Univerza v Ljubljani

Expression of supervisor's interest to host
Marie Skłodowska-Curie Individual Fellows at the University of Ljubljana

Prof. dr. Iztok Turel from University of Ljubljana (UL) 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-2017-EF)
- Marie Skłodowska-Curie Individual Fellowships – Global (MSCA-IF-2017-GF)

H2020 Call MSCA-IF-2017

Planned opening date: 11 April 2017
Deadline: 14 September 2017

More info H2020-MSCA-IF-2017

ELIGIBILITY CRITERIA FOR MSC IF RESEARCHER

- 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 MSC IF application jointly. If the application will be successful, the grant provides an allowance to cover your living, travel and family costs. The research costs and overhead of the host organisation(s) are also supported. More information about the call 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 Marie S.-Curie Individual Fellowships should check that they fulfil the respective eligibility criteria and then send an Expression of interest, consisting of a CV and a summary presentation of their research proposal by email to: MSCA@uni-lj.si with the following reference: "MSCA prof. name". The deadline for submission is **15 March 2017.** 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 20 March 2017.

Selected candidates will be invited to meet the supervisor and visit the research environment of the University within a 2-day MSCA-IF Proposal writing Workshop in Ljubljana organised by the UL in June 2017.

UNIVERSITY OF LJUBLJANA

University of Ljubljana (Univerza v Ljubljani, UL) 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 163 FP7 projects, which places UL between **the leading organisations in the EU 13** member states. In 2016 UL cooperated in 54 Horizon2020 projects, including 2 ERC grants and is involved in over 300 other EU projects. 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 recently the SMUL network - a global alumni and associates network. 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 right, from 2013, to use the logo *'HR Excellence in Research'*.

PROFILE OF THE UL SUPERVISOR

NAME OF THE SUPERVISOR: Prof. Dr. Iztok Turel

MAIN RESEARCH FIELD: Bioinorganic Medicinal Chemistry

E-MAIL address: iztok.turel@fkkt.uni-lj.si

LINK to SUPERVISOR's CV: http://RuTurel.fkkt.uni-lj.si/cv/

DESCRIPTION OF THE SUPERVISOR

Prof. Iztok Turel from the **University of Ljubljana** is known worldwide for his work in the field of bioinorganic medicinal chemistry and synthetic coordination chemistry. His early research work, which established his reputation in the scientific community, was centered around the **interactions of metal ions** with **quinolone antibacterial agents** and **purine antiviral drugs** and their biological activity. In the last decade his research interests shifted towards the **design of novel anticancer coordination compounds** of ruthenium bearing clinically used drugs as ligands and the use of metal-based drugs in electrochemotherapy. He has (co)supervised more than 20 BSc, 3 MSc, and 4 (+3) PhD dissertations, hosted many foreign students from Mexico, Holland, Serbia, Croatia, Greece, Scotland, Portugal, and Spain as well as 2 post-doc researchers. He is Head of the Chair of Inorganic Chemistry and Coordinator for international cooperation and Erasmus+ programmes at the Faculty of Chemistry and Chemical technology (FKKT) as well as President of the Committee for International Cooperation at the University of Ljubljana, member of the Faculty and University senates. Throughout his career he **has published more than 100 scientific articles** which have been **cited more than 3200 times** and presently holds a Hirsch index value of 34. He has received a prestigious national Zois certificate of recognition.

RESEARCH FIELD OF THE SUPERVISOR

Main research field: **Bioinorganic Medicinal Chemistry**

Sub-fields: **Coordination chemistry, Organometallic Chemistry, Synthetic chemistry, Drug design, Single-crystal X-ray crystallography, Catalysis.**

RECENT TRACK-RECORD and other SIGNIFICANT ACHIEVEMENTS

1. S. Seršen, J. Kljun, K. Kryeziu, R. Panchuk, B. Alte, W. Körner, P. Heffeter, W. Berger, I. Turel, Structure-Related Mode-of-Action Differences of Anticancer Organoruthenium Complexes with *β*-Diketonates. *J. Med. Chem.*, **2015**, *58*, 3984–3996.

2. M. Gobec, J. Kljun, I. Sosič, I. Mlinarič-Raščan, M. Uršič, S. Gobec, I. Turel, Structural characterization and biological evaluation of a clioquinol-ruthenium complex with copper-independent antileukaemic activity. *Dalton trans.* **2014**, *43*, 9045-9051.

3. J. Kljun, I. Bratsos, E. Alessio, G. Psomas, U. Repnik, M. Butinar, B. Turk, I. Turel. New uses for old drugs: attempts to convert quinolone antibacterials into potential anticancer agents containing ruthenium. *Inorg. Chem.*, **2013**, *52*, 9039-9052.

4. S. Seršen, J. Kljun, F. Požgan, B. Štefane, I. Turel, Novel organoruthenium(II) β-diketonates as catalysts for ortho-arylation via C–H activation, *Organometallics*, **2013**, *32*, 609−616.

5. Co-author with Jakob Kljun of a chapter titled 'Biological activity of ruthenium complexes with quinoline antibacterial and antimalarial drugs' in the forthcoming book (expected mid-2017) edited by Prof. A. A. Holder 'Ruthenium complexes – Photochemical and Biomedical Applications' published by Wiley.

