Invited Panel – An Industry Perspective on CSET Graduates in the Era of Globalization

Ray Almgren ¹, Tom Kegley ², Anthony Maher ³, Bill Olson ⁴, David H. Quick ⁵, and John Spencer ⁶

Abstract - A panel of industry executives examines the challenges for Computer Science, Engineering and Technology (CSET) graduates in the era of globalization. The rapidly emerging global economy is profoundly affecting the employment patterns and the professional life of CSET graduates. CSET education faces significant challenges to prepare graduates for the working environment of the future. Articles in recent issues of the ASEE Prism and other CSET education literature suggest that current educational practices and policies are not sufficient for dealing with these changes. Successfully addressing these issues will require innovative solutions, including use of new pedagogies and technologies that improve student learning; partnerships among universities, industry, government, and K-12 educators; curriculum reform; and distance learning.

This panel brings together leaders from industry to describe the attributes of graduates and the needs they must meet in order to remain competitive. In particular, they elaborate on the skill sets that they seek in their CSET graduates in order to retain their competitive position in the era of globalization.

BIOGRAPHIES

RAY ALMGREN, VICE PRESIDENT OF PRODUCT MARKETING AND ACADEMIC RELATIONS

Ray Almgren, vice president of product marketing and academic relations, leads the technical marketing operations for National Instruments (NI) along with the company’s worldwide academic relations program. During his 18 years at NI, Almgren has held positions in marketing, R&D, and applications engnr.. His most recent roles include vice president of product strategy, director of R&D for the measurements product group, and director of software marketing.

As director of software marketing, Almgren helped guide the LabVIEW product family to its industry-leading position in measurement and automation. In 1994, he also helped establish NIWeek, the company’s worldwide conference on virtual instrumentation.

Almgren is currently Chair of the Texas Workforce Development Advisory Committee, and a member of the Government-University-Industry Research Roundtable sponsored by the National Academies. He serves on the School of Engineering Executive Board at Southern Methodist University, the Dean’s Engineering Advisory Council at the University of Missouri-Columbia, the Advisory Committee for Tufts University Center for Engineering Educational Outreach, the National EPICS Program Advisory Council at Purdue University, and the External Advisory Committee for the Electrical and Computing Engineering Department at UT Austin. In addition, he is a member of the IEEE Instrumentation and Measurement Society, the American Society for Engineering Education, and the Corporate and Foundation Alliance. Almgren serves as vice president and sits on the board of directors for the National Instruments Foundation, a private foundation focused on science and engineering education and research.

Ray graduated from The University of Texas at Austin in 1987 with a bachelor’s degree in electrical engineering. He and his wife Lisa reside in Austin, Texas, with their three daughters, Sarah, Melissa, and Rebecca.

Tom Kegley, Vice President of Information Technology, Roche Diagnostics

Tom Kegley is the Vice President of Information Technology at Roche Diagnostics North America and has more than 35 years of experience in the IT industry. He is currently responsible for identifying all systems and infrastructure, which can be further integrated and supported on a worldwide basis as well as integrating and improving Information Technology success for Roche Diagnostics North America. Tom is a member of various internal and external associations, such as the Roche Diagnostics Informatics Operating Committee, and the Roche Diagnostics North American Operating Committee. He is an executive Director of the Pharmaceutical Information Systems Association, an active member of the Community Hospitals of Indiana IT Advisory Committee, serves as President for the Society of Information Management, and is a member of the Indianapolis CIO Roundtable and the IU Health Informatics Advisory Board.
Anthony A. Maher, Chairman, President & CEO PCS
Edventures

Anthony A. Maher was recruited to PCS at its inception as Chairman of the Board, President and Chief Executive Officer and structured the purchase of PCS Schools. Since then, Mr. Maher has overseen the development of the curriculum from four core areas to over 100; the development of its distance developer database; and the creation of its web based publishing expertise which has led to the current double byte and triple byte platform and web delivery capabilities. He also led PCS into two critical acquisitions of companies that possessed technology needed by PCS to continue its transition from a site based deliverer of educational curriculum to its present focus of developing and deploying learning labs supported by distance learning content and assessment as well as electronic and multi-media content development and delivery.

