Susanna L. Widicus Weaver

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Education and Professional Experience

Emory University	Associate Professor, 2014 - present Department of Chemistry
Emory University	Assistant Professor, 2008 - 2014 Department of Chemistry
University of Illinois at Urbana-Champaign	Postdoctoral Scholar, 2005 - 2008 Departments of Chemistry and Astronomy Professor Benjamin J. McCall, Advisor
California Institute of Technology	Ph.D. in Chemistry, June 2005 *Rotational Spectroscopy and Observational Astronomy of Prebiotic Molecules* Professor Geoffrey A. Blake, Advisor
Illinois Wesleyan University	B. S. in Chemistry, May 2000 Chemistry research honors; Physics minor Professor Wendy S. Wolbach, Advisor

Teaching and Mentoring Experience

Emory	
Instructor, Chemistry 190: Are We Alone in the Universe?	2015
Instructor, Chemistry 534: Spectroscopy	2014
Instructor, Chemistry 331L & 332L: Physical Chemistry Laboratory	2011 - 2014
Faculty Mentor, Chemistry Curriculum Development Graduate Fellowship	2011
Instructor, Chemistry 332: Physical Chemistry II	2010 - 2011
Instructor, Chemistry 737R: Directed Readings in Physical Chemistry	2010 - 2011
Guest Lecturer, Chemistry 579R: Introduction to Library Research	2009 - present
Faculty Mentor, Summer Undergraduate Research at Emory (SURE) Program	2009 - present
Faculty Mentor, Scholarly Inquiry and Research at Emory (SIRE) Program	2009 - present
Instructor, Emory Teaching Assistant Training Opportunity (TATTO) Program	2009 - 2012
Research advisor to 20 undergraduate and 8 graduate students	2008 - present
Instructor, Chemistry 535: Experimental Methods in Physical Chemistry	2008 - 2010
UIUC	
Mentor to 5 undergraduate and 9 graduate research students	2005 - 2008
Caltech	
Mentor to 3 Summer Undergraduate Research Fellowship (SURF) students	2001 - 2004
Teaching assistant in undergraduate physical chemistry laboratory and lecture	2000 - 2005
Teaching assistant in graduate cosmochemistry and astrochemistry lecture	2000 - 2005
IWU	
Teaching assistant in undergraduate laboratory chemistry and geology	1997 - 2000
Department tutor for chemistry undergraduate courses	1997 - 2000

Refereed Publications

Emory

42. Hays B. M., McCabe M. N., Shipman S. T., & Widicus Weaver S. L., "Fast Sweep Direct Absorption (Sub)Millimeterwave Spectroscopy." *Rev. Sci. Instrum.*, in revision, 2016.

41. Laas J. C., & Widicus Weaver S. L., "The Millimeter/Submillimeter Spectrum of the Methoxy Radical at Low Temperatures." *Astrophys. J. Suppl.*, accepted, 2016.

40. Walsh C., Loomis R. A., Oberg K. I., Kama M., van't Hoff M. L. R., Millar T. J., Aikawa Y., Herbst E., Widicus Weaver S. L., & Nomura H., "First Detection of gas-phase methanol in a protoplanetary disk." *Astrophys. J. Lett.*, **823**, L10, 2016.

39. Zou L. & Widicus Weaver S. L., "Direct Measurement of Additional Ar-H_2O Vibration-Rotation-Tunneling Bands in the Millimeter-Submillimeter Range" *J. Mol. Spectrosc.*, **324**, 12-19, 2016.

38. Radhuber M. L., Zou L., Sanders J. L. & Widicus Weaver S. L., "Global Optimization and Broadband Analysis Software for Interstellar Chemistry (GOBASIC)." *Astron. & Astrophys.*, **585**, A23, 2016.

37. Zou L., Hays B. M., & Widicus Weaver S. L., "Weakly-bound Clusters in Astrochemistry? Millimeter and Submillimeter Spectroscopy of *trans*-HO_3 and Comparison to Astronomical Observations." *J. Phys. Chem. A*, **120**, 657-667, 2016.

36. Hays B. M., Wehres N., Alligood DePrince B. A., Roy A. L. M., Laas J. C., & Widicus Weaver S. L., "Rotational spectral studies of O(^{1}D) insertion reactions with methane and ethylene: Methanol and vinyl alcohol in a supersonic expansion." *Chem. Phys. Lett.*, **630**, 18-26, 2015.

35. Wehres N., Cross T., Radhuber M. L., Zou L., Carroll A. & Widicus Weaver S. L., "A Hollow Cathode THz Spectrometer for the Study of Astrophysical Ions and Radicals: Benchmarking with N_2H^+ and Extended Measurements for N_2D^+." *J. Mol. Spectrosc.* , **306**, 1-5, 2014.

34. McGuire B. A., Carroll P. B., Sanders J. L., Widicus Weaver S. L., Blake G. A. & Remijan A. J., "A CSO Search for *l*-C_3H^+: Detection in the Orion Bar PDR." *Mon. Not. Royal Astronom. Soc.*, **422**, 2901-2908, 2014.

33. Walsh, C., Herbst E., Nomura H., Millar T. J., & Widicus Weaver S. L., "Complex organic molecules along the accretion flow in isolated and externally irradiated protoplanetary disks." *Faraday Discuss.*, **168**, 2014.

32. Walsh, C., Millar T. J., Nomura H., Herbst E., Widicus Weaver S. L., Aikawa Y., Laas J. C., & Vasyunin A. I. "Complex organic molecules in protoplanetary disks." Astron. & Astrophys., **563**, A33, 2013.

31. Kroll J. A., Shipman S. T., & Widicus Weaver S. L., "The rotational spectrum of methyl ethyl ketone in its ground vibrational state." *J. Mol. Spectrosc.*, **295**, 52-57, 2014.

30. Garrod R. T. & Widicus Weaver S. L., "Simulations of Hot Core Chemistry." *Chem. Rev.*, **113**, 8939-8960, 2013.

29. Laas J. C., Hays B. M., & Widicus Weaver S. L., "A multipass millimeter/submillimeter spectrometer to probe dissociative reaction dynamics." *J. Phys. Chem. A*, **117**, 95489554, 2013.

28. Hays B. M. & Widicus Weaver S. L., "Theoretical examination of O(^{1}D) insertion reactions to form methanediol, methoxymethanol, and aminomethanol." *J. Phys. Chem. A*, **117**, 7142 - 7148, 2013.

27. Alligood DePrince B., Rocher B. E., Carroll A., & Widicus Weaver S. L., "Extending High-Finesse Cavity Techniques to the Far-Infrared." *Rev. Sci. Instrum.*, **84**, 075107, 2013.

26. Carroll P. B., McGuire B. A., Zaleski D. T., Neill J. L., Pate B. H., & Widicus Weaver S. L., "The pure rotational spectrum of glycolaldehyde isotopologues observed in natural abundance." *J. Mol. Spectrosc.*, **284**, 21 - 28, 2013.

