

## **39 PHD- AND 3 POSTDOC POSITIONS AT FACULTY OF NATURAL SCIENCES AND TECHNOLOGY**

The Faculty of Natural Sciences and Technology (NT) is an international arena for research and education in the natural sciences, environmental science, biotechnology, chemistry, physics, materials and chemical engineering.

About 325 PhD candidates are today enrolled into the eight PhD programme offered by the faculty. We now invite applicants for 39 PhD positions and 3 Post doc positions.

## **21 PHD POSITIONS AT THE FACULTY OF NATURAL SCIENCES AND TECHNOLOGY, Ref.nr. NT 68/08**

The fellowships are open to applicants in all areas of research covered by the faculty. Further information on the faculty and its six departments is available at

<http://www.ntnu.no/nt/english>

The applicants are awarded PhD fellowships on a competitive basis, to help recruit talented candidates for the PhD study programme administered by the faculty.

Applicants must have completed a master degree (MSc, MEng) or provide documentation of equivalent training in a field relevant to research pursued at one of NT's departments, and must satisfy the formal grades requirements for admission to the PhD studies at NTNU.

Moreover, we request that the candidates contact a relevant research group at the faculty to define a project. A brief outline of the project, signed by both the applicant and his/her prospective supervisor (faculty member in that research group) should be included with the application.

Further information on these fellowships can be obtained from the vice-dean for research, Åse Krøkje, phone +47 73 59 61 26, email [Ase.Krokje@nt.ntnu.no](mailto:Ase.Krokje@nt.ntnu.no) or the dean, Bjørn Hafskjold, phone +47 73 59 44 87, email [bjorn.hafskjold@nt.ntnu.no](mailto:bjorn.hafskjold@nt.ntnu.no), Faculty of Natural Sciences and Technology, NTNU.

The positions will be administratively connected to the department where the main supervisor is located.

## **2 PhD RESEARCH FELLOWSHIPS WITHIN NTNU STRATEGIC AREA "MATERIALS", Ref.nr. NT 69/08**

The Faculty of Natural Sciences and Technology invites applicants for 2 PhD positions within NTNU's strategic area 'Materials'. Further information on the strategic strength area is available at <http://www.ntnu.no/materials>

Applicants for the PhD fellowships must have completed a master degree (MSc, MEng) or provide documentation of equivalent training in a field relevant to one or more of the following profile areas:

- Materials for oil and gas
- Materials applied in energy technology

- Light metals
- Materials for sensors and electronics

Further information on these fellowships can be obtained from Head of Materials, professor Hans Jørgen Roven, tlf: + 47 73 59 49 66, e-mail: [Hans.j.Roven@nt.ntnu.no](mailto:Hans.j.Roven@nt.ntnu.no)

## **2 PHD POSITIONS AT DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, Ref.nr. NT 70/08**

There are two available PhD positions at the Department of Material Science and Engineering. We aiming for to recruit particularly talented candidates and the research carried out by the candidate must be within one of the research areas of the Department. Information about the department can be found online at: <http://www.ntnu.no/materialteknologi/english>

The applicant should hold a Master of Science (MSc) degree or similar in one of the following areas or another related area: Material science, chemistry or physics.

Further information regarding the position can be obtained by contacting professor Tor Grande, tlf. +47 73 59 40 84, e-post: [Tor.Grande@material.ntnu.no](mailto:Tor.Grande@material.ntnu.no) or professor Knut Marthinsen, tlf. +47 73 59 34 74, e-post: [knut.marthinsen@material.ntnu.no](mailto:knut.marthinsen@material.ntnu.no).

## **2 PHD POSITIONS AT DEPARTMENT OF CHEMICAL ENGINEERING, Ref.nr. NT 71/08**

At Department of Chemical Engineering there are 2 vacant positions as research fellow in Chemical Engineering in general.

The applicant should hold a Master of Science (MSc) degree or similar in a relevant area of the department.

To obtain more information about the positions and research activity at the Department, please visit our homepage: <http://www.ntnu.no/kjempros/english> or contact Head of Department, Professor Sigurd Skogestad, e-mail: [sigurd.skogestad@chemeng.ntnu.no](mailto:sigurd.skogestad@chemeng.ntnu.no), Tel: +47 73 59 42 54.

## **1 PHD POSITIONS WITHIN SYSTEMS BIOLOGY AT DEPARTMENT OF CHEMICAL ENGINEERING, Ref.nr. NT 72/08**

At Department of Chemical Engineering there is 1 vacant position as research fellow within the area of Systems Biology.

