ACC 2013 Workshop on
Control of Power Inverters for the Smart Grid

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Room 10/11
Schedule

1:00-1:15pm Introduction
- To renewable energy and smart grid integration
- To power inverters

1:15-2:15pm Power quality control
- Power quality issues
- Degradation mechanisms of voltage quality
- H^∞ repetitive control (voltage quality, current quality and both)
- Output impedance control (R-inverters, L-inverters and C-inverters)
- Bypassing harmonic currents

2:15-3:15pm Power flow control
- Reference frames
- Conventional current-controlled strategies (PI and PR)
- Grid-friendly connection of inverters: Synchronverters

3:15-3:30pm Coffee/tea break

3:30-4:30pm Parallel-operation of inverters
- Conventional droop control
- Robust droop control
- Robust droop control with improved voltage quality
- Harmonic droop control

4:30-4:50pm Synchronisation
- Conventional synchronisation techniques
- Sinusoid-locked loops

4:50-5:00pm Discussions, wrap up and feedback