Christopher S. Blaszczak-Boxe

Penn State Department of Geosciences & Institute of Computational Data Sciences

Education

Ph.D., Environmental Science & Engineering — California Institute of Technology, June 2005
Thesis Title: Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice
Thesis Advisor: Professor Michael Hoffmann
Minor, Geology — California Institute of Technology, June 2005
M.S., Environmental Science & Engineering — California Institute of Technology, June 2002
M.S., Planetary Science — California Institute of Technology, June 2001
B.S., Chemistry — Morehouse College, May 1999
Minor, Math — Morehouse College, May 1999

Experience

Associate Research Professor, Penn State's Department of Geosciences	2020-present
Assoc. Res. Prof., Penn State's Institute for Computational & Data Sciences	2020-present
Board Member & Grant Specialist, Brooklyn Queens Land & Trust	2019-present
Advisory Board Member Magnolia Tree Earth Center	2019-present
Advisor, MotionFlow Inc.	2019-present
Science Editorial Advisor, Our Time Press	2019-present
Deputy Chair, Chemistry & Environmental Science Dept., Medgar Ever College	2017-2019
Associate Professor, Medgar Evers College-CUNY	2016-2020
Associate Professor, CUNY Grad. Center's EES & Chem. Depts.	2016-2020
Assistant Professor, CUNY Grad. Center's EES & Chem. Depts.	2012-2016
Assistant Professor, Medgar Evers College-CUNY	2012-2016
Visiting Professor, MSU Chem. & Biochem. Dept.	Summer 2015
ACS Project SEED Research Mentor	Summer 2013
MEC-CUNY Environmental Science Club Faculty Advisor	2012 – 2019
MEC-CUNY Global Medical Brigades Faculty Advisor	2012 – 2019
CUNY LSAMP Research Mentor	2012 – 2019
NASA-JPL Research Scientist	2008-2011
NASA-JPL Postdoctoral Scholar	2008
NASA Postdoctoral Program Fellow	2006-2008
Caltech ESE Graduate Research Assistant	2001-2005
Caltech GPS Graduate Research Assistant	1999-2001
Morehouse College Undergraduate RA	1997-1999
Morehouse College NASA-McNair RA	1997-1999

Technical Skills: HPLC, ICP-MS, ICP-AOES, FT-IR, UV-VIS, GC-MS, AAS, SEM, NMR; Fortran, C++, R, Python, Matlab, Sigma Plot, Excel, multi-dimensional atmospheric planetary, air quality, and climate modeling.

Publications **(in preparation, submission , in press, and accepted)**

Modeling of the Martian Atmosphere via Caltech/JPL 1D Photochemical Model: Part I
NASA GEO TECH Middle and High School Teacher and Student Scholars, M. Riyad, W. Lee, C. S. Boxe
Journal of Chemical Education, in preparation.

Modeling Earth's Atmosphere via Caltech/JPL 1D Photochemical Model: Part II
NASA GEO TECH Middle and High School Teacher and Student Scholars, M. Riyad, W. Lee, C. S. Boxe
Journal of Chemical Education, in preparation.

Investigating the potentiality of *Scenedesmus obliquus* and *Acinetobacter pittii* partnership system and their effects on nutrients removal from synthetic domestic wastewater
Mohammad Russel, Md. Asraful Alam, Maurycy Daroch, Girish Kumar Gupta, Qu Meixue, Liu Lifen, & C. S. Boxe
Bioresource Technology, DOI: 10.1016/j.biortech.2019.122571.

Diurnal variations in the Mars equatorial odd oxygen species: chemical production and loss mechanisms
D. Viudez-Moreiras, A. Saiz-Lopez, C. S. Blaszczak-Boxe, Y. L. Yung, and J. A. Rodriquez Manfredi
Icarus, https://doi.org/10.1016/j.icarus.2019.113458.

Modelling the sources and chemistry of polar tropospheric halogens (Cl, Br, I) using the CAM-Chem global chemistry-climate model
R.P. Fernandez, A. Carmona-Balea, C.A. Cuevas, D.E. Kinnison, J-F Lamarque, C Blaszczak-Boxe, K. Kim, W. Choi, T. Hay, A. Blechschmidt, A.nSchönhardt, A. Richter, J. Burrows, and A. Saiz-Lopez[1], *Journal of Advances in Modeling Earth Systems,* Article DOI: 10.1029/2019MS001655, 2019.

Nitrate photolysis in ice and snow: a critical review of its multiphase chemistry
C. S. Blaszczak-Boxe and A. Saiz-Lopez
Atmospheric Environment, 193 (2018) 224–241, https://doi.org/10.1016/j.atmosenv.2018.09.002.

The Impact of Fertilizers on the Uptake of Manganese in Cherry Belle Radish Plants: implications for human health
S. Clarke-Lambert, D. Saint Hilaire, U. Nasimov, M. Lebetkin, J. Stock, J. Strothers, A. Blaszczak-Boxe, D. Skeete, and C. S. Blaszczak-Boxe
Environmental Science and Pollution Research, https://doi.org/10.1007/s11356-019-04574-8.

A detailed pathway analysis of the Martian vertical ozone profile
J. Stock, C. S. Blaszczak-Boxe, R. Lehmann, J. Lee Grenfeell, A. B. C. Patzer, H. Rauer, and Y. L. Yung
Icarus, 000, 1-11, doi:10.1016/j.icarus.2016.12.012, 2017.

The Polar Iodine Conundrum
A. Saiz-Lopez and C. S. Blaszczak-Boxe,
Atmospheric Environment, 145, 72-73, 10.1016/j.atmosenv.2016.09.019, 2016.

Abiotic generation of I_2(g) from frozen iodide solutions
K. Kim, A. Yabushita, M. Okumura, A. Saiz-Lopez, C. A. Cuevas, C. S. Blaszczak-Boxe, Ho-Il Yoon, and W. Choi
Environmental Science and Technology, doi:10.1021/acs.est.5b05148. 2016.

A mechanism for biologically-induced iodine emissions from sea-ice
A. Saiz-Lopez, C. S. Blaszczak-Boxe, and L. Carpenter
Atmospheric Chemistry and Physics, doi:10.5194/acp-15-9731-2015.

Estimating Sources of Pollution over Texas using OMI and TES Satellite Data, TCEQ *In Situ* Data and HYSPLIT Trajectory Analyses: implications for TCEQ State Implementation Plans

D. Bella, J. Culpepper, J. Khaimova, N. Ahmed, Adam Belkalai, I. Arroyo, J. Andrews, S. Gentle, S. Emmanuel,[7] M. Lahmouh, J. Ealy, Zayna King, O. Jenkins, D. Fu, Y. Choi, G. Osterman, J. Gruszczynski, D. Skeete, and C. S. Blaszczak-Boxe
Air Quality, Atmosphere, and Health, doi:10.1007/s11869-15-0363-2, 2015.

New Insights into Martian Atmospheric Chemistry
C. S. Boxe,* J. S. Francisco,* M. C. Liang, H. Nair, Y. L. Yung, R.-L. Shia, and A. Saiz-Lopez
Icarus, 242, 97-104 (2014).

Investigating the Photo-oxidative Production of HCHO in the Snowpack at the South Pole, Antarctica
P. D. Hamer, D. E. Shallcross, A. Yabushita, and C. S. Boxe
Environmental Chemistry, http://dx.doi.org/10.1071/EN13227 (2014).

