Anne-Florence BITBOL

Tenure-Track Assistant Professor, Institute of Bioengineering, School of Life Sciences, EPFL

Personal information

Date of birth: November 19, 1986 (age: 37)
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Education

2012 PhD in Physics, *summa cum laude* — Université Paris-Diderot, Paris, France
2009 MSc in Physics, *summa cum laude* — ENS & Université Pierre et Marie Curie, Paris, France
2007 BSc in Physics, *summa cum laude* — ENS Lyon & Université Claude Bernard, Lyon, France
2006 Admitted to École Normale Supérieure (ENS) Lyon, France (rank: 6th out of ~1000 applicants)

Academic positions

- **Since February 2020:** Tenure-Track Assistant Professor, Institute of Bioengineering, School of Life Sciences, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland & Swiss Institute of Bioinformatics (SIB) group leader since February 2021
- **2016-2020:** Tenured CNRS Researcher, Laboratoire Jean Perrin, CNRS Sorbonne Université (formerly Université Pierre et Marie Curie), Paris, France (rank: 1st out of ~100 applicants)
- **2012-2016:** Postdoctoral Research Fellow, Biophysics Theory group, Lewis-Sigler Institute for Integrative Genomics & Physics Department, Princeton University, NJ, USA *Topics:* Multi-protein complexes: functions and constraints; Evolution of subdivided populations *Principal investigators:* Ned Wingreen, William Bialek and Curtis Callan
- **2009-2012:** PhD student, Laboratoire Matière et Systèmes Complexes, Université Paris-Diderot, Paris, France *Topic:* Statistics and dynamics of complex membranes *Advisor:* Jean-Baptiste Fournier

Funding

- 2023-2027 SNSF (Swiss National Science Foundation) Project Grant, PI, 685 kCHF
- **2020-2025** ERC Starting Grant, PI, 1.5 M€ (success rate ~14%)
- **2020** ANR (French National Research Agency) Young Researcher Grant, PI, 286 k€ (success rate ~15%) *Declined (cannot be held together with an ERC grant)*
- 2020 Emergence grant from Sorbonne Université, PI, 70 k€
- 2018-2019 Collaborative grant from IBPS, Sorbonne Université, PI, co-PI: Martin Weigt, 10 k€
- **2013-2016** HFSP Cross-Disciplinary Fellowship (success rate $\sim 10\%$)
- **2010-2012** Teaching assistantship, Université Paris-Diderot
- 2010-2012 PhD scholarship, ENS Lyon
- **2006-2009** Four-year scholarship, ENS Lyon (success rate $\sim 10\%$)

Awards

- 2023 Best teacher award, Life Sciences Engineering teaching section, EPFL
- 2023 Young Scientist Prize in Biological Physics for 2020, International Union of Pure and Applied Physics
- 2014 Michelin Young Researcher Prize (PhD prize), French Physical Society
- 2013 Louis Forest PhD Thesis Prize in the Life Sciences, Chancellery of the Universities of Paris
- **2010** Second Ben Widom prize (clearest contributed talks), International School of Physics Enrico Fermi, CLXXVI Course, Complex materials in physics and biology, Varenna (Italy)
- **2004** First prize in Italian in a national high-school competitive exam (Concours Général)
- 2003 Second prize in Latin in a national high-school competitive exam (Concours Général)

Teaching

2023 Invited lectures, "Quantitative Evolution", Physics MSc, ENS Lyon (8h).

- Since 2022 Responsible of the *Biological Data Science* specialization, Life Sciences Engineering MSc, EPFL.
- Since 2021 Lecturing and course construction, "Randomness and information in biological data", EPFL
 - (third-year level, also open to MSc students; 4 credits, 28h lectures + 28h problems)

2021 Accompanied the class trip of the Life Sciences Engineering BSc students.

Since 2020 Contributions to EPFL MSc/PhD classes: Scientific literature analysis in computational molecular biology, BIO-468; Selected Topics in the Life Sciences, BIOENG-430; Advances in Physics, PHYS-815.

