



UNIVERSITÀ DI PAVIA

Conference in memory of

# Giovanna Camerino

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**From the X Chromosome  
to the Genetics of Sex Determination**

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**March 10, 2026 – 2:00 PM  
Collegio A. Volta – Aula Magna  
Via A. Ferrata 17 – Pavia  
University of Pavia**

*Under the patronage of*



UNIVERSITÀ DI PAVIA  
Dipartimento di  
Biologia e Biotecnologie  
"Lazzaro Spallanzani"



UNIVERSITÀ DI PAVIA  
Dipartimento di  
Medicina Molecolare



Collegio A Volta

# Giovanna Camerino

Giovanna Camerino made a fundamental contribution to the genetics of sex determination. She was born in Milan on August 27, 1952.

She graduated in Biological Sciences at the Institute of Genetics of the University of Pavia with a thesis in Plant Biology on chloroplasts and protein synthesis under the supervision of **Prof. Orio Ciferri**, and subsequently turned her interest to human genetics.

She worked with Jean Louis Mandel in Strasbourg, **Peter Goodfellow** in Cambridge, **Andrea Ballabio** in Houston, **Robin Lovell-Badge** in London, and **Andreas Schedl** in Nice.

At the University of Pavia she led a research group at the Department of Biology and Medical Genetics, later Molecular Medicine, of the Faculty of Medicine and Surgery, directed by Prof. **Marco Fraccaro**. Appointed Full Professor at the age of forty-two, she taught Biology at the Universities of Sassari and Pavia.

In the early 1980s, Giovanna began her studies on the X chromosome, which led to the identification of the gene responsible for X-linked **fragile X intellectual disability**.

In the early 1990s, when the sequence of human DNA was still unknown and little was understood about its organization, she began investigating a very particular group of patients presenting alterations of the X and Y chromosomes and sexual characteristics not consistent with their chromosomal complement.

During those years, **Peter Goodfellow** in Oxford identified the **SRY** gene responsible for male sex determination, and in Giovanna's laboratory in Pavia the **DAX** gene involved in female sex determination was identified.

These two studies proved fundamental for subsequent research into disorders of sex development caused by disruptions or mutations in genes controlling ovarian or testicular development. Mutations of this type are rare, disabling, and often associated with other pathologies.

Following the major success of the research on **DAX**, Giovanna identified another gene, **RSPO1**, in a family presenting sex reversal not linked to the sex chromosomes.

In 1996, Giovanna was elected a member of the prestigious European Molecular Biology Organization (EMBO).

Giovanna passed away on March 26, 2025.

# The Conference

The Conference aims to commemorate **Giovanna Camerino** and the role her discoveries played in the genetics of sex determination.

Building on her scientific achievements, the Conference intends to take stock of the development of research in the field of the genetics of sexual characteristics.

Scientists who collaborated with her, as well as colleagues and friends who appreciated her intellectual and human qualities, will take part.

The establishment of the «**Giovanna Camerino Award**» for young researchers in the field of human genetics will be announced.

The Award is promoted by her family and the Italian Society of Human Genetics (SIGU).

**On March 11 at 11:00 AM, Peter Goodfellow** will deliver the Lectio Magistralis «Sex Determination» at the Aula Arturo Falaschi, IGM-CNR, Via Ferrata 1, Pavia.



Giovanna Camerino

## Promoting Committee:

Alessandra Albertini, Andrea Ballabio, Barbara Bardoni, Luca Malcovati, Pietro Parma, Daniela Toniolo, Antonio Torroni, Orsetta Zuffardi, Ugo Targetti.

# Programme

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## 02.00 PM Opening and Introduction to the Conference

- A. Ballabio – U. Targetti

## 02.20 PM Institutional Greetings

- A. Reali – Rector of the University of Pavia
- A. Torroni - Department of Biology and Biotechnology “L. Spallanzani”
- L. Malcovati - Department of Molecular Medicine
- A.M. Taglietti - Collegio A. Volta

## 02.30 PM In Memory of Giovanna Camerino

- D. Toniolo
- O. Zuffardi
- B. Bardoni

## 03.30 PM Lectures

- J.L. Mandel: *From postino nove and hemophilia to fragile X and other X-linked disorders, a southern walk initiated by Giovanna. Later reflections on forgotten links between diseases and the X chromosome*
- P. Goodfellow: *Yin and Yang in sex determination*

## 04.30 PM Coffee break

## 05.00 PM Establishment of the «Giovanna Camerino Award»

- P. Grammatico - Italian Society of Human Genetics (SIGU)

## 05.10 PM Lectures

- R. Lovell-Badge: *Making and maintaining ovaries*
- A. Schedl: *Giovanna's mark on my lab. From sex determination to sexual dimorphism*

## 06.30 PM Round Table

Future Perspectives in Human Genetic Research: Social and Ethical Implications, the Responsibility of Scientists, Scientific Communication and Democracy

J.L. Mandel, P. Goodfellow, R. Lovell-Badge, A. Ballabio;

Moderator: Roberta Villa

## 07.30 PM Conclusions