

Are you enthusiastic about basic human pain research? The Center for Neuroplasticity and Pain (CNAP) at Aalborg University is recruiting several PhD fellows within the doctoral programme "Biomedical Engineering and Neuroscience", to start 1st August 2024 or soon hereafter

### **Who are we?**

We strive to identify and modulate key features of human pain neuroplasticity and its relevance for persistent pain in humans.

CNAP is a research Center of Excellence inaugurated by the Danish National Research Foundation at Aalborg University, Denmark ([www.cnap.hst.aau.dk](http://www.cnap.hst.aau.dk)). CNAP applies a basic research approach where new advanced biomedical provocation and probing platforms are being discovered and applied to study novel aspects of the human pain neuroplasticity. The ambition of CNAP is to identify and modulate key features of human pain neuroplasticity through a systematic approach, including provoking, probing and modulation of the dynamic neuroplastic properties of the pain system. We believe that this approach over time will foster new fundamental discoveries and change the state of the art and offer novel ways for pain treatment. Our world class lab facilities enable advanced quantitative sensory/pain testing, application of advanced neurophysiological techniques (e.g. EEG, TMS, TMS-EEG, rTMS, HD-tDCS), bio-medical techniques (e.g. linked with epigenetics and general biomarkers), as well as research based on animal models (e.g. rodents and pigs).

CNAP is a dynamic and international research environment: approximately 60% of our staff is international, with an almost 50-50% gender balance. Our working language is English, and you will also be writing your thesis in English. We are highly interdisciplinary and include experts within e.g. biomedical engineering, neuropsychology, pharmacology, biophysics, and medicine with industrial specialisation, and medicine. You will thus be joining an inspiring, enriching, and productive cross-disciplinary research centre including staff with internationally recognized track records.

CNAP is affiliated to the Department of Health Science and Technology at the Faculty of Medicine, which does multidisciplinary research and teaching in the area of health science and technology (e.g. medicine and biomedical engineering). The strategic focus of the department is to be leading within digital health and being well-known for medical doctors and engineers collaboratively developing solutions together. The department has more than 250 employees and is responsible for more than 1700 students.

### **Working at CNAP**

CNAP offers several PhD scholarships for exploring neuroplasticity and pain. You will be involved in our frontline research to identify novel mechanisms involved in the dynamics of pain neuroplasticity, and our efforts to advance the understandings of this topic within the academic world and beyond. Specifically, your tasks will be to

- Conduct research under the supervision of senior CNAP staff members. Relevant projects focus on:
  - **Brain Neuro-Adaptability to Pain** ([www.cnap.hst.aau.dk/lundbeck-professorship](http://www.cnap.hst.aau.dk/lundbeck-professorship))
  - **Excitability and connectivity changes in people with chronic pain using transcranial magnetic stimulation coupled with concomitant EEG**
  - **Exploring neuroplastic potential in humans– is it reduced in people with pain and/or depression?**
- Write up research results in the form of journal articles and book chapters.
- Participate in and co-arrange national and international research conferences and be exposed to external research environments as e.g. a visiting researcher.
- Disseminate the results of your research to the public.

- Follow Ph.D. training courses.
- Participate in the day-to-day life of the Center(e.g. research meetings, Round Table Meetings, seminars, social activities)

Develop a solid background in pain neuroscience that will allow you to foster a curious and critical sense to analyse and interpret scientific information.

### **We support students who have an ambition to conduct frontline research**

We are committed to offering our PhD fellows the best possible research training. As a PhD fellow you will join Aalborg University's Doctoral School in Medicine, Biomedical Science and Technology with more than 150 enrolled PhD students. In addition to getting first class supervision from your supervisors who will guide you in the process of conducting and completing your PhD project, you will have access to a range of different PhD courses. Some will be of specific scientific relevance to your own project, while others will be of a more general character offering you training in transferable skills such as communication, research, and project management. Your scientific education will be supplemented with participation in joint events like journal clubs, workshops, and symposia. You will be offered relevant collaborative research training and/or research visits to external research centres outside Denmark.

