

**Jobbnorge-ID:** 84645  
**Søknadsfrist:** Avsluttet  
**Nettside:**  
**Omfang:**  
**Varighet:**

## Post doc research position in bionanotechnology

A post doc position within the field of nanomedicine is available at the Department of Physics. The appointments have duration of 3 years.

The position are organized at the Department of Physics. Currently, there are 26 professors, 10 associate professors, 6 adjunct professors, 75 PhD research fellows and 25 postdoctoral positions appointed at the Department of Physics.

The current research fields at the Department includes optics, energy and environmental physics, didactic physics, biophysics and medical technology, condensed matter physics, surface science, nanotechnology and theoretical physics. Further information is available at: <http://www.ntnu.no/fysikk/english>

The successful applicants are highly competent, motivated and ambitious students. The candidate should have a PhD in biophysics, bionanotechnology or biotechnology and the applicants must have broad experimental experience, preferentially with biological materials (cells, animals). Experience within imaging (ultrasound, magnetic resonance or optical imaging) of mice is desirable.

The post doc will work on the project "Multifunctional nanoparticles for drug delivery across the blood-brain barrier" supported by the Research Council of Norway. One of the major challenges in treating diseases in the central nervous system is the delivery of drugs to the brain. The overall aim of the project is to develop a novel generic method for efficient transport of drugs across the blood-brain barrier. This will be achieved using two different nanoparticle platforms and combining silencing of efflux transporters and focused ultrasound. Magnetic Fe@gold core@shell nanoparticles functionalized with siRNA will be used to silence the efflux transporters. Polymeric nanoparticles having the ability to stabilize gas bubbles thereby forming a shell around the gas bubbles will be combined with focused ultrasound to penetrate the blood-brain barrier. This multifunctional polymeric nanoparticle might contain drugs, contrast agents for magnetic resonance imaging and a probe for optical imaging. To develop this novel method to penetrate the blood-brain barrier the nanoparticles have to be optimized and characterized, and tested in cell culture systems and in mice. For more information about the research activities of involved research groups see <http://www.ntnu.edu/physics/medphys/research>

The appointment of the post doc fellow will be made according to Norwegian guidelines for universities and university colleges and to the general regulations regarding university employees.

The national labour force must reflect the composition of the population to the greatest possible extent. NTNU wants to increase the proportion of women in its scientific posts. Women are encouraged to apply.

The position postdoc research fellow is remunerated according to the Norwegian State salary scale.

Further information can be obtained from professor Catharina Davies, Department of Physics, NTNU, Phone. +47 73593688, e-mail: [catharina.davies@ntnu.no](mailto:catharina.davies@ntnu.no) or assoc. professor Wilhelm Glomm, Department of Chemical Engineering, Phone +47 73594148, e-mail: [glomm@nt.ntnu.no](mailto:glomm@nt.ntnu.no)

Applications with CV, possible publications and other scientific works, certified copies of transcripts and reference letters should be submitted electronically through this page.

The reference number of the position is: NT 63/12

Application deadline: 15. August 2012

### Tilleggsinformasjon

**Arbeidssted:**