

# PhD Scholarship in Software Architectures for Shared Care in Personal Health Technology

Danmarks Tekniske Universitet (DTU)

Ph.d. project

Greater Copenhagen

## **Frist 1. september 2017**

DTU Compute's Section for Embedded Systems and Copenhagen Center for Health Technology (CACHET), would like to invite applications for a 3-year PhD position starting November 1<sup>st</sup> 2017. The project is financed by CACHET.

CACHET is an interdisciplinary research center spanning the technical and health sciences and consists of a unique academic network of researcher working together on the design, realization, evaluation, and implementation of personal health technology.

DTU Compute is an internationally unique academic environment spanning the science disciplines mathematics, statistics and computer science. At the same time we are an engineering department covering informatics and communication technologies (ICT) in their broadest sense. Finally, we play a major role in addressing the societal challenges of the digital society where ICT is a part of every industry, service, and human endeavour.

## **Project Description**

The aim is to design and develop software architecture for "shared care". A shared care platform supports two fundamental purposes: 1) effective communication and collaboration between all stakeholders involved in patient treatment, and 2) strengthening patients' participation and adherence to effective treatment of physical and mental diseases. This work will be based on prior research in Computer Supported Cooperative Work (CSCW) for healthcare coordination and ongoing research into Ubiquitous Computing in personal health technology. The goal is to provide a novel architecture for patient involvement and to provide essential data streams for disease monitoring, analysis, and prediction. In combination, the platform will provide a shared care platform which actively engages both the professional care team and the patient in monitoring and treatment of diseases. This allows for early intervention based on triggers and early warning signs (EWS) enabling a proactive care model based on shared decision-making.

The scientific focus is related to software architecture for continuous data collection, communication, collaboration, EWS detection/prediction, and novel user interface technology for advances data visualization and shared decision making in time and life-critical domains.

## **About the role**

Applications are sought from candidates interested in pursuing a PhD in ubiquitous computing and software architecture. Candidates will be based in DTU Compute, Denmark and will be registered for the doctoral program within Technical University of Denmark.



You will be part of a large interdisciplinary research project called the "Phy-Psy Trial", which spans both the technical and medical sciences, involving a wide range of partners. The project has been funded by the Novo Nordisk Foundation.

### Qualifications

Candidates should:

- have a master degree in computer science, software engineering, informatics, biomedical engineering, machine learning, or equivalent academic qualifications. Preference will be given to candidates who can document experience in software architecture, computer supported cooperative work, ubiquitous computing, user interface software technology, or pervasive healthcare.
- provide evidence of strong software engineering competences.
- provide evidence of excellent competence in communication in English – both oral and in writing.

### Approval and Enrolment

The scholarship for the PhD degree is subject to academic approval, and the candidate will be enrolled in the DTU Compute PhD School Programme. For information about the general requirements for enrolment and the general planning of the scholarship studies, please see the DTU PhD Guide.

### Assessment

The assessment of the applicants will be made by Professor Jakob E. Bardram.

### We offer

We offer an interesting and challenging job in an international environment focusing on education, research, scientific advice and innovation, which contribute to enhancing the economy and improving social welfare. We strive for academic excellence, collegial respect and freedom tempered by responsibility. The Technical University of Denmark (DTU) is a leading technical university in northern Europe and benchmarks with the best universities in the world.

### Salary and appointment terms

The salary and appointment terms are consistent with the current rules for PhD degree students. The period of employment is 3 years.

### Further information

Further information may be obtained from prof. Jakob E. Bardram, jakba@dtu.dk, tel.: +45 2555 0446.

You can read more about Copenhagen Center for Health Technology on [www.cachet.dk](http://www.cachet.dk) and about DTU Compute on [www.compute.dtu.dk/english](http://www.compute.dtu.dk/english).

Further information concerning the application is available at the DTU Compute PhD homepage or by contacting PhD coordinator Lene Matthisson +45 4525 3377.

### Application

Applications must be submitted in English as **one single PDF** containing all materials to be given consideration and we must have your online application by **1 September 2017**. Please open the link in the red bar in the top of the page: "apply online" ("ansøg online"). Applications must include:

- A letter motivating the application (cover letter)
- Curriculum vitae
- Grade transcripts and BSc/MSc diploma
- Excel sheet with translation of grades to the Danish grading system (see guidelines and excel spreadsheet [here](#))



Candidates may apply prior to obtaining their master's degree, but cannot begin before having received it. In this case, a letter from the master thesis supervisor on expected finishing date should be attached.

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

*DTU Compute has a total staff of 400 including 100 faculty members and 130 Ph.D. students. We offer introductory courses in mathematics, statistics, and computer science to all engineering programmes at DTU and specialised courses to the mathematics, computer science, and other programmes. We offer continuing education courses and scientific advice within our research disciplines, and provide a portfolio of innovation activities for students and employees. DTU is a technical university providing internationally leading research, education, innovation and scientific advice. Our staff of 5,800 advance science and technology to create innovative solutions that meet the demands of society; and our 10,600 students are being educated to address the technological challenges of the future. DTU is an independent academic university collaborating globally with business, industry, government, and public agencies.*

 **Application deadline 01 September 2017**

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<http://jobbank.dtu.dk/en/job/1002465/>

