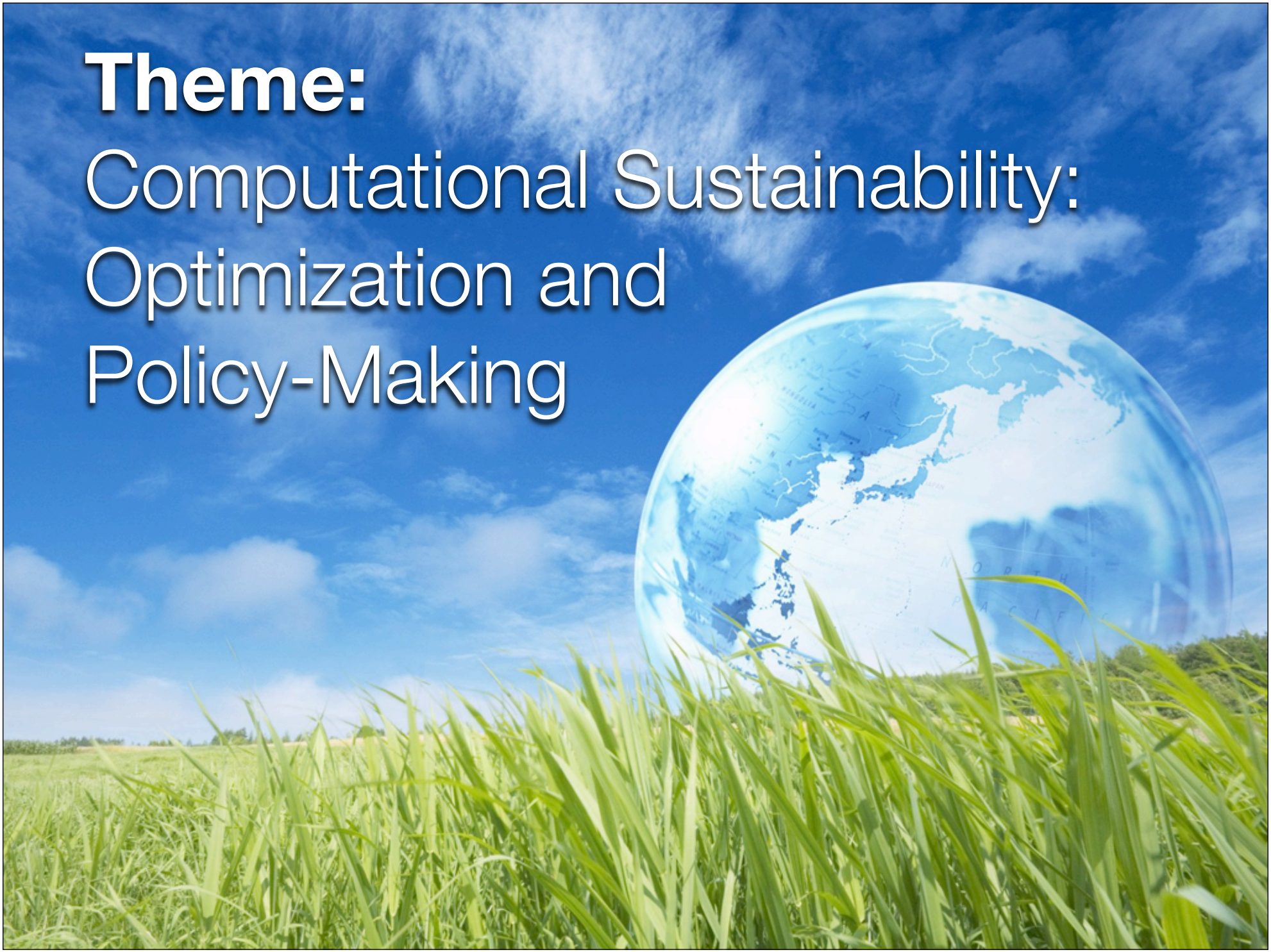
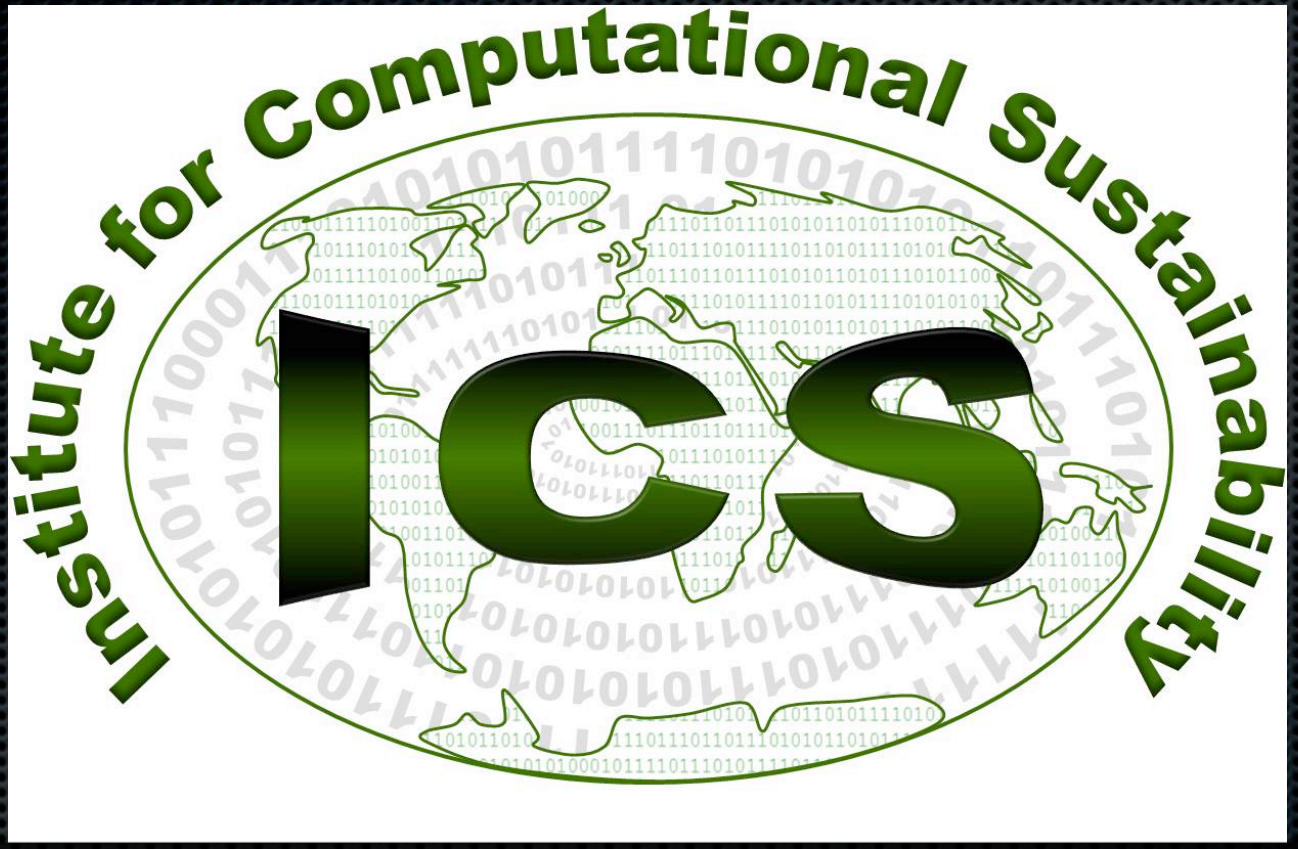
CPAIOR 2013 Master Class

