



**“Expression of Interest” for hosting Marie Curie Fellows
at Technical University of Sofia 2016 :**

Technical University of Sofia is interested in participating as a Host organization in the following types of actions under the Marie Skłodowska – Curie Individual Fellowships Call (H2020-MSCA-IF-2016)

- MSCA-IF-EF-ST (ST -Standard European Fellowships)
- MSCA-IF-EF-CAR (CAR –Career Restart panel)
- MSCA-IF-EF-RI (RI –Reintegration panel)
- MSCA-IF-GF (Global Fellowships)

1. INTERESTED INSTITUTION (LEGAL PERSON)

The Technical University of Sofia (TUS) is the largest technical university in Bulgaria and offers a wide range of engineering education and training, research and knowledge transfer opportunities on a national and international basis. The Research and Development Sector of TUS has all the necessary infrastructure and advice support networks needed to manage a variety of research and engineering projects. Besides the traditional bachelor, master and doctoral programs taught in Bulgarian, the Technical University of Sofia has three foreign language faculties, which diplomas are certified by our German, French and British partner universities and polytechnics. The number of our students is over 20,000 and since its establishment in 1945 more than 150,000 young people have graduated. The institution has more than 1,000 researchers and lecturers, of which more than 70 Professors and 390 Associate Professors.

The main fields of expertise are: Automation, Information and Control Engineering; Electronics; Electrical Engineering; Electrical Power Production and Electrical Equipment; Thermal and Nuclear Power Engineering; Heat Transfer Engineering; Hydraulic and Pneumatic Techniques; Textile Engineering and Technologies; Computer Systems and Technologies; Communications and Communications Technologies; Mechanical Engineering; Mechatronics; Machine Building Engineering and Technologies; Computer Aided Design and Technology in Machine Building; Industrial Management; Business Administration; Public Administration; Industrial Design Engineering; Transport Machinery and Technologies; Aeronautical Engineering; Transport Technology and Management; Applied Mathematics and Physics.

TUS and its Research and Development Sector have a growing reputation as a provider of high quality research, consultancy and training services to local, national and international businesses. Recent activities include collaborations with organisations such as Siemens, Ericsson, Microsoft, Daimler/Chrysler, AREVA „SPIRAL-2”, DESY and others in the development of programmes, facilities and research capacity.

TUS has participated in more than 1,200 international projects. TUS gained important national awards for its research activities: two times - the national award of the Agency for Energy Efficiency, the award of the Ministry of Education and Science for highest financial contribution in international projects, and the award 'ICAR' of the Bulgarian Industrial Association – for its scientific and applied research. TUS has strong international recognition and maintains intensive contacts with major European and US universities. TUS is the founder of the Association for Business Cooperation linking International Relations departments of Higher Technical Schools from Central and Eastern Europe and a member of CRE.

2. AREAS OF RESEARCH PROPOSED BY TUS FOR DEVELOPMENT OF COLLABORATIVE FUNDING PROPOSALS

ENGINEERING AND INFORMATION SCIENCES

Areas of research: Heterogeneous Networks; Self Organizing Networks; Internet of Things

Potential research topics: Spectrum Sensing for Cloud based Radio Access Networks; Wireless Node Discovery for M2M Communications; Optimal Resource Allocation and Energy Efficiency in Self-Organizing Networks; Interference Coordination and Power Control in 5G mobile networks.

Supervisor: Prof. Dr. Vladimir Pulkov, MEng. e-mail: vkp@tu-sofia.bg, Faculty of Telecommunications, Department of Communication Networks

Profile (Staff): http://www.tu-sofia.bg/department/preview/26?dep_id=29

CV: https://drive.google.com/file/d/0B72o0f_i1WQWTkc3UDB5aGNjYlk/view?usp=sharing

Department: http://ftk.tu-sofia.bg/departments.php?department_id=2&lang=EN

Areas of research: Optimal Dynamic Synthesis; Vibration and Acoustic Energy Harvesting; Design of Low-Noise and Low-Vibration Systems

Potential research topics: Reduction of Rolling Noise in Railway Transport; Vibration Energy Harvesting; Acoustic Noise Reduction and Energy Harvesting.

