

Jean-François Flot – Curriculum Vitae

(last update: 4 July 2024)

Education

University Paris7 – Denis Diderot (France)	BSc	Biochemistry	1998
University Paris7 – Denis Diderot (France)	MSc	Biochemistry	1999
University of the Ryukyus (Okinawa, Japon)	MSc	Marine Sciences	2003
Muséum National d'Histoire Naturelle (France)	PhD	Molecular Systematics	2008

Research interests

Topics: species delimitation; experimental evolution; genome dynamics; genome evolution; microbial ecology; biodiversity; symbiosis; bioinformatics

Taxa: amphipods; corals; rotifers

Environments: coral reefs; groundwaters; sulfidic caves; “extreme” environments

Employment

September 1997 – August 2003: **civil servant in training**, ENS Cachan (France); with a two-year leave (2000-2002) to study in Japan under a scholarship from the Japanese government

September 2003 – August 2006: **PhD scholar** at the Muséum National d'Histoire Naturelle in Paris and **teaching assistant** at the University Pierre & Marie Curie (France)

September 2006 – present: **tenured high-school teacher in biology and geology** in Paris (France) (on leave since November 2008)

December 2008 – January 2010: **research associate** at the University of Göttingen (Germany)

February 2010 – July 2012: **research associate** at the University of Namur (Belgium)

August 2012 – June 2014: **research associate** at the Max Planck Institute for Dynamics and Self-Organization (Germany)

July 2014 – September 2015: **senior research associate** at University College London (United Kingdom)

Since October 2015: **tenured associate professor** (*chargé de cours*) at the Université libre de Bruxelles (Belgium)

Since October 2023: **tenured professor** (*professeur*) at the Université libre de Bruxelles (Belgium)

Research experiences

1998: **NASA Planetary Biology Internship** on the mineralization of microbial streamers in alkaline hot springs and geysers with Sherry L. Cady (SETI Institute, NASA Ames Research Center, California); fieldwork in Yellowstone National Park

1999: **ERASMUS Research Internship** on the regulation of nitrogen fixation in the freshwater bacterium *Rhodospirillum rubrum* with Stefan Nordlund (University of Stockholm, Sweden)

2001-2003: **Master Course research** on the cytogenetics of scleractinian corals with Robert van Woesik and Makoto Tsuchiya (University of the Ryukyus, Okinawa, Japan); fieldwork in Japan and in Australia

2002: **Pauley Summer Program “Molecular Biology of Corals”**, research project on the molecular systematics of Hawaiian pocilloporids (Hawaii Institute of Marine Biology, Kaneohe, Hawaii)

2003-2008: **PhD research** on the molecular systematics of the tropical coral genus *Pocillopora* with Simon Tillier (Muséum National d'Histoire Naturelle, Paris, France); fieldwork in Japan, the Philippines, New Caledonia, Clipperton, Mexico, Madagascar and French Polynesia.

2008-2010: **postdoctoral research** on cave-dwelling amphipods and their bacterial symbioses with Sharmishtha Dattagupta (Courant Research Center “Geobiology”, University of Göttingen, Germany); fieldwork in Germany, Italy and Romania

2010-2012: **postdoctoral research** on the genome analysis of the desiccation- and radiation-resistant asexual rotifer *Adineta vaga* with Karine Van Doninck and Olivier Jaillon (University of Namur, Belgium & National Sequencing Center, France)

2012-2014: **postdoctoral research** on experimental genome evolution in bacteria and yeast with Oskar

Hallatschek (Max Planck Institute for Dynamics and Self-Organization, Göttingen, Germany)

2014-2015: **postdoctoral research** on the comparative genomics of xenacoelomorph worms with Max Telford (Department of Genetics, Ecology and Evolution, University College London, United Kingdom)

Since October 2015: **head of the research team** 'Ecological & Evolutionary Genomics' (<http://ebe.ulb.be/ebe/Flot.html>) in the unit 'Evolutionary Biology & Evolution', Department of Organismal Biology, University libre de Bruxelles

