

Noé Demange

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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, thesis.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

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

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

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 Quesette, 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