







# EVENTX LIFE SCIENCES

CROSSROADS IN HEALTHCARE

Florence, 8-9 October 2024 - Stazione Leopolda





#### **Partners**















### **Organised by**





#### Florence, 8-9 October 2024 - Stazione Leopolda

X as multiplication, crossroads, exploration, a special place on a map. A meeting point between research, clinic, market, innovation and healthcare, **EventX Life Sciences** — **Crossroads in healthcare, EventX LS** aims to be a moment of discussion between all the players of the health ecosystem, to get to know each other, collaborate, learn about innovative realities and solutions, current issues and upcoming trends.

**EventX LS** is the place where to explore and multiply opportunities for development of projects, business, investments, partnerships, where to accelerate the adoption of innovative solutions in healthcare, where to compare and share future scenarios of the sector.

The 2024 edition of **EventX LS** will be held on the 8th and 9th of October 2024, in Florence, in a place that has always been designed for new meetings and experiences such as Stazione Leopolda, early nineteenth century train station.

www.eventx-ls.it/en



**X** moments of the event

One-to-one meetings

"The next health journey" conference

Thematic workshops

**Exhibition areas** 

Pinwheel Pitching Stage

#### STAZIONE LEOPOLDA

Just few steps away from the center of Florence, between red brick walls and pavement withered by old rail tracks, there is a place where ancient and modern beauty merge. Stazione Leopolda is a beautiful and unique location that has evolved from an early nineteenth century train station into a hub for creative persons: a point of convergence for those who love to free their imagination, meet, and design exclusive, special events. Historically, Stazione Leopolda was the first train station in Florence. Completed in 1848 and named "Leopolda" in honor of the reigning Grand Duke, the station near Porta al Prato was the terminus of the first public railway built in the Tuscan territory as a trade link between the cities of Florence and Livorno.

Its width and the uniqueness of its spaces, transformed over time, have made it an ideal location for events and exhibitions related to culture and contemporary creativity since the 1990's. Stazione Leopolda is the first choice of Italian and international companies — both public and private — cultural institutions, communication agencies and public relations offices for occasions and events. Much more than just a location: a multi-purpose space that, from a train station, has been turned in a transit station of creative ideas.



# One-to-one meetings

Explore and enhance your opportunities for research and development collaborations, project partnerships, insights on innovative solutions, service offering, business growth, investments with life science stakeholders (companies and startups, research organizations, clinicians, investors, service providers, institutions, clusters). Profiling and managing meetings is quick and easy with the online platform b2match.





How the health-related "moments" we can experience throughout our lives, from prevention and diagnosis to therapy and management of patient and healthcare facilities, are evolving. Two days of contributions and examples on upcoming and future implementation of solutions and technologies from experts in the field of the Tuscany Health Ecosystem project and other PNRR health-related initiatives.

"The next health journey" conference

# Thematic workshops

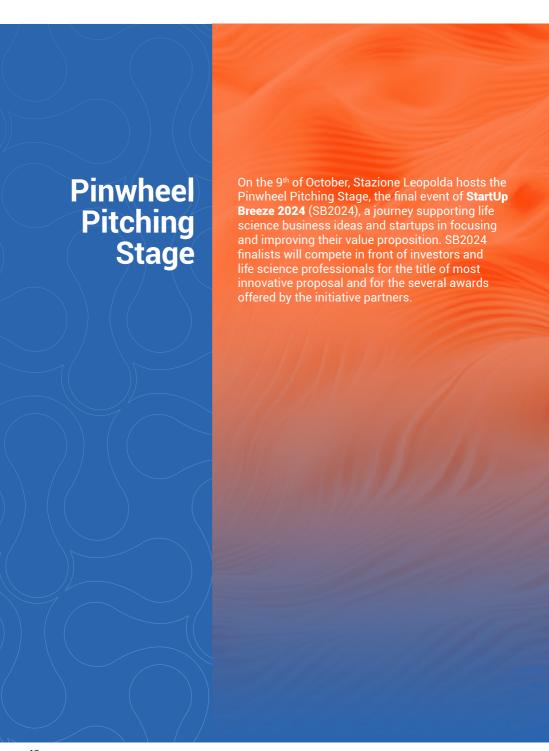
In addition to insights into trends, hot topics and innovative solutions in the sector, specific sessions will be dedicated to the results and research areas under development in THE project spokes.