2018-2020 Tutorials, "Mathematical Methods" (fourth-year level), ESPCI, Paris, France (10h/year)

2016-2018 Problem classes, "Statistical Physics" (third-year level), ESPCI (10h/year)

2016-2017 Problem classes, "Numerical Simulation for Statistical Physics", MSc in Physics of Complex Systems (fifth-year level), Sorbonne Université, Paris, France (15h/year)

2016 Tutorials, "Statistical Physics" (third-year level), ESPCI, Paris, France (16h/year)

2010-2012 Teaching assistant, Université Paris-Diderot, Paris, France. Problem classes, "Physics for Biologists" (first-year level) and "Statistical Physics" (third-year level) (64h/year)

2009-2010 Tutorials, Physics & Chemistry (first-year level), Lycée Saint-Louis, Paris, France (30h/year)

Service

EPFL service

- CIS (Center for Intelligent Systems) scientific committee, since 2021
- Faculty search committees, one per year since 2020-2021
- ELISIR (early life science independent research) fellowship committee (search; evaluation), since 2021
- AI4Science fellowship committee (search for independent postdoctoral fellows), since 2021
- EDCB (graduate school in Computational Biology) committee (search for PhD students), since 2020
- SV gender and minority committee, since 2020
- SV green team, since 2020
- WISH (women in sciences and humanities) Foundation bureau, since 2020
- Organizer of the Physics of Living Systems (POLS) monthly EPFL symposium, since 2022
- Co-organizer of the Physics of Living Systems (POLS) virtual seminar series (2021)
- Co-organizer of the 2021 SV Faculty virtual retreat
- Student evaluation and mentoring: Internal examiner for 4 PhD theses, jury member or president for 6 PhD candidacy exams, EPFL supervisor of 9 external MSc projects, mentor of 8 PhD students

Organization of scientific meetings

- 2023 Co-organizer of a four-week summer school in Les Houches, France, "Theoretical Biological Physics", with Thierry Mora (CNRS ENS, France), Ilya Nemenman (Emory University, USA) and Aleksandra Walczak (CNRS ENS, France)
- **2022** Member of the Scientific Committee of a one-week spring school co-organized by the SIB Swiss Institute of Bioinformatics, the NCCR Microbiomes, and the NCCR AntiResist, in Nottwil, Switzerland, "Bioinformatics and Computational Approaches in Microbiology".
- 2021 Co-organizer of a six-week workshop at Institut Henri Poincaré (IHP) in Paris, France, "Quantitative Evolution, Phylogeny and Ecology: from models to data and back", with Claude Loverdo (CNRS Sorbonne Université, France), Mikhail Tikhonov (Washington University in St-Louis, USA) and Aleksandra Walczak (CNRS ENS, France). *Turned into a fully online program.*
- Since 2019 Board Member, Q-Bio conference (yearly international quantitative biology conference attended by ~200 persons)
- 2019 Program Committee Chair, Q-Bio conference (San Francisco, CA)
- Since 2015 Program Committee Member, Q-Bio conference

Other external service

- **Committees:** Selection of the IUPAP Medal for the Physics of Life awardee (since 2023); Faculty Hiring committee at the University of Lausanne (2023)
- Editorial boards: Reviewing editor at eLife (since 2022); guest editor at PNAS (2023)
- **Reviewing of papers:** eLife, Nature Communications, PNAS, PLOS Computational Biology, Bioinformatics, Nucleic Acids Research, American Naturalist, Current Genomics, Neuroscience, Biophysical Journal, Physical Biology, Journal of Theoretical Biology, Physical Review Letters, Physical Review E, European Physical Journal

Reviewing of grants: ANR (France), ISF (Israel), NWO (Netherlands)

Student evaluation: PhD thesis examiner for 6 PhDs in France and one in Germany; PhD committee member for 2 PhDs in Switzerland and one in France; MSc thesis examiner for 2 MSc projects in France

Languages

French: native speaker **English:** fluent (TOEIC score: 990/990, June 2012)

CV

Italian: fluent

Publications

In this list, my name is <u>underlined</u>. After names, * denotes equal contributions, while § indicates corresponding author(s).

