

Alice HÉLIOU

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Citizenships: French and Spanish
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Education

- Sept 2014 – July 2017** – **PHD IN BIOINFORMATICS** AT UNIVERSITÉ PARIS-SACLAY,
Directed by Mireille Régnier and co-directed by Hubert Becker on *Genomic sequences analysis: circular RNAs and negative information*.
- 2010 – 2014** – **ÉCOLE POLYTECHNIQUE**, One of France's leading universities for high-level scientific training. Generalist formation and specialization in **Bioinformatics**. Master 2 in **Bioinformatics and Biostatistics** (BIBS) at Paris Sud.
- 2008 – 2010** – Two preparatory years for the nationwide competitive examination to the French elite "Grandes Écoles" for scientific studies. **Maths and Physics**.
- July 2008** – **Prize** at the *Concours Général*, national competitive exam, in mathematics.

Professional experience

- Aug - Sept 2016** – **SANGER INSTITUTE**, Wellcome Trust Genome Campus, Visiting student.
Compression of the Metadata for the Population BWT project.
Next Generation Sequencing data analysis/ Indexing and compression of large data .
- March - June 2014** – **PR.CROCHEMORE LAB, KING'S COLLEGE**, London, Research internship.
Data structures for the representation of an alignment, advisor: Laurent Mouchard.
Next Generation Sequencing technologies/ Indexing data structures.
- April - June 2013** – **PR.PICHAUD LAB, UCL**, London, Research internship.
Transcriptional Regulation of Cellular Morphogenesis-The Fly retina as a case study
Immunostaining on fly retina / Cloning experiments / RNA Microarray.
- Jul-Aug 12** – **PRIMORSKY KONDITER**, Vladivostok chocolate factory, Russia.
- Sep10-Apr11** – **3ÈME RIMA**, French Army, Military training.

Teaching experience

- Since 2014** – **ÉCOLE POLYTECHNIQUE**, Teaching assistant in Programming in Java, Processing of massive data, Algorithmics problems solving and Bioinformatics.

Publications

- * A. Héliou, S. P. Pissis, S. Puglisi, emMAW: Computing Minimal Absent Words in External Memory, *Bioinformatics*, 2017.
- * H.F. Becker, A. Héliou, K. Djaout, R. Lestini, M. Regnier, H. Myllykallio, Hight-Throughput Sequencing Reveals Circular Substrates for an Archaeal RNA ligase, *RNA Biology*, 2017.
- * A. Héliou, M. Leonard, L. Mouchard, M. Salson, Efficient dynamic range minimum query, *Theoretical Computer Science*, 2016.
- * J. Haleš, A. Héliou, J. Mañuch, Y. Ponty, L. Stacho, Combinatorial RNA Design, *Algorithmica*, 2016.
- * C. Barton, A. Héliou, L. Mouchard, S. P. Pissis, Engineering the Computation of Minimal Absent Words, *PPAM* 2015.
- * C. Barton, A. Héliou, L. Mouchard, S. P. Pissis, Linear-time Computation of Minimal absent Words Using Suffix Array, *BMC Bioinformatics*, 2014.

Language skills

Spanish: Bilingual.
English: Fluent.
Russian: Basic Conversational.

Outside interests

• **Triathlon** and **Running** in competition: Marathon (3h16), half-marathon and 10km (37'30).
• **Cello** (12 years), **clarinet** (3 years).