The applicant should hold a Master of Science (MSc) degree or similar in a relevant area.

To obtain more information about the position and research activity at the Department, please visit our homepage: <http://www.ntnu.no/kjempros/english> or contact Head of Department, Professor Sigurd Skogestad, e-mail: [sigurd.skogestad@chemeng.ntnu.no](mailto:sigurd.skogestad@chemeng.ntnu.no), Tel: +47 73 59 42 54.

For more information about the area Systems Biology, please visit our homepage [www.ntnu.no/systemsbiology/](http://www.ntnu.no/systemsbiology/)

## **2 PHD POSITIONS WITHIN SYSTEMS BIOLOGY, Ref.nr. NT 73/08**

The fellowships are in the research area of Systems Biology, with primary focus on the modelling and analysis of biological networks. Further information on the Systems Biology group at the faculty is available at:

<http://www.ntnu.no/systemsbiology/>

Information on the faculty and its six departments is available at

<http://www.ntnu.no/nt/english>

The position requires a Master of Science (MSc/Cand scient) degree or similar within the field of:

- bioinformatics / statistics
- biochemistry
- computational biology
- physics
- biology

The ideal candidate has a working knowledge of biology and experience with the software language PEARL. Experience with network approaches is a plus, but not a requirement.

Further information on these fellowships can be obtained from Professor Eivind Almaas, e-mail: [eivind.almaas@ntnu.no](mailto:eivind.almaas@ntnu.no), Department of Biotechnology, NTNU.

## **1 PHD POSITION AT THE DEPARTMENT OF BIOTECHNOLOGY, Ref.nr. NT 74/08**

The Department of Biotechnology announces a vacant PhD research fellowship in the area of Microbial Biotechnology.

This research project will join the Department's ongoing research on antibiotic-producing *Streptomyces*-bacteria, and will focus on metabolite analyses by mass spectrometry (Metabolomics). The Department of Biotechnology cooperates with SINTEF Materials and Chemistry in several research projects pursuing a greater knowledge on bacterial antibiotic synthesis.

We seek candidates with a completed master of science degree or equivalent in biotechnology or related areas. Candidates with prior experience with mass spectrometry, metabolite analyses in particular, will be preferred.

Further information on the fellowship can be obtained from associate professor Per Bruheim, [per.bruheim@biotech.ntnu.no](mailto:per.bruheim@biotech.ntnu.no), tel. +47 73 59 33 21. Information on the Department of Biotechnology can be found at <http://www.ntnu.no/bioteknologi/english>

### **1 PHD POSITION AT DEPARTMENT OF CHEMISTRY, Ref.nr. NT 75/08**

The successful applicant will be placed in a research group working on the preparation and characterisation of nanoporous materials. These have applications involving derivatives from oil and natural gas. The main techniques used will be x-ray diffraction, electron microscopy, vibrational spectroscopy and various adsorption/desorption techniques. The main focus will be vibrational studies on systems under realistic conditions in reactions where the materials take part as catalysts.

The candidates should hold a Master (MSc) in chemistry. Preference will be given to applicants with a background in solid state spectroscopy, inorganic chemistry or physical chemistry.

For further information about the position please contact Head of Department, David Nicholson, phone +47 73 59 60 09, e-mail: [David.Nicholson@chem.ntnu.no](mailto:David.Nicholson@chem.ntnu.no)

Information about the Department of Chemistry can be found at <http://www.ntnu.no/kjemi/english>

### **1 PHD POSITION IN SOLAR CELL RESEARCH, Ref.nr. NT 76/08**

There is one available PhD position at the department of material science and engineering within research on solar cell materials.

The candidate will be part of a group that works with synthesis of transparent conducting oxide materials and optical active layers for light harvesting. Materials synthesis will be performed using wet chemical methods and chemical vapor deposition. The materials will be used to increase the efficiency of solar cells and characterization of electrical and optical properties of the materials are important. The position is an important for strengthening the research on next generation solar cells at NTNU.

The applicant should hold a Master of Science (MSc) degree or similar in one of the following areas or another related area: Chemistry, material science, physics.