A review air-ice chemical and physical interactions (AICI): liquids, quasi-liquids, and solids in snow, T., Bartels-Rausch, H.-W. Jacobi, T. Kahan, J. Thomas, E. S. Thomson, J. Abbatt, M. Ammann, J. R. Blackford, H. Bluhm, C. S Boxe, *et al.*,
Atmospheric Chemistry and Physics, 14, 1-47 (2014).

The Harmony Park Health Initiative, C. Niles, R. Walker, K. Crenshaw, and C. S Boxe, *New York State Department of Environmental Conservation, http://www.dec.ny.gov/public/93838.html* (2013).

Impact of Photoexcited NO_2 on Global Air Quality: air quality analyses via the NMMB/BSC Chemical Transport Model
O. Jorba, D. Dabdub, C. S. Blaszczak-Boxe, *et al.*
*Journal of Geophysical Research,*Vol. 117, D13301, doi:10.1029/2012JD017730 (2012).

Halogen Activation via Environmental Ice and Snow
Abbatt, J., Thomas, J., Abrahamsson, K., Boxe, C., *et al.*
Atmospheric Chemistry and Physics, Volume 12, doi:10.5194/acp-12-6237-2012 (2012).

Chemical pathway analysis of the Martian atmosphere: CO_2-formation pathways
J. Stock, C. S. Boxe, J. L. Grenfell, R. Lehmann, A. B. C. Patzer, H. Rauer, and Y. L. Yung
Icarus, Volume 219 (1), 13-24 (2012).

An active nitrogen cycle on Mars sufficient enough to support a subsurface biosphere
C. S. Boxe,* K. P. Hand,* K. Nealson, Y. L. Yung, A. S. Yen, and A. Saiz-Lopez
International Journal of Astrobiology, doi.10.1017/S1473550411000401 (2012).

Adsorbed water and thin liquid films on Mars
C. S. Boxe,* K. P. Hand,* K. Nealson, Y. L. Yung, A. S. Yen, and A. Saiz-Lopez
International Journal of Astrobiology, doi:10.1017/S1473550412000080 (2012).

The effect of the Novel HNO_3(g) Production Channel at South Pole, Antarctica
C. S. Boxe, P. Hamer, W. Ford, M. Hoffmann, and D. E. Shallcross
Antarctic Science, doi:10.101/S0954102012000144, 1-9 (2012).

An Inexpensive, Widely Available Material for 4 wt % Reversible Hydrogen Storage Near Room Temperature

T. Pascal, C. S. Boxe, and W. A. Goddard
Journal of Physical Chemistry Letters, 2, 1417-1420, dx.doi.org/10.1021/jz200453u, (2011).

Aura Satellite Observations and GEOS-Chem Model Simulations of the December 2006 Australian Fires
M. Luo, C. S. Boxe, J. Jiang, R. Nassar, J. Logan, and N. Livesey
Remote Sensing of Environment, Volume 114, 2853-2862 (2010).

Validation of Northern Latitude Tropospheric Emission Spectrometer Stare Ozone Profiles with ARC-IONS Sondes during ARCTAS: sensitivity, bias, and error analysis
C. S. Boxe, *et al*.,
Atmospheric Chemistry and Physics, Volume 10, 9901-9914 (2010).

Influence of thin liquid layers on polar ice chemistry: implications for Earth and planetary science
C. S. Boxe* and A. Saiz-Lopez*
Polar Science, Volume 3, 73-81, (2009).

Multiphase modeling of nitrate photochemistry in the quasi-liquid layer (QLL): implications for NO_x release from the Arctic and coastal Antarctic snowpack
C. S. Boxe* and A. Saiz-Lopez*
Atmospheric Chemistry and Physics, Volume 8, 4855-4864 (2008).

A mechanism for biologically-induced iodine emissions from sea-ice
A. Saiz-Lopez* and C. S. Boxe*
Atmospheric Chemistry and Physics-Discussions, Volume 8, 2953-2976 (2008).

An overview of snow photochemistry: evidence, mechanisms and impacts
A. M. Grannas, A. E. Jones, J. Dibb, M. Ammann, C. Anastasio, H. J. Beine, M. Bergin, J. Bottenheim, C. S. Boxe, et al.,
Atmospheric Chemistry and Physics, Volume 7, 4165--4283 (2007).

Grain Sizes and Surface Areas, and Porosities of Vapor-Deposited H_2O Ices Used to Simulate Planetary Icy Surfaces
C. S. Boxe, Leu, M. T., Bodsgard, B. R., and W. Smythe
Journal of Colloid and Interface Science, Volume 309, Issue 2, Pages 412-418, MAY 15 (2007).

Acidity of Frozen Electrolyte Solutions
C. Robinson, C. S. Boxe, M. I. Guzman, A. J. Colussi, and M. R. Hoffmann
Journal of Physical Chemistry B, 110 (15): 7613-7616 APR 20 (2006).

Kinetics of Gaseous NO and NO_2 Evolution from Illuminated Frozen Nitrate Solutions
C. S. Boxe, A. J. Colussi, M. R. Hoffmann, I. Perez, J. G. Murphy, and R. C. Cohen
Journal of Physical Chemistry A, 110 (10): 3578-3583 MAR 16 (2006).

Photochemical Production and Release of Gaseous NO_2 from Nitrate-doped Water Ice
C. S. Boxe, A. J. Colussi, M. R. Hoffmann, J. Murphy, P. Wooldridge, T. Betram, and R. C. Cohen
Journal of Physical Chemistry A, 109 (38): 8520-8525 SEP 29 (2005).

Oxygen Isotopes Fractionation in the Photodecomposition of Nitrate in Water and Ice

J. McCabe, C. S. Boxe, A. J. Colussi, M. R. Hoffmann, and M. Thiemens.
Journal of Geophysical Research-Atmospheres, Vol. 110, No. D15, D15310, 10.1029/2004JD005484, 13 August (2005).

Multiscale Ice Fluidity in NOx Photodesorption from Frozen Nitrate Solutions
C. S. Boxe, A. J. Colussi, M. R. Hoffmann, D. Tan, J. Mastromarino, A. T. Case, S. T. Sandholm, and D. D. Davis
Journal of Physical Chemistry A, 107 (51): 11409-11413 DEC 25 (2003).

Monotonic Increase of Nitrite Yields in the Photolysis of Nitrate in Ice and Water between 238 and 294 K
Y. Dubowski, A. J. Colussi, C. S. Boxe, and M. R. Hoffmann
Journal of Physical Chemistry A, 106 (30): 6967-6971 AUG 1 (2002).

Keeping Mars Warm with New Super Greenhouse Gases
M. F. Gerstell, J. S. Francisco, Y. L. Yung, C. S. Boxe, and E. T. Aaltonee
Proceedings of the National Academy of Sciences of the United States of America, 98 (5): 2154-2157 FEB 27 (2001).

Invited Talks, Conference Papers, Poster Presentations, & Outreach Activities

C. S. Boxe, "STEM is the New Rainbow," Penn State (University Park), Earth & Mineral Science Division November 14th, 2019.

C. S. Boxe, "Unlocking One's Inherent Genes Through Education," Kenyote Speech, Medgar Evers College Preparatory College's National Honor Society Ujima Chapter Induction Ceremony, June 10th, 2019.

C. S. Boxe, "Unlocking One's Inherent Genes Through Education," Kenyote Speech, MS 267, June 20th, 2019.

C. S. Boxe, "Quantification of Heavy Metals in NYC Residential and Commercial Potable Water Systems: implications for human health," The Packard Collegiate Institute, February 25th, 2019.

C. S. Boxe, "Quantification of Heavy Metals in NYC Residential and Commercial Potable Water Systems: implications for human health," University of South Florida's College of Marine Science, September 14th, 2018.