In 1982, prior to being asked to join PCS, Mr. Maher was Founder, Chairman of the Board and CEO of National Manufacturing Company, Inc. and its subsidiary, National Medical Industries, Inc.. In 1979, Mr. Maher was Executive Vice President for Littletree Inns, a hotel company based in Boise, Idaho with properties throughout the Northwest. In 1976, Mr. Maher joined Fred P. Thompson, Jr. a Boise based entrepreneur who owned several small operating companies and he assisted in the acquisition of companies in addition to the operations of existing companies. In 1974, Mr. Maher was Senior Vice President at Alta Lipids, Ltd. and in 1973 he worked at Ralston Purina, where he was responsible for Market Development in the Western Region. From 1970 to 1972, he taught high school economics, world government and history. Mr. Maher graduated from Boise State University in 1970 with a Bachelor of Arts degree in Political Science.

Bill Olson Ph.D., Six Sigma Master Black Belt; Fellow of the Technical Staff, Director International and Environmental Research and Development, Motorola Labs

Bill Olson is a Fellow of the Technical Staff and Director of the International and Environmental Technology Group, Motorola Labs. Bill has management responsibility for Motorola research labs in Asia and Europe located in Tianjin, China and Taunusstein, Germany respectively. Bill is a Motorola Six Sigma Master Black Belt and has combined his digital six sigma teaching and technical skills with new technology implementation to reduce cost and improve the quality, reliability and environmental attributes of Motorola products. Bill graduated from the University of Wisconsin-Madison with a Ph.D. in Inorganic Chemistry. Bill has 17 US patents and over 30 technical publications.

Dr. David H. Quick, Manager of R&D Customer Requirements, Rolls-Royce Corporation

Dr. David H. Quick holds B.S., M.S., and Ph.D. engineering degrees from Purdue University. As the Manager of R&D Customer Requirements for LibertyWorks™ within Rolls-Royce Corporation, Dr. Quick pursues new research and technology contracts for both Rolls-Royce Corporation and LibertyWorks™ by interfacing with both Government and industry customers to identify emerging R&D business opportunities. He also manages the company R&D proposal process.

In addition, Dr. Quick has key responsibility for Rolls-Royce research-related efforts with universities within the U.S. and he serves as the company interface with several professional engineering societies.

He has served in numerous leadership positions within AIAA, ASME, and ASEE. Dr. Quick is a past member on the Board of Directors for the American Society of Engineering Education (ASEE) and he is the company representative as well as a Past Chair of the ASEE Corporate Member Council (CMC). He serves as the current Chair of the ASEE College Industry Partnerships (CIP) Division and also serves on the Executive Board of Directors for the ASEE Corporate Member Council (CMC).

He also coordinates university and professional society related liaison activities on behalf of the company. Dr. Quick also serves as the current Vice Chair of the Rolls-Royce Corporation Engineering Education Committee and he is Chairman of the Engineering and Patent Awards Committee.

John Spencer, Program Manager, Academic and External Research & Programs, Microsoft Research

Received a Bachelor Science in Business Administration, University of Central Florida and an MBA in International Business from the American Graduate School of International Management (Thunderbird), Glendale Arizona.

He joined Microsoft after 12 years in the aerospace industry. Past positions at Microsoft focused toward working with Fortune 500 and strategic other corporations in their implementation of Microsoft's 'BackOffice' technologies. Primary responsibilities included managing Microsoft's support model as it relates to the successful implementation of products and services. Microsoft Certified Professional and System Engineer.

He as part of the original start-up team for Microsoft Research's University Relations and for past 5 years has held a position as a University Manager, University Relations. Responsible for university undergraduate relations and graduate research programs in 8 major US universities and 8 Latin American and Caribbean universities with a primary focus on Computer Science and Computer Engineering.

Currently, he sits on the Engineering and Computer Science advisory boards at several major universities, the National Chairman for Purdue's EPICS program, and on the Board of Governors for ISTEC (Ibero-American Science and Technology Education Consortium).

Session T2B