

Programme

Health and precision medicine

Salute e medicina
di precisione

SECOND EDITION

March 13, 14 and 15, 2025

Padova Congress

Health and precision medicine

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Padova Congress

The idea that inspired this event is the creation of a permanent international Forum of health sciences in Padua. Health is intended in its broadest sense, which includes all activities to guarantee a status of well-being to the population on a planetary scale (“well-being” as defined by the WHO); this includes the protection of the environment, the study of human and animal diseases in a One Health perspective, as well as prevention, diagnosis, and treatment.

Padua is the ideal venue for the WHF as Padua University was among the first in the world to inaugurate the age of Medicine as a science, being its cradle for centuries. During the first day of the second edition of the WHF the topic of the environmental, physical, and nutritional determinants of health will be discussed in the framework of science and their role in the field of prevention and care in the Veneto Region hospitals and community services.

The study of the pathogenesis of infectious, chronic-degenerative, genetic-hereditary, and oncological diseases will be discussed during the second and third day of the conference, which have the greatest impact on human health; new treatment targets and innovative preventive and therapeutic measures will be analysed.

International and Italian scientists, who are part of the National Recovery and Resilience Plan (PNRR) project where the University of Padua is a national reference center, will present the most advanced treatment approaches based on the use of RNA, new systems for gene therapy, correction of genetic defects and treatment of tumours with oncolytic viruses. These topics will be discussed from the point of view of economic, industrial, and entrepreneurial development offered by the advanced technologies for health, drug discovery and production such as digitalization, AI, quantum computing, synthetic and structural biology, vaccinology, fine chemistry.

The Veneto Region is considering this as one of the most promising areas of social and economic development in the international context.

First Day Padova, March 13

INAUGURAL SESSION

Environmental and physical determinants of health

Leads: **Micaela Faggiani**, Journalist

10.00-11.00

Registration of participants

11.00-11.15

Welcome address:

Sergio Giordani, Mayor of the City of Padua

Daniela Mapelli, Rector of the University of Padua

Gilberto Muraro, President of the Cassa di Risparmio Foundation of Padova and Rovigo

Antonio Santocono, President of the Chamber of Commerce, Industries, Handcrafts and Agriculture of Padova

11.15-11.30

Message of the President of Veneto Region, Luca Zaia

11.30-11.35

Introduction, Giorgio Palù, University of Padova

SESSION 1

Environment and infectious agents

Moderator: **Giorgio Palù**, University of Padova

11.35-11.55

The health policy of Veneto Region: from environmental protection, sanitary prevention and individual care

Francesca Russo, Veneto Region

11.55-12.15

Epidemic and pandemic research preparedness: pathogens prioritization

Marco Cavaleri, EMA European Medicine Agency

12.15-12.35

Vector-borne viruses: impact of climate change and human activities

Luisa Barzon, University of Padova

12.35-12.55

Discussion

12.55-13.40

Lunch

SESSION 2

Etiology of cancer

Moderator: **Antonio Rosato**, University of Padova

13.40-14.00

Environment and cancer

Paolo Vineis, MRC Centre for Environment and Health, School of Public Health, Imperial College London

14.00-14.20

The hallmarks of cancer

Stefano Piccolo, University of Padova

14.20-14.40

Human Tumour Viruses: Drug Target Identification for HPV and Cervical Cancer

Lawrence Banks, ICGEB International Centre for Genetic, Engineering and Biotechnology, Trieste

14.40-15.00

Discussion

First Day Padova, March 13

SESSION 3

Microbiota and antimicrobial resistance

Moderator: Riccardo Manganelli, University of Padova - Fabio Turone, Center for Ethics in Science and Journalism (CESJ)

15.00-15.20

Microbiota in health and disease

Nicasio Mancini, University of Insubria, Varese

15.20-15.40

The challenge of antimicrobial resistance in a rapid evolving global environment

Gian Maria Rossolini, University of Firenze

15.40-16.00

Nosocomial and community acquired antimicrobial resistance: how to face this global health threat

Evelina Tacconelli, University of Verona

16.00-16.20

Discussion

SESSION 4

Lessons from epidemiology

Moderator: Paolo Vineis, MRC Centre for Environment and Health, School of Public Health, Imperial College London

