

## Graduate Research Opportunities

**Multiple Research Assistant positions** are immediately available in Prof. Abdel-Khalik's research group in the School of Nuclear Engineering at Purdue University.

Dr. Abdel-Khalik conducts research in the areas of data analytics to advance the computational frontiers for reactor simulation in support of safety, security, and reliable and economic operation.

The successful applicants must have strong aptitude for mathematics, statistics, and abstract thinking, and enjoy working with computers and building codes. Ideal candidates are independent, initiative-takers, resourceful, and can function well in team environments.

PhD students are currently needed to support multiple ongoing projects.

- A project focusing on the development of reinforcement learning framework for assessing the quality of additively-manufactured components in support of the Transformational Challenge Reactor project.
- A project aiming to develop artificial intelligence-based techniques to deter cyberterrorists from hacking into the digital control systems of nuclear power plants.
- A project focusing on the development of advanced analytics techniques to process the large amount of data gleaned during operation to support a number of applications such as detection of early equipment failure, improving design margins and overall reactor economics.
- A project focusing on how to develop defense strategies against reverse-engineering of computer codes used to monitor/control critical system components?
- A project focusing on the development of inference strategies to support licensing of new reactor technologies.

For more information, please contact Prof. Abdel-Khalik at [abdelkhalik@purdue.edu](mailto:abdelkhalik@purdue.edu)