

Giorgio F. Gilestro, PhD

Associate Professor in systems neurobiology, Imperial College London, UK

Associate Professor (Reader)
Department of Life Sciences
Imperial College London, UK

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Previous and current research positions

since 2024 *Reader* at Imperial College London, Department of Life Sciences
2019 – 2024 *Senior Lecturer* at Imperial College London, Department of Life Sciences
2012 – 2018 *Lecturer* at Imperial College London, Department of Life Sciences
2010 – 2012 *Junior Research Fellow* at Imperial College London, Department of Life Sciences

2009 – 2010 Paternity leave/career sabbatical
2006 – 2009 *Postdoc* at University of Wisconsin Madison, Madison, WI, USA
2002 – 2006 *PhD Student* at Research Institute of Molecular Pathology (IMP), Vienna, Austria
1998 – 2002 Undergraduate intern at the Institute for Cancer Research IRCC, Candiolo, Italy

Qualifications

2006 PhD in Molecular Biology, University of Vienna, Austria - "Regulation of Robo receptors in *Drosophila*"
Grade achieved: *mit Auszeichnung bestanden (magna cum laude / passed with Distinction)*
2001 Laurea (BSc + MRes) in Medical Biotechnology, University of Torino, Italy
"Semaphorin signalling via Plexin receptors" Grade achieved: *110/110 Honours*

Fellowships & grants

Large grants as PI (£2.5M+)

2024 \$60k Neuroscience seed grant from the Chan Zuckerberg Initiative (12 months)
2024 \$200k Collaborative Pairs Pilot Project Award from the Chan Zuckerberg Initiative (18 months)
2022 £509k BBSRC RM Research Grant (36 months - BB/W016176/1)
2019 £120k Imperial President's PhD Scholarship to A. Falconio (42 months)
2018 £120k BBSRC PhD fellowship (jointly with N. Windblicher and Betabugs - 36 months)
2018 £120k EPSRC PhD fellowship (36 months)
2018 £414k BBSRC RM Research Grant (36 months - BB/R018839/1)
2017 £160k BBSRC iCASE DTP with Syngenta (42 months)
2015 £240k ERC Marie Curie IF to E. Beckwith (24 months)
2015 £120k BBSRC PhD fellowship (jointly with N. Windblicher)
2014 £120k EMBO LTF to E. Beckwith (24 months)
2014 £375k BBSRC RM Research Grant (36 months - BB/M003930/1)
2013 £120k Edmond J. Safra foundation (36 months)
2012 £120k BBSRC PhD fellowship (jointly with S. Zafeiriou) (36 months)
2012 £120k BBSRC PhD fellowship (jointly with A. Faisal) (36 months)
2009 £270k Junior Research Fellowship at Imperial College London (36 months)

Large grants as co-PI

2023 £200k BBSRC Pioneer Award (co-PI, with Eamonn Mallon, 18months)
2019 £196k CRUK Pioneer Award (co-PI, with Julia Cordero, 24 months)
2016 £190k The Gas Trust Grant (co-PI, with R. Dickinson, 12 months)

Small grants as PI (£110k)

2019 £10k SPARK KTN Award (PI, 6 months)
2018 £20k Faculty Strategic Research Funding – SME Engagement (PI, 12 months)
2017 £15k Ad hoc philanthropic donation
2017 £15k EMBO STF to D. Ricolo (co-PI, 3 months)
2016 £15k BBSRC Impact Acceleration Award (PI, 6 months)
2012 £20k EPSRC Kick-start Scheme (co-PI, with Aldo Faisal, 12 months)

Teaching experience and recognitions

- 2018 Awarded an "Excellence in Teaching award" from the Faculty of Natural Sciences
- 2017 - 2024 Director of the MSc in Applied Biosciences and Biotechnology. I was responsible for the entire course, from admissions and interviews to organisation of the curriculum, the 2 full-time taught terms, exams, practicals, and the lab and literature based terms, for a total of 12 months. The course had an intake of 65 international students a year and generated an income of £1.5 million a year
- 2014 - 2017 co-Director of the MSc in Applied Biosciences and Biotechnology
- since 2013 Systems Neuroscience (3rd year UG), Principles of Neuroscience (3rd year UG), Genes and Genomics (2nd year UG), Behavioural Ecology (2nd year UG), Pharmacology (Bsc Med.)