16.20-16.40

The engineering of epidemiology

Andrea Rinaldo, University of Padova - EPFL of Lausanne

16.40-17.00

From exposomes to health: Public health policy

Silvio Brusaferrò, University of Udine

17.00-17.15

Discussion

SESSION 5

Food, metabolism and health

Moderator: Chiara Sabelli, Science writer - Maurizio Cancian, Scientific Committee of Specific Training School in General Medicine of the Veneto Region

17.15-17.35

Wine, alcohol and health. Epidemiologic evidence and a new large randomized trial

Miguel Angel Martinez Gonzalez, University of Navarra, Spain - Harvard TH Chan School of Public Health, USA

17.35-17.55

Fat and Health: controversy and evidence

Francesco Visioli, University of Padova

17.55-18.15

How drugs can shape human response to obesogenic environment

Angelo Avogaro, University of Padova

18.15-18.35

Discussion

18.35

Conclusion of the proceedings

Second Day Padova, March 14

Molecular Medicine

Leads: Micaela Faggiani, Journalist

8.00-8.45

Registration of participants

8.45-9.00

Welcome address: Manuela Lanzarin, Veneto Region

SESSION 1

The revolution of RNAs in biology

Moderator: Stefano Piccolo, University of Padova

9.00-9.20

Digital pathology: combining archival histology, tissue imaging and spatial transcriptomics via machine learning

Angelo Paolo Dei Tos, University of Padova

9.20-9.40

New RNAs from the obscure part of the genome

Stefano Gustincich, IIT Italian Institute of Technology, Genova

9.40-9.55

Discussion

SESSION 2

Organoids and scaffolds: new 3D models for understanding human diseases

Moderator: Stefano Piccolo, University of Padova

9.55-10.15

Prenatal diagnosis and foetal medicine

Paolo De Coppi, University College London Great Ormond Institute of Child Health

10.15-10.35

Brain organoids as models for neurodegenerative diseases

Nicola Elvassore, Veneto Institute of Molecular Medicine

10.35-10.50

Discussion

SESSION 3

Metabolic medicine: when the powerhouse goes awry

Moderator: Rosario Rizzuto, University of Padova

10.50-11.10

Development of a gene therapy for AADC deficiency

Paul Wuh-Liang Hwu, Center for Precision Medicine, China Medical University, Taiwan and California Institute for gene therapy

11.10-11.30

AAV and metabolic diseases: diabetes, MASH and related comorbidities

Fatima Bosch, Centre for Animal Biotechnology and Gene Therapy, Barcelona

11.30-11.45

Discussion

Second Day Padova, March 14

SESSION 4

Viruses: from foes to allies in gene therapy

Moderator: **Eugenio Baraldi**, University of Padova

11.45-12.05

Adeno-associated adenoviruses: powerful tools for tissue-specific gene delivery

Katherine High, Chief Executive Officer, RhyGaze

12.05-12.25

Lentiviruses for haematopoietic stem-cell gene therapy

Alessandro Aiuti, "Vita-Salute" San Raffaele University - San Raffaele Hospital, Milano

12.25-12.40

Discussion

12.40-13.30

Lunch

SESSION 5

Gene correction

Moderator: **Alessandra Biffi**, University of Padova

13.30-13.50

CRISPR correction of beta-thalassemia and sickle cell anemia

Franco Locatelli, Consiglio Superiore di Sanità - Bambino Gesù Children's Hospital, Roma

13.50-14.10

Genome editing of B cells: new frontiers in immune cell therapies

Paula Cannon, University of Southern California's Keck School of Medicine

14.10-14.25

Discussion

SESSION 6

New drugs from pathogenic mutations

Moderator: **Leonardo Salviati**, University of Padova

14.25-14.45

PCSK9: the target of RNA-based drugs for hypercholesterolemia

Danilo Norata, University of Milano

14.45-15.05

FIX Padua, a thrombophilic mutation in the cure of hemophilias

Paolo Simioni, University of Padova

15.05-15.20

Discussion

SESSION 7

Heart and skeletal muscle: understanding and combating muscle loss

Moderator: **Paolo Simioni**, University of Padova

15.20-15.40

RNA therapeutics for cardiac gene editing and regeneration

Mauro Giacca, King's College London - University of Trieste

15.40-16.00

RNA therapy to restore muscle mass in catabolic conditions

Marco Sandri, University of Padova

16.00-16.15

Discussion

Second Day **Padova, March 14**

SESSION 8

New Technologies in Surgery

Moderator: Claudio Zanon, Motore Sanità - Alfredo Guglielmi, University of Verona

