Diploma work / MSc Thesis (Examensarbete 20 p):

Microfabricated cell culture devices for evaluation of drug candidates

Description

Acreo participates in "EuroHear", a joint European research project funded by the European Commission. Acreo's task is to develop microfabricated cell culture devices for culture of spiral ganglion neurons (the nerve cells interfacing the hair cells of the inner ear). The goal is to create an *in vitro* model of the inner ear, aimed at the evaluation of new drug candidates. Prototype devices have been fabricated by micro-molding of poly(dimethysiloxane) on a master of lithographically defined photoresist patterns on a silicon wafer. The devices can be described as small cages for neurons with micrometer sized openings for neurites to grow out through.

Within this project we can offer a diploma work which involves the design and manufacture of microsystem technology based cell culture devices and the evaluation of such devices in cell culture experiments. The microsystem technology part will take place at Acreo in Kista outside Stockholm and the cell biology part at Karolinska Institutet, Center for Hearing and Communication in Solna, Stockholm. For more information, please contact Acreo's contact person directly.

Preferred starting time: 1st quarter 2007. Other times can be discussed.

About Acreo

Acreo AB is a research institute owned by the Swedish Ministry of Industry and an industry association. Acreo is in general active in the fields of electronics, optics and communication technology. However, this scope includes applications of nano- and microtechnology outside the field of traditional electronics and optics, such as micro-sensors and microsystems for bioscience applicaitions (bioMEMS).

Candidate

Suggested background is last year MSc student (civilingenjörsprogram) in Molecular biotechnology, Engineering biology, Biotechnology, Biochemistry, or similar. In addition to a bioscience background it is essential that the candidate has an interest to learn micro system engineering skills and to spend roughly 50 % of the time in a non-biotech lab environment (Electrum laboratory).

Information on the web

Acreo: www.acreo.se

Electrum laboratory: www.electrumlab.se

Center for Hearing and Communication: www.ki.se/cfh/

EuroHear project: www.eurohear.org

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