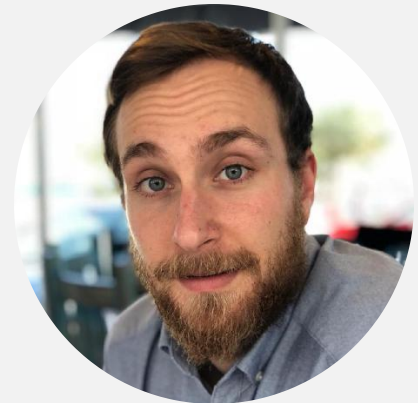


POL CASTELLANO ESCUDER

Ph.D.

I'm a Computational Biologist and Data Scientist. Currently, I'm working at Duke University as a Postdoctoral Researcher, focusing on Deep and Machine learning predictive modeling, clustering algorithms, 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 Nutrimetabolomic 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
- Nov. 2017**
|
Dec. 2017
 - Bioinformatician**
Sant Joan de Déu Hospital  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

CONTACT INFO

 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, clustering algorithms, data mining, data workflows/pipelines, 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 2022-08-01.



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