



Mirko Scordio

Nationality: Italian

Date of birth: 06/06/1989

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EDUCATION AND TRAINING

Master's Degree - "Genetics and Molecular Biology" (110/110 e lode)

Sapienza University of Rome [2019]

Bachelor's Degree - "Biology" (108/110)

UNIPA University of Palermo [2016]

High School Diploma

High School "Elio Vittorini" Gela, Italy [2008]

WORK EXPERIENCE

PhD program in "Experimental Medicine"

Department of Molecular Medicine, Laboratory of Virology, Sapienza University of Rome, Italy [01/11/2019 – Current]

Laboratory training

Sapienza University of Rome, Italy

2017 - 2019: Training for experimental Master's Degree thesis at Laboratory of Virology, Department of Molecular Medicine, Sapienza University of Rome, Italy. Title of thesis: "HPV infection in the anal mucosa of HIV-1 patients and related activation of type III Interferon genes"

UNIPA University of Palermo

2015 - 2016: Training for experimental Bachelor's Degree thesis. Title of the thesis: "Microbiological aspects, investigation and preventive procedures on infection with *Acinetobacter baumannii*, a nosocomial pathogen with increasing diffusion"

Teaching activities

Sapienza University of Rome, Italy

2020 - 2021: Teaching assignment, Second level Master in Molecular Virology, Department of Molecular Medicine, Sapienza University of Rome. Topic of the lecture: "MicroRNA extraction, methods of quantitative expression evaluation and bioinformatics analysis"

March 2020: Elective Didactic Activity (ADE), Topic of the lecture: "Human papillomavirus: incidence, risk factors and treatment of related lesions" for Nursing Bachelor Degree (Isernia), Faculty of Farmacia e Medicina, Sapienza University of Rome

Editorial Activities

[2020 – Current]

Reviewer for Archives of Virology journal

MAIN RESEARCH TOPICS

Scientific topics

Host - virus interaction: antiviral innate immunity focused on the Interferon and cell-mediated responses in acute and chronic viral infections

Principal viruses investigated: respiratory viruses [e.g. respiratory syncytial virus (RSV), rhinovirus (HRV) and coronaviruses, including SARS-CoV-2]; human immunodeficiency virus (HIV-1); cytomegalovirus (CMV); Dengue virus; Human papillomavirus (HPV)

SCIENTIFIC SKILLS

Acquired skills as PhD student

Cellular skills:

- 1) cell cultures
- 2) virus infection experiments and antiviral/virucidal assays (using natural and synthesized compounds)
- 3) bioassays for detection of natural neutralizing antibodies (NAB) against Interferon (IFN)
- 4) IFN stimulation of clinical samples collected from patients suffering from different viral infections
- 5) flow cytometry (CytoFLEX™) applications

Molecular skills:

- 1) Nucleic acid extraction (DNA and RNA)
- 2) Retrotranscription
- 3) qualitative PCR
- 4) Agarose gel electrophoresis
- 5) Realtime quantitative PCR (qPCR)

Data analysis techniques:

- 1) good ability to use data analysis programs and statistical tools such as GraphPad and SPSS

DIGITAL SKILLS

Microsoft Office / Google (Google Meet, Google Docs, Google Classroom, Google Forms, Google Drive, Google Slide); / GraphPad Statistics / LightCycler480 / ChemiDoc Imaging Systems / IBM SPSS statistics / CytExpert

LANGUAGE SKILLS

Mother tongue(s): **Italian**

Other language(s):

English

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

COMMUNICATION AND INTERPERSONAL SKILLS

Interpersonal skills

Excellent interpersonal skills acquired during laboratory training and PhD program

RESEARCH PROJECTS

2021 - Gilead, Fellowship Program

Title of the project: Development of a new integrative approach for monitoring SARS-CoV-2 infection-induced versus vaccine-acquired innate and T cell immunity in HIV-1 infected patients.

Principal investigator: professor Carolina Scagnolari

Role: unit component

2020 - Research projects from Sapienza University of Rome

Analysis of type I-III IFN signature and in vitro responsiveness to IFN-I stimulation in transplant recipients: development of new model to identify patients with the highest risk of CMV infections and rejections.

Principal investigator: professor Carolina Scagnolari

Role: unit component

PUBLICATIONS

Filardo S, Di Pietro M, Frasca F, Diaco F, Scordio M, Antonelli G, Scagnolari C, Sessa R. Potential IFN γ Modulation of Inflammasome Pathway in Chlamydia trachomatis Infected Synovial Cells. *Life (Basel)*. 2021 Dec 7;11(12):1359. doi: 10.3390/life11121359. PMID: 34947890; PMCID: PMC8707573.