C. S. Boxe, "Economic Mobility through STEM," EXSEED Conference 2018," Excelsior Community College, Kingston, Jamaica, July 19th-20th, 2018.

C. S. Boxe, "Love & Family," Keynote Speaker at Middle School 267 – The Math, Science & Technology Institute, Jane's United Methodist Church, Brooklyn, New York, June 22nd, 2018.

C. S. Boxe, "Biologically-Induced Iodine Emissions for Antarctic Sea Ice: implications for future climate impacts," University of Maryland's Atmospheric and Oceanic Science Department, April 20th, 2018.

C. S. Boxe, "1-D Photochemical Modeling of the Martian Atmosphere: Seasonal Variations," Fall AGU 2016, December 14th, 2016.

C. S. Boxe, "Potentially Toxic Substances in NYC Soil and Water Environments," University of South Florida Civil and Environmental Engineering Department, October 26th, 2016.

C. S. Boxe, "Biologically-Induced Iodine Emissions for Antarctic Sea Ice," Fall AGU 2015, December 15th, 2015.

L. Johnson, "Increasing Diversity in Global Climate Change, Space Weather and Space Technology Research and Education," Fall AGU 2015, December 16th, 2015.

C. S. Boxe, "Biologically-Induced Iodine Emissions for Antarctic Sea Ice," Michigan State University's Chemistry Department, March 16th, 2015.

C. S. Boxe, "Biologically-Induced Iodine Emissions for Antarctic Sea Ice," University of South Florida School of Marine Science, March 25th, 2015.

C. S. Boxe et al., "Estimating Sources of Pollution over Texas using OMI and TES Satellite Data, TCEQ *In Situ* Data and HYSPLIT Trajectory Analyses: implications for TCEQ State Implementation Plans," AGU Fall 2014.

C. S. Boxe, et al., "Biologically-Induced Iodine Emissions for Antarctic Sea Ice," Brooklyn Technical High School Science Colloquium, December 5th, 2014.

C. S. Boxe, et al., "Biologically-Induced Iodine Emissions for Antarctic Sea Ice," City College's Chemistry Division Science Colloquium, November 17th, 2014.

C. S. Boxe, et al., "New Insights into Martian Atmospheric Chemistry," GEOS – Geography, Earth Science and Oceanography Seminars, CUNY Graduate Center, September 18th, 2014.

C. S. Boxe, et al., "Chemical pathway analysis of the Martian atmosphere: the formation and destruction of ozone," European Geophysical Union Conference, April 27th-May 2nd, 2014.

C. S. Boxe, "Ozone and Climate Change: Knowns and Unknowns," University at Albany, School of Public Health, March 25th, 2014.

Joachim Stock, C. S. Boxe, et al., "Chemical ozone formation and destruction pathways in Mars' atmosphere," European Planetary Science Congress 2013, September 8th-13th, 2013.

C. S. Boxe, "Numerical Modeling and Science," Medgar Evers College of the City University of New York's Education Department's Teaching of Science (EDU 317) Class, April 17th, 2013.

C. S. Boxe, "Ozone and Climate Change," Medgar Evers College of the City University of New York's School of Science and Technology, February 13th, 2013.

C. S. Boxe, "Ozone and Climate Change: *knowns* and *unknowns*," Geology, Earth Science and Oceanography Series (GEOS), CUNY Graduate Center, Earth and Environmental Science Department, Manhattan, New York, , September 20th, 2012.

C. S. Boxe, Guest Panel Speaker, "Thin Liquid Films on Mars: implications for life," Biology and Chemistry Departments, Essex County College, April 10th, 2012.

C. S. Boxe, Guest Panel Speaker, "S.T.E.M. Disciplines and the Social Sciences in Dialogue: A Workshop: Career Skills for the 21st Century," NY, NY, City College-City University of New York, February 29th, 2012.

C. S. Boxe, Guest Panel Speaker, "NSF S-STEM Seminar Series," Medgar Evers College-City University of New York, NY, NY, February 29th, 2012.

C. S. Boxe, Program Coordinator, "Black Engineer of the Year Conference," Philadelphia, PA, February 16-18th, 2012.

J. Stock, C. S. Boxe, *et al.*, "Chemical pathway analysis of the Martian atmosphere: CO_2 formation pathways," German Aerospace Center – Helmholtz Alliance: Planetary Evolution and Life, Institut für Planetenforschung Program for the 4th Alliance Week, Berlin, Germany, February 20-24th, 2012.

C. S. Boxe, "An Inexpensive, Widely Available Material for 4 wt% Reversible Hydrogen Storage Near Room Temperature," 2011 IYC Symposium on Stratospheric Ozone and Climate Change, October 7-10th, 2011, Ronald Reagan Building and International Trading Center, 2011.

C. S. Boxe, "New Insights into Martian Atmospheric Chemistry," Chemistry and Earth and Atmospheric Sciences Departments, Purdue University, October 18th, 2011.

C. S. Boxe, "The Influence of HOCO Chemistry in the Martian Atmosphere," Deutschen Zentrums für Luft und Raumfahrt (DLR), Berlin, Germany, October 13th, 2011.

C. S. Boxe, "Good Things Come to Those Who Work," 15th Annual Parent and Student Educational and Information Symposium, California State University, Fullterton, Ca, September 10th, 2011.

C. S. Boxe, "Ozone and Climate Change," AirUCI (Atmospheric Integrated Research at University of California, Irvine), University of California-Irvine, Irvine, Ca, August 16th, 2011.

C. S. Boxe, "Ozone and Climate Change," Texas Southern University, College of Science and Technology, Houston, Texas, July, 28th, 2011.

C. S. Boxe, "Ozone and Climate Change," Yuk L. Yung Lunch Seminar Series, Caltech, Pasadena, California, July 19th, 2011.

C. S. Boxe, Guest Speaker, "How Math Can Be Used in Your Career or in Preparation for Any Career," Legacy Roundtable via the Council of African American Parents (CAAP), Rancho Cucamonga, Chaffey College, July 12th, 2011.

J. W. Stock, C. S. Boxe, J. L. Grenfell, R. Lehmann, A. B. C. Patzer, H. Rauer, and Y. L. Yung, "Finding CO_2 pathways in the Martian atmosphere," International Conference "Exploring Mars Habitability," Tivoli Lisboa, Kisbon, Portugal, June 13-15th, 2011.

C. S. Boxe, Guest Speaker, "Careers in Engineering," Center for Innovation, Citrus College, May 5th, 2011, Glendora, California.

C. S. Boxe, "Ozone and Climate Change: knowns and unknowns," Georgia Institute and Technology, Earth and Atmospheric Sciences Department, March 14th, 2011, Atlanta, Georgia.

C. S. Boxe, "The Life of an Atmospheric Scientist," American Museum of Ceramic Art: For the New Millennium Ceramics Family Science Day, February 26th, 2011, Pomona, California.

C. S. Boxe, Morehouse College Innovation Expo, February 9th-10th, 2011, Atlanta, Georgia.

C. S. Boxe, "Atmospheric Modeling of New Chemistry Using the Weather Research and Forecasting Model (WRF) with coupled Chemistry (WRF-Chem)," November, 9th, 2010, NASA-JPL's R&TD, DRDF, and SURP Research Poster Conference, Pasadena, CA.

A. Eldering, J. Worden, K. Bowman, S. Kulawik, G. Osterman, M. Luo, B. Fisher, R. Herman, C. Boxe, and Reinhard Beer, "Tropospheric Chemistry from Space: Highlights from the EOS Tropospheric Emission Spectrometer (TES)," European Geophysical Union, May, 2010, Vienna, Austria.

