Lidia Ripoll Sanchez

lsanchez@mrc-lmb.cam.ac.uk
MRC-LMB, Francis Crick Avenue
(Cambridge, UK) CB20QH

EDUCATION

2015-2018 Imperial College London
BSc & ARCS in Biochemistry
Modules include: Biological Chemistry, Cell Biology, Proteins and Enzymes, Molecular Biology, Fundamentals of Molecular Biochemistry, Genes & Genomics, Protein Science, Integrative Cell Biology, Topics in Biotechnology, Tutored Dissertation (Mechanisms of habituation), Business Plan competition, Metabolic and Network Engineering, Integrative Systems Biology, Synthetic Biology, Chinese level 2, French level 5, Final year project (ATP flexibility in *Escherichia Coli)*

2013-2015 Universidad Politecnica de Madrid
BSc in Biotechnology (Grado en Biotecnologia)
Modules include: Mathematics, Chemistry, Biology, Physics, Introduction to Programming, Cell Biology, Biochemistry, Statistics, Metabolism, Economics, Laboratory techniques, Physiology, Bioinformatics.

AWARDS

- iGEM 2018 Gold Medal (2018)
- MRC-LMS summer student scholarship (2017)
- Imperial College volunteering certificate (2016)
- 1st Class Honours for Selectividad (2013)
- Best Academic Record prize of Colegio San Ignacio de Loyola (2013)
- Academic Excellence prize of Colegio San Ignacio de Loyola (2012)

RESEARCH EMPLOYMENT

10/2020 MRC Laboratory of Molecular Biology (MRC-LMB) – PhD student in the Schafer Laboratory Neurobiology Division and the Department of Psychiatry

- Supervised by Dr William Schafer and Dr Petra Vèrtes
- Build and analyse a computational model of the neuropeptide network of *C.elegans*

08/2018 MRC Laboratory of Molecular Biology (MRC-LMB) - Research Assistant in the Schafer Laboratory Neurobiology Division

- Built new neuropeptide and receptor deficient *C.elegans* lines.
- Analysed *C.elegans* and mice RNAseq data to build neuronal networks using graph theory.
- Used Python to perform statistical analysis of behavioural video data.

07/2018 Centre for Synthetic Biology (Imperial College London) - iGEM team student leader under Dr Ouldridge and Dr Ledesma-Amaro supervision

- Managed team organisation and project coordination in collaboration with supervisors
- Designed, built and characterised promoter and transcription library using BASIC

07/2017 Medical Research Council UK (MRC-LMS) - Research student in Dr Brown's laboratory

- Performed optogenetic and microscopy experiments in genetically modified *C. elegans* strains.
- Analysed the resulting videos with Tierpsy tracker and Python scripts.

07/2016 Imperial College Life Sciences - Research student in Prof. Rutherford's laboratory

- Worked with *Chroococcidiopsis thermalis* in far red light and white light.
- Performed sugar gradients isolation, cell harvesting and cell growth.
- Performed thermoluminescence, oxygen evolution and kinetics analysis of extracted photosystems II and I.

08/2015 Era7, Granada - Bioinformatics Intern

- Supported informatics research team developing new lines of investigation.

PUBLICATIONS

- **Published:** Javer, Avelino, Lidia Ripoll-Sánchez, and André E.X. Brown. "Powerful and Interpretable Behavioural Features for Quantitative Phenotyping of *Caenorhabditis*

Elegans." *Philosophical Transactions of the Royal Society B: Biological Sciences* 373.1758 (2018): 20170375. *PMC*. Web. 30 Sept. 2018.

- **In preparation:** Amritpal Singh, Alberto Scarampi del Cairo, Diellza Mujku, Joshua Lawrence, Ismael Mullor Ruiz, Lidia Ripoll Sanchez, Luis Chaves Rodriguez, Siwat Chang, Thomas caganek, Will Beardall, Yutong Yin, Rodrigo Ledesma Amaro, Thomas Ouldridge, Richard Kitney. *"Electronic stimulation of gene expression in Escherichia coli"*

CONFERENCES AND ORAL PRESENTATIONS

03/2019 31st Cambridge Neuroscience Seminar, 'Signalling, Sensation & Sentience'
12/2018 iGEM project presentation at the inauguration of the Centre for Synthetic Biology at Imperial College **"***Electronic stimulation of gene expression"*
10/2018 iGEM project and poster presentations at the Boston iGEM Jamboree "*Electronic stimulation of gene expression"*
06/2018 BSc(hons) thesis project and poster presentation at Imperial College London *"ATP flexibility in Escherichia coli carbon metabolism"*
08/2017 Summer internship project presentation for the London Institute of Medical Sciences

MENTORING AND TEACHING EXPERIENCES

2016-2018 Outreach STEM student activity mentor for primary schools at Imperial College
2015-2016 Pimlico Connections (ONG) volunteer teacher for French and Science subjects in St Augustine's Catholic Primary School
08/2015 Science tutor during the Campus Promete summer school, Madrid**,** Spain
2012-2016 Independent children tutor for Biology, History, Maths and English

ACADEMIC SERVICES

2018-2019 BAC (Biotechnology annual congress) Madrid 2019 - International coordinator

- Managed timetable organisation and logistic for the scientific talks.
- Coordinated communication with the 24 scientific speakers attending.

2015-2018 Life Sciences Department Audio Visual aids Student
2017-2018 Imperial College - Biochemistry/Biotechnology Departmental Representative
2016-2017 Imperial College - Biochemistry/Biotechnology Second Year Representative
2016-2017 FEBiotec (Spanish Federation of Biotechnology) - Officer of employability

- Proposed new employability initiatives for the Federation and related societies.

2014-2016 AsBioMad (Biotechnology Society of Madrid) - Secretary

- Supervised the creation of an agreement between AsBioMad and UPM.
- Conducted interviews and represented the Society during conferences and other events.

SCIENCE OUTREACH AND PUBLIC ENGAGEMENT

09/2919 "Worms are cleverer than you think" activity explaining the use of C.elegans in research in Peterborough shopping centre, UK
07/2019 "Recipie4Life" activity explaining the biological and molecular principles behind the origin of life in the Royal Society Summer Exhibition, London, UK
06/2019 "Synthetic Biology: Create a New Protein!" at Bottisham Primary School, UK
04/2019 "Synthetic Biology: Create a New Protein!" activity explaining of synthetic biology at Cambridge Science festival, Cambridge, UK
09/2019 present at the Imperial iGEM stand at the New Scientist fair, London, UK
04/2016 volunteer with the Biochemistry society at the Imperial Festival, UK

KEY SKILLS

Technical/computational - MATLAB, Python, R, Microsoft, BLAST, MEGA, Protégé, Weka, PyMol
Molecular biology laboratory techniques - oxygen evolution and thermoluminescence protein analysis, kinetics analysis, mass spectrometry, HPLC, cyclic and square voltammetry, plasmid assembly methods, Cre-LoxP recombination, CRISPR, cell culture
Bacterial laboratory techniques – basic manipulation techniques (cyanobacteria, *E. coli)*
***C.elegans* laboratory techniques** – basic manipulation, microinjections, behavioural experiments.