Opportunities to increase visibility, expand your network and learn about innovative solutions, expertise, products and services from partners and exhibitors.

# **Exhibition areas**











#### Conference Tuesday, 8 October

Lectures will be delivered in English unless otherwise specified.

Acronyms: National Research Council, CNR: Fondazione Toscana Life Sciences, TLS: Istituto Italiano di Tecnologia. IIT: National Institute for Nuclear Physics . INFN: Scuola Normale Superiore, SNS; Sant'Anna School of Advanced Studies, SSSA; Università Cattolica, UNICATT; University of Florence, UNIFI; University of Pisa, UNIPI; University of Siena, UNISI; University for foreigners of Siena, UNISTRASI.

#### 10:00-10:30 BENVENUTO E INTRODUZIONE (in italian)

- ◆ L. Marras Assessore Economia, attività produttive, politiche del credito e turismo (Regione TOSCANA)
- A. Petrucci Presidente THE e rettrice Università di Firenzelnstitutional greetings

#### 10:30-11:50 • Presentation of the Tuscany Health Ecosystem, THE - M. Pierini (UNIFI)

Communicating the ecosystem THE – F. Pelagalli (Culture Srl)

- 10:50-11:30 PerfeTTO, the national Italian life science technology transfer network L. Battistelli (PerfeTTO)
  - L'esperienza di UVaR, Ufficio regionale per la Valorizzazione della Ricerca biomedica – E. Nannicini (Regione Toscana, in italian)

#### 11:30-13:15 PREVENTIVE AND PREDICTIVE MEDICINE SESSION

Moderator: A. Frosini (TLS). R. Marcucci (UNIFI)

- Market and trends brief insights F. Mazzini (TLS)
- Population ageing and innovation incentives: preliminary results from the Age-It project – M. L. Mancusi (UNICATT)
- Adapted Physical Activity and Behavioral Analysis for Active and Healthy Aging - F. Delmastro (IIT-CNR)
- Wastewater as sentinels for the spread of infectious diseases and the control of antibiotic resistance - A. Carducci (UNIPI), C. Lubello (UNIFI)
- Cognitive and behavioral interventions to improve healthcare - D. Menicagli. (IMT Lucca)
- Atherothrombosis and cardiovascular risk: where are we now? where are we going? - R. Marcucci (UNIFI)
- Innovation in device development for thrombotic risk assessment - M. Becatti (UNIFI)

#### 14:00-16:45 INNOVATION IN DIAGNOSTICS SESSION

Moderator: F. Cavallo (UNIFI), A. Frosini (TLS)

- Market and trends brief insights S. Chiordi (UNIFI)
- Innovative tailored management of melanoma brain metastases
   A. Covre (UNISI)
- Novel biomarkers for endometrial diseases F. Luongo (UNISI)
- Imaging biomarkers for neurodegenerative diseases
   N. De Stefano (UNISI)
- Artificial Intelligence (AI)-based tools for digital and computational pathology – F. Ugolini (UNIFI)
- Innovative imaging tools for the early diagnosis and monitoring of cardiotoxicity induced by cancer treatment with immune checkpoint inhibitors – M.C. Pastore (UNISI)
- Intelligent wearable sensors: revolutionizing diagnostic and rehabilitation approaches in neurodegenerative diseases
   F. Cavallo (UNIFI)
- CEACAM5 as potential marker for image-guided gastric cancer surgery – S. Martinelli (UNIFI)
- IFC-CNR radiopharmaceuticals manufacturing facility:new diagnostic opportunities for regional and national cancer patients
   M. Poli (IFC-CNR)

### 17:00-18:45 TOOLS AND MODELS FOR THE DEVELOPMENT OF THERAPEUTICS SESSION

Moderator: A. Frosini (TLS), A. Magnani (UNISI)

- Market and trends brief insights F. Mazzini (TLS)
- Use of artificial intelligence and a new animal model to study compounds with preventive action toward diseases associated with aging – A. Cellerino (SNS)
- Data-driven approaches for precision therapies in cancer and neurodegenerative diseases – F. Raimondi (SNS)
- Unravelling the role of smart lipid-based nanoparticles in targeted drug delivery – I. Clemente (UNISI)
- Bioprinting techniques for advanced in vitro models G.M. Fortunato (UNIPI)
- Additive manufacturing approaches for intelligent scaffolds
   C. Cavallini (NANO-CNR)
- A fluorescence lifetime platform for the screening of healthcare nanoformulations – F. Cardarelli (SNS)

# Workshop Tuesday, 8 October

Workshops will be delivered in English unless otherwise specified.

