

# XVI FISV Congress

## 3R: Research, Resilience, Reprise

Reggia di Portici (Naples), Italy

14 – 16 September 2022

AAI ABCD ADRITELF AGI BITS SIB SIBE SIBBM SIBV SIBS SICA SIFarma SIFisio SIGA SIGU SIMAG SIMGBM

### MERCOLEDÌ 14 SETTEMBRE

13.50 Welcome

14.00-15.00 The EMBO Keynote Lecture

**Riccardo Cortese**

Chair: Valeria Poli



**Angela Nieto**

(Istituto de Neurociencias, CSIC-UMH, Alicante, Spain)

Aberrant activation of developmental programs in adult disease

15.00-17.00 **Poster Vision 1 & Coffee Break**

17.00-17.15 **Takis presentation**

*Takis*

17:30- 19:30 **PARALLEL SYMPOSIA**

Galoppatoio e Aula 1

**1a. From plastics revolution to bioplastics evolution**

**Chairs:** Raffaele Porta & Paola Fabbri

**Vincenzo Busico** (Napoli)

The plasticsrevolution: a critical review

**Loredano Pollegioni** (Varese)

Plasting-eating enzymes: a protein engineering studies

**Loredana Mariniello** (Naples)

Additives and Processing Aids for Bio-based Plastics from Renewable Sources.

**Fabrizio Adani** (Milan)

Bioplastic in the circular economy

**1b. Diversity and evolution of genomes**

**Chairs:** Omar Rota Stabelli, Maria Ercolano, Luca Sineo

**Manuela Sironi** (Lecco)

Evolutionary genomics of human coronaviruses

**Donato Giovannelli** (Napoli)

Trace elements, proteins and biogeochemistry: a comparative genomicperspective.

**Giorgio Bertorelle** (Ferrara)

The mutation load in small populations

**Stefania Vai** (Firenze)

Surfing on the Evolution of the Human Genome

### GIOVEDÌ 15 SETTEMBRE

09:00 11:00 **PARALLEL SYMPOSIA**

Galoppatoio e Aula 1

**2a. Microbiome modulation for improving human and plant health**

**Chairs:** Franco Faoro, Loredana Bacicalupi

**Gabriele Berg** (Graz University of Technology, Austria)

The plant microbiome explored: implications for plant as well as planetary health

**Maria Rescigno** (Milano)

The microbiota and the immune system in gut-liver-brain axis.

**Duccio Cavalieri** (Florence)

Microbiome a gut-brain axis

**Raffaella Balestrini** (Ipsp – Cnr – Torino)

Synergistic and complementary interplay between roots and associated microorganisms to boot plant resilience.

**2b. The COVID-19 pandemic/tsunami: a scientific revolution from mechanisms to drugs**

**Chairs:** Giulia Piaggio, Gianni Sava

**Mario Capasso** (Napoli)

Human genetic susceptibility to COVID-19: implications in prevention and treatment

**Annalisa Capuano** (Napoli)

Come la pandemia ha cambiato i paradigmi di ricerca e sviluppo di farmaci e vaccini

**Mirko Cortese** (Napoli)

Molecular and structuraldeterminants of SARS-CoV-2-induced cellularremodeling

**Marta Giovanetti** (Roma)

Facing the coronavirus crisis: Genomic evolution of SARS-CoV-2"

11.00 -11.30 **Coffee break**

11.30-13.00 **Tavola Rotonda**

**Chairs:** Michele Morgante & Gennaro Ciliberto  
Nuove opportunità per la ricerca Italiana. Responsabili  
Centro Agritech, Centro RNA, Centro Biodiversità.

13.00-15.00 **Lunch and Poster Vision 2**

15.00 - 17.00 **PARALLEL SYMPOSIA**

### 3a. A Plant adaptation and resilience to climate change

**Chairs:** Manuela Rigano & Francesco Loreto

**Josep Peñuelas** (Barcelona)

Climate and nutrient imbalances as drivers of a recent  
global decline in the effects of CO<sub>2</sub> and nitrogen  
fertilization on vegetation growth

**Luisa Maria Sandalio** (Granada)

Reactive oxygen species in the interface of  
environmental changes sensing and plant resilience

**Anca Macovei** (Pavia)

DNA Damage Response (DDR) and genome stability at  
the crossroad between plant development and stress  
resilience

**Matthew Haworth** (Firenze)

Stomatal control of photosynthesis in response to past  
and potential future climate change

