

JUN WANG

Professor

Dept. of Chemical and Biochemical Engineering
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EDUCATION (INCLUDING POSTDOC)

2005-2007	Postdoc Fellow, Harvard University; School of Engineering & Applied Sciences
1999-2005	Ph.D., Atmospheric Science, University of Alabama in Huntsville
1996-1999	M. S., Institute of Atmospheric Physics, Chinese Academy of Sciences
1992-1996	B. S., Nanjing University of Information Science and Technology, China

EMPLOYMENT/WORK EXPERIENCE

8/2018-present	<i>Assistant Director</i> , Iowa Technology Institute, University of Iowa
8/2016-present	<i>Professor</i> , Dept. of Chemical and Biochemical Engineering, University of Iowa (tenure home)
8/2016-present	<i>Professor</i> , University of Iowa's Informatics Initiative (Geoinformatics track)
8/2017-present	<i>Professor</i> , Dept. of Civil and Environmental Engineering, University of Iowa (secondary faculty)
1/2018-present	<i>Professor</i> , Dept. of Physics, University of Iowa (secondary faculty)
8/2015- 8/2016	<i>Susan J. Rosowski Professorship</i> (university level), University of Nebraska-Lincoln
4/2015-8/2015	<i>Visiting faculty</i> , Lab for Atmospheric Chemistry Observations & Modeling, National Center for Atmospheric Research (NCAR).
8/2013-8/2016	<i>Associate Professor</i> , Department of Earth & Atmospheric Sciences, University of Nebraska-Lincoln.
8/2007-7/2013	<i>Assistant Professor</i> , Department of Earth & Atmospheric Sciences, University of Nebraska-Lincoln.
6/2010-7/2010	<i>Visiting faculty</i> , NOAA Joint Center for Satellite Data Assimilation
4/2009-8/2009	<i>Visiting faculty</i> , Climate and Global Dynamics Division, National Center for Atmospheric Research (NCAR).
1/2008-8/2008	<i>Visiting Research Scientist</i> , Goddard Earth Science and Technology Center (GEST), University of Maryland - Baltimore County (UMBC). Work at Lab for Atmospheres (613.2), NASA Goddard Space Flight Center.
2005-2007	<i>NOAA Climate and Global Change Postdoctoral Fellow</i> , UCAR Visiting Scientist Program. Work at Harvard University.
1999-2005	Graduate Research Assistant, Department of Atmospheric Sciences, University of Alabama in Huntsville.

RESEARCH INTERESTS AND APPROACHES

Interest:	Interaction between atmospheric composition and climate change. Impacts of aerosols on air quality, weather, and climate; Interdisciplinary research related to cloud and trace gases, air quality and public health, irrigation, land use, fire, agriculture and climate change, renewable (solar and wind) energy, and big data research in the domain of scientific data visualization, social media's response to natural hazards and climate change, and precision agriculture.
Approaches:	Remote sensing from different (ground, sub-orbital, and orbital) platforms, meteorology-chemistry coupled modeling, data assimilation, inverse modeling, and the integration of these elements; open mind to learn sciences from other disciplines and work with colleagues.