Supervisor: Prof. Dr. Ivan Kralov, MEng, e-mail: kralov@tu-sofia.bg, Faculty of Transport, Department of Mechanics

Profile (Staff): http://www.tu-sofia.bg/department/preview/28?dep_id=36

Department: <http://www.tu-sofia.bg/faculties/read/28>

Areas of research: Artificial intelligence, Signal Processing, Electrical Engineering
Potential research topics: Brainwaves and EEG signals, Processing of EEG signals; Neural network applications in Electrical Engineering.

Supervisor: Prof. Dr. Valery Mladenov, MEng. e-mail: valerim@tu-sofia.bg, Faculty of Automation, Department of Theoretical Electrical Engineering

Profile (Staff): http://www.tu-sofia.bg/department/preview/13?dep_id=5

Department: <http://dept-te.tu-sofia.bg>

Areas of research: CAD/CAM/CAE technologies, FEA, Virtual Prototyping, Virtual Engineering, FEM, Collaborative Product Design;

Supervisor: Prof. Dr. Georgy Todorov, MEng. e-mail: gdt@tu-sofia.bg,

Faculty of Industrial Technology, Department of Technology of Machine Tools and Manufacturing

Profile (Staff): http://www.tu-sofia.bg/department/preview/19?dep_id=16

Department: http://mtf.tu-sofia.bg/Upravlenie_en.html

Areas of research: Electronics and Electronic Technologies

Potential research topics: Telemedicine; Assistive system for elderly and disable people; Medical instrumentation;

Supervisor: Prof. Dr. Ivo Iliev, MEng. e-mail: izi@tu-sofia.bg

Faculty of Electronic Engineering and Technology, Department of Electronic Technology

Profile (Staff): http://www.tu-sofia.bg/department/preview/25?dep_id=24

Department: http://fett.tu-sofia.bg/index.php?option=com_frontpage&Itemid=1

Areas of research: Image processing, Pattern recognition, Computer graphics, Parallel algorithms, Metaheuristics, Remote sensing, Geographic information systems;

Potential research topics: Intelligent image processing and analyses, Parallel computations for image synthesis and analyses, Metaheuristics for solving complex optimization problems

Supervisor: Prof. Dr. Milena Lazarova, MEng. e-mail: milaz@tu-sofia.bg

Faculty of Computer Systems and Control, Department of Computer Systems

Profile (Staff): http://www.tu-sofia.bg/department/preview/27?dep_id=31

Department: <http://cs.tu-sofia.bg/page.php?id=1>

MATHEMATICS

Areas of research: Mathematical Physics, Calculus of Variations and PDE.

Potential research topics: Best constants of Gagliardo-Nirenberg type inequalities, Existence, uniqueness and orbital stability of solitary wave for the Nonlinear Schrodinger equation;

Supervisor: Assoc. Prof. Dr. Georgy Venkov, MSc. e-mail: gvenkov@tu-sofia.bg,

Faculty of Applied Mathematics and Informatics, Department of Algebra and Geometry

Profile (Staff): http://www.tu-sofia.bg/department/preview/30?dep_id=43

Department: http://www.tu-sofia.bg/department/preview/30?dep_id=43

ECONOMICS

Areas of research: Innovation Management and Entrepreneurship, Knowledge Management and Intellectual Capital

Potential research topics: Knowledge, Human Capital and Entrepreneurship, Intellectual Capital and Strategic Management, Innovation Policy;

Supervisor: Assoc. Prof. Dr. Lidia Galabova, MEng. E-mail: lgalabova@tu-sofia.bg,

Department of Economics, Industrial Engineering and Management:

Profile (Staff): http://www.tu-sofia.bg/department/preview/29?dep_id=38

Department: <http://www.tu-iiim.org>

3. DEADLINE FOR CONSIDERING INTERESTS BY MARIE CURIE FELLOWSHIPS APPLICANTS:

Candidates are invited to express their interest no later than 31 July 2016 by providing a CV and an outline of no more than 1500 words of your research proposal and why the Technical University of Sofia is best suited to host your work.

4. CONTACT PERSON

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