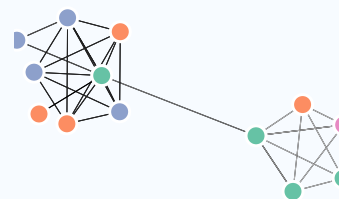


SERGIO RUIZ-CARMONA

I am currently a Research Officer and Bioinformatician at the [Baker Institute](#), under the supervision of professor [Mike Inouye](#). My research interests are broad and involve the relationship between genetic variants and their effect on protein structures.

I carried out my MSc and PhD in Barcelona in the [Barril Lab](#), where I worked with different structure-based drug design methods with the aim to improve drug design for non-standard targets.



View this resume [online](#)

SELECTED EDUCATION

2017
|
2012

PhD in Biomedicine

Universitat de Barcelona

 Barcelona, ES

- Virtual Screening for novel MoA: Apps. and method developments
- Development and application of **structure-based drug discovery** methods
- Awards: **Extraordinary prize** for PhD Thesis and **Ramon Margalef award** for best publication

SELECTED POSITIONS

Today
|
2019

Research Officer and Bioinformatician

Inouye Lab

Baker Heart and Diabetes Institute

 Melbourne, AU

- I am working in a project that overlaps Structural Biology and Genomics, in collaboration with David Ascher's Lab. Mainly, I am trying to understand how rare missense variants alter protein structures and can induce disease

2019
|
2015

Associate Professor

Faculty of Pharmacy, Universitat de Barcelona

 Barcelona, ES

- Classes in Pharmacy, Food Science and Nutrition degrees (total 400h)

2018
|
2017

Postdoctoral Researcher

Barril Lab, Universitat de Barcelona

 Barcelona, ES

- After finishing my PhD, I worked in exciting collaborative projects in the field of epigenetics and cancer, where I carried out multidisciplinary research and learned new experimental skills

2017

EMBO Short-Term Fellow

Andreas Bender Lab, University of Cambridge

 Cambridge, GB

- I spent 2 months in one of the main Pharmacogenomics groups in the world, where I used **gene-expression profiles** of different biological systems to study BRD4 and drug selectivity

SKILLS AND TRAINING

Computational Tools

Drug Discovery (Virtual screening, Molecular dynamics), Machine learning, Data visualization, Statistical analysis, REDCap, Bioinformatics and Data analysis

Programming

R, Python, Perl, C++, LaTeX, Bash, Java, MySQL, HTML/CSS and Android and Web Development

Management Skills

2021 EMBO Practical Course: Research to service: Planning and running a bioinformatics core facility; Mental Health and OHS certifications

CONTACT

 sruizcarmona@gmail.com

 [@RuizCSergio](https://twitter.com/RuizCSergio)

 [sruizcarmona](https://github.com/sruizcarmona)

 [Sergio Ruiz](#)

 ruizsergio.com

PROGRAMMING

R
Bash
Python
Web Development
SQL

HIGHLIGHTS

Highly experienced in:

- Computational biology and drug design
- Bioinformatics and biostatistics
- Machine Learning
- Data visualization
- Experimental techniques

Motivated and **collaborative**, recently involved in **Machine Learning**, NGS data analysis, **UK Biobank** and genomics prediction

MORE INFO

See full CV at cv.ruizsergio.com for a complete list of positions, publications and more

Reference contact details provided upon request



Source code available in [github](#)
Last updated in Mar, 2022

OUTREACH AND OTHER ACTIVITIES

2021
|
2020

- **Australasian Leadership Computing Grants**
Story about NCI Computing Grant
 - Together with Mike Inouye, we were awarded a 1 year computing grant by the Australian National Computational Infrastructure to study COVID-19 proteins and possible drug treatments
- **Shiny App development**
Related to a project we published in the Journal *Circulation*
- **New tools for new medicines, The Conversation [article](#)**
Lay-summary of some of my work and opinion for The Conversation Spain
- **COVID-19 daily [dashboard](#), until Nov 2020**
Personal project to showcase COVID-19 evolution in Victoria during major lockdown in 2020

MAIN SCIENTIFIC OUTPUT

2022

- **The carbon footprint of bioinformatics**
Molecular Biology and Evolution
Read it [here](#)
 - Jason G Grealey, [...] **Sergio Ruiz-Carmona**, Michael Inouye

2021

- **Oxygen Pathway Limitations in Patients with Chronic Thromboembolic Pulmonary Hypertension**
Circulation
Read it [here](#)
 - Erin J Howden *, **Sergio Ruiz-Carmona** *, [...] Andre La Gerche, Marion Delcroix and Guido Claessen
 - Result of a Bioinformatics Core collaboration. [Shiny app](#) developed

2021

- **Loss of the long non-coding RNA OIP5-AS1 exacerbates heart failure in a sex-specific manner**
iScience
Read it [here](#)
 - Aowen Zhuang, A Calkin, [...] **Sergio Ruiz-Carmona**, [...] and Brian G Drew
 - Result of a Bioinformatics Core collaboration

2017

- **Dynamic undocking and the quasi-bound state as tools for drug discovery**
Nature Chemistry
Read it [here](#)
 - **Sergio Ruiz-Carmona**, P Schmidtke, [...] Rod Hubbard and Xavier Barril
 - Highlighted in its [issue cover](#)

2014

- **rDock: a fast, versatile and open source program for docking ligands to proteins and nucleic acids**
PLoS Computational Biology
Read it [here](#)
 - **Sergio Ruiz-Carmona**, Daniel Alvarez-Garcia, [...] Xavier Barril, Rod Hubbard and S David Morley

EVERYDAY TOOLBOX

- RStudio
- Data viz & Shiny dashboards
- Bash, ssh & GitHub (local or HPC)
- ML optimization (genetic algorithms, MC, ...)
- Linear models & random forests

WEB

I have also developed [rDock](#) and [Barril Lab](#) websites, used as dissemination platforms where the different tutorials and blog entries are shared with the community



I have been involved in more than 20 collaborative projects in very different fields. I enjoy helping other researchers and collaborators to work in common scientific challenges



My ultimate goal is to help people: from drug discovery to precision medicine and hospital care data analysis