

For the technically minded and community spirited.

## ABB Strategic R&D Group for Oil, Gas and Petrochemicals. Summer jobs 2011

### Creativity and innovation for tomorrow's automation solutions

Strategic R&D for Oil, Gas and Petrochemicals in Norway has a global responsibility for research and innovation that covers the needs of the oil and gas industry.

If you are committed, creative and enthusiastic to shape the future as a part of our team and are looking for a summer job beyond the traditional, we can offer you a very interesting and challenging summer project at ABB Strategic R&D.

### Collaboration systems for Integrated Operations in the oil and gas industry – 2 students

This project will develop a prototype/demonstrator of a remote collaboration tool where operators can communicate and collaborate about their daily work. Contrary to existing collaboration tools (IM, email, screen sharing, etc) that are separate applications, this tool will provide collaboration functionality from within the normal work application for control room operators. The project will be setup as a cross-disciplinary project where one interaction designer and one programmer will work together to design, implement and evaluate a working prototype.

Required skills: interaction design, user-centered design, human factors, WPF/.Net programming, communication (web services, WCF, etc).

Job-ID: NB50790603. For more information, contact Kristoffer Husøy, telephone: 22 87 47 21 or email: kristoffer.husoy@no.abb.com.

### Operator interface design for process control

This project will investigate alternatives for operator interfaces for process control within the oil and gas industry. Example questions to investigate: How can large desktop monitors (30") be exploited to provide better situation awareness, how can large screens be designed to provide better overview, how can task-based displays be used to improve the operator interface, etc. Together with the supervisor, the student will pick one or more tasks and develop concepts and examples that can be demonstrated to customers.

Required skills: Human factors, process control, interaction design, usability.

Job-ID: NB50790719. For more information, contact Kristoffer Husøy, telephone: 22 87 47 21 or email: kristoffer.husoy@no.abb.com.

### Monitoring of electrical drive information

This project investigates extended use of electrical drives information for monitoring of various process equipment. The candidate, once aware of functional requirements, will purchase, assemble and program a controller to be interfaced to an existing motor drive hardware simulator.

Required skills: Electrical drives, control design, software programming, prototyping/development skills.

Job-ID: NB50790828. For more information, contact Jan Wiik, telephone: 22 87 20 94 or email: jan.wiik@no.abb.com.

### Frontier Human-Robot Interaction

This exploratory project investigates telerobotics for the oil and gas industry with a user-centered design perspective. The candidate, once aware of literature and requirements, will create a series of design scenarios and build a demonstrator for at least one scenario which can be shown to customers and informally evaluated.

Required skills: Interaction design/Information technology. Prototyping/development skills essential.

Job-ID: NB50790780. For more information, contact Clint Heyer, telephone: 22 87 49 45 or email: clint.heyer@no.abb.com.

### Remote inspection using quadrotors – 2 students

One of the main challenges of future remote operations is to maintain adequate situational awareness. This exploratory project investigates how robot automation in general and quadrotors in particular, can be used to achieve this. Based on an introductory study of literature and requirements, successful candidates are expected to build a demonstrator which can be shown to customers and informally evaluated.

Required skills: Cybernetics, robot control, computer vision, C# Programming

Job-ID: NB50790503. For more information, contact David Anisi, telephone: 22 87 47 59 or email: david.anisi@no.abb.com.

Deadline for applying is February 20, 2011 on [www.abb.com/careers](http://www.abb.com/careers). Our research center is located in Oslo, and all summer jobs will be positioned here. The summer internship lasts from approximately June until August 2011.