

FRANCESCA VIRDIS, PH.D.

EDUCATION

University of Cagliari, Cagliari _IT

Ph.D. in “Pediatric Therapy And Development Pharmacology” (2013)

Specialty: Immunology and Genetic

University of Cagliari, Cagliari _IT

Bachelor Degree in “Biology” (2006)

Project goal: *study of materials relevant to the field of human and animal biology (microbiology, genetics, pharmacology)*

Master Degree in “Neuropsychobiology” (2009)

Project goal: *study of the inhibitory GABAergic system of the central nervous system through the use of electrophysiology techniques (Patch Clamp Method)*

KEY TECHNICAL SKILLS/CORE COMPETENCIES

Cell Culture
Western Blot
ELISA
Immunoprecipitation assays
Flow Cytometry and Cell Sorting
RT-PCR
Transient and stable cell line generation
DNA construct design
RNA purification
Molecular Cloning
Site directed mutagenesis
Confocal Microcopy
Peptide Loading assays

RESEARCH EXPERIENCE

Apr. 2014- March, 2018

**Rutgers, The State University of New Jersey, New Brunswick, NJ
The Child Health Institute**

Post-doctoral Research Fellow

- Stable cell lines generation to determine the function of DM in the MHC class II antigen process pathway, to establish functional differences in DM alleles and how functional differences in DM activity impacts the development of human Type 1 Diabetes (T1D)
- Developing a grant proposal for a Post-doctoral Fellowship from Juvenile Diabetes Research Foundation (JDRF)

- Transient cell lines generation and biochemistry experiments to test whether the Ob allele confers resistance to retrovirus by promoting the production of anti-viral antibodies
- Mentored undergraduate students with generation of a stable cell lines
- Communicated regular presentations on the progress of my work through presentations to supervisors and monthly, formal presentations to diverse group of investigators with different scientific background

Nov. 2012 – Nov. 2013

**Rutgers, The State University of New Jersey, New Brunswick, NJ
The Child Health Institute**

Internship student as a PhD

- Created a stable cell line (T2.DQ2DMBBs-T2DR3DMBs cell lines)
- Performed and designed cell biological, biochemical and functional studies to characterize an allelic variant of the HLA-DMB gene which confers a protective effect in the Sardinian population with DRB*0103-DQB1*0201 HLA background (DR3)
- Presented research data in monthly department seminar series and weekly one on one meetings with my supervisor to discuss problem and future plans

Dec. 2009- 2014

Institute of Genetic and Biomedical Research (IRGB) of National Research Council (CNR), Cagliari CA / Lanusei_ OG (Sardinia, IT)

Biologist

- Performed basic molecular biology techniques
- Evaluation of the quantitative variation of several leukocytes population in peripheral blood in order to correlate them with genetic variants predisposing to disease, including Type 1 Diabetes (T1D)
- Mentored undergraduate students to perform basic molecular biology techniques

PUBLICATIONS

A Genome-Wide Association Scan on the Levels of Markers of Inflammation in Sardinians Reveals Associations That Underpin Its Complex Regulation

Silvia Naitza, Eleonora Porcu, Maristella Steri, Dennis D. Taub, Antonella Mulas, Xiang Xiao, James Strait, Mariano Dei, Sandra Lai, Fabio Busonero, Andrea Maschio, Gianluca Usala, Magdalena Zoledziewska, Carlo Sidore, Ilenia Zara, Maristella Pitzalis, Alessia Loi, Francesca Viridis, Roberta Piras, Francesca Deidda, Michael B Whalen, Laura Crisponi, Antonio Concas, Carlo Podda, Sergio Uzzau, Paul Scheet, Dan L. Longo, Edward Lakatta, Gonçalo R. Abecasis, Antonio Cao, David Schlessinger, Manuela Uda, Serena Sanna, Francesco Cucca **PloS Genetics - January 2012 .**