25. Zaleski D. T., Neill J. L., Muckle M. T., Seifert N. A., Carroll P. B., Widicus Weaver S. L., & Pate B. H., "A K_a-Band Chirped-Pulse Fourier Transform Microwave Spectrometer." *J. Mol. Spectrosc.*, **280**, 68 - 76, 2012.

24. Finneran I. A., Shipman S. & Widicus Weaver S. L., "Rotational spectroscopy of 2-methylfuran from 8.7 to 960 GHz." *J. Mol. Spectrosc.*, **280**, 27 - 33, 2012.

23. Friedel D. N. & Widicus Weaver S. L., "Complex organic molecules at high spatial resolution toward Orion-KL II: Kinematics." *Astrophys. J. Suppl.*, **201**, 17 (16pp), 2012.

22. Widicus Weaver S. L. & Friedel D. N., "Complex organic molecules at high spatial resolution toward Orion-KL I: Spatial scales." *Astrophys. J. Suppl.*, **201**, 16 (15pp), 2012.

21. Friedel D. N. & Widicus Weaver S. L., "A high spatial resolution study of the λ=3 mm continuum of Orion-KL." *Astrophys. J.*, **742**, 64 - 72, 2011.

20. McGuire B. A., Wang Y., Bowman J. M., & Widicus Weaver S. L., "Do H_5^+ and its isotopologues have rotational spectra?" *J. Phys. Chem. Lett.*, **2**, 1405 - 1407, 2011.

19. Neill J. L., Steber A. L., Muckle M. T., Zaleski D. T., Lattanzi V., Spezzano S., McCarthy M. C., Remijan A. J., Friedel D. N., Widicus Weaver S. L., & Pate B. H., "Spatial distributions and interstellar reaction processes." *J. Phys. Chem. A*, **115**, 6472 - 6480, 2011.

18. Laas J. C., Garrod R. T., Herbst E., & Widicus Weaver S. L., "Contributions from grain surface and gas phase chemistry to the formation of methyl formate and its structural isomers." *Astrophys. J.*, **728**, 71 - 80, 2011.

17. Braakman R., Drouin B. J., Widicus Weaver S. L., & Blake G. A., "Extended analysis of hydroxyacetone in the torsional ground state." *J. Mol. Spectrosc.*, **264**, 43-49, 2010.

16. Lovas F. J., Plusquellic D. F., Widicus Weaver S. L., McGuire B. A., & Blake G. A., "Organic compounds in the $C_3H_6O_3$ family: Microwave spectrum of cis-cis-dimethyl carbonate." *J. Mol. Spectrosc.*, **264**, 10-18, 2010.

15. Carroll P. B., Drouin B. J., & Widicus Weaver S. L., "The submillimeter spectrum of glycolaldehyde." *Astrophys. J.*, **723**, 845-849, 2010.

14. Brumfield B. E., Stewart J. T, Widicus Weaver S. L., Escarra M. D., Howard S. S., Gmachl C. F. & McCall B. J. "A quantum cascade laser cw cavity ringdown spectrometer coupled to a high temperature oven supersonic expansion source." *Rev. Sci. Instrum.*, **81**, 063102, 2010.

13. Plambeck R. L., Wright M. C. H., Friedel D. N., Widicus Weaver S. L., Bolatto A. D., Pound M. W., Woody D. P., Lamb J. W., & Scott S. L. "Tracing the bipolar outflow from Orion Source I." *Astrophys. J.* **704**, L25-L28, 2009.

UIUC

12. Widicus Weaver S. L., Woon D. E., Ruscic B., & McCall B. J. "Is HO_2^+ a detectable interstellar molecule?" *Astrophys. J.*, **697**, 601-609, 2008.

11. Garrod R. T., Widicus Weaver S. L., & Herbst E. "Complex chemistry in star-forming regions: An expanded gas-grain warm-up chemical model." *Astrophys. J.*, **682**, 283-304, 2008.

10. Dypvik H., Wolbach W. S., Shuvalov V., & Widicus Weaver S., "Did the Mjølnir asteroid impact ignite Barents Sea hydrocarbon source rocks?" *Geological Society of America Special Paper*, **437**, 65-72, 2008.

9. Widicus Weaver S. L., Wiczer M. B., Negru B., DiGangi J. P., Tom B. A., & McCall B. J. "Continuous-wave cavity ringdown spectroscopy of the N_2^+ Meinel System $(2,1)$ band." *J. Mol. Spectrosc.*, **249**, 14-22, 2008.

8. Widicus Weaver S. L., Remijan A. J., McMahon R. J., & McCall B. J. "A search for *ortho*-benzyne (o-C_6H_4) in CRL 618." *Astrophys. J.*, **671**, L153-L156, 2007.

Caltech

7. Widicus Weaver S. L. & Blake G. A. "1,3-Dihydroxyacetone in Sagittarius B2(N-LMH): The first interstellar ketose." *Astrophys. J.*, **624**, L33-L36, 2005.

6. Widicus Weaver S. L., Butler R. A. H., Drouin B. J., Petkie D. T., Dyl K. A., De Lucia F. C., & Blake G. A. "Millimeter-wave and vibrational state assignments for the rotational spectrum of glycolaldehyde." *Astrophys. J. Suppl.*, **158**, 188-192, 2005.

5. Feldman M. T., Widicus S. L., Blake G. A., Kent D. R., & Goddard W. A. "Aminomethanol water elimination: Theoretical examination." *J. Chem. Phys.*, **123**, 034304, 2005.

4. Widicus S. L., Braakman R., Kent D. R., & Blake G. A. "The millimeter and submillimeter rotational spectrum of 1,3-dihydroxyacetone." *J. Mol. Spectrosc.*, **224**, 101-106, 2004.

3. Kent D. R., Widicus S. L., Blake G. A., & Goddard W. A. "A theoretical study of the conversion of gas phase methanediol to formaldehyde." *J. Chem. Phys.*, **119**, 5117-5120, 2003.

2. Widicus S. L., Drouin B. J., Dyl K. A., & Blake G. A. "Millimeter wavelength measurements of the rotational spectrum of 2-aminoethanol." *J. Mol. Spectrosc.*, **217**, 278-281, 2003.

1. Wolbach W. S., Widicus S., & Kyte F. T. "A search for soot from global wildfires in Central Pacific Cretaceous-Tertiary boundary and other extinction and impact horizon sediments." *Astrobiology*, **3**, 91-97, 2003.

Conference Proceedings and Other Publications

Emory

14. Widicus Weaver S. L., Bowman J., Duncan M., Lis D., Pearson J., Shipman S., Stancil P., Wootten A. "Report from the Workshop on Molecular Spectroscopy in the Era of Far-Infrared Astronomy." http://arxiv.org/abs/1301.4263, 2013.

13. Radhuber M. L. & Widicus Weaver S. L. "New Spectral Analysis Software for Automated Assignment of Broadband Line Surveys in MATLAB." *Proc. of: Astronomical Data Analysis Software and Systems Conference XXII*, 2012.

