-09/30/11	8.5
PI	Searching for the Missing Sulfer in the Dense ISM	NASA-JPL Spitzer	05/18/09-09/30/11	87.9
PI	The Orion and Sgr B2 Star-Forming Regions	NASA-JPL Herschel	02/09/09-09/30/11	115.9
Co-I	Evolution of Infall and Envelope Accretion in Protostars	NASA-JPL Spitzer	06/04/08-06/30/10	33.2
PI	Ly-Alpha Propagation in the Planet-Forming Region of a Circumstellar Disk	NASA-STScI Hubble	08/01/09-07/31/11	35.4
Co-I	The Disks, Accretion, and Outflows DAO of T Tau Stars	NASA-STScI Hubble	08/01/09-07/31/11	55.0
PI	The Orion and Sgr B2 Star-Forming Regions	NASA-JPL Herschel	11/08/07-09/30/08	35.0
Co-I	Flow-Driven Molecular Cloud Formation: An Orion of the Initial Mass Function	NSF	09/01/08-08/31/11	300.3
Co-I	Herschel Orion Protostar Survey	NASA-JPL Herschel	03/23/09-09/30/09	190.0
Co-I	Dust, Ice, Gas in Time	NASA-JPL Herschel	03/19/09-09/30/09	158.6
Co-I	Herschel O2 Project	NASA-JPL Herschel	03/19/09-12/31/12	75.1
Co-I	Spitzer Spectral Line Mapping of Interstellar Shock Waves	NASA-JPL Spitzer	07/13/07-06/30/10	75.1
Co-I	Spitzer IRS Observations of Water-line Emission in Protostars	NASA-JPL Spitzer	07/13/07-06/30/10	12.6
Co-I	IRS Spectral Mapping of Interstellar Ices, Silicates, and Gas-Phase CO2	NASA-JPL Spitzer	07/13/07-06/30/10	33.0
PI	Water Isotopic Chemistry in the Solar Nebular and its Analogs	NASA	04/01/08-03/31/11	300.1
PI	The Orion and Sgr B2 Star-Forming Regions	NASA-JPL Herschel	02/27/07-11/07/07	44.5
PI	Peering into the Heart of Galactic Star Formation	NASA-JPL Spitzer	10/01/07-06/30/10	70.2
PI	Molecules and the Process of Star and Planet Formation	NSF	09/15/07-08/31/10	367.0
Co-I	Spitzer Observations of Hydrogen Deuteride	NASA-JPL Spitzer	08/31/06-09/30/08	29.4
Co-I	The Chemical and Dynamical Evolution of L1251B	NASA-JPL Spitzer	08/31/06-09/30/08	9.8
Co-I	The Water Cycle, the Oxygen Budget, and the Structure of Interstellar Clouds	Smithsonian Institution	07/01/06-12/14/09	49.4
Co-I	Dust Processing in the Protoplanetary Disk in the Orion OB1 Association	NASA-JPL Spitzer	09/08/05-05/31/08	12.9
PI	The Gas Dissipation Timescale: Constraining Models of Planet Formation	NASA-STScI Hubble	01/01/07-12/31/08	50.5
PI	Theoretical Studies of Ice Formation in a Dynamic Interstellar Medium	NASA-JPL Spitzer	10/20/06-09/30/08	40.2
PI	Ammonia in Massive Pre-Stellar Cores	NRAO-GBT	09/01/06-08/31/07	34.2
PI	Molecular Hydrogen as a Probe of Interstellar Gas on Parsec Scales	NASA-JPL Spitzer	09/08/05-05/31/08	54.0
Co-I	IRS Spectroscopy of Shocked Gas in Supernova Remnants	NASA-JPL Spitzer	07/23/04-07/30/07	16.8
Co-I	The Evolution of Astrophysical Ices: The Carbon Dioxide Diagnostic	NASA-JPL Spitzer	07/13/04-07/20/07	7.8
Co-I	The Structure and Evolution of Proto-Stellar Outflow Shocks	NASA-JPL Spitzer	07/20/04-07/30/07	15.5
PI	The Structure and Content of Pre-stellar Massive Cores	NASA-JPL Spitzer	07/23/04-07/30/07	15.1
PI	The FUV Flux Irradiating the Surfaces of Protostellar Disks	NASA-STSCI Hubble	06/01/04-05/31/06	41.2
PI	The FUV Flux Irradiating the Surfaces of Protostellar Disks	NASA-FUSE	04/15/04-04/14/06	18.9
PI	Comprehensive Studies of the Chemistry and Dynamics of Star-Forming Molecular Cores	NSF	07/15/03-06/30/06	201.4

