



# RO-OPENSREEN

## objectives, perspectives and achievements

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*the Workshop "EU-OPENSREEN - Chemical Biology for new therapeutical strategies", Bucharest, June 20, 2023*

# OUTLINES

- ☐ GENERAL INFORMATIONS
- ☐ GENERAL / SPECIFIC OBJECTIVES
- ☐ EXPECTED RESULTS / PROJECT INDICATORS
- ☐ THE CURRENT STAGE OF THE PROJECT ACTIVITIES IMPLEMENTATION
- ☐ THE PROJECT TEAM
- ☐ CONCLUSIONS / TAKE HOME MESSAGE...
- ☐ INVITATION...

## GENERAL INFORMATIONS

- ❑ **Project title:** *ICT - interdisciplinary center for smart specialization in the field of chemical biology, RO-OPENSREEN*
- ❑ **Beneficiary:** “Coriolan Dragulescu” Institute of Chemistry – (ICT), Timișoara
- ❑ **Project co-financed by European Regional Development Fund under the Competitiveness Operational Program 2014-2020**
- ❑ **Priority Axis 1** – Research, Technological Development and Innovation to Support Economic Competitiveness and Business Development
- ❑ **Investment priority 1a** – Improving research and innovation infrastructures and capacities to develop excellence in RDI and promoting centers of expertise, especially those of European interest
- ❑ **Action 1.1.1** Large research and development infrastructures
- ❑ **Project duration:** 20.07.2020 – 31.12.2023
- ❑ **MySMIS Code:** 127952
- ❑ **Total Investment Value:** 42,587,899.61 RON
- ❑ **The value of the total eligible non-reimbursable financing FEDR:** 36.090.656,29 RON



## GENERAL OBJECTIVE

of the **RO-OPENSREEN** project is to increase the capacity, quality, and efficiency of the research-development-innovation (**RDI**) activity of the "Coriolan Drăgulescu" Institute of Chemistry (ICT), by creating a modern research infrastructure and equipping the newly created laboratories of the **Interdisciplinary Center for Smart Specialization in Chemical Biology, RO-OPENSREEN** with high-performance research equipment and tools, aligned to the European infrastructure network **EU-OPENSREEN** (*European Infrastructure of Open Screening Platforms for Chemical Biology*) in order to stimulate the competitiveness of the Romanian scientific research and its integration in the European research space.

The Center will carry out integrative research by applying advanced technologies of automated management of compound libraries, chemical synthesis, structural analysis, determination of biological activities and chemoinformatics.

## SPECIFIC OBJECTIVES

- ❑ Development of *the new ICT interdisciplinary research center, RO-OPENSREEN*, by modernizing/consolidating two buildings and equipping them with state-of-the-art research equipment.
- ❑ Implementation of the High-throughput screening (HTS) technology, in a systematic and automatic modes, of chemical compounds from the newly created chemical library, *the National Library of Biological Active Compounds (LNCB)*, and optimization of the compounds physico-chemical properties in order to develop tool compounds that can be transformed into products for use in related fields.
- ❑ Increasing *Romanian science's international visibility and competitiveness* by involving ICT in European projects, and public-public and public-private partnerships.
- ❑ *Increasing the quality of human resources* by developing the optimal conditions for CDI activities, *maintaining existing jobs and creating new ones, training young researchers* at the doctoral/postdoctoral level, and *attracting specialists* from the diaspora.
- ❑ Organizing *exchanges of experience* with institutions that present expertise and complementary experience will strengthen institutional relations and train existing human resources and infrastructures.