12. Widicus Weaver S. L., Garrod R. T., Laas J. C. & Herbst E. "Models of Hot Cores with Complex Molecules." *Proc. of: The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

11. Wolf Savin D., Allamandola L., Federman S., Goldsmith P., Kilbourne C., Öberg K., Schultz D., Widicus Weaver S. L., Ji H., & Remington B. "NASA Laboratory Astrophysics White Paper." *Proc. of: The 2010 NASA Lab Astrophysics Workshop*, 2011.

10. Lovas F. J., Plusquellic D. F., Widicus Weaver S. L., McGuire B. A., & Blake G. A., "Organic compounds in the $C_3H_6O_3$ family: Microwave spectrum of cis-cis dimethyl carbonate." *Proc. of: The 2010 NASA Lab Astrophysics Workshop*, 2011.

9. Laas J. C., Garrod R. T., Herbst E., & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the ISM." *Proc. of: The 2010 NASA Lab Astrophysics Workshop*, 2011.

8. Carroll P. B., McGuire B. A., & Widicus Weaver S. L. "Design and construction of a high-resolution terahertz cavity ringdown spectrometer." *Proc. of: The 2010 NASA Lab Astrophysics Workshop*, 2011.

UIUC

7. Widicus Weaver S. L., Brumfield B. E., Howard S., Gmachl C., & McCall B. J. "A laboratory and observational search for the vibrational spectrum of C_{60}." *Proc. of: Intl. Conference on Molecules in Space and Laboratory*, 53, 2007.

6. Garrod R. T., Widicus Weaver S. L., & Herbst E. "Complex molecules in star-forming regions - A (more) comprehensive gas-grain model." *Proc. of: Intl. Conference on Molecules in Space and Laboratory*, 99, 2007.

5. Widicus Weaver S. L. & McCall B. J. "Natural Fullerenes and Related Structures of Elemental Carbon" *J. Am. Chem. Soc.* (book review), **129**, 724, 2007.

Caltech and IWU

4. Widicus S. L., Drouin B. J., Dyl K. A., & Blake G. A. "Rotational spectroscopy and hot core observational astronomy of prebiotic molecules." *Proc. of SFChem 2002: Chemistry as a Diagnostic of Star Formation*, 449-451, 2003.

3. Wolbach W. S., Widicus S., & Dypvik H. "A preliminary search for evidence of impact-related burning near the Mjølnir Impact Structure, Barents Sea." *Lunar and Planetary Science Conference XXXII*, 1332, 2001.

2. Wolbach W. S., Widicus S., & French B. M. "Carbon-bearing impactites from the Gardnos Impact Structure, Norway: No evidence for soot." *Lunar and Planetary Science Conference XXX*, 1043, 1999.

1. Wolbach W. S., Widicus S., Moecker S. & Kyte F. T. "Is the soot layer at the KT boundary really global?" *Lunar and Planetary Science Conference XXIX*, 1309, 1998.

Invited Conference Presentations

Emory

21. Widicus Weaver S. L., "Rotational Spectroscopic Studies and Observational Searches for HO_3." *American Physical Society*, 2016.

20. Hays B. M., Wehres N., DePrince B. A., Roy A. M. A., Laas J. C., & Widicus Weaver S. L., "Millimeter and Submillimeter Studies of O(^{1}D) Insertion Reactions to Form Molecules of Astrophysical Interest." *International Symposium on Molecular Spectroscopy*, 2015.

19. Widicus Weaver S. L. "Testing the Limits of Molecular Complexity in Star- and Planet-Forming Regions." *From Stars to Life*, 2013.

18. Widicus Weaver S. L. "The Formation of Complex Organic Molecules by Photodriven Reactions in Interstellar Ices." *First Workshop on Experimental Laboratory Astrophysics*, 2013.

17. Widicus Weaver S. L. "Synergy Between Laboratory Spectroscopy and Observations." *Astrochemistry in the ALMA Era*, 2013.

16. Widicus Weaver S. L. "High Sensitivity THz Spectroscopy." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

15. Widicus Weaver S. L. "Prebiotic Astrochemistry in the 'THz-Gap'." *Georgia American Chemical Society Local Section Herty Medalist Undergraduate Research Symposium*, 2012.

14. Widicus Weaver S. L. "Molecular Spectroscopy in Laboratory Astrophysics." *American Astronomical Society Meeting 220, "Bridging Laboratory and Astrophysics" Meeting-within-a-Meeting*, 2012.

13. Widicus Weaver S. L. "Lost in translation: The challenge of conveying technical research details to a general audience." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

12. Widicus Weaver S. L., Radhuber M. L., Wang S., Sanders J., Kroll J. A., Laas J. C., Lis D., & Herbst H. "Unraveling the Mysteries of Complex Interstellar Organic Chemistry Using Observational Spectral Line Surveys." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

11. Widicus Weaver S. L. "Spectroscopy of Organic Radicals and Ions in the 'THz-Gap'." *American Chemical Society National Meeting 242*, 2011.

10. Widicus Weaver S. L. "Models of Hot Cores with Complex Molecules." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

9. Widicus Weaver S. L. "Complex Organic Chemistry in Interstellar Ices." *Southeast Laboratory Astrophysics Community (SELAC) Workshop on Dust and Ice: Their Roles in Astrophysical Environments*, 2010.

8. Widicus Weaver S. L. "Testing the limits of complex organic chemistry in the interstellar medium." *American Chemical Society National Meeting 239*, 2010.

7. Widicus Weaver S. L. "New THz spectroscopic tools for laboratory astrochemistry." *From Data Cubes to Science: Ancillary Data and Advanced Tools for ALMA*, 2009.

6. Friedel D. N. & Widicus Weaver S. L. "High resolution $\lambda = 3$ mm studies of organic molecules in Orion-KL." *American Chemical Society National Meeting 238*, 2009.

5. Widicus Weaver S. L. "New THz spectroscopic tools for laboratory astrochemistry." *Advancing Chemical Understanding through Astronomical Observations, Center for Chemistry of the Universe Workshop*, 2009.

UIUC

4. Friedel D. N. & Widicus Weaver S. L. "High resolution observations of Orion-KL: Insight into its chemical complexity." *Midwest Astrochemistry Meeting*, 2008.

3. Widicus Weaver S. L., Brumfield B. E., Howard S., Gmachl C., & McCall B. J. "A laboratory and observational search for the vibrational spectrum of C_{60}." *Intl. Conference on Molecules in Space and Laboratory*, 2007.

2. Garrod R. T., Widicus Weaver S. L., & Herbst E. "Complex molecules in star-forming regions - A (more) comprehensive gas-grain model." *Intl. Conference on Molecules in Space and Laboratory*, 2007.

1. Widicus Weaver S. L., Garrod R. T., Herbst E. "A new model for complex chemistry in hot cores." *Enrico Fermi Institute Mini-Symp. on Interstellar Molecules*, 2007.