HONORS, AWARDS, & RECOGNITIONS

- Journal Cover Article, *Atmosphere*, March 2020.
- Journal Highlight Article, *Atmospheric Measurement Technique*, June 2019.
- 2019 Faculty Excellence Award for Research “in recognition of extraordinary contribution to the College and the University”, College of Engineering, Univ. of Iowa
- 2018 Univ. of Iowa Innovator Award
- AGU 2017 Editors’ Citation for Excellence in Refereeing
- Appointed by NASA as one of fourteen members for the NASA Earth Science senior review subcommittee, 2017.
- Science team member for various NASA satellite missions including Glory (2010-2013), Suomi-NPP/Terra/Aqua (since 2011), TEMPO mission (since 2012), Aura mission (2014-2018), DSCOVR mission (since 2014), CLARREO mission (since 2014-2018), and MAIA (since 2016).
- Journal cover article, *IEEE Transactions on Geoscience & Remote Sensing*, Sep. 2016.
- Journal cover article, *IEEE Geoscience and Remote Sensing Letters*, June 2015.
- 2015, Susan J. Rosowski Professorship Award in recognition of “distinguished scholarship and creative activity”, University of Nebraska - Lincoln
- Alan Berman Research Publication Award (for a co-authored paper), Naval Research Lab., 2014.
- J. B. Hoffman Faculty of Excellence award, Dept. of Earth & Atmospheric Sciences, UNL, 2013.
- 2014 NASA Group Achievement Award – Suomi-NPP “for extraordinary dedication, skill, teamwork, and perseverance in developing and delivering the Suomi NPP Mission for the Nation.”
- 2013 NASA Group Achievement Award – TEMPO “for success in capturing a major competitively awarded Earth Science Venture Class mission through outstanding professionalism and technical excellence.”
- “Academic Star” award for “taking the art of mentoring to new heights” and “bring extraordinary collegiality and significant research funding”, College of Arts and Sciences, UNL, 2009.
- Yoram Kaufman visiting scientist/faculty fellowship, NASA Goddard Space Flight Center / Goddard Earth Sciences & Technology Center, Jan. 2008 - Aug. 2008.
- NASA New Investigator Award, 2008.
- NOAA Climate and Global Change Postdoctoral Fellowship, 2005.
- NASA Earth System Science Graduate Student Fellowship, 2003.
- Student poster award, AMS 12th Conference on Satellite Meteorology and Oceanography, 2004.
- Best graduate research assistant award, University of Alabama – Huntsville, 2003.
- Best student poster award, AMS 12th Conference on Satellite Meteorology and Oceanography, 2002.

RESEARCH GRANTS

Since 2004, J. Wang and his team have received a total of \$14M grants and contracts from private organizations and state and federal agencies.

TEACHING IN UNIV. OF IOWA

<i>Undergraduate only:</i>	ENGR2130, Fundamentals of Engineering III: Thermodynamics
<i>Graduate & Undergraduate:</i>	CBE5415, Satellite Image Processing & Remote Sensing of Atmosphere
	CBE5417, Physical Meteorology and Radiative Transfer
	CBE3415, Statistical & Computational Analysis of Weather & Climate Data
<i>Graduate only:</i>	CBE6415, Advanced Satellite Remote Sensing
	CBE6435, Atmospheric Radiative Transfer
	CBE5412, Atmospheric Modeling

TEACHING IN UNIV. OF NEBRASKA - LINCOLN

<i>Undergraduate only:</i>	Weather & Climate
<i>Graduate/ undergraduate:</i>	Physical Meteorology, Statistical Analysis of Atmospheric Data, Air Pollution, Satellite Remote Sensing of Atmosphere,
<i>Graduate only:</i>	Advanced Satellite Remote Sensing, Atmospheric Radiative Transfer

SUPERVISION OF GRADUATE STUDENTS, POSTDOCS & RESEARCH SCIENTISTS

<i>Staff Scientist</i>	Xiaoguang Xu (2016-2018), Cui Ge (2016-2018)
<i>Current Postdoc:</i>	Lorena Garcia, Huaxing Zhang, Xi Chen, Yi Wang, Nathan Janecek
<i>Current Ph.D.:</i>	Tyler Van, Meng Zhou, Chengzhe Li, Zhedong Lu, Quentin Chediak
<i>Past Postdoc:</i>	Sunwook Park (Jan. 2011 – Aug. 2012), Feng Zhang (Aug. 2013 – Dec. 2013), Dong Han (May 2014 – May 2015), Shouguo Ding (2013-2015), Xiaoguang Xu (2015-2016), Cui Ge (2008-2016), Weizheng Hou (2014-2016), Kenneth Christian (2017-2018)
<i>MS completed:</i>	Amy Gehring (2012), Zhifeng Yang (2013), Jacob Anderson, Phil Mykleby (co-advising with John Lanterns), Eric Holt (2012), David Peterson (2010), Ambrish Sharma (2015), Thomas Polivka (2015), Chase Calkins (2015), Clinton Aegerter (2016), Yun Yue (2016), Elizabeth Lennartson (2018), Sepehr Roudini (2019)
<i>Ph.D. completed:</i>	David Peterson (2012), Xiaoguang Xu (2015), Yi Wang (2019)