Teaching experience

2003-2006: ecology, physiology and evolutionary biology lectures and practical courses for undergraduate and master students as a **teaching assistant** at University Pierre & Marie Curie in Paris, France (192 hours total)

2006-2008: biology and geology classes as a **tenured high-school teacher** in Paris, France (ca. 1000 hours total)

2006-present: evolutionary biology **lectures** and **practical courses** for master course students at University Pierre & Marie Curie in Paris, France (130 hours total)

2010: **guest lecturer** in a geomicrobiology course at the University of Göttingen in Germany (4 hours)

2010-present: **guest lecturer** in a genomics, molecular systematics and bioinformatic courses at the University of Namur in Belgium (total 20 hours)

2013: **invited faculty** in the Pauley Summer Course "Advancing tools for biodiversity studies: Genomics and bioinformatics of cnidarians with a focus on corals" at the Hawaii Institute of Marine Biology in Kaneohe, USA (one week)

2015: **guest lecturer** in the EMBO Practical Course "Marine animal models in evolution and development: Focus on neurobiology" in Fiskebäckskil, Sweden (two weeks); **adjunct professor** on an undergraduate zoology course (52 hour of teaching) at the University of Namur, Belgium

2016: **guest lecturer** in the Neptune ITN course "Marine animal models in evolution and development: Focus on bioinformatics" in Villefranche-sur-Mer, France (two days)

2017: **invited speaker and teacher** during the 8th International Course in Microbial Ecology (ICME) "Microbial metagenome analysis: hands-on training" in Verbania Pallanza, Italy (five days)

2016-present: **adjunct professor** at the University of Namur with a teaching load of 26 hours per year (course: SBIO-B216/217 *Diversité et évolution animale partie 2*)

2016-present: **professor** at the Université libre de Bruxelles with a teaching load of 120 hours per year (courses in zoology, microbiology and bioinformatics/genomics, as well as training and evaluating college teachers (CAPAES) and future high-school teachers (*agrégation*))

2019: **invited speaker and teacher** during the 10th International Course in Microbial Ecology (ICME) "Microbial ecology: Hands-on training in prokaryotic and eukaryotic metagenomics" in Milano, Italy (five days)

2020: **teacher of bioinformatics** to Belgian high-school students participating in the **International Biology Olympiad** (two days)

2024: **invited speaker and teacher** during the "Intensive practical genome sequencing course, from scripting basics to advanced downstream analyses" at the University of Konstanz, Germany (one day)

PhD juries (in bold if examiner or president role)

Catherine Reeb (2014) at the Muséum national d'Histoire naturelle (France), Emilie Etoundi (2015) at the University of Namur (Belgium), **Song He (2017) at the Kaust University of Science and Technology (Saudi Arabia)**, Séverine Fourdrilis (2017) at the Université libre de Bruxelles (Belgium), Dennis De Ryck (2017) at the Vrije Universiteit Brussel (Belgium), Chedly Kastally (2017) at the Université libre de Bruxelles (Belgium), Cédric Mallien (2017) at Université Côte d'Azur (France), Nicolas Dierckxsens (2018) at the Université libre de Bruxelles (Belgium), **Rosa van der Ven (2019) at the Vrije Universiteit Brussel (Belgium)**, Samuel Vanden Abeele (2019) at the Université libre de Bruxelles (Belgium) on barcoding and species delimitation in tropical trees, **Martyna Marynowska (2020) at the Université libre de Bruxelles (Belgium) and at the Luxembourg Institute of Science and Technology (Luxembourg)**, Elena Quintanilla (2021) at the University of Gießen (Germany), Svitlana Lukicheva (2021) at the Université libre de Bruxelles, **Claudia Traboni (2022) at the Université libre de Bruxelles**, **Jon Lapeyra (2022) at the Université libre de Bruxelles**, **Oscar Ahossou (2022) at the Université libre de Bruxelles**, Pau Balart Garcia (2023) at the Universitat Pompeu Fabra, Florian Poulain (2023) at the University of Namur, Sophie Vande Velde (2024) at

the Université libre de Bruxelles,

Habilitation juries (in bold if examiner role)

