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EDUCATION

- 1997 Ph.D., Applied Meteorology, Purdue University, West Lafayette, IN, USA
- 1992 M.S., Agro-Micrometeorology and Modeling, Mississippi State University, Mississippi State, MS, USA
- 2004 M.S., Computer Information System, Regis University, Denver, CO, USA
- 1987 B.A., English, Anhui Normal University, Wuhu, China
- 1982 B.S., Applied Meteorology, Nanjing Institute of Meteorology, Nanjing, China

ACADEMIC POSITIONS

- (07/2007-present) Senior Research Scientist, Director, USDA UV-B Monitoring and Research Program, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, Colorado
- (2002-06/2007) Research Scientist III, Group Leader, USDA UV-B Monitoring and Research Program, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, Colorado
- (2003-present) Joint Professor, Department of Soil and Crop Sciences, Colorado State University, Fort Collins, Colorado
- (1999-2002) Research Scientist, USDA UV-B Monitoring and Research Program, Cooperative Institute for Research in the Atmosphere, Colorado State University, Fort Collins, Colorado
- (1997-1999) Postdoctoral Fellow, Environmental and Societal Impacts Group, National Center for Atmospheric Research, Boulder, Colorado
- (1993-1997) Research Assistant and graduate lecturer, Applied Meteorology Laboratory, Department of Agronomy, Purdue University, West Lafayette, Indiana
- (1991-1992) Research Assistant, USDA Crop Simulation Research Unit, Department of Plant and Soil Sciences, Mississippi State University, Mississippi State, Mississippi

(1987-1990) Lecturer, Applied Meteorology Laboratory, Anhui University of Science and Technology, China

(1982-1985) Assistant Lecturer, Applied Meteorology Laboratory, Anhui University of Science and Technology, China

PUBLISHED WORKS

Books:

Qu, J., **W. Gao**, M. Kafatos, R. Murphy and V. Salomonson, 2006, Earth Science Satellite Remote Sensing I, Springer-Verlag and Tsinghua Univ. Press, Heidelberg

Qu, J., **W. Gao**, M. Kafatos, R. Murphy and V. Salomonson, 2006, Earth Science Satellite Remote Sensing II, Springer-Verlag and Tsinghua Univ. Press, Heidelberg

Special Issues with Refereed Journals:

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Krizek, D.T., and **W. Gao**, 2004, Ultraviolet Radiation and Terrestrial Ecosystems, *Journal of Photochemistry and Photobiology*, Volume 79, Number 5

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Tong, Q.X., X.W. Chen, A. Huang, and **W. Gao**, 2006, Remote Sensing and Space Technology for Multidisciplinary Research and Applications, Proceedings of SPIE, Volume 6199, 250 pages

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Refereed Journal Articles:

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Liu, W.G., **W. Gao**, Z.Q. Gao, X.L. Wang, and J. Slusser, 2006, An analysis between the biomass of ecosystem of oasis and the vegetation index. In *Remote Sensing and Modeling of Ecosystems for Sustainability III*, 62982M-1—62982M-7, Published by SPIE, Bellingham, WA, USA

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Slusser, J. R., and **W. Gao,** 2005, Technical Report: USDA Ultraviolet Radiation Monitoring and Research Program.

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Koti, S., K.R. Reddy, V.G.Kakani, D. Zhao and **W. Gao,** 2006, Effects of carbon dioxide, temperature and ultraviolet-B radiation and their interactions soybean (*Glycine max* L.) growth and development. *Environmental and Experimental Botany* (in press)

Koti, S., K.R. Reddy, G.W. Lawrence, V.R. Reddy, V. G. Kakani, D. Zhao, and **W. Gao,** 2006, Effect of enhanced UV-B radiation on reniform nematode (*Rotylenchus reniformis* Linford and Oliverra) populations in cotton (*Gossypium hirsutum* L.). *J. of New Seeds* (in press)

Gao, Z.Q., and **W. Gao,** 2006, Climate changes and their impacts on vegetation ecological zones in China in recent 100 years. *J. of Geographical Sciences* (in press)

CONTRACTS & GRANTS

Funded Projects:

- (2006) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$2,018,497
- (2006) Molecular Aspects of Plant Secondary Metabolism in Response to UV Radiation, PI, USDA CSREES, \$5000
- (2005) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$2,089,000
- (2005) International Conference on Resources, Ecosystems, and Sustainability of Arid and Semi-arid Regions, PI, UNESCO Participation Programme, \$15,000
- (2004) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$1,890,000
- (2004) Outstanding Oversea Chinese Scholars Fund of Chinese Academy of Sciences (AJZ21810), RMB 50,000
- (2004) “Chunhui Plan” Research Fund of Ministry of Education of China (Z2004-1-65002), RMB 70,000
- (2003) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$2,089,000
- (2003) National 973 Key Project of China: a subcontract on “The ecological environment evolution and control in western China” (G1999043503), RMB 290,000
- (2002) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$1,423,000
- (2001) Development and Management of USDA UV-B Monitoring Program, Co-PI with James R. Slusser, USDA Global Change Program, \$1,423,000

