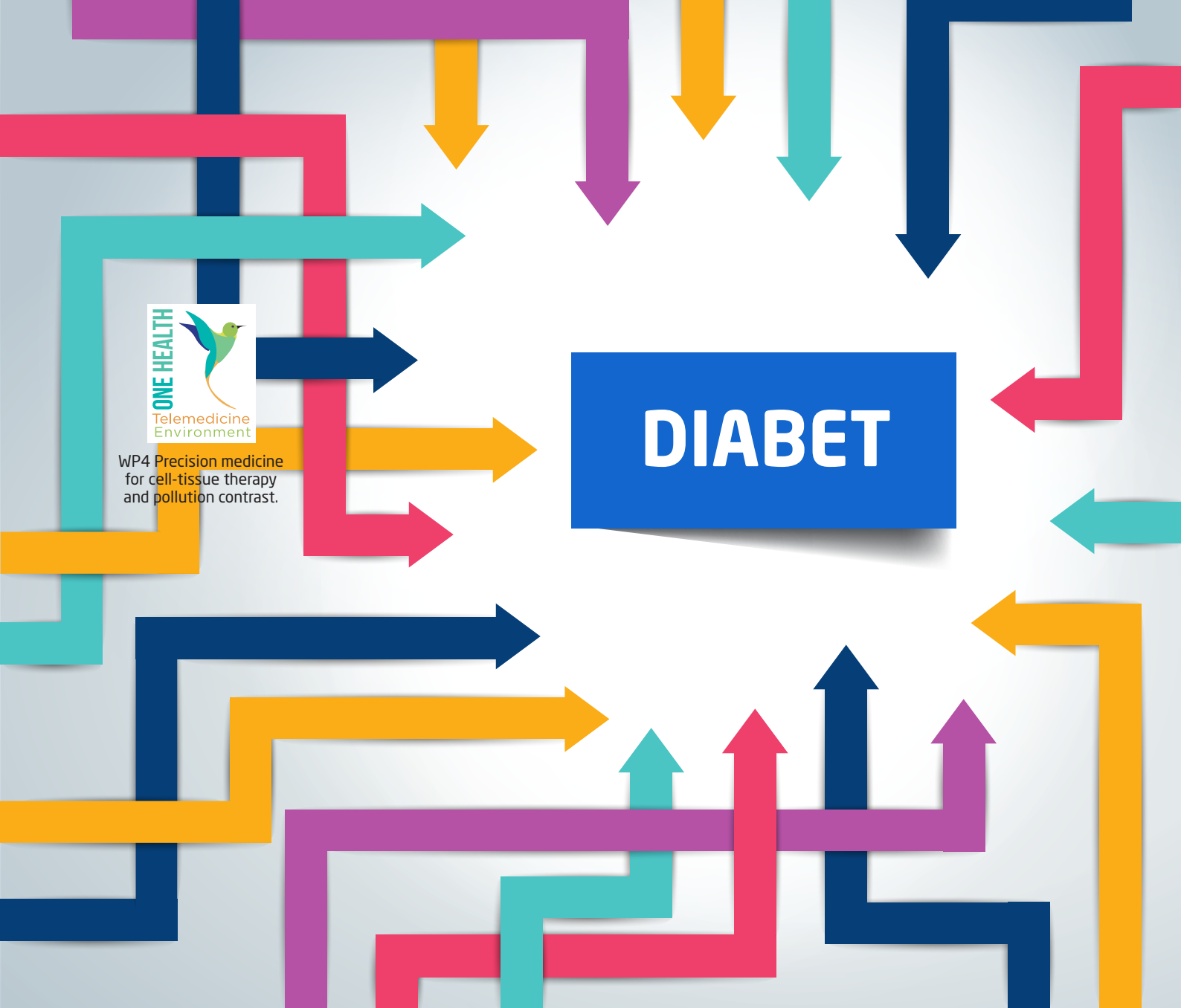




Diabetes, chronic non-transmissible diseases and the environment

Different approaches to the problem

3 November 2025 03:00 pm  zoom

Per partecipare:

REGISTRATI QUI



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Introduzione del Chair

Type 2 diabetes (T2D) is linked to the interaction of environmental, biological, genetic, nutritional, and behavioral risk factors. The first part of the webinar will address the complex relationships between the environment and chronic noncommunicable diseases, particularly type 2 diabetes (T2DM). The lecture of dr. Elisabetta Torlone will deal the following key points: pathophysiological and clinical aspects; surveillance and screening for complications; nutrition, food and diabetes; health behavior modification; multifactorial behavioral and pharmacological treatments to prevent or delay complications and maintain quality of life (QoL); effective practice and organization of care, possible and innovative solutions.

