



# Eric Rivals

CNRS Research director

## Education

- 2005 **Habilitation à Diriger des Recherches**, Univ. Montpellier, France.  
*Algorithms for sequence analysis in bioinformatics*
- 1993–1996 **PhD in Computer Science**, Univ. Lille, France.  
*Compression and genetic sequence analysis*
- 1992–1993 **Master in Computer Science**, Univ. Lille, France.
- 1990–1991 **Master in Artificial Intelligence & Software engineering**, Univ. Lille, France.

## Experience

- 2008–present **Research director**, CNRS, LIRMM, Montpellier.
- Head of the ATGC Montpellier Bioinformatic platform (2016-)
  - Head of Institute of Computational Biology (2015-2019);
  - Head of CNRS research network (GdR) Molecular Bioinformatics (2010-2015);
- 1999–2007 **Research fellow**, CNRS, LIRMM, Montpellier.
- Head of the Dpt of Computer Science (2007-2010)
  - Launch of “Next Generation Sequencing” activity on ATGC Bioinformatic platform (2007)
- 1996–1999 **Postdoctoral fellow**, German Cancer Research Center (DKFZ), Heidelberg, Germany.  
Fast algorithms for similarity search – Transcriptomics

## Project leadership (> 2012)

- 2022-2023 **BIO-PEA "Plan de relance" funding w. SPYGEN company - 110 KE**
- 2017-2020 **Flagship “Gene expression Modelling” Labex NUMEV - 250 KE** 5 research units
- 2016-2018 **3GenSeq “Long read error correction” Inst. Français de Bioinformatique - 90 KE**
- 2012-2018 **“Next Gen. Sequencing & algorithms” Inst. of Computational Biology - 200 KE**
- 2014-2017 **“Translation” Fondation Recherche Médicale (FRM) - 150 KE**
- 2013-2014 **“Assembling the reference genome of a marine algae” Labex NUMEV - 40 KE**
- 2012-2016 **“Big Data: SeqPheHD++”, MASTODONS CNRS - 370 KE** 5 research units
- [Group leader in projects or consortia \(> 2012\)](#)
- 2021-2024 **“ALPACA” Marie Curie ITN - European C.** 13 institutes
- 2018-2021 **“FluoRib” INCA (Nat. Cancer Institute) PLPBIO** 5 partners
- 2020-2024 **“SCORE” INCA (Nat. Cancer Institute) PLPBIO** 3 partners
- 2022-2025 **“Translatol” Fondation ARC (Cancer Research)** 3 partners
- 2020-2021 **‘EpiTransDiag’ SIRIC Montpellier** 4 partners

## Group & supervision

### Current

- PhD students **J. Moutet** (2022-25) Algorithms and metagenomics - cs F. Pardi; **P. Wang** (2021-24) Pan-genomics
- Postdocs and engineers **C. Mandier** (2022-23), Translatome - SCORE INCA project; **J. Ripoll** (2019-23), Translatome - TRANSLATOL project

## Past

- PhD students N. Romaschenko (2021), S. Relier (2020) - cs A. David, S. Pulicani (2018), B. Cazaux (2016), N. Philippe (2011),  
R. Uricaru (2010), S. Leclercq (2007), F. Nicolas (2005), S. Bérard (2003), J.-S. Varré (2000)
- Engineers B. Linard (2019), J. Veyssier (2017-18), A. Makrini (2014-16), V. Maillol (2012-14), F. Lethiec(2003-05)
- Postdocs B. Cazaux (2020-21), G. Scholz (2018-20), D. Paulet (2014-18), R. Canovas (2015-17), M. Hébrard (2012-13), A. Mancheron (2007-09)
- Master recent **B. Aliaga** (2021), Single Cell RNA-seq; **C. Dubec** (2021), Demultiplexing for metagenomics;  
**M. Mille** (2021), Probabilistic Motif search

## Editorial boards & Program committees (PC)

- Journals NAR Bioinformatics & Genomics (Oxford Univ. Press); BMC Bioinformatics (BioMedCentral)
- PC Chair ECCB European Conference on Computational Biology 2014 (area chair); JOBIM 2009 (co-chair I. Rusu)
- Main PC memberships in Computer Science (CS) and Bioinformatics**
- CS SOFSEM 2020, 2021; SPIRE 2017; CPM 2017; DICTAP 2011; STACS 2008;
- Bioinformatics Workshop on Algorithms in Bioinformatics WABI 2018–2023;  
ECCB European Conference on Computational Biology: 2003, 2008, 2012, 2014, 2016  
RECOMB-SEQ 2016; RECOMB Comparative Genomics: 2010, 2013