## EXPECTED RESULTS

- ❑ **Modernization/consolidation of two** of our own buildings under conservation, namely **C20-** Materials warehouse and **C21-** Laboratory.
- ❑ The provision of research tools and equipment for **three laboratories with specific interdisciplinary biological chemistry, united in the new ICT interdisciplinary research center**, will ensure the functionality of the following laboratories:
  - C21 building**
    - Chemoinformatics laboratory;
    - Chemical bookstore laboratory (**LNCB**);
    - Chemical synthesis, characterization and analysis laboratories.
  - C20 building**
    - The thermal power plant, reagent transfer station, IT (cluster) and communication systems.
- ❑ Creation of the chemical library of biologically active compounds, called **the National Library of Biologically Active Compounds (LNCB), unique in Romania**.
- ❑ To complement the existing ICT infrastructure by modernizing and equipping the laboratories with state-of-the-art research instruments



# EXPECTED RESULTS

## PERFORMANCE INDICATORS

### ☐ PRESET

- **CO24** - Number of new researchers (newly created jobs) in entities receiving full-time equivalent support: **2**
- Number of researchers working in enhanced research infrastructures (ENIs) full-time equivalent: **3**

### ☐ ADDITIONAL

- New created jobs, other than for researchers in the supported entity (no.): **2**
- Newly created / modernized CD laboratories by project (no.): **3**
- Modernized area (mp): **328 mp**
- Equipment (pieces): **146**
- License and programs (pieces): **37**

## RESULTS INDICATORS

### ☐ PRESET

- Number of public-private co-publications: **1**

### ☐ ADDITIONAL

- Projects submitted to other EU research programs (no.): **3**

**ICT will become a POL**  
**of interdisciplinary**  
**scientific excellence, in**  
**line with international**  
**research standards and**  
**trends.**



web page : <https://ro-openscreen.ro/>

RO-OPENSREEN

Informații generale / Lucrări construcții / Demenți cercetare / Indicatori proiect / Recrutare personal / Evenimente / Publicitate / Achiziții / Contact

OBIECTIVE

## ICT – Centru interdisciplinar de specializare inteligentă în domeniul chimiei biologice, RO-OPENSREEN

RO-OPENSREEN – Contract Nr. 371/20.07.2020 / Cod SAMIS: 127952

» Contract de finanțare 371/20.07.2020 încheiat cu Ministerul Educației și Cercetării, în calitate de Organism Intermediar pentru Programul Operațional Competitivitate 2014-2020 (OI POC), în numele și pentru Ministerul Fondurilor Europene (MFE) în calitate de Autoritate de Management (AM)

» Beneficiar Institutul de Chimie "Coriolan Drăgulescu" Timișoara (ICT)

» Proiectul este cofinanțat din Fondul European de Dezvoltare Regională prin Programul Operațional Competitivitate 2014-2020

» Axa 1. Cercetare, dezvoltare tehnologică și inovare (CDI) în sprijinul competitivității economice și dezvoltării afacerilor

» Acțiunea 1.1.1. Mari Infrastructuri de CDI, tip "Proiecte de Infrastructuri de cercetare pentru instituții publice de CDI/universități - pentru regiuni mai puțin dezvoltate - LDR"

» Durata proiectului: 42 luni

» Locația proiectului: Str. Cornelia Salceanu, nr. 22, Timișoara 300561

» Activități: Modernizarea și consolidarea a doua cladiri în cadrul ICT și dotarea acestora cu echipamente și instrumente de cercetare la standarde internaționale

» Valoarea totală: 42.587.899,61 lei

» Valoare totală eligibilă 42.459.595,61 lei

» Valoare eligibilă nerambursabilă FEDR: 36.090.656,29 lei

» Valoare eligibilă nerambursabilă din bugetul național: 6.368.939,32 lei

» Valoare neeligibilă: 128.304,00 lei



Căutare

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# CURRENT STAGE OF THE PROJECT ACTIVITIES IMPLEMENTATION

- ❑ Project start announcement: **1**
- ❑ Project web-page: **1**
- ❑ Temporary panel and permanent board: **2**
- ❑ Projects submitted to other EU research programs (no.): **4**
- ❑ **CO24** - Number of new researchers (newly created jobs): **4**
- ❑ New created jobs, other than for researchers (no.): **4**
- ❑ **Equipment (pieces): 74 out of 146 are already purchased**  
**54 pieces are being purchased (IT and licenses)**  
**28 pieces will be purchased (equipment and programs)**
- ❑ Information, communication and advertising materials: *labels, pens, roll-up, folders, advertising diaries, notebooks, USB stick, leaflets*
- ❑ Project Promotion at various events: **4**
- ❑ **C20 and C21 buildings - the final stage of rehabilitation**
- ❑ Number of public-private co-publications: in progress.....
- ❑ **Conference: in progress.....**



