

The Entrepreneurial Landscape for Developers of Robotics

KEYNOTE SPEAKER

Thomas Paige

Project Engineer

Robotics Special Project

The Aerospace Corporation

Tom Paige has been tasked by The Aerospace Corporation to investigate alternative urban transit systems, which includes looking at the possibilities for using large scale automation to clear gridlock and move people, particularly commuters, rapidly and efficiently. His technical background includes spacecraft structural mechanics, opto-mechanics, composite materials applications and mechanical systems engineering. Prior to his current position with Aerospace Corporation, he worked with Hughes, Measurement Analysis Corporation (a SETA firm), GenTech Development Corporation whose primary focus was on the development of large-scale precision RF metrology systems and spacecraft mechanisms, and some time as Engineering Manager at a local composite structures developer/manufacturer now owned by ATK, as well as owning and operating his own design engineering firm. Currently Mr. Paige is named on two patents for thermally-stabilized RF metrology systems. He holds a B.S. from Rensselaer Polytechnic Institute and an MS in Mechanical Engineering from the University of Southern California.

PANELISTS

Moji Ghodoussi, Ph.D.

Chief Technology Officer

Interface Surgical Technologies, LLC

Dr. Ghodoussi is founder and Chief Technology Officer of Interface Surgical Technologies, LLC. He has held senior positions with Computer Motion, the company that created many of the medical robotic, networking, and voice control technologies that are still unparalleled and in use today. At Computer Motion, Inc. he was Director of Technology Development and Tele-medicine, as well as next generation platform development. From 2000-2004, as head of the Tele-medicine and Tele-surgery group, he led the developments of the Zeus® Tele-surgery system (see patents at: <http://www.intersurgtech.com/patents.html> . For the first time in history using this technology, surgeon and patient were not in the same room, city, country or even continent. On a history-making day surgeons in New York successfully operated on a female patient in an operating room in Strasbourg, France her hometown—4000 miles away! This operation was named the medical breakthrough of the year.

From October 2001 until January 2004 Dr. Ghodoussi was the Principal Investigator and project lead for a \$2 million NIST/ATP award titled "A New Concept for Minimally Invasive Surgical Training Using Robotics and Tele-Collaboration." This concept revolutionized advanced training for surgeons adopting surgical robotics such as the Zeus system.

Prior to Computer Motion, Dr. Ghodoussi was with Astro Aerospace, a division of Northrop Grumman. At Astro he was in charge of dynamics analysis and motion control of the "Mobile Transporter" as part of the international space station development. Mobile Transporter was launched into space in 2002.

PANELISTS (continued)

Wei-Min Shen, Ph.D.

Director

Polymorphic Robotics Laboratory
Information Sciences Institute

Professor Wei-Min Shen is the Director of ISI's Polymorphic Robotics Laboratory, the Associate Director of the Center for Robotics and Embedded Systems, and a Research Associate Professor in Computer Science at the University of Southern California. He received his Ph.D. under Nobel Laureate Professor Herbert A. Simon from Carnegie Mellon University in 1989. Dr. Shen has more than 20 years of research experience. His current research interests include self-reconfigurable and metamorphic systems, autonomous robots, Machine Learning, Artificial Intelligence, and Life Science. He has over 100 publications in these areas.

He is the recipient of a Silver Medal Award in the 1996 AAI Robotics Competition, a World Championship Award in the 1997 Middle-sized RoboCup Competition, a Meritorious Service Award at ISI in 1997, and a Phi Kappa Phi Faculty Recognition Award at USC in 2003. He is the author of "*Autonomous Learning from the Environment*" (W.H. Freeman), a 360-page book on how machines learn from their environment based on "surprises." He is the PI for the SuperBot project for developing a modular, multifunctional and self-reconfigurable robotic system for space application, a co-inventor of CONRO, and the inventor of hormone-inspired distributed and decentralized control for self-reconfigurable systems (US Patent #006636781).

He has served as chairs and committee members for international conferences and workshops in Robotics, Machine Learning, and Data Mining, and as editorial board members for scientific books and research journals. His research activities have been reported by leading scientific journals such as *Science* (9/26/1997 and 8/8/2003) and *Nature* (5/28/2004), and media press such as CNN, PBS, BBC, Fox, Discovery, and other newspapers and magazines in the world. His research has been supported by NSF, AFOSR, DARPA, ARO, NASA, and Eastman Kodak, Motorola, and Chevron.

Sven Strohband

Partner

Mohr-Davidow Ventures

Prior to MDV, Sven spent three years at the Volkswagen Electronics Research Laboratory (ERL) in Palo Alto where he was responsible for discovering new materials and electronics technologies for automotive applications. He was also the Stanford Racing team's lead engineer. The team developed a robot that successfully navigated 132 miles of unknown terrain fully autonomously in the fastest time, winning the 2005 DARPA Grand Challenge.

Sven has authored numerous papers on the simulation of materials systems and authored various patents for novel automotive electronics applications.

Sven received a doctorate and master's degree in mechanical engineering from Stanford University. He also earned a bachelors degree in mechanical engineering from Purdue University.

MODERATOR / CO-PRODUCER

Ira D. Moscatel

Attorney at Law

Arnold & Porter LLP

Ira D. Moskatel practices law at Arnold & Porter LLP in Los Angeles, where he focuses on the representation of businesses that depend on intellectual property or technology, with emphasis in licensing, mergers and acquisitions, joint ventures and strategic alliances. Ira was a founder of Teradata Corporation, a manufacturer of massive parallel database computers (acquired by AT&T several years after a major public offering), and served as a member of the Board of Directors of Peter Norton Computing, Inc. before its acquisition by Symantec. He is a past chair of the Caltech/MIT Enterprise forum, and has served as Chair of the Law and Technology Section of the Los Angeles County Bar Association. He has lectured and written extensively for major publications on legal aspects of technology, electronic commerce and data security. Ira received a Bachelor of Science in Engineering and Applied Science from the California Institute of Technology, and a J.D. from the University of Southern California Law Center, where he was elected to Order of the Coif and the Board of Editors of the *Southern California Law Review*.

CO-PRODUCER

Rogelio Nochebuena

President

Nochebuena R&D

Nochebuena R&D is a consulting organization based in Pasadena that assists small companies as well as large enterprises to solve problems in a cost-effective way in the fields of lasers and nanotechnology. Mr. Nochebuena has more than 20 years of experience in high technology. He has worked in Fortune 100 companies as well as start-ups. Some of the companies that he has worked for include Agilent Technologies, Xerox Corp., and Carl Zeiss where he served in senior technical and marketing positions. His consulting practice includes clients such as Lawrence Livermore National Labs, Intelligent Optical Systems as well as tier one universities.

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