## Conference and workshop organisation

- Workshop **Data Structures in Bioinformatics**, creation & org., Montpellier 2014, Bielefeld Germany, 2016
- Colloquium **Indexing for scientific Big Data**, Paris 2014 (125 participants)
- Symposium **Bioinformatics**, National network (GdR), Paris 2013, Paris 2015 (80-120 p.)
- Colloquium **Bioinformatics for High Throughput Sequencing**, creation & org., Paris 2010 (250 p.), Paris, 2011 (380 p.)

## Selected publications

- [1] S. Relier, A. Amalric, A. Attina, I.B. Koumare, V. Rigau, F. Burel Vandenbos, D. Fontaine, M. Baroncini, J.P. Hugnot, H. Duffau, L. Bauchet, C. Hirtz, E. Rivals, and A. David. Multivariate analysis of rna chemistry marks uncovers epitranscriptomics-based biomarker signature for adult diffuse glioma diagnostics. *Analytical Chemistry*, 94(35):11967–11972, Sep 2022.
- [2] Sébastien Relier, Julie Ripoll, Hélène Guillorit, Amandine Amalric, Cyrinne Achour, Florence Boissière, Jérôme Vialaret, Aurore Attina, Françoise Debart, Armelle Choquet, Françoise Macari, Virginie Marchand, Yuri Motorin, Emmanuelle Samalin, Jean-Jacques Vasseur, Julie Pannequin, Francesca Aguiló, Evelyne Lopez-Crapez, Christophe Hirtz, Eric Rivals, Amandine Bastide, and Alexandre David. FTO-mediated cytoplasmic m6Am demethylation adjusts stem-like properties in colorectal cancer cell. *Nature Communications*, 12(1), Mar 2021.
- [3] Jasmijn A. Baaijens, Amal Zine El Aabidine, Eric Rivals, and Alexander Schönhuth. De novo assembly of viral quasispecies using overlap graphs. *Genome Research*, 27(5):835–848, 2017.
- [4] Leena Salmela and Eric Rivals. LoRDEC: accurate and efficient long read error correction. *Bioinformatics*, 30(24):3506–3514, 2014. doi:10.1093/bioinformatics/btu538.
- [5] Nicolas Philippe, Mikael Salson, Thérèse Combes, and Eric Rivals. CRAC: an integrated approach to the analysis of RNA-seq reads. *Genome Biology*, 14(3):R30, 2013.

## Teaching and training

### Summer - winter Schools

- Big data, open data  
Univ. Strasbourg 2018
- EMBO Pasteur,  
Tunis 2014
- EPIT Oléron 2014
- NOVA, Sweden, 2012

### University course Master, Licence

- Montpellier
- Text Algorithms
- Bioinformatics  
Licence, Lille
- Database
- Computer networks

### Bioinformatics training sessions at ATGC platform

- for Next Gen. Sequencing, 2015-2020
- Linux and Python for bioinformatics,  
2017-2020
- Python and Pandas for data processing,  
2021-

## Web links (clickable)

Lists  –  –  –  –  –  –  – 

Patents and publications 4 patents – **Life Sciences**: 47 on PubMed – **Computer Science**: 55 on DBLP

Selected publications Analytical Chemistry 2022 – Nature Communications 2021 – J. Computer System Sciences 2019 – Genome Research 2017 – Bioinformatics 2014 – J. Comb. Theory 2003

## Network activities and services

### Int'l and Nat'l Networks

- Eur. COST Action TRANSLACORE (2022-2026)  
“Bioinformatics” WG co-leader
- *French Institute of Bioinformatics* (2014–)  
French ELIXIR node
- *France Genomique* (2012–)  
as ATGC platform leader

### Services

- Scientific committee of SIRIC Montpellier  
(2023–)
- INRAE recruitment panel (2022, 2015,  
2010)
- HCERES evaluation panel for TIMC (2020)