# IPU Grid School Course II:

**Supply-Side Dynamics: Energy Trends, Integrated Planning, and Climate Action**  
**April 26-28, 2022 Live Online Learning**

**IPU Power Grid School** covers the engineering and economics of the electric utility systems across the supply chain for power and its transformation, from generation to transmission to distribution.

## Program Agenda - Preliminary

### Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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| 10:00-11:20 am | **Trends and Outlook for Energy in the United States** [L. Martin]  
80 min. |
| 11:40-1:00 pm | **Resource Diversification and Adequacy**  
80 min. |
| 2:00-3:20 pm | **Sustainability Assessment of Energy Technologies** [A. Anctil]  
80 min. |
| 3:30-4:00 pm | **Discussion**  
30 min. |

### Wednesday

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<th>Time</th>
<th>Session</th>
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| 10:00-11:20 am | **Integrated Resource Planning** [R. Wilson]  
Types of planning. Overview of integrated resource planning, state policies, and utility planning processes. Describes input assumptions, modeling techniques, creation of scenarios/sensitivities, and evaluation of resulting resource portfolios. Noneconomic evaluation criteria. Examples from recent utility IRPs.  
80 min. |
| 11:40-1:00 pm | **Power System Planning for Uncertainty, Extremes, and Outages** [J. Lau]  
80 min. |
| 2:00-3:20 pm | **Power System Planning and Climate Action** [M. Craig]  
Changing meteorology and risks. Multi-sectoral impacts of the clean energy transition. Role of power systems in emissions reduction. Implications for operating and investment  
80 min. |

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<tr>
<td>3:30-4:00 pm</td>
<td>Discussion</td>
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<td>30 min.</td>
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**Thursday**

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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:00-11:20 am</td>
<td>Economic Evaluation of Resource Alternatives and Policies [G. Upton]</td>
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<td>80 min.</td>
<td>Economics of renewable energy resources and portfolio standards. Impact of intermittent non-dispatchable resources. Cost allocation and rate design for energy consumers and prosumers. Implications of electrification for the supply side.</td>
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<td>11:40-1:00 pm</td>
<td>Economic Evaluation [continued]</td>
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<td>80 min.</td>
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<tr>
<td>2:00-3:20 pm</td>
<td>Emerging Models for Clean Energy Infrastructure [L. Reed]</td>
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<tr>
<td>3:30-4:00 pm</td>
<td>Discussion</td>
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<td>30 min.</td>
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# IPU Power Grid School 2022: Program Faculty

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<tr>
<th>Faculty Name</th>
<th>Role and Affiliation</th>
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| Janice BEECHER (beecher@msu.edu) | Director, Institute of Public Utilities, Michigan State University  
Ph.D., Political Science, Northwestern University  
www.linkedin.com/in/janice-beecher-33a61810 |
| Michael CRAIG (mtcraig@umich.edu) | Assistant Professor in Energy Systems, University of Michigan  
PhD, Engineering and Public Policy, Carnegie Mellon University (2017)  
seas.umich.edu/research/faculty/michael_craig |
| Jessica LAU (Jessica.lau@nrel.gov) | Grid Systems Technical Manager, National Renewable Energy Laboratory  
M.S. Power Systems Management, Worcester Polytechnic Institute  
www.linkedin.com/in/jessicaklau/ |
| Laura MARTIN (laura.martin@eia.gov) | Senior Energy Analyst, Office of Long-Term Energy Modeling, EIA  
M.S. Industrial Engineering, Purdue University |
| Greg UPTON (gupton3@lsu.edu) | Assistant Prof. Research, Center for Energy Studies, Louisiana State University  
Ph.D., Economics, Louisiana State University  
www.gregoryuptonjr.com |
| Rachel WILSON (rwilson@synapse-energy.com) | Senior Associate, Synapse Energy Economics, Inc.  
M.E.M., Yale School of Forestry and Environmental Studies  
www.synapse-energy.com/our-team/rachel-wilson |