Further information regarding the position can be obtained by contacting Professor Mari-Ann Einarsrud, tlf. +47 73 59 40 02, e-post: [Mari-Ann.einarsrud@material.ntnu.no](mailto:Mari-Ann.einarsrud@material.ntnu.no) or Professor Tor Grande, tlf. +47 73 59 40 84, e-post: [Tor.Grande@material.ntnu.no](mailto:Tor.Grande@material.ntnu.no).

Information about the department can be found online at: <http://www.ntnu.no/materialteknologi/english>

## **1 PHD POSITION WITHIN SOLAR ENERGY, Ref.nr. NT 77/08**

There is one available PhD position at the Department of materials science and engineering within research on solar energy.

The position should be used to recruit promising candidates with interest for production of silicium to solar cells via metallurgical processes.

The applicant should hold a Master of Science (MSc) in Metallurgy, Chemistry og Materials Science, preferably with experience from high temperature experimental work.

Further information about the position can be obtained cy contacting Associate Professor Gabriella Tranell, e-mail: [gabriella.tranell@ntnu.no](mailto:gabriella.tranell@ntnu.no)

Information about the department can be found online at:  
<http://www.ntnu.no/materialteknologi/english>

## **1 PhD POSITION WITHIN HIGH-TEMPERATURE CORROSION AND SURFACE TECHNOLOGY, Ref.no. NT 78/08**

At Department of Materials Science and Engineering, a PhD position is offered within high-temperature corrosion and surface technology.

The research will focus on high-temperature corrosion of metals and corrosion protection of the metallic surfaces. Corrosion of metallic interconnects in high-temperature solid oxide fuel cells will be in focus. Such interconnects do also function as gas separators in the fuel cells, and will hence be exposed to both oxidizing and reducing atmospheres in combination with high temperature. Therefore, the degradation of the metals/alloys together with the possibility of preventing corrosion by coating the surface will be given great attention. Research on different types of metals/alloys will be important.

The applicant should hold a Master of Science (MSc) degree or similar in one of the following areas or another related area: Chemistry, material science, physics.

Further information regarding the position can be obtained by contacting Associate Professor Hilde Lea Lein, phone: +47 73 55 08 80, e-mail:  
[hilde.lein@material.ntnu.no](mailto:hilde.lein@material.ntnu.no).

Information about the department can be found online at:  
<http://www.ntnu.no/materialteknologi/english>

## **1 PHD POSITION IN NANOMATERIALS, Ref.nr. NT 79/08**

There is one available PhD position at the Department of materials science and engineering within nanomaterials research.

The candidate will be part of a group that works with synthesis of conducting ceramic materials, and the work will focus on electrodes for Li-ion batteries. Materials synthesis will be performed using wet chemical methods, focusing on nanostructuring. These materials should be able to improve capacity of Li-ion batteries, and characterization will be performed with regards to surface chemistry and kinetics as well as ionic and electronic conductivity. The position is an important part in the establishment and development of Li-ion battery research at NTNU.

The applicant should hold a Master of Science (MSc) degree or similar in one of the following areas or another related area: Chemistry, material science, physics.

Further information regarding the position can be obtained by contacting Associate Professor Fride Vullum, phone nr. +47 73 59 39 76, e-mail:

[Frider.Vullum@material.ntnu.no](mailto:Frider.Vullum@material.ntnu.no)

Information about the department can be found online at:

<http://www.ntnu.no/materialteknologi/english>

## **1 PHD POSTION AT DEPARTMENT OF PHYSICS, Ref.nr NT 80/08**

As part of an international project, a state-of-the-art mm-wave radiometer has been deployed at Troll station, Antarctica to measure the effect of energetic particle bombardment on the atmosphere in the polar regions. We seek a PhD level student to work with this radiometer in order to derive vertical profiles of minor species, including ozone, affected by particle precipitation, and to examine the effects on the chemistry and dynamics of the middle atmosphere between 30 and 90 km.

The student should have a degree in Physics, Geophysics, Chemistry or a closely related field. They should have computer experience, and knowledge of a programming language and experience with packages such as MATLAB would be an advantage. Good communication skills and the ability to work with international partners is essential.

For further information about the position, please contact Professor Patrick Espy, phone +47 73 55 10 95, e-mail: [patrick.espy@ntnu.no](mailto:patrick.espy@ntnu.no)

Information about the Department of Physics can be found at <http://www.ntnu.no/fysikk/english>

## **2 PHD POSITIONS IN FUNCTIONAL GENOMICS (FUGE), Ref.nr NT 81/08**

The positions will be available to outstanding candidates associated with successful research groups within functional genomics at NTNU.

