

## Call for expression of interest

### Marie Skłodowska-Curie Postdoctoral Fellowship

(MSCA-PF-2022)

The University of Split hereby welcomes expressions of interest from excellent researchers who intend to apply for MSCA PF 2022. MSCA applicants will have the opportunity to work as a part of our research groups and they will receive mentoring from the UNIST supervisor and administrative support from the Science Office.

The University of Split, as an HRS4R award holder, supports excellence in research and innovation through the implementation of HR Strategy for Excellence in Research and endorsement of the Charter of Code for Researchers and ALLEA. The University has a long record of experience in implementation and supporting the implementation of projects co-financed from the European Social Fund and the European Regional Development Fund, as well as European Union programs: Horizon 2020, Erasmus+ (Key Activities 2 and 3), Interreg, EuropeAid, etc. At the moment, there we have 120 ongoing projects, either funded from national sources, such as the Croatian Science Foundation and the Ministry of Science and Education, or EU programs and funds. For several years now, the University of Split is continuously taking part in academic ranking, and it accomplishes high results both on a national and international level. As Times Higher Education Impact Ranking results for 2021 show, the University of Split, as the only Croatian university on the list, was ranked for 10 out of the total 17 United Nations Sustainable Development Goals. As a confirmation of the University's dedication to Open Science principles, in 2020, as a part of the U-multirank World University Ranking, it has been ranked as one of the Top 25 Performing Universities in Open Access Publications.

At the University of Split, there are more than 19,000 students, along with 800 foreign and exchange students, enrolled across 81 undergraduate, 87 graduate, 5 postgraduate vocational, and 21 doctoral programs. The degree programs are designed in a way to facilitate job market entry for our students and to encourage them to take part in life-long learning activities.

#### Supervisor's profile:

<b>Science field:</b>	Engineering
<b>Supervisor:</b>	Lovre Krstulović Opara, Dr. Ing., Full Professor
<b>Research keyword:</b>	Non-destructive testing, material testing, infrared thermography
<b>Supervisor's CV</b>	<a href="#">Lovre Krstulović Opara, Dr.Ing., Full Professor</a>
<b>ORCID number:</b>	<a href="https://orcid.org/0000-0002-0823-9783">https://orcid.org/0000-0002-0823-9783</a>
<b>Research ID:</b>	G-2819-2013
<b>Google Scholar ID:</b>	<a href="https://scholar.google.com/citations?user=Y-qixWIAAAAJ&amp;hl=hr">https://scholar.google.com/citations?user=Y-qixWIAAAAJ&amp;hl=hr</a>

<b>Personal web-page link:</b>	<a href="http://marjan.fesb.hr/~opara/">http://marjan.fesb.hr/~opara/</a>
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### **Mechanical Engineering and Naval Architecture Department (Faculty of Electrical Engineering, Mechanical Engineering, and Naval Architecture)**

At the [Mechanical Engineering and Naval Architecture Department](#), there are 15 laboratories, 12 projects, 9 chairs, and 44 staff members. Research areas covered at the Department are the design of mechanical engineering structures, thermal engineering, and shipbuilding structures and design, while at our 15 laboratories students can observe scientists applying fascinating fuels and systems, as well as developing vehicles of the future, or carrying out aerodynamic flow simulation.

**Advanced materials and energy structures design group** focuses its research on development, dynamical testing, and thermographic evaluation of novel auxetic cell structures with negative Poisson ratio, valuation of energy absorption performances of metal cellular structures produced by classical foaming and rapid prototyping, nondestructive thermographic testing of metals and composites based on active infrared thermography and Xenon flashes, development of advanced computational methods for signal processing and filtering of thermal images used in non-destructive testing, design, optimization, and testing of hybrid aluminum facades, design of hybrid aluminum renewable energy wind and solar systems, design of extruded aluminum structural members, design of structural components subjected to fatigue, etc.

Laboratories and equipment description:

- Servo-hydraulic dynamic load frame INSTRON - quasi-static tests, fatigue and dynamic tests of materials and structures
- Refrigerated infrared InSb mid-wave infrared camera Flir SC 5000 - enables thermographic NDT and monitoring of the yielding process in materials
- Xenon flash 6 kJ - creates heat flow in metals used for thermographic NDT materials and structures
- HBM MGC plus - multi-channel amplifier for strain gauges and thermocouples
- NDT equipment - ultrasonic testing, penetrant testing, visual examination of magnetic particles
- Next engine 3D scanner
- Krautkramer DM 4 - thickness gauge
- Krautkramer USM Go - ultrasonic scanning device
- UCI AlphaDur mini - Vickers hardness testing equipment
- Graphic workstations for modeling and design of aluminum structural elements, including software for design and analysis of tools for aluminum profiles
- Equipment for analysis and synthesis of hybrid solar panels and mini wind turbines
- Equipment for testing the performance of glass and ventilated facades
- 1.5 kW mini solar power plant
- Solar panel performance testing equipment (KIMO France)

- Solar radiation performance measuring equipment with wind measuring equipment (KIMO France)
- Multi-channel temperature measuring equipment (PICO GB)
- Heat conductivity measuring equipment (GreenTEQ, Switzerland)
- 3D scanner for scanning aluminum sections
- 3D rapid prototyping equipment - hot wire method
- CNC mill for rapid prototyping of Al profiles

**Supervisor's research area includes:** Advanced experimental testing, infrared thermography, and non-destructive methods. Research work is based on deformation evaluation by the infrared acquisition of composites and metals, mostly involving cellular structures.

Selected participants will receive mentoring support from Prof. Dr.-Ing. Lovre Krstulović-Opara, while the Science Office will provide them with administrative support during the proposal writing and submission process.

Prospective candidates should be in possession of a PhD degree and must not reside in Croatia for more than 12 months in the last 3 years. We are kindly asking you to send your curriculum vitae, along with the *One-page proposal* (available [here](#)), directly to the supervisor of your choice, in this case, associate professor Prof. Dr.-Ing. Lovre Krstulović-Opara (Lovre.Krstulovic-Opara@fesb.hr) with adding [znanost@unist.hr](mailto:znanost@unist.hr) in the e-mail copy. As a subject, please indicate "MSCA\_PF\_2022\_mentoring\_candidate name and surname".