**C20 and C21 buildings - the final stage of rehabilitation**



## Orbitrap IQ-X Tribrid Mass Spectrometer 1M resolution



**\*is an ultra-high resolution LC/MS  
specialised for small molecule analysis**

**\*offers the high mass accuracy, high  
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**SAXS/WAXS diffractometer with GISAXS module**  
a powerful technique that allows for the determination  
of size, distribution, shape, and order of nanoparticles  
and macromolecules.

*Unique in Romania*



**Spectrometer type: Circular Dichroism, J 1500**



**Chiroptical spectroscopy has become one of most important techniques for the characterization of biomolecules, determination of absolute configuration and stereochemical analysis**

**JASCO HPLC**

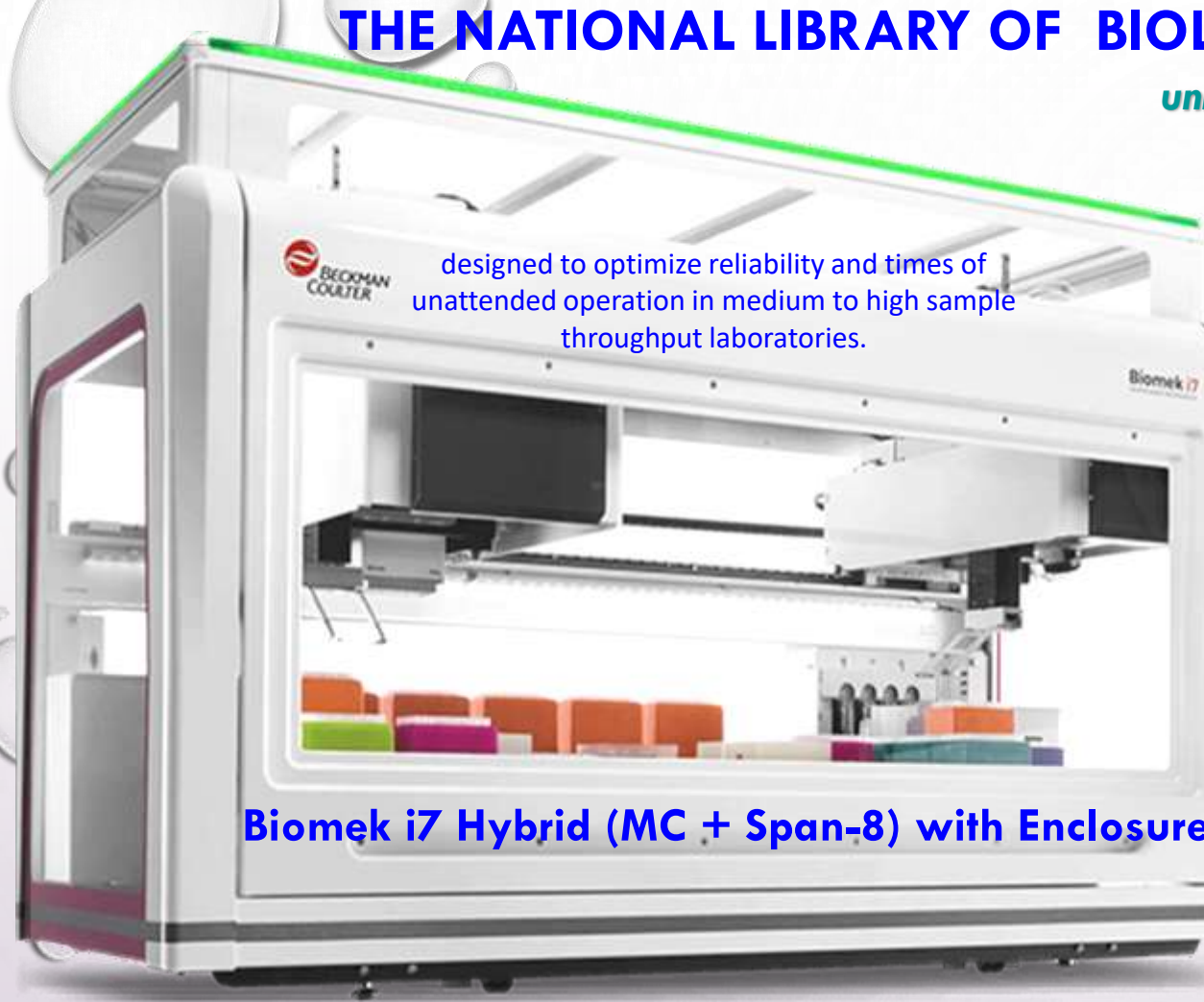
**Integrated HPLC and UHPLC systems**



# THE NATIONAL LIBRARY OF BIOLOGICALLY ACTIVE COMPOUNDS (LNCB)

unique in Romania

INSTRUMENTS.....



designed to optimize reliability and times of unattended operation in medium to high sample throughput laboratories.