External teaching

- since 2024 Course director for the Cajal course on "Quantitative Approaches to Behaviour and Virtual Reality"
- 2018 Lecturer at the ICGEB "*Drosophila* course for neurodegeneration research" - Trieste, Italy
- 2012 Lecturer at the "Biology & Informatics Summer School for graduate students", Tokyotech, Japan
- 2018, 22 Lecturer at the Cajal school "Behaviour of Neuronal Systems", Lisbon, Portugal
- 2009,12,13,14 Lecturer at the Neuroscience Training programme, Champalimaud, Lisbon, Portugal

PhD examinations

- 2024 University of Padova, IT (Giulio M. Menti)
- 2024 Imperial College London, Internal (Matteo Vitale)
- 2023 University of Southampton, UK (Jonathan Anns)
- 2023 University of Sussex, UK (Jonathan Menzies)
- 2022 Manchester University, UK (Anna Munro)
- 2021 Imperial College London, Internal (Adam McDermott)
- 2020 Imperial College London, Internal (Antonios Kriezis)
- 2019 Open University c/o ICGEB Trieste, Italy (Nina Strah)
- 2019 University of Padova, Italy (Giovanni Frighetto)
- 2019 University of Geneva, Switzerland (Pedro Machado Almeida)
- 2019 University of East London, UK (Benjamin Aleyakpo)
- 2018 Leuven, Belgium (Jorge De Sousa Valadas)
- 2018 University of Melbourne, Australia (Hang Ngoc Bao Luong)
- 2016 University of Lisbon, Portugal (Verónica María Corrales)
- 2016 University of Cambridge, UK (Eleonora Khabirova)

Departmental administration

- 2014 – 2019 Member of the Departmental Equal Opportunities Committee, responsible, among the rest, for the Athena Swan submission for equal gender opportunities
- 2013 – 2016 Member of the 3Rs advisory group for animal welfare and reduction, reporting to the Provost
- 2012 Chair of the committee in charge of renovation of the departmental website

Outreach activities

The list of outreach activities is too long to be detailed here but can be found on the dedicated lab webpage (<http://lab.gilest.ro/outreach>). Every year we reach to the public by visiting schools, creating digital contents, participating to scientific festivals.

Learned societies

- 2023-2028 Elected UK representative and member of the European *Drosophila* Board
- since 2012 Member of the British Genetics Society and British Biology Society
- since 2010 Co-Founder of the JEDI network (Junior European *Drosophila* Investigators) for which I still manage the IT aspects of the network (<http://www.fly-jedi.org>)

Editorial Boards, Grants Panelling and Reviewing

- since 2015 Panel for ERC Marie Curie RISE Grants and Marie Curie Individual Fellowships
- since 2013 Reviewer for BBSRC, EPSRC, MRC Project Grants; the Italian Ministry of Research Project Grants,

Alzheimer UK; The Research Foundation Flanders (FWO); National Science Foundation (NSF)
 2011-2022 PLoS ONE, Academic Editor
 Reviewer for 30+ academic journals (<https://lab.gilest.ro/wos>)

Invited speaker - conferences and seminars (past 7 years only)