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Member of International Optical Engineering Society (SPIE)

Member of American Society of Agronomy (ASA)

Member of American Meteorological Society (AMS)

Council Chair of Society of Chinese American Professors and Scientists

Chair, Remote and In-situ Sensing Program, International Optical Engineering Society (SPIE), 2003-present (coordinate more than ten scientific conferences each year)

Member, the SPIE Presidential Asia Advisory Committee

Member, the SPIE Symposia Committee

Member, Regional Scenario Team of North America, United Nations Environment Programme (UNEP)

Member, CSU-China International Discover Initiative Advisory Board

Member, Board of Advisors of China Meteorological Administration (CMA)

Member, Board of Advisory Committee, Center for Capacity Building, National Center for Atmospheric Research

Editor-in-Chief, Journal of Applied Remote Sensing

Associate Editor, Frontiers of Science and Technology for the 21st Century, Springer-Verlag and Tsinghua Univ. Press

Member of Editorial Advisory Board for the SPIE Newsroom

Member of Editorial Board for the Frontiers of Environmental Science & Engineering

Member of Editorial Committee for the Journal of Meteorology and Disaster Reduction Research

Grant Refereeing: Referee technical proposals for NSF, USDA, NASA and Natural Environmental Research Council

Manuscript Refereeing: referee for scientific papers for *Journal of Geophysical Research*, *Applied Optics*, *Journal of Agronomy*, *Journal of Photochemistry and Photobiology*, *Journal of Agricultural and Forest Meteorology*, *Solar Energy*, *European Journal of Agronomy*

HONORS AND AWARDS

2002, Excellent Dedication and Service, International Optical Engineering Society (SPIE), Hangzhou

2005, Fellow, International Optical Engineering Society (SPIE), San Diego

PAPERS PRESENTED/SYMPOSIA/INVITED PROFESSIONAL MEETINGS

Gao, W. 2006. Ecosystems assessment by using retrieved remote sensing data, regional climate model and DSSAT/GOSSYM models. July 12, 2006, Anhui Meteorological Bureau, Hefei,

Gao, W. 2006. Study of climate-ecosystems interactions by using remote sensing, modelings and data assimilation. June 28, 2006, Hubei Meteorological Bureau, Wuhan,

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Li, G., H.L.A. Huang, **W. Gao**, E. Weisz. 2004. Analysis of regional high-spatial-resolution sounding products: demonstration of MODIS and AIRS stand-alone and synergistic processing approaches. *In: Atmospheric and Environmental Remote Sensing Data Processing and Utilization: an End-to-End System Perspective*, as Part of *International Symposium on Optical Science and Technology. SPIE's 49th Annual Meeting*, Denver, Colorado, 2-6 August, 2004

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Gao, W., Y. Zheng, J.R. Slusser, X. Wang, Y. He, R. Zhang. 2003. Effect of supplemental UV-B on maize yield structure. *In: Ultraviolet Ground-band Space-based Measurements, Models, and Effects III, The International Symposium on Optical Science and Technology, SPIE's 48th Annual Meeting*, 3-8 August 2003, San Diego Convention Center, San Diego, California

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Koti, S, K.R. Reddy, V.G. Kakani, D. Zhao and **W. Gao**. 2003. Response of cotton genotypes to UV-B radiation. *American Society of Agronomy Annual Meetings*, November 2-6, 2003, Denver, Colorado, USA.

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Sullivan, J.H. and **W. Gao**, 2003. Short-term responses of Barley to changes in ambient levels of UV-B radiation and their role in UV-B protection. *Special Symposium on UV Effects on Terrestrial Ecosystems, 31st Annual Meeting American Society for Photobiology*, 5-9 July 2003, Baltimore, Maryland, USA.

Reddy, K. R., V. G. Kakani, D. Zhao, S. Koti and **W. Gao**. 2003. Cotton crop responses to changes in UV-B radiation, carbon dioxide, and temperature. *Special Symposium on UV Effects on Terrestrial Ecosystems, 31st Annual Meeting American Society for Photobiology*, 5-9 July 2003, Baltimore, Maryland, USA.