C. S. Boxe, Pasadena Armory Center for the Arts Program and Outreach Committee Site Visit, Milagro Charter Elementary School, May 4th, 2010.

C. S. Boxe, "Validation of TES O_3 satellite data: implications for modeling with the Weather Research & Forecasting Model (WRF) with coupled chemistry (WRF-Chem)," April 30th, 2010, MIT, Boston, Massachussetts.

C. S. Boxe, "Validation of TES O_3 satellite data: implications for modeling with the Weather Research & Forecasting Model (WRF) with coupled chemistry (WRF-Chem)," April 22nd-23rd, 2010, UCSD-SIO, La Jolla, CA.

C. S. Boxe, Volunteer for NASA-JPL Climate Science Day, Pasadena Convention Center, March 26th-27th, 2010.

C. S. Boxe, "Validation of TES O_3 satellite data: implications for modeling with the Weather Research & Forecasting Model (WRF) with coupled chemistry (WRF-Chem)," March 17th-19th, 2010, Johns Hopkins University, Baltimore, MD.

C. S. Boxe, "Validation of TES O_3 satellite data: implications for modeling with the Weather Research & Forecasting Model (WRF) with coupled chemistry (WRF-Chem)," March 11th, 2010, University of Southern California, Los Angeles, CA.

C. S. Boxe, "Validation of TES O_3 satellite data: implications for modeling with the Weather Research & Forecasting Model (WRF) with coupled chemistry (WRF-Chem)," February 23th-26th, 2010, Washington University, St. Louis, MO.

C. S. Boxe, Basic WRF Tutorial, January 25th-29th, 2010, NCAR Foothills Laboratory, Boulder, CO.

C. S. Boxe, "The Atmosphere of Mars," Imagine Mars Workshop, Houston, Texas, January, 27th, 2010.

C. S. Boxe, Donated funds to purchase telescopes for outreach space technology trip in Tanzania, Africa, December 27th, 2009.

C. S. Boxe, "Validation of northern latitude Tropospheric Emission Spectrometer stare ozone profiles with ARC-IONS sondes during ARCTAS Paper," American Geophysical Union, San Francisco, California, Fall Meeting 2009, oral presentation.

C. S. Boxe, "Interpretation of Aura Satellite Observations of CO and Aerosol Index related to the December 2006 Australia Fires," American Geophysical Union, San Francisco, California, Fall Meeting 2009, oral presentation.

C. S. Boxe, Jose Medrano, and Anthony Sherrill, "Life at NASA-JPL," Huntington Park College-Ready Academy, Huntington Park, CA, November 19th, 2009.

C. S. Boxe, "The Future Direction for JPL's African American Resource Team (AART)," NASA-JPL, November 10th, 2009.

P. Johnson, R. Hodyss, C. S. Boxe, L. Lane, and I. Kanik, "Photolysis of Simulated Outer Planetary Icy Surfaces," NASA-JPL Research and Technology Development (R&TD)/Director Research Development Fund (DRDF), and Strategic University Research Partnership (SURP), Earth and Space Science Division," November 10th, 2009.

C. S. Boxe, "Thin Liquid Films on Mars: implications for life," USC Department of Earth Sciences Department Seminar, November 2nd, 2009.

C. S. Boxe, "Thin Liquid Films on Mars: implications for life," Gordon-CenSSIS/ALERT Research & Industrial Colloboration Conference (RICC), October 27th-28th, 2009.

C. S. Boxe, Northeastern ADVANCE "Interdisciplinary Networking in Sensing and Imaging Systems" A Workshop to Promote Diversity and Gender Balance for Prospective Faculty, October 25th-26th, 2009.

M. Barth, J. Lee, C. Boxe, J. Worden, and A. Hodzic, "Modeling Study of Thunderstorm Effects on the Upper Troposphere During the Early Stages of the 2006 North American Monsoon," The Extra-tropical UTLS: Observations, concepts & future directions, Community workshop at NCAR, Boulder, CO, October 19th-22nd, 2009.

C. S. Boxe, J. Neu, and J. Worden, "Global Effects of the Novel HNO_3(g) Production Channel and the Effects of Scavenging Constrained by A-Train Satellite Data," The Extra-tropical UTLS: Observations, concepts & future directions, Community workshop at NCAR, Boulder, CO, October 19th-22nd, 2009.

C. S. Boxe, Annual Donator for extracurricular sports activities for select students in Pasadena, California.

C. S. Boxe, Annual Donator for the tuition of high school students in Kingston, Jamaica.

C. S. Boxe, Annual Donator to Classical KUSC 91.5 fm radio broadcast service of the University of Southern California.

C. S. Boxe, Earth Scientist Volunteer at JPL's Open House, Education Office, May 2n4-3rd, 2009.

C. S. Boxe, "The Role of Thin Liquid Films and Their Implications," Guest Lecture for Geobiology/Astrobiology course at USC's Earth Science Department, April 28th, 2009.

C. S. Boxe donated honorarium received from guest speaker for Earth Day at Citrus College's Center For Initiative (CFI), "Global Warming: Fact, Myth, or Hypothesis," Glendora, CA April 22nd, 2009 to Armory's Center for the Arts City of Pasadena Greening the Earth Day & the Armory's Family Festival, April 25th, 2009.

C. S. Boxe (with honorarium), Invited guest speaker for Earth Day at Citrus College's Center For Initiative (CFI), "Global Warming: Fact, Myth, or Hypothesis," Glendora, CA April 22nd, 2009.

C. S. Boxe and C. Paterson, Invited guest speakers Arts Center Open Science Center Salon, "Up in the Air: constraints for life on Mars sought through atmospheric models and thermodynamic calculations," at University of California, Broad Art Science Center and Lab, Los Angeles CA, April 17th, 2009.

C. S. Boxe, Claremont Courier, "Student success gives Citrus College a greater sense of community," March 25th, 2009.

C. S. Boxe, Invited guest speaker for "Career and Life Planning" at Citrus College, Citrus College, Glendora, CA, March 19th, 2009.

C. Paterson and C. S. Boxe, "Life as We Know It?" Birth/Day: Origins, Temporality, Hybridity – 'How does newness come into the world? How is it born? Of what fusions, translations, conjoining is it made?' Salman Rushdie, The Satanic Verses, Visual Studies Conference, University of California, Irvine, CA, March 6-7th, 2009.

C. S. Boxe, "Validation of Tropospheric Emission Spectrometer (TES) nadir stare ozone profiles using ozonesonde measurements during Arctic Research on the Composition of the Troposphere from Aircraft and Satellites (ARCTAS)," 26th Informal Symposium on Kinetic and Photochemical Processes in the Atmosphere, University of California, Riverside, CA, March 5th, 2009.

C. S. Boxe, "Validation of Tropospheric Emission Spectrometer (TES) nadir stare ozone profiles using ozonesonde measurements during Arctic Research on the Composition of the Troposphere from Aircraft and Satellites (ARCTAS)," TES Science Team Meeting, The University Corporation for Atmospheric Research (UCAR) – National Center for Atmospheric Research (NCAR) Foothills Laboratory, February 23-25th, 2009.

C. S. Boxe, "Applications of Ice Photochemistry to Earth Science Problems," Ice Labs Workshop, NASA-JPL, February 2nd, 2009.

C. S. Boxe, "Validation of Tropospheric Emission Spectrometer (TES) nadir stare ozone profiles using ozonesonde measurements during Arctic Research on the Composition of the Troposphere from Aircraft and Satellites (ARCTAS)," ARC-IONS Data Workshop, Wycliffe College, University of Toronto, January 7-8th, 2009.

