

## Invitation to a talk

**Title:** Algebraic Statistical Static Timing

**Presenter:** Dr. Sani Nassif, Radyalis, Austin, TX, USA



**Time, place:** Friday, November 16, 2018, 17:00, room 4905

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### Abstract:

One of the techniques for understanding the impact of process variability on digital circuit robustness and performance is statistical static timing analysis. Early in its development, SSTA was expressed in terms of paths through the circuit, but later research has been focused on block-based analysis. This talk revisits this topic framed in reference to analysis accuracy and overall performance. We show that a path-based approach lends itself well to more accurate models as well as a high-performance implementation based on high performance BLAS libraries.

### Bio:

Dr. Nassif received his Bachelors degree with Honors from the American University of Beirut in 1980, and his Masters and PhD degrees from Carnegie-Mellon University in 1981 and 1986 respectively. He then worked for ten years at Bell Laboratories in the general area of technology CAD. While at Bell Labs, he led a large team in the development of an in-house circuit simulator, named Celerity, which became the main circuit simulation tool at Bell Labs.

In January 1996, he joined the IBM Austin Research Laboratory (ARL). He led a department that worked on physical design, simulation, formal verification, technology modeling, technology characterization, lithography, and statistical design. After twelve years of management, he stepped down to focus on technical work again with an emphasis on applying techniques developed in the VLSI-EDA area to IBM's Smarter Planet initiative.

In January 2014 Sani founded Radyalis, a company focused on applying VLSI-EDA techniques to the field of Cancer Radiation Therapy. The company has produced the fastest dose simulator for Proton and Photon radiation therapy.

Sani has authored one book, many book chapters, and numerous conference and journal publications. He is an IEEE Fellow, was a member of the IBM Academy of Technology, a member of the ACM and the AAAS, and an IBM master inventor with more than 75 patents. He was the president of the IEEE Council on EDA (CEDA) for 2014 and 2015, was the General chair of the ICCAD conference in 2008, and has served on the technical program committees of ICCAD, DAC and many other conferences. He received the Penrose award (given to one outstanding graduate from the American University of Beirut), the Distinguished Member of Technical Staff award from Bell Labs, three Research Accomplishment Awards from IBM, and the SRC Mahboob-Khan Outstanding Mentor awards from the SRC.