Prezioso C, Moens U, Oliveto G, Brazzini G, Piacentini F, Frasca F, Viscido A, Scordio M, Guerrizio G, Rodio DM, Pierangeli A, d'Ettorre G, Turriziani O, Antonelli G, Scagnolari C, Pietropaolo V. KI and WU Polyomavirus in Respiratory Samples of SARS-CoV-2 Infected Patients. *Microorganisms*. 2021 Jun 9;9(6):1259. doi: 10.3390/microorganisms9061259

Santinelli L, De Girolamo G, Borrazzo C, Vassalini P, Pinacchio C, Cavallari EN, Statzu M, Frasca F, Scordio M, Bitossi C, Viscido A, Ceccarelli G, Mancone M, Mastroianni CM, Antonelli G, d'Ettorre G, Scagnolari C. Alteration of type I interferon response is associated with subclinical atherosclerosis in virologically suppressed HIV-1-infected male patients. *J Med Virol*. 2021 Apr 29. doi: 10.1002/jmv.27028. Epub ahead of print. PMID: 33913525

Scagnolari C, Bitossi C, Viscido A, Frasca F, Oliveto G, Scordio M, Petrarca L, Mancino E, Nenna R, Riva E, De Vito C, Midulla F, Antonelli G, Pierangeli A. ACE2 expression is related to the interferon response in airway epithelial cells but is that functional for SARS-CoV-2 entry? *Cytokine*. 2021 Apr. 140:155430. <https://doi.org/10.1016/j.cyto.2021.155430>

Scagnolari C, Pierangeli A, Frasca F, Bitossi C, Viscido A, Oliveto G, Scordio M, Mazzuti L, Di Carlo D, Gentile M, Solimini A, Ceccarelli G, Pugliese F, Mastroianni CM, d'Ettorre G, Turriziani O, Antonelli G; Virology and Infectious Diseases COVID-19 Study Group of Sapienza University. Differential induction of type I and III interferon genes in the upper respiratory tract of patients with coronavirus disease 2019 (COVID-19). *Virus Res*. 2021 Jan 5:198283. doi: 10.1016/j.virusres.2020.198283

Bitossi C, Frasca F, Viscido A, Oliveto G, Scordio M, Belloni L, Cimino G, Pietropaolo V, Gentile M, d'Ettorre G, Midulla F, Trancassini M, Antonelli G, Pierangeli A, Scagnolari C. SARS-CoV-2 Entry Genes Expression in Relation with Interferon Response in Cystic Fibrosis Patients. *Microorganisms*. 2021 Jan 3;9(1):E93. doi: 10.3390/microorganisms9010093

Scagnolari C, Bitossi C, Frasca F, Viscido A, Oliveto G, Scordio M, De Vito C, Trancassini M, Midulla F, Cimino G, Pierangeli A, Antonelli G. No detection of SARS-CoV-2 in cystic fibrosis patients at the Regional (Lazio) Reference Center for CF in Italy. *J Cyst Fibros*. 2020 Sep;19(5): 837-838. doi: 10.1016/j.jcf.2020.06.018. Epub 2020 Jun 23. PMID: 32593510; PMCID: PMC7309918

Pinacchio C, Scagnolari C, Iebba V, Santinelli L, Innocenti GP, Frasca F, Bitossi C, Scordio M, Oliveto G, Ceccarelli G, Antonelli G, Mastroianni CM, d'Ettorre G. High abundance of genus *Prevotella* is associated with dysregulation of IFN-I and T cell response in HIV-1-infected patients. *AIDS*. 2020 Aug 1;34(10):1467-1473. doi: 10.1097/QAD.0000000000002574. PMID: 32675560

CONFERENCES AND SEMINARS

29th CROI Conference (2022): EXPRESSION OF IFN RECEPTORS IN ANAL CELLS FROM HIV+ MEN DURING HPV INFECTION

Mirko Scordio, Federica Frasca, Giuseppe Oliveto, Leonardo Sorrentino, Agnese Viscido, Matteo Fracella, Letizia Santinelli, Eugenio Nelson Cavallari, Paolo Gozzo, Gabriella D'Ettorre, Guido Antonelli, Alessandra Pierangeli, Carolina Scagnolari