Acronyms: National Research Council, CNR; Vrije University of Brussel, Belgium, VUB;
Digital Innovation Hub Toscana. DIH: University of Florence. UNIFI: University of Siena. UNISI.

### 14:00-15:00 CIAOTECH-GRUPPO PNO INNOVATION SERVICES IN THE HEALTH SECTOR: ONCOVALUE & WARIFA PROJECTS

Speakers: C. Zocchi (Senior Innovation Consultant, CiaoTech-Gruppo PNO) & Chandra Gracia Anweta (Business and Innovation Analyst, CiaoTech-Gruppo PNO)

14:00-14:05 Welcome and Opening

14:05-14:30 Technology and Market Assessment for the ONCOVALUE Project

14:30-14:55 Funding Application Support for the WARIFA Project

14:55-15:00 Closing Remarks

### 15:00-16:30 "PHOTONICS START-UP AND INNOVATION: ACCELERATING LIFE SCIENCES"

Organized by Confindustria Toscana, PhotonHub Europe & project partner

15:00-15:05 Welcome and Opening Remarks
Gabriele Baccetti (Confindustria Toscana)

15:05-15:20 PhotonHub Europe: new technologies and opportunities from photonics to life sciences

Nathalie Debaes (VUB) – PhontonHub Lead Partner

15:20-15:35 Photonic Innovations for life sciences applications Roberto Pini (IFAC-CNR)

15:35-15:50 Investing in the Future: opportunities and success criteria for photonic startups
 Alejandro Dominguez (Funding Box)

15:50-16:25 Round Table: "Collaboration and Innovation in the photonic Sector – synergies between research, industry, and finance"
Participants: photonic companies and start-ups,
Nathalie Debaes (VUB), Roberto Pini (IFAC-CNR),
Alejandro Dominguez (Funding Box)

16:25-16:30 Closing Remarks

#### Workshop Tuesday, 8 October



## Innovative results from the spokes of Tuscany Health Ecosystem

Acronyms: National Research Council, CNR; Fondazione Toscana Life Sciences, TLS; Istituto Italiano di Tecnologia, IIT; National Institute for Nuclear Physics, INFN; Scuola Normale Superiore, SNS; Sant'Anna School of Advanced Studies, SSSA; Università Cattolica, UNICATT; University of Florence, UNIFI; University of Pisa, UNIPI; University of Siena, UNISI; University for foreigners of Siena, UNISTRASI.

## 14:00-15:15 WORKSHOP PREVENTIVE AND PREDICTIVE MEDICINE SPOKE 2 THE

14.00-14.05 Introduction

R.Marcucci (UNIFI)

#### 14.05-14.20 Public Health Medicine

- Environment and population health: Impact Assessment in Tuscany – Baccini (UNIFI)
- Innovative toolkit for surveillance of infectious diseases
   Bechini (UNIFI)

#### 14.20-14.35 Primary prevention and early diagnosis

Male infertility – E. Baldi and L. Vignozzi (UNIFI)

## 14.35-15.00 Advanced technologies and biomarkers in preventive and predictive medicine

- Microbiota and heart failure A.Amedei (UNIFI)
- Preventing progression in multiple sclerosis M.P. Amato (UNIFI)
- Innovative treatments to improve outcomes in high risk surgical patients – G. Baldini (UNIFI)

15.00-15.15 Discussion and conclusion

# 15:15-16:30 WORKSHOP NANOTECHNOLOGIES FOR DIAGNOSIS AND THERAPY SPOKE 4 THE

- Nanotechnologies in the Tuscany Health Ecosystem: Spoke 4 role and state-of-the-art – D. Pisignano (UNIPI)
- Nanovectors for lung and eye deliver A.M. Piras (UNIPI)
- Monitoring 3D blood-brain barrier maturation and integrity in realtime with a sensorized microfluidic device — M.C. Ceccarelli (IIT)
- Smart nanostructures for intracellular theranostics and optical biosensing – F. Baldini (IFAC-CNR)

### 17:00-19:00 RISULTATI E PROBLEMATICHE SUI TEMI DI RICERCA AFFRONTATI NEGLI SPOKE 6 & 7 THE (in italian)

#### Precision medicine & personalized healthcare

#### SPOKE 6 THE

Identificazione e sviluppo di nuovi biomarcatori avanzati (immunologici, molecolari, ecc.) per migliorare la stratificazione dei pazienti e generare approcci clinici personalizzati per la diagnosi, trattamento, monitoraggio e gestione dei pazienti tramite tecniche omiche, di intelligenza artificiale e di biologia computazionale.