Articles in peer reviewed journals

- 1. A. Abbara[§] and <u>A.-F. Bitbol[§]</u>, *Frequent asymmetric migrations suppress natural selection in spatially structured populations*, PNAS Nexus, 2(11):pgad392 (2023)
- 2. R. Servajean and <u>A.-F. Bitbol[§]</u>, *Impact of population size on early adaptation in rugged fitness landscapes*, Philosophical Transactions of the Royal Society B: Biological Sciences, 378: 20220045 (2023)
- 3. C.A. Gandarilla-Pérez, S. Pinilla, <u>A.-F. Bitbol</u>[§] and M. Weigt[§], *Combining phylogeny and coevolution improves the inference of interaction partners among paralogous proteins*, PLOS Computational Biology 19(3): e1011010 (2023)
- 4. N. Dietler, U. Lupo and <u>A.-F. Bitbol[§]</u>, *Impact of phylogeny on structural contact inference from protein sequence data*, Journal of the Royal Society Interface 20(199):20220707 (2023)
- 5. D. Sgarbossa, U. Lupo[§] and <u>A.-F. Bitbol</u>[§], *Generative power of a protein language model trained on multiple sequence alignments*, Elife 12:e79854 (2023)
- 6. U. Lupo[§], D. Sgarbossa and <u>A.-F. Bitbol[§]</u>, *Protein language models trained on multiple sequence alignments learn phylogenetic relationships*, Nature Communications 13(1):6298 (2022)
- 7. A. Gerardos, N. Dietler and <u>A.-F. Bitbol</u>[§], *Correlations from structure and phylogeny combine constructively in the inference of protein partners from sequences*, PLOS Computational Biology 18(5):e1010147 (2022)
- 8. D. Labavić, C. Loverdo^{*§} and <u>A.-F. Bitbol</u>^{*§}, *Hydrodynamic flow and concentration gradients in the gut enhance neutral bacterial diversity*, Proceedings of the National Academy of Sciences 119(1):e2108671119 (2022)
- 9. A. Colavin*, E. Atolia*, <u>A.-F. Bitbol</u> and K.C. Huang[§], *Extracting the phylogenetic dimension of coevolution reveals hidden functional signal*, Scientific Reports 12(1):1-19 (2022)
- 10. L. Marrec, I. Lamberti and <u>A.-F. Bitbol[§]</u>, *Toward a universal model for spatially structured populations*, Physical Review Letters 127(21):218102 (2021)
- P. Ortet, S. Fochesato, <u>A.-F. Bitbol</u>, D.E. Whitworth, D. Lalaouna, C. Santaella, T. Heulin, W. Achouak and M. Barakat[§], *Evolutionary history expands the range of signaling interactions in hybrid multikinase networks*, Scientific Reports 11:11763 (2021)
- 12. L. Marrec and <u>A.-F. Bitbol[§]</u>, *Adapt or perish: Evolutionary rescue in a gradually deteriorating environment*, Genetics 216(2):573-583 (2020)
- N. Dietler*, M. Minder*, V. Gligorovski, A.M. Economou, D.A.H.L. Joly, A. Sadeghi, C.H.M. Chan, M. Koziński, M. Weigert, <u>A.-F. Bitbol</u> and S. J. Rahi[§], *A convolutional neural network segments yeast microscopy images with high accuracy*, Nature Communications 11(1):1-8 (2020)
- 14. N. Patil, S. Bonneau, F. Joubert, <u>A.-F. Bitbol</u> and H. Berthoumieux[§], *Mitochondrial cristae modeled as an out-of-equilibrium membrane driven by a proton field*, Physical Review E 102(2): 022401 (2020)
- 15. L. Marrec and <u>A.-F. Bitbol[§]</u>, *Resist or perish: Fate of a microbial population subjected to a periodic presence of antimicrobial*, PLOS Computational Biology 16(4):e1007798 (2020)
- 16. C.A. Gandarilla-Pérez, P. Mergny, M. Weigt[§] and <u>A.-F. Bitbol</u>[§], *Statistical physics of interacting proteins: impact of dataset size and quality assessed in synthetic sequences*, Physical Review E 101(3):032413 (2020)
- 17. P. Thomen, J.D.P. Valentin, <u>A.-F. Bitbol</u> and N. Henry[§], *Spatiotemporal pattern formation in E. coli biofilms explained by a simple physical energy balance*, Soft Matter 16(2):494-504 (2020)
- 18. G. Marmier, M. Weigt and <u>A.-F. Bitbol</u>[§], *Phylogenetic correlations can suffice to infer protein partners from sequences*, PLOS Computational Biology 15(10):e1007179 (2019)
- F. Bansept*, L. Marrec*, <u>A.-F. Bitbol</u>[§] and C. Loverdo[§], *Antibody-mediated cross-linking of gut bacteria hinders the spread of antibiotic resistance*, Evolution 73(6):1077-1088 (2019) Selected for a highlight
- 20. S.-W. Wang*, <u>A.-F. Bitbol</u>*[§] and N.S. Wingreen[§], *Revealing evolutionary constraints on proteins through sequence analysis*, PLOS Computational Biology 15(4):e1007010 (2019)

