

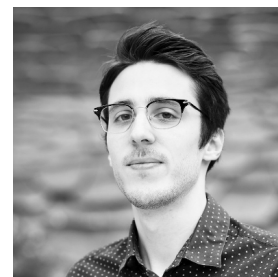
Cédric Bouysset

PHD STUDENT · TEACHING ASSISTANT

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Education

Université Côte d'Azur

PHD IN CHEMISTRY

- Dissertation title: Molecular Basis of Chemosensory Perception
- Supervisors: Dr. Sébastien FIORUCCI and Pr. Serge ANTONCZAK
- Techniques: Molecular Modeling, Chemoinformatics, Machine Learning

Nice, France

2018 – current

Université de Strasbourg

MASTER DEGREE IN CHEMOINFORMATICS (WITH HONOURS)

Strasbourg, France

2016 – 2018

Université de Nice Sophia Antipolis

BACHELOR DEGREE IN CHEMISTRY (WITH HONOURS)

Nice, France

2013 – 2016

Université de Nice Sophia Antipolis

FIRST CYCLE OF MEDICAL STUDIES

Nice, France

2011 – 2013

Lycée Albert Premier

SCIENTIFIC BACCALAUREATE (WITH HONOURS)

Monaco

2011

Experience

Google Summer of Code

RDKit INTEROPERABILITY PROJECT DEVELOPER

Development for the Python module MDAnalysis:

- Conversion between MDAnalysis atom groups and RDKit molecules.
- Leverage RDKit functionalities (SMARTS queries, molecular descriptors calculations... etc.) directly from MDAnalysis.

MDAnalysis

Jun. 2020 - Aug. 2020

Institut de Science et d'Ingénierie Supramoléculaires (ISIS)

TECHNICIAN

- Development of computational chemistry workflows for structure-based virtual screening.

Strasbourg, France

Jul. 2017 - Aug. 2017

Compagnie Monégasque de Banque, BNP Paribas Wealth Management, & LCL Banque et Assurance

SUMMER REPLACEMENT CLERK & TELLER

- Customer reception, filing, data entry for banking transactions.

Monaco

Summer 2012 - 2016

Research Internships

Molecular and Numerical Models of Chemosensory Perceptions

INSTITUT DE CHIMIE DE NICE, UNIVERSITÉ CÔTE D'AZUR

- Development of QSAR models on gustative and olfactive properties in humans and insects
- Supervisor: Sébastien Fiorucci

Nice, France

Feb. – Jul. 2018

Automatic Rescoring of Docking Results by End-point Free Energy Approaches

INSTITUT DE SCIENCE ET D'INGÉNIERIE SUPRAMOLÉCULAIRES, UNIVERSITÉ DE STRASBOURG

- Calculation of binding affinities of ligand-receptor complexes from MD simulations, using the MM/PBSA approach
- Supervisor: Marco Cecchini

Strasbourg, France

Mar. – Jun. 2017

Molecular Modeling of Bitter Taste Receptors

INSTITUT DE CHIMIE DE NICE, UNIVERSITÉ CÔTE D'AZUR

- Development of 3D models of bitter taste receptors using homology modeling
- Supervisor: Sébastien Fiorucci

Nice, France

Jun. 2016

Peer-reviewed publications

First-author publications:

- | | | |
|---|---|--|
| 5 | FUNCTIONAL MOLECULAR SWITCHES OF MAMMALIAN G PROTEIN-COUPLED BITTER-TASTE RECEPTORS
<i>Topin J., Bouysset C., Pacalon J., Kim Y., Rhyu M., Fiorucci S. & Golebiowski, J.</i> | <i>Under review</i> |
| 4 | PROLIF: A LIBRARY TO ENCODE MOLECULAR INTERACTIONS AS FINGERPRINTS
<i>Bouysset C. & Fiorucci S.</i> | <i>Accepted</i>
<i>Journal of Cheminformatics</i> |
| 3 | REVERSE CHEMICAL ECOLOGY IN A MOTH: MACHINE LEARNING ON ODORANT RECEPTORS IDENTIFIES NEW BEHAVIORALLY ACTIVE AGONISTS
<i>Caballero-Vidal G., Bouysset C., Gévar J., Mbouzi H., Nara C., Delaroché J., Golebiowski J., Montagné N., Fiorucci S. & Jacquín-Joly E.</i> | <i>2021</i>
<i>CMLS</i> |
| 2 | NOVEL SCAFFOLD OF NATURAL COMPOUND ELICITING SWEET TASTE REVEALED BY MACHINE LEARNING
<i>Bouysset C., Belloir C., Antonczak S., Briand L. & Fiorucci S.</i> | <i>2020</i>
<i>Food Chemistry</i> |
| 1 | MACHINE LEARNING DECODES CHEMICAL FEATURES TO IDENTIFY NOVEL AGONISTS OF A MOTH ODORANT RECEPTOR
<i>Caballero-Vidal G., Bouysset C., Grunig H., Fiorucci S., Montagné N., Golebiowski J. & Jacquín-Joly E.</i> | <i>2020</i>
<i>Scientific Reports</i> |

Other publications:

