UNIVERSITÉ CÔTE D'AZUR

GRADUATE SCHOOL
FORMAL, PHYSICAL AND ENGINEERING SCIENCES

Master of MOLECULAR CHEMISTRY

MEDICINAL & BIOORGANIC CHEMISTRY

INTERVIEW WITH THE HEAD OF EDUCATION

Cyril Ronco
Doctor-Engineer
Nice Institute of Chemistry

"As a researcher involved in two local biotechnology startups, I appreciate the importance of MedBioChem's multidisciplinary approach. ***The program is at the interface between chemistry and biology, incorporating essential concepts from medicinal, sustainable and bioorganic chemistry.***

Students learn to explore chemical interactions with therapeutic targets and to become expert in each stage of the development of new drugs. *To train multiskilled experts, the course also includes lessons that promote the acquisition of transversal skills in scientific communication, intellectual property and project management.*

In the dynamic ecosystem of French SMEs and startups, ***MedBioChem graduates stand out for their hybrid profiles of scientist and project manager.*** *Our students are valuable assets, ready to play a central role in fundamental and applied research, and to* ***contribute directly to therapeutic innovation.***"

fundamental and applied skills

preferential access to Nice Institute of Chemistry

teaching 100% in English

fast-growing business sectors

TRAINING TO MEET THE CHALLENGES FACING HEALTH RESEARCH AND HEALTHCARE INDUSTRIES

Université Côte d'Azur's **MedBioChem program trains engineers and future doctors specializing in medicinal and bioorganic chemistry,** who are able to collaborate effectively with pharmacologists, biologists, modelers, medical doctors and, of course, other chemists.

Taught at the Valrose campus in Nice, **this program offers students preferential access to Nice Institute of Chemistry and its researchers.**

To keep pace with current challenges in the pharmaceutical industry and biotech companies, **the program includes weekly seminars by high-level scientists from all over France** as well as professionals from biotechnology startups and companies from the pharmaceutical, chemical and biopharmaceutical sectors.

These initiatives demonstrate the strong links between public research and the private sector.

In the second year, a compulsory 6-month work placement in a laboratory or company gives students first-hand professional experience.

THE 4 COMPONENTS OF THE COURSE

Modern Chemistry

- Catalysis and modern techniques for synthesizing active ingredients
- Green and sustainable chemistry

Bioorganic Chemistry

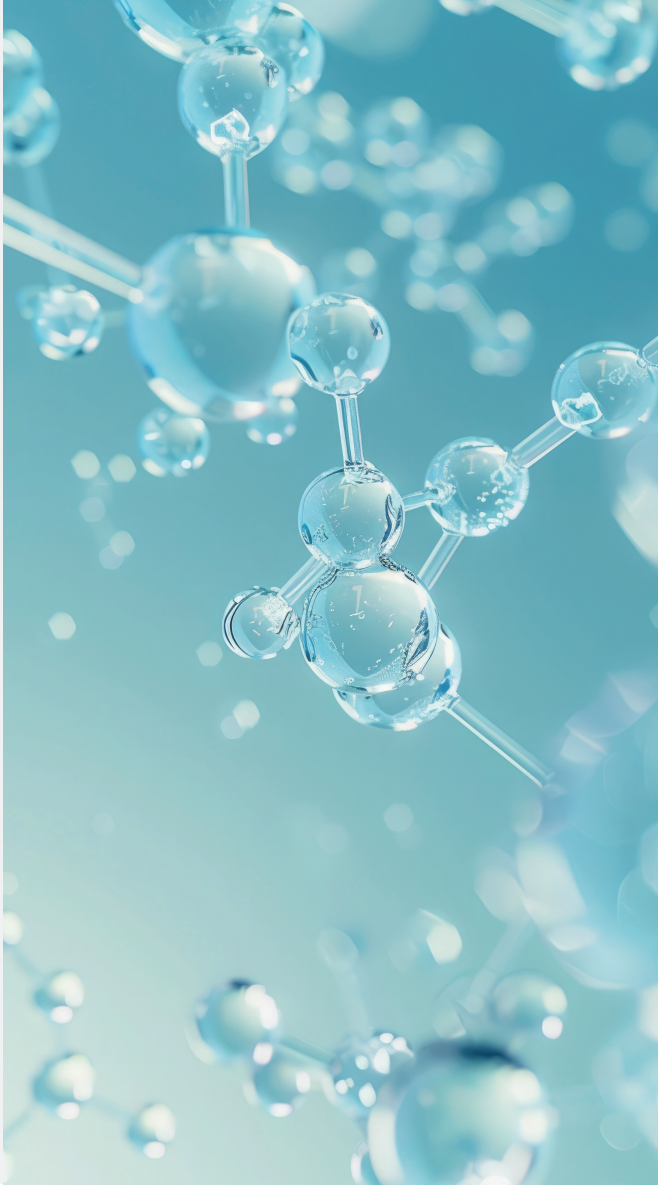
- Biomolecules: their structure, synthesis and use as therapeutic targets
- Ligand-target interactions and pharmacological effects
- Advanced techniques to analyze ligands, biomolecules and biomolecule/ligand interactions

