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Professor & Chairman
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QUALIFICATIONS SUMMARY

I have extensive worldwide experience in the engineering, management and assessment of energy and utility systems in corporate facilities, manufacturing plants of pharmaceutical, confectionery and consumer health products. I have initiated, implemented and managed numerous projects that have resulted in excess of 45 million dollars in corporate energy savings. I am both a mechanical and environmental engineer with advanced academic training in each discipline. My experience spans over 27 years of track and progressive records in energy, facilities, mechanical and environmental engineering. As a professional, I have been recognized in *Who's Who in Science and Engineering*. I am also recognized as *Legend in Energy* by the Association of Energy Engineers. As an academician, I have been recognized in *Who's Who Among America's Teachers*. A strong believer in civic and community services, I served on the Board Directors of Leadership Jackson and Leadership University of Jackson, TN. I received recognitions from the US EPA for my leadership as Corporate Energy Manager in the implementation of the Green Lights and Energy Star Building programs.

CURRENT AND PAST POSITIONS AND EXPERIENCES

- 1. Tenured Professor and Founding Chair, Department of Engineering, Union University, Jackson, TN—From July 2001 to Present**
Manage and direct the engineering department through its startup program. Develop and implement engineering curriculum to ABET standards. Design and develop engineering laboratories to support engineering education. Teach mechanical engineering courses. Advise students. Recruit and manage faculty and staff members. Develop and implement the department's QAQC and Continuous Improvement programs. Manage and direct efforts to earn the prestigious ABET accreditation. Develop academic-industrial relationship with local and regional industries. Establish the much needed Engineering Advisory Board for Union University. Member of the University's Academic Council chaired by the University Provost.
- 2. Sr. Manager, Energy & Environmental Affairs, Pfizer Inc., NY, NY – From July 1992 to July 2001**
Had worldwide responsibilities in energy engineering and management for the company's US and international manufacturing facilities of pharmaceuticals, consumer health and confectionery products. Established corporate policies and guidelines. Conducted cost-savings facility audits. Provided in-house engineering consultation. Conducted multimedia environmental assessments for compliance. Reviewed and approved design of new wastewater treatment plants. Other responsibilities include environmental metrics, green procurement and design initiative, global warming gas emission management and global reporting initiative (GRI)

3. **Project Engineer III.
Honeywell International, Morristown, New Jersey - From July 1986 to July 1992**
Had project management and engineering design responsibilities for the Corporate Headquarters. Engineering projects encompassed multi-disciplines including mechanical, electrical, civil, and environmental. Managed the campus-wide energy program by implementing the continuous improvement process.
4. **Tech Function Engineer.
GPU Nuclear, Inc., Parsippany, New Jersey - From April 1984 to July 1986**
Engineered, designed and built mechanical system modifications to support efficient and reliable operations of the company's nuclear plants in New Jersey and Pennsylvania. Contributed toward the restart of the Three Mile Island's undamaged reactor plant.
5. **Technical Staff Engineer.
Commonwealth Edison Co., Chicago, Illinois - From August 1981 to April 1984**
Conducted component as well as integral system tests at the Company's two newest nuclear power generating plants in Illinois to ensure safe reactor plant startup.

EDUCATION

BS Mechanical Engineering, University of Illinois in Chicago (1980)
 MS Mechanical Engineering, University of Illinois in Chicago (1981)
 MS Civil Engineering, New Jersey Institute of Technology (1996)
 Ph.D. Civil Engineering, New Jersey Institute of Technology (2000)

PROFESSIONAL REGISTRATION

Licensed in New Jersey and Tennessee as Professional Engineer (PE)
 Certified Energy Manager (CEM)

PROFESSIONAL SOCIETIES MEMBERSHIP

American Society of Mechanical Engineer
 Association of Energy Engineers

American Society for Engineering Education
 American Water Work Association (not current)

