Sergio Castillo Lara

Bioinformatician & Data Scientist

PERSONAL INFORMATION

Address	Barcelona, Spain	Email ✉	s.cast.lara@gmail.com
Telephone	📞 +34 93 403 13 05	Website 🌐	scastlara.github.io
Date of birth	October 27th, 1992	Github	github.com/scastlara

EXPERIENCE

2017 - Present

Ph.D. Fellow
Computational Genomics Lab, University of Barcelona
Supervised by: Josep F. Abril (jabril@ub.edu)

– Development of web-based tools to integrate protein-protein interactions, sequence annotations, and gene expression data for planarians and humans*.*

– Analysis of RNA-seq, ATAC-seq and ChIP-seq data for *Schmidtea mediterranea*.

– Development of tools that utilize machine-learning for predicting and retrieving protein-protein interactions.

– Assistant teacher of the courses: *"Introduction to Algorithmics"*: Msc. Bioinformatics for Health Sciences at UPF; *"Bioinformatics"*: BSc. Biochemistry at UB; *"Computational Genomics"*: BSc. Bioinformatics at UPF/UPC/UB.

2014 – 2017

Research Intern
Computational Genomics Lab, University of Barcelona

– Prediction of an interactions network of planarian genes and proteins using sequence homology information and machine learning.

–Implementation of a pipeline to retrieve protein-protein interactions from scientific literature using natural language processing.

EDUCATION

2015 – 2017

MSc Bioinformatics for health sciences
Universitat Pompeu Fabra, Barcelona, Spain

2010 - 2015

BSc Biology
Universitat de Barcelona, Barcelona, Spain

PROFESSIONAL SKILLS

Programming	**Python**, **Perl**, **R**, JavaScript, Bash
Databases	**Neo4j**, Cypher Query Language, SQL
Data Science	**ggplot2**, scikit-learn, R caret
Web	**HTML5, CSS, Django**, jQuery, Bootstrap, Cytoscape.js
Other	**Statistics**, **Machine-Learning**, **RNA-seq**, Linux, git, LaTeX

PUBLICATIONS

R. Arenas-Galnares[†], **S. Castillo-Lara**[†], V. Toulis, D. Boloc, R. Gonzàlez-Duarte, G. Marfany, J.F. Abril (2019) † *Contributed equally*
[RPGeNet v2.0: expanding the universe of retinal disease gene interactions network.](#)
Database, Volume 2019, baz120.

S. Castillo-Lara, E. Pascual-Carreras, J.F. Abril (2019)
[PlanExp: intuitive integration of complex RNA-seq datasets with planarian omics resources.](#)
Bioinformatics, AOP.

S. Castillo-Lara, J.F. Abril (2018)
[PPaxe: easy extraction of protein occurrence and interactions from the scientific literature.](#)
Bioinformatics, 35(14): pp. 2523-2524.

S. Castillo-Lara., J.F. Abril (2017)
[PlanNET: Homology-based predicted interactome for multiple planarian transcriptomes](#).
Bioinformatics, 34(6): pp. 1016-1023.

D. Boloc, **S. Castillo-Lara**, G. Marfany, R. Gonzàlez-Duarte, J.F. Abril (2015)
[Distilling a visual network of retinitis pigmentosa gene-protein interactions to uncover new disease candidates](#).
PLOS ONE, 10(8): e0135307

POSTERS

E. Pascual-Carreras, M. Marín, **S. Castillo-Lara**, P. Coronel-Córdoba, M.S. Magri , J.F. Abril, J.L. Gomez-Skarmeta, E. Saló and T. Adell (2019)
ATAC-seq and RNA-seq analysis reveal new elements of planarian posterior organizer. European Developmental Biology Congress , Alicante.

S. Castillo-Lara, J.F. Abril (2018)
PPaxe facilitates human-curation of protein-protein interactions filtered from the scientific literature. VI Jornada de Bioinformàtica i Genòmica, Barcelona.

R. Arenas-Galnares, **S. Castillo-Lara**, V. Toulis, G. Marfany, R. Gonzàlez-Duarte, J.F. Abril (2018)
RPGeNet v2.0 Enhanced navigation through the retinitis pigmentosa interaction network
VI Jornada de Bioinformàtica i Genòmica, Barcelona.

E. Pascual-Carreras, M. Marín-Barba, **S. Castillo-Lara**, M. Sureda-Gómez, G. Rodríguez-Esteban, H. Heyn, J.F. Abril, E. Saló, T. Adell (2017)
Understanding the anterior and the posterior signaling centers in planarians. *XXIX Developmental Biology Meeting*, Barcelona.

S. Castillo-Lara, J.F. Abril (2017)
A human-planarian interologs network to annotate planarian transcriptomes: PlanNET
15th International Workshop RECOMB Comparative Genomics, Barcelona.

S. Castillo-Lara, D. Boloc, G. Marfany, R. Gonzàlez-Duarte, J.F. Abril (2015)
Distilling a network of interactions to uncover genes involved in Retinitis Pigmentosa disease. *II Jornada de Bioinformàtica i Biologia Computacional,* Barcelona.

SCHOLARSHIPS

2017	Grant for the recruitment of early-stage research staff (FI) *Agència de Gestió d'Ajuts Universitaris i de Recerca*
2016	Beca de colaboración con departamentos (Collaboration Scholarship) *Ministerio de Educación Cultura y Deporte*
2014	Summer Research in Genetics *University of Barcelona*