



**Università  
degli Studi  
di Ferrara**



## **Virtual Workshop**

# ***“Pollution as a possible switch of cutaneous pathophysiology”***

*21<sup>st</sup> January 2021, University of Ferrara, Ferrara, Italy*

**Moderator:**

**Giuseppe Valacchi**

**Technical Director:**

**Mascia Benedusi**

**Organizers:**

**Mascia Benedusi, Franco Cervellati, Roxane Prioux, Giuseppe Valacchi**

### **SCIENTIFIC PROGRAM:**

**15:00: Opening by Giuseppe Valacchi**

**15.10: Chemical properties of atmospheric aerosol: components, sources and reactivity**

*Maria Chiara Pietrogrande* (University of Ferrara, Ferrara, Italy)

**15.35: Epilipidomics identify lipid signals displayed in skin upon extrinsic stress and in cellular senescence**

*Florian Gruber* (Medical University of Vienna, Vienna, Austria)

**16.00: Pathogenesis of cutaneous psoriasis**

*Eva Reali* (University of Milano-Bicocca, Milan, Italy)

**16.25: Redox imbalance in psoriasis and vitiligo and it's possible relation to nutrition**

*Victoria Barygina* (University of Florence, Florence, Italy)

**16.50: Mimicking CS to assess in vitro cutaneous toxicity.**

*Roxane Prioux* (University of Ferrara, Italy)

**17.05: Understanding the Impact of Ozone on Human Skin**

*Benedetta Petracca* (Dow Silicones Belgium SRL, Seneffe, Belgium)

**17.20: The impact of airborne particulate matter on human skin**

*Irini Maqdelina Dijkhoff* (Adolphe Merkle Institute, Fribourg, Switzerland)

**17.35: Skin damage by UV light, visible and infrared**

*Francesca Ferrara* (University of Ferrara, Ferrara, Italy)

**17.50: An Innovative Spin Trap Technology to Protect Skin from Pollution**

*Marc Eeman* (Dow Silicones Belgium SRL, Seneffe, Belgium)

***Workshop is FREE but participation requires registration.***

***Reserve now your virtual seat by sending an email to:***

***[mascia.benedusi@unife.it](mailto:mascia.benedusi@unife.it)***

## SPEAKERS

### **Prof. Giuseppe Valacchi**

Prof. Giuseppe Valacchi obtained his PhD degree in Cell Physiology and Neuroimmuno-physiology from the University of Siena in Italy. After his graduation, he completed two postdoctoral research assignments at the University of Berkeley and at the University of California in Davis. In 2005 he became member of the Academic Federation in the Department of Internal Medicine at the University of California at Davis. In 2006 he returned to the University of Siena as Assistant Professor until 2011. Since 2011 he is appointed Associate Professor in Physiology at the University of Ferrara. In 2008 he became Adjunct Professor at Kyung Hee University, Seoul, South Korea. In August 2016 Giuseppe was appointed Associate Professor in Regenerative Medicine at North Carolina State University. His research has been focused in understanding the cellular, and molecular mechanisms that define the tissues physio-pathological responses to altered redox homeostasis.

### **Maria Chiara Pietrogrande**

Maria Chiara Pietrogrande is an Associated Professor of Analytical Chemistry at the University of Ferrara (Italy) since 1998. She's author of more than 120 papers in international journals and of more than 140 contributions to scientific meetings. Her research has been devoted to the development and application of analytical methods for the determination of organic compounds in complex mixtures of environmental interest using chromatographic techniques. In particular, her work concerned chemical characterization of atmospheric Particulate Matter for air quality monitoring and apportionment of PM emission sources and atmospheric processes. In the last years, her research interests have been focused on cell-free assays to measure the Oxidative Potential as exposure metric for PM.

### **Florian Gruber**

Florian Gruber graduated as Magister (1999) and gained the Dr. rer. nat (PhD) at the University of Vienna in Austria, at the Institute for Vascular Biology and Thrombosis Research in 2003. In his Postdoctoral research period at the Medical University of Vienna (MUW) and the University of Virginia in Charlottesville he continued research on the generation and biological activity of oxidized lipids but moved to the skin as main field of research. After becoming a research group leader at the Department of Dermatology at the MUW he also headed a Module of the Christian Doppler Laboratory for Biotechnology of Skin Aging, became Associate Professor and achieved the *venia docendi* for Experimental Dermatology. In the fall of 2020 he was awarded and became head of the Christian Doppler Laboratory for Multimodal Imaging of Aging and Senescence of the Skin, which investigates the generation, signaling and functions of senescent cells within the skin in ageing and environmental stress.

### **Eva Reali**

Eva Reali is currently an Adjunct Professor and Senior Scientist at the University of Milano-Bicocca, Italy. She received the Master Degree in Pharmacy from the University of Ferrara, Italy in 1989 and the Ph.D. in "Cellular and Molecular Pharmacology" from the Faculty of Medicine of the same University in 1996. She worked as a graduate student at Karolinska Hospital, Stockholm, Sweden, Department of Oncology to study the anti-tumor activity of immune cells activated with cytokines and monoclonal antibodies for the development of therapeutic strategies against colorectal cancer. As a post-doc she worked at San Raffaele Scientific Institute, Milan, Italy on a project focused on therapeutic approaches to redirect cytotoxic cells and antibodies at the tumor site in mouse experimental models. Between 1999 and 2002 she worked as a Research Fellow at the National Cancer Institute, National Institute of Health, Bethesda, MD, USA in the Laboratory of Tumor Immunology and Biology to study pox-viral vectors expressing cytokines and tumor-associated-antigens as potential vaccination strategies against cancer.

