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**Two PhD positions on "process optimization using machine learning"**

**Supervisor: Professor Sigurd Skogestad**

**Application deadline: 10 June 2019**

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In the Process Systems Group at the Department of Chemical Engineering at NTNU there are two PhD position in the field of "Intelligent use of data for process optimization using machine learning.".

The project aim is to utilize process data to develop machine-learning based models (also known as digital-twins), that can be used for developing optimization tools. To address the computational robustness issues of solving optimization problems, we also aim to approximate computationally intensive optimization problems using machine-learning algorithms. Several companies are joining the project, including AkerBP, Kongsberg Digital and Perstorp (Sweden). Applications can be towards oil and gas industries, chemical production, human waste (sludge) management, fish farming and development of generic tools for industrial use.

Position 1. Grey-box machine-learning models (feature engineering)

Position 2. Surrogate optimizers for computationally robust and fast online optimization.

Requirements:

1. The successful candidate should have a background in process systems engineering.

2. Good written and oral English language skills

The project is financed by the Norwegian research council through the IKTPLUSS program. The PhD students will be integrated in the Process Systems Engineering Group at NTNU, which has about 30 Faculty, PhD students and Master students.

PhD candidate salary is normally NOK 449400 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund. The period of employment is 3 years with the possibility of until one year extension with 25% teaching duties. Please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates.

https://www.jobbnorge.no/en/available-jobs/job/169691/two-phd-positions

Application deadline: 10 June 2019

Questions about the position can be directed to Sigurd Skogestad, e-mail sigurd.skogestad@ntnu.no

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**PhD position at NTNU on "Production optimization"**

**Supervisor: Professor Sigurd Skogestad**

**Application deadline: 17 June 2019**

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In the Process Systems Group at the Department of Chemical Engineering there is a PhD position in the field of "Field-wise production optimization".

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The project is part of the SUBPRO center which is a large 8-year research-based innovation program in the field of subsea processing and production. Industrial partners in SUBPRO include Equinor, Lundin, AkerBP, Neptune Energy, Aker Solutions, DNVGL and Kongsberg Digital.

The overall objective of the PhD project is to achieve lost-cost production with low carbon footprint towards the final aim of achieving zero emissions oil and gas production.

Scientifically, the PhD project focuses towards online process optimization using both existing software infrastructure and advanced optimization tools as well as machine learning and data analytics.

The project is financed by the Norwegian research council and SUBPRO through the SUBPRO program. The PhD student will be integrated in the SUBPRO program as well with the Process Systems Engineering Group at NTNU, which has about 30 Faculty, PhD students and Master students.

Requirements:

1. The successful candidate should have a background in process systems engineering.

2. Good written and oral English language skills

PhD candidate salary is normally NOK 449400 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years with the possibility of until one year extension with 25% teaching duties.

Questions about the position can be directed to Sigurd Skogestad, e-mail: sigurd.skogestad@ntnu.no

[Please submit your application electronically via jobbnorge.no](https://www.jobbnorge.no/en/available-jobs/job/170442/phd-position-production-optimization) with your CV, diplomas and certificates. Application deadline: 17 June 2019

**Further information:** [Sigurd Skogestad Home page](https://folk.ntnu.no/skoge) , folk.ntnu.no/skoge