

Bachelor* and Master Thesis project proposal For spring 2009

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* The stated projects are initially suitable for master thesis; however some of the projects as [indicated](#) could be adjusted to bachelor thesis project.

1) CO₂ Related projects

I. Thermodynamic behavior of binary mixture of CO₂/CH₄ during transportation and injection into oil reservoirs.

The work is aimed to understand phase behavior associated with temperature and pressure changes. The work is extension of previous study on CO₂. [Master thesis project](#)

II. CO₂ for enhancing oil Recovery

Reducing CO₂ emission to air by injection to enhance oil recovery is an activity that is ongoing at our laboratory. Two main inter-related challenges, a) when in the production processes to start CO₂ injection b) what are the factors that influence the success of this method of enhancing oil recovery. The project is experimental work to establish the relative permeability with model oil for miscible and immiscible CO₂ flooding. This project is closely related to the current PhD activities. . [Bachelor/Master thesis project](#)

III Interfacial Phenomenon with Natural Surfactant at Elevated temperature

This study is experimental work and is related to oil recovery. IFT and other available techniques will be used in this study to understand the interfacial behavior as a function of temperature.

[Bachelor project](#)

2) Projects related to heavy oil

I. Thermal recovery of heavy oil by (Steam Assisted Gravity Drainage) SAGD with Solvent

Study will address the factors that affect the heavy oil recovery. Emphasis on SAGD/Solvent system. Simulation and modeling work [Master thesis project](#).

II. PVT_Characterization of heavy oil

This work is a continuation to further develop the approach to minimize the uncertainty dealing with heavy oil and plan for future experimental work.

3) Production optimization

In this work an existing production field operated by Statoil is to be studied and come up with an optimized production taking into account possible gas lift for some wells. Reservoir /wellbore behavior and formation damage will be addressed in few scenarios. [Master thesis project](#)

4) Investigation of shear thickening and shear thinning behavior of biopolymer used as a viscosifying agent.

This project is a combined experimental and field case study (BP project). [Master thesis project](#)

5) Open for other industrial projects within area of expertise.

