



Bioinspired Chemistry

Mathieu Surin (UMONS)

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EUNICE-UNIVERSITY.EU



Co-funded by
the European Union



SUMMARY

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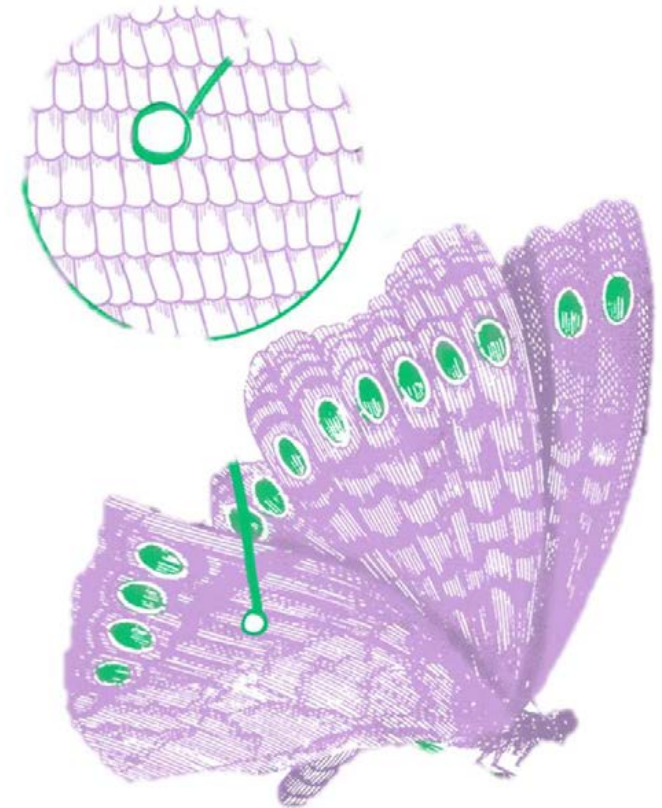
The living world as source of inspiration

Bio-inspiration is

a creative approach based on the observation of biological systems

Bio-inspiration is about making the most of the wealth that **the living world can bring to humanity across the entire spectrum of well-being** (material, intellectual, emotional), while respecting sustainable development objectives and contributing, as far as possible, to the protection of the biosphere.

Muséum National d'Histoire Naturelle, Paris





Goals & Partners



Goal



This programme aims at offering an educational background **connecting the laboratory environment and the living world** to mimic complex strategies elaborated by Nature, which represents infinite scientific and technological challenges.

▲ **Bioinspired Chemistry** explores and takes inspiration from structures and assemblies found in the living world to design new approaches for facing challenges in **health, energy, environment, information technologies, and (bio)materials.**

Multidisciplinary approach :

Chemistry & Biochemistry

Materials Science, Biomaterials

Supramolecular & macromolecular systems

Nanoscience, Nanomedicine

Self-organization, Biophysics

Partners (core group)

Poznan University of Technology

- Marta WOŹNIAK-KARCZEWSKA,
- Magdalena REGET-ROSOCKA

University of Catania

- Cristina SATRIANO
- Salvatore SCIRE

University of Cantabria

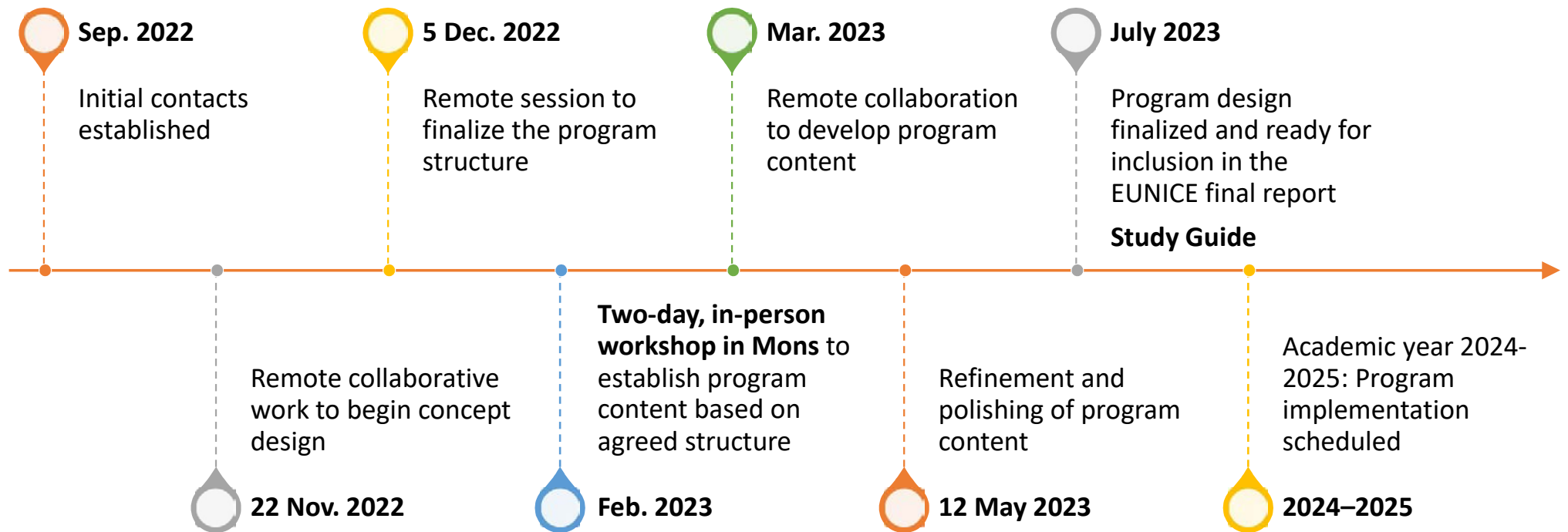
- Nazely DIBAN IBRAHIM-GOMEZ
- Eugenio BRINGAS
- Angel IRABIEN