RESEARCH ENVIRONMENT

FACULTY/DEPARTMENT/LABORATORY

The research will be carried out at the 'Ru-lab' headed by prof. Turel. His research group presently consists of two postdoc researchers, three doctoral students, several MSc and BSc students, and one Erasmus MSc student from Lisboa, Portugal. The research team main field of expertise are modern synthetic techniques in coordination and organometallic chemistry, advanced solution NMR techniques and single crystal X-ray crystallography.
The lab is located at the Chair of Inorganic Chemistry, Department of Chemistry and Biochemistry of the Faculty of Chemistry and Chemical Technology (FKKT) which has recently (2014) moved to new premises featuring more than 170 fully equipped laboratories which were co-funded by the EU and represent the largest investment in academia in the history of the country.

RESEARCH INFRASTRUCTURE

The equipment based at the FKKT, UL relevant to the implementation of the research project consists of: **Single-Crystal Diffractometer Nonius Kappa CCD** 4 equipped with the Oxford Cryosystem 700 for Liquid Nitrogen, **Single-Crystal Diffractometer Oxford Diffraction SuperNova**, equipped with Cu and Mo anodes and Cryojet cooling system, **500 MHz NMR spectrometer** Bruker Avance III, **300 MHz NMR spectrometer** Bruker, **Mass spectrometer Agilent 6224 Accurate Mass TOF LC/MS, FTIR Spectrometer** Perkin Elmer SPECTRUM 100 equipped with ATR Specac Golden Gate, **UV-Vis Spectrometer** Perkin Elmer Lambda 750, **Fluorescence Spectrometer** Perkin Elmer LS 55, **Polarisation Microscope, Stereomicroscope,** 2x **Rotary evaporator** R-210 V Advanced Bundle (Buechi), **Dry Box MBraun Unilab.**
Moreover, IT is one of the founding members of the CE EN-FIST and all equipment of the institution (based in Ljubljana at other institutions) is at full disposal (consumables cost only) for the implementation of the project. Among the 73 items (complete list at http://enfist.si/r_r/oprema/oprema_en_fist_centra_odlicnosti/) there are: **600 MHz NMR spectrometer** Varian INOVA (Slovenian NMR Centre), **800 MHz NMR spectrometer** Varian NMR System (Slovenian NMR Centre), **Mass spectrometer** Q-Tof Premier (Centre for Mass Spectrometry, Jožef Stefan Institute), **Mass spectrometer** AutospecQ (Centre for Mass Spectrometry, Jožef Stefan Institute).
The faculty has access to a high-speed internet connection with access to most scientific databases including SciFinder, Web of Science, Cambridge Structural Database and others.

ACADEMIC AND NON-ACADEMIC COLLABORATION

I am (was) member of 3 ongoing and 3 past European COST actions in the field of inorganic chemistry (medicinal; catalytical; spin-states), principal investigator of 6 bilateral projects as well as several national research projects and programmes. Ongoing COST projects are: Explicit control over spin-states in technology and biochemistry (ECOSTBIO; Action CM1305) and C-H Activation in Organic Synthesis (CHAOS) (Action CA15106). The group has multiple ongoing collaborations with domestic and foreign research groups in the fields of drug design, cancer biochemistry and biology, enzymology, bioanalytical chemistry, electrochemotherapy, experimental oncology and catalysis. The list of collaborating groups can be found on the Turel group website at http://ruturel.fkkt.uni-lj.si/ongoing-collaborations/. We also filed a national patent: Preparation of racemic nicotine (Patent application P-201000450).

List of National research projects and programmes:

1996-2001, "*Study of novel quinolone-metal complexes*" funded by Slovenian ministry of Science and Technology. Principal investigator.
1997-1999, "*Organometallic compounds of the group 4 elements (Ti, Zr, Hf) with fluorides and quinolones*" funded by Slovenian research agency. Member.
1999-ongoing, "*Synthesis, structure and properties of matter and materials*" programme grant funded by Slovenian research agency. Member.
2008-2011, "*Synthesis of novel ruthenium compounds and their potential use in electrochemotherapy of tumors*" funded by Slovenian research agency. Principal investigator.

2009-2013, "*NMR Center of excellency for research in biotechnology, pharmacy and physics (CO EN-FIST)*". Founding member.
2011-2014, "*Synthesis, characterisation and use of novel ruthenium compounds in electrochemotherapy of tumors*" funded by Slovenian research agency. Principal investigator.
2014-2016, "*New targets for old drugs. Organoruthenium derivatives of hydroxyquinolines and beta-carbolines as potential anticancer drugs*". Postdoctoral project of dr. Jakob Kljun. Host researcher.

SPECIFIC REQUIREMENTS/PREFERENCES

The candidate must have:

1. A PhD in the field of:
a) organic/organometallic chemistry or drug design with skills and knowledge of advanced synthetic techniques or
b) cancer biochemistry or pharmacy with basic skills in organic synthesis and characterization techniques (few courses at undergraduate or graduate level are sufficient) or
c) inorganic chemistry/catalysis or
d) photophysical properties of ruthenium compounds/solar cells.
2. must be fluent in English
3. must be motivated, dedicated and hard-working