Invited Conference Participation

Discussion Leader, 2012 Gordon Research Conference on "Radiation chemistry: radiation driven processes in physics, chemistry, biology, and industry" July 29 - August 3, 2012.

Panel Member, "Georgia Tech Career Symposium: Research Focused Career Options in Higher Education," March 10, 2011.

Panel Member, "ALMA Spectroscopy 2011: Extending the Limits of Astrophysical Spectroscopy," January 15 - 17, 2011.

Panel Member, "From Project Ozma to the Starship Enterprise: A Conversation about the Next 50 years of SETI," September 12 - 15, 2010.

Invited Seminars

Emory

Illinois Wesleyan University Natural Science Colloquium, October 17, 2014.

University of Tennessee at Chattanooga Department of Chemistry Seminar, February 15, 2013.

Hope College Department of Chemistry Seminar, November 9, 2012.

Calvin College Department of Chemistry Seminar, November 8, 2012.

University of Pennsylvania Department of Physics and Astronomy Colloquium, October 17, 2012.

University of Colorado at Boulder Physical Chemistry Colloquium, September 28, 2012.

NASA Goddard Space Flight Center Solar System Exploration Division Seminar, November 16, 2011.

University of Georgia Physical Chemistry Colloquium, November 4, 2011.

Southern Methodist University Department of Chemistry Seminar, September 16, 2011.

University of Georgia Department of Physics and Astronomy Colloquium, April 7, 2011.

University of Virginia Center for the Chemistry of the Universe Seminar Series, March 24, 2011.

Agnes Scott College Bradley Observatory "Astronomy Since Galileo" Open House Series, February 11, 2011.

Stratospheric Observatory for Infrared Astronomy (SOFIA) Science Colloquium, December 15, 2011.

New College of Florida Science Colloquium, November 19, 2010.

Emory University Evolution Freshman Seminar Guest Lecture, November 4, 2010.

Emory University Department of Pathology Science Colloquium, May 25, 2010.

Atlanta Science Tavern, November 14, 2009.

Emory University Evolution Freshman Seminar Guest Lecture, November 3, 2009.

American Chemical Society Georgia Local Section Meeting, May 12, 2009.

Georgia Institute of Technology Physical Chemistry Colloquium, April 14, 2009.

Georgia State University Astronomy Colloquium, March 24, 2009.

Atlanta Astronomy Club, February 6, 2009.

University of Georgia Physical Chemistry Colloquium, January 30, 2009.

Emory University Environmental Studies Guest Lecture, January 27, 2009.

Meteorite Association of Georgia, January 25, 2009.

UIUC

Indiana University Physical Chemistry Colloquium, December 6, 2007.

Emory University Physical Chemistry Colloquium, November 26, 2007.

University of Virginia/NRAO Astronomy Colloquium, November 15, 2007.

Contributed Conference Presentations

Emory

108. Hays B. M., Shipman S. T. & Widicus Weaver S. L. "Fast Sweeping Direct Absorption (Sub)Millimeter Spectroscopy Based on Chirped Pulse Technology." 70th International Symposium on Molecular Spectroscopy, 2015.

107. Hays B. M., Widicus Weaver S. L., & Shipman S. T. "Fast Sweeping Double Resonance Microwave-(Sub)Millimeter Spectroscopy Based on Chirped Pulse Technology." 70th International Symposium on Molecular Spectroscopy, 2015.

106. Zou L., Hays B. M., & Widicus Weaver S. L., "Re-Evalution of HO_3 Structure Using Millimeter-Submillimeter Spectroscopy." 70th International Symposium on Molecular Spectroscopy, 2015.

105. Mesko A. J., Wagner I., Smith H. H., Milam S., & Widicus Weaver S. L., "Millimeter and Submillimeter Studies of Interstellar Ice Analogues." 70th International Symposium on Molecular Spectroscopy, 2015.

104. Mesko A. J., Wagner I., Milam S., & Widicus Weaver S. L., "Probing Gas Phase Chemistry Above Ice Surfaces With Millimeter/Submillimeter Spectroscopy." 69th International Symposium on Molecular Spectroscopy, 2014.

103. Hays B. M., Roy A. M. A. & Widicus Weaver S. L., "Millimeter/Submillimeter Spectroscopy of Prebiotic Molecules Formed From the $O(^1D)$ Insertion Into Methylamine." 69th International Symposium on Molecular Spectroscopy, 2014.

102. Cross T. N., Wehres N., Rad M. L., Carroll A., & Widicus Weaver S. L., "Millimeter/Submillimeter Studies of Ions and Radicals of Astrophysical Interest Using a Hollow Cathode Spectrometer." 69th International Symposium on Molecular Spectroscopy, 2014.

101. McGuire B. A., Carroll P. B., Sanders J. L., Widicus Weaver S. L., Blake G. A., Remijan A. J. "The Search for l-C_3H^+ in More Than 40 Astronomical Sources." 69th International Symposium on Molecular Spectroscopy, 2014.

100. Zou L. & Widicus Weaver S. L., "Millimeter and Submillimeter Spectroscopic Studies of HO_3." 69th International Symposium on Molecular Spectroscopy, 2014.

99. Wehres N., Wang S., Rad M. L., Sanders J. L., Kroll J. A., Laas J. C., Cross T. N., Lis D. C., Herbst E., & Widicus Weaver S. L., "Detection, Identification, and Correlation of Complex Organic Molecules in 32 Interstellar Clouds Using Submillimeter Observations." 69th International Symposium on Molecular Spectroscopy, 2014.

98. Hays B. M., Roy A. M. A., Wehres N., Laas J. C., DePrince B. A. & Widicus Weaver S. L., "Investigation of prebiotic molecules using $O(^1D)$ insertion reactions." *American Chemical Society National Meeting 247*, 2014.

97. Walsh C., Millar T. J., Nomura H., Herbst E., & Widicus Weaver S. L., Aikawa Y., Vasyunin A. "Complex Organic Molecules in Protoplanetary Disks (poster)." *Protostars and Planets VI*, 2013.

96. Hays B. M., Laas J. C., & Widicus Weaver S. L. "Examining Prebiotic Chemistry Using $O(^1D)$ Insertion Reactions." *68th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2013.

95. Sanders J., Radhuber M. L., Laas J. C., Hays B. M., Lis D. C., & Widicus Weaver S. L. "CSO Broadband Molecular Line Surveys II: Initial Correlation Analysis Results for Complex Organic Molecules." *68th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2013.

94. Radhuber M. L., Sanders J., Laas J. C., Hays B. M., & Widicus Weaver S. L. "CSO Broadband Molecular Line Surveys I: Benchmarking GOBASIC Analysis Software." *68th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2013.

93. Laas J. C. & Widicus Weaver S. L. "A MM/Submm wave Spectrometer to Quantify Astrochemical Reaction Rates." *68th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2013.

92. Sanders J., Radhuber M. L., Laas J. C., Hays B. M., Lis D. C., & Widicus Weaver S. L. "Understanding Interstellar Prebiotic Chemistry Through Molecular Line Surveys (poster)." *From Stars to Life*, 2013.

