

Eva K. Lee, PhD

Operations Research in Medicine and Healthcare

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4:10-6PM

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Eva K Lee is a professor in the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Institute of Technology, and Director of the Center for Operations Research in Medicine and HealthCare. She is also a Senior Research Professor at the Atlanta VA Medical Center. Dr. Lee earned a Ph.D. at Rice University in the Department of Computational and Applied Mathematics, and received her undergraduate degree in Mathematics from Hong Kong Baptist University, where she graduated with Highest Distinction. Dr. Lee was awarded a NSF/NATO postdoctoral fellowship on Scientific Computing, and a postdoctoral fellowship from Konrad-Zuse-Zentrum Informationstechnik Berlin in 1995 for Parallel Computation. In 1996, she received the NSF Presidential Young Investigator Award for research on integer programming and parallel algorithms and their applications to medical diagnosis and cancer treatment. She was the first OR/IE recipient for the prestigious Whitaker Foundation Biomedical Grant for Young Investigators, awarded for her work on a novel approach for combining biological imaging and optimal treatment design for prostate cancer. In 2004, she was selected as one of the Extraordinary Women Engineers. In 2005, she received the INFORMS Pier-skalla award for research excellence in HealthCare and Management Science for her work on emergency response and planning, large-scale prophylaxis dispensing, and resource allocation for bioterrorism and infectious disease outbreaks. In 2006, she was chosen by the American Mathematical Society as the representative mathematician to speak and discuss individually with congressional leaders about her research advances in the medical and healthcare domain, and about the importance of mathematics in scientific advances. Together, Lee and Dr. Marco Zaider from Memorial Sloan-Kettering Cancer Center were named winners of the 2007 Franz Edelman award for their work on using operations research to advance cancer therapeutics.

Dr. Lee works in the area of mathematical programming and large-scale computational algorithms with a primary emphasis on medical/healthcare decision analysis and logistics operations management. She tackles challenging problems in health systems and biomedicine through systems modeling, algorithm and software design, and decision theory analysis. Specific research areas include health risk prediction, early disease prediction and diagnosis, optimal treatment strategies and drug delivery, healthcare outcome analysis and treatment prediction, public health and medical preparedness, large-scale healthcare/medical decision analysis and quality improvement.

Dr. Lee's research in logistics focuses on large-scale optimization and algorithmic advances for optimal operations planning and resource allocation. She has developed decision support systems for inventory control; large-scale truck dispatching, scheduling, and transportation logistics; telecommunications; portfolio investment; and emergency treatment response and facility layout and planning.

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