Arnaud Tanguy (2021) at Sorbonne Université (France)

Sophie Sanchez-Brosseau (2024) at Sorbonne Université (France)

Supervision experience

- 3rd-year undergraduates: Stephen Bergacker (2016-2017), René Desneux (2017), Magali Verplancke (2019), Antoine Vicario (2019-2020)

- 1st year masters: Yann Spöri (2016), Max Le Bouder (2018)

- 2nd-year masters: Yann Spöri (2017), Emilie Berns (2017-2018), Martin Collette (2017-2018), Grégory Philippart (2017-2018), Giulia Puntin (2017-2018, with Andrew Baker), Hisham Shaik (2018-2019), Ursula Swaelius (2018-2019), Jenny Arrensdorff (2019-2020), Jessica Ody (2019-2020), Stephen Bergacker (2019-2020), Pierrot Van der Aa (2019-2020), Juliana Vanegas Gonzalez (2020-2021, with Catalina Ramirez-Portilla, James Tan and Zainudin Bachok), Dina Mae Rañises (2020-present, with Machel Malay and Mark Vermeij)

- PhD students: Nicolas Debortoli (2012-2018, with Karine Van Doninck), Alessandro Derzelle (2014-present, with Karine Van Doninck), Fabio Stoch (2016-2021), Dieter Weber (2016-2022), Catalina Ramírez Portilla (2017-present, with Thomas Wilke), Ana Rodriguez Jimenez (2017-2022, with Isabelle George), Nadège Guiglielmoni (2018-2021, with Romain Koszul), Yann Spöri (2019-present, with Simon Dellicour), Claire Chauveau (2020-present, with Serban Sarbu), Hugo Ducret (2021-present, with Marc Kochzius), Roland Faure (2021-present, with Dominique Lavenier), Alice Salussolia (2021-present, with Fabio Stoch), Mohammed Tawfeeq (2021-present, with Thomas Verdebout), Sophie-Luise Heidig (2021-present, with Danny Ionescu and Wim Vranken), Antoine Houtain (2021-2024, with Karine Van Doninck), Ginevra Lill (2022-2024, with Isabelle George), Stephen Bergacker (2022-present, with Marc Kochzius), Dina Mae Rañises (2023-present, with Karine Van Doninck), Helena Willard (2023-present, with Jaap Kaandorp), Olivier Collard (2024-present)

- postdocs: Eulalia Banguera Hinestroza (2016-2019), Antoine Limasset (2017-2018), Raoul Tuekam Kayo (2018-2019), Fabio Stoch (2021-present), Felipe Silva (2021-present)

Languages

English, French: fluent (C2); German, Japanese, Tagalog: good (C1)

Bases of Spanish, Italian and Swedish (A2)

Other skills

Programming (mainly bash, Perl and awk; basic Java, Python and R): author of the programs **Champuru** (<http://www.seqphase.mpg.de/champuru/>) and **SeqPHASE** (<http://www.seqphase.mpg.de/seqphase/>); co-author of the programs Bcool (<https://github.com/Malfoy/BCOOL>), Bwise (<https://github.com/Malfoy/BWISE>) and HaplowebMaker (<https://eeg-ebe.github.io/HaplowebMaker/>)

Scuba diving: recreational qualification FFESSM level 3 (equivalent CMAS***) & scientific diver license CAH class 1b (CNRS); speleology (beginner); karate (black belt 2nd dan)

Academic memberships & services

Member of the **International Society for Reef Studies** since 2004, of the **Society for Molecular Biology and Evolution** since 2010, of the **European Society for Evolutionary Biology** since 2011 and of the **Society of Systematic Biologists** since 2013

Founding member and participant in the steering committee of the cnidarian barcoding initiative, CnidBar (<http://data.centrescientifique.mc/CnidBar-home.html>)

Founding member and board member of PCI Genomics (<https://genomics.peercommunityin.org/>)

Elected member of the board of the Global Invertebrate Genomics Alliance, 2019-2021 (<http://giga-cos.org/>)

