

Claire Lemaitre, PhD
SENIOR RESEARCHER IN COMPUTATIONAL BIOLOGY

Birth : november 7th 1982 in Grenoble (France)
French nationality

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Current situation

Since	Permanent researcher	INRIA, RENNES, FRANCE
Oct. 2010	Genscale team	

Work experience

2010 -	Permanent researcher (promoted senior researcher in 2024), Inria, Inria center of University of Rennes, Rennes, France
2008-2010	Post-doctoral researcher , Centre de Bioinformatique de Bordeaux, France
2005-2008	PhD student , Laboratoire de Biométrie et Biologie Evolutive, Lyon, France
2005-2008	Teaching assistant 64h per year, Mathematics department of the engineering school INSA ¹ de Lyon, France
2004-2005	Undergraduate internship , 9 months Laboratoire de Biométrie et Biologie Evolutive, Lyon, France
2000-2004	Organizer at holiday centres (summer jobs).

Education

2021	HDR - Accreditation to supervise research in Informatics (Université Rennes)
2009	Qualification aux fonctions de maître de conférence (biology (65) and computer science (27) sections).
2005-2008	PhD at Université Claude Bernard Lyon 1 (Lyon, France). Laboratoire de Biométrie et Biologie Évolutive, Baobab Team Subject : <i>Detection and analysis of rearrangements breakpoints in mammalian genomes.</i> Supervisors : Marie-France Sagot, Christian Gautier.
2004-2005	Master degree , in computational biology, Université Claude Bernard Lyon 1 (Lyon, France).
2000-2005	Engineering degree at the National Institut of Applied Sciences (Lyon, France). Specialized in <i>Bioinformatics and modelisation</i>
2000	Baccalauréat, Série S , mention Très Bien, Lycée Champollion, (Grenoble, France).

Publications

- 35 published papers in international journals, among which 7 as first-author and 10 as last one.
- 2 book chapters, 33 communications and invited seminars.
- Full list: <http://people.rennes.inria.fr/Claire.Lemaitre/publications.php> or [google scholar](#).

Selected publications :

- S. Romain and **C. Lemaitre**. *SVJedi-graph: improving the genotyping of close and overlapping structural variants with long reads using a variation graph*. ISMB/ECCB 2023 and **Bioinformatics 2023**, 39(suppl_1):i270–i278.
- P. Morisse, **C. Lemaitre**, F. Legeai. *LRez: C++ API and toolkit for analyzing and managing Linked-Reads data*. **Bioinformatics Advances 2021**, 1(1):vbab022.
- W. Delage, J. Thevenon, **C. Lemaitre**. *Towards a better understanding of the low recall of insertion variants with short-read based variant callers*. **BMC Genomics**, 2020, 21(1):762.
- G. Benoit G, P. Peterlongo, M. Mariadassou, E. Drezen, S. Schbath, D. Lavenier, **C. Lemaitre**. *Multiple comparative metagenomics using multiset k-mer counting*. **PeerJ Computer Science**, 2016, 2:e94.
- R. Uricaru, G. Rizk, V. Lacroix, E. Quillery, O. Plantard, R. Chikhi, **C. Lemaitre**, P. Peterlongo. *Reference-free detection of isolated SNPs*. **Nucleic Acids Research 2015** 43(2):e11.
- G. Rizk, A. Gouin, R. Chikhi, **C. Lemaitre**. *MindTheGap : integrated detection and assembly of short and long insertions*. **Bioinformatics 2014** 30(24):3451-3457.
- **C. Lemaitre**, E. Tannier, C. Gautier, M.-F. Sagot. *Precise detection of rearrangement breakpoints in mammalian genomes*. **BMC Bioinformatics**, 2008 9(1):286.

Software

Participation in the development and maintenance of **16 bioinformatics software**, available as open source on Github, including 4 major ones (C++, > 5,000 lines of code), which are maintained over the long term: [MindTheGap](#), [Simka](#), [discoSnp++](#), [GATB](#). Most recent: [SVJedi-graph](#)

Teaching

- **50h** par year teaching, at Master degree, in text algorithms for biological sequences. 2 Teaching Units at University of Rennes : M1 Computer Science (ISTIC), M2 Bioinformatics (UFR SVE).
- Responsibility of 1 Teaching Unit in Master degree.

Student supervision

- Current: 4 PhD students.
- Past: 4 PhD students, 2 engineers, 4 postdoctoral researchers, 18 master degree internships between 2011 and 2024.

Collective tasks and responsibilities

- Regular **reviewing** of papers for journals (e.g. Bioinformatics, Nature Reviews Genetics, Nucleic Acids Research, ...) and international conferences (RECOMB, WABI, ISMB).
- Member of **Program Committees** of the international conferences ISMB/ECCB 2023, 2024 and RECOMB-seq 2024, and of the national conference of the French Society of Bioinformatics [JOBIM](#) (2012, 2013, 2017, 2019, 2021, 2024).
- **Projects and grants:**
 - current: partner coordinator for 1 national (ANR) projects (Divalps), participation and task coordinator for 2 national ANR projects (PEPR Agroecology and digital technology France 2030: Mystic and AgroDiv)

- past : partner coordinator for 3 national (ANR) projects (Supergene, SpecRep, Ada-Spodo), coordinator of 2 regional and national projects (SAD Région Bretagne, PEPS CNRS).

- **Conference organisation:**

- national conferences (~500 participants) : co-chair of the Program Committee of [JOBIM 2022](#), co-chair of the Organisation Committee of [JOBIM 2012](#).

- national workshops (~70 participants) : the [seqBIM](#) days, 2019, 2020, 2021, 2022, 2023, 2024 (organisation and program committees)

- CNRS spring school in Bioinformatics [JC2BIM](#) (5 days, 35 participants) : editions 2018, 2021 and 2024.

- **Animation of the community:**

- member of the scientific board of the [GDR BIM](#) (CNRS, Bioinformatique moléculaire), since 2019

- coordinator of the national French Working Group [seqBIM](#) (Sequence algorithmics, ~170 participants), since 2019

- mission leader for the transversal axis "Environment and Ecology" of the IRISA laboratory, 2013-2021.

- **Jurys and committees:** 7 PhD defense jurys (examiner), 2 HDR defense jurys (reviewer and examiner), 11 PhD committees, 5 recruitment committees (1 permanent researcher (4 positions), 1 associate professor, 2 permanent engineers, 1 ATER).