- 21. <u>A.-F. Bitbol[§]</u>, *Inferring interaction partners from protein sequences using mutual information*, PLOS Computational Biology 14(11):e1006401 (2018)
- 22. L. Marrec and <u>A.-F. Bitbol[§]</u>, *Quantifying the impact of a periodic presence of antimicrobial on resistance evolution in a homogeneous microbial population of fixed size*, Journal of Theoretical Biology 457:190-198 (2018)
- 23. P. Thomen, J. Robert, A. Monmeyran, <u>A.-F. Bitbol</u>, C. Douarche, N. Henry[§], *Bacterial biofilm under flow: First a physical struggle to stay, then a matter of breathing*, PLOS ONE, 12(4):e0175197 (2017)
- 24. <u>A.-F. Bitbol</u>[§], R.S. Dwyer, L.J. Colwell[§] and N.S. Wingreen[§], *Inferring interaction partners from protein sequences*, Proceedings of the National Academy of Sciences, 13(43):12180-12185 (2016)
- 25. <u>A.-F. Bitbol</u>[§] and N.S. Wingreen[§], *Fundamental constraints on the abundances of chemotaxis proteins*, Biophysical Journal 108(5):1293-1305 (2015)
- 26. <u>A.-F. Bitbol</u>[§] and D.J. Schwab, *Quantifying the role of population subdivision in evolution on rugged fitness landscapes*, PLOS Computational Biology 10(8):e1003778 (2014)
- R.M. Barry, <u>A.-F. Bitbol</u>, A. Lorestani, E.J. Charles, C.H. Habrian, J.M. Hansen, H.-J. Li, E.P. Baldwin, N.S. Wingreen, J.M. Kollman and Z. Gitai[§], *Large-scale filament formation inhibits the activity of CTP synthetase*, eLife 3:e03638 (2014)
- N. Khalifat, M. Rahimi, <u>A.-F. Bitbol</u>, M. Seigneuret[§], J.-B. Fournier, N. Puff, M. Arroyo and M.I. Angelova[§], *Interplay of packing and flip-flop in local bilayer deformation*. *How phosphatidylglycerol could rescue mitochondrial function in a cardiolipin-deficient yeast mutant*, Biophysical Journal 107(4):879-890 (2014)
- 29. <u>A.-F. Bitbol</u>[§] and J.-B. Fournier, *Membrane properties revealed by spatiotemporal response to a local inhomogeneity*, Biochimica et Biophysica Acta – Biomembranes 1828:1241-1249 (2013)
- 30. <u>A.-F. Bitbol</u>, A. Canaguier-Durand, A. Lambrecht and S. Reynaud, *Pairwise summation approximation for Casimir potentials and its limitations*, Physical Review B 87:045413 (2013)
- 31. <u>A.-F. Bitbol</u>, D. Constantin and J.-B. Fournier[§], *Bilayer elasticity at the nanoscale: the need for new terms*, PLoS ONE 7(11):e48306 (2012)
- 32. <u>A.-F. Bitbol</u>, N. Puff, Y. Sakuma, M. Imai, J.-B. Fournier and M.I. Angelova[§], *Lipid membrane deformation in response to a local pH modification: theory and experiments*, Soft Matter 8:6073 (2012)
- 33. <u>A.-F. Bitbol</u>, K. Sin Ronia and J.-B. Fournier[§], *Universal amplitudes of the Casimir-like interactions between four types of rods in fluid membranes*, Europhysics Letters 96:40013 (2011)
- 34. <u>A.-F. Bitbol</u>, J.-B. Fournier, M.I. Angelova[§] and N. Puff, *Dynamical membrane curvature instability controlled by intermonolayer friction*, Journal of Physics: Condensed Matter 23:284102 (2011)
- 35. <u>A.-F. Bitbol</u> and J.-B. Fournier, *Forces exerted by a correlated fluid on embedded inclusions*, Physical Review E 83:061107 (2011)
- 36. <u>A.-F. Bitbol</u>, L. Peliti and J.-B. Fournier[§], *Membrane stress tensor in the presence of lipid density and composition inhomogeneities*, European Physical Journal E 34:53 (2011)
- 37. <u>A.-F. Bitbol</u>, P.G. Dommersnes and J.-B. Fournier, *Fluctuations of the Casimir-like force between two membrane inclusions*, Physical Review E 81:050903(R) (2010) Rapid Communication
- <u>A.-F. Bitbol</u>, N. Taberlet, S.W. Morris, and J.N. McElwaine, *Scaling and dynamics of washboard roads*, Physical Review E 79:061308 (2009)
 Selected for a summary in Nature Physics 5:232 (2009): *Research highlights: The dirt on corrugations*

