For candidates from UiS:

# Adsorption of industrially important gases in metal-organic frameworks (MOFs) as studied by in-situ techniques (Materials Physics / Chemical Physics)

Gas adsorption has a tremendous importance in various industries such as gas separation, storage, purification, and catalysis. Metal-organic frameworks is an emerging class of new crystalline porous materials, which have great potential for gas adsorption.

**About the thesis**

This work will focus on several aspects including literature review, in-depth study of relation between structure and vibrational properties of small molecules, and application of vibrational spectroscopies (laboratory and at large-scale facilities) to the in-situ studies of gas adsorption.

**About the candidate**

The candidate should take the course Mikrofysikk. The thesis is offered in collaboration with FFI (Forsvarets forskningsinstitutt in Oslo area), and a practical part will be carried out at their premises.

It will include in-situ FTIR measurements of gas adsorption in MOFs. Those candidates interested in continuing their Masters projects in the same field are particularly encouraged to apply. The candidate should be willing to go through security clearance procedures in order to get access to the experimental facilities at the FFI.

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