Gao, W. and J.R. Slusser. 2002. An Introduction of USDA UV-B Monitoring Program and Atmospheric Corrections by Using Program's Aerosol Optical Depth Measurements. *32nd Biological Systems Simulation Work Group Symposium/Workshop on Remote Sensing and Modeling Applications for Natural Resource Management, Mississippi State MS, 10-13 March 2002*

Kakani, V. G., K.R. Reddy, D. Zhao, A.R. Mohammed and **W. Gao**. 2002. Quantifying the effects of ultraviolet-B radiation on cotton growth and development. *32nd Biological Systems Simulation Work Group Symposium/Workshop on Remote Sensing and Modeling Applications for Natural Resource Management, Mississippi State MS, 10-13 March 2002*

Gao, W. and J.R. Slusser. 2002. A Brief Report of USDA Ongoing Research of UV Impact on Agriculture. *The Third Front Range UV and Ozone Workshop, Boulder, CO June 5, 2002*

Gao, W., Y.F. Zheng, J.R. Slusser, G.M. Heisler, D.L. Hu, and J.Q. Xu. 2002. Impact of enhanced ultraviolet-B irradiance on maize yield and qualities. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ultraviolet ground- and space- based measurements, models, and effects. Hangzhou, China, 23-27 October 2002.*

K.R. Reddy, V.G. Kakani, D.L. Zhao and **W. Gao**, 2002. Cotton responses to UV-B radiation: experimentation and modeling. *Int. Symposium on Remote Sensing of the atmosphere, environment and space: Ultraviolet ground- and space- based measurements, models, and effects. Hangzhou, China, 23-27 October 2002.*

Heisler, G.M.; R.H. Grant and **W. Gao**. 2002. Solar ultraviolet-B radiation in Baltimore, Maryland, and vicinity. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ultraviolet ground- and space- based measurements, models, and effects. Hangzhou, China, 23-27 October, 2002.*

Qi, Y.D., S.J. Bai, **W. Gao** and G.M. Heisler, 2002. Intra- and inter specific comparisons of leaf UV-B absorbing-compound concentration of southern broadleaf trees in the United States. *Int. Symposium on Remote Sensing of the atmosphere, environment and space: Ultraviolet ground- and space- based measurements, models, and effects. Hangzhou, China, 23-27 October 2002.*

Zheng, Y.F., **W. Gao**; J.R. Slusser, Y.H. He, and R.H. Grant. 2002. Growth analytic simulation of soybean and winter wheat crops under different doses of ultraviolet-B irradiance. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ultraviolet ground- and space- based measurements, models, and effects. Hangzhou, China, 23-27 October 2002.*

Wang, C.H., Y.F.Zheng, and **W. Gao**. 2002. Effect of natural UV radiation near the Earth's surface on the growth and production of wheat. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ultraviolet ground- and space-based measurements, models, and effects. Hangzhou, China, 23-27 October 2002.*

Gao, W. Z.Q. Gao, L.X. Lu, X.L. Pan, and Y.J. Ma. 2002. Responses of net primary production (NPP) to the different climate scenarios with Biomass-BGC model in oasis area along the Tiashan Mountains. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ecosystems dynamics, Ecosystem-Society Interactions, and Remote Sensing Applications for Semi-Arid and Arid Land. Hangzhou, China, 23-27 October 2002.*

X.Z. Liang, **W. Gao**, X.L. Pan, and Y.J. Ma. 2002. Sustainability of vegetation over Northwest China, Part 1: Climate Response to Grassland. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ecosystems dynamics, Ecosystem-Society Interactions, and Remote Sensing Applications for Semi-Arid and Arid Land. Hangzhou, China, 23-27 October, 2002.*

Zhan, X.W.,**W.Gao**, X.L. Pan, and Y.J. Ma. 2002. Monitoring the hydrologic and vegetation dynamics of semi-arid and arid land with field measurement, satellite remote sensing, and land surface modeling. *Int. Symposium on Remote Sensing of the atmosphere, ocean, environment and space: Ecosystems dynamics, Ecosystem-Society Interactions, and Remote Sensing Applications for Semi-Arid and Arid Land. Hangzhou, China, 23-27 October 2002.*

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STUDENT ADVISING/GRADUATE SUPERVISION

GRADUATE STUDENTS:

Current Graduate Advisees:

William Smith (MS)
Xie, Xiaoping (PhD)
Shi, Qingsan (PhD)
Zou, Lanjun (PhD)
Liu, Weiguo (PhD)
Liu, Chaoshun (PhD)

Past 5 years

Liu, Shuyan (PhD)
Lu, Qifeng (PhD)

Current Graduate Committee Memberships (excluding those chaired):
4 PhD

POSTDOCTORAL STUDENTS/RESEARCH SCIENTISTS OR ASSOCIATES:

Current:

Xu, Min (PhD)
Ken Apostol (PhD)
Vijaya Gopal Kakani (PhD)
Gao, Zhiqiang (PhD)
Wang, Xinli (PhD)

Past 5 years:

Zhao, Duli, 2003, 2004, (PhD)
Cheryl Bawhey, 2002, 2003 (PhD)