Book chapters and review papers

- 1. <u>A.-F. Bitbol</u>[§], D. Constantin and J.-B. Fournier, *Membrane-mediated interactions*, invited chapter in the Springer book "Physics of biological membranes" edited by Patricia Bassereau & Pierre Sens, 2018
- M.I. Angelova[§], <u>A.-F. Bitbol</u>, M. Seigneuret, G. Staneva, A. Kodama, Y. Sakuma, T. Kawakatsu, M. Imai, N. Puff, *pH sensing by lipids in membranes: The fundamentals of pH-driven migration, polarization and deformations of lipid bilayer assemblies*, Biochimica et Biophysica Acta Biomembranes 1860(10):2042-2063 (2018)

Invited lectures

Invited lectures at international conferences

09/2023 Invited talk, Physics of Living Matter Symposium 2023 (PLM17), Cambridge, UK

- **09/2023** Invited talk, CECAM workshop "Macromolecular complexes: from ab initio and integrative modeling to functional dynamics", Lausanne, Switzerland
- **08/2023** Plenary invited talk, International Conference on Biological Physics (ICBP) 2023, Seoul, Korea (as recipient of IUPAP C6 Young Scientist Prize)
- 04/2023 Invited talk, "Mathematical Foundations of Biological Organisation" workshop, Oberwolfach, Germany
- **04/2023** Invited talk, workshop "Biological sequence variation: from statistical modeling to structure, function, and evolutionary dynamics", Cargese, France
- 03/2023 Invited talk, session "Physics of biological computation across scales", American Physical Society (APS) March Meeting, Las Vegas, NV, USA
- 03/2023 Invited tutorial, session "Machine learning and model inference for biological physicists", American Physical Society (APS) March Meeting, Las Vegas, NV, USA
- 12/2022 Invited talk, workshop "Computational Aspects and Modeling of Biological Information", Milan, Italy
- **09/2022** Invited talk, 121st International Titisee Conference "Space, Time and Life", Boehringer Ingelheim Foundation, Titisee, Germany
- **09/2022** Invited talk, EMBO workshop "When predictions meet experiments: the future of structure determination", Palermo, Italy
- 08/2022 Invited talk, EMBO workshop "Cell and developmental systems", Arolla, Switzerland
- 07/2022 Invited talk, Aspen Center for Physics, Aspen, CO, USA (Statistical physics of ecology and evolution Working Group)
- 06/2022 Invited talk, Conference in the honor of Ned Wingreen's 60th birthday, Princeton, NJ, USA
- 03/2022 Invited talk, Applied Machine Learning Days conference, Lausanne, Switzerland
- 11/2021 Invited talk, CECAM workshop "Co-evolutionary analysis meets machine learning for modelling biomolecular structures and interactions", Lausanne, Switzerland
