

# Noé Demange

✉ [noe.demange@uvsq.fr](mailto:noe.demange@uvsq.fr)  
📄 [github.com/NoeDemange](https://github.com/NoeDemange)



## Education

- 2024–Present **PhD in Computer Science, title : Path Generation for the Synthesis of Molecular Cages**, *DAVID Lab., University of Versailles Saint-Quentin-en-Yvelines / Paris-Saclay*, Versailles, France, [theses.fr/s402263](https://theses.fr/s402263).  
Supervisors: Yann Strozecki, Sandrine Vial
- 2022–2024 **Master's Degree in Algorithms and Modeling at the Interface of Sciences (AMIS)**, *University Paris-Saclay*, Versailles, France.  
Coursework: molecular modeling, graph theory, artificial intelligence, combinatorial optimization, databases, cryptography, networks, game theory  
Scholarship: MixtAI | Honors: Highest distinction
- 2019–2022 **Double Bachelor's Degree in Biology and Computer Science**, *University of Versailles Saint-Quentin-en-Yvelines*, Versailles, France.  
Computer Science: algorithms, C, Java, graph theory, databases, cryptography, networks  
Biology: genetics, transcription, translation, phylogeny, sequencing, molecular biology techniques  
Honors: Highest distinction
- 2019 **Scientific Baccalaureate (High School Diploma)**, *Lycée de la Haie Griselle*, Gérardmer, France.  
Major in Life Sciences | Honors: Highest distinction

## Academic Responsibilities

- 2025–Present **PhD Student Representative**, *DAVID Lab.*, University of Versailles Saint-Quentin-en-Yvelines.

## Employment and Internships

- Apr–Sep 2024 **Master's Internship**, *Laboratoire DAVID, UVSQ*, Versailles, France.  
In silico generation of organic molecular cages around target molecules. Path construction between binding motifs. Algorithms, molecular modeling, C language  
Supervisors: Yann Strozecki, Sandrine Vial
- Mar–Jun 2024 **Academic Tutoring**, *Saclay AI School, UVSQ*, Versailles, France.  
Tutoring undergraduate computer science students
- Jun–Jul 2023 **Research Internship**, *Laboratoire DAVID, UVSQ*, Versailles, France.  
Development of construction guides for organic molecular cages. Improvement of an existing C program and implementation of the A\* algorithm. Team-based project  
Supervisors: Yann Strozecki, Sandrine Vial
- 2022–2024 **Student Ambassador**, *Université Paris-Saclay*.  
Presentation of academic programs at orientation fairs. Interaction with prospective students and families
- 2022 **Research Engineer (Freelance Status)**, *CHCSC, UVSQ*.  
Development of data analysis programs in R, Shiny applications (GitHub), Docker usage (96-hour mission)
- Jun–Aug 2022 **Research Internship**, *CHCSC, UVSQ*.  
Development of a data analysis method based on double seriation  
Supervisor: Guillaume Sapriel
- 2021–2022 **Research Internship**, *Atelier de Bio-Informatique, ISYEB – MNHN*, Paris, France.  
Double seriation data analysis applied to genomic datasets. R language  
Supervisor: Guillaume Sapriel
- Aug 2020 **Student Job**, *Marcillat Cheese Factory*, Corcieux, France.  
Production line work, logistics, teamwork under time constraints

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## Research Activities

### Posters

- 2025 **MaDICS Symposium.**  
Generation of construction guides for molecular cages
- 2025 **Université Paris-Saclay Research Days.**  
Generation of construction guides for molecular cages

### Talks

- 2026 **PhD Roundtable, Faculty of Sciences, UVSQ – Paris-Saclay University, Versailles.**  
Presentation entitled "What Is a PhD Thesis?" for first-year undergraduate students in Mathematics–Physics–Chemistry, as part of the PPEI – Personal Study and Career Development Project
- 2024 **PhD Students Day, Laboratoire DAVID.**

### Academic Service

- 2025 **Junior Program Committee Member, Junior Conference on Informatics: Theory and Applications (JITA).**  
Conference organization, call for papers, communication, peer reviewing

### Supervision

- 2026 **Master's Project (M1), Graph Drawing.**  
Co-supervisor: Chloé Godet
- 2025 **Undergraduate Internships (L2), Generation of Binding Motifs for Molecular Cage Construction.**  
Supervisors: Noé Demange, Yann Strozecki, Sandrine Vial
- 2025 **Master's Project (M1), Distance Computation in Discretized 2D/3D Spaces.**  
Supervisors: Noé Demange, Yann Strozecki

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## Teaching Experience

- 2026 **Foundations of Computer Science II – Python Programming, University of Versailles Saint-Quentin-en-Yvelines.**  
Undergraduate level (Year 1), 27h TD  
Course coordinator: Mustapha Lebbah
- 2026 **Algorithms and Foundations for Data Science, University of Versailles Saint-Quentin-en-Yvelines.**  
Statistics, Clustering, PCA  
Undergraduate level (Year 3), 39h TD  
Course coordinator: Sandrine Vial
- 2025 **Models of Computation and Complexity, University of Versailles Saint-Quentin-en-Yvelines.**  
Pushdown automaton, Turing machine, other computational models, decidability, reduction, complexity class  
Undergraduate level (Year 3), 27h TD  
Course coordinator: Yann Strozecki
- 2024 **Data Structures and Algorithms, University of Versailles Saint-Quentin-en-Yvelines.**  
Recursion, sorting, stacks/queues, trees, algorithms, and complexity  
Undergraduate level (Year 2), 36h TD  
Course coordinator: Sandrine Vial

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## Academic Projects

- Oct 2023–Feb 2024 **Master's Project (M2), AMIS Master's Program.**  
Construction of cycle graphs of molecules and pairwise comparison using MCIS. Algorithms, molecular modeling, C, Python, R. Team of 4  
Supervisors: Franck Quessette, Sandrine Vial
- Jan–May 2023 **Master's Project (M1), AMIS Master's Program.**  
Generation of construction guides for organic molecular cages. Reuse and extension of previous PhD and internship code. C language. Team of 5  
Supervisor: Sandrine Vial
- Jan–May 2022 **Bachelor's Project (L3), Double Degree in Biology and Computer Science.**  
Implementation of the algorithm described in *A Dynamic Programming Algorithm for RNA Structure Prediction Including Pseudoknots* (Rivas & Eddy). C language. Team of 4  
Supervisor: Sandrine Vial