MEHLIKA INANICI

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Education:

Ph.D. in Architecture, University of Michigan, Ann Arbor, MI.
Major: Environmental Technology, Minor: Computer Graphics

Master of Science in Architecture, University of Michigan, Ann Arbor, MI.
Specialization: Environmental Technology

Master of Science in Building Science, METU, Department of Architecture, Ankara, Turkey.

Bachelor of Architecture, METU, Department of Architecture, Ankara, Turkey.

Academic Appointments:

Associate Professor (with tenure, September 2011 – present)
University of Washington, Department of Architecture, Seattle, WA.

Core Faculty, Ph.D. Program in the Built Environment (2006 – present)
College of Built Environments, University of Washington, Seattle, WA.

Assistant Professor (September 2005 – 2011)
University of Washington, Department of Architecture, Seattle, WA.

Postdoctoral Research Fellow (2004 – 2005)
Lawrence Berkeley National Laboratory, Building Technologies, Berkeley, CA.

Research / Teaching Assistant (1994 -1998)
METU, Department of Architecture, Ankara, Turkey.

Fellowships and Awards:

Faculty Development Award, College of Built Environments, University of Washington, 2008.

Gerald William Faculty Prize, University of Washington, Department of Architecture, 2006.

Outstanding Performance Award, Lawrence Berkeley National Laboratory, 2005. Awarded for "the outstanding work preparing and delivering a presentation at the U.S. Department of Energy Peer Review and carrying out underlying technical work, which is well above what is expected of a Post Doc, and lays the groundwork for additional research and development at the Lawrence Berkeley National Laboratory".

Distinguished Dissertation Award, Taubman College of Architecture and Urban Planning, University of Michigan, 2004.

University of Michigan, Ph.D. Scholarship, Rackham Graduate School Dissertation Grant, Architectural Merit Award, Nathan Levine Architectural Scholarship, 2002 - 2003.

Michigan Teaching Fellow, University of Michigan, Center of Research on Learning and Teaching (CRLT), 2002.

Scholarship for Doctoral Education, Board of the Higher Education Council of Turkey, 1998 - 2002.

Study Trip Award, Philips Lighting: Indoor, Outdoor, and Architectural Lighting Application Centers, Holland and France, 1999.

Grants:

University of Washington Royalty Research Fund, "Development and Validation of Image based Sky Models for Daylighting Applications", Principal Investigator, 2009-2010, $39,740.

Nuckolls Funding for Lighting Education, Development of a course titled “Computational Lighting Design”, University of Washington, Department of Architecture, Principal Investigator, 2006 –2007, $20,000.

U.S. Department of Energy, Assistant Secretary for Energy Efficiency and Renewable Energy, Building Technologies Program, “Lighting measurement, Simulation, and Analysis Toolbox”, Lawrence Berkeley National Laboratory, Environmental Energy Technologies Division, Department of Building Technologies, Lighting Research Group, Principal Investigator, 2004 – 2005, $464,000.

Publications:

Peer reviewed journal articles:

Inanici M. “Evaluation of High Dynamic Range Image-based Sky Models in Lighting Simulation,” *Luekos, Journal of the Illuminating Engineering Society (IES)*, 7(2), October 2010, 69-84.

Van den Wymelenberg K, Inanici M and Johnson P. “The Effect of Luminance Distribution Patterns on Occupant Preference in a Daylit Office Environment,” *Luekos, Journal of the Illuminating Engineering Society (IES)*, 7(2), October 2010, 103-122.

Inanici M and Navvab M. “The Virtual Lighting Laboratory: Per-pixel Luminance Data Analysis,” *Luekos, Journal of the Illuminating Engineering Society (IES)*, 3(2), Oct. 2006, 89-104.

Inanici M. “Evaluation of High Dynamic Range Photography as a Luminance Data Acquisition System,” *Lighting Research and Technology*, 38(2), June 2006, 123-136.

Demirbilek N, Yalciner U, Ecevit A, Sahmali E, and Inanici M. “Analysis of the Thermal Performance of a Building Design located at 2465m: Antalya - Saklikent National Observatory Guesthouse,” *Building and Environment*, 38(1), Jan 2003, pp. 177-184.

