19-21 Febbraio 2020

# LIFE SCIENCE 2020

## Aula F-Campus Aquae (Via Cascinazza – Pavia)

UNIVERSITÀ DI PAVIA

# 3rd Joint Annual Symposium

## February 19th

| 14:00-14:15 *Greetings from the Rector of Pavia University* |
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### Modelling Diseases and Therapies — (Chairperson Prof. Gherardi E.)

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| 14:15-15:15 | **Invited speaker**: Decoding non-coding RNA function (Bozzoni I, Sapienza University, Rome) |
| 15:15-15:30 | Understanding and tackling neurodegeneration in Amyotrophic Lateral Sclerosis (ALS) through single-cell RNAseq and novel pharmacological and gene-delivery platforms (Pellin D, DBB) |
| 15:30-15:45 | The role of the double-stranded RNA-dependent protein kinase PKR in Bone Sarcomas (Piazzi M, IGM-CNR) |
| | *15:45-16:25 Coffee break* |
| 16:25-16:40 | Effects of interleukin 6 inhibition in progeroid cells (Schena E, IGM-CNR) |
| 16:40-16:55 | ERK signalling as a potential target for neurodevelopmental disorders (Brambilla R, DBB) |
| 16:55-17:10 | Aminoacyl-tRNA synthetase mutations in trichothiodystrophy (Botta E, IGM-CNR) |
| 17:10-17:25 | Induced pluripotent stem cells to model rare cardiovascular diseases and to discover novel personalized therapies (Mura M, Bastaroli F, DMM) |
| 17:25-17:40 | Characterization of LQT8 pig model and design of targeted gene therapy (Fasciano S, DMM) |
| 17:40-17:55 | Role of Pin1 in adult skeletal muscle: a promising target in slowing down the ageing process (Rossi M, DMM) |

## February 20th

### Computational Biology — (Chairperson Prof. Forlino A.)

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| 09:00-09:15 | Programmed cell death ligand-1 expression in small bowel adenocarcinoma (Arpa G, DMM) |
| 09:15-09:30 | Russian doll symbiosis: evolutionary and functional investigation of the intramitochondrial symbiont of ticks (Floriano AM, DBB) |
| 09.30:09:45 | Computational approaches for NGS data analysis (Alfieri R, IGM-CNR) |
| 09:45:10:00 | The hereditary gastric cancer in the NGS era (Ranzani GN, DBB) |
| 10:00-10:20 | Congenital brain malformations: novel phenotypes, novel genes, and novel pathogenetic mechanisms (Serpieri V, DMM) |
| 10:20-10:35 | The 100K Asian genome study, population mechanics and implications in disease (Jansen S; talk sponsored by MACROGEN) |
| | *10:35-11:15 Coffee break* |

| 11:15-11:30 | Reconstruction of enhancer-target gene regulatory network integrating 3D chromatin architecture (Salviato E, IGM-CNR) |
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| 11:30-11:45 | Reconstructing the phylogenies of the barn swallow and the lesser kestrel using mitogenomes (Lombardo G, DBB) |
| 11:45-12:00 | Unexpected features of GC-AG introns in long non-coding and protein-coding genes suggest a new role as regulatory elements (Abou Alezz M, IGM-CNR) |

## Genome Integrity (Chairperson Prof. Biggiogera M.)

| 12:00-12:15 | Dynamics and evolution of mammalian centromeres (Cappelletti E, DBB) |
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| 12:15-12:30 | Mechanisms that modulate replication fork stability and R-loop accumulation during the conflict with transcription (Zardoni L, IGM-CNR) |

#### 12:30-14:00 Lunch

| 14:00-14:15 | Antiviral potential coupled to genome stability: the multifaceted roles of the human RNA helicase DDX3X protein (Riva V, IGM-CNR) |
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| 14:15-14:30 | Seed quality examined through the lens of genome integrity (Balestrazzi A, DBB) |
| 14:30-14:45 | UBR5 interacts with the replication fork and protects DNA replication from DNA polymerase $\eta$ toxicity (Sabbioneda S, IGM-CNR) |
| 14:45-15:00 | Double and triple hit primary cutaneous diffuse large B-cell lymphomas: cytogenetical characterization of a possible aggressive subtype (Bonometti A, DMM) |
| 15:00-15:15 | ALS-linked mutation in FUS protein negatively impact on proper DNA damage response activation leading to damage accumulation (Farina S, IGM-CNR) |
| 15:15-15:30 | Exploring protein stability and quality with NanoDSF (Viganò F, NANOTEMPER; talk sponsored by ALFATECH) |

#### 15:30-16:10 Coffee break

## Seeing is believing

| 16:10-16:25 | Unexpected findings in clarified brains: what is the choroid plexus attached to? (Pizzala R, DMM) |
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| 16:25-16:40 | Three-dimensional computed tomography of the mouse ovary (Fiorentino G, DBB) |
| 16:40-16:55 | Polymodal modulation of TREK-1 K2P channel: towards a specific pharmacology (Lolicato M, DMM) |
| 16:55-17:10 | The nucleolus epigenetics in a photograph (Zannino L, DBB) |
| 17:10-17:25 | Studying the role of p21 and PCNA acetylation in Nucleotide Excision Repair (NER) (Ticli G, IGM-CNR) |
| 17:25-17:45 | Piecing together a molecular puzzle (Canciani A, DBB) |

## Cell homeostasis          (Chairperson Prof. Maga G.)

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| 09:10-09:15 | New insights in megakaryopoiesis and thrombopoiesis: the self-produced collagen route (Abbonante V, DMM) |
| 09:15-09:30 | The Nova2/Ptbp2 circuit integrates alternative splicing decision during angiogenesis (Di Matteo A, IGM-CNR) |
| 09.30-09:45 | Aquaporins in human sperm: relevance in oxidative stress control and in fertility (Pellavio G, DMM) |
| 09:45-10:00 | Role of proline-rich tyrosine kinase Pyk2 in neutrophils (Canino J, DBB) |
| 10:00-10:15 | A stem cell–based model of adipogenesis to study cell-autonomous browning in response to environmental and dietary factors (Sottile V, DMM) |
| 10:15-10:35 | The role of ionic channels in the homeostasis and therapy of the cerebrovascular system (Negri S, RattoD, Talpo F, DBB) |

**10:35-11:15**      *Coffee break*

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| 11:15-11:30 | Spatiotemporal coordination of nuclear cAMP signals via EPAC1 (Iannucci LF, DMM) |
| 11:30-11:45 | *Staphylococcus aureus* iron-regulated surface determinant B (IsdB) promotes adherence to human von Willebrand factor: implications for endothelial colonization (Alfeo MJ, DMM) |

## Challenges for the Future

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| 11:45-12:00 | Archaeology of stress-resistance genes for improving crop photosynthetic efficiency (Pinnola A, DBB) |
| 12:00-12:15 | How gold nanoparticles physical features influence interaction with tumour targeting molecules and cancer responses (Bloise N, DMM) |
| 12:15-12:30 | New weapons against old and emerging bacterial pathogens (Degiacomi G, DBB) |
| 12:30-12:45 | Immune-tolerance to human IPS-derived neural progenitors xenografted into the developing cerebellum of rodents is overridden by species-specific differences in neuronal maturation timing (Magrassi L, IGM-CNR) |
| 12:45-13:05 | Genetic and evolutionary approaches to study the biology of invasive insects and their impact on human health and agriculture (Ometto L, DBB) |