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 JF. (2018)
Bioinformatics, AOP.

PlanNET: Homology-based predicted interactome for multiple planarian transcriptomes
Castillo-Lara, S., Abril JF. (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., Gonzàlez-Duarte R., Abril JF. (2015)
PLOS ONE, 10(8): e0135307

POSTERS AND COMMUNICATIONS

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

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

Distilling a network of interactions to uncover genes involved in Retinitis Pigmentosa disease
II Jornada de Bioinformàtica i Biologia Computacional (2014)
Castillo-Lara S., Boloc D., Marfany G., Gonzàlez-Duarte R., Abril JF.

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