



# Leonardo Sorrentino

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## WORK EXPERIENCE

01/11/2020 – CURRENT Italy

**PHD STUDENT IN "EXPERIMENTAL MEDICINE"** SAPIENZA UNIVERSITY OF ROME

## EDUCATION AND TRAINING

2018 – 2020

**MASTER'S DEGREE "GENETICA E BIOLOGIA MOLECOLARE"** Sapienza University of Rome

**Final grade** 110/110 cum laude

2015 – 2018

**BACHELOR'S DEGREE "SCIENZE BIOLOGICHE"** Sapienza University of Rome

**Final grade** 108/110

2015

**HIGH SCHOOL DIPLOMA** Liceo Scientifico Taletè

## LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## DIGITAL SKILLS

Microsoft Office (Microsoft) | Google (Google Meet, Google Docs, Google Classroom, Google Forms, Google Drive, Google Slide) | SPSS | Graphpad | R

## ADDITIONAL INFORMATION

### TEACHING ACTIVITIES

03/2021 – 07/2021

**Teaching assignment**

Second level Master in Molecular Virology, Department of Molecular Medicine, Sapienza University of Rome. Main Topics: 1) "Primers and Probes design for Real-Time PCR" 2) "SARS-CoV-2 variants sequences analysis"

03/2022 – 07/2022

**Teaching assignment**

Second level Master in Molecular Virology , Department of Molecular Medicine, Sapienza University of Rome. Main Topics: 1) "Primers and Probes design for Real-Time PCR" 2) "SARS-CoV-2 variants sequences analysis" 3) "Droplet PCR principles" 4)"CRISPR/CAS9 and Targeted genome editing"

04/2022 – 05/2022

### **Elective Didactic Activity (ADE)**

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Topic of the lectures: 1) "Antiviral Therapies" 2) "Pathogenesis of Respiratory Viruses in Infants" 3) "Herpesviridae family" for Nursing Bachelor Degree (Isernia), Faculty: Farmacia e Medicina, Sapienza University of Rome

07/2022 – 12/2022

### **Tutoring Assignment**

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40 hours of tutoring activities for Master Degree student in Medicine, Faculty: Farmacia e Medicina, Sapienza University of Rome, Italy. Main activities: review main topics of the "Microbiology and virology" course and learning test.

## **LABORATORY TRAINING**

2019 – 2020

### **Training**

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Training for experimental Master's Degree thesis at Virology laboratory, Department Molecular Medicine, Sapienza University of Rome. Title of the thesis "Interferon and other cytokines expression in cervical cells from women infected with HPV, in relationship with the presence of Bacterial Vaginosis and/or other pathogens".

07/2020 – 10/2020

### **Training**

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Training at Virology Research Area, Istituto Regina Elena.

## **PUBLICATIONS**

H-index (Scopus Author): 1

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Sorrentino L, Silvestri V, Oliveto G, Scordio M, Frasca F, Fracella M, Bitossi C, D'Auria A, Santinelli L, Gabriele L, Pierangeli A, Mastroianni CM, d'Ettore G, Antonelli G, Caruz A, Ottini L, Scagnolari C. Distribution of Interferon Lambda 4 Single Nucleotide Polymorphism rs11322783 Genotypes in Patients with COVID-19. *Microorganisms*. 2022 Feb 4;10(2):363. doi: 10.3390/microorganisms10020363. PMID: 35208821; PMCID: PMC8876137.

– 2022

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Pinacchio C, Scordio M, Santinelli L, Frasca F, Sorrentino L, Bitossi C, Oliveto G, Viscido A, Ceci FM, Celani L, Ceccarelli G, Antonelli G, Mastroianni CM, d'Ettore G, Scagnolari C. Analysis of serum microRNAs and rs2910164 GC single-nucleotide polymorphism of miRNA-146a in COVID-19 patients. *J Immunoassay Immunochem*. 2022 Jul 4;43(4):347-364. doi: 10.1080/15321819.2022.2035394. Epub 2022 Feb 28. PMID: 35227165.

– 2022

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Bitossi C, Viscido A, Prezioso C, Brazzini G, Trancassini M, Borrazzo C, Passerini S, Frasca F, Scordio M, Sorrentino L, Oliveto G, Fracella M, D'Auria A, Selvaggi C, Cimino G, Midulla F, Pierangeli A, Antonelli G, Moens U, Pietropaolo V, Scagnolari C. High prevalence of Merkel cell polyomavirus is associated with dysregulation in transcript levels of TLR9 and type I IFNs in a large cohort of CF patients from the Italian (Lazio) reference center for cystic fibrosis. *Microb Pathog*.

– 2022

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Fracella M, Oliveto G, Sorrentino L, Roberto P, Cinti L, Viscido A, Di Lella FM, Giuffrè F, Gentile M, Pietropaolo V, Prezioso C, Palma E, Recine N, Palaia I, Scagnolari C, Antonelli G, Pierangeli A. Common Microbial Genital Infections and Their Impact on the Innate Immune Response to HPV in Cervical Cells. *Pathogens*. 2022 Nov 16;11(11):1361. doi: 10.3390/pathogens11111361. PMID: 36422611; PMCID: PMC9697853.

– 2022

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Pierangeli A, Gentile M, Oliveto G, Frasca F, Sorrentino L, Matera L, Nenna R, Viscido A, Fracella M, Petrarca L, D'Ettorre G, Ceccarelli G, Midulla F, Antonelli G, Scagnolari C. Comparison by Age of the Local Interferon Response to SARS-CoV-2 Suggests a Role for IFN- $\epsilon$  and - $\omega$ . *Front Immunol.* 2022 Jul 12;13:873232. doi: 10.3389/fimmu.2022.873232. PMID: 35903094; PMCID: PMC9315386.

