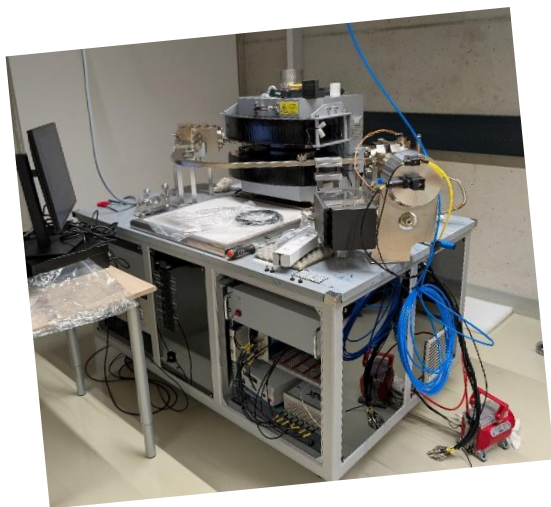


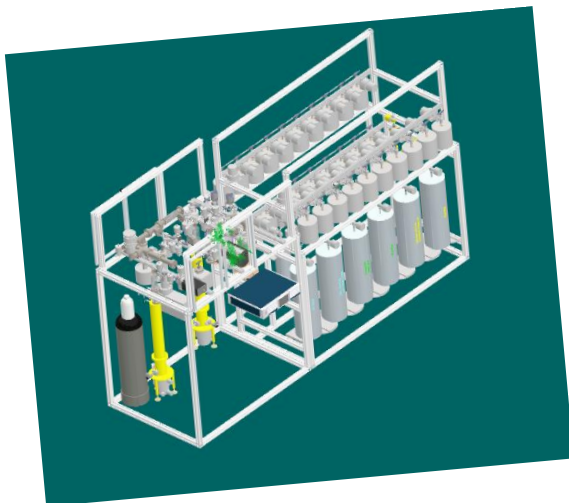
SHK / WHK (8...10 h/week)

The noble gas lab (Environmental Sciences Faculty) is building a system for **Helium and Neon** Analysis: Henne

- **Teach “Henne” to run the lab** — develop Python software for an automated noble gas preparation system.
- **Control real instruments** — valves, sensors, cryogenics and mass spectrometers via Linux, USB, TCP/IP, RS-485 and Modbus.
- **Your ideas matter** — help design a maintainable, long-term software system in a supportive research team.
- **2 positions are open!**



More information: see next page



TUD Dresden University of Technology (TUD) is a University of Excellence. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Faculty of Environmental Sciences**, the **Noble Gas Lab** (Institute for Groundwater Research) is seeking to employ **two** students as

Student Assistant (m/f/x) (8...10 hrs./week)

starting **at the earliest possible date** and limited until 30/6/2027. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG) as well as the Sächsisches Hochschulgesetz – SächsHSG in conjunction with the TdL guidelines (collective bargaining association for the German federal states) for Student Assistants and Research Assistants dated February 28, 2024.

Tasks:

- Develop a **Python instrument-control software** for a noble gas preparation line with 70+ valves, sensors, cryogenic devices and 2 mass spectrometers.
- Basis is a Python framework for another application: <https://github.com/ioneater/ESIBD-Explorer> - we will extend it by adding Plugins, as it is fully customizable.
- Integrate instruments via USB, TCP/IP, RS-485/serial, Modbus and vendor protocols on an Ubuntu Linux control system.
- Implement automated tests with simulated instruments, plus reliable logging of errors, events and measurement data.
- Write reviewed, tested and documented code intended to remain maintainable for 20+ years.

Requirements:

- **Good Python** skills to write clean, modular, documented code.
- Experience with / willingness to learn, **Git**, Linux, databases/logging and network/serial communication.
- Ability to work collaboratively in a Team with shared code review
- **Interest** in the scientific principles & work processes of the machine – the more you understand, the better it is! If you like it, you can take part in the assembly process of our prototype, and run proof-of-concept tests that go far beyond pure coding.
- Good English knowledge (C1 equivalent)

We offer:

- A friendly & supportive Team. We know that the task is not easy, but we will support you to succeed!
- You can create your own concepts and apply them – we are happy with any good solution.

We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Application: Please submit your detailed application (CV + a bullet point list of your relevant skills and experience) to paul.fremdling@tu-dresden.de or by post (ask for address).

TUD is a founding partner in the DRESDEN-concept alliance.



Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website:

<https://tu-dresden.de/karriere/datenschutzhinweis>.