

Dr. Giovanni De Micheli Honored with 2022 Phil Kaufman Award Presented by ESD Alliance and IEEE CEDA

EPFL and former Stanford professor recognized for his significant impact on the electronic system design industry through pioneering technical contributions

MILPITAS, Calif. — September 28, 2022 — Dr. Giovanni De Micheli, Professor and Director of the Institute of Electrical Engineering (IEL) and of the Integrated Systems Centre at the École Polytechnique Fédérale de Lausanne (EPFL) in Lausanne, Switzerland, has been honored with the 2022 Phil Kaufman Award for Distinguished Contributions to Electronic System Design. The award is presented annually by the [Electronic System Design Alliance](#) (ESD Alliance), a SEMI Technology Community, and the [Institute of Electrical and Electronics Engineers \(IEEE\) Council on Electronic Design Automation \(CEDA\)](#).



Dr. De Micheli was recognized for his extensive contributions to electronic design automation (EDA). His EDA tools and methodologies research has helped drive significant advances in the academic field of design automation and made a lasting impact on the industry through their incorporation into commercial EDA solutions. Notably, he developed multiple technologies while inspiring his students, university researchers and engineers in the industry. His work has expanded the fields of high-level synthesis, logic synthesis, and Network-on-Chip (NoC) for more than 30 years.

“Professor De Micheli, or Nanni to many of us who’ve been driving our industry forward for decades, stands as a relentless advocate for our field,” said Aart de Geus, Chairman and CEO of Synopsys. “While many predicted our industry was fully matured, he remained focused and creative, be it with the encoding of finite-state machines combined with logic minimization or solving the cell-library mapping problem with Boolean matching. I am not alone when I express my appreciation to Nanni for advancing the field, but most important, for continuing to add findings that keep our profession fresh and exciting!”

“For the over three decades that I have known Professor De Micheli, he has established himself as a true force in the EDA community,” said Dr. Patrick Groeneveld, past chair of the Design Automation Conference (DAC). “His key technical contributions lie in the areas of logic synthesis, hardware software co-design, NoC design and physical synthesis.”

“Dr. De Micheli has been a stalwart innovator and supporter of EDA with numerous and lasting contributions, and certainly he well deserves this honor,” said Gi-Joon Nam, President of the IEEE Council on EDA.

“On behalf of the ESD Alliance, I congratulate Professor De Micheli on receiving the 2022 Phil Kaufman award,” said Simon Segars, ESD Alliance Chairman. “The industry would not be where it is today without his groundbreaking research, which was often years ahead of its time. His impact on the industry is well-recognized and celebrated with this distinguished award.”

About Dr. Giovanni De Micheli

Dr. Giovanni De Micheli is a research scientist in electronics and computer science credited with inventing the NoC design automation paradigm and creating EDA algorithms and design tools. Before serving as Professor and Director of the Integrated Systems Laboratory at EPFL, he was Professor of Electrical Engineering at Stanford University. He was Director of the IEL at EPFL from 2008 to 2019 and served as program leader of the Swiss Federal Nano-Tera.ch program.

He holds a Nuclear Engineering degree from Politecnico di Milano, and Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California, Berkeley.

Professor De Micheli is a Fellow of the Association for Computing Machinery (ACM), the American Association for the Advancement of Science (AAAS) and IEEE; a member of the Academia Europaea; and an International Honorary member of the American Academy of Arts and Sciences. His current research interests include design technologies for integrated circuits and systems, including synthesis for emerging technologies. He is also interested in heterogeneous platform design for electrical components and biosensors, as well as in-data processing of biomedical information.

He authored the textbook *Synthesis and Optimization of Digital Circuits* and co-authored and/or co-edited 10 other books and more than 900 technical articles. His citation h-index is above 100 according to Google Scholar. He is member of the Scientific Advisory Boards of imec Leuven and STMicroelectronics.

Professor De Micheli received the 2020 IEEE Technical Committee Achievement Award in Cyberphysical Systems, the 2020 IEEE/CEDA Richard Newton Technical Impact Award, the 2019 ACM/SIGDA Pioneering Achievement Award, and the 2016 European Design and Automation Association (EDAA) Lifetime Achievement Award.

He also received the 2016 IEEE Computer Society's Harry Goode Award for seminal contributions to design and design tools of NoCs; the 2012 IEEE Circuits and Systems (CAS) Society's Mac Van Valkenburg Award for contributions to theory, practice and experimentation in design methods and tools; and the 2003 IEEE Emanuel R. Piore Award for contributions to computer-aided synthesis of digital systems.

He received the Golden Jubilee Medal for outstanding contributions to the IEEE CAS Society, the D. Pederson Award for best paper on IEEE Transactions on Computer Aided Design (CAD)/Integrated Computer Aided System (ICAS), and best paper awards at events including DAC; Design, Automation and Test in Europe (DATE); Nanoarch; and Mobihealth.

In addition, he served as Division 1 Director of IEEE, co-founder and President Elect of the IEEE Council on EDA, President of the IEEE CAS Society, and Editor-in-Chief of the IEEE Transactions on CAD/ICAS. He has also chaired the following technical conferences: Memocode; DAC; DATE; pHealth; VLSI SoC; and IEEE International Conference on Computer Design (ICCD).

About the Phil Kaufman Award

The Phil Kaufman Award honors individuals who have had a demonstrable impact on the field of electronic system design through technology innovations, education/mentoring, or business or industry leadership. The award was established as a tribute to Phil Kaufman, the late industry pioneer who turned innovative technologies into commercial businesses that have benefited

electronic designers. The 2021 recipient was Dr. Anirudh Devgan, President and CEO of Cadence Design Systems.

About the IEEE Council on Electronic Design Automation (CEDA)

The [IEEE Council on Electronic Design Automation \(CEDA\)](https://www.ieee-ceda.org) provides a focal point for EDA activities spread across seven IEEE societies (Antennas and Propagation, Circuits and Systems, Computer, Electron Devices, Electronics Packaging, Microwave Theory and Techniques, and Solid-State Circuits). The Council sponsors or co-sponsors over a dozen key EDA conferences including: the Design Automation Conference (DAC), Asia and South Pacific Design Automation Conference (ASP-DAC), International Conference on Computer-Aided Design (ICCAD), Design Automation and Test in Europe (DATE), and events at Embedded Systems Week (ESWEEK). The Council also publishes IEEE Transactions on Computer-Aided Design of Integrated Circuits & Systems (TCAD), IEEE Design & Test (D&T), and IEEE Embedded Systems Letters (ESL). The Council boasts a prestigious awards program in order to promote the recognition of leading EDA professionals, which includes the A. Richard Newton, Phil Kaufman, and Ernest S. Kuh Early Career Awards. The Council welcomes new volunteers and local chapters.

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About the Electronic System Design Alliance

The [Electronic System Design \(ESD\) Alliance](http://www.semi.org/en/communities/esda), a [SEMI](http://www.semi.org) Technology Community representing members in the electronic system and semiconductor design ecosystem, is a community that addresses technical, marketing, economic and legislative issues affecting the entire industry. It acts as the central voice to communicate and promote the value of the semiconductor design ecosystem as a vital component of the global electronics industry. Visit www.semi.org/en/communities/esda to learn more.

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