

## Positions

- Mar 2019– **Data Scientist**, Globant, Buenos Aires.
- Apr 2014 – **Research Assistant**, Instituto de Investigación en Biomedicina CONICET – Partner Institute of the Max Planck Society, Buenos Aires.

## Current Projects

**Somite masker**, a CNN to perform instance segmentation of somites in embryonic development videos using a small training dataset and data augmentation, *in progress*, [deep learning](#), [CNNs](#), [instance segmentation](#).

**Quantification of precision of oscillations**, a new method to compute the quality factor based on period statistics which outperforms current methods by 50% in short time series, *ready to submit*.

**Cryptocurrencies trading bot**, a real time algorithmic trading bot using DNNs, *in progress*, [machine learning](#), [DNNs](#), [python](#), [features engineering](#), [forecasting](#), [algorithmic trading](#), [technical analysis](#), [quantitative analysis](#), [cryptocurrencies](#).

## Research and Education

- 2014–2018 **Ph.D in Physics**, Universidad de Buenos Aires, Argentina, Qualification: Outstanding.  
Oscillations and noise in gene expression: a dialogue between theory and experiments
- 2016 **Visiting Scientist**, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
- 2012–2013 **M.S. in Physics**, Universidad de Buenos Aires, Argentina, Qualification: Outstanding.  
Setting the time of the segmentation clock: gene regulation and new transgenic lines
- 2011 **Undergraduate Student**, Integrative Neuroscience Lab, UBA, Argentina.  
Supervisor: Dr. Mariano Sigman

## Publications

- 2019 I. M. Lengyel, J. Negrete Jr., F. Jülicher, and L. G. Morelli, Temporal precision of short oscillatory time series, *In prep*, [Stochastic Processes](#), [New and Robust Estimator](#), [Time Series Analysis](#), [Theory](#).
- I. M. Lengyel, J. Negrete Jr., F. Jülicher, and L. G. Morelli, Defining temporal precision in the presence of fluctuations with multiple timescales, *In prep*, [Stochastic Processes](#) [Time Series Analysis](#) [Statistics](#), [Multiple Timescales](#), [Ornstein Uhlenbeck](#).
- J. Negrete Jr., I. M. Lengyel, L. Rohde, R. Desai, A. C. Oates, and Frank Jülicher, Stochastic genetic oscillations driven by noisy transcription factors, *In prep.*, [Stochastic Processes](#), [Time Series Analysis](#), [Period Statistics](#), [Mackey Glass](#).

- 2017 Lengyel, I. M., & Morelli, L. G., Multiple binding sites for transcriptional repressors can produce regular bursting and enhance noise suppression, *Physical Review E*, 95(4), 042412, [Stochastic Processes](#), [Master Equation](#), [Gene Regulation](#), [Noise and Fluctuations](#).
- 2016 Webb, A. B., Lengyel, et al. , Persistence, period and precision of autonomous cellular oscillators from the zebrafish segmentation clock, *eLife*, 5, e08438, [Nonlinear Dynamics](#), [Ornstein Uhlenbeck](#), [Stuart Landau](#), [Segmentation Clock](#), [Vertebrate Development](#), [Biological Physics](#).
- 2014 Lengyel, I. M., et al., Nonlinearity arising from noncooperative transcription factor binding enhances negative feedback and promotes genetic oscillations , *Papers in Physics* 6, 060012, [Nonlinear Dynamics](#), [Gene regulation](#).

## Talks and Presentations

- 2018 Frontiers in Bioscience 3 , Temporal precision of short oscillatory time series (poster), Sep 17-19 *Buenos Aires*.
- 2016 Physics of Biology II, Multiple Binding sites for transcriptional repressors can produce regular bursting and enhance noise suppression, *Geneva, Switzerland*.  
Nov 23-25
- 2016 XIV TREFEMAC Regional Congress of Statistical Physics and Soft Matter, Multiple Binding sites for transcriptional repressors can produce regular bursting and enhance noise suppression, *Balseiro Institue, Argentina*.  
May 4-6
- 2015 Latin American Conference on Mathematical Modelling of Biological Systems , Oscillations and noise suppression in a negative feedback with multiple binding sites, *Buenos Aires*,  
Dec 1-4 [Award: Best poster](#).
- 2015 Annual Meeting of the International Physics of Living Systems, Autonomous cellular oscillators from the zebrafish segmentation clock, *Westin Arlington-Gateway in Arlington, VA, USA*, .  
Jul 16-20
- 2014 Celular and Developmental Biology Workshop, Characterization and design of reportes of the segmentation clock, *Buenos Aires, Argentina*, [Award: best talk](#).  
Oct 16-17

## Refereeing

- 2018 Physical Review E Journal

## Teaching

- 2013 Teaching Assistant, Physics DepartamentI, FCEyN, Universidad de Buenos Aires, Argentina

## Supervisions

- 2016 - 2017 Mentor of Ezequiel Galrpen M.S. Thesis, Multiple Binding sites for transcriptional repressors can produce regular bursting and enhance noise suppression, *IBioBA / CONICET DF / UBA, Argentina*, Supervisor: Dr. Luis G. Morelli, Qualification: Outstanding.

## Skills and Aptitudes

Statistical Physics | Time Series Analysis | Stochastic Processes | Nonlinear Dynamics |  
Applied Mathematics | Mathematical Modelling | Numerical Simulations | Biological Physics  
| Gene regulation

Data Science | Statistics | Machine Learning | Deep Learning | Bayesian Inference

Analytical reasoning | Public Speaking | Scientific Writing | Research | Teamwork | Advising

## Computer Languages and Technologies

Python | Matlab | C++ | Linux |  $\text{\LaTeX}$  | Mathematica | keras | tensorflow | scikit-learn |  
pandas | sqlite

## Languages

English | Spanish