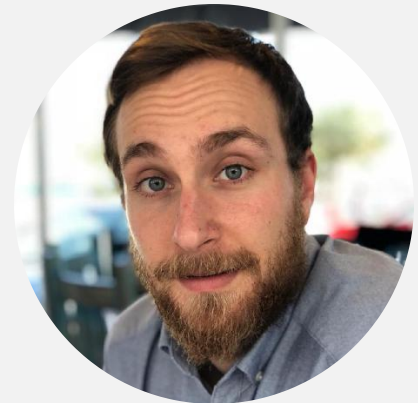


# POL CASTELLANO ESCUDER

Ph.D.



I'm a postdoctoral researcher at Duke University and my research focuses on predictive modeling and software development for biological and omics sciences.




## EDUCATION

- 2021 • **Ph.D. in Biomedicine (Bioinformatics area)**  
University of Barcelona  
  
Doctoral thesis: Statistical Methods for Intake Prediction and Biological Significance Analysis in Nutrimental Studies
- 2017 • **M.S. in Bioinformatics and Biostatistics**  
Open University of Barcelona and University of Barcelona  
  
Master thesis: Prediction model of response to a certain treatment in childhood obesity
- 2016 • **B.S. in Biology**  
University of Barcelona  
  
Bachelor thesis: Murine model of caloric restriction during pregnancy: Role of the WNT7A gene on liver proliferation and lipid metabolism






## RESEARCH EXPERIENCE

- Oct. 2021 | Present • **Postdoctoral Researcher**  
Duke University  Durham, North Carolina, US
- Feb. 2018 | Sep. 2021 • **Bioinformatician (Ph.D. student)**  
University of Barcelona  Barcelona, Spain
- Sep. 2016 | Oct. 2017 • **Bioinformatician (M.S. student)**  
Sant Joan de Déu Hospital  Barcelona, Spain
- Sep. 2015 | Sep. 2016 • **Research Assistant (B.S. student)**  
Sant Joan de Déu Hospital  Barcelona, Spain

## PROFESSIONAL EXPERIENCE

- Nov. 2017 | Dec. 2017 • **Bioinformatician**  
Sant Joan de Déu Hospital  Barcelona, Spain

## CONTACT INFO

-  [polcaes@gmail.com](mailto:polcaes@gmail.com)
-  [pcastellanoescuder](https://github.com/pcastellanoescuder)
-  [polcastellano\\_](https://twitter.com/polcastellano_)
-  [pcastellanoescuder.github.io](https://github.com/pcastellanoescuder)
-  Durham, North Carolina, US

## SKILLS

Full experience in statistical analysis, dimension reduction algorithms, data mining, statistical learning models, and ML/DL algorithms for predictive modeling purposes.

Highly skilled in R software development, Shiny, LaTeX, with experience in Python, HTML, SQL, CSS, Bash.

*Last updated on 2022-05-30.*



## RESEARCH STAYS

Oct. 2018  
|  
Dec. 2018

### Ph.D. Research Stay at Aberystwyth University

Aberystwyth University

📍 Aberystwyth, Wales, UK

Three-month stay at Aberystwyth University working on the Cook2Health EIT-Health project



## FUNDING AND AWARDS

2020

### 200 Years of Florence Nightingale Contest

1st Place

- [Source code](#)
- [Contest](#)

• Contest organized by RLadies Spain, Spanish Biometric Society and the Catalan Statistical Society

2020

### Doctoral Fellowship

• Doctoral fellowship by the University of Barcelona to continue my Ph.D. at the [Biomarkers and Nutritional & Food Metabolomics](#) research group

2019

### Novartis Datathon 2nd Edition

5th place

2019

### Doctoral Fellowship

• Doctoral fellowship by the [Fundació Bosch i Gimpera Foundation](#) to continue my Ph.D. at the [Biomarkers and Nutritional & Food Metabolomics](#) research group

2018

### Collaboration Grant

• Collaboration grant by the [Fundació Bosch i Gimpera Foundation](#) to start my Ph.D. at the [Biomarkers and Nutritional & Food Metabolomics](#) research group



## ORGANIZATION AND COMMITTEES

2022

### ASA DataFest

Consultant & Judge at Duke DataFest 2022, organized by the American Statistical Association (ASA)

📍 Durham, NC, US

2018

### Internal Evaluation Committee

Representative of alumni of the Bioinformatics and Biostatistics master's degree (UOC & UB)

📍 Barcelona, Spain

2018

### XXIXth International Biometric Conference

Volunteer in the Local Organising Committee

📍 Barcelona, Spain



## TRAINING AND COURSES

2018



### **Data Science Course**

University of Barcelona

2017



### **High-performance Computing for Reproducible Genomics**

edX, Harvard University



## PATENTS

2018



### **Markers for predicting weight loss treatment response in children (Num. EP18382873)**

Sant Joan de Déu Hospital and Polytechnic University of Catalonia

📍 Barcelona, Spain

**Pol Castellano Escuder**, Maria Maqueda, Ruben Díaz Naderi, Marta Ramon Krauel, Carles Lerin Martinez, Alexandre Perera Lluna, José Carlos Jiménez Chillarón

