Doctoral Student in Computational Optics field (1-2 positions)

The Computational Imaging research group is looking for 1-2 talented doctoral students to work in the challenging research field of computational optics, and in particular, complex domain sparse wave field imaging or, briefly, sparse phase imaging. For more information on the recent projects of the group, please refer to http://www.cs.tut.fi/sgn/imaging/sparse/. The work will be carried out in close collaboration with other research groups from Signal Processing Research Community (SPRC) and from abroad.

Job description:

a) Theoretical study, mathematical modeling and simulations;
b) Experimental work with optical equipment;
c) Design, implementation and testing of lensless systems.

Requirements:

The successful candidate must hold an applicable higher university degree and a research plan for completion of a doctorate that will be prepared according to university’s instructions after the suitable candidate is found. The candidate must have demonstrated, during his or her studies towards the higher university degree or otherwise, the competence and motivation to pursue postgraduate studies and complete a doctoral degree. A certificate of proficiency in the English language for students whose first language is not Finnish or English will be required from the chosen candidate within four months after being appointed for the position.

The duties of all doctoral students include teaching that amount to approximately 5% of their annual working hours, unless there are justified reasons to the contrary.

A successful applicant should be highly motivated in research activities. Requirements for the mathematical background: linear algebra, optimization theory and algorithms, inverse problems, Fourier transforms.
Programming skills: MATLAB, C++ (knowledge of CUDA and Python will be considered as a benefit).
Experience and knowledge in optics, in particular in coherent optics (wave field modeling, Fourier optics, interferometry, etc.) will be considered as a benefit.

Salary:

The salary is based on both the job demands and the employee's personal performance in accordance with the university salary system. According to the criteria applied to teaching and research staff the position of a Doctoral Student is placed on the job demands levels 2-4, typically, the salary is 2200-2400 EUR.
Trial period:

Trial period of 4 months applies. The positions are for a fixed-term period of 3 years, but it can be extended for 6-12 months depending on performance.

How to apply:

Please submit your application through our online recruitment system. The closing date for applications is November 10, 2018 (at 24.00 EEST / 21.00 UTC). Applications and all accompanying documentation should be written in English. All attached documents should preferably be in PDF format. Please note that applicants may be invited to participate to an interview throughout the application window and therefore we encourage to apply as soon as possible.

Applications should include the following documents:

- Curriculum Vitae (instructions)
- List of publications (instructions)
- References
- Transcript of record (master's degree studies);
- English language certificate of proficiency (if applicable).
- Motivation letter, including short introduction of the applicant, previous research work and future plans.

For more information, please contact:

Prof. Karen Eguiazarian (Egiazarian), or Prof. Vladimir Katkovnik by emails karen.egiazarian (at) tut.fi, and vladimir.katkovnik (at) tut.fi

Tampere University of Technology, the University of Tampere and Tampere University of Applied Sciences are building a unique environment for multidisciplinary, inspirational and high-impact research and education and a hub of expertise in technology, health and society. The new higher education community begins its operations on 1 January 2019. Read more: www.tampere3.fi/en/.

Tampere is one of the major academic hubs in the Nordic countries and offers a dynamic living environment. Tampere region is one of the three most rapidly growing urban areas in Finland and home to a vibrant knowledge-intensive entrepreneurial community. The city is an industrial powerhouse that enjoys a rich cultural scene and a reputation as a centre of Finland’s information society. For more information on Tampere, please visit here.