#### Innovating translational medicine

#### SPOKE 7 THE

Sviluppo e validazione approcci innovativi in ricerca traslazionale con interazione continuativa e circolare tra ricerca e clinica, per facilitare e accelerare l'individuazione di nuovi marcatori per terapia e diagnosi, in particolare nelle malattie rare, infettive e croniche.

# Conference Wednesday, 9 October

#### 09:15-11:30 INNOVATIVE PHARMACOLOGICAL APPROACHES SESSION

Moderator: L. Bracci (UNISI), A. Frosini (TLS)

- Market and trends brief insights Andrea Patricelli Malizia (UNIPI)
- Drug design of potential enzyme inhibitor-based drugs for neurodegenerative diseases – C. Supuran (UNIFI)
- Development of innovative and affordable medicines for the treatment of obesity, diabetes and neurodegenerative diseases
   M. Pineschi (UNIPI)
- Intracellular nanobodies, a new generation of drugs
   A. Cattaneo (SNS)
- Novel immunotherapies in cancer: targeting the hERG1/beta 1 integrin complex through recombinant antibodies in combination with cholesterol lowering drugs – A. Arcangeli (UNIFI)
- Antibody-Drug Conjugates: redefining precision medicine for cancer and beyond – E. Petricci (UNISI)
- Branched peptides for therapy L. Bracci (UNISI)
- Multifunctional devices for the treatment of sepsis A. Pini (UNISI)
- Unconventional strategies to prevent and treat infections in the era of antibiotic resistance – G. Batoni (UNIPI)

### 11:45-13:15 INNOVATIVE NON PHARMACOLOGICAL THERAPEUTIC APPROACHES SESSION – PART 1

Moderator: V. Ferrari (UNIPI), A. Frosini (TLS)

- Market and trends brief insights M.R. Martina (UNIFI)
- Clinical translation of implantable and wearable neurotechnologies to restore neural functions – S. Micera (SSSA)
- Guiding medical procedures with Augmented Reality by extending the surgeon's capabilities and integrating with clinical practice
   V. Ferrari (UNIPI)
- A hand from wearable robotics: exoskeletons for upper limb assistance and rehabilitation – N. Secciani (UNIFI)
- Wearable robotic devices and haptic interfaces for assistive robotic, augmentation and telemedicines – M. Malvezzi, T. Lisini Baldi (UNISI)

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### 14:15-16:00 INNOVATIVE NON PHARMACOLOGICAL THERAPEUTIC APPROACHES SESSION – PART 2

Moderator: L. Gizzi (INO-CNR), A. Frosini (TLS)

- Lower-limb rehabilitation robotics: the case of the Active Pelvis Orthosis – R. Conti (IUVO)
- Biomimicry for the design of assistive systems and human-machine interfaces – M. Bianchi (UNIPI)
- Modular and flexible robots for improving minimally invasive surgery
   A. Menciassi (SSSA)
- Innovative techniques in cancer radiotherapy: FLASH radiotherapy
   L. Gizzi (INO-CNR)
- Designing health: 3D printing at the forefront for the patient
   M. Carfagni (UNIFI)

#### 16:15-18:00 MODELLI ORGANIZZATIVI NELL'AMBITO SALUTE (in italian)

Nuovi paradigmi per la sostenibilità dell'ecosistema socio-sanitario
 S. Nuti (SSSA)

#### Tavola rotonda

Moderatore: N. Bellè (SSSA)

- Alessio Gramolati Segretario (SPI CGIL Toscana)
- Simone Bezzini Assessore Diritto alla salute e sanità (Regione TOSCANA)
- Alessandro Agnetis Prof. Metodi decisionali nella gestione dei sistemi sanitari (UNISI)
- Antonio D'Urso Direttore Generale (Azienda Usl Toscana sud est)

# Workshop Wednesday, 9 October

#### 09:30-14:00 PINWHEEL PITCHING ARENA 2024

Final event of Startup Breeze 2024, a journey supporting business ideas and startups in focusing and improving their value proposition. The 12 finalist teams present their business proposals to investors and life science experts.

