

# e-Manufacturing & Design Collaboration Symposium 2018

## Invited Speech: **Beyond Traditional APC**



### Dr. Samer Banna

Senior Director of Engineering  
Principal Member of Technical Staff  
Applied Materials Inc.

#### **About the Speaker**

Dr. Samer Banna is a Senior Director of Engineering and a Principal Member of Technical Staff for the Imaging and Process Control Group at Applied Materials, Inc. He is the head of R&D for the Process Optimization and Control Team.

He leads a diverse team of engineers, scientists, physicists, algorithm developers, machine-learning and software professionals with a focus on building state-of-the-art process models and advanced control concepts.

An accomplished engineering and technology leader with more than 10 years of industry experience, Dr. Banna has a proven track record of developing breakthrough products and initiatives and scaling robust designs for mass production – resulting in billions of dollars in revenue for the company.

Dr. Banna brings more than a decade of academic and research experience to Applied Materials. Prior to joining the company, he was an academic researcher at Stony Brook University and Brookhaven National Laboratory, where he performed groundbreaking research on PASER (particle acceleration by stimulated emission of radiation) that showed for the first time that energy can be transferred directly from excited atoms/molecules to free electrons coherently leading to charged particles acceleration. In his earlier research at the Technion (Israel Institute of Technology), he developed a new technique for beam position monitoring that utilizes backward radiation emitted by an electron beam traversing an array of metallic posts.

Dr. Banna holds a Ph.D., M.Sc. and B.Sc. in electrical engineering from the Technion (Israel Institute of Technology) and received a Professional Training Certificate from the Engineering Leadership Professional Program at UC Berkeley. He has been recognized with numerous academic and professional awards, honors and fellowships and has authored more than 100 publications and 39 patents, with another 50 pending patent applications.

#### **Abstract**

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