

Sergio Castillo Lara

Bioinformatician



CONTACT

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Date of birth October 27th, 1992

Nationality Spanish

EXPERIENCE

Ph.D. Fellow - Feb. 2017 - Present

Computational Genomics Lab, University of Barcelona

- Development of tools to integrate protein-protein interactions, sequence annotations, and gene expression data for the planaria *Schmidtea mediterranea*.
- Analysis of RNA-seq data for *Schmidtea mediterranea*.
- Development of tools that utilize machine-learning for predicting and retrieving protein-protein interactions for model and non-model organisms.
- Assistant teacher of the courses:
 - "Introduction to Algorithmics" in the Msc. Bioinformatics for Health Sciences at UPF.
 - "Bioinformatics" in the BSc. Biochemistry at UB.
 - "Computational Genomics" in the BSc. Bioinformatics at UPF/UPC/UB.

Research Intern - Jun. 2014 - Feb. 2017

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 Languages **Perl, Python, 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

LANGUAGES

Mother tongue Spanish, Catalan
Foreign languages English – Fluent

PUBLICATIONS

PPaxe: easy extraction of protein occurrence and interactions from the scientific literature

Castillo-Lara S., Abril J.F. (2018)
Bioinformatics, AOP.

PlanNET: Homology-based predicted interactome for multiple planarian transcriptomes

Castillo-Lara S., Abril J.F. (2018)
Bioinformatics, 34(6): pp. 1016-1023

Distilling a visual network of retinitis pigmentosa gene-protein interactions to uncover new disease candidates

Boloc D., **Castillo-Lara S.**, Marfany G., González-Duarte R., Abril J.F. (2015)
PLOS ONE, 10(8): e0135307

POSTERS AND COMMUNICATIONS

PPaxe facilitates human-curation of protein-protein interactions filtered from the scientific literature

VI Jornada de Bioinformàtica i Genòmica (Barcelona, 2018)
Castillo-Lara S., Abril J.F.

RPGeNet v2.0 Enhanced navigation through the retinitis pigmentosa interaction network

VI Jornada de Bioinformàtica i Genòmica (Barcelona, 2018)
Arenas-Galnares R., **Castillo-Lara S.**, Toulis V., Gonzalez-Duarte R., Marfany G., Abril J.F.

Understanding the anterior and the posterior signaling centers in planarians

XXIX Developmental Biology Meeting (Barcelona, 2017)
Pascual-Carreras E., Marín-Barba M., **Castillo-Lara S.**, Sureda-Gómez M., Rodríguez-Esteban G., Heyn H., Abril J.F., Saló E., Adell T.

A human-planarian interologs network to annotate planarian transcriptomes: PlanNET

15th International Workshop RECOMB Comparative Genomics (Barcelona, 2017)
Castillo-Lara S., Abril J.F.

Distilling a network of interactions to uncover genes involved in Retinitis Pigmentosa disease

II Jornada de Bioinformàtica i Biologia Computacional (Barcelona, 2014)
Castillo-Lara S., Boloc D., Marfany G., González-Duarte R., Abril J.F.

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