



## ***NEWS RELEASE***

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**EDA Industry to Recognize Dr. C. L. David Liu with Phil Kaufman Award**  
*Former President of National Tsing Hua University Honored  
for Technical Contributions, Leadership Skills, Business Acumen*

**SAN JOSE, Calif. and NEW YORK — September 13, 2011** — Dr. C. L. David Liu, the

William Mong honorary chair professor of Computer Science and former president of the National Tsing Hua University in Hsinchu, Taiwan, will be presented with this year's Phil Kaufman Award for Distinguished Contributions to Electronic Design Automation (EDA).

He will receive the annual award, sponsored by the EDA Consortium (EDAC) and the IEEE Council on Electronic Design Automation (CEDA), at a dinner ceremony November 8 in San Jose, Calif.

"I attended David Liu's keynote address at ASPDAC in Taiwan in 2010," begins Dr. Walden Rhines, chairman and chief executive officer (CEO) of Mentor Graphics Corp. and EDAC chairman. "He described his recollections of the 19th DAC in 1982, his first CAD conference. According to him, that DAC was the beginning of a 30-year love story on how EDA shaped his life. It's EDA's turn to thank him for the way he's helped shape EDA."

States Andreas Kuehlmann, senior vice president of R&D at Coverity and president of CEDA: “David Liu has done fundamental and seminal work in EDA. His contributions have been incorporated in various tools and have impacted numerous market segments. Many of his students, influenced by his passion for EDA, have made their own impressive marks in our field. David Liu is a respected figure and well deserving of the Phil Kaufman Award.”

“We should not be surprised when one of our community’s leading technical contributors has remarkable leadership and business skills as well,” observes Dr. Rob A Rutenbar, Abel Bliss professor and head the Department of Computer Science at the University of Illinois at Urbana-Champaign, a colleague of Dr. Liu’s for more than 25 years. “But neither should we fail to notice when a colleague like David Liu manifests in such an impressive sphere of activities, visible worldwide.”

Dr. Liu is a distinguished engineer and educator, and an astute business leader. He was a professor at the University of Illinois at Urbana Champaign from 1973-1998. After his return to Taiwan in 1998, he became president of National Tsing Hua University until 2002.

Early in his career, Dr. Liu led the transformation from ad hoc EDA to algorithmic EDA. He was an early advocate for more rigorous design automation, arguing that powerful, formal algorithmic techniques were essential to the effective solution of complex design automation problems. His technical contributions are at the foundation of a multitude of current EDA tools within several disciplines, including behavioral synthesis, logic synthesis and physical design.

His technical impact includes the first floorplanning algorithms and scheduling algorithms for hard real-time tasks. His research on floorplanning received DAC’s Best Paper Award in 1986 and has been widely regarded as seminal. Dr. Liu’s work on Rate Monotonic Scheduling (RMS) is a cornerstone of modern scheduling theory, applicable in the design of real-time operating systems. As of today, his 1973 paper on the subject has over 7,000 citations.

Over the past 12 years, his contribution to Taiwan's semiconductor industry has been broad and significant. He serves as chairman of the board of TrendForce, a market intelligence provider in the DRAM, LED, LCD and Solar Energy technical segments. He is a member of the board of Powerchip Semiconductor Corp., United Microelectronics Corp., MediaTek and Macronix International Co., Ltd. Additionally, he is a member of the board of Anpec Electronics Corporation, Andes Corporation, and Cadence Methodology Service Company.

He has written several Computer Science textbooks, including "Introduction to Combinatorial Mathematics," 1968; "Linear Systems Analysis," with J. W. S. Liu, 1975; "Elements of Discrete Mathematics," 1977, (2nd edition 1985); and "Pascal," with G. G. Belford, 1984.

Dr. Liu received a 1998 Technical Achievement Award from the IEEE Circuits and Systems Society and was presented with the IEEE Real Time Systems Technical Committee in 1999 for his seminal work on real-time scheduling.

As an educator, he has been presented with the 1994 IEEE Education Medal, the 1992 IEEE Computer Society E Taylor L. Booth Education Award, and the 1990 ACM Karl V. Karlstrom Outstanding Educator Award. Currently, he serves on the Board of Yuan Ze University, and Asia University in Taiwan.

Dr. Liu received a Bachelor of Science degree from the National Cheng Kung University in Taiwan. He graduated from Massachusetts Institute of Technology with S.M., Electrical Engineering, and Doctor of Science degrees. He received Honorary Doctoral degrees from the University of Macau in Macau, and the National Chengchi University in Taiwan. He is a member of Academia Sinica and a Fellow of both IEEE and the Association for Computing Machinery (ACM).