29th CROI Conference (2022): GUT BARRIER INTEGRITY AND MICROBIOTA IN HIV PATIENTS RECEIVING ORAL BACTERIOTHERAPY

Letizia Santinelli, Giacomo Rossi, Giorgia Gioacchini, Ranieri Verin, Giuseppe P. Innocenti, Federica Frasca, **Mirko Scordio**, Francesca Lombardi, Alessandra Piccirilli, Stefano Fiorucci, Adriana Carino, Carolina Scagnolari, Giancarlo Ceccarelli, Claudio M. Mastroianni, Gabriella D'Ettorre

29th CROI Conference (2022): DETECTION OF CIRCULATING AND AIRWAY AUTOANTIBODIES TO IFN IN SEVERE COVID-19 PATIENTS

Federica Frasca, **Mirko Scordio**, Giuseppe Oliveto, Leonardo Sorrentino, Agnese Viscido, Camilla Bitossi, Alessandra Pierangeli, Luigi Celani, Giancarlo Ceccarelli, Letizia Santinelli, Claudio M. Mastroianni, Gabriella D'Ettorre, Guido Antonelli, Carolina Scagnolari

29th CROI Conference (2022): HPV DIFFERENTLY HIJACKS ANAL INTERFERON RESPONSE IN HIV+ AND HIV- MSM

Eugenio Nelson Cavallari, Letizia Santinelli, **Mirko Scordio**, Federica Frasca, Giuseppe P. Innocenti, Luca Maddaloni, Gabriella De Girolamo, Giancarlo Ceccarelli, Claudio M. Mastroianni, Alessandra Pierangeli, Carolina Scagnolari, Gabriella D'Ettorre

29th CROI Conference (2022): LONGITUDINAL STUDY OF ANTI-SPIKE ANTIBODIES IN CHILDREN AFTER SARS-COV-2 INFECTION

Federica Frasca, Leonardo Sorrentino, Giuseppe Oliveto, **Mirko Scordio**, Matteo Fracella, Agnese Viscido, Fabio Midulla, Raffaella Nenna, Alessandra Febbo, Luigi Matera, Guido Antonelli, Carolina Scagnolari, Alessandra Pierangeli

29th CROI Conference (2022): DIFFERENTIAL IFN GENES EXPRESSION IN THE UPPER AIRWAYS OF CHILDREN AND ADULTS

Leonardo Sorrentino, Federica Frasca, Giuseppe Oliveto, **Mirko Scordio**, Agnese Viscido, Matteo Fracella, Fabio Midulla, Raffaella Nenna, Gabriella D'Ettorre, Giancarlo Ceccarelli, Ombretta Turriziani, Massimo Gentile, Guido Antonelli, Alessandra Pierangeli, Carolina Scagnolari

IPRG Conference 2021 - International Propolis Research Group. Analysis of virucidal activity of standardized Propolis extracts against enveloped (i.e. coronaviruses) and non-enveloped RNA viruses

Mirko Scordio, Federica Frasca, Leonardo Sorrentino, Alessandra Pierangeli, Vincenzo Zaccaria, Guido Antonelli, Carolina Scagnolari

5TH National Congress of the Italian Society for Virology (SIV/ISV) (2021) - ANALYSIS OF ANTI-SPIKE- NEUTRALIZING ANTIBODIES TITERS AND LEVELS OF CIRCULATING BIOMARKERS IN COVID-19 PATIENTS

Federica Frasca, **Mirko Scordio**, Giuseppe Oliveto, Agnese Viscido, Leonardo Sorrentino, Letizia Santinelli, Claudia Pinacchio, Giancarlo Ceccarelli, Elio Gentilini, Eugenio Nelson Cavallari, Aurelia Gaeta, Gabriella d'Ettorre, Alessandra Pierangeli, Guido Antonelli, Carolina Scagnolari

Virtual CROI 2021: IMPAIRMENT OF TYPE I/III IFN RESPONSE IN THE UPPER AIRWAYS OF SARS-COV-2 PATIENTS

Federica Frasca, **Mirko Scordio**, Agnese Viscido, Giuseppe Oliveto, Camilla Bitossi, Carolina Scagnolari

13° Italian Conference on AIDS and Antiviral Research (ICAR) 2021 – BINDING AND NEUTRALIZING ANTIBODIES TO INTERFERON (IFN) α/β AND DEFECTIVE IFN TRANSCRIPTIONAL PROFILE IN COVID-19 PATIENTS