Nov 2025	Talk	ChemAI, Amsterdam, Netherland
Sep 2025	Talk	Italian Society for Neuroscience, Pisa, Italy
Jun 2025	Talk	Neural Circuits & Behavior of Drosophila, Crete, Greece
Mar 2025	Talk	EMBO Neuroscience of Sleep, New Dehli, India
Jan 2025	Seminar	University of Leicester, UK
Nov 2024	Seminar	University of Lyon, Centre de Recherche en Neurosciences de Lyon, France
Oct 2024	Seminar	University of Oslo, Department of Molecular Medicine, Oslo, NO
Aug 2024	Keynote	Neurobiology Doctoral Students Workshop, Liepzig, DE
Aug 2024	Talk	Lausanne Drosophila Meeting, Lausanne, CH
Jul 2024	Talk	Cajal School of Quantitative Neuroscience, Lisbon, PT
Jul 2024	Talk	CZI Neuroscience meeting, Monteray, California, USA
Jun 2024	Talk	Crete Meeting – EMBO Molecular and developmental biology of Drosophila, Crete, Greece
May 2024	Seminar	University of Pisa, It
Nov 2023	Seminar	CUNY – New York, USA
Nov 2023	Seminar	Center for Brain Science, Harvard – Boston, MA, USA
Oct 2023	Seminar	University of Buenos Aires – CONICET, Buenos Aires, Argentina
Oct 2023	Talk	XXXVIII Argentinian Society for Neuroscience Meeting – San Luis, Argentina
Oct 2023	Seminar	University of Sheffield, UK – Sheffield, UK
Sep 2023	Seminar	Queen Mary University London, London, UK
Sep 2023	Keynote	BBSRC LIDO conference Staffordshire, UK
Sep 2023	Talk	MRC/DTP conference at UCL, London, UK
Aug 2023	Talk	Systems Biology of the Brain – Fribourg ,CH
Aug 2023	Seminar	CIG – University of Lausanne – Lausanne, CH
Jun 2023	Talk	FENS Webinar on “Brains on Sleep” - online
Jun 2023	Seminar	Muenster University – Muenster, Germany
May 2023	Talk	Mushroom Body Meeting 2023, Göttingen, Germany
Feb 2023	Seminar	Max Planck Florida Institute for Neuroscience – Miami, FL, USA
Feb 2023	Talk	SRS meeting - Advances in Sleep and Circadian Science (ASCS 2023) – FL, USA
Nov 2022	Talk	Brno Drosophila meeting – Brno, Czech Republic
Nov 2022	Keynote	The Ivano-Frankivsk National Medical University - Ivano-Frankivsk, Ukraine
Jun 2022	Talk	Crete Meeting – EMBO Molecular and developmental biology of Drosophila, Crete, Greece
May 2022	Talk	11 minutes of Sleep – University of Pisa , Italy
Sep 2021	Seminar	Italian Society of Pharmacology – Myths and errors during the COVID pandemic
Sep 2021	Seminar	Italian Association of Epidemiology – Sars-CoV-2 Evolution
May 2021	Seminar	Coffee with EMBL – Coronavirus: global and local perspectives
Feb 2021	Seminar	University of New Mexico, USA
Jul 2020	Talk	Crete Meeting – EMBO Molecular and developmental biology of Drosophila, Crete, Greece
Nov 2019	Talk	Sleep in Drosophila, HHMI Janelia, USA
Jun 2019	Talk	Gordon Chronobiology 2019, Casteldelfells, Spain
Jun 2019	Seminar	Institut des Neurosciences Paris-Saclay, Gif-sur-Yvette, France
Mar 2019	Talk	American Drosophila Research Conference, Dallas, TX, USA
Mar 2019	Talk	Solden 2019 Winter Conference, Solden Austria
Feb 2019	Seminar	Max Plank Institute, Seewiesen, Germany
Feb 2019	Seminar	Technical University Munich, Munich, Germany
Feb 2019	Seminar	University of Birmingham
Dec 2018	Talk	Sleep and circadian rhythms from mechanisms to function, London, UK
Aug 2018	Seminar	VIB, Leuven, Belgium
Jul 2018	Seminar	Tokyo Institute of Technology and University of Tokyo
Jul 2018	Talk	Talk at the 41st Meeting of the Japanese Neuroscience Society, Kobe, Japan
Jun 2018	Keynote	XIX Italian Drosophila conference, Padua, Italy

Jun 2018	Talk	Crete Meeting – EMBO Molecular and developmental biology of Drosophila, Crete, Greece
May 2018	Seminar	NEUreka! Seminar series, King's College London – London, UK
Apr 2018	Seminar	University College London – London, UK
Mar 2018	Seminar	Cajal Institute – Madrid, Spain
Feb 2018	Seminar	Gordon Institute, Cambridge, UK
Feb 2018	Talk	Understanding Sleep – Wellcome Trust Center, London UK

Active and past collaborators – academic

Marc Dionne	Imperial College London, London, UK	
Lucia Prieto-Godino	The Crick Research Institute – London	funded by CZI
Julia Cordero	The Beatson research institute – Glasgow	funded by BBSRC

Active and past collaborators - industrial

Lucy Firth	Syngenta, Bracknell, UK	funded by BBSRC
Thomas Farrugia	BetaBugs, Roslin, UK	funded by KTN/SPARK and BBSRC

Alumni

<i>Name</i>	<i>Current position</i>
Laurence Blackhurst (PhD 2024)	Research fellow at L2D, UK
Federica Falconio (PhD 2024)	Field Application Scientist at SPT, UK
Michaela Joyce (PhD 2023)	Postdoc at the Crick Institute, UK
Hannah Jones (PhD 2022)	Postdoc at the University of Cologne, DE
Alice French (postdoc 2021)	Lecturer at the University of Bristol, UK (ERC Starting Grant)
Esteban Beckwith (postdoc 2020)	Assistant Professor at University of Buenos Aires, Argentina (Wellcome DA)
Diana Biczaz (PhD 2019)	Research scientist, Reevo, UK
Quentin Geissmann (PhD 2018)	Assistant Professor at Aarhus University, Denmark
Anne Petzold (PhD 2017)	Assistant Professor at the European Neuroscience Institute, Germany

Publications (✉ indicates publications in which I am corresponding / senior author)

Guo L, Ferretti V, Gilestro GF*

Sleep Deprivation Primes Synaptic Vulnerability Without Inducing Oxidative Damage
preprint – **bioRxiv** 2025 Sep 05 / 674430