For the last six years, he has hosted a weekly radio show on technology, natural science, social science and literature in Taiwan. He has published three essay collections based on the presentations in the show. One of them is a 2011 winner of a book award in the category of popular science

### **Accolades for David Liu**

“David Liu’s genius can be recognized even by a cursory look at the extensive body of work he has produced during his long career,” notes Dr. Ajoy Bose, chairman, president and CEO of Atrenta, Inc. “In its early stages, EDA was ad hoc; the underlying approaches were visual, focusing on a myopic approach to the problem while looking at the immediate neighborhood. Dave brought a new direction by introducing rigorous and formal techniques. Many EDA tools would fail to exist without these techniques, which have become essential building blocks for most of the tools in commercial use today.”

“C.L. Liu is one of the most widely respected research leaders in the field of EDA and served as president of the National Tsing Hua University with distinction,” remarks Paul Huang, chairman and CEO of Fortemedia Inc. “I consider the most impressive demonstration of his ability and contributions is his standing as a well-recognized industry leader in the Taiwan semiconductor industry. He serves on the boards of four major semiconductor companies and is chairman of the board of TrendForce. C.L. Liu has demonstrated astute vision, unprecedented achievement and lasting influence in the field of EDA.”

“I regard David Liu as a leader and a role model,” concurs Giovanni De Micheli, professor and director of Electrical Engineering, EPFL, Lausanne, Switzerland. “He has contributed to EDA in several ways, most notably in physical design of integrated circuits and in scheduling of embedded systems. His impact on the community is measured by the consistent use of mathematical tools for modeling, analyzing and solving IC physical design problems. His work distinguishes itself by the depth of reasoning, and has made EDA a branch of science as opposed to a programming exercise.”

“There are two aspects of Professor Liu’s role in the EDA industry that I would like to highlight,” adds Dr. Chi-Foon Chan, president and chief operating officer at Synopsys, Inc. “The first is Professor Liu’s research contribution to the fundamental insights of several key problems in EDA, an example of which is on floorplanning. Second, I would like to mention his role in the fast growth of EDA research in the Asia Pacific region, especially in Taiwan. David proactively promoted the importance of EDA research to academics, industry and government. Through his influence and inspiration, funding grew for EDA research, professor positions increased and more research grants became available. This is just one example of how David has contributed to the technology, business and academic development of the semiconductor industry. He has earned even greater respect by having accomplished these things while maintaining a warm, sincere, caring and humorous interaction with all who approach him.”

“David Liu is a great visionary and true intellectual leader in EDA,” concludes Jason Cong, chancellor’s professor and the director of the Center for Domain-Specific Computing, University of California, Los Angeles. “His work laid the algorithmic foundations of many areas of EDA. Moreover, he is a great educator and has trained multiple generations of leaders, researchers and entrepreneurs in EDA. I say this with the first-hand experience, as I was a former student of his. I went to the University Illinois at Urbana-Champaign to work with him after reading his book on discrete mathematics when I was at Peking University in China 27 years ago. Dave guided me into EDA and showed me how my interest and passion in combinatorial optimization could be applied to real-life problems that can impact the entire semiconductor industry.”

### **About the Phil Kaufman Award**

The Phil Kaufman Award honors individuals who have made an impact on the field of EDA and pays tribute to Phil Kaufman, the late industry pioneer who turned innovative technologies into

commercial businesses that have benefited electronic designers. Last year's recipient was Pasquale (Pat) O. Pistilli, chairman of MP Associates of Louisville, Colo., who pioneered the EDA industry and built the Design Automation Conference as its premiere showcase and networking platform.

To register to attend the 2011 award dinner honoring Dr. C. L. Dave Liu, go to:

<http://www.edac.org/events11/kaufman/index.jsp>.

### **About the EDA Consortium**

The EDA Consortium is the international association of companies that provide design tools and services that enable engineers to create the world's electronic products used for communications, computer, space technology, medical, automotive, industrial equipment, and consumer electronics markets among others. For more information about the EDA Consortium, visit [www.edac.org](http://www.edac.org).

### **About the IEEE Council on EDA**

The IEEE Council on Electronic Design Automation (CEDA) provides a focal point for EDA activities spread across six IEEE societies (Antennas and Propagation; Circuits and Systems; Computer; Electron Devices; Microwave Theory and Techniques; and Solid State Circuits). It sponsors more than 12 conferences, including the Design Automation Conference (DAC), International Conference in CAD (ICCAD) and Design Automation and Test in Europe (DATE). CEDA publishes IEEE Transactions on CAD and the IEEE Embedded Systems Letters. CEDA is increasingly involved in recognizing its leaders via the A. Richard Newton Award, Early Career Award and Phil Kaufmann Award. CEDA welcomes volunteers and local chapters. For more information, go to: [www.c-eda.org](http://www.c-eda.org).

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