16.15-16.35

Rebuilding the skeleton

Pietro Ruggieri, Andrea Angelini, University of Padova

16.35-16.55

Redesigning circulation

Franco Grego, University of Padova

16.55-17.15

The Other Friend's Toolkit: Lessons from other industries and tech transfer

Lumsden Alan B., DeBakey Heart & Vascular Center-Department of Cardiovascular Surgery - Houston Methodist Hospital, Pump & Pipes Conference - Video conference

17.15-17.35

Discussion

SESSION 9

Round Table discussion:

From precision medicine to investments in high-tech enterprise

Moderator: Giorgio Palù, University of Padova - Rosario Rizzuto, University of Padova

17.35-19.30

Discussants:

Lucia Aleotti, Menarini Group

Francesca Gennari, Therakos Italia

Nicoletta Luppi, MSD Italia

Gaudenzio Meneghesso, University of Padova

Mons. Renzo Pegoraro, Pontificia Accademia per la vita

Chiara Sabelli, Science writer

Fabio Turone, Center for Ethics in Science and Journalism (CESJ)

19.30

Conclusion of the proceedings

20:45

Concert - OPV, Orchestra di Padova e del Veneto

Resurrection, Gustav Mahler

Symphony No.2, for soloists, chorus and orchestra

Gilbert Kaplan and Rob Mates version (2012)

Yuliya Progrebnyak, Soprano

Alessandra Visentin, Mezzosoprano

Coro del Friuli Venezia Giulia

Cristiano Dell'Oste, Chorus Master

Orchestra di Padova e del Veneto

Marco Angius, Conductor

Third Day Padova, March 15

Molecular pathogenesis and advanced therapies

Leads: Micaela Faggiani, Journalist

8.00 - 8.30

Registration of participants

SESSION 1

Pathogenesis

Moderator: Umberto Cillo, University of Padova - Lucia Zanatta, Order of Biologists of Triveneto

8.30-8.50

Immune-based approaches to HIV eradication

Guido Silvestri, Emory University School of Medicine

8.50-9.10

Navigating modern pathology in the era of precision medicine

Aldo Scarpa, University of Verona

9.10-9.30

The unknowns of micro-nanoplastics journey through the human body

Fazel A. Monikh, University of Padova

9.30-9.50

Micro-Nanoplastics and cardiovascular diseases: evidences and perspectives

Giuseppe Paolisso, University of Campania "Luigi Vanvitelli"

9.50-10.15

Discussion

SESSION 2

Viruses from foes to therapeutic agents: the bright side of the moon

Moderator: Fabio Mammano, University of Padova

Paula Cannon, University of Southern California's Keck School of Medicine

10.15-10.35

Treatment of Glioblastoma Using an Oncolytic Herpes Simplex Virus Armed with IL-12

Joseph Glorioso, University of Pittsburgh, School of Medicine

10.35-10.55

Monocytes can give a free ride to HSV-1 through the blood-brain barrier: the glioblastoma model

Arianna Calistri, University of Padova

10.55-11.15

Oncolytic immunoactivation associates with survival in glioblastoma patients

E. Antonio Chiocca, Harvard Medical School

11.15-11.35

The long journey of gene therapy: from genes to commercial reality

Fulvio Mavilio, University of Modena and Reggio Emilia and Orchard Therapeutics, London

11.35-11.55

New perspectives for mRNA vaccines

Rino Rappuoli, Bitchnople Foundation and Antipandemic Hub - Siena

11.55-12.15

The long tradition of gene therapy in Italy

Luigi Naldini, San Raffaele Telethon Institute for Gene Therapy

12.15-12.50

Discussion

Third Day **Padova, March 15**

- 12.50-13.20 **Concluding remarks. The WHFV declaration for promoting the science of health - in a decalogue-like text (Press release)**
Silvio Brusaferrò, University of Udine
Giorgio Palù, University of Padova
Caterina Pastori, Scientific Committee of Specific Training School in General Medicine of the Veneto Region
Rosario Rizzuto, University of Padova
- 13.20-13.30 **Farewells and conclusion of the proceedings with the prospect of next WHFV**
Manuela Lanzarin, Veneto Region
Alfredo Guglielmi, University of Verona
- 13.30 **Lunch**