



## Recruitment event of IT-DED<sup>3</sup>

# Latvian Institute of Organic Synthesis *Kirill Shubin* *ESR5*

May 24, 2018

## Lab description – chemical laboratories

- The core competencies of LIOS are medicinal chemistry and innovative drug discovery
- Considerable expertise in organic synthesis, medicinal chemistry and preclinical drug development
- LIOS has completely equipped research chemical laboratories with standard appliances and glassware, including automated preparative chromatography systems.



## Lab description – kilo-scale facility

- Opened in February 2016
- Four types of reactors: glass, enameled, stainless steel and Hastelloy
- Sizes: 2, 7, 25 and 63 L
- Temperature range: -80 °C to 240 °C
- Nutsche filter
- Filtration centrifuge
- Vacuum drier



## Lab description – analytical facility

- LIOS is the largest NMR center in Baltic region
- Instruments: 300, 400, 600 and 800 MHz
- Routine analytic equipment consists of UPLC/MS, GC/MS and HPLC
- Single crystal X-ray and XRPD
- characterization of organic compounds: HRMS, microanalysis, polymorphism studies etc.)



## ESR5 Project Description

- ESR5 will be hosted in the Latvian Institute of Organic Synthesis (Riga) under supervision of Dr. K. Shubin and Prof. A. Jirgensons
- ESR5 will be enrolled to the Riga Technical University Doctoral Program (partner organization of IT-DED<sup>3</sup>), which provides courses in English and covers all the aspects of the Graduate program
- Objectives:
  - Upscaling of selected serine protease and RIPK1 inhibitors (WP1)
  - Investigate synthetic route for the synthesis of the natural compounds with a promising *in vitro* profile from WP1
  - Provide synthetic building blocks for UA1



## ESR5 Planned Secondments

- **UA1** (supervision: Prof. Augustyns): 3 months; medicinal chemistry on the design and synthesis of novel treatments for DED (M15-17)
- **Mercachem** (supervision: Dr. Verspui): 3 months; exposure of recruited researchers to green chemistry, safety and GMP guidelines and working in an industrial environment. (M30-32)

## Doctoral School for ESR5

- RTU – the largest university of Latvia (15'000 students)
- Faculty of Materials Science and Applied Chemistry (FMSAC) is leading research facility in RTU



- Department of Chemical Technology of Biologically Active Compounds is successfully participating in Marie Curie and Erasmus+ programs
- Prof. Aigars Jirgensons will be a co-supervisor of ESR5
- PhD program will include a course on presentation and discussion skills



**Thanks for your attention**