

Hector - Xavier de Lastic

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WORK EXPERIENCE

 **IMENOT research program [Hellenic Open University]** – Patras, Greece

Informatics researcher

[27/03/2026 – 15/05/2026]

- Organizational duties and technical oversight of a project on the identification of electronic cigarette emissions.
- Aid in the chemical identification of substances in both the refill liquid and emissions of e-cigarettes.
- Use of toxicological models to identify health effects on e-cigarette consumers.
- Application of machine learning methodologies on the results.
- Assessment of impacts on public health.

 **Collaboration with the LATPEE research team [Open Hellenic University]** – Athens, Greece

Data analyst

[01/02/2026 – Current]

- Procurement and preparation of various types of weather-related data obtained from public databases and research projects.
- Data cleaning, data verification and identification of areas for improvement for experimental setups.
- Data analysis and result summarization, with a focus on sustainability and comfort with respect to human health.
- Poster and publication preparation and presentations.

 **VRUMP – IIoT Solutions** – Athens, Greece

Address: Contact Imittou 4-6, Cholargos, Athens, Greece, 15561 Athens (Greece)

Research engineer

[01/04/2024 – 31/01/2025]

- NILM data analysis.
- Development of event detection and forecasting algorithms in Python.
- Training of new hires.
- Writing for technical deliverables in EU projects.
- Preparation and submission of applications for research grants.

 **Biosphere research program [NTUA of Athens]** – Athens, Greece

Bioinformatics researcher

[01/06/2023 – 31/10/2023]

- Analysis of microarray data from irradiated cell lines.
- Development of analysis pipelines in R.
- Technical reporting.
- Preparation of research papers for international peer-reviewed journals.

 **SAFETRANS research program [NTUA of Athens]** – Athens, Greece

Informatics researcher

[02/01/2019 – 01/08/2022]

- Analysis of LIDAR data within the scope of aviation safety.
- Development of algorithmic tools to pre-process and analyze LIDAR data in an R environment.
- Development of a comprehensive system for real-time cloud cover and visibility measurement.
- Technical support of the resulting system.
- Comparative analysis and assessment of data from field tests at various airports.
- Technical reporting.
- Presentation of results in peer-reviewed research journals and the European Lidar Conference 2020 (18-20/11/2020).

Bioinformatics researcher

[05/03/2018 – 25/09/2018]

- Workflow development for Next-Generation Sequencing (NGS) data analysis.
- Creation and administration of Galaxy production servers deployed on virtual machines.
- Administration of tools and workflows for RNA-seq data.
- Organization of a Kubernetes-supervised, docker-based deployment of tools used within the context of the Greek node of the ELIXIR program.
- Participation in international conferences.

 **Dr. S. Geronikolou, BRFAA** – Athens, Greece

Organizational committee member of the 1st International Symposium on Electromagnetic Radiation and Health (EMF and Health Symposium)

[01/07/2018 – 15/09/2018]

- Managed organisational tasks for the planning, hosting, and successful conclusion of the 1st EMF and Health Symposium.

 **Collaboration with Dr. A. Papayannis, Dr. A. G. Georgakilas and Dr. S. Geronikolou** – Athens, Greece

Data science researcher

[2018 – 2019]

- Particulate matter data analysis using varied measuring equipment.
- Comparative analysis using atmospheric variables in order to identify potential early warning patterns for fire events.
- Participation in the international conference "Med 2018" in ESA-ESRIN at Frascati, Italy, presenting a poster titled "**Time Evolution of Particulate Matter, heatmaps and windroses during the Kinetta Fire event on July 23rd 2018**", as a co-author with Styliani A. Geronikolou, George Chrousos, Alexandros G. Georgakilas and Alexandros Papayiannis.

 **ENIOS APPLICATION IKE** – Athens, Greece

Programmer

[10/2017 – 05/2018]

- Software development aimed at bioinformatics data analysis in Galaxy and R environments within the context of cloud-based applications.

EDUCATION AND TRAINING

PhD candidate

Medical School of the University of Patras [31/10/2019 – Current]

Level in EQF: EQF level 8 | **Thesis:** Study of the human body's reaction to chronic exposure to air pollution using bioinformatics and systemic biology approaches.

- Development of analysis workflows for bioinformatics data produced by a variety of platforms in R.
- Assessment and re-analysis of published datasets related to air pollution.
- Development of analytic methodologies to identify weak but persistent biological signatures.
- Technical reporting.
- Preparation of publications in peer-reviewed journals.

Bioinformatics Research Training

National Hellenic Research Foundation [01/05/2016 – 01/01/2019]

City: Athens | **Country:** Greece

- Acquired expertise in applying statistical methods to medical and biological research.
- Specialized bioinformatics data analysis, including transcriptomics, RNAseq, methylation data.
- Designed and developed tools, techniques and workflows for advanced data analysis.
- Oversaw training and Master's thesis preparation of new researchers.

- Participated in the ECCB18 international conference, presenting the poster "**ELIXIR – GR : Development of an integrated functional network analysis and composite signature derivation pipeline for ncRNAs RNA-seq data**" (8-12/9/2018), co-authored by Irene Liampa, Eleftherios Pilalis and Aristotelis Chatziioannou.
- Participated in the ECCB18 international conference, presenting the poster "**Development of a classification system for the translational analysis of cancer genomic and imaging data for melanoma prognosis**" (8-12/9/2018), co-authored by Georgia Kontogianni, Olga Papadodima, Irene Liampa, Ilias Maglogiannis and Aristotelis Chatziioannou.

Engineering Diploma (MSc equivalent) in applied mathematical and physical sciences

School of Applied Mathematics and Physical Sciences, National Technical University of Athens [01/10/2008 – 27/07/2017]

City: Athens | Country: Greece | Level in EQF: EQF level 7 | NQF Level: Master's degree

Physics department, with a focus on (1) Nuclear & Elementary Particle Physics, (2) Computational & Theoretical Physics.

Graduate thesis:

- Analysis of microarray gene expression data to identify health effects of industrial pollution on the homeostasis of adult humans.

LANGUAGE SKILLS

Mother tongue(s): Greek

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

French

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[2024]

DExplore: An Online Tool for Detecting Differentially Expressed Genes from mRNA Microarray Experiments Katsiki, A. D., Karatzas, P. E., **de Lastic, H.-X.**, Georgakilas, A. G., Tsitsilonis, O., Vorgias, C. E. , (2024). *Biology*, 13 (5):351.

[2023]

SAFETRANS: A system for 3D visibility estimation and cloud cover detection. **de Lastic, H.-X.**, Soupiona, O., Kostopoulos, V., Georgoussis, G., Papayannis, A., Michelaraki, M., Siomos, P., Koniditsiotis, A., Stavridis, A. (2023). *Applied Optics*, 62(17), 4600.

[2020]

Entropic Ranks: A Methodology for Enhanced, Threshold-Free, Information-Rich Data Partition and Interpretation **de Lastic, H.-X.**, Liampa I., Georgakilas, A. G., Zervakis, M., Chatziioannou A. (2020). *Applied Sciences*, 10(20):7077.

JOB-RELATED SKILLS

Job-related skills

- Applications of Physics and Mathematics (specialization Bioinformatics, LIDAR and NILM)
- Programming and tool development
- Fortran, Java, R, Python, Matlab and Mathematica
- Analysis of high-dimensional data
- Atmospheric data analysis
- Docker-based architectures.

SKILLS

General skills

- Programming languages: R, Python
- Experience with Docker-based environments
- Expertise in applied mathematics

- Focus on research and critical thinking
- Ability to work in a collaborative environment