- 09/2021 Invited talk, online workshop, "4D Cellular Physiology Reimagined: Theory as a Principal Component", Janelia Research Campus, Howard Hughes Medical Institute, USA
- 06/2021 Invited talk, online EMBO workshop, "Predicting evolution"
- 09/2019 Invited talk, French-German WE-Heraeus-Seminar, "Novel Physics in Living Systems?", Roscoff, France
- 07/2019 Invited talk, Nordita program "From Molecular Basis to Predictability and Control of Evolution", Stockholm, Sweden
- **06/2019** Invited talk, CECAM workshop "Co-evolutionary methods for the prediction and design of protein structure and interactions", EPFL, Lausanne, Switzerland
- **09/2018** Invited talk, "Physics and biology of subcellular structure & remodeling" workshop, Carnegie Mellon University, Pittsburgh, PA, USA
- 08/2017 Invited talk, Aspen Center for Physics, Aspen, CO, USA (Covariance Analysis Working Group)
- 12/2016 Invited talk, CECAM workshop "Mesoscopic Modeling in Physics of Molecular and Cell Biology", Toulouse, France
- 09/2016 Invited talk, 20th Evolutionary Biology Meeting, Marseille, France
- 10/2015 Invited talk, workshop "Women in Applied Math and Soft Matter Physics", Mainz, Germany

Invited lectures at international summer schools

- 11/2023 Invited lecture, Multiscale integration in biological systems school, Institut Curie, Paris, France
- 11/2021 Invited lecture, Advanced systems biology school, Aussois, France
- 11/2021 Invited lecture, Multiscale integration in biological systems school, Institut Curie, Paris, France
- 07/2021 Invited lecture, "Fundamental Problems in Statistical Physics" summer school, Brunico, Italy
- 04/2018 Invited lecturer at the "Living Matter" school, International Center for Theoretical Science (ICTS), Bangalore, India (two 90-minute lectures + 10 daily tutorials)

Invited seminars

- 09/2023 Theory seminar, Instituto Gulbenkian de Ciência, Oeiras, Portugal
- 05/2023 Theory of Living Matter online seminar, Cambridge University, UK
- 05/2023 Bionanoscience Seminar, TU Delft, Netherlands
- 10/2022 NCCR Microbiomes online seminar, Switzerland
- 05/2022 Population Dynamics virtual seminar, University of Edinburgh, UK & University of Jena, Germany
- 02/2022 Biomathematics virtual Seminar, Imperial College London, UK
- 02/2022 Seminar, Physics department, École Normale Supérieure de Lyon, France
- 12/2021 Online seminar, Theory of Living Systems, Australia
- **10/2021** Ecology and Evolution seminar, University of Lausanne, Switzerland
- 06/2021 Online Biological Physics seminar, Hebrew University of Jerusalem, Israel
- 05/2021 Online Evolutionary & Behavioural Ecology seminar, University of Bern, Switzerland

