Expression of supervisor’s interest to host
Marie Skłodowska-Curie Individual Fellows at the University of Ljubljana (UL)

Prof. Jernej Klemen from University of Ljubljana is searching for a top-class experienced researcher of any nationality interested in developing collaborative MSCA IF application for the following EU Framework Programme for Research and Innovation Horizon 2020 actions:
- Marie Skłodowska-Curie Individual Fellowships – European (MSCA-IF-2016-EF)
- Marie Skłodowska-Curie Individual Fellowships – Global (MSCA-IF-2016-GF)

ELIGIBILITY CRITERIA FOR MSC FELLOWS
- The researcher must, at the deadline for the submission of proposals, be in possession of a doctoral degree or have at least four years of full-time equivalent research experience. The researcher may be of any nationality.
- Mobility rule: the researcher must not have resided or carried out his/her main activity (work, studies) in the country of the host organisation for more than 12 months in the 3 years immediately prior to the deadline for submission of proposals.

OPPORTUNITIES FOR POTENTIAL CANDIDATES – RESEARCHER’S CAREER DEVELOPMENT
The goal of MSCA Individual Fellowships is to enhance the creative and innovative potential of experienced researchers (post-doctoral or with 4 years of equivalent research experience) wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility. The researcher and supervisor will develop the application jointly. The project proposals will be submitted by the host organization. If the application will be successful, the IF researcher will be recruited under an employment contract with a monthly salary of €4,650 * coefficient of the country where the researcher is hosted (living allowance) + €600 (mobility allowance) + €500 (family allowance) per month. More information may be found here.

University of Ljubljana offers stimulating environment for postdoctoral research providing modern core facilities in a supported environment with on-the-job training and supervision. In addition, postdoctoral researchers will have access to the generic and transferable skills trainings, they will have the possibility to be involved in educational process and if suitable, they will be seconded to industry all with the purpose for further development of their careers in the academic and non-academic sector.

Researchers who wish to cooperate with UL for the submission of a project proposal under the aforementioned Actions should check that they fulfil the respective eligibility criteria and then send an expression of interest, consisting of a CV and a two-page summary presentation of their research proposal by 18 March 2016. Proposals will be pre-selected based on internal evaluation and the availability of suitable supervision. Candidates will be informed of the results of the pre-selection by 25 March 2016.

Selected candidates will be invited to meet the supervisor and visit the research environment of the university within the 2-day MSCA-IF proposal writing workshop in Ljubljana organised by the UL at the end of May 2016.

UNIVERSITY OF LJUBLJANA
University of Ljubljana (Univerza v Ljubljani, UL) was founded in 1919 and is the oldest and largest higher education and scientific research institution in Slovenia. It encompasses 23 faculties and 3 art academies and has more than 40,000 undergraduate and postgraduate students and approximately 5,600 employees. UL is listed amongst the top 500 universities in the world according to the ARWU Shanghai, Times THES-QS and WEBOMETRICS rankings. UL is very active in national and international R&D and educational programmes, and creates almost half of the research results of Slovenia. In the period 2007-2013 UL cooperated in 745 EU projects, including 163 FP7 projects, which places UL on the first place among the organisations in the EU 13 member states. The University of Ljubljana has close ties with many excellent Slovenian and foreign companies. In May 2015, UL founded the Slovenian Innovation Hub, which will operate mainly as a facilitator and promoter of development and research teams in the academic and business sphere. UL is also founder of the University incubator, the Institute for Research and Innovation, and very recently the SMUL network - a global alumni and associates network. From 2008 UL is committed to respect the principles of the European Charter for Researchers and the Code of Conduct for Recruitment of Researchers, which led to the EC given UL the right to use the logo ‘HR Excellence in Research’ in 2013.
NAME OF THE SUPERVISOR: Jernej Klemenc

MAIN RESEARCH FIELD: operational strength, fatigue of materials, reliability, automotive engineering

E-MAIL address: jernej.klemenc@fs.uni-lj.si


DESCRIPTION OF THE SUPERVISOR (max. 200 words)

(Describe important research experience, education, current and previous positions, institutional responsibilities, awards, experiences in supervision, teaching and organisation (esp. international), major collaboration, important international research projects)

