

JOE F. BOZEMAN III

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EDUCATION

Ph.D. in Environmental Engineering: Sustainability	2019	University of Illinois at Chicago
Master of Science in Engineering: Renewable and Clean Energy	2010	Wright State University
Bachelor of Science in Mechanical Engineering	2008	Wright State University

SKILLS

Research & Development, Energy & Environmental Sustainability, Renewable & Clean Energy, Program/Project Management, Food-Energy-Water Nexus, Food Systems, Environmental Compliance, Solar Engineering, Supercomputing, Electromechanical/Chemical System Analysis, Strategic Planning, Unique Leadership & Management, Microsoft Office Suite, Excellent Communication, Directive/Policy Writing

SELECT RESEARCH EXPERIENCE

University of Illinois at Chicago (Dr. Thomas L. Theis) 08/2016-Present
Researcher for the Institute of Environmental Science and Policy

- Food deserts are regions with limited access to healthy food due to lack of market structure and/or limited transportation options. Nearly 50 million United States residents lack access to healthy food alternatives. In the U.S., three factors intersect to create the Food Desert Nexus: food systems (i.e., modern agricultural and food production practices), public policy, and human behavior. Major impacts include effects on human health (e.g., malnutrition, diabetes II, and coronary disease), and deterioration of the physical environment (e.g., ozone-depletion, greenhouse gas emissions, accumulation of reactive nitrogen). This trend is likely to intensify with population growth and consumption demands. Thus, I will investigate the potential impact of food, energy, and water (FEW) on US food markets (e.g., supermarkets and specialty grocery stores) if the US population switched to healthier eating patterns. This problem statement serves as the basis for the main goal which is to develop a framework that would facilitate policy solutions for increasing access and affordability to healthy food items while reducing FEW impacts.

U.S. Department of Veterans Affairs & Department of Defense 03/2011-06/2013

- Cold Composting is the process of naturally replenishing soil fertility through the proper mowing and storage of grass, twigs and leaves. The Cold Composting Calculator was developed to assist in waste-diversion data collection efforts since United States (U.S.) federal energy & environmental sustainability officers are mandated to perform such tasks. Research and mathematical data compilations, utilizing sources from the likes of the U.S. Environmental Protection Agency and National Oceanic and Atmospheric Administration, resulted in a developed tool that estimates the amount of cold compost yielded per acre, for any location in the U.S. The Cold Composting Calculator has been effective nationwide and for numerous federal agencies, including the Department of Veteran Affairs.

Wright State University (Dr. Hong Huang and Dr. Ruby Mawasha) 05/2008-06/2010
Research/Teaching Assistant

- JP-8 fuel is easily accessible, transportable, and has hydrogen content essential to solid oxide fuel cell (SOFC) operation. However, JP-8 fuel has sulfur content that can form poisonous hydrogen sulfide. This syngas degrades electrochemical activity and causes complete SOFC failure in some cases. In effort to mitigate this degradation, sulfur-tolerant catalysts supported on cerium oxide were cost-effectively synthesized and computationally analyzed. Experimental syntheses of copper, platinum, and platinum-copper skin catalysts supported on cerium oxide were verified. The platinum-copper skin catalyst was determined to be the most cost-effective, sulfur-resistant catalyst.

Triangular Truss Deployment - Near Space Environment/Glenn Stokes Research Program 06/2007-08/2008
Project Team Leader

- Introducing large-scale structures into space is limited by the size of the transport vehicle, assembly time, and labor intensity among other limitations. Therefore, investigations of methods to optimize each aforementioned factor are essential to enhanced in-space operations. One such method was the development of a large-scale, lightweight truss structure that could be stowed a fraction of its deployed size, and deployed using minimal resources. An unfolding triangular truss structure was developed utilizing shape memory polymer composite material. This structure was successfully deployed in a near space environment. The attained results were intended to bolster Defense Advanced Research Projects Agency research for potential military surveillance purposes.