Gilestro GF*

Refining the sleep circuits one neuron at a time

PLOS Biology, 2025 Apr 5; 23(4)



Petzold A*, Gilestro GF*

ninna nanna links circadian and homeostatic sleep drive in Drosophila
preprint – **bioRxiv**, 2024 May 13 / 593616



Joyce M, Falconio AF#, Blackhurst L#, Prieto-Godino L, French AS*, and Gilestro GF*

Divergent evolution of sleep in Drosophila species

Nature Communications, 2024 Jun 14; (15) 5091



Blackhurst L, and Gilestro GF*

Ethoscopy & Ethoscope-lab: a framework for behavioural analysis to lower entrance barrier and aid reproducibility

Bioinformatics Advances, 2023 Sep 20; 3(1)



Jones H, Willis JA, Firth LC, Giachello CNG, and Gilestro GF*

A reductionist paradigm for high-throughput behavioural fingerprinting in *Drosophila melanogaster*
eLife, 2023 May 11; 866951



Vincent CM\$, Beckwith EJ\$, Simoes da Silva CJ, Pearson WH, Kierdorf K, Gilestro GF and Dionne M
Infection increases activity via Toll dependent and independent mechanisms in *Drosophila melanogaster*
PLoS Pathogens, 2022 Sep 21; 18(9): e1010826

French A, Geissmann Q, Beckwith EJ and Gilestro GF*
Sensory processing during sleep in *Drosophila melanogaster*
Nature, 2021 Oct 21; 598(3)



Gilestro GF - Sleep: Imaging the Fly Brain Reveals New Paradoxes
Curr Biol, 2021 Feb 8;31(3)



Geissmann Q\$, Beckwith EJ\$, and Gilestro GF
Most sleep does not serve a vital function: Evidence from *Drosophila melanogaster*
Science Advances, 2019 Feb 20; 5(2); eaau9253



Geissmann Q, Garcia Rodriguez L, Beckwith EJ, and Gilestro GF
Rethomics: an R framework to analyse high-throughput behavioural data
PLoS ONE, 2019 Jan 16; 14(1); e0209331



Geissmann Q, Garcia Rodriguez L, Beckwith EJ, French AS, Jamasb AR, and Gilestro GF
Ethoscopes: an open platform for high-throughput ethomics
PLoS Biology, 2017 Oct 19; 15(10); e2003026



Beckwith EJ, Geissmann Q, French AS, and Gilestro GF
Regulation of sleep homeostasis by sex pheromones
eLife, 2017 Sep 12;6:e27445



Gilestro GF - Video tracking and analysis of sleep in *Drosophila melanogaster*
Nature Protocols, 2012 Apr 26;7(5):995-1007



Gilestro GF* and Cirelli C - pySolo: a complete suite for sleep analysis in *Drosophila*
Bioinformatics, 2009 Jun 1;25(11):1466-7.



Gilestro GF, Tononi G & Cirelli C - Widespread changes in synaptic markers as a function of sleep and wakefulness in *Drosophila*
Science, 2009 Apr 3;324(5923):109-12.



Gilestro GF* - Redundant Mechanisms for Regulation of Midline Crossing in *Drosophila*
PLoS ONE, 2008 Nov 24;3(11):e3978.



Dickson BJ* & Gilestro GF* - Regulation of Commissural Axon Pathfinding by Slit and its Robo receptors
Annu Rev Cell Dev Biol, 2006;22:651-75.



Christensen C, Ambartsumian N, Gilestro GF, Thomsen B, Comoglio PM, Tamagnone L, Guldborg P, Lukanidin E - Proteolytic processing converts the repelling signal Sema3E into an inducer of invasive growth

and lung metastasis

Cancer Research, 2005 Jul 15;65(14):6167-6177

Artigiani S, Conrotto P, Fazzari P, Gilestro GF, Barberis D, Giordano S, Comoglio PM and Tamagnone L - Plexin-B3 is a functional receptor for semaphorin 5A

EMBO Reports, 2004 Jul;5(7):710-4

Giordano S, Corso S, Conrotto P, Artigiani S, Gilestro GF, Barberis D, Tamagnone L, Comoglio PM - Semaphorin 4D Receptor controls invasive growth by coupling with Met tyrosine kinase

Nature Cell Biology, 2002 Sep;4(9):720-4

Petrelli A, Gilestro GF, Lanzardo S, Comoglio PM, Migone N and Giordano S - The Endophilin-CIN85-Cbl complex mediates ligand-dependent downregulation of c-Met

Nature, 2002 Mar 14;416(6877):187-90

() corresponding author; ([§]) equal contribution*

Software - A list of software created by the laboratory is available at <https://lab.gilestro.ro/software/> All software is released as Open Source.