

PhD student positions on energy-oriented control theory and applications

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Two positions are available for PhD students interested in research cutting across control and thermodynamics with applications to multi-domain power networks and hybrid fuel-electric propulsion. The project starts in January, 2023 and will be sponsored by the US National Science Foundation (NSF). Selected students will receive a tuition waiver, a competitive stipend and opportunities to travel to present their work at technical conferences.

Required qualifications:

- Undergraduate degree in mechanical or electrical engineering.
- Course backgrounds on thermodynamics and control systems.
- Very good analytical, mathematical and programming skills.
- Excellent writing abilities in English.

Preferred qualifications:

- Master's degree in mechanical or electrical engineering. Students with a master's degree in mathematics may be considered provided they also have an undergraduate engineering degree.
- Knowledge of any of the following:
 - Advanced thermodynamics (exergy analysis, thermodynamic optimization)
 - Robust control theory ($\mathcal{H}_\infty/\mathcal{H}_2$)
 - Data-driven optimization methods, reinforcement learning or self-optimizing control.
 - Power systems and microgrids, with a focus on dynamics and control
 - Hybrid propulsion systems, with a focus on dynamics and control
 - Experience with rapid control prototyping (dSPACE or other platforms)

For more information, please send a CV detailing your educational experience and a cover letter to h.richter@csuohio.edu