

## **A workflow-based system for computer-assisted design of oligonucleotide probes**

Several computer programs are available for design of various types of oligonucleotide probes, such as PCR primers, microarray probes, and oligonucleotide ligation probes. Each program uses its own design scheme to select probes from lists of candidates generated based on target DNA sequences. This selection is usually performed using sets of selection filters, with each program providing its own implementation of the filters used for a particular task.

This project will be part of an effort to provide a unified system for designing different types of probes using reusable design system components. This requires a flexible solution for candidate generation and selection. The project will include analysis, design, and implementation of a workflow system for probe design, and integration of this subsystem into an existing probe design application.

The project will be carried out in a research group at the Rudbeck Laboratory, Uppsala University. The work in the group is focused on the development of new methods and tools for biomolecular analyses.

Applicants should have experience in object-oriented analysis and design as well as Java programming. A basic understanding of technologies for genetic analyses is an advantage. The project is scheduled to begin early October 2005.

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