C. S. Boxe, "Chemistry of Ice and Snow: implications for planetary science," Harvard's Engineering and Applied Sciences Atmospheric Sciences Seminar, October 24th, 2008.

C. S. Boxe, "Academic Career Path," Morehouse College's Ronald E. McNair Scholars, Atlanta, Georgia, October 7th, 2008.

C. S. Boxe, "Heterogeneous Snow Chemistry and its Relation to finding life on Mars," Morehouse College's Chemistry Department, Atlanta, Georgia, October 7th, 2008.

C. S. Boxe, "Academic Career Path – Self-Empowerment Through Research," Keynote Speaker for Morehouse College's 3rd Annual Research – Enrichment Awards, Atlanta, Georgia, October 6th, 2008.

C. S. Boxe, "Heterogeneous Snow Chemistry," Morehouse College's Math Department, Atlanta, Georgia, October 6th, 2008.

C. S. Boxe, "Academic Career Path," Morehouse College's Chemistry Department, Atlanta, Georgia, October 6th, 2008.

C. S. Boxe, "Academic Career Path," Morehouse College's Biology Department, Atlanta, Georgia, October 6th, 2008.

C. S. Boxe, "Climate Change: Fact or Fiction?" Camp Mariposa Girl Scouts, Altadena, California, September 30th, 2008.

C. S. Boxe, "Academic Career Path," The Scientific Empowerment Movement (SEM), UCLA, Los Angeles, California, September 27th, 2008.

C. S. Boxe, "The Academic Career Path," Mt. San Antonio College's Inland Valley Black College Summit, Industry, California, September 13th, 2008.

C. S. Boxe, A. Saiz-Lopez, A. S. Yen, M. I. Guzman, Y. L. Yung, M. Allen, C. Sotin, Heterogeneous Photochemistry on Mars's Surface," Earth and Space Science Division, Jet Propulsion Laboratory, NASA-JPL's Postdoctoral Research Day, August 26th, 2008.

C. S. Boxe, "Possible Environments for Life on Mars," NASA-JPL's Minority Education Initiatives, June 25th, 2008.

C. S. Boxe, Volunteer at the Child Educational Center's 19th Annual Wine Tasting Benefit and Auction, Avery House, Caltech, June14th, 2008.

C. S. Boxe, "Ask a Scientist Guy," Volunteer at JPL's Open House, Education Office, May 3rd-4th, 2008.

C. S. Boxe, Arctica Research Project for Urban Youth, NASA-JPL, "Creating an Ice Rendevous," MOCA/LACMA Allan Kaprow Fluids Reinvention Site, MacArthur Park Lakeside, April 27th, 2008.

C. S. Boxe, "Global Warming: fact or fiction," Keynote Speaker at Earth Day, Citrus College, Glendora, CA, April 22nd, 2008.

Saiz-Lopez, A., Boxe, C. S., Sander, S. P., Chance, K., Kurosu, T. P., Liu, X., Mahajan, A., Plane, J..M. C. "Iodine chemistry in the polar boundary layer," EGU General Assembly 2008, AS3.14, lecture room Lecture Room 1 on Thursday, 17 April 2008, 13:30.

C. S. Boxe, "The Life Journey of an Atmospheric Scientist," Careers in Science Night, Garfield Elementary School, Alhambra, CA, April 16th, 2008.

C. S. Boxe , "Multiphase Modeling of Nitrate Photochemistry in the Polar Regions," Duke's Nicholas School of the Environment and Earth Sciences Earth and Ocean Sciences Division, March 18th, 2008.

C. S. Boxe and A. Saiz-Lopez, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer: Implications for NO_x Release from the Arctic and Coastal Antarctic Snowpack," 25th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere (2007), oral presentation.

C. S. Boxe and A. Saiz-Lopez, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer: Implications for NO_x Release from the Arctic and Coastal Antarctic Snowpack," 25th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere (2007), poster presentation.

A. Saiz-Lopez and C. S. Boxe, "Iodine in the Troposphere," 25th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere (2007), oral presentation.

A. Saiz-Lopez and C. S. Boxe, "Iodine in the Troposphere," 25th Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere (2007), poster presentation.

A. Saiz-Lopez and C. S. Boxe, "Iodine: The Missing Halogen of Polar Tropospheric Chemistry," American Geophysical Union, San Francisco, California, Fall Meeting 2007, invited oral presentation.

C. S. Boxe and A. Saiz-Lopez, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer: Implications for NO_x Release from the Arctic and Coastal Antarctic Snowpack," American Geophysical Union, San Francisco, California, Fall Meeting 2007, oral presentation.

C. S. Boxe, "Surface Chemistry and Physics: Implications for the future of Terrestrial Polar Science and Planetary Science," University of Florida, Department of Chemistry, Physical Chemistry Seminar Series, December 4th, 2007.

C. S. Boxe, "Surface Chemistry and Physics: Implications for the future of Terrestrial Polar Science and Planetary Science," Colorado State University, Atmospheric Science Department Colloquium, November 29th, 2007.

C. S. Boxe, "Surface Chemistry and Physics: Implications for the future of Terrestrial Polar Science and Planetary Science," Columbia University-Lamont Doherty Earth Observatory Seminar Series, October 26th, 2007.

C. S. Boxe, "Surface Chemistry and Physics: Implications for the future of Terrestrial Polar Science and Planetary Science," Columbia University's Earth's Institute's IGERT Joint Program in Applied Mathematics and Earth and Environmental Sciences Fall 2007 Colloquium, October 25th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Surface Chemistry and Physics: Implications for the future of Terrestrial Polar Science and Planetary Science," Earth and Space Science Division, Jet Propulsion Laboratory, NASA September 17th, 2007.

C. S. Boxe and A. Saiz-Lopez, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer (QLL): implications for NO_x release around coastal Antarctica," Gordon Research Conference on Atmospheric Chemistry, Big Sky, Montana, August 26th – 31st, 2007.

A. Saiz-Lopez and C. S. Boxe, "Iodine Explosion during Antarctic Springtime," Earth and Space Science Division, Jet Propulsion Laboratory, NASA-JPL's Postdoctoral Research Day, August 28th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Iodine explosion during Antarctic springtime," Gordon Research Conference on Atmospheric Chemistry, Big Sky, Montana, August 26th – 31st, 2007.

C. S. Boxe, "Life Journey of a Young Scientist," NASA's Jet Propulsion Laboratory, Arctica Research Alliance -- Summer Campers from MacArthur Park, Pasadena, CA, July 31st, 2007.

A. Saiz-Lopez and C. S. Boxe, "Iodine explosion during Antarctic springtime," NASA's Jet Propulsion Laboratory, Planetary Ices Seminar Series, Pasadena, CA, July 13th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer (QLL): implications for NO_x release around coastal Antarctica," NASA's Jet Propulsion Laboratory, Planetary Ices Seminar Series, Pasadena, CA, July 20th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Iodine explosion during Antarctic springtime," California Institute of Technology, Geological and Planetary Science Division, Pasadena, CA, Yuk L. Yung Seminar Series, June 26th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Multiphase Modeling of Nitrate Photochemistry in the Quasi-Liquid Layer (QLL): implications for NO_x release around coastal Antarctica," California Institute of Technology, Geological and Planetary Science Division, Pasadena, CA, Yuk L. Yung Seminar Series, June 26th, 2007.

C. S. Boxe, Volunteer at the Child Educational Center's 18th Annual Wine Tasting Benefit and Auction, Avery House, Caltech, June16th, 2007.