The second part of the webinar will be devoted to an example of how the integration of innovative approaches such as nanotechnology with immunoengineering can offer a transformative path toward safer and more effective therapies towards Type 1 diabetes (T1D). Type 1 diabetes (T1D) is a chronic autoimmune condition marked by the destruction of insulin-producing β -cells within the pancreatic islets of Langerhans. Islet transplantation has emerged as a promising therapeutic strategy to restore endogenous insulin production and achieve glycemic control. However, the success of this approach is hindered by the need for lifelong systemic immunosuppression, which carries significant risks including infection, malignancy, and organ toxicity. The lecture of dr. Samanta Moffa will explore cutting-edge nanomedicine-based strategies designed to overcome the immunological barriers of islet transplantation. She will examine recent advances in nanomedicine and biomaterial-based immunomodulation, which aim to protect transplanted islets from immune rejection while minimizing systemic side effects.



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Chair 1



Nome

Prof. Ester Vitacolonna

Affiliazione

**Department of Medicine and Aging,
University "G. d'Annunzio" of Chieti-Pescara, Italy**

Breve bio

Ester Vitacolonna is full professor of Clinical Nutrition and Dietetics, Director of the Post-graduate School of Nutrition Science, Head of the Diabetology, Clinical Nutrition and Metabolic Diseases Unit

Education

Graduated in Medicina e Chirurgia 1981
Post-Graduated in Internal Medicine 1986
Researcher (Human Nutrition), "G. d'Annunzio" University, Chieti-Pescara, Italy. 2000.
Associate Professor SSD (Clinical Human Nutrition 2006:

Publications

Environment, epigenetic modifications, and effects on health and nutritional status;
Epigenetics and nutrigenomics in subjects with and without obesity and diabetes.
Diabetes, obesity, insulin resistance, and cardiometabolic complications;
Diet, nutraceuticals, and pregnancy;
Pathophysiology of adipogenesis (study of Wharton's jelly and cellular endovesicles);
Vitamin supplementation and cardiovascular prevention in type 2 diabetes;
Role of carbohydrates and their glycemic index in optimizing insulin therapy and innovative technologies in type 1 diabetes mellitus;
Impact of disease (obesity, type 1 and type 2 diabetes, gestational diabetes) and of dietary and/or pharmacological treatment on quality of life;
Telemedicine, web-based interventions, web games, and dietary treatment in the prevention and treatment of obesity and diabetes. (An educational video game has been developed and validated);
Nutritional and educational approaches, using traditional and innovative tools (including web-based) and the risks of diabetes during pregnancy;
Studies of nutrition-related genetic variants.

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Chair 2



Nome

Prof. Antonella Fontana

Affiliazione

**Department of Pharmacy,
University "G. d'Annunzio" of Chieti-Pescara, Italy**

Breve bio

Antonella Fontana is Professor of Organic Chemistry.

She completed her PhD in Pharmaceutical Sciences at the University of Bologna in 1997 and spent research leaves in US (Duke University, Durrham, NC) and UK (East Anglia University, Norwich) during 1998 - 2000.

She published more than 150 peer review papers. Her research focused initially on thermodynamics and kinetics of proton-transfer reactions in water, organic solvents and ionic liquids. Subsequently, she addressed her research interests on various aspects of Supramolecular Chemistry and carbon allotropes manipulation and applications in biomedical and sensing fields.

She has been local coordinator in national 2008, 2010-11 and 2022 Italian PRIN projects. Since 2017 she has been President of the Single Cycle Degree Course in Medicinal Chemistry and Pharmaceutical Technology. Since 2023 she is Rector delegate for open science.

