

Education

September 1994	Ph.D. Architectural Engineering The Pennsylvania State University, USA Illumination Engineering Emphasis
December 1991	M.S. Architectural Engineering The Pennsylvania State University, USA
June 1988	B. S. (High Honors) Architectural Engineering University of Petroleum and Minerals, KSA

Academic Experience

September 2014-Present Department Head-Architectural Engineering

Leadership role: Leads the department of Architectural Engineering with 26 faculty members, 200 undergraduate students and 20 graduate students. Leadership role in obtaining ABET accreditation. Member of the college of Engineering Board.

January 2006-present Associate Professor United Arab Emirates University Architectural Engineering Department

- Teaching responsibility of the following:
 - Graduate Classes: Fenestration design and analysis, Research Based Design Project, Building Science Experimental Lab, Selected Topics in Building Science, Visual Perception, and Independent Research.
 - Undergraduate classes: Architecture of Hot Arid Zone (Passive Cooling), Building Construction II, Architectural acoustics and illumination, graduation projects, Engineering Entrepreneurship (Engineering Economy), frequent member of design juries.
- Master thesis supervision: 1- Effect of furniture on Daylight Penetration in Open Plan Office Spaces
2- Pedestrian Visibility under LED Street light
- Managed the department building science lab. Built the lab from ground zero to a state of the art lab with equipment worth over 0.7 million dollars.
- Played an important role in the department activities to obtain ABET accreditation.
- Supervised 2 Masters students thesis.
- Obtained over 300,000 US Dollars of external research funding from the following sponsors: Exxon Mobile, Gascos, iGuzzini (Italy), Marine (Korea), Emirates Foundation, NRF, Freyssinet.
- Chair, department research committee, and the college research committee
- Member of the college peer review of teaching committee
- Member of text book committee
- Department Council Secretary
- Obtained Students instructional effectiveness evaluation greater than 3.6/4

Spring & Fall 2002, Summer 2003 Visiting Lecturer **University of Maryland, USA** Faculty of Mechanical Engineering

- Full responsibility of Computer Aided Design class, senior level 3 credit course.
- Taught Pro/E software including structural analysis, computer aided manufacturing and computer graphics.
- Received instructional effectiveness evaluation of 3.62/4.0.

August 1994-May 1997

Instructor
Penn State University, USA
School of Engineering Technology

- Taught introduction to Engineering Design and Graphics, Computer Aided Drafting using Solid Modeling, and Experimental Design Laboratory.
- Supervised first year's innovative engineering design project.
- Integrated design analysis and graphics to achieve an optimal learning environment.
- Responsible for three sections of a total of 100 students per semester.
- Received favorable student evaluation 6.2/7.0, college average was 5.2.

Professional Experience

June 2005-January 2006

Urban lighting Engineer
Fairfax County, Virginia, USA

- Designed street and parking lot lighting systems
- Coordinated with power companies on installation and maintenance
- Maintained a Geographic Information System (GIS) database with lighting layers

May 1997-2005

President & CEO
Illumitech, LLC.

Executive management:

- Helped start the company and build a team of 8 partners and more than 30 suppliers.
- Raised over \$700k USD of equity investment through Private Placement from angel investors and a venture capital company.
- Worked on all aspect of growing the company from a startup phase into a supplier of its own proprietary lighting products for retail and supermarkets shelving.
- Managed intellectual property.
- Organized a manufacturing and workforce strategy.
- Developed a marketing and sales plan.
- Exhibited the products at national tradeshow.
- Formed alliances and partnership with major national and international companies including a division of a fortune 100-company.
- The company currently has a diverse customer base from manufacturers of commercial refrigerated cases and (Hussman and Carrier) display shelving to retail and supermarket chains.