Landmark technology has made it possible to study tens of thousands of genes and proteins simultaneously. Functional genomics makes use of this technology to study the function of specific genes, their protein products and how they affect each other. Functional genomics will be of significance to society, industry and commerce in the future. For more information about FUGE in Mid-Norway please see <http://www.ntnu.no/forskning/fuge>.

### **Conditions for the PhD positions**

- When applying for a PhD position the project description will form the basis for admission to the PhD programme. The fellows will be appointed by the faculty that has administrative responsibility for the actual research group.
- The candidate must prepare an application in cooperation with a potential supervisor at NTNU.
- In the evaluation process emphasis will primarily be placed on the candidate's qualities. If two candidates compete equally the quality of the PhD projects will be decisive.
- Applicants for the PhD positions must hold a Master's degree. If a Master's degree has not been assigned at the time of application it will be required of the applicant to show that the Master's degree has been registered and that the thesis is submitted for evaluation by 1 April 2009.
- The positions must commence no later than 1 July 2009.
- Research groups supporting several PhD applications will be asked to rank the candidates in order of preference.

For further information on how to apply and requirements for the application, please see full announcement at <http://www.ntnu.no/research/fuge/announcements>, or contact FUGE Midt-Norge coordinator, Janne Østvang, e-mail: [janneos@nt.ntnu.no](mailto:janneos@nt.ntnu.no), phone +47 73 59 60 64.

## **1 POST DOC POSITION WITHIN NTNUS STRATEGIC AREA "MATERIALS", Ref.nr. NT 82/08**

The Faculty of Natural Sciences and Technology invites applicants for 1 postdoc position within NTNUs strategic area 'Materials'. Further information on the strategic strength area is available at <http://www.ntnu.no/materials>

Applicants for the postdoc-fellowships must have a PhD or equivalent degree in a field relevant to one or more of the above mentioned profile areas.. In order to be considered the applicant must have submitted the PhD thesis for final examination before May 1<sup>st</sup>, 2009.

Further information on these fellowships can be obtained from Head of Materials, professor Hans Jørgen Roven, tlf: +47 73 59 49 66, e-mail: [Hans.j.Roven@nt.ntnu.no](mailto:Hans.j.Roven@nt.ntnu.no)

## **1 POST DOCTORAL POSITION IN BIOMOLECULAR NMR, Ref.nr. NT 83/08**

Postdoctoral research associate position is available at the Department of Biotechnology. The position foresees investigation of biomedically relevant proteins involved in redox regulation of cellular processes as well as other biomedically relevant proteins. The studies may include bioinformatics research aimed at discovery of novel redox-regulated proteins, biochemical analyses of these proteins, biomolecular NMR investigations (structural and dynamic) and elucidation of interactions of relevant proteins by NMR spectroscopy. The NMR center of the NTNU is equipped with Bruker 300 MHz, 400 MHz and 600 MHz spectrometers. The latter spectrometer is equipped with a cryoprobe. The Department of Biotechnology also has excellent instrumentation for bioinformatics, molecular biology and biochemical research.

### **Requirements**

- a) Ph.D. in Chemistry, Biochemistry, Structural Biology or related fields.
- b) Advantage will be given to applicants with experience in high resolution heteronuclear NMR of proteins in solution supplemented by experience with programming, bioinformatics, molecular biology and protein chemistry. Experience in work with Bruker spectrometers as well as with CARA/CYANA software packages is preferred.
- c) We seek a self motivated person, a hard worker with good organizational skills and a team player.

For further information about the position please contact Associate Professor Alexander Dikiy, e-mail: [Alex.dikiy@biotech.ntnu.no](mailto:Alex.dikiy@biotech.ntnu.no) , phone: +47 73 59 78 63  
Information about the Department of Biotechnology can be found at <http://www.ntnu.no/bioteknologi/english>

## **1 POSTDOCTORAL POSITION IN FUNCTIONAL GENOMICS (FUGE), Ref.nr. NT 84/08**

The positions will be available to outstanding candidates associated with successful research groups within functional genomics at NTNU.

Landmark technology has made it possible to study tens of thousands of genes and proteins simultaneously. Functional genomics makes use of this technology to study the function of specific genes, their protein products and how they affect each other. Functional genomics will be of significance to society, industry and commerce in the future. For more information about FUGE in Mid-Norway please see <http://www.ntnu.no/forskning/fuge>.

