

## EDUCATION

- 1992-1997**     **UNIVERSITY OF ILLINOIS CHAMPAIGN-URBANA**     (Urbana, IL)  
• Ph.D. in Civil & Environmental Engineering (1997)
- 1989-1992**     **UNIVERSITY OF ILLINOIS CHAMPAIGN-URBANA**     (Urbana, IL)  
• Master of Science in Aeronautical Engineering
- 1986-1989**     **SAINT LOUIS UNIVERSITY**     (St. Louis, MO)  
• Bachelor of Science in Aerospace Engineering (**Magna Cum Laude**)

## Publications

Google Scholar: <https://scholar.google.com/citations?user=y7Quo2EAAA&hl=en>

as of Aug 18, 2020 : H-Index = 37

Citations = 6140

i10-index = 54

## EXPERIENCE

2015 - Present

**NASA Langley Research Center**  
**Head, Lidar Science Branch**

As the Head of the Lidar Science Branch at NASA Langley Research Center. oversee the development of new lidar systems, their maturation for airborne and space-based platforms and the development of algorithms for converting lidar measurements to geophysical parameters. In this capacity, provide institutional resources, scientific and engineering expertise, and guidance to enable missions, research, and technology development

Dec 2011 – 2017

**NASA HQ Detailee: NASA Applied Sciences Program (ASP)****◆Associate Program Manager for Health & Air Quality Applications**

Oversee project progress to apply Earth science products in decision-making activities

**◆Mission Applications Representative for PACE – Atmosphere & Air Quality Apps**

Integrating applications into mission requirements in the early design Phase (pre-Phase A)

Sept 2002-present

**NASA Langley Research Center – Science Directorate** (Hampton, VA).**Physical Scientist**

Science team member responsible for the development and testing of aerosol extinction-to-backscatter-ratio, and aerosol subtyping algorithms for the Cloud and Aerosol Lidar Infrared imager Pathfinder Spaceborne Observations (CALIPSO) Satellite.  
PI: NASA LaRC AERONET Station

Jan 2000-2004

**Old Dominion University – Environmental Engineering Dept** (Norfolk, VA).**Adjunct Faculty**

• Teach Air Pollution Control course for graduate and undergraduate students

March' 98-2002

**Hampton University - Center for Atmospheric Sciences** (Hampton, VA).**Research Assistant Professor**

- Led the CALIPSO Algorithm Implementation and Validation efforts
- Led the aerosol subtyping algorithm development effort (3 graduate students)
- Co-Investigator, and Science Team member CALIPSO
- Taught graduate courses in Remote Sensing and Atmospheric Physics to Hampton University students, NASA Civil Servants and Contractors
- Advised and mentored undergraduate students
- Led committee to recruit students in science/engineering from south eastern institutions
- PI for a Space Science Grant (250K/yr) and Co-I on several grants supporting six students.

- Primary author of the Education and Public Outreach Chapter of the CALIPSO proposal  
Supervisor: M. Pat McCormick; Ph. (757)7286867

**Feb' 97-Feb' 98**      **University of Illinois-Electro-Optical Systems Laboratory**      (Urbana, IL)  
***Post-doctoral Fellowship-Laser Systems Research***  
 • Retrieved the temperature/aerosol profiles of from measurements of the Lidar In-space Technology Experiment (LITE) conducted on board the space shuttle *Discovery*. Developed algorithms to process the raw lidar signals and convert these to geophysical parameters.  
 Supervisor - Prof C. Gardner, Ph. (217)333-3077

**1992 - 1996**      **University of Illinois**      (Urbana, IL)  
***Lead Research Assistant***  
 • Team Leader of the Bondville Aerosol Measurements Group (5 Scientists)  
 • Modeled effects of aerosols on atmospheric radiative transfer and visibility degradation  
 • Set up instrumentation for aerosol sampling and optical measurements at Bondville, IL

**1994-96**      **University of Illinois**      (Urbana, IL)  
***Teaching Assistant - Atmospheric Dispersion Modeling***  
 As part of the Ph.D. teaching requirements, taught senior undergraduate and graduate students an Atmospheric Dispersion Modeling class (CE345).  
 Supervisor - Prof. S. Larson

**PROFESSIONAL  
 ACTIVITIES/  
 ASSOCIATIONS**

Served on the Proposal Review Panel of NASA's "*Global Water and Energy Cycle (GWEX) for EOS Interdisciplinary Science*", and the Terra-Aqua Panel (2010) NASA ACCESS Panel (2013), NASA New Investigator Panel (2014), Applied Sciences Air Quality and Public Health Panel (2014) Co-Chairman of the *IEEE Atmospheric Aerosol Symposium*, Tucson, AZ, April 2005

- Member American Geophysical Union (AGU)
- Member American Meteorological Society (AMS)

**COMMUNITY  
 SERVICE**

Secretary, AGU Global Environmental Change Section (2015-19)  
 AGU Macelwane Medal Committee for the 2020-2021 term  
 Student Government Association Executive Member -(1986-88)

**AWARDS/  
 HONORS**

Alpha Chi Honor Scholarship Society (inducted 1988)  
 Outstanding Student Award Saint Louis University, 1989  
 Graduated 1<sup>st</sup> of Class of May 89 (Engineering) Saint Louis University  
 International Chemical Transport Experiment, N. American Science Team 2005  
 Outstanding Performance (CALIPSO Launch) 2006  
 Outstanding Performance (Operations and Data Processing) 2007  
 Outstanding Performance (CALIPSO Laser Switchover Team) 2008  
 Group Achievement Award (ARCTAS) 2009  
 NAAMES Group Achievement Award 2019