A. Saiz-Lopez and C. S. Boxe, "Iodine explosion during Antarctic springtime," Minority Education Initiative Summer Internship Program, Jet Propulsion Laboratory, NASA, June 13th, 2007.

A. Saiz-Lopez and C. S. Boxe, Earth and Space Science Division, Jet Propulsion Laboratory, NASA "Biologically-Induced Iodine (I_2) Release from Sea-Ice During Springtime in Antarctica," The Discipline Program Scientist Monthly Planetary Science Highlight, May 18th, 2007.

C. S. Boxe, "Careers in Earth Science," Keynote Speaker at Earth Science Career Day, Citrus College, Glenora, CA April 19nd, 2007.

C. S. Boxe, "Fostering Your Scientific Curiosity," Keynote Speaker at Earth Science Career Night for High School Students at JPL, April 5th, 2007.

C. S. Boxe, FOCUS Fellow, FOCUS 2007, Georgia Institute of Technology, January 11th – 14th, 2007.

C. S. Boxe, "Grain Sizes, Surface Areas, and Porosities of Vapor-Deposited H_2O Ices Used in the Temperature Range 83.5 – 261 K: Simulation of Surfaces of Planetary Icy Surfaces," American Geophysical Union, San Francisco, California, Fall Meeting 2006, poster presentation.

G. E. Orzechowska, R. P. Hodyss, P. V. Johnson, J. D. Goguen, A. L. Lane, C. S. Boxe, J. Kirschvink Y. L. Yung, and I. Kanik, "Potential for Organic Chemical Evolution on Enceladus," American Geophysical Union, San Francisco, California, Fall Meeting 2006, poster presentation.

W. D. Smythe, M. T. Leu, C. S. Boxe, B. R. Bodsgard, "Energy Transport and Crystal Growth in Frost Flowers," American Geophysical Union, San Francisco, California, Fall Meeting 2006, poster presentation.

C. S. Boxe, "A Multi-Component View of Ice/Snow: Implications of its pH for the Overlying Boundary Layer/Planetary Science Heterogeneous Chemistry," University of New Hampshire, Institute for the Study of Earth, Oceans, and Space, Science Seminar Series, November 16th, 2006.

C. S. Boxe, "A Journey from Terrestrial Photochemistry and Kinetics to Planetary Science Microphysics," Georigia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA, School of Earth and Atmospheric Sciences Seminar Series, September 29th, 2006.

C. S. Boxe, "Grain Sizes, Surface Areas, and Porosities of Vapor-Deposited H_2O Ices Used in the Temperature Range 83.5 – 261 K: Simulation of Surfaces of Icy Satellites and Terrestrial Snow-Covered

Regions," California Institute of Technology, Geological and Planetary Science Division, Pasadena, CA, Yuk L. Yung Seminar Series, September 26th, 2006.

C. S. Boxe, A. J. Colussi, M. R. Hoffmann, I. M. Perez, J. G. Murphy, R. C. Cohen, "Kinetics of NO and NO_2 Evolution from Illuminated Frozen Nitrate Solutions,"232nd American Chemical Society National Meeting & Exposition, September 10-14th, 2006 San Francisco, CA.

C. S. Boxe, "Global Warming: Fact, Hypothesis, or Myth?," NASA's Jet Propulsion Laboratory, Pasadena, California, SURF, MURF, Space Grant, USRP, PGGURP, and CURE summer seminar series, June 21st, 2006.

C. S. Boxe, Volunteer at the Child Educational Center's 17th Annual Wine Tasting Benefit and Auction, Avery House, Caltech, June17th, 2006.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice/ Grain Sizes and Surface Areas of H_2O Ices Used to Simulate Surfaces of Icy Moons and Terrestrial Ice/Snow-Covered Regions," Michigan Technological University, Environmental Science and Engineering and Geological/Mining Engineering and Sciences Departments, May 11th, 2006.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice/ Grain Sizes and Surface Areas of H_2O Ices Used to Simulate Surfaces of Icy Moons and Terrestrial Ice/Snow-Covered Regions," Massachusetts Institute of Technology, Civil and Environmental Engineering Department, April18th, 2005.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice/ Grain Sizes and Surface Areas of H_2O Ices Used to Simulate Surfaces of Icy Moons and Terrestrial Ice/Snow-Covered Regions," Reed College, Portland, Oregon, Chemistry Department, April10th, 2006.

C. Robinson, C. S. Boxe, M. I. Guzman, A. J. Colussi, and M. R. Hoffmann, "^{19}F NMR Probing the Acidity of Frozen Electrolyte Solutions," NSF CMS/BES (Civil and Mechanical Systems/Bioengineering and Environmental Systems) Workshop for the Advancement and Retention of Underrepresented & Minority Engineering Educators (WEE 'O6), Washington, DC, March 5th-8th, 2006.

C. S. Boxe, A. J. Colussi, M. R. Hoffmann, J. G. Murphy, P. Wooldridge, T. Betram, and R. C. Cohen, "Photochemical Production and Release of Gaseous NO_2 from Nitrate-doped Water Ice," NSF CMS/BES (Civil and Mechanical Systems/Bioengineering and Environmental Systems) Workshop for the Advancement and Retention of Underrepresented & Minority Engineering Educators (WEE 'O6), Washington, DC, March 5th-8th, 2006.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice/ Grain Sizes and Surface Areas of H_2O Ices Used to Simulate Surfaces of Icy Moons and Terrestrial Ice/Snow-Covered Regions," Michigan Technological University, Environmental Science and Engineering and Chemistry Departments, February 6th, 2006.

C. S. Boxe, A. J. Colussi, M. R. Hoffmann, J. G. Murphy, P. Wooldridge, T. Betram, and R. C. Cohen, "Photochemical Production and Release of Gaseous NO_2 from Nitrate-doped Water Ice," American Geophysical Union, San Francisco, California, Fall Meeting 2005, abstract #A21C-0865.

C. Robinson, C. S. Boxe, M. I. Guzman, A. J. Colussi, and M. R. Hoffmann, "^{19}F NMR Probing the Acidity of Frozen Electrolyte Solutions," OASIS Workshop, Sept. 19th-20th 2005, Toronto, Canada.

C. Robinson, C. S. Boxe, M. I. Guzman, A. J. Colussi, and M. R. Hoffmann, "^{19}F NMR Probing the Acidity of Frozen Electrolyte Solutions," SOLAS Summer School, Aug. 29th-Sept.10th 2005, Corsica, France.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice," NASA's Jet Propulsion Laboratory, Planetary Ices Seminar Series, Pasadena, California, June 24th, 2005.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice," California Institute of Technology, Pasadena, California, MURF Program Seminar Series, June 24th, 2005.

C. S. Boxe, Volunteer at the Child Educational Center's 16th Annual Wine Tasting Benefit and Auction, Avery House, Caltech, June18th, 2005.

C. S. Boxe (with honorarium), "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice," California State University, Los Angeles, California, Chemistry Department, June 3rd, 2005.

C. S. Boxe, "Nitrate Photochemistry and Interrelated Chemical Phenomena in Ice," California Institute of Technology, Geological and Planetary Science Division, Pasadena, CA, Yuk L. Yung Seminar Series, May 24th, 2005.

C. S. Boxe, "Smog Production in Los Angeles," Centinela Valley Union High, Lawndale, CA, March 15th, 2005.

McCabe, J. R., Boxe, C. S., Colussi, A., J., Hoffmann, M. R., Thiemens, M. H., "Multiple Oxygen Isotope Photochemistry of Nitrate in Ice," American Geophysical Union, San Francisco, California, Fall Meeting 2004, abstract #A11B-0045.