Program available here &

Profiles of the 12 finalists available here &

### 14:15-16:00 WORKSHOP "L'ECOSISTEMA DELL'INNOVAZIONE NELLE SCIENZE DELLA VITA IN TOSCANA" (in italian)

14:15-14:25 Saluti

**Prof. M. Bellandi** – Dipartimento di Scienze per l'Economia e l'Impresa (UNIFI)

**Dr.ssa S. Ramondetta** – Coordinatrice DIH Toscana e Responsabile Area Economica Confindustria Toscana

#### 14:25-14:45 Le startup e l'ecosistema toscano delle Scienze della Vita

 Prime evidenze della ricerca condotta dal DIH di Confindustria Toscana e UNIFI – Dr.ssa S. Pucci, Dr. G. Fiorindi (DIH), Dr.ssa J. Pocek (UNIFI)

#### 14:45-15:15 Tuscany Health Ecosystem e il ruolo delle Università

**Prof. M.Pierini** – Prorettore al Trasferimento Tecnologico (UNIFI)

**Prof. L. Zanni** – Dipartimento Studi aziendali e giuridici (UNISI)

## 15:15-15:45 Tavola rotonda: Istituzioni, attori e opportunità di sviluppo per l'ecosistema toscano

Modera: Prof. A. Paci – Presidente della Scuola di Economia e Management (UNIFI)

**Dr. B. Dika** – Portavoce del Presidente della Regione Toscana e Delegato alle politiche giovanili/innovazione

Dr. S. Luccisano – Consigliere DIH Toscana

Dr. M. Donnini – CEO e Presidente Visia Lab

C. Stimola – Fondatrice e CFO Linari Medical

#### 15:45-16:00 Dibattito e conclusioni

## Innovative results from the spokes of Tuscany Health Ecosystem

# 09:30-10:45 RADIOTERAPIE AVANZATE E DIAGNOSTICA IN ONCOLOGIA (in italian) SPOKE 1 THE

- Sviluppo di un sistema di posizionamento per modelli animali (e simulazione della deposizione della dose organo-specifica: requisiti essenziali per ottenere dati robusti e riproducibili in esperimenti in vivo)
   A. Gonnelli (UNIPI)
- Piattaforma per la gestione e analisi dei dati per la sperimentazione FLASH – C. Scapicchio (INFN)
- Piattaforma 3D in vitro per studiare gli effetti della radioterapia in cellule sane e tumorali – A. Usai (UNIPI)
- Strumenti di imaging per valutare l'efficacia di FLASH e CONV RT su un modello murino di melanoma e tossicità cutanea
   E. Mota da Silva (CNR/SSSA)
- Tecnologie abilitanti per la sperimentazione preclinica con acceleratori laser-plasma – G. Bandini (INO-CNR)
- Sistemi dosimetrici per FLASH-RT: misurazione della dose erogata con rivelatori basati su scintillatori plastici – E. Ravera (UNIPI)

# 10:45-12:00 WORKSHOP ADVANCED TECHNOLOGIES, METHODS AND MATERIALS FOR HUMAN HEALTH AND WELL-BEING SPOKE 3 THE

- Introduction to the Spoke 3: objectives and challenges

   E. Rovini (UNIFI)
- VoxLogicA: a Human-Centric approach to Hybrid AI in Medical Imaging – V. Ciancia (ISTI-CNR)
- Creating a friendly, innovative, digital ecosystem for personalised and integrated diagnostic-therapeutic and rehabilitation pathways: the Promise@lab activities – G. Cherubini (UNIFI)
- Advanced Technologies, Intercultural Communication and Narrative Approach in Healthcare – S. Ardizzoni, M. Aurora (UNISTRASI)
- Tele-assessment and tele-rehabilitation in children with Neurodevelopmental Disorders: opportunities and challenges
   C. Pecini (UNIFI)
- Skin-contact wearable electrochemical biosensing tools for the wellbeing of neurological patients – I. Palchetti (UNIFI)
- Innovation in health measurement and monitoring methods: from biomarker detection to wearable sensors and sensor networks
   V. Vignoli (UNISI)
- What pupil size can and cannot tell about mental processes
   R. Arrighi (UNIFI)