PUBLICATIONS

- Bozeman III, Joe F. & Watson, Richard. The Cold Composting Calculator: A Novel Tool. Internally published Oct 2012 (*Developed as employees of the Veterans Health Administration of the U.S. Department of Veterans Affairs*)
- Bozeman III, J.F. & Huang, H. Structural Characteristics of Bimetallic Catalysts Supported on Nano-Ceria. *Journal of Nanomaterials*, 2011
- Bozeman, J., Marruffo, A., Barney, I., Jackson, A., Mukhopadhyay, S. & Huang, H. Synthesis and Characteristics of Nano-ceria Supported Bimetallic Catalysts for S-tolerant SOFCs. *ECS Transactions - Montreal, QC, Canada 35* (Accepted Jan 2011)

SERVICE

- Volunteer – 2017 Joint Conference: International Society for Industrial Ecology (ISIE) – International Symposium on Sustainable Systems and Technology (ISSST)** 06/2017
- Peer Reviewer - Journal of Renewable and Sustainable Energy (3)** 2017
- Centers for Companies That Care – STEM Career Representative** 02/2012-07/2015
- Volunteer – Wright Leadership Education to Advance Development (LEAD) South Africa** 07/2008 & 2014
- Department of Defense Educational Activity - STEM Representative at Marine Corp Base Camp Lejeune** 04/2012
- Tutor - For engineering students at Central State University in Physics, Statics, and Dynamics** 01/2009-04/2009
- Teacher – For Statics of the Fundamental Engineering Exam Review Class, Wright State University** 02/17/2009

EMPLOYMENT HISTORY

- U.S. Department of Veterans Affairs, North Chicago, IL** 08/2011-Present
Green Environmental Management System (GEMS) Program Manager
- Chairs the GEMS Committee which implements energy and environmental sustainability programming such as energy/environmental auditing & inspections, hazardous waste, air permitting, and recycling among others
 - Serves as member of the national-level Energy Engineers Advisory Board (EEAB)
 - Writes and develops local and national-level policies, guidebooks, strategic plans, and directives
 - Maintains facility compliance with EPA, OSHA, NRC, and other federal regulatory entities & federal mandates
 - Served as Chair for the national-level GEMS Advisory Group (GEMSAG)
- U.S. Department of Veterans Affairs, Dayton, OH** 07/2010-08/2011
Green Environmental Management System (GEMS) Coordinator
- Managed and helped to implement energy and environmental sustainability programming
 - Maintained facility compliance with EPA, OSHA and other federal regulatory entities
- Wright State University, Dayton, OH**
Chief of Staff (Student Government) 08/2009-06/2010
- Supervised and managed the student government body
 - Served as Chair of the Health Care Committee and participated on other university-wide committees
 - Authored collegiate health care language that eventually became university policy and Ohio state law
- Wright State University, Dayton, OH**
Deans Student Advisory Board of Computer Engineering and Computer Science (CECS) Chair 01/2009-03/2009
- Provided an organizational platform and appointed members representing each pertinent college
 - Facilitated communication between the Dean of CECS and the student body
- United Parcel Service (UPS), Sharonville, OH**
Plant Engineer/ Part Time Supervisor 09/2006-06/2008
- Supervised 20+ employees for conveyor maintenance, drive maintenance, and porter related tasks
 - Oversaw monthly budget and record keeping expenditures for projects and functional billing
 - Prepared management reports, organized & led meetings, and maintained business partner relationships

PROFESSIONAL PRESENTATIONS

2017 ISIE-ISSST – Poster on food desert emergence as it relates to energy and environmental sustainability	06/2017
Low Carbon Earth Summit – Qingdao, China – Presented on U.S. Interagency Sustainability	09/2014
Environmental Sustainability and Innovation at VA – Presented on the Cold Composting Calculator	07/2013
Region 5 Federal Green Challenge Symposium – Presented on sustainability program and cold composting	06/2013
2011 GreenGov Symposium – Presented on development of the Cold Composting Calculator	11/2011
University Clean Energy Alliance of Ohio - Presented on sulfur-tolerant catalyst of the solid oxide fuel cell	04/2010
Dayton Engineering Science Symposium – Presented on sulfur tolerance of the solid oxide fuel cell	10/2009
Ohio Aerospace Institute – Presented on high altitude balloon apparatus	09/2009
University Clean Energy Alliance of Ohio – Presented on thesis approach regarding the solid oxide fuel cell	04/2009
NSF – Presented on triangular truss system and thermal conductivity of Shape Memory Polymer	06/2008

