

ELODIE LAINE

ASSOCIATE PROFESSOR

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Born on the 28/07/1983, in Roanne (France)

61, av. Augustin Dumont 92240 Malakoff

RESUME

I am Associate Professor at Sorbonne University. I teach interdisciplinary courses in bioinformatics from 1st year to Master level. My research activities at LCQB concern the evolution and structural dynamics of proteins and their interactions.

EXPERIENCE

Maître de Conférences

Sorbonne University | Since 2012

LCQB (dir. A. Carbone) UMR 7238 CNRS-UPMC, Analytical Genomics Team

Post-doctoral fellow

ENS Cachan | 2009 – 2012

LBPA (dir. M. Buckle), CNRS, BiMoDyM Team (dir. L. Tchertanov)

Industrial Strategic Innovation Program (OSEO-ISI) - *Protein kinases activation and mutations*

PhD student

Institut Pasteur | 2006 – 2009

Structural Bioinformatics Unit (dir. M. Nilges) - Supervisors: TE. Malliavin and A. Blondel

Structural mobility of the anthrax toxin and search for inhibitors

Master-2 intern

Institut Pasteur | February 2006 – August 2006

BIS, *Analysis of the activation of the edema factor of anthrax by molecular dynamics*

Master-1 intern

University of Glasgow | August 2005 – February 2006

BRC (dir. D. Gilbert) - *Design and development of a tool to model kinase regulatory networks*

RESEARCH THEMES

Protein evolution, structural dynamics, alternative splicing, protein interactions, pathogenic mutations, drug design and discovery, allostery

TEACHING PROJECT

Meet-U: collaborative course between several universities where students realize a project from A to Z in teams, and present their work in front of a jury of researchers. www.meet-u.org (Abdollahi et al. *PLoS Comput. Biol.* 2018)

EDUCATION

2020 HDR, accreditation to supervise research

2009 PhD in Life Sciences, UPMC, Doctoral School iVIV, with highest honors

2006 Engineering Diploma in Biosciences, Bioinformatics and Modeling, INSA Lyon

2001 Scientific A-level, with highest honors

AWARDS

Bonuses for research and teaching activities from Sorbonne University (2015-2019, 2017-2021)

Award from GGMM (2011)

PhD grant DGA/MRIS (2006-2009)

Merit scholarship MESR (2001-2006)

PROJECT FUNDING

MASSIV, ANR JCJC (2018-2021)

Budget : 205 000 euros

Gratifications for two M2 internships, Systems Biology Network Biosys-SU (2018)

SCIENTIFIC PRODUCTION

32 research articles (30 published, 2 submitted), 1 review, 1 education article

13 articles as first author, 6 as co-corresponding last or next-to-last author

2 patents (1 deposited in the US), 11 publications in international conference proceedings

6 invited seminars in conferences, 15 selected oral presentations

RESEARCH PROJECTS

MASSIV : Modeling Alternative Splicing and its Structural Impact during Evolution (2018-2021)

role: scientific coordinator, **funding**: French Research National Agency, Young Researcher Grant

RIBONETWORK: Exploration of co-translational networks during evolution (2017-2018)

role: participation and students supervision, **funding**: Emergences SU, Biosys-SU

MAPPING : Making Accurate Prediction of Protein-Protein Interactions at the Genome scale (2013-2017)

role : participation and students supervision, **funding** : “Investissement d'Avenir” in Bioinformatics

SUPERVISION

Post-doctoral fellows

D. Zea — 50% w. H. Richard (since 2018)

T. Bitard-Feildel — 30% w. A. Carbone and J. Chomilier (2017-2019)

PhD students

Y. Mohseni Behbahani — 50% w. A. Carbone (since 2019)

F. Corsi — 40% w. A. Carbone and R. Lavery (2016-2019)

C. Dequeker — 50% w. A. Carbone (2015-2018)

Y. Karami — 50% w. A. Carbone (2013-2016)

10 Master2 students (6-month internships)

7 Master1 or Bachelor projects

COLLABORATIONS

@**LCQB** : A. Carbone, H. Richard et M. Garcia

@**Paris** : M. Rera (B2A, IBPS, Sorbonne Université), JP. Bouly (IBPC)

@**France** : S. Grudinin (Nano-D, Inria) et Juan Cortés (LAAS-CNRS)

@**International** : participants de la compétition CAPRI, participants du COST-Action INDEPTH, J. Roux (DBM BCF, Suisse), C. Colas (Université de Vienne, Autriche) et V. Strijov (MIPT, Russie)

ORGANISATION OF CONFERENCES AND WORKSHOPS

Noncanonical amino acids Symposium (89 attendees), Oct. 21-22 2019, Paris, FR

member of the organizing and scientific committee

Symposium Meet-U 2018 (150 attendees), Jan. 10 2018, Paris, FR

co-organizer with A. Lopes – *funding*: SFBI, ED SDSV, IUUF, IBPS

Young Researchers' Meeting: Modeling Complex Biological Systems, Dec. 13 2017, Paris, FR

co-organizer with A. Carbone

Symposium BIOMATH : Formal Methods in the Eye of Biological Data

Conference of the Society of Applied and Industrial Mathematics, June 5-9 2017, Ronces-les-Bains, FR

co-organizer with A. Carbone – *funding*: GDR BIM

Scientific Trends at the Interfaces – Bioinformatics – Visual Data Analysis

Summer school of the Institute of Computing and Data Sciences, 2017 & 2014, Roscoff, FR

co-organizer with A. Carbone and P. Frey

Symposium on the Evolution of Alternative Splicing

Annual congress of the Society of Molecular Biology and Evolution (SMBE), July 12-16 2015, Wien, AU

co-organizer with J. Roux and H. Richard

Signaling Pathways: Interplay bet. microscopic changes and global behavior of biological systems

CECAM Workshop, Oct. 8-10 2012, Cachan, FR

co-organizer with L. Tchertanov, I. Demachy and A. de la Lande

OTHER ACTIVITIES

Participation to workgroups and scientific boards for computing and simulation

Institute of Computing and Data Sciences at Sorbonne University, 2014-2015

Participation to the design of a [video to communicate about science](#), by La Bande Destinée (2019)

Experience sharing with high-school students, Institut Henri Poincaré, Dec. 17 2015, Paris, France

Participation to a recruitment jury for Maître de Conférences at the University of Lille 1 (2017)

Reviewing for *PloS Comput. Biology*, *Frontiers in Mol. Biosciences*, *Nucleic Acid Research* and *Bioinformatics*