



THE FOUNDATION FOR  
GENDER-SPECIFIC MEDICINE

WITH AN  
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FONDAZIONE  
INTERNAZIONALE  
MENARINI



# THE WORLD WRITES ON THE BODY:

## HOW THE ENVIRONMENT IMPACTS THE PHENOTYPE

Presidents of the Meeting:

**MARIANNE J. LEGATO**

*The Foundation for Gender-Specific  
Medicine  
Columbia University  
New York, United States of America*

**GILLIAN EINSTEIN**

*Wilfred and Joyce Posluns Chair in  
Women's Brain Health and Aging  
University of Toronto  
Toronto, Canada*

**MAY 24<sup>th</sup>-25<sup>th</sup> 2018**

VENUE:

**PALAZZO**

**XIMENÈS PANCIATICH,**  
**FLORENCE (ITALY)**





The 21st century began with the finalization of the description of the structure of the human genome, ushering in a profound change in our understanding what makes us what we are. We now have unprecedented power to understand the mechanisms and impact of genetic activity and the factors that modulate and control its expression. We are in the process of deciphering how age, hormones and the environment all modify behavior.

This symposium was constructed to set out the most exciting and significant science in the new field of epigenetics which is concerned with the factors that collaborate to modify genetic activity and thus mold the phenotype. Our expanding appreciation of the nature and complexity of epigenetics has produced a revolution in biomedical investigation and no less importantly, in how sociologists, anthropologists and psychologists among others consider the mechanisms of how experience changes behavior, susceptibility to disease and perhaps most importantly, how epigenetic modification of genetic activity is transmitted to future generations. Hopefully, the symposium will amplify the collaboration between biomedical investigators and social scientists by describing the final common pathway that explains how the environment modifies function.

Professors  
Marianne J. Legato and Gillian Einstein  
Presidents of the Meeting

*Marianne Legato*  
*Gillian Einstein*



**Congress Venue:**

**PALAZZO XIMENÈS PANCIATICH, FLORENCE (ITALY)**

**UNDER THE AUSPICES OF**



**THE FOUNDATION FOR  
GENDER-SPECIFIC MEDICINE**

**THE FOUNDATION  
FOR GENDER-SPECIFIC  
MEDICINE**

## **PRESIDENTS OF THE MEETING**

**Marianne J. Legato**

The Foundation for Gender-Specific  
Medicine  
Columbia University  
New York, United States of America

**Gillian Einstein**

Wilfred and Joyce Posluns Chair in  
Women's Brain Health and Aging  
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Toronto, Canada

## **WITH AN UNRESTRICTED GRANT BY**

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## **PROFESSIONAL CONGRESS ORGANIZATION**

**Congress Lab Srl**

Bastioni di Porta Volta, 10 - 20121 Milano (Italy)  
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# Final Programme

Thursday, May 24<sup>th</sup> 2018 - Morning

## OPENING CONGRESS

08.00 a.m.	Registration of the participants
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## Session I – Epigenetics, Sex and Gender

Chairpersons:	<b>M. Legato</b> (New York, US) <b>G. Einstein</b> (Toronto, CA)
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09.00 a.m.	<b>M. Legato</b> (New York, US) Overview: mechanism and consequences of epigenetic modification of DNA
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09:30 a.m.	<b>G. Einstein</b> (Toronto, CA) The world writes on the body: does the experience of gender contribute to sex differences?
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10:00 a.m.	<b>F. Franconi</b> (Potenza, IT) Influences of drugs and foods on the body: are they sex and gender dependent?
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10.30 a.m.	Questions
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11.00 a.m.	Coffee break
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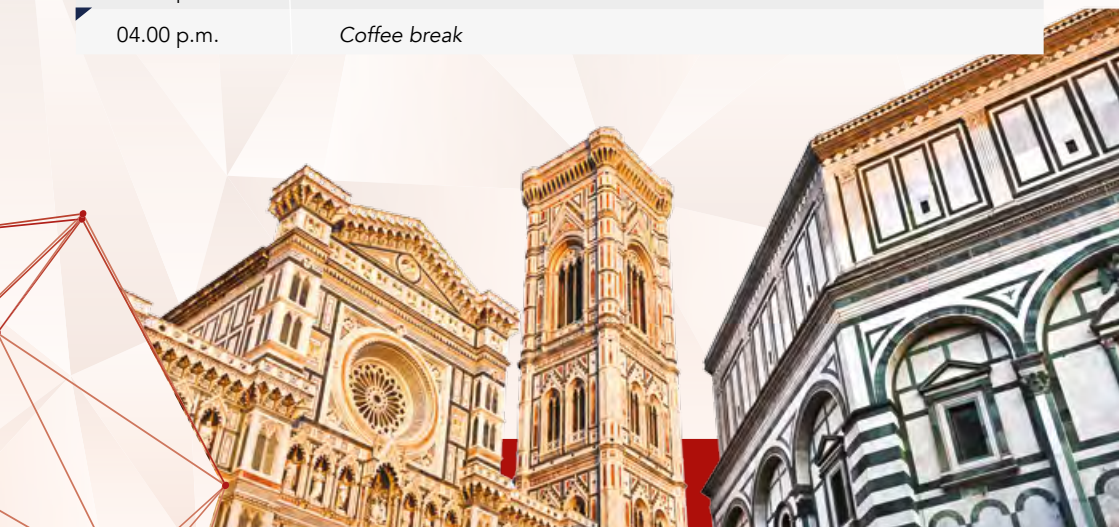
## Session II – Molecular Biology of Epigenetics I