OTHER ACTIVITIES/ACCOMPLISHMENTS

Scientific Advisor, CMA/National Satellite Meteorological Center
Guest Professor, Peking University, Beijing, China
Adjunct Professor, the Department of Plant and Soil Sciences, Mississippi State
University, Mississippi State, Mississippi
Adjunct Professor, Nanjing University of Information Science and Technology, Nanjing,
China; Xinjiang University, Urumqi, China
Adjunct Director, The Joint Laboratory for Remote Sensing of Ecological Environments
at Peking University

Leading Chair, The Conference of Remote Sensing and Modeling of Ecosystems for
Sustainability III, as Part of International Symposium on Optical Science and Technology,
SPIE's Annual Meeting. 13–17 August 2006, San Diego, California

Leading Chair, The Conference of Remote Sensing and Modeling of Ecosystems for
Sustainability II, as Part of International Symposium on Optical Science and Technology,
SPIE's 50th Annual Meeting. 31 July – 4 August 2005, San Diego, California

Co-Chair, The Conference of Ultraviolet Ground- and Space-based Measurements,
Models, and Effects V, as Part of International Symposium on Optical Science and
Technology, SPIE's 50th Annual Meeting. 31 July – 4 August 2005, San Diego,
California

Secretary-General, International Symposium of Remote Sensing and Space Technology
for Multi-disciplinary Research and Application, 19-24 May 2005, Beijing, China

Executive Chair, International Conference on Resources, Ecosystems, and Sustainability
of Arid and Semi-arid Regions, 8-12 September 2004, Urumqi, China

Leading Chair, The Conference of Remote Sensing and Modeling of Ecosystems for
Sustainability, as Part of International Symposium on Optical Science and Technology,
SPIE's 49th Annual Meeting. 2 – 6 August 2004, Denver, Colorado

Co-Chair, The Conference of Ultraviolet Ground- and Space-based Measurements,
Models, and Effects IV, as Part of International Symposium on Optical Science and
Technology, SPIE's 49th Annual Meeting. 2 – 6 August 2004, Denver, Colorado

Symposium Chair and Secretary-General, the NIM and SeaSpace International Remote
Sensing Symposium and the 14th Annual International TeraScan Conference, 6-12 June,
2004, Nanjing, China

Co-Chair, The Conference of Ultraviolet Ground- and Space-based Measurements,
Models, and Effects III, as Part of International Symposium on Optical Science and
Technology, SPIE's 48th Annual Meeting. 3 – 8 August 2003, San Diego, California

Leading Chair, The Conference of Ecosystems Dynamics, Agricultural Remote Sensing
and Modeling, and Site-Specific Agriculture, as Part of International Symposium on
Optical Science and Technology, SPIE's 48th Annual Meeting. 3 – 8 August 2003, San
Diego, California

Secretary-General, the Third International Asia-Pacific Environmental Remote Sensing Symposium 2002, Remote Sensing of the Atmosphere, Ocean, Environment, and Space, 23-27 October 2002, Hangzhou, China

Co-Chair, The Third Front Range UV and Ozone Workshop, June 2002, Boulder, Colorado.

Leading Chair, The Conference of Ultraviolet Ground- and Space-based Measurements, Models, and Effects II, as Part of the Third International Asia-Pacific Environmental Remote Sensing Symposium 2002, Remote Sensing of the Atmosphere, Ocean, Environment, and Space, 23-27 October 2002, Hangzhou, China

Co-Chair, The Conference of Ultraviolet Ground- and Space-based Measurements, Models, and Effects I, as Part of International Symposium on Optical Science and Technology. SPIE's 46th Annual Meeting 29 July – 3 August 2001, San Diego, California

Program Committee Member, The Conference of Remote Sensing of Clouds and the Atmosphere XI, as Part of SPIE Europe Remote Sensing. 11-14 September 2006, Stockholm, Sweden

Program Committee Member, The Conference of Remote Sensing of Clouds and the Atmosphere X, as Part of 12th International symposium of Remote Sensing, SPIE Europe. 19-22 September 2005, Bruges, Belgium

Program Committee Member, The Conference of Atmospheric and Environmental Remote Sensing Data Processing and Utilization: Numerical Atmospheric Prediction and Environmental Monitoring, as Part of International Symposium on Optical Science and Technology, SPIE's 50th Annual Meeting. 31 July – 4 August 2005, San Diego, California

Program Committee Member, The Conference of Atmospheric and Environmental Remote Sensing Data Processing and Utilization: an End-to-End System Perspective, as Part of International Symposium on Optical Science and Technology, SPIE's 49th Annual Meeting. 2 – 6 August 2004, Denver, Colorado

Program Committee Member, The Conference of Atmospheric and Oceanic Processes, Dynamics, and Climate Change, as Part of the Third International Asia-Pacific Environmental Remote Sensing Symposium 2002, Remote Sensing of the Atmosphere, Ocean, Environment, and Space, 23-27 October 2002, Hangzhou, China

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