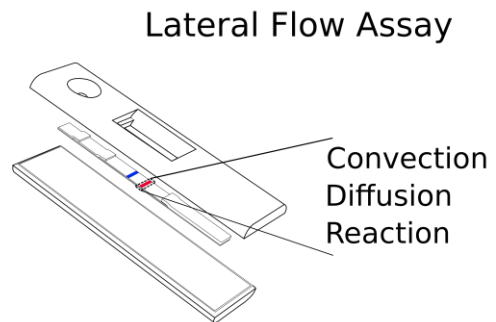


Further development of a GUI for investigating diagnostic membranes

Background:

Liquid samples in lateral flow assays (LFAs) are applied to a porous diagnostic membrane, where chemical reactions take place. Examples of LFAs include COVID-19 rapid tests and pregnancy tests. The main component of an LFA is a porous diagnostic membrane that is typically made of materials with high porosity and can have different forms.



Your task:

In order to facilitate an efficient evaluation of different membrane structures, a computerized software is a prerequisite. The convection-diffusion-reaction within various membrane configurations can be pre-simulated, evaluated, and compared by means of a graphical user interface (GUI), rendering the process more accessible to users. The groundwork for such a GUI has been previously established, and this project aims to progress this foundation by further developing and optimizing it. Eventually, the GUI is intended to be integrated into the Karlsruhe Data Infrastructure for Materials Science (Kadi4Mat), thereby increasing its accessibility and applicability to the scientific community.

Requirements:

To effectively address the topic, a fundamental grasp of Python programming is advantageous. Additionally, a keen interest in Data Science is recommended.

We offer:

- Intensive support
- Modern workstations and high-performance computers
- Productive and dynamic atmosphere in a team
- Cooperation with international research groups
- Career perspectives as a junior researcher

Interested?

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