Chairpersons:	<b>G. Einstein</b> (Toronto, CA) <b>M. Sokolowski</b> (Toronto, CA)
11.30 a.m.	<b>M. Sokolowski</b> (Toronto, CA) Gene-environment interplay in behaviour
12.00 p.m.	<b>E. Borrelli</b> (Irvine, US) Dopamine and epigenetics
12.30 p.m.	Questions
01.00 p.m.	Lunch

Thursday, May 24<sup>th</sup> 2018 - Afternoon

## Session III – Molecular Biology of Epigenetics II

Chairpersons:	<b>M. Legato</b> (New York, US) <b>M. Fraga</b> (Asturias, ES)
02.00 p.m.	<b>P. Sassone-Corsi</b> (Irvine, US) Epigenetic and metabolism: the clock link
02.30 p.m.	<b>R. Feil</b> (Montpellier, FR) Genomic imprinting: regulation, roles and environmental influences
03.00 p.m.	<b>M. Fraga</b> (Asturias, ES) Epigenetic changes during lifetime: the effect of environment
03.30 p.m.	Questions
04.00 p.m.	Coffee break



## Session IV – Early Experience: Health Outcomes

Chairpersons:	<b>G. Einstein</b> (Toronto, CA) <b>C. Heim</b> (Berlin, DE)
04.30 p.m.	<b>C. Heim</b> (Berlin, DE) Understanding and mitigating the impact of early life adversity on disease risk
05.00 p.m.	<b>L. Schmitz</b> (Michigan, US) Using Gene-Environment interactions to interrogate the impact of the social environment on smoking behavior
05.30 p.m.	<b>B. Fallon</b> (Toronto, CA) Opportunities for prevention & intervention in child protection services: lessons from Canada
06.00 p.m.	End of the day

Friday, May 25<sup>th</sup> 2018 - Morning

## Session V – Early Experience: Maternal Behaviour

Chairpersons:	<b>G. Einstein</b> (Toronto, CA) <b>A. Fleming</b> (Toronto, CA)
08.30 a.m.	<b>A. Fleming</b> (Toronto, CA) Mothering begets mothering across generations: effects of early experience
09.00 a.m.	<b>M. Szyf</b> (Montreal, CA) Epigenetic programming by maternal behavior
09.30 a.m.	<b>A. Duchesne</b> (British Columbia, CA) The developmental origin of health and disease: a sex and gender perspective
10.00 a.m.	Questions
10.30 a.m.	Coffee break

## Session VI – Early Experience: Socio-economic Status

Chairpersons:	<b>M. Legato</b> (New York, US) <b>M. Glezerman</b> (Tel Aviv, IL)
11.00 a.m.	<b>M. Farah</b> (Philadelphia, US) Intergenerational transmission of socioeconomic disadvantage: what are the biological mechanisms?
11.30 a.m.	<b>A. Öst</b> (Linköping, SE) Small RNAs transmit big epigenetic message: Intergenerational reprogramming of metabolism
12.00 p.m.	<b>M. Glezerman</b> (Tel Aviv, IL) The impact of maternal stress on the fetus and its future life
12.30 p.m.	Questions
01.00 p.m.	Lunch

Friday, May 25<sup>th</sup> 2018 - Afternoon

## Session VII – Experience Over the Lifetime

Chairpersons:	<b>G. Einstein</b> (Toronto, CA) <b>R. P. Juster</b> (New York, US)
02.00 p.m.	<b>B. Dias</b> (Atlanta, US) Using olfaction to study multi-generational imprints of stress
02.30 p.m.	<b>C. Fernandez</b> (Boston, US) Epigenetics of cardiovascular disease: "Peeling the onion" to identify the missing link between gene-environment interaction and disease expression
03.00 p.m.	<b>R. P. Juster</b> (New York, US) Sex/gender correlates of glucocorticoid functioning and allostatic load
03.30 p.m.	Discussion
04.30 p.m.	Take home messages
05.00 p.m.	Concluding remarks