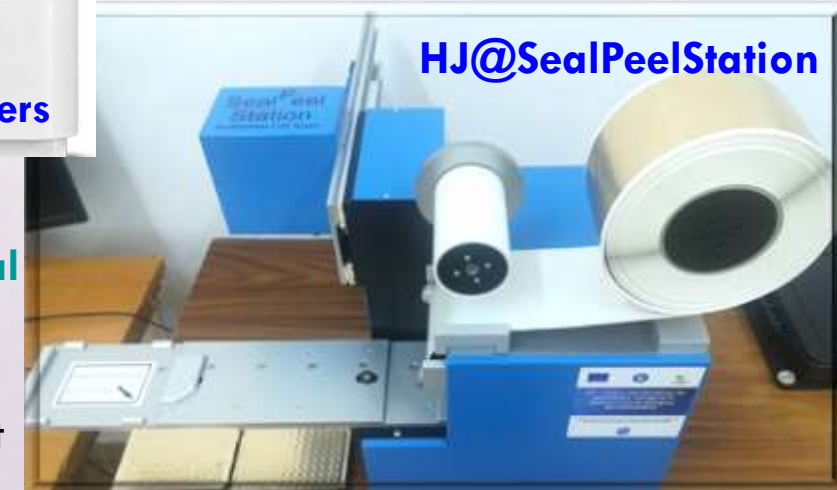
**Biomek i7 Hybrid (MC + Span-8) with Enclosure**



**Echo 650  
Acoustic Liquid Handlers**



**Automated Screw Cap Decapping**



**HJ@SealPeelStation**

the LNCB will be enriched over the next years by a growing number of compounds collected from the Romanian chemistry community, as a wide collaborative effort toward the common objective of building a best-in-class library to accelerate the drug discovery process, and beyond

2692 approved drugs and natural compounds  
3000 diversity compounds  
were purchased through the project  
compounds selection realized by  
**Ramona Curpan, ICT**

calculations of physico-chemical properties and experimental tests will be performed



**PĂCUREANU Liliana** – former project manager

*Former team members:*

**STAN Floare**

**URSAN Petru**

**BANICĂ Cosmin**

**DURDUN Mădălina**

**MIHAI Corina**

**STOICA Alina**

*As everyone knows, behind every  
manager is a great and very  
professional **TEAM** and it is this  
whole group that makes the  
**RO-OPENSREEN project**  
what it is today!!*