- | | | |
|---|--|---------------------------------------|
| 3 | RECENT SMELL LOSS IS THE BEST PREDICTOR OF COVID-19 AMONG INDIVIDUALS WITH RECENT RESPIRATORY SYMPTOMS
<i>Gerkin R. C. and 128 colleagues</i> | <i>2021</i>
<i>Chemical Senses</i> |
| 2 | MORE THAN SMELL—COVID-19 IS ASSOCIATED WITH SEVERE IMPAIRMENT OF SMELL, TASTE, AND CHEMESTHESIS
<i>Parma V. and 121 colleagues</i> | <i>2020</i>
<i>Chemical Senses</i> |
| 1 | METAL IONS ACTIVATE THE HUMAN TASTE RECEPTOR TAS2R7
<i>Wang Y., Soohoo A. L., Lei W., Christensen C., Margolske R. F., Bouysset C., Golebiowski J., Zhao H., Fiorucci S. & Jiang P.</i> | <i>2020</i>
<i>Chemical Senses</i> |

Seminars & Conference Talks

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| Oct. 2021 | 10th RDKit UGM , “Interactive visualization and filtering of small molecule datasets with mols2grid” | <i>Virtual Conference</i> |
| Oct. 2020 | 9th RDKit UGM , “From RDKit to the Universe and back” | <i>Virtual Conference</i> |
| Nov. 2019 | 9th Meeting of the French Chemoinformatics Society (SFCi) , “Decoding sweet taste from chemical structures” | <i>Paris, France</i> |
| Apr. 2019 | International Perfume Museum (MIP) & Collège de l'Archet , “How our brain perceives odors and flavors” | <i>Nice, France</i> |
| Apr. 2019 | 21st Group of Graphism and Molecular Modeling (GGMM) Conference , “Numerical model of structure-taste relationships” | <i>Nice, France</i> |

Posters

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| May 2021 | 16th Weurman Flavour Research Symposium , “Bitter-Taste Receptors: From Sequence to Structure” | <i>Virtual Conference</i> |
| Aug. 2020 | International Symposium on Olfaction and Taste (ISOT) , “Bitter-Taste Receptors: From Sequence to Structure” | <i>Virtual Conference</i> |
| Nov. 2019 | GDR-O3 Annual Meeting , “Molecular insights into the structure-function relationships of bitter taste receptors” | <i>Toulouse, France</i> |
| Sep. 2019 | European Chemoreception Research Organization (ECRO) XXIXth Meeting , “Molecular insights into the structure-function relationships of bitter taste receptors” | <i>Trieste, Italy</i> |
| Apr. 2019 | 26th PACA Chemistry Day , “Modeling taste perception from chemical structures” | <i>Nice, France</i> |
| Mar. 2019 | 2nd UCA Complex Days Meeting , “Modeling taste perception from chemical structures” | <i>Nice, France</i> |

Honours & Awards

Dec. 2019	Excellence award laureate , Université Côte D'Azur	Nice, France
Nov. 2019	Best oral communication award , 9 th meeting of the French Chemoinformatics Society	Paris, France
Sep. 2019	Laureate of a GEN FOUNDATION grant , awarded to students and researchers in Natural Sciences, registered UK Charity No. 1071026	London, United Kingdom
Jul. 2019	Travel grant , XXIX th ECRO Meeting	Trieste, Italy
Mar. 2019	Best poster presentation , UCA Complex Days, the Complex Systems Academy of Excellence	Nice, France
Dec. 2018	Laureate of a GIRACT bursary , 9 th European PhD in Flavor Research Bursaries for first year students	Geneva, Switzerland
Oct. 2018	PhD Fellowship , French Ministry of Higher Education and Research	Nice, France

Community Service

Open source projects

300+ CONTRIBUTIONS IN 2020

[GitHub](#)

2017-2021

Python modules

2 PACKAGES

[PyPI](#)

2018-2021

- [mols2grid](#): Interactive chemical viewer of small molecule libraries
- [ProLIF](#): Interaction fingerprint library for MD or docking simulations of ligand, protein, DNA or RNA complexes

Global Consortium for Chemosensory Research (GCCR)

WEB DESIGN & MAINTENANCE

[Website](#)

2020-2021

Skills

Chemoinformatics	RDKit, ChemAxon
Molecular Modeling	Amber, Modeller, AutoDock Vina, PLANTS
Molecular Visualization	ChimeraX, PyMOL, Blender, VMD, 3Dmol.js
Data Analysis	Jupyter-notebook, pandas, MDAnalysis, KNIME
Programming	Python, JavaScript, Bash, C, PHP
Machine Learning	Scikit-Learn, KNIME, Weka
Web-Frontend	HTML5, CSS, Bootstrap, Sphinx, Streamlit
Web-Backend	Django, Celery
Database	PostgreSQL, SQLite
Software Engineering	Git, GitHub Actions, Docker

Teaching

2019 – 2021	Chemical senses , Lectures and practicals	First year bachelor students
2018 – 2020	Molecular structure and representation , Exercise sessions	First year bachelor students
2018 – 2019	Microscopic structure of matter , Practicals	First year bachelor students
2019 – 2020	Chemistry of solutions , Exercise sessions	Second year bachelor students
2019 – 2021	Molecular structure and macroscopic properties , Exercises and practicals	Second year bachelor students

Activities

Video Games	Vocal and game server configuration, competitive training
Sports	Badminton and snowboard

Other

Citizenship	French
Birth year	1993 (27 years old)
Languages	French (native), English (fluent), Italian (elementary)