91. Hays B. M. & Widicus Weaver S. L. "Investigation of Prebiotic Molecules Using O(^{1}D) Insertion Reactions." *From Stars to Life*, 2013.

90. Sanders J. L., Radhuber M. L., Laas J. C., Hays B. M., Kroll J. A. & Widicus Weaver S. L. "Probing the Depths of Complex Interstellar Chemistry Through Broadband Submillimeter Line Surveys (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

89. Radhuber M. L. & Widicus Weaver S. L. "Automated Global Analysis Program for Broadband Observational Spectra (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

88. Qasim D., Milam S. N., & Widicus Weaver S. L. "Submillimeter Spectroscopic Investigations of Gas Phase Chemistry During Thermal and Photoprocessing of Interstellar Ice Analogs (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

87. Laas J. C. & Widicus Weaver S. L. "Millimeter/Submillimeter Spectroscopy as a Probe of Methanol Photodissociation (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

86. Hays B. M., Alligood DePrince B. A., & Widicus Weaver S. L. "THz Spectroscopy of Prebiotic Molecules Formed via O(^{1}D) Insertion Reactions: Theory and Experiment (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

85. Alligood DePrince B., Rocher B., Carroll A. & Widicus Weaver S. L. "Optical Design for a THz Cavity Ringdown Instrument (poster)." *Workshop on Molecular Spectroscopy in the Era of Far-IR Astronomy*, 2012.

84. Sanders J. L., Radhuber M. L., Laas J. C., Hays B. M., Widicus Weaver S. L., "Probing the Chemistry of Space (poster)." *American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium*, 2012.

83. Shipman S. T., Finneran I. A., Widicus Weaver S. L. & van Wijngaarden J. "Rotationally-Resolved Spectra of 2-Methylfuran from the cm-Wave to the Far Infrared." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

82. Carroll A., Rocher B., Laas J. C., DePrince B. A., Hays B. A., Widicus Weaver S. L., & Lang S. "Development of a Submillimeter Multipass Spectrometer for the Study of Molecular Ions." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

81. Laas J. C. & Widicus Weaver S. L. "Methanol Photodissociation Studies using Millimeter and Submillimeter Spectroscopy." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

80. Hays B. M., DePrince B. W. & Widicus Weaver S. L. "Computational Study and Laboratory Spectroscopy of Prebiotic Molecules Produced by O(^{1}D) Insertion Reactions." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

79. Kroll J. A., Widicus Weaver S. L. & Shipman S. T. "Laboratory Study of the Rotational Spectrum of 2-Butanone." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

78. Wang S., Radhuber M. L., Laas J. C., Kroll J. A., Sanders J., Widicus Weaver S. L., Lis D. & Herbst E. "Unraveling the Mysteries of Complex Interstellar Organic Chemistry using Herschel/HIFI Spectral Line Surveys." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

77. Sanders J., Radhuber M. L., Laas J. C., Kroll J. A., & Widicus Weaver S. L. "Spectral Line Surveys of Young Stellar Objects Using the Caltech Submillimeter Observatory." *67th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2012.

76. Carroll A., Rocher B. & Widicus Weaver S. L. "THz spectral studies of molecular ions (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

75. Laas J. C., Garrod R. T., Herbst E. & Widicus Weaver S. L. "Methanol Photodissociation as a Case Study for Probing Prebiotic Interstellar Chemistry (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

74. Hays B. M., Alligood DePrince B. W. & Widicus Weaver S. L. "Calculations and Experimental Design for the Investigation of Prebiotic Molecules Using O(^{1}D) Insertion Reactions (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

73. Kroll J. A., Shipman S. T. & Widicus Weaver S. L. "Laboratory Spectroscopy and Observational Search for Trans 2-Butanone: Testing Interstellar Organic Chemical Complexity (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

72. Radhuber M. L., Kroll J. A., Sanders J., Wang S., Lis D. & Widicus Weaver S. L. "A New Spectral Analysis Software for Automated Assignment of Broadband Line Surveys (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

71. Sanders J., Radhuber M. L., Laas J. C., Kroll J. A., & Widicus Weaver S. L. "Submillimeter Line Surveys of Young Stellar Objects Using the Caltech Submillimeter Observatory (poster)." *National Aeronautics and Space Administration Astrobiology Science Conference*, 2012.

70. McGuire B. A., Wang Y., Bowman J. M. & Widicus Weaver S. L. "Progress towards the terahertz rotational spectrum of H_5^+ and its isotopologues (poster)." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

69. Laas J. C. & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the ISM (poster)." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

68. Kroll J. A., Shipman S. T. & Widicus Weaver S. L. "Laboratory and observational studies of methyl ethyl ketone (poster)." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

67. Radhuber M. L., Kroll J. A., & Widicus Weaver S. L. "Reaching the line confusion limit: New spectral analysis software and its application to a molecular line survey of Orion-KL (poster)." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

66. Carroll P. B., McGuire B. A., & Widicus Weaver S. L. "Construction of a high-resolution terahertz cavity ringdown spectrometer (poster)." *The Molecular Universe: Intl. Astronomical Union Symp. 280*, 2011.

65. Carroll P. B., McGuire B. A., Widicus Weaver S. L., Zaleski D. P., Neill J. P., & Pate B. H. "The pure rotational spectra of acetaldehyde and glycolaldehyde isotopologues measured in natural abundance by chirped-pulse Fourier transform microwave spectroscopy." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

64. Radhuber M. L., Kroll J. A., & Widicus Weaver S. L. "Reaching the line confusion limit: Analysis of the λ=1.3 mm spectrum of Orion-KL." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

63. Kroll J. A., Shipman S. T. & Widicus Weaver S. L. "The laboratory and observational study of 2-butanone as a test for organic chemical complexity in various interstellar physical environments." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

62. Laas J. C. & Widicus Weaver S. L. "Laboratory submillimeter spectroscopy as a probe of methanol photodissociation." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

61. McGuire B. A., Wang Y., Bowman J. M. & Widicus Weaver S. L. "Progress towards the rotational spectrum of H_5^+ and its isotopologues." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

60. Widicus Weaver S. L., Radhuber M. L., Kroll J. A., McGuire B. A., Laas J. C., Lis D., & Herbst H. "Unraveling the mysteries of complex interstellar organic chemistry using HIFI line surveys." *66th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2011.

59. Widicus Weaver S. L., Caroll P. B., McGuire B. A., Laas J. C., Kroll J. A., & Radhuber M. L. "New THz Tools for Laboratory Astrochemistry." *Workshop Astrochemistry: Molecular Networks Connecting the Universe*, 2011.

58. Laas J. C., Garrod R. T., Herbst E., & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the ISM (poster)." *ALMA Spectroscopy 2011: Extending the Limits of Astrophysical Spectroscopy*, 2011.