Assoc. Prof. Dr. Jernej Klemenc

Education: Ph.D in mechanical engineering, M.Sc. in business and administration

Current position: head of Laboratory for structure evaluation at University of Ljubljana, Faculty of Mechanical engineering

Research experience:
- modelling of structural load states
- experimental and numerical prediction of structural fatigue life
- investigation of fatigue in metals and hybrid polymer-metal composites
- numerical prediction of structure’s reliability
- characterisation of materials and structures when mechanically loaded with high strain rates
- design of automotive components for a target fatigue life or crash worthiness
- statistical evaluation of structural loads and operating conditions
- multivariate analysis
- artificial intelligence and evolutionary algorithms

Experiences in supervision:
- more than 50 diploma works at B.Sc. and M.Sc. levels
- 3 active supervisions of Ph.D students

International projects: HIPERTRACK (FP5), PROBELL (FP6), NEAC (Interreg IIIC), CROSS-INNO (cross border SLO-A)

RESEARCH FIELD OF THE SUPERVISOR

Main research field: Operational strength

Sub-fields:
- fatigue of materials
- fatigue of structures
- reliability
- automotive engineering
- machine elements
RECENT TRACK-RECORD and other SIGNIFICANT ACHIEVEMENTS
(List 3-5 publications in major international/leading peer reviewed journals relevant for the scientific field in which you would like to develop the project application with the post-doc researcher. Consider also patents or other significant achievements)


KLEMENC, Jernej, FAJDIGA, Matija. Joint estimation of E-N curves and their scatter using evolutionary

RESEARCHENVIRONMENT

FACULTY/DEPARTMENT/LABORATORY
(Describe briefly the faculty/department/laboratory, where the researcher will be employed, including the research team expertise)

University of Ljubljana, Faculty of Mechanical Engineering, Laboratory for structure evaluation

Research team expertise
- 1 Professor, 3 assistants, 1 technical co-worker
- thorough expertise in experimental and numerical evaluation of structures (operating conditions, loads, fatigue life predictions, crash worthiness)
- thorough expertise in application of artificial intelligence and evolutionary algorithms for solving complex technical problems
- cooperation with regional automotive suppliers

RESEARCHINFRASTRUCTURE
(Describe significant internal or external research infrastructure, including e-infrastructure if relevant, accessible to the MSC fellows)

Research infrastructure:
- professional FE software (Ansys, Abaqus, Ls-Dyna)
- professional DAQ software (NI Labview, HBM Catman)
- professional DAQ hardware (NI, HBM, MES etc.)
- test stand SCHENK for fatigue-life experiments
- dedicated test stands for machine elements
- prototype workshop with a turning and milling device
- currently n the process of acquisition of a hydraulic fatigue-testing device
ACADEMIC AND NON-ACADEMIC COLLABORATION

(Describe briefly your involvement in important international networks and projects, highlighting the interdisciplinary collaborations and transfer of knowledge. Describe significant collaborations with other stakeholders highlighting the secondment opportunities for MSC fellows to industry/SMEs/NGOs/institutes if relevant.)

Major International research projects: COPERNICUS, HIPERTRACK (FP5), PROBELL (FP6), NEAC (Interreg IIIC), CROSS-INNO (cross border SLO-A).

Major domestic applied research projects:
- Characterisation of material behaviour at high strain rates
- Characterisation of a fatigue-life reduction due to material homogenities in dye-casted parts
- Improvement of welded parts for a lateral car-seat support beams
- Weight-strength optimisation of car-seat support beams
- Improvement of crash worthiness of car seats for whiplash crash case
- Development of an end-of-production-line test stand for a standardised adherence test
- Development of a line-testing device for on-line measuring of a rock-wool hardness

Smaller consultancy projects for domestic industry (Cimos, TPV, Hella Saturnus, SIP, KnauffInsulation, Poclain Hydraulics, TEM Catez, IMI Hydronic etc.)

SPECIFIC REQUIREMENTS/PREFERENCES

(Describe the specific requirements/preferences for the MSC fellow if necessary for the development/implementation of the project eg. required language, degree field, research experience, etc.)

Language: English, German, Croatian or Serbian.

OTHER

(Describe any other relevant information)

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