# 12:00-13:15 WORKSHOP BIOTECHNOLOGIES AND IMAGING IN NEUROSCIENCE SPOKE 8 THE

- Combining Medical Imaging with Behavioral and Physiological Signals to Enhance Brain Function Analysis – N. Vanello (UNIPI)
- Towards a cure for Creatine Transporter Deficiency: promises and challenges of gene therapy – L. Baroncelli (IN-CNR)
- Corticosteroids repurposing for photoreceptor rescue in inherited retinal degenerations – E. Strettoi (IN-CNR)

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#### 14:30-15:45 WORKSHOP POPULATION HEALTH (in italian)

#### SPOKE 10 THE

- Intervento Spoke 10 group leader sul tema "Salute della popolazione

   Attuazione dal prototipo alla sperimentazione su larga scala:
   processi di validazione sociale, clinica ed economica sulla
   popolazione e nel sistema sanitario N. Bellè (SSSA), F. Quattrone
   (SSSA), P. Cantarelli (SSSA) in collaborazione con D. Guerri (Dedalus).
- Percorsi sanitari innovativi per gli anziani nelle aree rurali e urbane
   R. Moruzzo & L. Catena (UNIPI)
- Health Community HUB: un metodo di co-creazione della salute a partire dalla comunità – D. Menicagli & E. Betti (UNIFI)
- Predizione dell'uso del pronto soccorso nei pazienti fragili: uno studio longitudinale del gruppo Spoke 10 – F. Turco & A. Colitta (UNIPI)
- Coordinamento e integrazione dei servizi sanitari per la continuità assistenziale e la creazione di valore pubblico – A. Agnetis (UNISI)
- Intervento su Traumi migratori e industria sanitaria toscana
   A. Sgaglione (UNISTRASI)

# 15:45-17:00 WORKSHOP ROBOTICS AND AUTOMATION FOR HEALTH SPOKE 9 THE

- Training curricula based on patient-specific phantoms
   M. Carbone (UNIPI)
- Sensing systems, models, techniques and methods for rehabilitation design and assessment – A. Artoni (UNIPI)
- A new generation of collaborative robot for in healthcare
   C. Paggetti (Orthokey Italia Srl)
- Development, integration, and validation of end effectors, perception and control sub-systems for manipulation in pharmaceutical processes – S. Tolomei (UNIPI)
- Development, integration, and validation of navigations, control, and teleoperation systems for mobile autonomous platforms for smart hospital logistics – D. De Benedittis & D. Selvi (UNIPI)
- Development and validation of models and techniques for localization, mapping, path planning and coordination of multi-agent systems for smart hospitals – T. Van der Meer (UNISI)













EventX Life Sciences is realized within the activities of the project "THE – Tuscany Health Ecosystem", National Recovery and Resilience Plan (NRRP), Mission 4, Component 2 Investment 1.5, funded by the European Union – NextGenerationEU.

The 22 partners of **Tuscany Health Ecosystem (THE)** project aim to make Tuscany the "health region," pushing life sciences players (research, companies, clinicians) to develop applications and technologies to stimulate and support the growth and improvement of the health ecosystem in Tuscany.

There are more than 1. 400 researchers involved in ecosystem projects, ranging from the development of advanced radiotherapies and diagnostics in oncology, preventive and predictive medicine, advanced technologies, methods and materials for human health and wellness, nanotechnology for diagnosis and therapy, implementation of innovation for health and wellness, precision medicine and personalized health care, translational medicine, biotechnology and imaging in neuroscience, robotics and automation for health, and population-based models of health management.

Fondazione Toscana Life Sciences is a nonprofit organization supporting research, business creation and training activities for the innovative development of the life sciences and healthcare systems. TLS is engaged in its own research activities, technology transfer, business incubation and it plays the role of aggregator and facilitator of the Tuscan innovation ecosystem in the various fields of life sciences, at the center of a network of public-private partnerships active at the regional, national and international level.

#### Organised by:











Organisational office:



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### **Sponsors**











