Postdoctoral position in the field of computational electromagnetics/computational photonics/scientific computing/applied mathematics – competitive salary

Offer Description: This is a postdoctoral position in Prof. Michal Mrozowski's research project: Electromagnetic Design of flexIble SensOrs. The goal of the project is to develop a new software tool for fast and accurate simulation-based design of sensing devices (microwave, but also photonic or plasmonic) and their associated passive circuitry with carefully engineered electromagnetic properties. The software (InventSIM) is based on the finite-element method (FEM) and employs a unique mesh deformation technique and model order reduction algorithms to enable fast optimization. This post is for a researcher that will contribute development of InventSIM by proposing, prototyping and testing of novel FEM/sparse linear algebra/optimization algorithms for fast FEM simulations of devices and antennas to operate from microwaves up to terahertz region. The postdoctoral appointment is for 12 months, with possible extension contingent on availability of funds and research performance.

Key responsibilities include:

1. Research related to the finite-element method for solving Maxwell's equations intended for fast simulations and optimization of antennas, passive microwave/terahertz/plasmonic/ photonic components
2. Developing, testing and benchmarking of numerical algorithms
3. Report writing
4. Preparation of research papers for leading journals and conferences.
5. Dissemination of project results on workshops and conferences
6. Assisting MSc and PhD s students

Required Education Level: PhD degree (obtained not earlier than January 1st, 2013) in a technical or scientific discipline involving numerical code development (the preference will be given to candidates whose PhD research involved FEM algorithms or sparse matrix algorithms development, tetrahedral mesh generation/refinement or manipulation, computational electromagnetics/computational photnics/plasmonics, scientific computing/linear algebra/applied mathematics/graph algorithms), Consideration will also be given to candidates who have not experience in code development, but have proven experience in EM simulation based research related to electromagnetics/photonics/plasmonics

Skills/Qualifications:

1. Documented research experience with either numerical methods/scientific computing/applied mathematics involving complex algorithm development and testing or in EM simulation based research related to photonics/plasmonics (at least one of these skills is essential)
2. Proven experience with Matlab/Python and C++
3. Experience in using numerical libraries for sparse and dense linear algebra would be a plus
4. Good interpersonal and communication skills, be able to work in a multi-cultural environment both independently and as a part of a team

Required Languages:

1. Fluent English

Required Research Experience

1. Good publication record in JCR journals related to computational electromagnetics or photonics/scientific computing/linear algebra/applied mathematics)

Research field: Engineering, Electrical engineering, electronics, Information and Communication Technologies, Scientific Computing, Applied Mathematics

Benefits: Remuneration/month: ~ 9000 PLN. This wage is very competitive considering the cost of living in Poland. The remuneration is about twice the average salary in Poland.

Envisaged Job Starting Date: between January 20. 2019 and 01-March-2019

Hiring info & work location: Gdansk University of Technology, Poland,
Department: Department of Antenna and Microwave Engineering
Country *: Poland

Website for additional details:
Prof. Micha Mrozowski's (PI) webpage: http://mwave.eti.pg.gda.pl/index.php?k=150

http://eminvent.com/projects.html (English)
http://mwave.eti.pg.gda.pl/index.php?k=150
http://mwave.eti.pg.gda.pl/index.php?k=204 (Polish)

Contact Person Email: Sylwia Wielechowska, mwave@eti.pg.gda.pl

How to Apply: E-mail with attachments (.pdf files)
Application deadline **January 17, 2019**

E-mail address to send application: mwave@eti.pg.gda.pl

Selection process:
1. Evaluation of the applications by a selection committee
2. Interview with the shortlisted applicants

We reserve the right to contact only applicants selected through verification of the submitted documents and reserve the right to reject all submitted applications, if it is concluded that they do not meet the criteria.

Required documents:

1. Cover letter with the description of particular skills or achievements related to the scope of the project and highlighting the experience with mesh/FEM/computational electromagnetics/scientific computing/linear algebra/applied mathematics or EM simulations in photonics/plasmonics)
2. CV with the complete list of publications
3. Copies of up to 5 most important publications in JCR journals
4. A copy of the language certificate or other evidence of fluency in English
5. A copy of the PhD thesis
6. A scan of the PhD diploma
7. Names and email addresses (and, if possible, phone numbers) of at least two academic/professional referees who may be contacted by the recruiting committee

Please include in your offer:
"I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act as of 29 August 1997, consolidated text: Journal of Laws 2016, item 922 as amended."