

THESES OR INTERNSHIPS

MANY PROJECTS AND TOPICS LISTED BELOW

List of projects:

Chemistry:

- Catalog of melting points and vapor pressure of different Fluoride and Chloride species and add them to msdl (molten-salt-data-library)
- Project with molten salt electrochemistry, removal of impurities from the salt.
- Corrosion testing, compare different salts, materials over a range of temperatures on world class molten salt test equipment.

Electronics:

- Make PCB for USB galvanic separation circuit. Circuit design, software and application testing.
- Test a number of different gas detection sensors.

Mechanics:

- Make data acquisition system for vibration sensors.
- Make test setup for high temperature gasket test for different salts.
- Build an accurate flow sensor calibration setup.

Optics:

- Test a lens system high temperature furnace with a live feed video camera.

THESES OR INTERNSHIPS

MANY PROJECTS AND TOPICS LISTED BELOW

List of projects:

Software:

- Improve security of our software and systems by trying to hack them. Then fix the issues.
- Test C# and .NET for STM32 and setup tool chain.
- Make an Android mobile app for remote control of our Loop.
- Improve STM32 software in zero-crossing switching power electronics.
- Improve software for decay chain simulations and visualization.
- If This Then That (IFTTT) interface from chart server. Such that users can easily setup trickers / alerts.
- Test time series databases for our vector data uploader
https://en.wikipedia.org/wiki/Time_series_database

Measurement Technology:

- Find, buy, test, calibrate one or several oxygen sensors.
- Find, buy, test, calibrate one or several moisture sensor.
- Test and calibrate and improve salt leak detection sensors.
- Test ultrasonic flow measurement system, first with water, then with salt. Make RS485 interface work.
- Make an off the self current, voltage, frequency sensor work with RS485 interface.
- Test and improve calibrate procedure for temperature sensors.

THESES OR INTERNSHIPS

MANY PROJECTS AND TOPICS LISTED BELOW

List of projects:

Neutronics:

- Benchmark OpenMC and Serpent on MSR related simulations.
- Extend OpenMC to load OpenFoam mesh models.
- Soften the learning curve for students new to OpenMC.
- Improve the OpenMC tool chain setup and documentation.
- Photon transport simulations for gamma ray shielding.
- Study coupling between thermal-hydraulics and monte carlo simulations.

Risk analysis:

- Risk analysis of framework and calculations for CA MSR.
- Compare different national approval processes.
- Review safeguards and non proliferation issues related to MSRs.

Economic models:

- Improve economic models of reactor deployment scenarios.

Visualizations:

- 3D visualizations and 3D rendering of buildings and components.
- Architectural visualizations of molten salt reactor installations.

THESES OR INTERNSHIPS

MANY PROJECTS AND TOPICS LISTED BELOW

Suggest your own project topic:

Copenhagen Atomics want to help educate the next generation of nuclear engineers and scientists that are going to enable to molten salt reactor industry to grow to a size where we can supply 10% of global energy. This will require thousands of smart people globally. Feel free to suggest your own topic for an internship or a thesis. However keep in mind that we are a business and we need to make money. With a limited number of spots for students, we prefer students and projects which result in the biggest win-win for both parties.

About you:

You are good at keeping appointments and delivering on time. We have a workplace where the pace is high and errors can be expensive. If you like to be challenged in your job, then this is the right place to work for you.

For students who want to do an internship or write their thesis at Copenhagen Atomics we offer to pay up to €1000 per month to cover your housing cost in Copenhagen, if you are not from here. You must be at Copenhagen Atomics for a minimum of 6 weeks but we prefer student projects that last 3 - 6 months. Interns usually work $\frac{1}{2}$ of their workweek on their project and the other $\frac{1}{2}$ they help in production or labs to gain experience.

You can apply at projects@copenhagenatomics.com

Send your CV and just write 10 - 20 lines about yourself and about your experience with practical work and the topic of your project.

About the company:

Copenhagen Atomics currently has 30 employees and we develop nuclear power plants which will be manufactured on assembly lines in the future. The team predominantly consists of engineers and technicians and we speak both Danish and English.

Copenhagen Atomics develops green energy technology and expects rapid growth during the next 5 years.