

The Eindhoven University of Technology (TU/e) has the following vacancy

PhD Student “AiO” (V50.XXX)

in the Biomedical NMR Group within the section ‘Molecular Bioengineering & Molecular Imaging’ of the Department of Biomedical Engineering

The Department of Biomedical Engineering is a joint department of the Eindhoven University of Technology (TU/e) and the University of Maastricht interfacing and integrating engineering and biomedical sciences from the two universities. The department is organized into 3 divisions: 1) Biomechanics and Tissue Engineering, 2) Molecular Bioengineering and Molecular Imaging, and 3) Biomedical Imaging and Modeling.

Within the second division, the Biomedical NMR group of prof. Nicolay uses *Magnetic Resonance Imaging* (MRI) and *Magnetic Resonance Spectroscopy* (MRS) to study aspects of the structure, the function and the metabolism of living tissue. Main research themes involve *skeletal muscle function and metabolism*, the *cardiovascular system* and *molecular imaging*. Where possible, detailed studies on live laboratory animals are combined with research in humans. The aim of our research is to gain an improved understanding of tissue function, both in health and cases of disease. Our research delivers fundamental and translational knowledge of interest to the Life Sciences and diagnosis and treatment of human disease (website: www.bmt.tue.nl/nl/onderzoek/divisies/molecular_bioengineering_mol_imaging/biomedical_nmr/research/).

Project description: The ‘Metabolic Syndrome’ (MetS) is an obesity-associated condition that increasingly affects adults in modern society and, if unchecked, may develop into morbid disease such as Diabetes and cardiovascular disease. To gain understanding of the multifactorial etiology of this condition, a Systems Biology investigation involving experimental data gathering and computational modeling of organ- and whole body energy metabolism, will be conducted in rodent models of MetS. The project will be done in close collaboration with a research team of the [Center of Medical Systems Biology](#) at the LUMC in Leiden, NL and is part of the Netherlands Consortium for Systems Biology (NCSB) funded by the Netherlands Genomics Initiative.

A position is available in the Biomedical NMR group at the TU/e to support the experimental data gathering effort in the project. Specifically, the candidate is expected to develop and implement innovative MR methods including metabolic stress tests to study energy metabolism in rodent organs *in vivo* using a state of the art 9.4T animal MR scanner. A specific objective and challenge of the project is to closely interact with the modeling group to find novel strategies and designs of metabolic studies. The candidate is expected to write a PhD thesis on his/her research results.

Vacancy and requirements: We are seeking a candidate facile with computational analysis and knowledgeable of biological processes. The candidate should be recently graduated from a MSc. program in either biomedical engineering, (bio)chemistry, (bio)physics or a related field, with,

- Knowledge and experience in biomedical science and technology,
- Strong affinity for multidisciplinary research,
- Capacity to write and communicate in English.

Appointment and Salary:

We offer:

- A challenging job at a dynamic and ambitious University
- An appointment for four years
- Gross monthly salaries are in accordance with the Collective Labor Agreement of the Dutch Universities (CAO NU), increasing from € 2000 per month initially, to € 2558 in the fourth year.
- An attractive package of fringe benefits (including excellent work facilities, end of the year allowance and sport facilities)

Information:

- The project will be supervised by dr J.A.L. Jeneson (email: j.a.l.jeneson@tue.nl; tel +31-40-247 5884) and prof dr K. Nicolay (k.nicolaj@tue.nl; tel +31-40-247 4248 (secr)).
- More personnel information can be obtained from Y. Bloemers-Kluijtmans, personnel dept. (email: y.bloemers@tue.nl, and telephone +31.40.247.2030).

Applications:

Please send your written application with extended curriculum vitae mentioning vacancy number V50.XXX.
to:

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