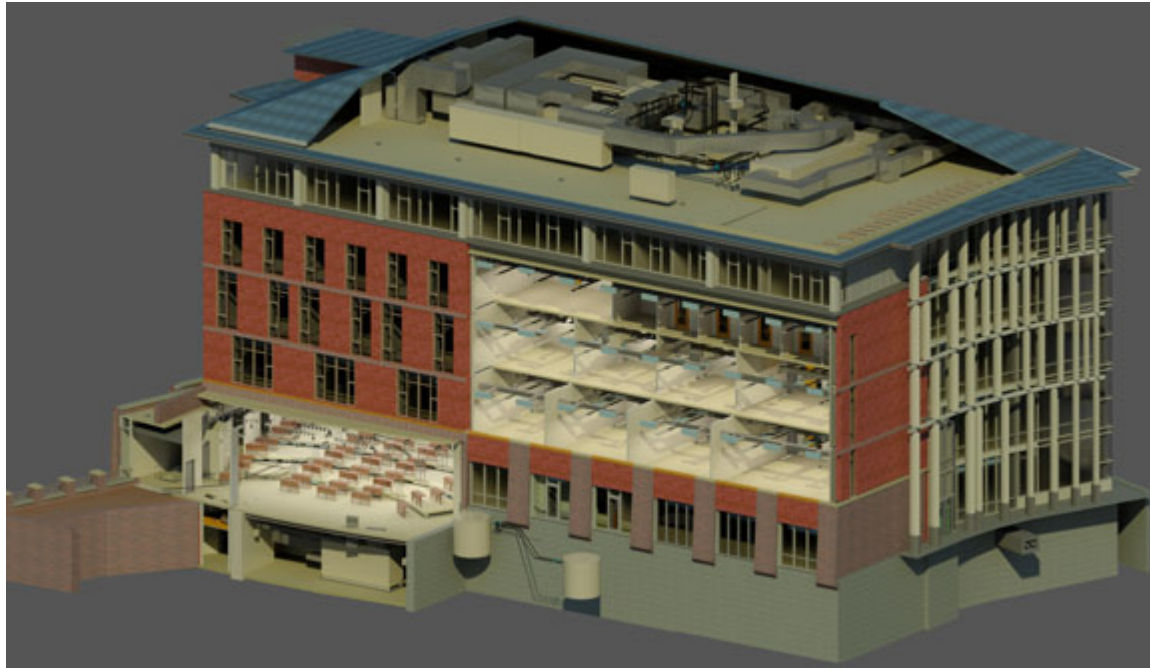


Rice Hall Living Lab Study



www.hcyu.com

Rachel Knee (ME '13)

Edie Taylor (CE '13)

Rice Hall Living Lab Study

Living Lab HVAC Systems:

- » Variable Air Volume
- » Variable Air Volume (Low-Temperature)
- » Chilled Beam
- » Chilled Beam (Low-Temperature)
- » Fan Coil Unit
- » Water Source Heat Pump

Rice Hall Living Lab Study

Calculating Energy Usage

- » 13,000+ data points
- » Control-volume approach

Comparing Energy Performance

- » Standard vs. low-temperature systems
- » Differences in square footage (lab vs. office)
- » All HVAC systems

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Modeling and Simulation

- » EnergyPlus
- » Post-occupancy

Results Comparison

- » Simulation versus Monitoring

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