

## SESSION 1: PLENARY SESSION

Chair: Marty Brophy, *Avago Technologies*

It's not easy being green.

*- Kermit the Frog on "Sesame Street"*

It is appropriate that our conference in Oregon, one of the greenest U.S. states physically and metaphorically, should begin with a pair of invited talks on how we can all be more environmentally sensitive in our fab operations. The conference starts off with a review of work led by Prof. David Johnson and colleagues at the University of Oregon and Oregon State University on how we can choose greener process options without loss of fab quality. Real process options creating much less waste promise to be both economically and ecologically advantageous. Passing then into the realm of large commercial fab operations, Steve Wooley, head of Workplace Services at Avago Technologies in Fort Collins, Colorado, discusses the broad-ranging and effective work on reducing waste, lowering water consumption, increasing recycling, and lowering energy usage in all areas of fab, test, and office operations. Many improvements in all parts of the whole operation are reviewed, many of which we could all easily do. This is clearly another example of how you can be environmentally proactive while maintaining and even improving your cost structure.

Moving into efficiency in design, the final paper of the opening session by a team from Delft University of Technology, UC San Diego, and Skyworks Solutions describes their path-breaking work on tuneable RF components. These enable high-speed adaptive filtering and matching permitting increased functionality, simplicity, and economy in RF systems. Semiconductor, MEMS, and Dielectric varactors and capacitive switch banks will be discussed and compared to new ultra-low distortion compound semiconductor varactors.