57. McGuire B. A., Caroll P. B., & Widicus Weaver S. L. "Design and construction of a high-resolution terahertz cavity ringdown spectrometer (poster)." *ALMA Spectroscopy 2011: Extending the Limits of Astrophysical Spectroscopy*, 2011.

56. Carroll P. B., McGuire B. A., & Widicus Weaver S. L. "Design and construction of a high-resolution terahertz cavity ringdown spectrometer (poster)." *The 2010 NASA Laboratory Astrophysics Workshop*, 2010.

55. Lovas F. J., Plusquellic D. F., Widicus Weaver S. L., McGuire B. A., & Blake G. A., "Organic compounds in the $C_3H_6O_3$ family: Microwave spectrum of cis-cis dimethyl carbonate (poster)." *The 2010 NASA Laboratory Astrophysics Workshop*, 2010.

54. Laas J. C., Garrod R. T., Herbst E., & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the ISM (poster)." *The 2010 NASA Laboratory Astrophysics Workshop*, 2010.

53. Radhuber M. L., Kroll J. A., & Widicus Weaver S. L. "Analysis of the λ=1.3 mm spectrum of Orion-KL." *65th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2010.

52. Laas J. C., Widicus Weaver S. L., & Garrod R. T. "Methanol photodissociation branching ratios and their influence on interstellar organic chemistry." *65th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2010.

51. Carroll P. B., Drouin B. J., & Widicus Weaver S. L. "The submillimeter spectrum of glycolaldehyde from 500 GHz to 1.2 THz." *65th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2010.

50. Zaleski D. P., Neill J. P., Muckle M., , Pate B. H., Carroll P. B., & Widicus Weaver S. L. "A K_a-band chirped-pulse Fourier transform microwave spectrometer." *65th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2010.

49. Lovas F. J., Plusquellic D. F., & Widicus Weaver S. L. "Spectral Study of Dimethyl Carbonate, a Low Energy Isomer in the Family with Empirical Formula $C_3H_6O_3$." *23rd Austin Symp. on Molecular Structure and Dynamics*, 2010.

48. Carroll P. B., McGuire B. A., & Widicus Weaver S. L. "Design and Construction of a High-Resolution Terahertz Cavity Ringdown Spectrometer (poster)." *Southeast Laboratory Astrophysics Community Workshop on Dust and Ice: Their Roles in Astrophysical Environments*, 2010.

47. Radhuber M. L., Kroll J. A., & Widicus Weaver S. L. "Lambda = 1.3 mm Spectral Line Survey of Orion (poster)." *Southeast Laboratory Astrophysics Community Workshop on Dust and Ice: Their Roles in Astrophysical Environments*, 2010.

46. Anderson T. A., Kroll J. A., & Widicus Weaver S. L. "Spectroscopy of Prebiotic Molecules Formed from O(^{1}D) Insertion Reactions (poster)." *Southeast Laboratory Astrophysics Community Workshop on Dust and Ice: Their Roles in Astrophysical Environments*, 2010.

45. Laas J. C., Garrod R. T., & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the interstellar medium (poster)." *Southeast Laboratory Astrophysics Community Workshop on Dust and Ice: Their Roles in Astrophysical Environments*, 2010.

44. Laas J. C., Garrod R. T., & Widicus Weaver S. L. "Methanol photodissociation and its effects on complex chemistry in the interstellar medium (poster)." *American Chemical Society National Meeting 239*, 2010.

43. Radhuber M. L. Kroll J. A., & Widicus Weaver S. L. "Automation of spectral line survey analysis using a λ=1.3 mm spectrum of the Orion star forming region (poster)." *American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium*, 2010.

42. Kroll J. A. & Widicus Weaver S. L.,"Submillimeter molecular spectroscopy and the search for complex organics in the interstellar medium (poster)." *American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium*, 2010.

41. Widicus Weaver S. L. "New THz spectroscopic tools for tracing prebiotic interstellar chemistry." *42nd Intl. Union of Applied Chemistry Congress*, 2009.

40. Widicus Weaver S. L., Sumner M. C., Rice F., Zmuidzinas J. & Blake G. A. "High-sensitivity, broadband spectral line surveys of star forming regions with the CSO." *64th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2009.

39. Friedel D. N. & Widicus Weaver S. L. "The origins of ethyl cyanide and dimethyl ether in the interstellar medium." *64th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2009.

38. Radhuber M. L., Kroll J. A., Laas J. C., Anderson T. A., Sumner M. C., Rice F., Zmuidzinas J., Blake G. A, & Widicus Weaver S. L. "Submillimeter Spectral Line Survey of Orion (poster)." *Advancing Chemical Understanding through Astronomical Observations, Center for Chemistry of the Universe Workshop*, 2009.

37. Anderson T. A., Kroll J. A., & Widicus Weaver S. L. "Spectroscopy of prebiotic molecules formed from O(^{1}D) insertion reactions (poster)." *Advancing Chemical Understanding through Astronomical Observations, Center for Chemistry of the Universe Workshop*, 2009.

36. Laas J. C., Radhuber M. L., Garrod, R. T. & Widicus Weaver S. L. "Methanol photodissociation and its role in the complex chemistry of the interstellar medium (poster)." *Advancing Chemical Understanding through Astronomical Observations, Center for Chemistry of the Universe Workshop*, 2009.

35. Carroll P. B. & Widicus Weaver S. L. "Laboratory spectroscopy of 'interstellar weeds' and other complex organic molecules (poster)." *Advancing Chemical Understanding through Astronomical Observations, Center for Chemistry of the Universe Workshop*, 2009.

34. Kroll J. A. & Widicus Weaver S. L.,"O(^{1}D) insertion for production of astrochemically relevant molecules (poster)." *American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium*, 2009.

33. Radhuber M. L., Kroll J. A., Laas J. C., Anderson T. A., Sumner M. C., Rice F., Zmuidzinas J., Blake G. A., & Widicus Weaver S. L. "A submillimeter spectral line survey of Orion (poster)." *American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium*, 2009.

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32. Widicus Weaver S. L., Woon D. E., Ruscic B., & McCall B. J. "Is HO_2^+ a detectable interstellar molecule?" *63rd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2008.

31. Woon D. E., Widicus Weaver S. L., Ruscic B., & McCall B. J. "Ab initio predictions for HO_2^+: Theoretical guidance for an astronomical detectability study." *63rd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2008.

30. Friedel D. N. & Widicus Weaver S. L. "Probing the chemical complexity of high mass star forming regions." *63rd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2008.

29. McGuire, B. A., Widicus Weaver S. L., Wiczer M., Negru B., DiGangi J. P., Tom B. A., & McCall B. J. "Continuous-wave cavity ringdown study of the First Positive Band System of N_2^*." *63rd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2008.

