Abstract: Electricity was selected by the National Academy of Engineers as the most important invention of the 20th century. As the prime-mover of the post-industrial society to the digital age, the industry, just in the past decade, is at once been the most innovative bringing renewable resources—electricity from wind, sun and other carbon-free fuels—to the grid, the most difficult to manage diverse resources and the most important commodity to economic well-being and prosperity. Smart grid and an informed customer have further opened new business models to operate industry which has not changed significantly over the past century. Where before the grid was supplied by large central generating resources that required infrequent human attention, the modern grid requires millions of decisions to be made that can only be achieved by grid automation devices. The ESEI mission and vision is to develop a world-class workforce to meet the needs of the power industry. However conventional knowledge delivery through engineering degrees may fall short because of the multidisciplinary needs as well as skill sets to meet the challenges described above. The Energy Institute fills this critical gap and Dr. Shankar will discuss the strategy going forward.

Rudy Shankar is the Director of the Energy Systems Engineering Institute. His previous appointments include his work as assistant director of UNC's Electric Power Infrastructure Center, helping to expand its research in grid modernization, smart grid, renewable energy and energy utilization. He also served as the Vice President and Chief Technology Officer to the Tennessee Valley Authority, which provided power to customers in seven states with 11 million customers, management of renewable energy technologies, electric transportation and infrastructure, and technologies for power generation delivery; President and CEO of Signatech Systems, where he led efforts to develop asset management and fleet-wide monitoring for a large Asian utility; and as program manager and market director for the Electric Power Research Institute.