Invited/Contributed Talks and Seminars

Invited Speaker, *Missing Links: From Disks to Planets*, Konkoly Observatory, Budapest, Hungary, October 2016

Invited Lecturer, *Astrochemistry Summer School*, Grenoble, France, August 2016

Contributed Talk, *Exoplanets I.*, Davos, Switzerland, July 2016

Invited Talk, *Formation, Evolution, and Dynamics of Young Solar Systems.* Sant Cugat del Vallès, Spain, April 2016.

Invited Talk, *From Clouds to Protoplanetary Disks: The Astrochemical Link.* Berlin, Germany, Oct. 2016.

Invited Talk, Goldschmidt Conference, Prague, CZ, August 2015.

Co-Orgnanizer, *Search for water and life's building blocks in the Universe*, International Astronomical Meeting XXIX Focus Meeting 15.

Summary Talk, *Search for water and life's building blocks in the Universe*, International Astronomical Meeting XXIX Focus Meeting 15, Honolulu, HI August 2015

Invited Talk, Meeting of Division H: Interstellar Medium, International Astronomical Meeting XXIX, Honolulu, HI August 2015

Lecturer, *Making a Habitable Planet*, ASTROBION 2014, Rio de Janeiro, September 2014

Invited Review, *Early Phases of Star Formation 2010*, Ringberg Castle, June 2014

Invited Talk, ACS Special Session on Chemistry in the Interstellar Medium, Dallas, TX, February 2014

Invited Contribution, AAAS Special Session on ALMA, Chicago, IL, February 2014

Summary Talk, *The Universe Explored by Herschel*, ESTEC, Nordwijk, the Netherlands, October 2013

Contributed Talk, *The Universe Explored by Herschel*, ESTEC, Nordwijk, the Netherlands, October 2013

Review Talk, *Water: from Clouds to Planets*, Protostars and Planets VI, Heidelberg, Germany, July 2013

Invited Talk, *GRC Origins of Solar Systems*, Holyoke, MA, June 2013

Contributed Talk, *Transformational Science with ALMA: From Dust to Rocks to Planets Formation and Evolution of Planetary Systems*, Kona, Hawaii, April 2013

Invited Review, *From Atoms to Pebbles: Herschel's view of Star and Planet Formation*, Grenoble, France, Marcy 2012

Invited Review, *Exciting CO in the Local and High-Redshift Universe*, Leiden, Netherlands, February 2012

Keynote Talk, *Midwest Astrochemistry Consortium*, University of Illinois, October 2011

Invited Contribution, *Workshop on the Origin of Earth's Water*, Iceland, September 2011

Invited Contribution, *Royal Society Discussion Meeting: Water in the Gas Phase*, Kavli Center, Milton Keynes, UK, May 2011

Contributed Talk, *IAU Symposium No. 280: The Molecular Universe*, Toledo, Spain, May 2011

Invited Contribution, *ALMA: Extending the Limits of Astrophysical Spectroscopy* , Victoria, British Columbia, Canada, January, 2011

Invited Review, *5th Cologne-Bonn Zermatt Symposium, Conditions and impact of star formation: New results with Herschel and beyond*, Zermatt, Switzerland, September 2010