The aim of the postdoctoral project is to support a promising candidate who has recently defended his/her PhD thesis. This type of funding is meant to develop the candidate's competence in her/his prioritized area, and is to qualify the candidate for future advancement in academia.

**Conditions for the postdoctoral position:**

- The applicant must have established or agreed on collaboration with a relevant research group at NTNU. Hence, interested candidates are requested to contact research groups at NTNU for assistance in applying.
- In the evaluation process, the quality of the candidate as reflected by his/her PhD thesis and the quality of the proposed project will be given equal weights.
- Applicants who already have been employed as a postdoctoral fellow at NTNU will not be considered for the position.
- Applicants for the postdoctoral positions must hold a PhD. If a PhD has not been assigned at the time of application it will be required of the applicant to show that the PhD degree has been registered and that the thesis is submitted for evaluation by 1 April 2009.
- The position must commence no later than 1 July 2009.
- Research groups supporting several postdoctoral applications will be asked to rank the candidates in order of preference.

For further information on how to apply and requirements for the application, please see full announcement at <http://www.ntnu.no/research/fuge/announcements>, or contact FUGE Midt-Norge coordinator, Janne Østvang, e-mail: [janneos@nt.ntnu.no](mailto:janneos@nt.ntnu.no), phone +47 73 59 60 64.

**Generell information for all the ph.d. positions:**

Potential candidates must contact possible supervisors at the Department with the intention to work out a short research proposal, which should be included in the application. A brief outline of the project, signed by both the applicant and his/her prospective supervisor (faculty member in that research group) should be included with the application.

The appointment of the PhD fellow will be made according to national guidelines for appointment of PhD fellows at universities and university colleges. Applicants are obliged to engage in an organized PhD training program, and appointment requires approval of the applicant's plan for a PhD study. A contract regarding the period of appointment and the obligations of the PhD fellow must be signed by the Fellow and the University.

In order to be accepted as a PhD student the grades of the MSc project has to be sufficiently high (in Norway: B/2.5 or better), or the applicant has to document a similar level through later scientific work. Candidates from universities outside Norway are kindly requested to send a Diploma Supplement or a similar document, which describes in detail the study and grade system and the rights for further studies associated with the obtained degree:

[http://ec.europa.eu/education/policies/rec\\_qual/recognition/diploma\\_en.html](http://ec.europa.eu/education/policies/rec_qual/recognition/diploma_en.html)

PhD fellowships at NTNU are awarded for a period of 3 years, but may be prolonged for a total period of 4 years incl. 25 % of teaching duties. These duties are commonly distributed over the 4 years.

The PhD fellowships are placed in salary code 1017, and starts at level 45 on the Norwegian government pay scale, i.e., 353.000 NOK per year (before tax). The salary is subject to normal taxation by city and government authorities, as well as a statutory 2 % deduction for contribution to the Norwegian government pension scheme.

Generell information for the postdoc positions:

Potential candidates must contact possible supervisors at the Department with the intention to work out a short research proposal, which should be included in the application. A brief outline of the project, signed by both the applicant and his/her prospective supervisor (faculty member in that research group) should be included with the application.

The appointment of the postdoc fellow will be made according to national guidelines for appointment of postdoc fellows at universities and university colleges.

Post doc fellowships at NTNU are awarded for a period of 2 years and are placed in salary code 1352, level 57, on the Norwegian government pay scale, NOK 435.500 per year (before tax). The salary is subject to normal taxation by city and government authorities, as well as a statutory 2 % deduction for contribution to the Norwegian government pension scheme.

Generell information for all positions:

The applicant to be selected for the fellowships will work under the general regulations for university employees in Norway.

NTNU wishes to increase the proportion of women in scientific posts, and women are encouraged to apply.

The application must include *curriculum vitae* with information on the candidate's prior training, exams, and work experience. It is requested that research publications and other written material submitted for the evaluation of academic credentials, should be provided in 3 copies. In case of co-authorship, the applicant should provide a brief, written statement explaining his/her own contribution.

Applications with CV and other documents should be sent electronically through <http://www.jobbnorge.no>. We prefer the attachments in one file. Publications should be sent in 3 hard copies by mail to NTNU, Faculty of Natural Sciences and Technology, Høgskoleringen 5, N-7491 Trondheim. These documents will only be returned on inquiry. Mark your application with journal no. Application deadline is **January 15, 2009**.