Organiser: Barry O'Sullivan - http://osullivan.ucc.ie
4C, University College Cork, Ireland


Theme:
Computational Sustainability:
Optimization and
Policy-Making



Sponsor

Institute for Computational Sustainability

http://www.cis.cornell.edu/ics/

Today's Tutorialists

- Jayant Kalagnanam (IBM)
- Warren Powell (Princeton)
- Brian Williams (MIT)
- Chris Beck (Toronto)

About Jayant Kalagnanam

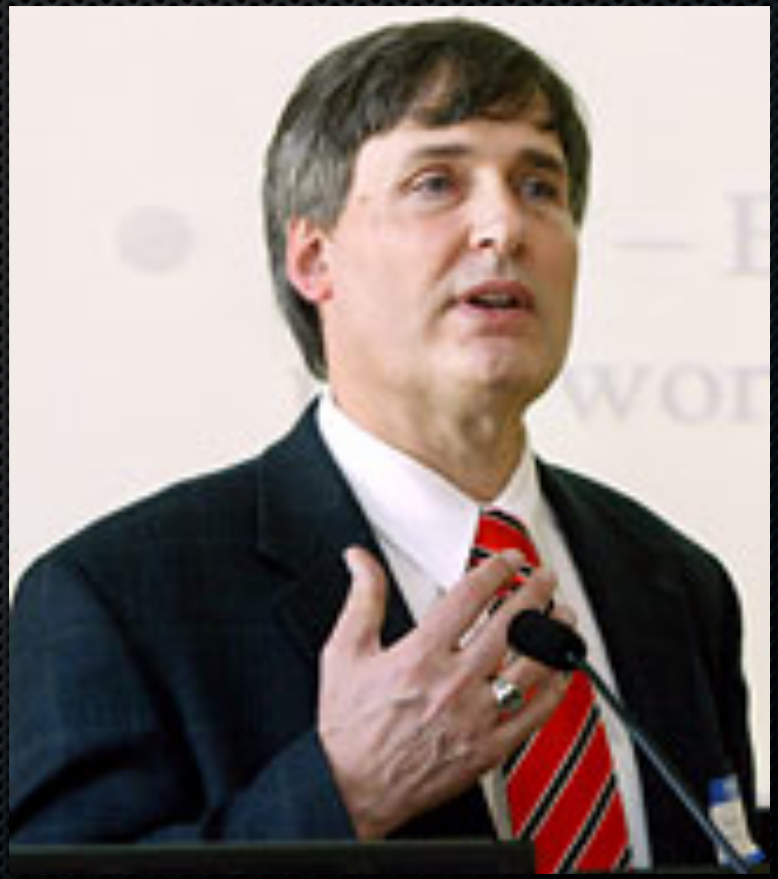
- Program Manager, Strategic Growth Initiatives, Business Analytics & Math Sciences.
- Founding Director, IBM Research Collaboratory, Singapore.
- Analytics and Optimization for Smarter Cities.

