

Project: *[PHAICELL] Coherent quantitative phase microscopy: revisiting the basics and proposing novel numerical reconstruction methods with applications for advanced label-free bio-imaging*

Principal Investigator: dr. Maciej Trusiak

Position in the Project: Master's degree student in the Faculty of Mechatronics, Warsaw University of Technology.

Institution: Photonics Engineering Division, Institute of Micromechanics and Photonics, Faculty of Mechatronics, Warsaw University of Technology.

Requirements:

1. Bachelor's degree in physics, Optics, Computer Sciences, Biomedical Sciences or Engineering. Enrollment in tutoring master's degree studies at Faculty of Mechatronics WUT.
2. Very good written and spoken English that allows to understand scientific literature, prepare scientific papers and presentations.
3. Very good programming skills in Matlab/Python.
4. Strong motivation for scientific work (mainly experimental) both independently and as a part of a team in an interdisciplinary environment, with the ability to creatively propose solutions to problems at hand, pay close attention to detail and to meet deadlines.
5. Very good social skills.

General description of responsibilities:

The project aims at investigating the limits of the quantitative phase imaging, pushing them via novel phase demodulation algorithm, and proposing new applications for biomedical imaging of live specimen. Master Student will be responsible for

- studying the fundamentals of coherent label-free quantitative phase microscopy,
- investigating the effects of low photon budget on quantitative phase imaging accuracy under various conditions,
- investigating the effects of altering spatiotemporal coherence on quantitative phase imaging accuracy,
- implementing, modifying, and testing the adaptive iterative filtering algorithm for hologram phase demodulation.

Active participation in dissemination of results to the scientific community is required. Master Student will work closely with PhD Student and will be supervised by Postdoc employed within the same project.

What we offer:

1. Scholarship contract and competitive remuneration package.
2. Work in dynamic and competent scientific group with excellent research environment and international cooperation promoting publications in high impact journals.
3. Financial support of abroad scientific visits and attending conferences.
4. Encouragement and support in preparing scientific publications and grant applications.

Type of NCN Project: OPUS19 – ST.

Application deadline: 22.12.2021, 23:59. Results available on 27.12.2021.

Please submit the following documents to: maciej.trusiak@pw.edu.pl.

Conditions of employment:

Master Student scholarship 2500 PLN/month (net salary), stipend contract for 12 months.
Preferred time of starting the position: 1st January 2022.

Additional information:

Motivation letter (in English).

CV (in English).

Bachelor thesis.

Contact details of the scientific supervisor and other referees (if available).

To apply, please send your application including motivation letter, CV and achievements list, Bachelor degree thesis alongside with contact information to the scientific supervisor and other referees (if available) to the following e-mail address: maciej.trusiak@pw.edu.pl until the 12.12.2021. Incomplete applications will not be considered.

We thank all applicants for their interest; however, only selected candidates may be invited for an interview. Applications will be accepted until the position is filled. The call deadline may be extended at any time without previous notice in order to improve the suitability and effectiveness of the recruitment process. If the winner of the competition resigns from signing the scholarship contract, we reserve the right to choose the next person from the ranking list.

Due to the entry into force of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, all candidates are requested to provide consent to the processing of his or her personal data by the institution which carries out the recruitment process.

Thus, please include in your application the following statement: "I hereby agree to the processing of my data included in the application documents by Warsaw University of Technology, Warsaw, Poland, to carry out the recruitment process."

Your personal data is processed on the basis of the Article 6 Part 1 Points (c) and (f) of the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (GDPR; Official Journal of the European Union L 119/1).