Demirbilek N, Yalciner U, Inanici M, Ecevit A, and Demirbilek O. “Energy Conscious Dwelling Design for Ankara,” *Building and Environment*, 35(1), Jan 2000, pp. 33-40.

Inanici M and Demirbilek N. “Thermal Performance Optimization of Building Aspect Ratio and South Window Size in Five Cities having Different Climatic Characteristics of Turkey,” *Building and Environment*, 35(1), Jan 2000, pp. 41-52.

Peer reviewed conference proceedings

Tai NC and Inanici M. "Space Perception and Luminance Contrast: Investigation and Design Applications through Perceptually based Simulations," *Spring Simulation Multi-conference, Symposium on Simulation for Architecture and Urban Design* (SimAUD2010), Orlando, FL, April 12-15, 2010.

Tai NC and Inanici M. "Lighting in Real and Pictorial Spaces: A Computational Framework to Investigate the Scene based Lighting Distributions and their Impact on Depth Perception," *Association of Computer Aided Design and Research in Asia (CAADRIA) 2010 Conference,* Hong Kong, April 7-10, 2010.

Inanici M. "Applications of Image based Rendering in Lighting Simulation: Development and Evaluation of Image based Sky Models," *International Building Performance Simulation Association (IBPSA) 2009 Conference*, Glasgow, UK, July 27-30, 2009.

Van den Wymelenberg K and Inanici M. "A Study of Luminance Distribution Patterns and Occupant Preferences in Daylit Offices," *Proceedings of the Passive and Low Energy Architecture (PLEA) 2009 Conference,* Quebec City, Canada, June 22-24, 2009. *(Finalist for Best Paper Award in PLEA 2009.)*

Tai NC and Inanici M. "Depth perception as a function of Lighting, Time, and Spatiality," Short paper, *Illuminating Engineering Society (IES) 2009 Conference*, Seattle, WA, Nov. 15-17, 2009.

Tai NC and Inanici M. "Depth Perception in Real and Pictorial Spaces: A Computational Framework to Represent and Simulate the Built Environment," *Proceedings of the Association of Computer Aided Design and Research in Asia (CAADRIA) 2009 Conference*, Yunlin, Taiwan, April 22-25, 2009.

Greivulis Z and Inanici M. "Composing with Light: An Inside-out Evaluation of the Role of Intuition and Simulation throughout the Design Process," *Proceedings of the Passive and Low Energy Architecture (PLEA) 2008 Conference,* Dublin, Ireland, October 22-24, 2008.

Cheney K and Inanici M. "Image Based Rendering: Using High Dynamic Range Photographs to Light Architectural Scenes," *[Architecture] in the age of [Digital] Reproduction*, 2008 ACSA West Central Fall Conference, University of Illinois Champaign-Urbana, October 23-26, 2008.

Inanici M. "Computational Approach for Determining the Directionality of Light: Directional to Diffuse Ratio," *Proceedings of the International Building Performance and Simulation Association (IBPSA) 2007 Conference*, Beijing, China, September 3-7, 2007.

Inanici M. "Per-pixel Lighting Data Acquisition and Analysis with High Dynamic Range Photography," *Proceedings of the International Commission on Illumination (CIE) 2005 Mid-Conference*, Leon, Spain, May 18 - 20, 2005.

Inanici M. "Utilization of Image Technology in Virtual Lighting Laboratory," *Proceedings of the International Commission on Illumination (CIE) 2003 Conference*, San Diego, June 26 - 28, 2003.

Inanici M. "Transformation of High Dynamic Range Images into Virtual Lighting Laboratories," *Proceedings of the International Building Performance and Simulation Association (IBPSA) 2003 Conference*, Eindhoven, Netherlands, August 10 - 14, 2003.

Inanici M. "Application of the state-of-the-art Computer Simulation and Visualization in Architectural Lighting Research," *Proceedings of the 7th International Building Performance and Simulation Association (IBPSA) 2001 Conference,* Rio de Janerio, Brazil, August 13-15, 2001.

Ozdamar M, Inanici M and Yener C. "Daylighting in Atria," *Proceedings of the 2nd National Illumination Congress*, Istanbul, Turkey, November 26-27, 1998 (in Turkish).