SUPERVISION OF VISITING SCHOLARS

Yanyu Wang	FuDan University	Oct 2019 – present
Disong Fu	Chinese Academy of Sciences	March – June 2019
Hyunkwang Lim	Yonsei University	March – April 2018
Seoyoung Lee	Yonsei University	March – April 2018
Jingjing Song	Chinese Academy of Sciences	Oct. 2017 – Oct. 2018
Xi Chen	Chinese Academy of Sciences	Oct. 2015 – Oct. 2016
Imran Shahzad	The Hong Kong Polytechnic University	July 2015 – July 2016
Jun Zhu	Chinese Academy of Sciences	July 2015 – July 2016
Weijun Qu	Ocean University of China	Feb 2012 – Feb. 2013

UNDERGRADUTE RESEARCH ASSISTANT SUPERVISION

Zeyuan Ru	May 2019 – present
Daven Aman	May 2019 – present, Naval Research Enterprise Internship, 2020.
Clarissa Dietz	May 2018 – present
Cassandra Joyce	Oct. 2018 – present
Calvin Hynek	Sep. 2019 – Dec. 2020.
Nathaniel R. Le Sage	Oct 2016 – May 2019
Rachel Phinney	Oct 2014 – Aug 2016
Haylie Mikulak	Oct 2014 – May 2015
Clinton Aegerter	Aug. 2013 – July 2014
Francis Wiles	Jan. 2013 – May 2013, JPL internship in summer 2013
Levi Boggs	Jan. 2013 – May 2013
Megan Vokal	Aug. 2009 – May 2013
Carly Baumann	May 2012 – May 2013, JPL internship in summer 2012

Laura Judd	Aug. 2011 – May 2012, NASA Student Airborne Research Program (SARP) in summer 2012
Samantha Strong Henninger	Aug. 2011 – May 2012
Collin Holmquist	Aug. 2011 – May 2012, JPL internship in summer 2011, and UNL undergraduate honor program
Larry Selk	Jan. 2010 – May 2010
Amy Gehring	Aug. 2009 – May 2010, NASA GSFC summer internship 2009
Nicole Pothier	Aug. 2009 – May 2010, NASA LARC summer internship 2009
Mellisa Hoffmann	Aug. 2009 – May 2010
Jacob Anderson	Aug. 2009 – Dec. 2009
Jacob Worley	Aug. 2009 – Oct. 2009
Jordan Schleif	Jan. 2009 – May 2009, UNL undergraduate honor program
Cathy May	Sep. 2008 – May 2010, NASA GSFC internship in 2010.

MS/PH.D COMMITTEE MEMBER (Chair person is listed at the end of each row)

Jie Zhong	2019	Chemistry, UNL	Prof. Xiaocheng Zeng
Chun-Shang Won	2018	Physics & Astronomy, UIowa	Prof. John A. Goree
Amir A. Shishavan	2018	Elec. & Comp. Engr., UIowa	Prof. Fatima Toor
Zhoyang Zhang	2017	Geoinformatics, HongKong PolyU	Prof. Janet Nichol
Lina Yu	2017	Computer Sci. &Engr., UNL	Prof. Hongfeng Yu
Curtis Walker	2017	Earth & Atmos. Sci., UNL	Prof. Mark Anderson
Shruti Daggumati	2015	Computer Science &Engr./UNL	Prof. Hongfeng Yu
Gabriel Lojero	2012	Earth & Atmos. Sci./UNL	Prof. Matthew Van Den Broeke

PROFESSIONAL ACTIVITIES AND SERVICES

Session Chairs/Conveners: GEOS-Chem meetings (2018, 2016, 2014, 2012, 2010), AMS 2015- 2019, AGU Fall 2005, 2009, 2011, and 2014-2018, AOGS 2015, 2016, & 2019, Goldschmidt 2014, NCAR ECSA Junior Faculty Forum on Future Scientific Directions 2010, EastFIRE conference 2010.

Proposal panel reviewer: NOAA, NASA, and DOE (in average 2.5 times per year since 2008). NASA Senior Review for Earth Science Division (2017).

