



# PSERC WEBINAR

## New Energy Space Modeling for Next Generation SCADA and Protocols for Electricity Service at Value

**Marija Ilic**

MIT Lincoln Laboratory

This talk concerns fundamental questions regarding next generation standards and protocols for operating and planning end-to-end future electric power systems. Temporal, spatial and contextual overwhelming complexity is identified as the single most critical roadblock to achieving future electricity service at value, while enabling choice by non-utility stakeholders. Our recent work has led us to the conclusion that both interactions between evolving intelligent Balancing Authorities-iBAs, and their specifications are fully characterized as an information triplet (energy, power, rate of power). This result forms the basis for evolving today's SCADA and NERC reliability/security standards to more general protocols, as a natural extension of today's ACE. It forms the basis for decision-making software and for defining service-at-value protocols. As a result, clear market signal for the right time/system-level can be obtained. Adopting this approach when designing next generation SCADA is a huge step to provable performance at value in the changing industry. Several examples are given to illustrate use of this concept for both control and market designs.

**SEPTEMBER 25, 2018**

[CONNECT.ASU.EDU/PSERC](http://CONNECT.ASU.EDU/PSERC)

**2:00-3:00 P.M. EDT**

(11:00-12:00 P.M. PDT)

**Marija Ilić** has retired as a Professor Emerita at Carnegie Mellon University. She is currently a Senior Staff in the Energy Systems Group 73 at the MIT Lincoln Laboratory, and a Visiting Professor at MIT Institute for Data, Systems and Society (IDSS). She is an IEEE Life Fellow. She was the first recipient of the NSF Presidential Young Investigator Award for Power Systems signed by late President Ronald Reagan.

In addition to her academic work, she is the founder of New Electricity Transmission Software Solutions, Inc. (NETSS, Inc.). She has co-authored several books on the subject of large-scale electric power systems, and has co-organized an annual multidisciplinary Electricity Industry conference series at Carnegie Mellon (<http://www.ece.cmu.edu/~electricconf>) with participants from academia, government, and industry. She was the founder and co-director of the Electric Energy Systems Group at Carnegie Mellon University (<http://www.eesg.ece.cmu.edu>).