University of Mons

- Rony SNYDERS,
- Mathieu SURIN,
- Sylvain GABRIELE



History of the Development



Methodology

The programme content is **based on existing programmes** in each of the partner university:

- ▲ **Master's Degree in Chemical Sciences (UMONS)**
Orientation: Bioinspired Chemistry and Chemistry of Living Systems
- ▲ **Master's Degree in Chemical Technology Composites and nanomaterials (PUT)**
Sustainable development, green chemistry, circular economy and recycling aspects as well as advanced materials for generation and storage of energy.
- ▲ **Master's Degree in Chemical Engineering for Industrial Sustainability (UNICT)**
Chemical Engineer to design and manage complex chemical systems and plants, to select materials and technologies for production.



Methodology



Co-creation methodology

- Cohesive learning experience
- Each partner brings its unique research and teaching expertise
- Mix of co-created and existing content
- Flexible online learning options adapted from existing courses at partner universities)



Content

- Mandatory teaching activity co-designed by the 3 partners → **summer school**
- Elective courses to be chosen from a pre-defined list: participating university contributes to this list by adapting their existing courses into an online format
- Research mobility :
 - 30-credit master thesis with **4-month physical mobility at a partner university**
 - Master thesis topics aligned with the interests of at least two universities
 - Opportunities for future co-promoted PhD





Difficulties & Solutions



Difficulties & Solutions

- × Local regulations and lengthy approval/accreditation systems for new programs
- × Differences in academic calendars
→ *UCantabria had to withdraw*
- × Varying examination and teaching regulations
- ✓ Program considered a “major” within an existing program
Each university delivers diplomas to their own students
- ✓ Flexible (online) learning options adapted from existing courses at partner universities
- ✓ Student evaluation is “course dependent” (refer to study guide)



The Master Program



Programme Overview

- ▲ 3 partner universities
- ▲ 60-credit master programme
- ▲ Course programme including virtual and physical mobility



UMONS
University of Mons



Poznań University of
Technology



Università
di Catania



Programme Content

▲ 60 ECTS master programme



12 credits of online elective courses to choose among the courses proposed by the 2 other partner universities



12 credits of online elective courses at the student home institution



6 credits for a summer school
Blended Intensive Programme (BIP)

this week



30 credits for a research internship & master thesis in one of the programme partner university



Master's Degree delivered by the home university

+



EUNICE Certificate

Summer School Agenda

	Sunday 15/09	Monday 16/09	Tuesday 17/09	Wednesday 18/09	Thursday 19/09	Friday 20/09
08:30-09:00		Registration				
09:00-10:00		Opening by Rony Snyders	Marta WOŹNIAK-KARCZEWSKA		Sylvain GABRIELE	Student presentations Group 1
10:00-11:00		Carmelo LA ROSA	Roberto FIORENZA	Mathieu SURIN	Vincenzo NICOLETTI	Student presentations Group 2
11:00-11:30		Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:30-12:30		Beata STRZEMIZCKA	Katarzyna DOPIERAŁA	student working time	Rosica MINCHEVA	Student presentations Group 3
12:30-14:00		Lunch	Lunch	Lunch	Lunch	Lunch
14:00-15:00	ARRIVAL Transfer from train stations and airports to hotels	Prof Pascal JONKHEIJM	Research Brainstorming with students	Prof Amaia CIPITRIA	Campus and Lab visits	Closing remarks
15:00-16:00		Round table with Pascal JONKHEIJM	student working time	Round table with Amaia CIPITRIA	UMONS and Materia Nova	DEPARTURE Transfer to train stations and airports
16:00-17:00		student working time	student working time	MUMONS visit	student working time	
17:00-18:00		Free time	Free time		Free time	
18:00-19:30		Free time	Free time		Free time	
19:30-22:30		Dinner	Dinner	Gala Dinner	Dinner	

- Establish the Master program's **community**
- **Network** students & professors
- Dive deeply into the field of **bioinspired chemistry**
- Get a flavor of your future master thesis **research topics**
- Enjoy Belgium and Mons

Academic staff at the Summer School

Professors from the University of Mons

- Rosica MINCHEVA
- Mathieu SURIN
- Sylvain GABRIELE

Professors from Poznan University of Technology

- Marta WOŹNIAK-KARCZEWSKA
- Katarzyna DOPIERAŁA
- Beata STRZEMIZCKA

Professors from University of Catania

- Roberto FIORENZA
- Carmelo LA ROSA
- Vincenzo Giuseppe NICOLETTI

Two international experts:

- ▲ Prof Amaia Cipitria
Ikerbasque University (Basque Country, Spain)



- ▲ Prof Pascal Jonkheijm
University of Twente (The Netherlands)







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Goal & Partners

- ▲ 3 partner universities
- ▲ 60-credit master programme
- ▲ Course programme including virtual and physical mobility
- ▲ Summer School, Labs, Seminars, Research internship at Q2



Poznań University of
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