Class 1: Smarter Planet Initiatives

- Jayant Kalagnanam (IBM).
- An overview of IBM's thrust with Smarter Planet and related projects.
- Smart Grids for Electricity.
- Predictive Environmental Analysis.

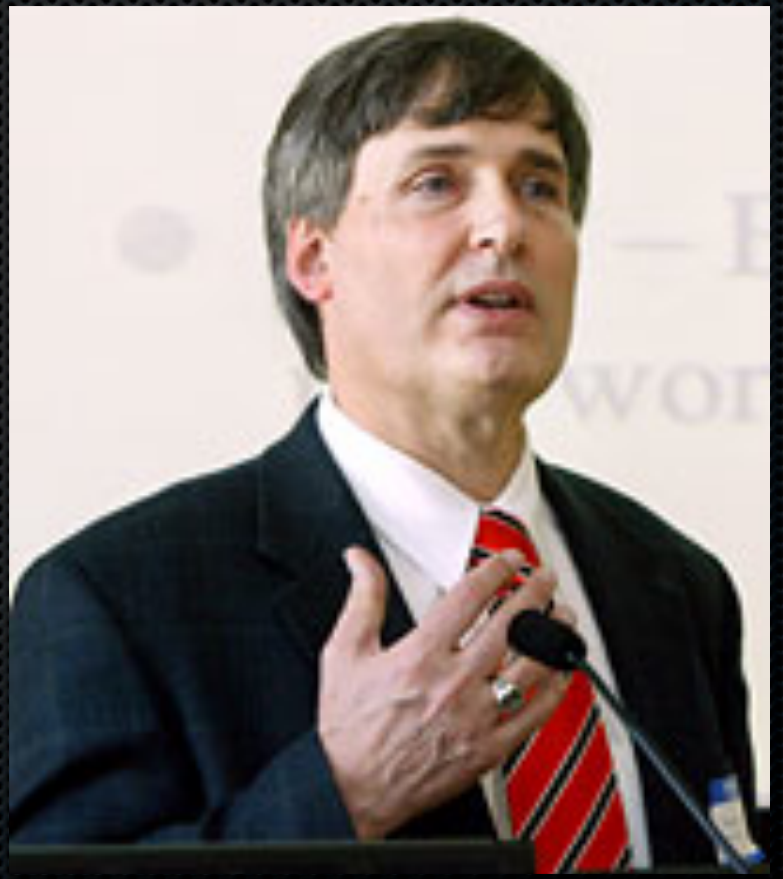
About Warren Powell

- Professor at the Dept. of Operations Research and Financial Engineering at Princeton University.
- Founder and director of CASTLE Laboratory and PENSA, the Princeton Laboratory for ENergy Systems Analysis.



Class 2: Models and Algorithms for Energy Markets with High Penetrations of Renewables

- Warren Powell (Princeton).
- Fundamental tools for modeling stochastic, dynamic problems.
- Demonstrated in the context of capturing the dynamics of energy markets.



About Brian Williams

- Leads the MERS group, within CSAIL at MIT.
- He received a NASA Space Act Award for Remote Agent, the first fully autonomous space explorer demonstrated on NASA's Deep Space One probe.
- Advisory Council Member of the NASA Jet Propulsion Laboratory at Caltech.

Class 3: Solving Stochastic Optimization Problems with Bounded Risk Through Risk Allocation

- Brian Williams (MIT).
- Solution methods centered on the metaphor of risk allocation.
- Solution to convex and non-convex problems using closed form and iterative approaches to risk allocation.

About J. Christopher Beck

- Leads the Toronto Intelligent Decision Engineering Laboratory (TIDEL).
- Associate Professor in the area of Information Engineering.
- Specialises in optimization, heuristic search, constraint programming, constraint-directed scheduling, hybrid algorithms, dynamic and uncertain problems, and problem modeling.

Class 4: Zombie Optimization or How I Learned to Love Decomposition

- Chris Beck (Toronto).
- Will present work on a particular pattern of problem decomposition that has been developed over the last decade.
- It is best represented within the CPAIOR community as logic-based Benders decomposition.

Schedule

08:30-09:00	Introduction to the MasterClass (Barry)
09:00-10:30	**Class 1: Jayant Kalagnanam (IBM)**
10:30-11:00	*Morning Break (Mezzanine)*
11:00-12:30	**Class 2: Warren Powell (Princeton)**
12:30-14:00	*Lunch (Cafeteria)*
14:00-15:30	**Class 3: Brian Williams (MIT)**
15:30-16:00	*Afternoon Break (Mezzanine)*
16:00-17:30	**Class 4: Chris Beck (Toronto)**
17:30-18:00	Wrap-up Discussion

Please ask Questions
- before Watson does it for you!