C. S. Boxe, "Explication of the Chemical and Kinetic Processes Governing Nitrate Photodegradation in Ice Matrices," California Institute of Technology, Geological and Planetary Science Division, Pasadena, CA, Yuk L. Yung Seminar Series, July 8th, 2003.

C. S. Boxe, "Photolysis in Ice Matrices: Implications for a Liquid-like Reaction Medium," NASA's Jet Propulsion Laboratory, Planetary Ices Seminar Series, May 6th, 2003.

C. S. Boxe, Y. L. Yung, M. A. Allen, R. A. West, J. I. Moses, "Hydrocarbon Chemistry in the Atmospheres of Six Extrasolar Planets," DPS Pasadena, California Meeting 2000, 23-27 October 2000.

Honors and Awards

Brooklyn Borough President, Eric Adams Citation of Research, Academic, and Community Engagement Excellence	May 2019
Dean Dr. Derrick Griffith Faculty/Staff Mentorship/Service Excellence Award	May 2018
Alfred P. Sloan Foundation USF UCEM's Certificate of Appreciation	March 2015
Nominated for NSF Presidential Award in Science, Math, and Engineering	2012
JPL Early Career Hire	2008-2009
JPL Postdoctoral Scholar	2008
Most Intellectual Poster at JPL Postdoctoral Research Day	2007
Atmospheric Chemistry Gordon Research Conference Attendee	2007
FOCUS Fellow, GA Tech FOCUS 2007	2007
Faces of NASA-JPL	2007-2010
NSF CMS/BES (WEE '06) Scholar	2006
SOLAS Summer School Scholar (Institut d'Études Scientifiques de Cargèse, Corsica, France)	2005
Gordon and Betty Moore Fellow, California Institute of Technology	2003 – 2005
James Irvine Fellow, Caltech	1999-2003
Chemistry Honors, Morehouse College	1999
Phi Beta Kappa Honors, Morehouse College	1998

Past, Present, and Pending Grant/Partnership Activities

1. Title: Integrated Sensor Network; NSF SBIR Phase I; Anthony Andreoli + Eric Bashford + Dr. Christopher Boxe, People Pollution Network; NSF SBIR.STTR Phase 1. $225, Pending.

2. Title: Medgar Training a new generation of forestry professionals: a 3+2 partnership between Medgar Evers College and Michigan State University; Antonio McLaren, Ed.D., National Program Leader, Division of Community and Education, Location: 4435 Waterfront Centre, NIFA-USDA, 800 9th Street, SW, Washington, DC 20024, Performance Period: January, November 2018-November, 2021, Antonio.A.McLaren@nifa.usda.gov; Total Amount Received: $300K; Project Director (PI), Dr. David Rothstein (MSU); Co-PDs Dr. Emily Huff, Dr. Aisha Dowtin. Dr. Phillip Seaborn (MSU); Co-PDs Dr. Christopher Boxe, Dr. Dereck Skeete, Dr. Jin Shin, Dr. Oluwaseun Salako (MEC).

3. Title: Weather Simulations, Forecasts, & Data Visualizations via Global Imagination's Magic Planet 360 Virtual Reality (VR); Faculty Lead: Dr. Christopher Blaszczak-Boxe; Other Key Faculty: Dr. Leon Johnson (PCS), Dr. Shermane Austin (PCS), Dr. Armando Howard (PCS), Dr. Jin Shin (CES), and Dr. David Ahn (CIS); Sponsoring Agency: Graduate Research Technology Initiative via New York State Capital Budget Funds; Point of Contact: Dr. Terrence Blackman (Dean of School of Science Health and Technology at MEC, TBlackman@mec.cuny.edu; Total Amount Received ($84K) for the purchase of PS-1 meter Magic Planet® Laser System; IT-1 Desktop Computer; pre-loaded with software content; A-DC Desktop computer, pre-loaded with software and content; PS-KTS Free-standing touchscreen kiosk with monitor and audio; Pedestal Enclosure for 1 meter Magic Planet® Laser System; SP-1 Extra year subscription content library, software update, support; 2 years extended warranty on Global Imagination Hardware including lens; Laser Projector-3 year extended warranty).

4. Title: EPIC: Environmental Science and Problem-Based Inquiry with Computers: Division of Undergraduate Education/Division of Graduate Education/Human Resource Development; Program Officers: Ellen Carpenter (elcarpen@nsf.gov)/Laura B. Regassa (lregassa@nsf.gov)/Clytrice L. Watson (); Performance Period: July, 2019-July, 2022; Total Amount Requested: ($3.00M); PI, Dr. Salika

Lawrence (MEC); Co-PIs, Dr. Christopher Blaszczak-Boxe, Dr. Terrence Blackman, Dr. Rosa Zavala, and Margareth Lafontant, Proposal Pending.

5. Title: Innovative Educational Initiatives in Big Data Cloud Computing; Sponsoring Agency: National Science Foundation (NSF). Division of Undergraduate Education/Division of Graduate Education/Human Resource Development; Program Officers: Ellen Carpenter (elcarpen@nsf.gov)/Laura B. Regassa (lregassa@nsf.gov)/Clytrice L. Watson (clwatson@nsf.gov); Performance Period: July, 2019-July, 2022; Total Amount Requested: ($3.0M); PI, Dr. Christopher Blaszczak-Boxe; Co-PI, Dr. David Ahn (MEC-CUNY); Co-PI, and Co-PI, Dr. Debra F. Laefer (Co-PI, Professor of Urban Informatics & Director of Citizen Science, Center for Urban Science & Department of Civil and Urban Engineering at New York University (NYU)), Proposal Pending.

6. Title: Earth & Space Science Technology Center; Sponsoring Agency: NASA Minority University Research and Education Project (MUREP) MUREP Institutional Research Opportunity (MIRO); Program Officer: Joletta Patrick; NASA Point of Contact: Dave Berger (NASAMIRO@nasaprs.com); Amount Requested ($3M); PI, Dr. Christopher Blaszczak-Boxe (MEC-CUNY); MEC Co-PIs, Dr. David Ahn, Dr. Jin Shin, Dr. Shermane Austin, Dr. Armando Howard, Dr. Salika Lawrence; City College Co-PIs, Dr. Masahiro Kawaji, Dr Yiannis Adreoppoulos, Dr. Niell Elvin, Dr. Feridun Delale, and Dr. Taehun Lee, Proposal Pending.

7. Title: Environmental Assessment and Monitoring of New York City surrounding seawater and Tap water samples via Ion Coupled Plasma—Mass Spectrometry (ICP-MS); Sponsoring Agency: National Science Foundation (NSF), Office of Integrative Activities, Major Research Instrumentation Program; Program Officers: Randly L. Phelps (rphelps@nsf.gov); Total Amount Requested: ($200K); PI, Dr. Christopher Blaszczak-Boxe (MEC-CUNY); Co-PI, Dr. David Ahn (MEC), Dr. Jin Shin (MEC); Co-PI, Dr. Oluwaseun Salako (MEC); Co-PI, Dr. Dereck Skeete (MEC); and Co-PI, Dr. Asia Dowtin (Co-PI, Michigan State University, Department of Forestry), Proposal Pending.