Technical management:

- Designed and installed solid -state lighting systems (LED) for museum lighting applications. The fixture was installed in the Freer Gallery of at the Smithsonian Institution (Washington, DC) to illuminate 1500 year-old ceramics in the Silk Road Empire Exhibit.
- Designed and installed patented and innovative fluorescent lighting systems.
- Reviewed related intellectual property matters.
- Monitored production of prototypes.
- Coordinated with mechanical and manufacturing engineers to generate cost effective products that can be easily implemented into commercial display cases.
- Managed UL listing procedures.
- Designed and installed fiber optic lighting system for a major refrigeration company. The system proved to have a dramatic reduction in refrigeration load and had significant advantages in terms of reducing electrical hazards.
- Designed and prototyped a proprietary remote lighting system using miniature lamps.

January 1998-June 1998

Consultant
Remote Source Lighting International Corporation, California

- Designed and assisted in the development of PhotGen software (a Computer Aided Design and Analysis tool for Fiber Optic Lighting systems).
- Coordinated findings and needs with optical and mechanical designers.
- Designed instrumentation for spectral attenuation and Numerical Aperture measurement of optical fibers.
- Designed and generated Photometric reports for lighting fixtures.
- Performed thermal evaluation of fiber burning using Infrared spectrometry and thermal imaging. The thermal evaluation resulted in important findings and solutions regarding plastic optical fiber burning problems.
- Measured Correlated Color Temperature and Color Rendering of fiber optic lighting system

May 1990-August 1990

Visiting Research Assistant
The US National Institute of Standards and Technology, Maryland

Evaluated the accuracy of the luminance mapping system CapCalc.
Measured luminance variation of fluorescent luminaires.

Awards:

- RTA DAST best paper award in sustainable transport
- 1st Place, Award of Excellence, Fairfax County, Virginia, USA 2005
- Gordon Kissinger Graduate Fellowship, Pennsylvania State University, 2002
- High Honors, University of Petroleum and Minerals, KSA 1988

Activities & Professional Memberships

- Regional editor, Leukos, the Journal of the Illuminating Engineering Society of North America.
- Member of the judging committee of Middle East Lighting Design Award.
- Advisory Member of the Calculation Procedures Committee of the Illuminating Engineering Society.
- Member of the Daylighting Committee of the Illuminating Engineering Society.
- Member of Penn State Graduate Council; the governing body of the graduate school (1990-1991).
- Member of the Graduate Programs and Courses Committee of Penn State University (1990-1991).
- Member of the New Programs and Courses Committee of Penn State University (1990-1991).

United States and International Patents

Feb 15, 2011

Multiple Door Display Merchandiser with Lighting Enhancement
Saraiji et al. US 7887207B2
International application PCT/US06/009250
Assignee: Carrier Corporation

Aug 27, 2009

Display Merchandiser with Lighting Enhancement
Saraiji et al. US 2009/0213579 A1
Assignee: Carrier Corporation

May 6, 2003

Lighting System Employing Bi-directional Optics for Illuminating Product Display Unit,
Saraiji et al. (US 6,558,017 B1)
European Patent 1321076.

January 30, 2001

Modular Lighting System for a Display Unit,
Saraiji, R., A lighting product for use in refrigerated and non-refrigerated display shelving.
(US 6,179,434 B1).

Software Development

DART PC	Developed, designed, and documented DART PC; a Computer Aided Design tool for display lighting applications. The software is currently owned and marketed by Osram Sylvania Inc. Languages used: FORTRAN and C.
Photogen	Contributed to the Development of PhotoGen, a Computer Aided Design tool for Fiber Optic Lighting System for Remote Source Lighting International Corporation.

Invited and Keynote Speeches

Sustainability in Urban Lighting, Smart Lighting Summit, Abu Dhabi, 2012

Urban and Street Lighting in a Sustainable Urban Environment, Light Insight Arabia Conference, Organized by Messe Frankfurt, Dubai, 2012

Introduction to Lighting Workshop, Light Middle East Conference, Organized by Messe Frankfurt, Dubai 2011.

LEDs EXPOSED, Factual Results of Using Exterior LED in the Middle East, Light Middle East, Organized by Messe Frankfurt, Dubai 2010.

Reviewing Iconic Urban Design in Architectural Lighting, Architectural Lighting Saudi Arabia Conference, Organized by IQPC, March 2011

Publications

Over 20 scholarly publications in peer reviewed journal and international conferences.