- Request number: EP18382873
- Priority country: Spain
- Request date: Nov 30, 2018



## PUBLICATIONS

2022



### **A mixture of four dietary fibres ameliorates adiposity and improves metabolic profile and intestinal health in cafeteria-fed obese rats: an integrative multi-omics approach**

*Submitted*

Núria Estanyol-Torres, Cristina Domenech-Coca, Raúl González-Domínguez, Antonio Miñarro, Ferran Reverter, Jose Antonio Moreno-Muñoz, Jesús Jiménez, Manel Martín-Palomas, **Pol Castellano-Escuder**, Hamza Mostafa, Santi García-Vallvé, Nerea Abasolo, Miguel A. Rodríguez, Helena Torrell, Josep M del Bas, Alex Sanchez-Pla, Antoni Caimari, Anna Mas-Capdevila, Cristina Andres-Lacueva, Anna Crescenti

2022



### **Exposing and Overcoming Limitations of Clinical Laboratory Tests in COVID-19 by Adding Immunological Parameters; a retrospective cohort analysis and pilot study**

Frontiers in Immunology, *Accepted*.




Adrian Sánchez-Montalvá, Daniel Álvarez De La Sierra, Mónica Martínez-Gallo, Janire Perurena-Prieto, Iria Arrese-Muñoz, Juan Carlos Ruiz-Rodríguez, Juan Espinosa-Pereiro, Pau Bosch-Nicolau, Xavier Martínez-Gomez, Andrés Antón, Ferran Martínez-Valle, Mar Riveiro-Barciela, Albert Blanco-Grau, Francisco Rodríguez Frias, **Pol Castellano-Escuder**, Elisabet Poyatos-Canton, Jordi Bas-Minguet, Eva María Martínez-Cáceres, Alex Sanchez-Pla, Coral Zurera-Egea, Aina Teniente-Serra, Manuel Hernández-González, Ricardo Pujol-Borrell and Immune Profile Study Group Hospital Vall d'Hebron COVID-19

- 2022 ● **GDF15 is an eribulin response biomarker also required for survival of DTP breast cancer cells**  
Cancers, 14(10), 2562.  
Chiara Bellio, Marta Emperador, **Pol Castellano-Escuder**, Albert Gris, Francesc Canals, Alex Sánchez-Pla, Esther Zamora, Joaquín Arribas, Cristina Saura, Violeta Serra, Josep Tabernero, Bruce A. Littlefield, Josep Villanueva
- 2022 ● **Assessing adherence to healthy dietary habits through the urinary food metabolome: results from a European two-centre study**  
Frontiers in Nutrition, 1193.  
**Pol Castellano-Escuder**, Raúl González-Domínguez, Marie-France Vaillant, Patricia Casas-Agustench, Nicole Hidalgo-Liberona, Núria Estanyol-Torres, Thomas Wilson, Manfred Beckmann, Amanda J Lloyd, Marion Oberli, Christophe Moinard, Christophe Pison, Jean-Christian Borel, Marie Joyeux-Faure, Mariette Sicard, Svetlana Artemova, Hugo Terrisse, Paul Dancer, John Draper, Alex Sánchez-Pla, Cristina Andres-Lacueva
- 2022 ● **A polyphenol-rich diet causes increase in the gut microbiota metabolite indole 3-propionic acid in older adults with preserved kidney function: a randomized, controlled, crossover trial**  
Molecular Nutrition & Food Research, 2100349.  
Gregorio Peron, Tomás Meroño, Giorgio Gargari, Nicole Hidalgo-Liberona, Antonio Miñarro, Esteban Vegas Lozano, **Pol Castellano-Escuder**, Cristian Del Bo', Stefano Bernardi, Paul A. Kroon, Antonio Cherubini, Patrizia Riso, Simone Guglielmetti, Cristina Andrés-Lacueva
- 2022 ● **Apolipoprotein E and sex modulate fatty acid metabolism in a prospective observational study of cognitive decline**  
Alzheimer's Research & Therapy, 14(1):1. doi: 10.1186/s13195-021-00948-8.  
Raúl González-Domínguez, **Pol Castellano-Escuder**, Sophie Lefèvre-Arbogast, Dorrain Y. Low, Andrea Du Preez, Silvie R. Ruigrok, Hyunah Lee, Catherine Helmer, Mercè Pallàs, Mireia Urpi-Sarda, Alex Sánchez-Pla, Aniko Korosi, Paul J. Lucassen, Ludwig Aigner, Claudine Manach, Sandrine Thuret, Cécilia Samieri, Cristina Andres-Lacueva
- 2021 ● **The food-related serum metabolome associates with later cognitive decline in older subjects: A twelve-year prospective observational study**  
Molecular Nutrition & Food Research, 2100606.  
Raúl González-Domínguez, **Pol Castellano-Escuder**, Francisco Carmona, Sophie Lefèvre-Arbogast, Dorrain Y. Low, Andrea Du Preez, Silvie R. Ruigrok, Claudine Manach, Mireia Urpi-Sarda, Aniko Korosi, Paul J. Lucassen, Ludwig Aigner, Mercè Pallàs, Sandrine Thuret, Cécilia Samieri, Alex Sánchez-Pla, Cristina Andres-Lacueva