Invited Contribution, *Delivery of Volatiles & Organics: From Earth to Exoearths in the Era of JWST*, STScI, September 2010

Invited Review, *5th Cologne-Bonn Zermatt Symposium, Conditions and impact of star formation: New results with Herschel and beyond*, Zermatt, Switzerland, September 2010

Invited Contribution, *Delivery of Volatiles & Organics: From Earth to Exoearths in the Era of JWST*, STScI, September 2010

Invited Review, *Early Phases of Star Formation 2010*, Ringberg Castle, June 2010

Invited Contribution, *American Chemical Society Special Session*, San Francisco, March 2010

Invited Contribution, *42nd IUPAC Congress Chemistry Solutions*, Scotland, UK, August 2009

Invited Contribution, invitation only *Workshop on the Origin of Earth's Water*, Molokai, HI, March 2008

Invited Contribution, Conference Honoring Thomas Phillips, Pasadena, CA, March 2009

Invited Review, Chemistry and Star Formation, The Molecular Universe: an International Meeting on the Physics and Chemistry of the Interstellar Medium, Arcachon, Fr, May 2007

Invited Contribution, Far-Infrared Astronomy from Space: A Community Workshop about the Future, Pasadena, May 2007

Keynote Talk, Bridging Laboratory and Astrophysics: MOLECULES and CHEMISTRY, Special Scientific Session at 212th AAS meeting

Invited Contribution: *Interstellar Chemistry: small Links to Comets and Meteorites* Highlights in Astrochemistry and Astrobiology, Max-Planck-Institut für Astronomie, Heidelberg, Germany 2006

Invited Contribution: *SOFIA and Astrochemistry*, Special Session, Stratospheric Observatory For Infrared Astronomy, AAS, Wash. D.C. 2006

Invited Contribution: *Chemical Models of Molecular Clouds*
Special Session, Highlights in Laboratory Astrophysics, AAS, Minneapolis, MN 2005

Invited Contribution: *Interstellar Chemistry and Submillimeter Astronomy*
Understanding the Universe through IR and Sub-mm Astronomy, Lexington, KY 2005

Contribution: *High Energy Radiation Fields and the Evolution of T Tauri Disks*
Oxygen in the Early Solar System, Gatlinburg, TN 2005

Invited Contribution: *What have we learned from SWAS?*
IAU Symposium 231 on: Astrochemistry Throughout the Universe, Asilomar, CA 2005

Summary Speaker: Water Radiative Transfer Workshop, Leiden, Netherlands 2004

Invited Contribution: *Interstellar Medium Science*, From Spitzer to Herschel and Beyond, Pasadena, CA 2004

Invited Contribution: *FUV Radiation and Protoplanetary Disks*, Modeling the Structure, Chemistry and Appearance of Protoplanetary Disks, Ringberg, Germany 2004

Invited Contribution: *Chemistry of Pre-stellar Cores*
The Dusty and Molecular Universe: A Prelude to Herschel and ALMA, Paris, France 2004

Chair and speaker, session entitled *Life Off Earth*
16th Annual US Frontiers of Science Symposium sponsored by the National Academy of Sciences 2004

Invited Review: *Astrochemistry and Observations*, 4th Cologne-Bonn Symposium on the Interstellar Medium in Galaxies, Zermatt, Switzerland 2004

Plenary Lecture: *Observations of Gas-Grain Chemistry in Star Forming Regions*
Solid State Chemistry in Star Forming Regions, Leiden, Netherlands 2003

Lecturer, European Research Course on Atmospheres, 2001, 2002

Invited Contribution: *Chemistry and Star Formation: How Depletions Affect the Way We View Clouds* MHD, Radiation Diagnostics, and Chemistry of Star Formation, Taroko Gorge, Taiwan 2002

Review Contribution: *Chemistry of Dark Clouds*
Chemistry as a Diagnostic of Star Formation, Waterloo 2002