### 3b Updates in Neuroscience: a comparative and phylogenetic glance

**Chairs:** Roberto Feuda, Giuditta Gambino

**Emiliano Bruner** (Burgos, Spain)

Fossils and neurosciences: synergies for evolutionary  
anthropology

**Maria Ina Arnone** (Napoli)

The journey of a nerve net towards a brain: a lesson  
from the sea urchin

**Marina Boido**, (Torino)

Neuromuscular junctions: from development to aging  
and disease

**Marco Rasile**, (Milano)

Effects of maternal immune activation on the  
offspring's neurovascular unit

17.00-17.30 **Coffee Break**

17.30-18.00 **Cornelius Gross**



(EMBL, Monterotondo)

The Future of Molecular Biology – The EMBL  
Perspective

18.00-20.00 **Assemblee Societarie**

20:00 -21:30 **Attività sociale**

## VENERDÌ 16 SETTEMBRE

08.45-09.45 **FEBS National Lecture**

**Chairs:** Paola Chiarugi & Martino Bolognesi



**Carlo Catapano**

(Bellinzona)

Mitochondrial plasticity and stemness in human  
cancers

09.45 – 10.00 **Sequentia  
presentation**



10.00-10.30 **Coffee break**

10.30-13.30 **MINI SYMPOSIA**

### **Environmental, Evolutionary and Developmental Biology**

*Including how organisms adapt to harsh conditions and  
respond to changing environment including pollutants,  
(drugs) and stress.*

**Chairs:** Michela Zottini – SIBV, Alessandro Achilli – AGI,  
Emiliano Trucchi - SIBE

### **Genetics, Epigenetics and Chromosome Biology**

*Including all investigations on genetic and epigenetic  
mechanisms regulating DNA biology such as, for example,  
transcription, replication, repair, chromosome and nuclear  
architecture.*

**Chairs:** Domenico Carputo – SIGA, Gianni Cenci – AGI,  
Tiziana Bonaldi – SIBBM, Fulvio Chiacchiera - SIBBM

### **Genomics, Proteomics and Systems Biology**

*Including all investigations implying systems biology such as  
mutational analysis, RNA expression, proteomics and  
metabolomics.*

**Chairs:** Maria Benedetta Mattei – SIBV, Alessio  
Mengoni – SIMGBM, Federico Giorgi – AGI, Gianni  
Cuda - SIBBM

### **Current trends in Biotechnology**

*Including agricultural, environmental, microbial, animal,  
industrial, pharmaceutical and medical applications.*

**Chairs:** Rachele Isticato – SIMGBM, Matteo Ballottari –  
SIBV, Vittoria Brambilla

### **Food, and Nutrition**

Including sustainable agricultural approaches, functional  
foods, nutraceuticals, food safety.

**Chairs:** Katia Petroni – AGI, Francesco Marcon – ISS,  
Stefania Iametti, Francesco Bonomi

### **Health and Disease**

*Including plant and animal disease, infectious  
agents, innovative drug approaches and delivery systems,  
personalized medicine.*

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**Chairs:** Marco Oggioni – SIMGBM, Paolo Minghetti – ADRITELF, Giuseppe De Rosa – ADRITELF, Sheridan Lois Woo - SIPAV

13.30-14.30    **Lunch Break**

14:30 16:00    **PARALLEL SYMPOSIA**  
Galoppatoio e Aula 1

#### **4a. Insights into insect biology to control pathogen vectors and agricultural pests**

**Chairs:** Guido Favia & Laura Rinaldi

**Andrea Crisanti** (*Padova*)

Unnatural selection: a new paradigm for the control of human malaria vector

**Paolo Gabrieli** (*Milano*)

Digging into the biology of mosquito reproduction to design novel control tools

**Matteo Montagna** (*Napoli*)

Exploiting host-symbiont interactions for managing agricultural pests

#### **4b. Spatial profile of gene expression.**

**Chairs:** Lucia Altucci & Massimiliano Corsi Romanelli

**Raffaele Calogero** (*Torino*)

Single cellomics integration with spatial transcriptomics

**Tiziana Bonaldi** (*Milano*)

Unravelling non-genetic Inter- and Intratumor (epigenetic) Heterogeneity by spatial tissue proteomics

**Francesca Ciccarelli** (*Londra*)

Unravelling the dynamic interplay between genetics and immunity in driving cancer evolution

16.00            **CONCLUSIONS AND PRIZES**

#### **Scientific Committee**

Gennaro Ciliberto ● Giovanna Serino ● Giulia Piaggio ●  
Bianca Colonna

Franco Faoro ● Michele Morgante ● Paola Chiarugi ● Laura  
De Gara ● Valeria Poli ● Edgardo Filippone ● Omar Rota  
Stabelli

#### **Organising & Local Committee**

Edgardo Filippone ● Antonio Giandonato Caporale ● Matteo Lorito  
● Maria Manuela Rigano ● Pasquale Chiaiese ● Roberta Marra