Genetic Variants Regulating Immune Cell Levels in Health and Disease

Valeria Orru, Maristella Steri, Gabriella Sole, Carlo Sidore, Francesca Viridis, Mariano Dei, Sandra Lai, Magdalena Zoledziewska, Fabio Busonero, Antonella Mulas, Matteo Floris, Wieslawa I. Mentzen, Silvana A.M. Urru, Stefania Olla, Michele Marongiu, Maria G. Piras, Monia Lobina, Andrea Maschio, Maristella Pitzalis, Maria F. Urru, Marco Marcelli, Roberto Cusano, Francesca Deidda, Valentina Serra, Manuela Oppo, Rosella Pilu, Frederic Reinier, Riccardo Berutti, Luca Pireddu, Ilenia Zara, Eleonora Porcu, Alan Kwong, Christine Brennan,

Brendan Tarrier, Robert Lyons, Hyun M. Kang, Sergio Uzzau, Rossano Atzeni, Maria Valentini, Davide Firinu, Lidia Leoni, Gianluca Rotta, Silvia Naitza, Andrea Angius, Mauro Congia, Michael B. Whalen, Chris M. Jones, David Schlessinger, Gonc,alo R. Abecasis, Edoardo Fiorillo, Serena Sanna, and Francesco Cucca. **Cell** **155**, 242–256 - **September 26, 2013**.

Overexpression of the Cytokine BAFF and Autoimmunity Risk.

Steri M, Orrù V, Idda ML, Pitzalis M, Pala M, Zara I, Sidore C, Faà V, Floris M, Deiana M, Asunis I, Porcu E, Mulas A, Piras MG, Lobina M, Lai S, Marongiu M, Serra V, Marongiu M, Sole G, Busonero F, Maschio A, Cusano R, Cuccuru G, Deidda F, Poddie F, Farina G, Dei M, Viridis F, Olla S, Satta MA, Pani M, Delitala A, Cocco E, Frau J, Coghe G, Lorefice L, Fenu G, Ferrigno P, Ban M, Barizzone N, Leone M, Guerini FR, Piga M, Firinu D, Kockum I, Lima Bomfim I, Olsson T, Alfredsson L, Suarez A, Carreira PE, Castillo-Palma MJ, Marcus JH, Congia M, Angius A, Melis M, Gonzalez A, Alarcón Riquelme ME, da Silva BM, Marchini M, Danieli MG, Del Giacco S, Mathieu A, Pani A, Montgomery SB, Rosati G, Hillert J, Sawcer S, D'Alfonso S, Todd JA, Novembre J, Abecasis GR, Whalen MB, Marrosu MG, Meloni A, Sanna S, Gorospe M, Schlessinger D, Fiorillo E, Zoledziewska M, Cucca F. **N Engl J Med.** **2017 Apr 27**.

Neutralizing Antibody Responses to Viral Infections Are Linked to the Non-classical MHC Class II Gene H2-Ob.

Denzin LK, Khan AA, Viridis F, Wilks J, Kane M, Beilinson HA, Dikiy S, Case LK, Roopenian D, Witkowski M, Chervonsky AV, Golovkina TV. **Immunity.** **2017 Aug 15**

POSTERS

Poster - The American Society of Human Genetics (ASHG) 2011: “Heritability and genetic mapping of hundreds of immune-related quantitative traits measured in a large Sardinian cohort”
Serena Sanna, Gabriella Sole, Maristella Steri, Mariano Dei, Sandra Lai, Francesca Viridis, David Schlessinger, Mauro Congia, Silvia Naitza, Valeria Orrù, Edoardo Fiorillo, Francesco Cucca

Poster - European Society of Human Genetics (ESHG) 2012: “Systematic assessment of the immune system by genetic mapping of its quantitative dimensions”
S. Sanna, M. Steri, G. Sole, C. Sidore, M.F. Urru, F. Busonero, F. Reiner, M. Dei, S. Lai, F. Viridis, A. Mulas, M. Marcelli, R. Atzeni, A.a Angius, C. Jones, D. Schlessinger, G. Abecasis, V. Orrù, E. Fiorillo, F. Cucca.

Poster – Environmental Challenge International (ECI) 2015: **“How the immune system faces seasonal threats”**. Michael B.Whalen¹, Gabriella Sole¹, Maristella Steri, Valentina Serra, Michele Marongiu, Mariano Dei, Sandra Lai, Francesca Viridis, Valeria Orrù, Edoardo Fiorillo, Francesco Cucca.

REFERENCES: Available upon Request.