Invited Contribution: *Molecules in Comets: An ISM-Solar System Connection?*
American Geophysical Union, Dec. 2000

Invited Contribution: *SWAS and Interstellar Chemistry*
Workshop on Astrochemical Modeling held in Leiden Oct. 2000

Invited Contribution: *Formation of Interstellar Ices Behind Shock Waves*
Workshop on the Formation of Interstellar Ices, held in Leiden Oct. 1999

Invited Contribution: *Chemical Models of Collapsing Envelopes*
IAU197 Astrochemistry: From Molecular Clouds to Planetary Systems

Colloquia

University of Bern - 2017, Max Plank Institut for Astronomie - 2016, Sackler Lecturer, Leiden Observatory - 2015, California Institute of Technology - 2015, NASA Jet Propulsion Laboratory - 2015, NASA/Ames - 2014, Los Alamos National Laboratory - 2014, NRAO - 2013, Origins Institute, McMaster University - 2103, Leiden University, - 2013, University of Amsterdam - 2013, University of Groningen - 2013, University of Nijmegen - 2013, Carnegie Institution - Department of Terrestrial Magnetism - 2012, University of Chicago (Cosmochemistry) - 2011, Harvard-Smithsonian Center for Astrophysics - 2011, University of Virginia/NRAO - 2010, Notre Dame - 2009, Michigan State University - 2008, Applied Math Dept., Univ. of MI - 2008, Max Plank Institute for Astronomie - 2008, University of Victoria - 2007, Herzberg Institute

for Astrophysics - 2007 McMaster University - 2007, University of Rochester - 2007, NASA Jet Propulsion Laboratory - 2007, University of Chicago - 2007, University of Illinois - 2006, University of Toledo 2005, University of Calgary - 2005, Leiden Observatory - 2004, University de Bordeaux 2004, University of Virgina/NRAO - 2004, The Ohio State University - 2003, New York Center for the Origins of Life Sept. 2002, University of Michigan 2002, University of Florida 2002, Prior to 2002 Cornell University, University of Florida, University of Mass., University of Illinois

Teaching Experience

- **2003-present** Assistant/Associate Professor/Full Professor, University of Michigan

  Astronomy 106 (Aliens)

  Astronomy 115 (Introductory Astrobiology)

  Astronomy 101/111 (The Solar System and the Search for Life in the Universe)

  Astronomy 102/112 (Introduction to Stars and Galaxies)

  Astronomy 403 (Astrophysics of the Interstellar Medium)

  Astronomy 535 (Astrophysics of the Interstellar Medium)

- **1995-1996** NASA GrantED-90087.01-95A - with other investigators developed a course on the relationship of radio astronomy and star formation for high school students. Course is designed to allow students hands on experience with actual astronomical data from a NASA mission.

- **1992** AST100 Instructor at Univ. of Mass.

  Responsible for organizing and teaching a basic astronomy course for undergraduates.

- **1989-1990** Teaching Assistant at Univ. of Mass.

  Teaching assistant for 3 physics labs per semester

  1986-1989 Teaching Assistant at Villanova University

  Teaching assistant for 2 astronomy labs per semester

Bibliography

Refereed Publications

[1] Falgarone, E., Zwaan, M. A., Godard, B., Bergin, E. et al. 2017, Large turbulent reservoirs of cold molecular gas around high redshift starburst galaxies, Nature, in press.

[2] Cleeves, L. I., Bergin, E. A., Öberg, K. I., et al. 2017,Variable $H^{13}CO^{+}$ Emission in the IM Lup Disk: X-ray Driven Time-Dependent Chemistry?, ApJL, in press.

[3] Du, F., Bergin, E. A., Hogerheijde, M., et al. 2017, Survey of cold water lines in protoplanetary disks: indications of systematic volatile depletion, ApJ, in press.