28. Widicus Weaver S. L., Negru B., Wiczer M., DiGangi J. P., Tom B. A., & McCall B. J. "Continuous-wave cavity ringdown study of the $^{14}N_2^+$ Meinel System 2-1 band and the First Positive Band System of N_2^*." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

27. Widicus Weaver S. L., Mills A. A., & McCall B. J. "Cavity Ringdown Spectroscopy of Molecular Ions in a Fast Ion Beam." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

26. Widicus Weaver S. L., Brumfield B. E., Mills A. A., Howard S. S., Gmachl C. F., & McCall B. J. "A search for the 8.5 μm Vibrational spectrum of C_{60} in the laboratory and space." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

25. Widicus Weaver S. L., Garrod R. T., & Herbst E. "A new model for complex chemistry in hot cores." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

24. Widicus Weaver S. L., Remijan A. J., McMahon R. J., & McCall B. J. "A Green Bank Telescope search for *ortho*-benzyne (*o*-C_6H_4) in CRL 618." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

23. Brumfield B. E., Widicus Weaver S. L., Howard S. S., Gmachl C. F., & McCall B. J. "Cavity ringdown spectrum of the ν_8 band of methylene bromide using a quantum cascade laser." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

22. Mills A. A., Widicus Weaver S. L., & McCall B. J. "Development of a fast ion beam spectrometer for molecular ion spectroscopy." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

21. Kuo H.-L., Friedel D. N., Looney L. W., Snyder L. E., Widicus Weaver S. L., & McCall B. J. "Preparation for the astronomical search for protonated methanol." *62nd Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2007.

20. Negru B., Wiczer M., Widicus Weaver S. L., DiGangi J. P., Tom B. A., & McCall B. J. "Infrared absorption spectroscopy of the $^{14}N_2^+$ Meinel System 2-1 band (poster)." *American Chemical Society National Meeting 233*, 2007.

19. Widicus Weaver S. L., Mills A. A., & McCall B. J. "Continuous-wave cavity ringdown spectroscopy of molecular ions in a fast ion beam (poster)." *American Chemical Society National Meeting 233*, 2007.

18. Brumfield B. E., Widicus Weaver S. L., Howard S. S., Gmachl C. F., & McCall B. J. "Continuous wave cavity ringdown spectroscopy of C_{60} at 8.5 μm using a quantum cascade laser and a supersonic expansion source (poster)." *American Chemical Society National Meeting 233*, 2007.

17. Widicus Weaver S. L., Zwier M. C., Ding Y., & McCall B. J. "Laboratory and observational studies of C_{60} and C_{60}^+." *American Chemical Society National Meeting 231*, 2006.

Caltech

16. Sumner M. C., Blake G. A., Harris A. I., Leong M., Phillips T. G., Rice F., Widicus Weaver S., Yoshida H., & Zmuidzinas J. "Millimeter line surveys of Class 0 protostars and targeted searches for complex organics in high mass star-forming regions (poster)." *Protostars and Planets V*, 2005.

15. Widicus Weaver S. L., Kelley M. J., & Blake G. A. "Complex chemistry on interstellar grains (poster)." *Intl. Astronomical Union Symp. 231: Astrochemistry - Recent Successes and Current Challenges*, 2005.

14. Widicus Weaver S. L. & Blake G. A. "The rotational spectra of the internal rotors methyl glycolate and dimethyl carbonate, structural isomers of the 3C sugars." *60th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2005.

13. Widicus Weaver S. L. & Blake G. A. "Reconsidering radical-radical reactions on grain surfaces: A new interstellar chemical model." *60th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2005.

12. Braakman R., Drouin B., Widicus S. & Blake G. A. "The rotational spectrum and observational study of hydroxyacetone." *60th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2005.

11. Widicus S. L. & Blake G. A. "Detection of dihydroxyacetone in Sgr B2(N-LMH): The first 3C interstellar sugar?" *59th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2004.

10. Widicus S. L., Drouin B. J., & Blake G. A. "The FT-microwave spectrum of dimethyl carbonate." *59th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2004.

9. Widicus S. L., Braakman R., & Blake G. A. "3C sugars in interstellar hot cores? Studies of the laboratory rotational spectrum of dihydroxyacetone." *58th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2003.

8. Widicus S. L., Dyl K. A., & Blake G. A. "Microwave, millimeter, and submillimeter spectroscopy of prebiotic interstellar molecules (poster)." *50th Western Spectroscopy Association Conference*, 2003.

7. Widicus S. L., Drouin B. J., Dyl K. A., & Blake G. A. "Rotational spectroscopy and hot core observational astronomy of prebiotic molecules (poster)." *SFChem 2002: Chemistry as a Diagnostic of Star Formation*, 2002.

6. Widicus S. L., Drouin B. J., Dyl K. A., & Blake G. A. "Rotational spectroscopy and hot core observational searches for aminoethanol (poster)." *Astrobiology Science Conference*, 2002.

5. Widicus S. L., Drouin B. J., Dyl K. A., & Blake G. A. "The rotational spectrum of amino-ethanol." *57th Ohio State Univ. Intl. Symp. on Molecular Spectroscopy*, 2002.

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4. Wolbach W. S., Widicus S. & Dypvik H. "A preliminary search for evidence of impact-related burning near the Mjølnir Impact Structure, Barents Sea (poster)." *32nd Lunar & Planetary Science Conference*, 2001.

3. Widicus S., Wolbach W. S., & Nelson B. "Chemical techniques for the isolation of elemental carbon from sediments (poster)." *American Chemical Society National Meeting 220*, 2000.

2. Wolbach W. S., Widicus S., & French B. M. "Carbon-bearing impactites from the Gardnos Impact Structure, Norway: No evidence for soot (poster)." *30th Lunar & Planetary Science Conference*, 1999.

1. Wolbach W. S., Widicus S., Moecker S., & Kyte F. T. "Is the soot layer at the KT boundary really global? (poster)" *29th Lunar & Planetary Science Conference*, 1998.

Honors and Awards

Flygare Award in Molecular Spectroscopy	2015
Intl. Union of Pure and Applied Chemistry Young Chemist Travel Award	2009
Green Bank Telescope Student Fellowship	2004
American Chemical Society Peoria Local Section Collegiate Scholar Award	2000
Illinois Wesleyan University Chemistry Department Mortimer Award	2000
Eugene M. Shoemaker Impact Cratering Award	1999
American Chemical Society Undergraduate Award in Analytical Chemistry	1999
Aileen S. Andrew Foundation Scholarship	1998
CRC Press LLC Freshman Chemistry Achievement Award	1997
Scottish Rites Scholarship	1996 - 2000
Robert C. Byrd Honors Scholarship	1996 - 2000
United Methodist Foundation Annual Conference Scholarship	1996

