

Applied Energy Division:

Postdoctoral position focused on techno-economic analysis of emerging water treatment systems

The Applied Energy Division is dedicated to research and development that contributes to science, sustainability, SLAC's impact and relevance, the U.S. energy situation, and national competitiveness. SLAC's translational research program in sustainability and applied energy technologies includes a strategic focus on batteries and energy storage, the power grid, water desalination, solar energy, and advanced manufacturing technologies.

We seek a candidate to support our research efforts in desalination by analyzing emerging water treatment technologies using advanced modeling tools. The successful candidate will lead treatment schema development in the WaterTAP modeling platform (as well as use other modeling tools) and quantify their costs, energy use, and emissions. The postdoctoral researcher is responsible for model development and analysis, authoring reports, presenting findings, and supporting proposal writing efforts. The successful candidate will work collaboratively at SLAC with Stanford and other collaborators working in National Alliance for Water Innovation Hub (NAWI).

Qualifications:

- Ph.D. in environmental engineering, chemical engineering, or another field related to water treatment or optimization
- Experience in the water treatment field and/or experience in process systems engineering (PSE)
- Experience with programming (Python, Matlab, C++, etc.)
- Willingness to learn how to use open-source modeling platforms, water treatment processes, and process engineering methods.
- Ability to carry out independent and collaborative research.

Preferred experiences

- Experience with equation-oriented programming using GAMs, Pyomo, IDAES, WaterTAP
- Understanding of brackish water treatment, desalination, and pre-treatment processes
- Understanding of techno-economic analysis methods
- Knowledge of life cycle analysis methods

Interested candidates should submit a cover letter and CV to Alexander Dudchenko (avd@slac.stanford.edu)

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