Proposal non-panel reviewer: NSF, NOAA, NASA, DoD (Navy and Army), UK Natural Environment Research Council (2011), Office for Space Technology and Industry of Singapore (2013), The Netherlands Organization for Scientific Research (2010), Swiss National Science Foundation (2016), Instituto Serrapilheira (2017), Germany Deutsche Forschungsgemeinschaft (DFG, 2018, 2019)

Committees: AMS Atmospheric Chemistry Committee (2014 – 2019), Hyperspectral Imaging and Sounding of the Environment (HISE) Committee for the Optical Society of America (2014), Member of Harvard GEO-Chem model steering committee (2012-), AMS committee on satellite meteorology, oceanography, and climatology (2019 –)

Leaderships: Co-lead for NASA GEO-CAPE aerosol working group (2012-2018), Atmospheric Environment (journal) editorial advisory board (2012-)

Editorships: Editor and Atmospheric section board member for *Remote Sensing* (2018-), Associate Editor for *Atmospheric Measurement Technique* (2018-), Editor for *Earth Science Review* (2018-), New Direction section editor for Atmospheric Environment (2013-2017), Guest editor for *Remote Sensing* (special issue for remote sensing of air pollution, 2016-2017).

Memberships: American Geophysical Union and American Meteorological Society since 1999.

Frequent (30+ /yr since 2005) reviewer: Atmospheric Measurements Technique, Journal of Quantitative Spectroscopy & Radiative Transfer, Journal of Atmospheric Science, Journal of Geophysical

Research, Geophysical Research Letter, Atmospheric Research, Atmospheric Environment, Atmospheric Physics and Chemistry, Quarterly Journal of Royal Meteorological Society, Annales Geophysicae, Remote Sensing Environment, Tellus, Journal of Selected Topics in Earth Observations and Remote Sensing, Applied Optics, Advances in Atmospheric Sciences, Remote Sensing, Aerosol Science and Technology, Transactions on Geoscience and Remote Sensing, Environmental Science & Technology, Frontiers of Earth Science, Total Environment, Proceedings of the National Academy of Sciences, Nature Geosciences, Scientific Report.

UNIVERSITY/COLLEGE SERVICES

- Leadership Role: Assistant Director for Center for Compute Aided Design (CCAD) in University of Iowa, responsible for strategic research planning, policy for research in compliance and office space, supervising large grant support team and internal seed grant programs.
- Committees at UIowa: College of Engineering Advisory Committee for Associate Dean for Research (2019-), College of Engineering Ad Hoc Committee/Working group for entry-level Machine Learning courses (2018-), College of Engineering Dean's Advisory Instructional Faculty Promotion Committee (2018-), UIowa Informatics Showcase Organization Committee (2017, 2018), Review Committee for Chemical and Biochemical Engineering Department Executive Officer (Chair) 2017, UIowa High Performance Computing Policy Committee (since 2016)
- Committees at UNL: UNL Parking Appeal Committee (2012-2016), the advisory board for UNL Super Computing Facility (2010-2016), Department Graduate Committee (2013-2015) and Information Committee (2009-), Department Salary Advisory Committee (2010), Department faculty search committee (2008).
- 2013-2016 in UNL Ad-hoc assistant/helper for UNL's Office for Research and Development (ORED) under UNL's vice chancellor for research, Dr. Prem Paul. Tasks include: (1) to provide ideas for strategic planning in Climate and agriculture research, (2) to strengthen research partnership with NASA, (3) to provide expertise and ideas for large proposal writing and coordination, and (4) to help organize research fairs (such as inviting speakers, etc).
- July-Sep. 2014, UNL One of three organizers for 3-day "Environmental Characterization" workshop sponsored by UNL's Office for Research and Development (ORED) and School of Natural Resources.
- 2013-2016 UNL PI for UNL ORED's Initiative for Integrated Earth Observation and Modeling, serving as a coordinator and organizer of a group of ~15 faculty from Departments of Earth and Atmospheric Sciences, Department of Computer Science and Engineering, School of Natural Resources, and Department of Agronomy and Horticulture.