Medicinal Chemistry

- Drug design: in silico design and modeling to discover new molecules and therapeutic effects
- Medicinal chemistry and pharmacology: advanced concepts and strategies for drug discovery
- Formulation, vectorization and structural analysis of active ingredients

Management and communication

- Scientific communication
- Managing scientific research projects
- Intellectual property



2 years THE DURATION OF THE COURSE

The first year of the master's consists of a core curriculum, that provides the fundamentals in diverse fields of chemistry, such as analytic, organic and computational chemistry. **In the second year, students specialize through the MedBioChem program,** concentrating on specific issues related to medical and bioorganic chemistry.

2 KEY PROFESSIONS IN HIGH DEMAND

R&D Researcher in Medicinal Chemistry and Project Manager in Pharmaceutical Chemistry are highly sought-after profiles in the private and public research sectors and the health industry. **They require transversal skills,** with expertise in preclinical and clinical development processes as well as in issues of commercialization and knowledge transfer.

EXAMPLES OF CAREER OPPORTUNITIES

Doctor of medicinal chemistry

Designing and optimizing molecules, setting up organic synthesis programs to diversify chemical series, establishing models to assess synthetic molecules in one or more biological systems, developing new active pharmaceutical ingredients, etc.

Remuneration

For a Project manager in a start-up :

Median annual salary : **€42,000**

Starting annual salary : **€35,000**

Senior annual salary : **€68,000**

Project engineer in therapeutic chemistry

Synthesizing new products, selecting and using new analytical and investigative technologies, improving existing products, defining means, methods and techniques for promoting and applying research results, collaborating with other disciplines to ensure projects are technically feasible and comply with regulations, etc.

Project manager

Providing scientific support at every stage of a project (R&D, clinical trials, etc.), communicating with all the project partners and collaborators, managing the research schedule and priorities, analyzing scientific data, identifying and contacting new research partners, monitoring regulatory compliance and intellectual property, etc.

A WORD FROM THE BUSINESS WORLD

Maeva Dufies
Scientific Director
Roca Therapeutics

"Université Côte d'Azur's MedBioChem program perfectly meets the needs of biotechnology companies and start-ups like Roca Therapeutics. ***Its transdisciplinary training, at the interface between chemistry and biology, emphasizes the development of active pharmaceutical ingredients.*** *Directed by Dr Cyril Ronco, an expert in medical research and drug development, this high-level course satisfies industry requirements. G****raduates acquire knowledge and research skills that enable them to move easily into project engineer and manager roles****, guaranteeing them successful professional integration."*

DIPLÔME NATIONAL DE MASTER CONTRÔLÉ PAR L'ÉTAT

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CONTACT

Head of education
Cyril Ronco

medbiochem@univ-cotedazur.fr

https:// spectrum.univ-cotedazur.fr

For more information contact Mission Handicap

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