Computational Environmental Physics

Education

- 1997 2000 **PhD**, *Civil and Environmental Engineering*, University of California at Los Angeles, Los Angeles, CA, USA.
 - Title Dynamics of Particle Aggregation at Engineered and Natural Interfaces
- Co-advisers Prof. Keith D. Stolzenbach and Prof. Menachem Elimelech (currently at Yale)
- 1996 1997 **MS**, *Civil and Environmental Engineering*, University of California at Los Angeles, Los Angeles, CA.USA.

Emphasis in Environmental Engineering

1992 - 1994 MS, Physics, Yonsei University, Korea.

Theoretical Condensed Matter and Statistical Physics

Title Monte Carlo Study of Magnetic Property in Polyacetylene

1992 – 1994 **BS**, *Physics*, Kyung Hee University, Korea. Graduated with honor

Academic Experience

- o Department of Civil and Environmental Engineering, University of Hawaii at Manoa
 - Associate Professor
 Assistant Professor
 August 2006 Present
 August 2001 July 2006
- o Water Resources Research Center, University of Hawaii at Manoa
 - Research Associate August 2012 Present
- o Civil and Environmental Engineering, the University of California, Los Angeles
 - Instructor Winter Quarter, January 2001 April 2001
- o Institute of the Environment, the University of California, Los Angeles
- Postdoctoral Researcher April 2000 June 2001
- o Civil and Environmental Engineering, the University of California, Los Angeles
 - Graduate Research Assistant

 July 1998 March 2000
 - University of California Regent Scholar July 1997 June 1998
- o Natural Science Research Institute, Yonsei University, South Korea
 - Researcher March 1994 July 1995

Research Interests

- o Membrane-based renewable desalination and energy production
- o Dissipative hydrodynamics (DHD) for swimmers, confined colloids, and aggregates
- o Computational fluid dynamics (CFD) using high performance parallel computing

Awards

- University of Hawaii Regents' Medal for Excellence in Teaching (2017)
- o 10 Years of Service Award, Department of Civil and Environmental Engineering, UH Manoa (2011)
- o Researcher of the Month from High Performance Computing at University of Hawaii (March 2007)
- o University of Hawaii Regents' Medal for Excellence in Research (2006)
- National Science Foundation Faculty Early Career (CAREER) Award (2005–2010)
- Certificate of Merit Award for Oral Presentation at the 228th American Chemical Society National Meeting (2004)
- Outstanding Service Award, North American Membrane Society Annual Meeting (2004)
- Dissertation Year Fellowship from the Department of Civil and Environmental Engineering, University of California at Los Angeles (1999–2000)
- o Graduate Student Fellowship from the Department of Civil and Environmental Engineering, University of California at Los Angeles (1998–2000)
- o University of California Regent Scholarship (1997–1998)
- o Graduated Kyung Hee University, Korea, B.S. with Honors (1991)

Honors and Recognitions

- o Invited professor, Korea Research Insititute of Ships and Ocean Engineering, Fall, 2014.
- o University of Hawaii at Manoa Faculty Senate, Fall, 2012 Spring, 2014.
- o UH Mano Faculty Senate Member of Committee of Graduate Research and Education, 2012 2014.
- o 2000 Outstanding Intellectuals of the 21st Century, International Biographical Center, UK, 2010 Present
- o International Scholar, Dept. of Chemical Engineering, Kyung Hee University, Korea, 2009 2011.
- Nature Review Panelist (2008 2011)
- Visiting Professor, Rice University (2008)
- o Editorial Board for Journal of Membrane and Separation Technology, 2016 present.
- o Editorial Board for Computer Applications in Engineering Education.
- o Editorial Board for Journal of Environmental Engineering and Ecological Science
- o Editorial Advisory Board for Recent Patents on Chemical Engineering
- o Editorial Board for ASCE Journal of Energy Engineering (2007-2011)
- Listed in Strathmore's WHO'S WHO (2002–Present)

Student Awards

o Frances Davis Award for Excellence in Undergraduate Teaching for a Graduate Assistant (2013), Mr. Lelemia Joshua Irvine, Teaching Assistant of CEE 271 (2011 Spring and 2012 Spring)

Professional Society Memberships

- o Association of Environmental Engineering and Science Professors (AEESP)
- American Chemical Society (ACS)
- American Geographic Union (AGU)
- American Institute of Chemical Engineers (AIChE)
- American Physical Society (APS)
- American Society of Civil Engineers (ASCE)
- International Association of Colloid and Interface Scientists (IACIS)
- North American Membrane Society (NAMS)

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