Education

- Ph.D., Pharmaceutical Sciences, University of Bologna, Italy, 1994
- Assistant professor in Organic Chemistry, University "G. d'Annunzio", Chieti, Italy, 1995
- Associate professor in Organic Chemistry, University "G. d'Annunzio", Chieti, Italy, 2003
- Full professor in Organic Chemistry, University "G. d'Annunzio", Chieti, Italy, 2019

Publications

- Kinetics of formation and breakdown as well as engineering of vesicles from natural (liposomes), synthetic surfactants and block copolymers for application in the drug delivery field;
- Non covalent and covalent functionalization of carbon nanotubes and graphene
- Preparation of graphene derivative-based biomaterials for tissue engineering and bone regeneration, bacteriostatic activity, immunomodulation and their characterization via AFM, Photon Correlation and Raman spectroscopy and thermogravimetric analysis.

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Speaker 1



Nome

Dr. Elisabetta Torlone

Affiliazione

Department of Internal and Specialistic Medicine

Breve bio

Medical Doctor, Graduated in 1985
Post-graduated in Endocrinology and Metabolism (1989) and Nephrology (2004)
Scientific and research interests have always been focused on diabetes. In the early years, in-depth studies on mechanisms of insulin resistance in hypertensive non-diabetic patients were conducted. Subsequently, research and development of new intensive insulin therapy schemes were carried out, particularly contributing to clinical studies of the kinetics of both rapid- and long-acting insulin analogues.
Since 1998, clinical interest developed in the management of diabetes in pregnancy (both pregestational and gestational), in nutrition during pregnancy, and the use of insulin delivery technologies (insulin pumps) and glucose sensors, mainly in type 1 diabetic pregnancies with high clinical complexity. Advances in diabetology research with new insulin analogues have also been applied to pregnancy, providing material for publications and review articles in international journals and participation in scientific committees for international protocols.
Member since 1998 of the Diabetes and Pregnancy Study Group of the Italian Diabetes Society (SID) and of the Association of Diabetologists (AMD). Served as "National Coordinator" of the Diabetes and Pregnancy Study Group (2018-2020).
National AMD Board Member from 2021 to 2025.

Current Position
University Hospital S. Maria della Misericordia Perugia

- Endocrinology and Metabolic Diseases,
- Since 01/06/2024: Highest Professional Qualification: "Endocrine Disorders in Pregnancy"

Email

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Speaker 2



Nome

Dr. Samanta Moffa

Affiliazione

**Dept of Pharmacy,
University G.d'Annunzio, 66100, Chieti, Italy**

Breve bio

I earned my Bachelor's degree in Dietetics in 2018 in Campobasso (Molise) and a Master's degree in Food and Health Sciences in 2020 in Chieti (Abruzzo). In 2024, I completed a PhD in Biomolecular and Pharmaceutical Sciences at the University G. d'Annunzio of Chieti-Pescara, focusing on supramolecular chemistry and materials science. My research involved the development of nanosystems, such as liposomes, nanoparticles, and micelles, for drug delivery, as well as studies on membrane permeability and the preparation of graphene oxide-based materials for biomedical use. During my PhD, I was a Visiting Researcher at the Diabetes Research Institute, University of Miami (USA), where I contributed to the design of innovative graphene oxide-based nanocarriers (DIANAs-GO) and evaluated their immunogenicity, toxicity, and T-cell proliferation in vitro, as well as their application in pancreatic islets transplantation for type 1 diabetes treatment. I am currently a research fellow at the University G. d'Annunzio of Chieti, funded by the European Union - NextGenerationEU (PNRR), under the VITALITY project. I am the author and co-author of several scientific publications.

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Program

Tempo	Presentazione	Speakers
15:00 - 15:10 am	Introduzione	Ester Vitacolonna Antonella Fontana
15:10 - 15:30 am	Chronic noncommunicable diseases, diabetes mellitus, and the "One Health" vision	Elisabetta Torlone
15:30 - 15:40 am	Q&A	
15:40 - 16:00 am	"One Health" vision, Chronic noncommunicable diseases and diabetes mellitus: the role of nutrition and food	Elisabetta Torlone
16:00 - 16:10 am	Q&A	
16:10 - 16:30 am		Samanta Moffa
16:30 - 16:40 am	Q&A	
16:40 - 17:00 am	Amphiphilic Nano-Assemblies Functionalized with Graphene Oxide (GO-DIANAs) for Promising Applications in Diabetes Therapy	Samanta Moffa
17:00 - 17:10 am	Q&A	
17:10 - 17:20 am	Closing of Webinar	Ester Vitacolonna Antonella Fontana

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