

Sangtae Kim (Purdue University) – Biographical Sketch

Sangtae “Sang” Kim is the inaugural director of the Division of Shared Cyberinfrastructure, a new division in the National Science Foundation’s Computer and Information Science and Engineering Directorate. He assumed this position on Feb. 17, 2004 by taking a leave of absence from Purdue University, where he is the Donald W. Feddersen Distinguished Professor of Mechanical Engineering and Distinguished Professor of Chemical Engineering.

Until October 2003, Sang served as vice president and information officer of Lilly Research Laboratories, a division of Eli Lilly and Company, where over a three-year period he provided both vision and leadership in the data-intensive, post-genomic IT environment of the research-based pharmaceutical industry. At Lilly, he was particularly instrumental in guiding the transition to the new information architecture paradigm in the face of resource-constraints in the “post-Prozac” era following the loss of market exclusivity of the company’s flagship product.

From 1997 to 2000, Sang served as vice president for R&D IT at the Parke-Davis Pharmaceutical Research division of Warner-Lambert Company during an era of unprecedented growth in the company’s revenues and R&D funds. During year 2000, in what was then the largest merger in the history of the corporate world, he served on various Pfizer-Warner Lambert merger and integration teams and helped design the new IT organization for Pfizer Global R&D.

From 1983 to 1997, Sang was a faculty member in the Department of Chemical Engineering at the University of Wisconsin-Madison, where he earned tenure in four years, the rank of full professor in year seven and a distinguished professorship chair in year eight for his work in mathematical and computational methods for microhydrodynamics (now more commonly known as microfluidics). His computational insights into “hydrodynamic steering” played an influential role in 1994-95 in the development of fluidic self assembly, the novel process employed today for manufacturing of ultra low-cost radio frequency identification (RFID) tags. While at UW-Madison and in recognition of his teaching and research accomplishments in high performance computing, Sang was extended a courtesy faculty appointment in the Department of Computer Sciences.

Sang is a member of the National Academy of Engineering and a fellow of the American Institute of Medical and Biological Engineers. His research citations include the 1993 Allan P. Colburn Award of the American Institute of Chemical Engineers, the 1992 Award for Initiatives in Research from the National Academy of Sciences and a Presidential Young Investigator award from NSF in 1985. He has an active record of service on science and technology advisory boards of government agencies, the National Research Council and companies in IT-intensive industries.

Despite his significant administrative role in public service, his research activities at Purdue University continue, currently focusing on two programs at the intersection of applied mathematics, biological sciences, and informatics as supported by the Donald W. Feddersen endowment. One program exploits biomimetic, fluidic self assembly to contribute to the roadmap for the “one-cent” RFID tag. The second program aggregates his diverse experiences in research, IT management and public service, to create new information architectures for advanced manufacturing supply chains.

A native of Seoul, but a product of the “K-11” public schools of Montreal, Sang received concurrent BSc and MSc degrees (1979) from Caltech and a PhD (1983) from Princeton.