Baptiste Imbert
Bioinformatician

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"Bioinformatician with a passion for learning new topics, I thrive in multidisciplinary teams. I specialise in data analysis, from curating data, processing them with pipelines, to their integration into databases along with subsequent visualisation. My goal is to extract scientific knowledge from data and translate it into health and environmental solutions."

SKILLS
- Data analysis
- Data management
- Problem solving
- Scientific writing and oral communication

SOFTWARE & PROGRAMMING

Office suite	Inkscape
Python	R
Linux	Java
Docker	Git
SQL	Neo4j
Nextflow	Scikit-learn

LANGUAGES
- French (native)
- English (CEFR: C1)
- German (CEFR: A2)

INTERESTS
Music
- Diatonic accordion
- Piano (self-taught)

Sport
- Hiking
- Badminton
- Ski (alpine/cross-country)

WORK EXPERIENCE

01/2021 – 02/2025 | INRAE / Dijon, FRANCE

Research engineer (01/2025 - 02/2025)
ECP team (supervisor: Nadim Tayeh)
- Trained the engineer recruited to further develop the Neo4j graph database

PhD student (10/2021 - 12/2024)
ECP team (supervisor: Nadim Tayeh and Judith Burstin)
- Developed and operated the Neo4j graph database, and designed/delivered trainings
- Harmonised large sets of (meta)data with ontologies before integration
- Supervised an intern in the design of a bioinformatics pipeline
- Crossed genomics, transcriptomics and genetic data to identify frost tolerance and root rot resistance candidate genes in multiple legume species

Intern (2nd year of MSc) (01/2021 - 06/2021)
ECP team (supervisors: Nadim Tayeh and Jonathan Kreplak)
- Created a Neo4j comparative genomics graph database integrating genetic and multi-omics data on legumes, tested with a case-study on bruchid resistance
- Annotated the draft genome of faba bean using short-read RNA-seq data

06/2020 – 08/2020 | Biofortis / Saint-Herblain, FRANCE / Intern (1st year of MSc)
IT department (supervisor: Erwann Scaon)
- Analysed human gut microbiome data using clustering methods in R

01/2019 – 06/2019 | IAB / Grenoble, FRANCE / Intern (2nd year of MSc)
RNA, Epigenetics and Stress team (supervisor: Virginie Faure)
- Optimised of the CRISPR-Cas13 system to degrade a long lncRNA
- Cell culture (HeLa, HEK-293) and transfection
- Tracked lncRNAs with RT-qPCR and RNA-FISH microscopy

04/2018 – 05/2018 | IGDR / Rennes, FRANCE / Intern (1st year of MSc)
Synthecell team (supervisor: Vasantha Radhakrishnan)
- Studied the aging process in fission yeast using synthetic biology

EDUCATION

2021-2024 | PhD in Bioinformatics
University of Dijon and INRAE / Dijon, FRANCE
- Plant genetics, genomics, computational pipelines, knowledge graph, management

2019-2021 | MSc in Bioinformatics & Systems Biology
University of Toulouse / Toulouse, FRANCE
- Data analysis, statistics, linear models, databases (SQL), graph theory, evolutionary and quantitative genetics, bacteria genomics

2017-2019 | MSc in Genomics & Biotechnologies
University of Limoges / Limoges, FRANCE
- Developmental genetics, pharmacogenomics, molecular engineering, immunology

2014-2017 | Bachelor of Science
ICES / La Roche-sur-Yon, FRANCE
- Cellular biology, physiology, genetics, biochemistry, biostatistics, botany

SCIENTIFIC PRODUCTION

First-author research articles:
- Imbert, B., Kreplak, J., Flores, R.-G., Aubert, G., Burstin, J., and Tayeh, N. (2023). Development of a knowledge graph framework to ease and empower translational approaches in plant research: a use-case on grain legumes. *Front. Artif. Intell*. 6. doi: 10.3389/frai.2023.1191122
- Imbert, B., Kreplak, J., Lejeune-Hénaut, I., Magnin-Robert, J-B., Boutet, G., Marget, P., Aubert, G., Burstin, J., and Tayeh, N. (2024). Genome-wide association study of frost tolerance in *Vicia faba* reveals syntenic loci in cool-season legumes and highlights relevant candidate genes. *BioRxiv*. doi: 10.1101/2024.11.27.624268

Other research articles and communications are available at: baptisteimbert.github.io/