

**Job Number**

2445017

**Posted Position Title**

Post Doc - Control Systems

**Role Summary/Purpose**

As a Post Doc - Control Systems you will develop advanced model-based controls and dynamic optimization technologies. You will have to work independently as well as with the team to develop controls technology solutions for a variety of GE product applications including turbo-machinery, renewable energy systems, locomotives, water-treatment and healthcare.

**Essential Responsibilities**

Responsibilities will include working closely with business stakeholders and project team members to meet project deliverables. Will need to work independently as well as in a team to develop and deliver solutions in controls technologies including modeling, estimation, advanced controls and real-time optimization to develop technology differentiation for GE products and services.

As a Post Doc - Controls Systems, you will:

- Work with a GE Global Research Project Leader to develop advanced technology solution including modeling, estimation, advanced linear/nonlinear controls and real-time optimization, and its application to GE products and services
- Validate performance of developed solution through simulations and application on target product to mature technology to be transferred to the GE business
- Document technology and results through patent applications, technical reports, and publications
- Work in a team environment with colleagues in GE Global Research and GE business units

**Qualifications/Requirements**

- Doctorate degree in an Engineering field with a specialization in control system engineering
- Knowledge and application of advanced model-based control methodologies, including optimization-based control algorithms
- Expertise in at least one of the following: modeling of dynamic systems (first principles and identification), model-based control design, model-based estimation, real-time optimization and model predictive control
- Proficiency in Matlab/Simulink, C, C++
- Willingness to travel at a minimum of 2 weeks per year
- Demonstrated experience (algorithm development and software implementation) in developing optimization-based control solutions for complex physical systems (e.g. mechanical systems, chemical plants, power systems, transportation, aviation systems)
- Legal authorization to work in the U.S. is required; we will not sponsor individuals at the Masters level for employment visas, now or in the future, for this job opening
- Must be willing to work out of an office located in Niskayuna, NY
- Must be 18 years or older
- You must submit your application for employment on the careers page at [www.gecareers.com](http://www.gecareers.com) to be considered

**Desired Characteristics**

- Knowledge of model-based estimation and system identification
- Knowledge of dynamic system simulation packages, such as Easy5, NPSS etc.
- Experience developing controls solutions for industrial applications e.g. "locomotives, wind, Oil & Gas, power plants, aviation"
- Experience in developing model predictive control, estimation, and monitoring solutions for large-scale systems
- Strong analytical skills

- Strong interpersonal skills
- Self-motivated and ability to work independently and as part of a team
- Ability to communicate effectively both orally and in writing to establish and transfer control concepts from research to product