

Detection of nanoparticles in biological tissues by mass spectrometry and electron microscopy

The National Food Institute, Technical University of Denmark, wishes to appoint a ph.d. fellow with strong analytical competences to the project *Establishing a cell-line based testing-system for food-safety of engineered nanoparticles (NanoTest)*. The position is available from August 1st 2008 to July 31st 2011.

The tasks of the ph.d. fellow are:

- (i) to map the distribution of elements in tissues of animals, exposed to inorganic nanoparticles (NPs)
- (ii) to develop and validate methods for detection as well as characterisation of NPs in biological fluids in terms of their size, shape and agglomeration state
- (iii) to localise NPs in organs and tissues from exposed animals

The detection of NPs will be carried out using separation techniques such as field flow fractionation (FFF) or HPLC coupled with light scattering or mass spectrometric detectors. Furthermore, the NPs will be characterised in-situ by bio-nanoscopy in close collaboration with the Core Facility for Advanced Light and Electron Microscopy at the Faculty of Health, University of Copenhagen. The ph.d. fellow shall collaborate with other professionals within the cross-disciplinary NanoTest project, including a veterinarian, biochemists, a medical doctor and a physical chemist.

The ph.d. fellow will become affiliated with the Metals and Minerals in Food research team of the Department of Food Chemistry, which is located about 8 km west of Copenhagen City. The team presently has one professor, one senior researcher, three postdocs, one ph.d. fellow and two technicians. For more information on our activities, please visit: www.food.dtu.dk/Default.aspx?ID=20794

The applicants must have passed a M.Sc. degree within chemistry or applied biology. The ph.d. fellow must demonstrate research potential and practical laboratory skills within analytical chemistry, preferably separation techniques coupled with mass spectrometry. Experience with electron microscopy and surface science is an additional benefit. Fluency in written and/or spoken Danish or English is required.

The scholarships for the ph.d. degree are subject to academic approval, and the candidates will be enrolled in one of the general degree programmes of DTU. Information about the general requirements for enrolment and the general planning of the scholarship studies is included in the general rules of DTU, which may be obtained by application to the ph.d. programme office at tel: +45 45 25 11 76 or +45 45 25 11 77.

The salary and appointment terms are according to the Agreement between the Danish Ministry of Finance and the Danish Confederation of Professional Associations.

For further information, please contact professor Erik Huusfeldt Larsen, Department of Food Chemistry, tel.+45 7234 7631 or by e-mail at ehlar@food.dtu.dk

Applications with enclosures should be submitted online by using the "Apply for this job online" button at the foot of this page.

Your application must include the following enclosures marked with the stated appendix numbers:

Appendix 1: Curriculum vitae with documentation of education.

Appendix 2: Material required for expert assessment (publications, book chapters and similar)

Appendix 3: Letter of motivation

The application must be received no later than **June 16th 2008 at 12.00 noon**

Following processing of the application, any submitted material will be destroyed.

Receipt of the application will not be acknowledged, but the applicant will be kept continuously informed of the progress of the application.

The applicant will be assessed according to the Ministry of Science Technology and Innovation Executive Order no 92 of 22. February 2008.

All interested candidates irrespective of age, gender, race, religion or ethnic background are encouraged to apply.