PRESENTATIONS/MEETING ABSTRACTS

Invited talks: ~40 in total. International Workshop on "Advancement of POLarimetric Observations: calibration and improved aerosol retrievals" (APOLO-France) 2019, FuDan University (2019), NASA JPL (2019), Columbia University (2018), AGU-Xing (2018), IAP-CAS (2018), PKU (2018), CGRER (2018), COAA (2018), University of Montana (2018), APOLO2017 - China, NCAR Fire Data and Analysis workshop 2017, University of Michigan, 2017, Nanjing University of Information Science and Technology (2017), National University of Singapore 2017, WMO Global Atmosphere Watch Program 2017, National University of Seoul 2017, AMS 2017, ECMWF/Univ. of Reading 2016, Yonsei University 2016, Optical Society of America 2016, NCAR/Radiation 2016, NCAR/ASP 2016, NCAR/ACOM 2015, Univ. of Alibaba – Huntsville 2015, Univ. of Iowa 2015, American University 2015, AMS 2013, AGU 2012, Nebraska Department of Environmental Quality 2012, AGU 2010, NASA GSFC Atmosphere Lab 2010, NCAR 2010, Atmospheric Chemistry Society – Midwest region 2008, Amazon Aerosol Workshop 2008, NOAA ARL 2007, University of Maryland – College Park 2007, University of Minnesota 2007,

NASA GSFC AEROCENTER 2006, GSFC GMAO 2006, Texas A&M 2006, Saint Louis University 2006, NCAR workshop on remote sensing of air quality 2006, Harvard 2005, Institute of Atmospheric Physics 2005.

Other presentations: ~200 poster and talks presented in venues such as AGU, EGU, AMS, AAAR, IGAC, Electromagnetic and Light Scattering conference, Gordon conference, International Symposium for Remote Sensing of the Environment, science team meetings for SNPP, Aura, TEMPO, GEO-CAPE, and NASA's Interdisciplinary Science, NOAA's Air Quality team meeting, NASA's A-train meeting, Nebraska Academy of Sciences, etc.

BOOKS EDITED

1. Islam, T., Y. Hu, A. Kokhanovsky, and **J. Wang** (editors), *Remote Sensing of Aerosols, Clouds, and Precipitation*, pp347, ISBN: 9780128104378, Elsevier, 2018.
2. Liu, Y., **J. Wang**, and O. Torres (editors), *Remote Sensing of Atmospheric Pollution*, ISBN 978-3-03842-640-0, pp342, ISBN 978-3-03842-640-0, MPDI, 2018.

RECENT BOOK CHAPTERS

1. Xu, X. and **J. Wang**, UNL-VRTM, a testbed for aerosol remote sensing: model developments and applications, In *Springer Series in Light Scattering*, edited by Alexander Kokhanovsky, pp. 1-69, Natural Hazard Springer Nature Switzerland AG, ISBN 978-3-030-20586-7, 2019.
2. Xu, X., **J. Wang**, Y. Wang, and A. Kokhanovsky (2017), Passive remote sensing of aerosol height, in *Remote Sensing of Aerosols, Clouds, and Precipitation*, edited by T. Islam, Y. Hu, A. Kokhanovsky, and J. Wang, pp.1-22, Elsevier, Cambridge, MA, doi: 10.1016/B978-0-12-810437-8.00001-3, 2018.
3. Ichoku, C., L. Ellison, Y. Yue, **J. Wang**, and J. Kaiser, Chapter 14: *Fire and Smoke Remote Sensing and Modeling Uncertainties*, In AGU Monograph 223, *Characterizing Uncertainties in Assessment: Modeling and Decision Support*, 215-230, 2016.
4. West, J., L. Emberson, and other 28 authors (including **J. Wang**), Chapter 5: *Impacts on Health, Ecosystems, and Climate*. In F. Dentener, T. Keating, and H. Akimoto (Eds), *Hemispheric transport of air pollution 2010, Part A: ozone and particulate matter* (pp:159-251), New York and Geneva, United Nations Publication, ISBN 978-92-1-117043-6, 2010.

PEER-REVIEWED PUBLICATIONS (~140, * **J. Wang's** group member, H-Index: 39)

See a full list of publications at

https://arroma.uiowa.edu/all_journal_papers.php