PUBLICATIONS

- Improving the Computation of Makeup Water Requirement of a Natural Draft Cooling Tower as a Function of Daily Temperature Fluctuation. *Proceedings of the 2009 Midsouth Annual Engineering and Sciences Conference. Memphis, TN May 5, 2009*
- Designing and Implementing a Decision-Making Matrix for the Selection of an Industry-Sponsored Capstone Project—Lessons Learned. *Proceedings of the 2009 Midsouth Annual Engineering and Sciences Conference. Memphis, TN May 5, 2009*
- Using Student-led Current Events Discussions to Meet Specific ABET Outcomes through Engineering Economy. *Proceedings of the 2007 American Society for Engineering Education Annual Conference. Honolulu, HI. Coauthor: Jeannette Russ.*
- Establishing a Quality Engineering Education Program—the Industry's Style. *Proceedings of the 2006 Midsouth Annual Engineering and Sciences Conference. Memphis, TN*
- The Effect of Nickel on Thermophilic Bacteria for Wastewater Treatment. *Proceedings of the 2005 Memphis Area Engineering and Sciences Conference. Memphis, TN. Coauthor: Elsie Y. Smith*

- Design a Mechanical Breadboard for Effective Teaching of Engineering Statics. *Proceedings of the 2004 American Society for Engineering Education Annual Conference*. Salt Lake City, UT. Coauthors: David Ward and Denise Theobald Roberts.
- Design and Startup an ABET General Engineering Science Program. *Proceedings of the 2004 American Society for Engineering Education Annual Conference*. Salt Lake City, UT.
- Can Total Customer Satisfaction Find a Home in Academia? *The Teaching Professor Conference*. May 21-23, 2005 Philadelphia, PA., Magna Publications, Inc.
- Redefining Engineering Ethics: More Than About Lying—It's About Not Going the Extra Engineering Mile. *Proceedings of the 2004 Memphis Area Engineering and Sciences Conference*. Memphis, TN. Coauthor: John Cole.
- Do Learning: How to Implement When It's a New Initiative. *The Department Chair*. 14 (3) 2004, Anker Publishing.
- Teaching Design for Energy Sustainability. *Proceedings of the 2003 American Society for Engineering Education Annual Conference*, Nashville, TN.
- Cogeneration—A Feasibility Screening Analysis Using Excel Spreadsheet. *Proceedings of the 2003 Memphis Area Engineering and Sciences Conference*, Memphis, TN.
- Application of the Engineering Method: Key to Successful Energy Project Proposals. *Strategic Planning for Energy and the Environment*. 22 (3) 2003, Assoc. Energy Engineers.
- Rapid Identification of Dissolved Organic Matter Fractions in Water by Spectral Fluorescent Signatures. *Water. Research*. 34 (14) 2000, Elsevier Science.
- Characterizing Dissolved Organic Matter Fractions Using Spectral Fluorescent Signatures and Post Processing by Principal Component Analysis. *Fresenius J. Anal. Chemistry* (366) 2000, Springer-Verlag.
- Changes in NOM Fractionation through Treatment: A Comparison of Ozonation and Chlorination. *Ozone Science & Engineering* 22 (3) 2000, Lewis.
- Finite Fraction Method for Tracking of Disinfection By-Product Precursors in Water Treatment. Ph.D. Dissertation, 2000, New Jersey Institute of Technology.
- Chlorinated Disinfection By-Product Formation Potential of Dissolved Organic Matter Fraction at an Ozonation Water Treatment Plant. *Advances in Environmental Research* 3 (3) 1999, Nelson & Commons Communication.
- Modified Resin Adsorption Fractionation Method for Characterization of Source Water Organics. *Proceedings of the American Water Works Association*. Source Water Symposium. October 28-31, 1998. San Francisco.
- Effects of Ozonation vs. Chlorination Water Treatment Operations on Natural Organic Matter Fractions, *Proceedings of the International Ozone Association Annual Conference*. Pp. 363-382. October 18-21, 1998 Vancouver, B.C., Canada.
- Solving the Greenhouse Warming Problem—a New Economic Strategy. *Strategic Planning for Energy and the Environment* 10 (1) 1990, Assoc. Energy Engineers.
- A New Engineering Strategy for Energy Improvement—Let's Stop the Error of "Replacement-in-kind". *Strategic Planning for Energy and the Environment* 11 (2) 1991, Assoc. Energy Engineers.