Student Research Honors and Awards

Mr. Houston Smith, Emory University Early Career Achievement Research Grant	2015
Mr. Ian Wagner, Emory University Early Career Achievement Research Grant	2013
Mr. James Sanders, Emory University William Jones Chemistry Scholarship	2013
Mr. James Sanders, Honorable Mention Poster Award, American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium	2012
Mr. James Sanders, Emory University Early Career Achievement Research Grant	2012
Mr. Jay Kroll, Soffen Memorial Fund Travel Award, NASA Academy Alumni Association	2012
Mr. Jay Kroll, Highest Honors in Chemistry, Emory University	2012
Mr. Jacob Laas, Emory University Quayle Chemistry Research Fellowship	2011
Mr. Jay Kroll, Emory University William Jones Chemistry Scholarship	2011
Mr. Brett McGuire, National Science Foundation Graduate Research Fellowship	2011
Mr. Brett McGuire, Young Researcher Travel Grant, Intl. Astronomical Union Symp. 280	2011
Mr. Jacob Laas, Young Researcher Travel Grant, Intl. Astronomical Union Symp. 280	2011
Mr. Jay Kroll, Honorable Mention Poster Award, American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium	2010
Miss Mary Radhuber, Emory University Early Career Achievement Research Grant	2010
Miss Mary Radhuber, Honorable Mention Poster Award, American Chemical Society Georgia Local Section, Herty Medalist Undergraduate Research Symposium	2009
Mr. Jay Kroll, Emory University Early Career Achievement Research Grant	2009

Other Recognitions

Neill et al. 2011 (*J. Phys. Chem. A*, **115**, 6472) listed as "Hottest article in the last quarter" on the *ChemFeeds* website: http://www.chemfeeds.com/hot.php?time=quarter, August, 2011.

Research highlighted in *Macon Telegraph* article "Fall on your knees in awe and wonder." June 25, 2011.

Research highlighted in *Discover Magazine* article "Cosmic Blueprint of Life." November, 2010.

Professional Service and Affiliations

Emory	
Vice-Chair, American Chemical Society Subdivision of Astrochemistry	2016
Member, Journal of Molecular Spectroscopy Editorial Board	2015 - 2018
Member, International Advisory Committee, International Symposium on Molecular Spectroscopy	2015 - 2018
Flygare Molecular Spectroscopy Award recipient	2015
Director, Undergraduate Research, Emory Department of Chemistry	2015 - present
Member, Executive Council, Emory Laney Graduate School	2014 - present
Session Chair and Organizer, "Chemistry in the Interstellar Medium – New Frontiers in Laboratory, Theory, and Observations" Symposium, American Chemical Society National Meeting 247	2014
Session Chair and Organizer, "The Chemistry of Star and Planet Formation" Symposium, Southeast Regional Meeting of the American Chemical Society	2013
Member, Science Organizing Committee, "From Stars to Life" Conference	2013
Conference Chair and Organizer, Molecular Spectroscopy in the Era of Far-IR Astronomy workshop	2012
Member, Executive Committee, Southeast Laboratory Astrophysics Community	2011 - present
Session Chair and Organizer, "Spectroscopy in the Universe" Special Session, Federation of Analytical Chemistry and Spectroscopy Societies Conference	2011
Member, Selection Committee, Rao Prize, Ohio State University International Symposium on Molecular Spectroscopy	2011 - 2012
Member, National Science Foundation Center for the Chemistry of the Universe	2010 - 2011
Member, Science Organizing Committee, ALMA: Extending the Limits of Astrophysical Spectroscopy Workshop	2010
Member, Science Organizing Committee, National Aeronautics & Space Administration Laboratory Astrophysics Workshop	2010
Session Chair and Science Organizing Committee Member, Southeast Laboratory Astrophysics Community Workshop: Dust and Ice: Their Roles in Astrophysical Environments	2010
Participant, Piedmont Project, Emory University	2009
Co-organizer, Atlanta Area Chemical Physics Seminar Series	2008 - present
Member, National Science Foundation Center for Chemical Evolution	2008 - 2009
UIUC, Caltech, and IWU	
Book Reviewer, *Journal of the American Chemical Society*	2007
Member, Local Organizing Committee, IAU Symp. 231: Astrochemistry Throughout the Universe: Recent Successes & Current Challenges	2005
Member, Organizing Committee, Caltech Chemical Physics Seminar Series	2001 - 2004
Member, Phi Kappa Phi Honors Society	2000 - present
Member, Sigma Xi Research Society	1999 - present
Member, Alpha Lambda Delta Honors Society	1996 - present
Member, American Chemical Society	1996 - present

Current Support

National Science Foundation: CAREER Program, Division of Chemistry
PI: Susanna Widicus Weaver
Title: CAREER: Are Weakly-Bound Molecular Clusters Important in Astrochemistry? Interdisciplinary Studies of H_5^+ and HO_3
Performance Period: May 1, 2012 - April 30, 2017
Total Budget: $555,063.00
Commitment: 1.0 person-months per year
Point of Contact: Dr. Evelyn M. Goldfield, (703) 292-2173, egoldfie@nsf.gov

National Aeronautics and Space Administration ROSES 2014: Emerging Worlds Program
PI: Susanna Widicus Weaver
Title: The Role of Methanol Photolysis in the Production of Organic Matter During Solar System Formation
Performance Period: April 1, 2015 - March 30, 2017.
Total Budget: $ 267,304.24
Commitment: 1.0 person-month per year
Point of Contact: Dr. Jeff Grossman, (202) 358-1218, jeffrey.n.grossman@mail.nasa.gov

National Aeronautics and Space Administration: Goddard Space Flight Center
PI: Susanna Widicus Weaver
Title: Submillimeter Spectroscopy of Sublimated Interstellar/Planetary Ice Analogues
Performance Period: February 5, 2016 - February 4, 2017.
Total Budget: $ 22,548.75
Commitment: 0.5 person-month per year
Point of Contact: Dr. Stefanie Milam, (301) 614-6902, stefanie.n.milam@mail.nasa.gov

National Aeronautics and Space Administration ROSES 2015: Astrophysics Research and Analysis Program
PI: Susanna Widicus Weaver
Title: Harnessing the Efficiency of O(^{1}D) Insertion Reactions for Prebiotic Astrochemistry
Performance Period: October 1, 2016 - September 30, 2019.
Total Budget: $ 469,614.84
Commitment: 1.0 person-month per year
Point of Contact: Dr. Douglas Hudgins, (202) 358-0988, douglas.m.hudgins@mail.nasa.gov

Pending Support

National Aeronautics and Space Administration ROSES 2016: Emerging Worlds Program
PI: Susanna Widicus Weaver
Title: A Multiwavelength Study of Methanol Photolysis: Organic Molecule Production During Star and Planet Formation
Performance Period: January 1, 2017 - December 31, 2019.
Total Budget: $ 501,241.00
Commitment: 1.0 person-month per year
Point of Contact: Dr. Jeff Grossman, (202) 358-1218, jeffrey.n.grossman@mail.nasa.gov

National Science Foundation: Chemical Structure, Dynamics and Mechanisms A, Division of Chemistry
PI: Susanna Widicus Weaver
Title: Unlocking the Mysteries of Prebiotic Chemistry in Space Via Organic Ion Spectroscopy
Performance Period: May 1, 2017 - April 30, 2020
Total Budget: $458,785.00
Commitment: 1.0 person-months per year
Point of Contact: Dr. Colby Foss, (703) 292-5327, cfoss@nsf.gov