**CSEH Liliana** – current project manager

*The current team members:*

**ANDELESCU Adelina**

**BLIDARIU Sergiu**

**BORA Alina**

**BUTA Ildiko**

**CHERA Sofia**

**CIOABĂ Sanda**

**CRIȘAN Luminita**

**CRIȘAN Manuela**

**CURPĂN Ramona**

**DEVESELEANU CORICI Livia**

**ILIN Alexandru**

**POENARU Ana**

**STOICHECI Simona**

**SUCIU Arleta**

**SZERB Elisabeta**

**ANCUȚA Florin**

**COSTACHE Ramona**

**CRISTEA Diana**

**DRAGOMIR Mirela**

**STOICA Radu**

**Big Thanks to all of my colleagues!**

## CONCLUSIONS

### THE RO-OPENSREEN ACHIEVEMENTS:

- ❑ the RO-OPENSREEN Interdisciplinary Center
  - ❑ the high-performance research equipment (*some unique in Romania*) and tools
  - ❑ the National Library of Biologically Active Compounds (LNCB) (*unique in Romania*)
  - ❑ the high-performance computing system

### TAKE HOME MESSAGE.....

**the main advantage of the facilities through the RO-OPENSREEN interdisciplinary center is the access to high-performance (unique) infrastructure and LNCB resources for all research institutions, universities and the pharmaceutical industry interested to cooperate, on agreed terms.**

### COLLABORATION CAN PROMOTE CREATIVITY, INNOVATION AND CROSS-SKILLING!

*even if the projects are finished, the established collaboration remains essential as well as the scientific meetings!*



# INVITATIONS

“Coriolan Drăgulescu” Institute of Chemistry,  
Romania Academy



## THE 15th EDITION of the CONFERENCE “NEW TRENDS IN CHEMISTRY RESEARCH 2023”

Timisoara, September 21-22, 2023

web-page: [www.newtrends-timisoara.ro/](http://www.newtrends-timisoara.ro/)

The website features a dark background with a cityscape image. At the top, there is a navigation bar with links: Home, News, Speakers, Schedule, Venue, Hotels, Gallery, Contact, Register (in a red button), and archive. Below the navigation bar, the main title 'NEW TRENDS IN CHEMISTRY RESEARCH 2023' is displayed in large, bold, red and white letters. Underneath the title, the dates and location 'September 21-22, 2023, Timișoara, România' are listed. A list of topics is provided in a white box with a red border:

- Organic and Polymer Sciences
- Inorganic and Coordination Chemistry
- Applied Biomedical, Electronics, Optoelectronics and Environmental Sciences
- Green Chemistry for Sustainable Development
- Computational Chemistry and Chemoinformatics

At the bottom of the website, there are three buttons: 'Symposium Awards', 'Journals special issues', and 'Special Section'. A small flask icon is visible on the right side.

## RO-OPENSREEN

interdisciplinary center

Str. Cornelia Salceanu,  
nr. 22, Timișoara 300561



The 'SYMPOSIUM AWARDS' section is titled with a laurel wreath icon. It lists three award categories, each with a 'STAS COMPUTER' logo:

- Best Young Scientist Oral Presentation – **1 Laptop**  
(offered by STAS COMPUTER S.R.L.)
- Best Flash Poster Presentation – **1 Laptop**  
(offered by STAS COMPUTER S.R.L.)
- Best Poster – diploma Sorin I. Rosca – **1 Tablet**  
(offered by Romanian Society of Chemistry and STAS COMPUTERS S.R.L.)

At the bottom, there are logos for 'SCIR' and 'STAS COMPUTER'.



# TIMISOARA, THE 2023 EUROPEAN CAPITAL OF CULTURE

In 2023, the city will host a series of exhibitions highlighting important figures of Romanian and European art, while transforming the plazas and the parks into worldwide connected stages.

Web page: <https://timisoara2023.eu/ro/>

## THANK YOU FOR YOUR ATTENTION!