You will join a research team, which is a larger group of colleagues(PhD students, post-doc researchers, and professors) who share your primary research interest. This gives ample opportunity for **sparring and deep discussions**. We strive to foster a friendly and supportive working environment, believing that this is the best way to ensure world class scientific results. Please see CNAP web-page for a video of PhD life at CNAP here: <https://www.cnap.hst.aau.dk/>

The PhD scholarships include:

- A competitive salary, enabling you to enjoy living and working in a growing, exciting and centrally located European city, Aalborg, Denmark.
- Covered university fees.
- Danish health insurance.
- Research costs for your projects.
- Travel funds for you to present your work at scientific conferences.
- Opportunity to travel and visit our research collaboration partners.
- An office for you to focus your research activities.
- Computer and other practical office necessities.
- Access to well-equipped laboratories.
- Guidance on re-location to Aalborg, Denmark.

### **Who are you?**

CNAP requests talent.

CNAP recruits highly qualified and committed candidates worldwide who demonstrate great research potential. We expect that our PhD fellows will serve as first movers in a new generation of researchers capable of exploiting the synergies between different research disciplines and technologies. You will be part of an endeavour to optimize and boost innovation and advance the scientific area of biomedical and neural engineering together with basic and integrative neuroscience within the CNAP research groups. You hold a Master's Degree in biomedical engineering, neuroscience, pharmacology, medicine, neuroscience, medicine with industrial specialisation or equivalent with the prospect of pursuing studies on human pain neuroplasticity utilizing biomedical technologies(e.g. quantitative assessment) and human pain biomarkers. Previous research experience on fundamental pain mechanisms and their clinical impact is an advantage, but not a requirement. As English is our working language, it is necessary that you have

a high level of proficiency (orally and written) in English. Good dissemination skills are important.

### **Conditions of employment**

PhD stipends are allocated individuals who hold a Master's degree for a period of three years, and salary is in accordance with the agreement between the Ministry of Finance and the Central Academic Organisation. It is a prerequisite for allocation of the stipend that the candidate will be enrolled as a PhD student at the Doctoral School of Engineering and Science in accordance with the regulations of Ministerial Order No. 1039 of August 27, 2013 on the PhD Programme at the Universities and Certain Higher Artistic Educational Institutions. According to the Ministerial Order, the progress of the PhD student shall be assessed every six months. It is a prerequisite for continuation of salary payment that the previous progress is approved at the time of the evaluation. You will receive access to shared office space and access to laboratory facilities. CNAP also provides administrative assistance to relocate to Aalborg, Denmark. Please find more information about working at Aalborg University, living in Denmark etc. at the homepage of Aalborg University's International Staff Unit: [www.isu.aau.dk](http://www.isu.aau.dk).

### **Contact**

You may obtain further information at our website <http://www.cnap.hst.aau.dk>, Associate Professor Daniel Ciampi de Andrade (regarding project 2, [dca@hst.aau.dk](mailto:dca@hst.aau.dk)), and Centre Director, Professor Thomas Graven-Nielsen ([tgn@hst.aau.dk](mailto:tgn@hst.aau.dk)).

Shortlisting will be applied. This means that subsequent to the deadline for applications the head of department supported by the chair of the assessment committee will select candidates for assessment. All applicants will be informed whether they will be assessed or not.

For further information about stipends and salary as well as practical issues concerning the application procedure contact Ms. Ruth Klitte, The Doctoral School at The Faculty of Medicine, email: [rk@adm.aau.dk](mailto:rk@adm.aau.dk)

For more information of the The Doctoral School in Medicine, Biomedical Science and Technology: <https://www.phd.aau.dk/health>

[Please read the full job description and apply at the university homepage](#)

### **Application deadline**

02.06.2024