Demirbilek N, Sahmali E, and Inanici M. "A Passively Climatized Building, 2500 m Above Sea Level," *Proceedings of Solar'97 - Australian and New Zealand Solar Energy Society*, Canberra, Australia, paper 56, Dec. 1-3, 1997.

Peer Reviewed and Published Technical Reports

Inanici M. *Per-pixel Lighting Data Analysis*. Lawrence Berkeley National Laboratory, LBNL Report # 58659, 2005. Available from: eScholarship Repository, University of California, http://repositories.cdlib.org/lbnl/LBNL-58659 and U.S. Department of Energy, Office of Scientific and Technical Information, http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=891345.

Lee ES, Selkowitz S, Clear R, Inanici M, Inkarojrit V, Lai J, Hughes G, Ward G, Mardaljevic M. *Daylighting the New York Times Headquarters Building: Final Report.* Lawrence Berkeley National Laboratory, Berkeley, CA. LBNL Report# 57602, 2005. Available from: http://windows.lbl.gov/comm_perf/pdf/Daylighting-NYTimes-final.pdf.

Inanici M and Galvin J. *Evaluation of High Dynamic Range Photography as a Luminance Mapping Technique*. Lawrence Berkeley National Laboratory, LBNL Report # 57545, 2004. Available from: eScholarship Repository, University of California, http://repositories.cdlib.org/lbnl/LBNL-57545, and U.S. Department of Energy, Office of Scientific and Technical Information, http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=841925&query_id=0.

Dissertation/ Thesis

Inanici, M. "Transformations in Architectural Lighting Analysis: Virtual Lighting Laboratory", Dissertation, University of Michigan. Available from: ProQuest Information and Learning, AAT 3121949, 2004.

Inanici, M. "Thermal Performance Optimization of Passive Solar Building Components in Five Different Climatic Regions", M.Sc. Thesis, METU, 1996.

Courses:

University of Washington

Arch. 533 Advanced Environmental Systems (aka Simulation based Design):

Focuses on simulation tools and techniques to evaluate the performance of a design or design alternatives, starting at earliest conceptual design phases to help architects to make informed design decisions.

Arch. 582 Computational Lighting Design:

Provides an understanding of the theoretical aspects and the practical knowledge of computational tools and techniques that enhance the integration of the lighting analysis into the architectural design process.

Arch. 588 Research Practice:

Provides the opportunity for a guided preliminary exploration and refinement of a research topic through weekly seminar meetings.

Arch. 581 Advanced Rendering:

Provides the ability to understand and use rendering algorithms to compute the complex physical processes to generate digital images that can mimic the physical world and predict the final appearance of a design.

Arch. 380 Introduction to Computers:

Introductory course to Design Computing. Weekly lectures and laboratory sessions focus on theoretical aspects and practical applications of image processing, drafting, modeling, and rendering.

METU, Ankara, Turkey (Teaching Assistant) (1995-1998)

Arch. 503 Building Science Workshop

Arch. 487 Solar Control and Utilization in Architecture

Arch. 462 Computer Aided Drafting and Design

Arch. 461 Computer Literacy in Architecture

Arch. 282 Design of Energy Efficient Buildings

Arch. 281 Introduction to Environmental Factors

Arch. 190 Introduction to Computer Applications

Thesis Committees:

Ph.D. in the Built Environment:

Kevin van den Wymelenberg, "Accommodating Visual Preference While Optimizing Energy Savings in Workspaces with Daylight and View", 2006 – present, (Chair).

Nan-Ching Tai, "Depth Perception and its Dependency on Scene based Lighting Patterns: Perceptual Study of Built Environment through Lighting Simulation and High Dynamic Range Imagery", 2010, (Chair).

Master of Science in Architecture:

Viswanathan Kumaragurubaran, "High Dynamic Range Image Processing Toolkit for Lighting Simulations and Analysis", 2010 – present (Chair).

Randolph Fritz, "Interactive Modeling of Luminaires for Lighting Simulations and Architectural Visualizations", 2010, (Chair).

Chih-Pin Hsiao, “Vision based Tangible User Interfaces for Architecture”, 2009, (Committee member).
Kathleen Cheney “Image based Rendering as an Architectural Visualization and Analysis Technique”, 2008, (Chair).