Federica Frasca, **Mirko Scordio**, Giuseppe Oliveto, Leonardo Sorrentino, Agnese Viscido, Camilla Bitossi, Alessandra D'Auria, Ginevra Bugani, Alessandra Pierangeli, Luigi Celani, Giancarlo Ceccarelli, Claudia Pinacchio, Letizia Santinelli, Claudio Maria Mastroianni, Gabriella D' Ettore, Guido Antonelli, Carolina Scagnolari

5TH National Congress of the Italian Society for Virology (SIV/ISV) (2021) - The expression of the truncated ACE2 isoforms only is related to the interferon response in airway epithelial cells from young adults

Giuseppe Oliveto, Agnese Viscido, Federica Frasca, **Mirko Scordio**, Leonardo Sorrentino, Anna Maria Zicari, Alessandra Salvatori, Francesca Salvatori, Luigi Matera, Alessandra Febbo, Raffaella Nenna, Fabio Midulla, Carolina Scagnolari, Guido Antonelli, Alessandra Pierangeli

30° European Congress of Clinical Microbiology and Infectious Diseases (2020): TOLL LIKE RECEPTORS, IFN-LAMBDA AND IFN-STIMULATED GENES EXPRESSION IN CYSTIC FIBROSIS PATIENTS WITH RHINOVIRUS INFECTION

Federica Frasca, Camilla Bitossi, Agnese Viscido, Giuseppe Oliveto, **Mirko Scordio**, Maria Trancassini, Valeria Pietropaolo, Fabio Midulla, Giuseppe Cimino, Paolo Palange, Alessandra Pierangeli, Carolina Scagnolari, Guido Antonelli

48° National conference SIM, Società Italiana di Microbiologia (VIRTUAL SIM) (2020): DYSREGULATION OF INTERFERON STIMULATED GENE RESPONSE IN THE RESPIRATORY TRACT OF PATIENTS WITH CORONAVIRUS DISEASE 2019 (COVID-19)

Federica Frasca, **Mirko Scordio**, Agnese Viscido, Giuseppe Oliveto, Camilla Bitossi, Laura Mazzuti, Daniele Di Carlo, Massimo Gentile, Angelo Solimini, Giancarlo Ceccarelli, Claudio Maria Mastroianni, Gabriella D'ettorre, Ombretta Turriziani, Alessandra Pierangeli, Carolina Scagnolari, Guido Antonelli

12° Italian Conference on AIDS and Antiviral Research (ICAR) - Digital Edition 2020: Higher frequency of CD4+PD1+ T cells and Interferon-Stimulate Genes are associated to a decrease in CD4+ Treg levels in HIV-1 infected patients

Federica Frasca, **Mirko Scordio**, Letizia Santinelli, Giancarlo Ceccarelli, Claudio Mastroianni, Guido Antonelli, Ivano Mezzaroma, Gabriella d'Ettorre, Carolina Scagnolari

33rd IPVC, Barcelona, March 23-27 2020. Decreased IFN epsilon expression during HPV anal infection in HIV+ men

Carolina Scagnolari, Letizia Santinelli, Fabiana Cannella, **Mirko Scordio**, Giuseppe Oliveto, Leonardo Sorrentino, Gabriella d'Ettore, Eugenio Nelson Cavallari, Guido Antonelli, Paolo Gozzo, Raphael P. Viscidi, Alessandra Pierangeli

3° SIV-ISV, Società Italiana Virologi (2019): Lineage 1 and 2 West Nile Virus infection equally affect the IFN response and dendritic cells maturation

Federica Frasca, Maura Statzu, Alessandra Pierangeli, Letizia Santinelli, **Mirko Scordio**, Chiara Nonne, Agnese Sgrigna, Beniamino Caputo, Vitiello Laura, Massimo Gentile, Elisabetta Riva, Guido Antonelli, Carolina Scagnolari

47° National Conference SIM, Società Italiana di Microbiologia (2019): The impairment of IFN response and dendritic cells maturation is similar during lineage 1 and 2 WNV infection

Federica Frasca, Maura Statzu, Alessandra Pierangeli, **Mirko Scordio**, Chiara Nonne, Agnese Sgrigna, Beniamino Caputo, Vitiello Laura, Massimo Gentile, Elisabetta Riva, Guido Antonelli, Carolina Scagnolari

2nd SIV, Rome, November 28-30, 2018. The role of CCL20-CCR6 axis in the recruitment of HPV-specific adaptive immunity in cervical infected women

F. Cannella, **M. Scordio**, M. Manera, C. Scagnolari, M. Gentile, R.P. Viscidi, G. Antonelli, A. Pierangeli