## GENERAL INFORMATION

### Meeting venue

The venue for the Meeting will be:  
Palazzo Ximenès Panciatichi ([www.palazzoximenes.com](http://www.palazzoximenes.com))  
Borgo Pinti, 68 – 50121 Florence (Italy)

### Secretariat during the Meeting

The Secretariat will be open at the following times:  
Thursday, May 24<sup>th</sup>, from 08.00 a.m. to 07.00 p.m.  
Friday, May 25<sup>th</sup>, from 08.00 a.m. to 06.00 p.m.

### Official language

The official language of the Meeting will be English.  
Simultaneous translation will not be provided.

### Continuing Medical Education (CME)

Congress Lab Srl is a CME provider – identification code no. 2005 – and has assigned to the event no. **4,2** credits for Physicians for the following disciplines: Allergology and clinical immunology, Angiology, Biology, Cardiology, Dermatology and venerology, Hematology, Endocrinology, Gastroenterology, Medical genetics, Geriatrics, Metabolic disease and diabetology, Internal medicine, Neonatology, Neurology, Oncology, Pediatrics, Psychiatry, Rheumatology, Gynecology and obstetrics, Urology, Pathological anatomy, Clinical Biochemistry, Pharmacology and clinical toxicology, Laboratory of medical genetics, Legal medicine, Nuclear medicine, Microbiology and virology, Clinical pathology (chemical-clinical analysis laboratory and microbiology), Occupational medicine and safety in the workplace, General medicine (family doctors), Psychotherapy, Psychology, Therapist of neuro and psychomotricity of the developmental age, Prevention technician in the environment and in the workplace, Organization of basic health services, Epidemiology, Community medicine.

### Registration

The Meeting is free to attend.  
Please sign up here: [http://congresslab.it/international-symposium\\_florence2018/](http://congresslab.it/international-symposium_florence2018/)

For any question and support please contact the Professional Congress Organization  
(Congress Lab Srl: Phone 1: +39 02 81838120 - Cell: +39 3209066533  
Fax: +39 02 87181580 - E-mail: [fondazione@congresslab.it](mailto:fondazione@congresslab.it))

### Technical facilities

Facilities will be available for computer presentations and overhead projections.  
A business center with PC (Powerpoint for Windows) will be available for check and preview of presentations. It is essential that speakers take their presentation to the business center at least one hour before the session starts.  
The center will be open at the following times:  
Thursday, May 24<sup>th</sup>, from 08.00 a.m. to 07.00 p.m.  
Friday, May 25<sup>th</sup>, from 08.00 a.m. to 06.00 p.m.

### Lunches and coffee breaks

Lunches and coffee breaks will be served in the Meeting area.

### Abstracts book

Participants will receive the Abstract book at the Meeting.

## FACULTY

**Emiliana Borrelli**

School of Medicine  
University of California  
(Irvine, US)

**Brian G. Dias**

Emory University School  
of Medicine  
(Atlanta, US)

**Annie Duchesne**

University of Northern British  
Columbia  
(British Columbia, CA)

**Gillian Einstein**

Wilfred and Joyce Posluns Chair  
in Women's Brain Health  
and Aging University of Toronto  
(Toronto, CA)

**Barbara A. Fallon**

University of Toronto  
(Toronto, CA)

**Martha J. Farah**

University of Pennsylvania  
(Philadelphia, US)

**Robert Feil**

CNRS And University  
of Montpellier  
(Montpellier, FR)

**Camilo Fernandez A.**

HeartGEN Institute  
(Boston, US)

**Alison S. Fleming**

University of Toronto  
Mississauga  
(Toronto, CA)

**Mario F. Fraga**

University of Oviedo  
(Asturias, ES)

**Flavia Franconi**

Regione Basilicata  
(Potenza, IT)

**Marek Glezerman**

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(Tel Aviv, IL)

**Christine Heim**

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and Human Sciences  
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(New York, US)

**Marianne J. Legato**

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(New York, US)

**Anita Öst**

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(Linköping, SE)

**Paolo Sassone-Corsi**

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(Irvine, US)

**Lauren Schmitz**

University of Michigan  
(Michigan, US)

**Marla B. Sokolowski**

University of Toronto  
(Toronto, CA)

**Moshe Szyf**

Mcgill University  
(Montreal, CA)



**Fondazione Internazionale Menarini**  
**Symposia n. 388**