From 2004 she has been Adjunct Professor at the University of Milano Bicocca teaching course of Applied Immunology and Biology. In 2006, as an employee of INGM Foundation she established her laboratory at the Istituto Ortopedico Galeazzi in Milan, Italy focusing on TNF-blocking therapies in patients with immune-mediated diseases, including psoriasis, psoriatic arthritis and inflammatory bowel disease. She recently focused her research the on the T cell functions and recirculation mechanisms in the pathogenesis of psoriasis and psoriatic arthritis. Currently she is continuing her work at the University of Milano-Bicocca to study, in mouse models, novel therapeutic approaches for the treatment and prevention of psoriasis and associated comorbidities.

### **Victoria Barygina**

Victoria Barygina was graduated in 2007 as a cell biologist and histologist from the Moscow State University M.V. Lomonosov, where continued the research as a Ph.D. student in how the heavy metals-induced oxidative stress affects the dynamic properties of nucleolar protein fibrillarin in real time in living human cells. In 2010 she transferred to Italy and initiated Ph.D. studies on oxidative medicine at the University of Florence where further she continued her research as a post-doc until 2020 studying the involvement of oxidative stress in several dermatologic conditions such as psoriasis and vitiligo. In 2013 she was certified for the practice of nutritionist and started the private practice at the Institute of Dermatological and Regenerative Sciences (ISDR, Florence, Italy) elaborating the nutritional plans for the patients affected by dermatologic diseases. Victoria is the author of book chapters as well as scientific publications, dedicated to the redox imbalance in dermatological conditions, invited speaker for master courses in dietoterapic approaches in dermatology and a leading nutritionist at the ISDR.

### **Roxane Prieux**

Roxane Prieux holds a Chemical Engineering Diploma from CPE Lyon and a MSc in Formulation Science from the University of Lille in France. Over the past years, she built strong chemist experience through several internships at the University of Cardiff in Wales, at Arkema Inc. in Pennsylvania and BASF Shanghai in China. Roxane is currently enrolled as a Marie Curie early stage researcher at the department of Biomedical Sciences and Specialty Surgical Sciences at the University of Ferrara in Italy. Her doctoral research investigates the impact of cigarette smoke on both the cutaneous responses and biomechanical properties of healthy and compromised skin models.

## **Benedetta Petracca**

Benedetta Petracca holds a Master Degree in Biomedical Engineering from Politecnico di Milano in Italy and completed her master thesis at Massachusetts Institute of Technology in Cambridge. Benedetta is currently a Marie Curie early stage researcher and part of the CITYCARE EU-funded project; she is working at Dow in Belgium and enrolled at the University of Fribourg in Switzerland for her doctoral degree. Her research aims at understanding the effects of ozone and solar radiation on skin to provide innovative solutions for a better skin protection.

## **Irini Dijkhoff**

Irini Dijkhoff holds a Master Degree in Bio-Pharmaceutical Sciences from Leiden University in the Netherlands. Before her current role, Irini held a position as Associate Scientist at Galapagos, mainly working on target validation for pulmonary fibrosis and Hepatitis B. She is currently enrolled as a Marie Curie early stage researcher at the Adolphe Merkel Institute (University of Fribourg) in Switzerland under the supervision of Prof. Barbara Rothen-Rutishauser. Her doctoral research investigates the impact of diesel and gasoline exhaust on cutaneous responses and biomechanical properties of healthy and compromised skin models.

## **Francesca Ferrara**

Francesca Ferrara achieved the degree in Pharmacy at the University of Ferrara in 2016. Currently, she is a PhD student in the program Biotechnologies and Biomedical Sciences at the University of Ferrara in Prof. Giuseppe Valacchi Lab. Her research focuses on the effects of air pollutants on skin homeostasis (OxInflammation). In particular, she is investigating the role of Ozone in cutaneous Inflammasome NLRP1 activation by using different skin models, ranging from 2D cells line (HaCaT cells), 3D (RHE) and ex vivo (skin explants) models. During her undergraduate program she has worked for several months at the University of Vienna (Prof. Gruber Lab) and during her PhD she has spent circa 2 years at the Plant for Human Health Institute (PHHI), NC State University, Kannapolis (NC) where she deepened her knowledge in skin physiology. She is author of 14 manuscripts and has presented her work to several international conferences.

## **Marc Eeman**

Marc Eeman is a Research Scientist at Dow. He received his Ph.D. in Agricultural Sciences and Biological Engineering from the University of Liège, Faculty of Gembloux Agro-Bio Tech, in Belgium. He received his Master Degree in Bioengineering: Chemistry and Bio-industries from the same University. In 2008, Marc was appointed R&D Scientist at StratiCELL, a Belgian CRO for in vitro objectivation of cosmetics. Marc has been with Dow since 2010, joining the Personal Care Department of the company through the Dow Corning acquisition. Over the 10 last years he gained a solid expertise in film-forming polymer technologies and in active delivery. Currently, Marc is involved in research activities in skin biology and he is coordinating the EU-funded CITYCARE project.