Tomás Masson

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Current Position

PhD Candidate, Molecular Virology 2016-Present

Thesis title: 'Characterization of Autochthonous Baculovirus as Candidates for the Control of the Fall Armyworm (*Spodoptera frugiperda*)'

Education

Masters Degree (Licenciatura) in Biotechnology and Molecular Biology 2011-2016
La Plata National University

Awards and Funding

- Young Investigators Travel Fellowship Program 2019
  11th International Meeting of the Global Virus Network Global Virus Network (GVN)
  Barcelona, Spain
- Short term visit at CNPEM Electron Criomicroscopy Group 2019
  National Laboratory of Nanotechnology (LNNano)
  National Center for Energy and Materials Research (CNPEM)
  Campinas, Brazil
- PhD fellowship 2016-2021
  National Council of Scientific and Technical Research (CONICET) Argentina
- Scholarship for Undergraduate Research 2014-2016
  National Interuniversitary Council (CIN) Argentina

Peer-Reviewed Publications

- **Masson T**, Fabre ML, Pidre ML, Niz JM, Berretta MF, Romanowski V, Ferrelli ML (2020). Genomic Diversity in a Population of Spodoptera frugiperda Nucleopolyhedrovirus. BioRxiv (submitted to Infection, Genetics and Evolution). Link
- Gisonno R$^{\#}$, **Masson T**$^{\#}$, Ramella N, Barrera EE, Romanowski V & Tricerri MA (2020). Evolutionary and Structural Constraints Influencing Apolipoprotein A-I Amyloid Behavior. BioRxiv. Link

- Fabre ML, **Masson T**, Haase S, Ferrelli ML & Romanowski V (2020). A Simplified Strategy to Package Foreign Proteins into Baculovirus Occlusion Bodies without Engineering the Viral Genome. Journal of Biotechnology. 307, 175-181. Link
- **Masson T**, Fabre ML, Pidre ML, Ferrelli ML, Romanowski V (2019). Protein Composition of the Occlusion Bodies of *Epinotia aporema* Granulovirus. PLoS ONE 14(2): e0207735. Link
- Ferrelli ML, Pídre ML, Ghiringhelli PD, Torres S, Fabre ML, **Masson T**, Cédola MT, Sciocco-Cap A and Romanowski V (2018). Genomic Analysis of an Argentinean Isolate of *Spodoptera frugiperda* Granulovirus Reveals that Various Baculoviruses Code for Lef-7 Proteins with Three F-box Domains. PLoS ONE 13(8): e0202598. Link

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Skills and Techniques

Languages: spanish (native) and english (proficient)

Experimental (wet lab):

- Insect cell culture
- Cell transfection
- Insect *in vivo* assays
- Virus assays (amplification, purification, titration)
- Molecular cloning (cloning design, PCR, restriction/ligation, screening)
- Protein analysis (bacterial expression, purification, SDS-PAGE, mass spectrometry)
- High-Throughput sequencing
- Transmission electron microscopy

Computational (dry lab):

- Proficient with Bash, Git and Python
- Intermediate level in R
- Pipelines development with Snakemake
- Analysis of NGS data
- Phylogenetic reconstructions
- Molecular evolution studies
- Data analysis and plotting with Python Stack (Numpy, Pandas, Scikit-Learn, Seaborn)
- Software development under FAIR principles

Scientific Meetings

- XLVIII Annual Meeting of the Argentine Society of Biophysics 2019
  National University of San Luis
  San Luis, Argentins
  Lighting Talk/Poster Presentation:
  "Structural Properties of Apolipoprotein A1 Associated with Evolutionary Constraints"
  Masson T, Tricerri MA, Ramella NA, Gisonno RA
- 11th International Meeting Global Virus Network (GVN) 2019
  Spanish Scociety of Virology
  Barcelona, Spain
  Poster Presentations:
  "Proteogenomic Analysis of EpapGV occlusion body"
  Masson T, Fabre ML, Pidre ML, Ferrelli ML, Romanowski V

"Recombinant Polyhedron Envelope Protein Produced by a Stably Transformed Insect Cell Line can be Included in the Occlusion Bodies upon Infection with Alternative Baculoviruses"
Fabre ML, **Masson T**, Ferrelli ML, Romanowski V

- XII Argentine Congress of Virology 2017
  Argentina Society of Virology
  Ciudad Autónoma de Buenos Aires, Argentina
  Poster Presentations:
  "Proteome of the Occlusion Derived Virions (ODVs) of the granulovirus of *Spodoptera frugiperda* (SfGV)"
  Masson T, Fabre ML, Ferrelli ML, Pidre ML, Romanowski V
  "Improvement of the Baculovirus of *Anticarsia gemmatalis* as a Biological Control Agent by Incorporating Heterologous Proteins in the Occlusion Bodies"
  Fabre ML, **Masson T**, Romanowski V

Academic Courses

- Computational tools for scientists 2019
  Institute of Liquids and Biological Systems, La Plata, Argentina
- Cryo-EM and X-ray Crystallography: on the Frontier of Structural Biology 2019
  Faculty of Exact and Natural Sciences, University of Buenos Aires, Argentina
- Computational Approaches to Study Intrinsically Disordered Proteins 2018
  National University of Quilmes, Argentina
- Comparative Analysis of Microbial Genomes: Pangenomics and Phyloinformatics 2018
  Faculty of Exact Sciences, National University of La Plata, Argentina
- Basic and Advanced Applications of Flow Cytometry 2017-2018
  Faculty of Exact Sciences, National University of La Plata, Argentina
- Training in the Handling of Databases for the Study of Biomedical Sciences 2017
  Faculty of Medical Sciences, National University of Rosario, Argentina
- Statistical Treatment of Life Sciences Data with Free Software R 2017
  Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina
- Peptide and Protein Mass Spectrometry 2017
  Multidisciplinary Institute of Cell Biology (IMBICE), La Plata, Argentina
- Molecular and Cellular Bases of Immunopathologies 2016
  Institute of Immunological and Physiopathological Studies (IIFP), La Plata, Argentina

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References

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