Daniel Belcher “Augmented Reality, Architecture, and Ubiquity: Technologies, Theories, and Frontiers”, 2008, (Committee member).

Dipti Shah “Sense, Response, Adapt: An Architecture to Mitigate Natural Disasters”, 2007, (Co-Chair).

Hoda Homayouni “A Genetic Algorithm Approach to Space Layout Planning Optimization”, 2007, (Committee member).

Chen Lien Yen, “Dual View Information Navigation”, 2007, (Committee member).

Nicholas Gayeski, ”New Methods for Measuring Spectral, Bi-directional Transmission and Reflection using Digital Cameras”, Massachusetts Institute of Technology, 2007, (Thesis Reader).

Master of Architecture:

Steve Duncan, “The Architecture of Light: An Evidence based Design Approach to Treating Winter Depression in Seattle”, 2011, (Chair).

Chih-Yin Chou, “Sustainable Design for Panda Exhibition and Research Center”, 2009, (Committee member).

Scott Crawford, "Architecture of Relationships: Built on the use of Generative Approaches and Evaluative Analysis in Design", 2008, (Committee member).

Zigurds Grevulis, “Composing with Light: Simulation based Design of Library at Seattle Center”, 2007, (Chair).

Consultancy:

New York Times Headquarters, NYC, Visual Comfort Studies.
Lawrence Berkeley National Laboratory, Windows and Daylighting Research Group, 2004.

Low Glare Outdoor Luminaire - California Energy Commission’s Public Interest Energy Research (PIER) Buildings Program. Lawrence Berkeley National Laboratory, Lighting Research Group, 2004.

New Lighting Solutions for High-Bay Spaces – Federal Energy Management Program (FEMP). Lawrence Berkeley National Laboratory, Lighting Research Group, 2004.

Thermal Performance Analysis of Saklikent National Observatory Guesthouse. METU Research Coordination and Industrial Liaison Office, Ankara, Turkey, 1994.

Energy Conscious Dwelling Design for Ankara. METU Research Coordination and Industrial Liaison Office, Ankara, Turkey, 1993 – 1994.

Presentations (selected):

"Building Performance Simulation as a Design Tool," LMN Architects, Seattle, WA, April 6, 2011.

"Validation and Applications of Image based Sky Models in Architectural Lighting Simulation", *Pecha Kucha at NSF Workshop: Engineering Design meets Architecture*, Philadelphia, PA, Nov. 4, 2010.

Workshop on High Dynamic Range Imagery and Glare Analysis, Harvard University, Graduate School of Design (This workshop preceded the 8th International Radiance Workshop), Cambridge, MA, October 21, 2009.

"Recording Light: High Dynamic Range Imagery", 3 hour workshop, *Lightfair International*, *Lightfair Institute*, Las Vegas, NV, May 26, 2008.

"High Dynamic Range Imaging", 3hour workshop, *Lightfair International*, *Lightfair Institute*, New York, NY, May 6, 2007.

"Informed Design Decision Making through Building Performance Simulation", *Olson Sundberg Kunding Allen Architects Eco Group*, Seattle, WA, May 5, 2006.

"Luminance Measurements with High Dynamic Range Photography". *Joint Daylighting / Lighting Seminar on Research and Practice*, Pacific Energy Center, San Francisco, CA, April 21, 2005.

"Lighting Measurement and Simulation, and Analysis Toolbox". *Building Technologies Program*, Department of Energy, Washington D.C., January 2005.

"Lighting Retrofits: Field Study at Marine Corps Base Camp Pendleton", *Application Team Summit Meeting*, LBNL, Berkeley, CA, May 17, 2004.

"Post Processing of Radiance Images: Virtual Lighting Laboratory". *1st International Radiance Workshop: Scientific Applications Using Radiance*, University of Applied Sciences of Western Switzerland, Fribourg, Switzerland, September 30 – October 1, 2002.

Professional Membership and registrations:

2005 – ACADIA - Association of Computer Aided Design in Architecture

2002 – IBPSA - International Building Performance Simulation Association

1998 – IESNA - Illuminating Engineering Society of North America

1993 – Registered Architect, Chamber of Architects, Ankara, Turkey