- 2022

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Oliveto G, Scagnolari C, Frasca F, Sorrentino L, Matera L, Nenna R, Viscido A, Scordio M, Petrarca L, Maria Zicari A, Gentilini E, D'Ettorre G, Ceccarelli G, Midulla F, Antonelli G, Pierangeli A. The non-functional ACE2 isoform, but not the SARS-CoV-2 receptor, is induced as an interferon-stimulated gene, in SARS-CoV-2 infected adults. *Cytokine.* 2022 Oct;158:155997. doi: 10.1016/j.cyto.2022.155997. Epub 2022 Aug 11. PMID: 35969900; PMCID: PMC9365862.

- 2022

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Scordio M, Frasca F, Santinelli L, Sorrentino L, Pierangeli A, Turriziani O, Mastroianni CM, Antonelli G, Viscidi RP, d'Ettorre G, Scagnolari C. High frequency of neutralizing antibodies to type I Interferon in HIV-1 patients hospitalized for COVID-19. *Clin Immunol.* 2022 Aug;241:109068. doi: 10.1016/j.clim.2022.109068. Epub 2022 Jun 25. PMID: 35764258; PMCID: PMC9233547.

- 2022

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Fantozzi PJ, Pampena E, Pierangeli A, Oliveto G, Sorrentino L, Di Vanna D, Pampena R, Lazzaro A, Gentilini E, Mastroianni CM, D'Ettorre G, Polimeni A, Romeo U, Villa A. Efficacy of antiseptic mouthrinses against SARS-CoV-2: A prospective randomized placebo-controlled pilot study. *Am J Otolaryngol.* 2022 Nov-Dec;43(6):103549. doi: 10.1016/j.amjoto.2022.103549. Epub 2022 Jul 28. PMID: 35988522; PMCID: PMC9328839.

- 2022

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Mori M, Quaglio D, Calcaterra A, Ghirga F, Sorrentino L, Cammarone S, Fracella M, D'Auria A, Frasca F, Criscuolo E, Clementi N, Mancini N, Botta B, Antonelli G, Pierangeli A, Scagnolari C. Natural Flavonoid Derivatives Have Pan-Coronavirus Antiviral Activity. *Microorganisms.* 2023; 11(2):314. <https://doi.org/10.3390/microorganisms11020314>

- 2023

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## CONFERENCES AND SEMINARS

**(Oral Poster) - 49° Congresso SIM, Società Italiana Microbiologia (2021) "Longitudinal evaluation of the IgA, IgG and neutralizing antibodies in a pediatric population mildly affected by SARS-CoV-2 infections"** Leonardo Sorrentino, Giuseppe Oliveto, Federica Frasca, Agnese Viscido, Scordio Mirko, Massimo Gentile, Alessandra Febbo, Raffaella Nenna, Fabio Midulla, Carolina Scagnolari, Guido Antonelli, Alessandra Pierangeli

**(Poster) - Virtual CROI 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

**(Poster) - ECCMID 2022: Longitudinal study of serum and salivary anti-Spike IgA in children after SARS-CoV-2 infection** Leonardo Sorrentino, Giuseppe Oliveto, Federica Frasca, Mirko Scordio, Agnese Viscido, Matteo Fracella, Luigi Matera, Laura Petrarca, Raffaella Nenna, Fabio Midulla, Massimo Gentile, Carolina Scagnolari, Guido Antonelli, Alessandra Pierangeli

**(Oral Poster) - 14° Italian Conference on AIDS and Antiviral Research (ICAR) 2022: Characterization of IFN response in PBMC from children and adolescent after SARS-CoV-2 infection** Leonardo Sorrentino, Giuseppe Oliveto, Federica Frasca, Mirko Scordio, Agnese Viscido, Matteo Fracella, Martina Ardone, Martina Di Lieto, Luigi Matera, Laura Petrarca, Raffaella Nenna, Fabio Midulla, Massimo Gentile, Carolina Scagnolari, Guido Antonelli, Alessandra Pierangeli

**(Oral Communication) - XXI Congresso Nazionale SIMIT (2022): Characterization of systemic Interferon response in hospitalized COVID-19 patients** Leonardo Sorrentino, Matteo Fracella, Federica Frasca, Alessandra d'Auria, Letizia Santinelli, Luca Maddaloni, Alessandra Pierangeli, Giancarlo Ceccarelli, Guido Antonelli, Gabriella d'Ettorre, Carolina Scagnolari

2022

**Seminar IOM SIM: Age-specific host innate immune response to SARS-CoV-2 infection plays a key role in disease severity** Role: presenter

## HONOURS AND AWARDS

The 14th edition of ICAR Awards: ICAR-CROI Awards 2022 for young Italian investigators *Differential IFN genes expression in the upper airways of children and adults* presented as Poster to Virtual CROI 2022

## SCIENTIFIC SKILLS

### Acquired skills

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Cell Culture techniques:

- Virus infection experiments
- Antiviral assay
- Detection of Neutralizing antibodies
- siRNA experiments

Molecular techniques:

- DNA/RNA isolation
- Standard PCR
- qPCR (Real Time PCR and digital PCR)

Other techniques:

- ELISA assay
- Western Blot
- Flow cytometry

## MAIN RESEARCH TOPICS

### Scientific topics

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Host-virus interaction; Antiviral immunity focusing Interferon activation and cell-mediated response.

Principal virus investigated: Respiratory viruses [Respiratory Syncytial virus (RSV), Human Rhinovirus (HRV), SARS-CoV-2, Human Coronavirus OC43 (HCoV-OC43)], Human Immunodeficiency virus-1 (HIV-1) and Human Papillomavirus (HPV).

Viruses resistance to natural or synthesized compounds.