Coordinator of the consortium for the sequencing and analysis of the genome of the bdelloid rotifer *Adineta vaga*, 2010-2012 (40 researchers from US, Europe and Russia)

One of 14 co-PIs of the IGNITE Innovative Training Network (ITN) consortium (<http://www.itn-ignite.eu/>)
Belgian representative for the EU COST Action DNAqua-Net (<http://dnaqua.net/>)

Representative of the department of organismal biology of ULB at InforScience (department of **scientific diffusion** of ULB; 2016-present); **president** of the interdepartmental **commission of the bachelor in biology** of ULB (2019-present); secretary of the jury of the **master in bioinformatics and modelling of ULB** (since 2020); resource person of the department of organismal biology of ULB (2020-present); responsible of the CAPAES (habilitation to teach at college and university level) in biology of ULB (2015-present); member of the CUC (recruitment commission) of ULB (2022-present).

Representative of ULB at the **board of the Royal Belgian Zoological Society** (<http://rbzs.be/>), 2021-present

Member of the **Belgian EMBL-EMBC accompanying committee** (2020-present).

Member of the **improvement committee of the Centre Scientifique de Monaco** (2020-present)

Reviewer of 50 articles (for *Annals of Botany*, *BioTechniques*, *BMC Evolutionary Biology*, *Coral Reefs*, *EvoDevo*, **Genome Biology & Evolution**, *GigaScience*, *Hydrobiologia*, *Integrative and Comparative Biology*, *Italian Journal of Zoology*, *Journal of Crustacean Biology*, *Journal of the Marine Biological Association of the UK*, *Journal of Zoological Systematics and Evolutionary Research*, *Marine Biology*, *Marine Ecology*, *Marine Pollution Bulletin*, **Molecular Biology and Evolution**, **Molecular Ecology**, *Molecular Ecology Resources*, *Nature*, **Nature Ecology & Evolution**, *Oikos*, *PeerJ*, *PLoS ONE*, *PLoS Computational Biology*, *Scientific Reports*, *Systematics and Biodiversity*, **Systematic Biology**, *Zoological Journal of the Linnean Society of London*, *Zoological Science*, *ZooKeys*, *Zootaxa*)

Associate editor of 3 articles (for *Systematic Biology*)

Reviewer of 10 grant proposals: 2 for the ANR (*Agence Nationale de la Recherche*, France), 3 for the FNRS (*Fonds national de la Recherche Scientifique*, Belgium), 2 for the NSF (*National Science Foundation*, USA), 1 for the NGS (*National Geographic Society*, USA), 1 for the RGC (*Research Grants Council*, Hong Kong) and 1 for the PRIN (*Progetti di ricerca di Rilevante Interesse Nazionale*, Italy)

(Co-)organizer of **sessions** and/or **workshops** at the 2010 European symposium of the International Society for Reef Studies (<http://www.isrs2010.org>), at the BioSystematics Berlin 2011 conference (<http://www.biosyst-berlin-2011.de/>), at the BioSyst.EU 2013 meeting (<http://biosysteu.univie.ac.at/symposia-workshops/>), at the Evolution 2013 meeting (<http://www.evolutionmeeting.org/>), at the 2014 meeting of the Society for Molecular Biology and Evolution (<http://smbe.org/annual/2014/>), at the 2016 International Coral Reef Symposium (<https://www.sgmeet.com/icrs2016/>), and at the 2017 European Conference of Tropical Ecology meeting (<http://www.gtoc-conference.de/>).

Co-organizer of the evolutionary biology **symposium** GOEvol in 2012 and 2013 (<http://goevol.uni-goettingen.de/>), of the GIGA II **workshop** of the Global Invertebrate Genomics Alliance (<http://www.lmu.de/GIGAI>) and of the 2018 GIGA III **meeting** of the Global Invertebrate Genomics Alliance (<https://gigaiii.weebly.com/>).