- 2021 ● **Crosstalk among intestinal barrier, gut microbiota and serum metabolome after a polyphenol-rich diet in older subjects with “leaky gut”: The MaPLE trial**  
Clinical Nutrition, 40(10), 5288-5297.  
Gregorio Peron, Giorgio Gargari, Tomás Meroño, Antonio Miñarro, Esteban Vegas Lozano, **Pol Castellano-Escuder**, Raúl González-Domínguez, Nicole Hidalgo-Liberona, Cristian Del Bo’, Stefano Bernardi, Paul Antony Kroon, Barbara Carrieri, Antonio Cherubini, Patrizia Riso, Simone Guglielmetti, Cristina Andrés-Lacueva
- 2021 ● **The fobitools framework: The first steps towards food enrichment analysis**  
Bioinformatics. DOI: btab626  
**Pol Castellano-Escuder**, Cristina Andrés-Lacueva, Alex Sánchez-Pla
- 2021 ● **POMAShiny: A user-friendly web-based workflow for metabolomics and proteomics data analysis**  
PLOS Computational Biology, 17(7): e1009148.  
**Pol Castellano-Escuder**, Raúl González-Domínguez, Francesc Carmona-Pontaque, Cristina Andrés-Lacueva, Alex Sánchez-Pla
- 2020 ● **FOBI: an ontology to represent food intake data and associate it with metabolomic data**  
Database, Volume 2020, 2020, baaa033.  
**Pol Castellano-Escuder**, Raúl González-Domínguez, David S. Wishart, Cristina Andrés-Lacueva, Alex Sánchez-Pla
- 2018 ● **Lifestyle intervention decreases urine trimethylamine N-oxide levels in prepubertal children with obesity**  
Obesity, 26(10), 1603-1610.  
María Leal-Witt, Marina Llobet, Sara Samino, **Pol Castellano-Escuder**, Daniel Cuadras, Josep Jiménez-Chillarón, Óscar Yanes, Marta Ramon-Krauel, Carles Lerin



## CONFERENCE PRESENTATIONS

- 2021 ● **POMA: A user-friendly workflow for metabolomics and proteomics data analysis**  
Bioconductor Conference 2021 (BioC2021)  Virtual Conference  
Selected talk
- 2020 ● **POMA: An User-friendly Workflow for Pre-processing and Statistical Analysis of Mass Spectrometry Data**  
European Bioconductor Meeting 2020  Virtual Conference  
Selected talk
- 2020 ● **FOBI: An ontology to represent food intake data and associate it with metabolomic data**  
16th Annual Conference of the Metabolomics Society  Virtual Conference  
Poster

- 2020 ● **POMAShiny: An User-friendly Web-based Workflow for Statistical Analysis of Mass Spectrometry Data**  
 BioC Asia 2020 📍 Virtual Conference  
 Selected talk
- 2020 ● **FOBI: An ontology to represent food intake data and associate it with metabolomic data**  
 11th International Conference on Biomedical Ontologies 📍 Virtual Conference  
 Selected talk
- 2020 ● **FOBI: An ontology to represent food intake data and associate it with metabolomic data**  
 European RFMF-Metabomeeting 2020 📍 Toulouse, France  
 Poster
- 2019 ● **FOBI: An ontology to represent food intake data and associate it with metabolomic data**  
 VII Bioinformatics and Genomics Symposium 📍 Barcelona, Spain  
 Poster
- 2019 ● **POMA: Shiny Framework Statistical analysis tool for targeted metabolomic data**  
 useR!2019 📍 Toulouse, France  
 Selected talk
- 2019 ● **POMA: Shiny Framework Statistical analysis tool for targeted metabolomic data**  
 BIOSTATNET 2019 📍 Santiago de Compostela, Spain  
 Selected talk
- 2019 ● **Epigenome-wide association study in Childhood Obesity: Searching for early markers of late disease risk**  
 Advances at the interface between metabolism and epigenetics 📍 Cambridge, UK  
 Poster
- 2018 ● **FBOnto: An ontology to represent food intake data and associate it with metabolomic data**  
 VI Bioinformatics and Genomics Symposium 📍 Barcelona, Spain  
 Poster
- 2018 ● **Epigenome-wide association study in childhood obesity**  
 MetNet Meeting 📍 Barcelona, Spain  
 Selected talk
- 2017 ● **Epigenome-wide association study in childhood obesity**  
 V Bioinformatics and Genomics Symposium 📍 Barcelona, Spain  
 Poster

2017



**Epigenome-wide association study in childhood obesity**

1st FEBS3+ Joint Meeting of the French- Portuguese-Spanish  
Biochemical and Molecular Biology Societies

📍 Barcelona, Spain

Poster