Paula **Soler Vila**

Pharmacist & Bioinformatician

Contact

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Languages

Valencian
Spanish
English

Programming

R ★★★
Python ★★
HTML ★
Shell scripting ★★
LaTeX ★★

Skills

Dry-lab
Algorithm design
Biostatistics
Multi-omics analysis

Wet-lab
Cell culture
Hi-C*
Imaging

Education

2015–2019 **PhD** in Biomedicine — CNAG-CRG — Universitat Pompeu Fabra
Multi-Scale Study of the Genome Architecture and Its Dynamical Facets

2012–2014 **MSc** in Bioinformatics — Biomedicine Institute (IBV-CSIC) — Universitat de València
Modelización estructural in silico del cambio conformacional descrito por el Switch I de Rbg1, GTPasa involucrada en la función ribosomal.

2007–2012 **BSc** of Pharmacy — Universitat de València

Experience

2015–2019 **CNAG-CRG, Structural Genomics Lab** — Barcelona
Biomedicine PhD student
Studied the hierarchical 3D organization of the chromatin in the nucleus and its direct impact in genome maintenance and gene regulation. Developed experimental and bioinformatics methods to generate and analyse multi-omics data, specifically High-throughput Chromosome Conformation Capture (3C*) tecniques.

2018 **Harvard Medical School, Department of Genetics** — Boston, USA
Short-term research stay
Performed a highly specialized OligoSTORM protocol to walk over the chromatin path of identified transition regions characterized by a sharp change between eu- and heterochromatin in physiological and malignant cells.

2017–2019 **ETSE, Universitat de València** — València
Master in Bioinformatics - External Teacher
Taught of structural bioinformatics. This subject presents theoretical and practical knowledge to determine the 3D structure of proteins and nucleic acids. Specifically, it involves data search, characterization, analysis and visualization of structures, as well as prediction and modeling of molecular interactions.

2017 **Centre for Genomic Regulation (CRG)** — Barcelona
Chromosomal Conformation Capture - Teaching Assistant
An overview of different methods to study the 3D organization of the genome. Specifically, the course involved experimental and computational aspects of the Hi-C technique.

2013–2014 **Institute of Biomedicine of Valencia** — València
MSc internship Generation, validation and comparison of molecular 3D models of active forms of some GTPases structurally solved in the laboratory in the inactive forms. Development of bioinformatics tools to identify residues represented in the Protein Data Bank of a given molecule.

2013 **Institute for Health Research INCLIVA** València
Internship
Support to the development of platforms and software to massively process experimental genomic data.

2013 **Erasmus Center** Burjassot
Teaching Assistant
Taught individual and intensive general chemistry classes for Pharmacy students.

2012 **Hospital Clínico Universitario de Valencia** València
BSc internship
Worked at the Pharmacy service of the Hospital Clínico Universitario de Valencia perfoming tasks such as pharmacokinetic analyses, pharmaceutical technology, implementation of clinical trials, drug information, study and assessment of treatment in chronic patients and personalized pharmaceutical care.

Publications

- **Dynamics of genome architecture and chromatin function during human B cell differentiation and neoplastic transformation**.
*Vilarrasa-Blasi, R., **Soler-Vila, P.**, Verdaguer-Dot, N., Russinol, N., Di Stefano, M., Chapaprieta, V., Clot, G., Farabella, I., Cusco, P., Agirre, X., Prosper, F., Beekman, R., Bea, S., Colomer, D., Gut, I., Stunnenberg, H., Campo, E., Marti-Renom, M.A. and Martin-Subero, J.I.*.
BioRxiv (2019) preprint
- **Hierarchical chromatin organization detected by TADpole**.
***Soler-Vila, P.**, Cusco Pons, P., Farabella, I., Di Stefano, M. and Marti-Renom, M.A.*.
BioRxiv (2019) preprint
- **Walking along chromosomes with super-resolution imaging, contact maps, and integrative modeling"** *Nir, G., Farabella, I., Pérez Estrada, C., Ebeling, C.G., Beliveau, B.J., Sasaki, H.M., Lee, S.H., Nguyen, S.C., McCole, R.B., Chattoraj, S., Erceg, J., Abed, J.A., Martins, N.M.C., Nguyen, H.Q., Hannan, M.A., Russell, S., Durand, N.C., Rao, S.S.P., Kishi, J.Y., **Soler-Vila, P.**, Di Pierro, M., Onuchic, J.N., Callahan, S., Schreiner, J., Stuckey, J., Yin, P., Lieberman Aiden, E., Marti-Renom, M.A. and Wu, C.T.*
PLOS Genetics (2018) 14(12) e1007872

Complementary formation

2018 **Image processing based on the Fiji distribution of ImageJ** CRG

2016 **3DAROC16** Instituto Gulbenkian de Ciencias, Oerias (Portugal)
3C-based data analysis and 3D reconstruction of chromatin folding

2015 **Chromosomal conformation course** Center of Genomic Regulation, CRG

2014 **R Programming** Coursera

2011 **Web Page Development course** Universitat de València

Interests

Professional: computer science, biostatistical analysis, epigenomics and molecular biology.
Personal: teaching, learning, gaming, trekking and popular culture.

Honors-Awards

2018 **The Company of biologists journal Travel Fellowship**

2018 **Boehringer Ingelheim Travel Grant**

2015 **Beca para Formación de Personal Investigador (FPI)**

Outreach activities

2019 **Días de Ciencia y Deportes - Centre Obert Adolescent Raval, Barcelona (ES)**
This event has received funding from the European Union's Horizon 2020 research and innovation programme under the MSC grant agreement Nº:752415