PROFESSIONAL LEADERSHIP

EEAB – Energy-GEMS sole representative for GEMSAG at U.S. Department of Veterans Affairs	02/2012-Present
GEMS Committee – Chair	08/2011-Present
GEMSAG – Chair	01/2015-03/2016
Intergovernmental Affairs Committee – Member	07/2013-07/2015
Centers for Companies That Care – Periodic STEM Career Representative	02/2012-07/2015
Chicago Interagency Sustainability Council – Member	06/2013-07/2014
Department of Defense Educational Activity – STEM Representative at Marine Corp Base Camp Lejeune	04/2012
Graduate Teaching Assistant – Lab Teacher for senior level Finite Element Analysis and Mechanical Vibrations	08/2009-06/2010
Teacher – For Statics for Fundamental Engineering Exam Review class, Wright State University	02/17/2009
Tutor – For engineering students at Central State University in Physics, Statics and Dynamics	01/2009-04/2009

CERTIFICATIONS

Certified Energy Manager (CEM)	10/2013
Storage Tank Operator: Illinois Class A/B/C	04/2013
Federal Acquisition Certification for Program/Project Managers (FAC-P/PM)	10/2012
Contracting Officer's Representative (COR/COTR)	11/2011
Engineer-in-Training (EIT)	05/2011

AWARDS

Dr. Martin Luther King, Jr. Scholarship – 2017 – 2018 University of Illinois at Chicago (UIC)
Tuition Support for Sustainability Ph.D. – 2017 U.S. Department of Veterans Affairs
Young Energy Professional of the Year Award: Region III – 2015 The Association of Energy Engineers
Green Partner for Change Award – 2015 Practice Greenhealth Environmental Excellence Awards
Regional Education and Outreach Award – 2015 Environmental Protection Agency Federal Green Challenge
Regional Transportation Award - 2014 Environmental Protection Agency Federal Green Challenge
National Transportation Award - 2013 Environmental Protection Agency Federal Green Challenge
Regional Overall Achievement Award – 2013 Environmental Protection Agency Federal Green Challenge
Regional Innovation Award - 2013 Environmental Protection Agency Federal Green Challenge
Legend in Energy - 2012 Association of Energy Engineers
Excellence: Certificate of Appreciation - 2012 Department of Defense Education Activity STEM Activity
Member of the Quarter – Fall Quarter 2009 Wright State University's Student Government
OSEA Certificate of Achievement – 2008 Glenn Stokes Summer Research Internship Program; NSF conference
Dean Honorable Mention – High Altitude Balloon Team (Senior Design Project)
Best Student Paper Award – Won award for technical paper and presentation; 2008 ASEE NCSC
OSEA Certificate of Achievement – 2007 Glenn Stokes Summer Research Internship Program; NSF conference
2004 Student Athlete Achievement for Outstanding Grade Point Average

AFFILIATIONS

Association of Environmental Engineering and Science Professors (AEESP)	12/2017-Present
American Planning Association (APA) – Member	12/2017-Present
International Society for Industrial Ecology (ISIE) – Member	11/2017-Present
Green Environmental Management Systems Advisory Group (GEMSAG) – Member	01/2015-Present
Energy Engineers Advisory Board (EEAB) – Member (GEMSAG Representative)	02/2012-Present
Association of Energy Engineers (AEE) – Member (Illiana Chapter)	01/2012-Present
Intergovernmental Affairs Committee – Member	07/2013-07/2015
Chicago Interagency Sustainability Council – Member	06/2013-07/2014

TRAINING

Survey Experiments	11/08/2017
Social Desirability in Survey Research	11/01/2017
Life Cycle Cost Estimating Course	12/2014
FEMP 19 Fundamentals of Life Cycle Costing for Energy Conservation	06/2014
Intermediate Green Environmental Management Systems (GEMS)	09/2013
Certified Energy Auditor (CEA) Training	04/2013
Storage Tank Operator Training: Illinois Class A/B/C	04/2013
Underground Storage Tank Operator Training: A/B/C	04/2013
OSHA 30-Hour Construction Safety Training	02/2013
Certified Energy Manager (CEM) for Energy Managers	01/2012
Contracting Officer's Representative (COR/COTR)	11/2011
ISO14001 Lead Auditor Training	08/2011
Basic Green Environmental Management Systems (GEMS)	04/2011
Basic Safety, Industrial Hygiene, Environmental, Emergency Management and Fire Protection	02/2011
How to Develop and Deliver Dynamic Presentations	01/2011
Environmental Technical Career Field	09/2010
Problem Solving and Decision Making	08/2010
Critical Thinking	08/2010
Oral and Written Communication	08/2010