Univerza v Mariboru

FRAMEWORK PROGRAMME OF EARLY STAGE RESEARCHER TRAINING[1]

1. BASIC DATA

Mentor's name and surname	**Denis Đonlagić**	Mentor's register number at ARIS (SICRIS):	**15006**
Mentor's e-mail:	denis.donlagic@um.si	Mentor's tel. no.:	2207117
Research programme (RP) leader's name and surname:	Denis Đonlagić	RP leader's register number at ARIS (SICRIS):	15006
Title of research programme:	Optical sensors and advanced interactive interfaces	RP's Register number at ARIS (SICRIS):	P2-0368
Research organisation (RO) of University of Maribor, where training shall be conducted:	UM-FERI	RO Register number at ARIS (SICRIS):	0552-0796
Research field according to ARIS classification:	2.15 Metrology	Research field according to Ortelius classification (EURAXESS)	15.11. Electrical Engineering

2. DEFINITION OF RESEARCH PROBLEM AND GOALS OF DOCTORAL RESEARCH[2]

Starting point of research task of the early stage researcher and its position in the research programme, where the mentor is included, work hypothesis, research goals and foreseen result with emphasis on an original contribution to science:

Research work of young researcher will be conducted in the field of micro-opto-fluidic systems and fiber optic sensors. Main research activities of the candidate will encompass studies and research of new micro-fluidic and micro-photonics structures, which will utilize advanced technologies for reforming of silica glass. Candidate will study in depth systems for laser micro-machining, including laser glass reforming systems, focused ion beam, selective etching other advanced system for reforming of silica glass and related methods. The work of the candidate will be focused into research and development of innovative micro-optics sensors and systems, which will base on

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[1] *Term early stage researcher (ESR) is written in male form and used as neutral for women and men.*

[2] *Research and study programme of training have to harmonise with contents of the research programme, where the mentor is a member.*

optical fibers and quartz capillaries. Special attention will be devoted to research and development of efficient opto-electronics systems for analysis of optical signals, which are encountered in micro-opto-fluidic systems.

3. STUDY PROGRAMME

Foreseen study programme, to which early stage researcher shall be enrolled in academic year 2024/2025:

Doctoral study program in Electrical Engineering

4. DESCRIPTION OF WORK AND TASKS

1.) Analysis of state of the art and current literature
2.) Modeling and simulation of phenomena and devices
3.) Study of modern equipment and methods for micro-machining, lithography and reforming of glass
4.) Intense experimental lab work
5.) Computer programming
6.) Participation in current laboratory projects
7.) Writing of scientific paper, presentations, abstracts, project documentation, doctoral work and other technical reports

Descriptions of works and tasks from systematization:

Implements projects of scientific and research work.

Participates in the design of research programs.

He cooperates professionally with clients of research assignments.

Prepares research reports and studies.

Monitors and coordinates research work in accordance with funding agreements.

Take care of safe and healthy work.

Organizes and instructs employees and students on the use of personal protective equipment and other safety measures.

Performs other related tasks as directed by the supervised employee.

Participates in working and standing commissions of UM bodies and members or other members.

Replaces co-workers and supervisor in his absence (by proxy).

Participates in annual and other stock-taking.

Performs other related work on behalf of superiors.

5. REQUESTED LEVEL OF EDUCATION

VII / 2. tariff group

6. REQUESTED FIELD OF EDUCATION

Electrical engineering, computer science, informatics, pedagogical, technical, natural sciences

7. KLASIUS SRV

Level 7: Second-level higher education and similar education / second-level higher education and similar education

8. KLASIUS P

523 - Electronics and automation

522 - Electrical engineering and energy

9. REQUESTED KNOWLEDGE

Computer skills: MS Windows, Word, Excel, Internet, email, el. business

10. REQUESTED SPECIAL REQUIREMENTS

Kliknite ali tapnite tukaj, če želite vnesti besedilo.

11. REQUESTED LANGUAGES

Active knowledge of one world language

12. REQUESTED WORK EXPERIENCE

Kliknite ali tapnite tukaj, če želite vnesti besedilo.

13. FORESEEN POSTDOCTORAL TRAINING

Kliknite ali tapnite tukaj, če želite vnesti besedilo.

Mentor's signature:

Research programme leader's signature:

Name and surname of Dean or authorised person[3]:
Prof.dr. Gorazd Štumberger

Signature of dean or authorised person:

Place and date:

Maribor 29. 02. 2024

Stamp:

[3] The training program is signed by the dean of the member where the ESR's employment and training will take place.