8. Title: Fostering and Increasing Participation in Geospatial Technology and STEM at Minority Serving Institutions; Sponsoring Agency: Ms. Joeletta Patrick, MUREP Manager, NASA Headquarters, Washington, DC 20546; Ms. Priscilla Mobley, NASA MAA Activity Manager, NASA Glenn Research Center, MS 7-4, Cleveland, OH 44135, Email: NASAMAA@nasaprs.com; Performance Period: November, 2018-November, 2020; Total Amount: ($325K); PI, Dr. Sunil Bhaskaran (BCC-CUNY); Co-PI, Dr. Christopher Blaszczak-Boxe (MEC-CUNY).

9. Title: Designing Academic Success at Medgar Evers College; Sponsoring Agency: CUNY Interdisciplinary Research Grant (IRG) Program; CUNY-IRG Contact: Avrom Caplan, Associate University Dean for Research; Email: avrom.caplan.cuny.edu; Performance Period: August 2018-August, 2019; Total Amount: $40K); PI, Dr. Leigh Graham (John Jay College-CUNY); Co-PI, Dr. Christopher Blaszczak-Boxe (MEC-CUNY).

10. Title: Abundance of Toxic Substances in Beaches Near Kingston, Jamaica; Provost Augustine Okereke & Dean Hollie Jones, augokereke@mec.cuny.edu, hjones@mec.cuny.edu; Carnegie Faculty-Student Research Award; Total Budget: ($5K); PI, Dr. Christopher Blaszczak-Boxe

11. Title: Medgar Evers College Department of Physics and Computer Science Women in Technology New York (WiTNY) Scholars, Sponsoring Agency: CUNY WiTNY, Judith Ann Spitz, 646-971-3805, jas962@cornell.edu, Performance Period: Fall 2017-Fall 2018; Total Amount Received: ($20K); PI, Dr. Rosa Zavala; Co-I, Dr. Christopher Blaszczak-Boxe.

12. Title: Iodine Isotope (I129/I127) in Rain, Seawater, and Antarctic Sea-Ice: a latitudinal-dependent study; Name of PI: Dr. Dickens Saint-Hilaire (Bronx Community College); Name of Co-PI: Dr. Christopher Boxe (Medgar Evers College); Sponsoring Agency: RF-CUNY Summer Collaborative Research Opportunity, Avrom Caplan, 646-664-8904, Avrom.Caplan@cuny.edu; Performance Period: Fall 2017-Fall 2018; Total Amount Received: ($7.5K).

13. Title: Environmental Monitoring and Assessment of Potentially Carcinogenic Compounds in Soil and Water Environments in NYC; Faculty Partner: Dr. Christopher Boxe; Sponsoring Agency: Department of Education New York City Summer Youth Employment Program + Work, Learn and Grow Employment Program, Director, Laura P. James, 718-804-8823, lauraj@mec.cuny.edu; Performance Period: Summer 2017 + 2017-2018 Academic Year; Total Budget Managed by Laura James in partnership with Dr. Christopher Blaszczak-Boxe = $80K.

14. Title: Effect of Particle Size Variation and Particle Surface Coverage (Surfactants) on Promoting Gas Hydrate Formation Kinetics; Faculty Lead: Dr. Oluwaseun Salako; Other Key Faculty: Dr. Christopher Blasczak-Boxe; Sponsoring Agency: Graduate Research Technology Initiative via New York State Capital Budget Funds; Point of Contact: Dr. Terrence Blackman (Dean of School of Science Health and Technology at MEC, TBlackman@mec.cuny.edu; Funds Released Spring 2018; Total Amount Received: ($70K for the purchase of Series 4563 Bench top Reactor, Fisher Scientific™ Isotemp™ Refrigerated/Heated Bath Circulators; Zetasizer Nano ZS).

15. Title: Environmental Monitoring and Assessment of Potentially Carcinogenic Compounds in Soil and Water Environments in NYC; Faculty Partner: Dr. Christopher Boxe; Sponsoring Agency: Department of Education New York City Summer Youth Employment Program, Director, Laura P. James, 718-804-8823, lauraj@mec.cuny.edu; Performance Period: Summer 2016; Total Amount Budgeted by Laura James in partnership with Dr. Christopher Blaszczak-Boxe = $50K.

16. Title: Environmental Monitoring and Assessment of Potentially Carcinogenic Compounds in Soil and Water Environments in NYC; Faculty Partner: Dr. Christopher Boxe; Sponsoring Agency: Department of Education New York City Summer Youth Employment Program, Director, Laura P. James, 718-804-8823, lauraj@mec.cuny.edu; Performance Period: Summer 2016; Total Amount Budgeted by Laura James in partnership with Dr. Christopher Blaszczak-Boxe = $50K.

17. Title: Online Portal to Increase Mentoring in Student Training (OPTIMIST); Principal Collaborators: Dr. Stephanie Bingham (Barry University) and Dr. Brian Nelms (Fisk University); Co-Collaborators: Christopher Boxe; Dr. Teresa Shakespeare (Fort Valley State University); Dr. Olga Steinberg (Hostos Community College); Dr. Jose Manautou (University of Connecticut); Dr. Krish Krishnan (Indiana University of Pennsylvania); Dr. Loyda Melendez (University of Puerto Rico); National Science Foundation (ASM-LINK): Grant Contact: Kelly Diggs-Andrews (202)942-9358, kdiggsandrews@asmusa.org; Performance Period: 2014-2105; Total Amount Awarded: $5K.

18, Title: Environmental Assessment and Monitoring of Potentially Toxic Substances in New York City Soil, Air, and Water Environments; CUNY Service Corps: CUNY Service Corps Contact: Valerie Chow, Associate Director, valerie.chow@cuny.edu, (646)664-8066; Performance Period: 2014-2105; Project PI, Dr. Christopher Blaszczak-Boxe; Total Budget Managed: $45K.

19. Title: Toxic Metals and Organics in the Hudson River, Bedford-Stuyvesant and Sewage Treament Products: Environmental Implications; Gift and Grants Account via Con-Edison: Grant Contacts:

Michael Flanigan (mflanigan@mec.cuny.edu); Chi Koon (chi@mec.cuny.edu); Jean Dufour (jdufour@mec.cuny.edu): 2014-2015; Total Budget: $10K.

20. Title: The Impact of the Novel HO_2 + NO → HNO_3 formation Channel in Regional Simulations via the Weather Research Forecasting Model with Coupled Chemistry (WRF-Chem); NASA-JPL: Grant Contact: Dr Dan McCleese (Chief Scientist and Technologist, Daniel.J.McClesse@jpl.nasa.gov, (818)354-2317; Performance Period: 2009-2010; Total Budget: $30K.

21. Title: Microphysical Analysis of Low-Temperature ice Films with Adsorbed HNO3 as a Means to Validate the Existence of Δ-Ice: Relevance to Understanding the Role of Cirrus Cloud Microphysics in the Radiative Forcing of Climate Change; NASA Postdoctoral Program: NPP Program Director: Dr. Steve Mackwell (NPPDirector@usra.edu)/(888)740-8858; Performance Period: 2006-2008; PI, Dr. Christopher Blaszcak-Boxe; Faculty Advisor, Dr. Ming-Taun Leu; Total Budget Received and Managed: $120K for 2 years ($60K, $52K Salary + $8K for travel – per year); https://npp.usra.edu/fellows/former-fellows/2006-2011/.

Synergistic Administrative Deliverables: (i) Established Student and Faculty Exchange Program with Michigan State University's Biochemistry and Chemistry Departments (2014); (ii) Established Student and Faculty Exchange Program with University of Coruna, Spain (2014); (iii) Contributed to the spearheading and establishment of Medgar Evers College's 1st Honors Program (2016); (iv) Established and spearheading Medgar Evers College's Clean Energy Vision Initiative (2016)