04/2021 Online seminar, Theoretical Biology Network in Western Switzerland

04/2021 Online seminar, Symposium on Ecological Dynamics, City University of New York & Princeton University, USA

03/2021 Online Computational Biology seminar, University of Lausanne, Switzerland

01/2021 Online seminar, Simons Webinar on Cracking the Glass Problem

01/2020 Computational Biology seminar, Institut Pasteur, Paris, France

09/2019 Computational Biology seminar, Biozentrum, University of Basel, Switzerland

12/2017 Seminar, Center for Nanoscience, Ludwig Maximilian University (LMU), Munich, Germany

12/2015 Biological Physics Seminar, Rutgers University, New Brunswick, NJ, USA

Invited lectures at national conferences

- 01/2023 Keynote invited talk, Joint CNRS meeting "Interdisciplinary approaches in molecular evolution" and "Evolutionary genomics, bioinformatics, alignments and phylogeny", Grenoble, France
- 11/2022 Invited talk, Department of Fundamental Microbiology Impromptu Symposium, University of Lausanne, Switzerland
- 10/2021 Invited talk, Paris biophysics community day, ENS, Paris, France
- **11/2020** Invited talk, online workshop, "Modeling and Computation for Life and Environment Sciences", University of Montpellier, France

01/2019 Invited talk, "Statistical Physics Days" conference, ENS, Paris, France

Advisees

Postdoctoral researchers (total: 7)

- Luca Biggio since October 2023, independent AI4Science fellow, co-advised with Lenka Zdeborová, Institute of Physics, EPFL.
- Previously: PhD ETH Zürich, Switzerland, MSc U. of Cambridge, UK, MSc & BSc U. of Genoa, Italy. Cyril Malbranke since March 2023.

Previously: PhD ENS Paris, MSc & BSc École Polytechnique, France.

Arthur Alexandre since October 2022.

Previously: PhD University of Bordeaux, MSc & BSc ENS Paris-Saclay, France.

- **Celia García-Pareja** March 2022-August 2023, co-advised with Fabio Nobile, Institute of Mathematics, EPFL. Previously: PhD Karolinska Institute, Sweden, MSc & BSc University of Barcelona, Spain. *Now lecturer at KTH, Stockholm, Sweden.*
- Alia Abbara since January 2021.

Previously: PhD, MSc & BSc ENS Paris, France.

Umberto Lupo since July 2020.

Previously: Scientist L2F, PhD U. of York, MSc U. of Cambridge, BSc U. of Warwick, UK.

Darka Labavić January-December 2020, at Sorbonne Université, co-advised with Claude Loverdo. Previously: Postdoc University of Lille, France, PhD University of Bremen, Germany, MSc & BSc University of Zagreb, Croatia.

Now postdoc at ESPCI, Paris, France.

PhD students (total: 5)

Cecilia Fruet EDPY (Physics), since April 2023.

Previously: MSc Universities of Trento, Italy and Tübingen, Germany, BSc U. of Pavia, Italy. **Damiano Sgarbossa** EDCB (Comput. Biology), since April 2021. Passed candidacy in March 2022.

Previously: MSc & BSc University of Padua, Italy.

- **Richard Servajean** EDPY (Physics), since October 2020. Passed candidacy in September 2021. Previously: MSc & BSc University of Montpellier, France.
- **Nicola Dietler** EDPY (Physics), since February 2020. Passed candidacy in February 2021. Previously: MSc ETH Zürich, BSc EPFL, Switzerland.

Loïc Marrec 2017-2020, at Sorbonne Université, co-advised with Raphaël Voituriez (HDR). Previously: MSc & BSc University Paris-Saclay, France. Defended June 2020.

Now postdoc at the Institute of Ecology and Evolution of the University of Bern, Switzerland.

MSc students and BSc students (24, not listed for brevity)