



AALBORG UNIVERSITY  
DENMARK

## **PhD Position within Efficient Modeling of Energy Systems**

Within the programme Science without Borders, Aalborg University is offering a PhD position at the Department of Energy Technology, Pontoppidanstræde 101, DK-9220 Aalborg East.

The position is administered and funded by the “Science without Borders” program through the Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES). The theme of focus related to the position is listed as “Engineering and Other Technological Areas” in the program. Acceptance of employment for the position is subject to the approval of grant from CAPES.

Description: The technological world of energy today has been witnessing the increased complexity. The computational complexity, the reliability problems and the restrictions in the communication make the ordinary control strategy for such large-scale complex systems expensive, difficult and insufficient. The complexity arises in the form of the nonlinearities, the large order of the describing dynamical systems and the large number of subsystems which are interacting. In this project, the focus will be on the simplification methods for energy system models. To maintain the tractability of the energy systems, methods for order reduction, hybridization techniques and the interaction (coupling) reduction will be used and studied. These methods are generic. However, depending on the candidate’s background the PhD project will be focused on a specific application in the field of energy technology.

### **Requirements**

Applicants for the PhD position should have a Master in Electrical or Mechanical Engineering. Applicants should preferably have some experience with modeling and control. The language of communication at AAU/ET is English (written and spoken).

Contact: Assistant Professor Hamid Reza Shaker, e-mail: [shr@et.aau.dk](mailto:shr@et.aau.dk)

**To apply please see the link below:**

<http://www.en.tek-nat.aau.dk/vacant+positions/Science+without+Borders/>