Member of the **organizing committee** for the 2017 ALPAGA workshop *Genome evolution in asexual organisms* (<https://www.unamur.be/recherche/services-adre/evenements/past-events/alpaga-2017>)

Local organizer of the 2018 EMBO Practical Course ‘Hands-on training in prokaryotic and eukaryotic metagenomics (ICME-9)’ (<https://www.microbeco.org/portfolio-items/9-icme/>)

Co-organizer of the 2018 workshop *Advanced techniques to study and exploit the sponge and coral microbiomes* at ULB (<https://owncloud.ulb.ac.be/index.php/s/qbvrk1sWog1mtjq>)

Organizer of the 2021 GIGA IV meeting of the Global Invertebrate Genomics Alliance (<https://giga4.sciencesconf.org/>)

Organizer of the 2022 EMBO Practical Course ‘Hands-on course in genome sequencing, assembly and downstream analyses’ (<https://meetings.embo.org/event/22-gen-seq-analysis>) in September 2022 at ULB

Co-organizer of the 2024 EMBO Practical Course ‘Hands-on course in genome sequencing, assembly and downstream analyses’ (<https://meetings.embo.org/event/24-genome-sequencing>) in Valencia, Spain

Public outreach and media exposure

Public conference 沖縄の珊瑚と白化現象 (*Okinawa no sango to hakkagenshou*, the corals of Okinawa and their bleaching) on 1 October 2001 at the Okinawa Prefectural University of Arts (Shuri, Japan)

Several interviews in Japanese local press between 2001 and 2003; two opinion columns published in the *Ryuku Shimpō* on 29 March 2002 (沖縄の自然環境が心配 *Okinawa no shizenkankyō ga shimpai*, worries about

the natural environment of Okinawa) and 15 March 2003 (自然の文化、文化の自然 *Shizen no bunka, bunka no shizen*, the culture of nature and the nature of culture)

Interview about coral bleaching in the evening national TV news in France (12 December 2003)

Numerous French news articles covering the genomic demonstration of the asexuality of the bdelloid rotifer *Adineta vaga*: *Le Monde* (22 July 2013), *Libération* (6 September 2013), *La Recherche* (October 2013), *Science et Vie* (September 2013),... Reply to a letter from a reader regarding this discovery (*La Recherche*, December 2013).

Public conference *Scandale dans l'évolution ! Un monde sans sexe est possible !* (An evolutionary scandal: life without sex is possible) with Olivier Jaillon (researcher at Genoscope) and Yann Chavance (journalist) on 12 February 2014 in Boulogne-Billancourt (France)

Interviews by *Science*, *Science et Vie* and *Radio-Canada* about the spread of the parthenogenetic triploid crayfish *Procambarus virginalis* (2018)

Participation in an online roundtable organized by the Belgium embassy in South Korea on the 6th mass extinction (2022)

Main recent grants

2016: **ARC research grant (€240,000)** for a project on experimental evolution

2016: **CDR research grant (€60,000)** for a project on coral species delimitation

2017: **ETN (European Training Network) grant (€250,560)** out of a total amount of €3,810,685 for the 14 co-PIs) for a project aimed at establishing new standards in comparative genomics of non-models non-vertebrates (<http://www.itn-ignite.eu/>)

2019: **FER (Fonds d'encouragement à la recherche) grant (€20,000)** for buying a Space Spider 3D scanner

2019: **FEE (Fonds d'encouragement à l'enseignement) grant (€28,093)** for buying microscopes

2021: **EMBO grant (€39,000)** for organizing a Practical Course

2022: **Biodiversa+ grant** for a project in coordination with 12 other European countries on monitoring of subterranean environments (DarCo; budget for ULB: **€150,045**)

2023: PDR (projet de recherche) grant (€333,000) from FNRS for projet NiGeS (Niphargid Genome Sizes)

2024: research convention with the regional park of Tepilora in Sardinia for a project on eDNA monitoring of a cave ecosystem (**29,500€**)

2024: **FEE (Fonds d'encouragement à l'enseignement) grant (€64,325)** for establishing a microbiological observatory of the campuses of ULB (together with 5 other ULB colleagues; project leader: Isabelle George)

2024: **Biodiversa+ grant** for a project in coordination with 6 other European countries on environmental DNA in subterranean environments (Sub-BioMon; budget for ULB: **€212,500**)