Conférence de l'Institut Coriolis pour l'Environnement de l'École polytechnique

Cycle Paris-Climat 2015 et Transition énergétique

How Digital technologies will impact the future energy markets?

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École polytechnique
Amphi. Faurre
16h00

Départements de Mécanique & Physique

The conference will start by briefly reminding the issues faced by the energy markets both in terms of technologies, climate change, business models and regulatory policies.
Our presentation will be organized into three parts.

Part I will investigate the impact of digital technologies on Energy Generation Systems through:

- A better control and command approach, the implementation of the predictive maintenance paradigm to extend the life time of the future power plants and/or to increase their operation time.
- The development of reconfigurable power plant.
- The minimization of the cost using advanced manufacturing technologies and virtual prototyping paradigm.
- A better coupling between hardware (Power electronics) and software technologies and a co-design approach.

Part II will address the distribution of electrical energy and the benefits that could be expected by introducing more digital technologies. More precisely, it will be shown how software, algorithms, mathematical models could translate to a better use of the different technologies as well as a more stable electrical network.

Finally part III will propose a new vision for advanced urban infrastructures using serious games, co-design and virtual reality for the design phase, big data analytics and visualization for the implementation.

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