[4] Zhang, K., Bergin, E. A., Blake, G. A., Cleeves, L. I., Schwarz, K. R. 2017. Mass inventory of the giant-planet formation zone in a solar nebula analogue. Nature Astronomy 1, 0130.

[5] Cridland, A. J., Pudritz, R. E., Birnstiel, T., Cleeves, L. I., Bergin, E. A. 2017. Composition of Early Planetary Atmospheres II: Coupled Dust and Chemical Evolution in Protoplanetary Disks. MNRAS, in press.

[6] Kristensen, L. E., and 20 colleagues 2017. Origin of warm and hot gas emission from low-mass protostars: Herschel-HIFI observations of CO J=16-15. I. Line profiles, physical conditions, and H2O abundance. A&A, in press.

[7] Sanchez-Monge, A., Schilke, P., Schmiedeke, A., et al. 2017, The physical and chemical structure of Sagittarius B2. II. Continuum millimeter emission of SgrB2(M) and SgrB2(N) with ALMA, A&A, in press.

[8] Gerdes, D., Sako, M., Hamilton, S., et al. 2017, Discovery and Physical Characterization of a Large Scattered Disk Object at 92 AU, ApJ, 839, L15

[9] Pan, Z., Li, D., Chang, Q., et al. 2017, Large-scale Spectroscopic Mapping of the ? Ophiuchi Molecular Cloud Complex. I. The C2H-to-N2H+ Ratio as a Signpost of Cloud Characteristics, Astrophysical Journal, , 836, 194

[10] Kundert, K., Rau, U., Bergin, E., Bhatnagar, S. 2017. Understanding Systematic Errors Through Modeling of ALMA Primary Beams. IEEE Transactions on Antennas & Propagation, 65, 644.

[11] Indriolo, N., Bergin, E. A., Goicoechea, J. R., Cernicharo, J., Gerin, M., Gusdorf, A., Lis, D. C., Schilke, P. 2017. CO Spectral Line Energy Distributions in Galactic Sources: Empirical Interpretation of Extragalactic Observations. The Astrophysical Journal, 836, 117.

[12] Nagy, Z., Choi, Y., Ossenkopf-Okada, V., van der Tak, F. F. S., Bergin, E. A., Gerin, M., Joblin, C., Roellig, M., Simon, R., Stutzki, J. 2016. Herschel / HIFI spectral line survey of the Orion Bar - Temperature and density differentiation near the PDR surface. Astronomy and Astrophysics, 599, 22.

[13] Krijt, S., Ciesla, F. J., Bergin, E. A. 2016. Tracing Water Vapor and Ice During Dust Growth. The Astrophysical Journal 833, 285.

[14] Tahani, K., and 16 colleagues 2016. Analysis of the Herschel/Hexos Spectral Survey Toward Orion South: A Massive Protostellar Envelope with Strong External Irradiation. The Astrophysical Journal 832, 12.

[15] Öberg, K. I., Bergin, E. A. 2016. Excess C/O and C/H in Outer Protoplanetary Disk Gas. The Astrophysical Journal 831, L19.

[16] McClure, M. K., and 10 colleagues 2016. Mass Measurements in Protoplanetary Disks from Hydrogen Deuteride. The Astrophysical Journal 831, 167.

[17] Bergin, E. A., Du, F., Cleeves, L. I., Blake, G. A., Schwarz, K., Visser, R., Zhang, K. 2016. Hydrocarbon Emission Rings in Protoplanetary Disks Induced by Dust Evolution. The Astrophysical Journal 831, 101.

[18] Bjerkeli, P., and 11 colleagues 2016. Water around IRAS 15398-3359 observed with ALMA. Astronomy and Astrophysics 595, A39.

[19] Morris, P. W., and 10 colleagues 2016. Herschel/HIFI Spectral Mapping of C^+, CH^+, and CH in Orion BN/KL: The Prevailing Role of Ultraviolet Irradiation in CH^+ Formation. The Astrophysical Journal 829, 15.

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