



29-30<sup>th</sup> November, 2021

## Monday, November 29<sup>th</sup>

- 12:00 – 12:30**      **Welcome and Presentation of the SDDN Association**
- 12:30 – 14:30**      **Session 1. BIOMARKERS FOR PERSONALIZED MEDICINE**  
Chairs: **Angel Carracedo** (USC) / **Francisca Vicente** (Fundación MEDINA)
- 14:30 – 15:30**      **Lunch**
- 15:30 – 17:30**      **Session 2. ADVANCED DRUG DELIVERY TECHNOLOGIES**  
Chairs: **María Jesús Vicent** (CIPF) / **Julio Martín** (Sciengement Lab Consulting)
- 17:30 – 17:50**      **Presentation of the Spanish Drug Discovery Map**
- 17:50 – 18:00**      **Presentation of SLAS (Society for Laboratory Automation and Screening)**
- 18:00 – 20:00**      **Poster session and Exhibitors / coffee break – refreshments**
- 20:30 -**              **Dinner**

## Tuesday, November 30<sup>th</sup>

- 09:00 – 11:00**      **Session 3. THE IMPACT OF ARTIFICIAL INTELLIGENCE IN MODERN DRUG DISCOVERY**  
Chairs: **Jordi Quintana** (Chemotargets) / **Arsenio Nueda** (Almirall)
- 11:00 – 12:00**      **Poster session and Exhibitors/ coffee break – refreshments**
- 12:00 – 12:30**      **Flash talks posters**
- 12:30 – 14:30**      **Session 4. THE CONTRIBUTION OF SPANISH SCIENCE TO PANDEMIC PREPAREDNESS**  
Chairs: **Ana Martínez** (CSIC) / **Carmen Gil** (CSIC)
- 14:30 - 14:45**      **Closing remarks and Farewell**

SDDN Partner



Event Sponsor



Villapharma





29-30<sup>th</sup> November, 2021

Oral sessions will also be available on-line via live streaming, and recorded for post-meeting viewing.

**Monday, November 29<sup>th</sup>**

**12:30 – 14:30**

## **Session 1**

### **BIOMARKERS FOR PERSONALIZED MEDICINE**

Chair / co-Chair: **Angel Carracedo** (USC) / **Francisca Vicente** (Fundación MEDINA)

Personalized medicine is based in the use of biomarkers for disease stratification and drug response prediction. Most of actionable biomarkers are nowadays based on genomic approaches although, in the future, combination with other omics and clinical biomarkers will be key for the development of the field (integration of clinical information is anyway essential for the application of validated biomarkers).

The steps of the application of biomarkers in personalized medicine include discovery, validation (including in some cases regulatory approval) and translation to clinical practice. Each one of these aspects, that are going to be covered in the session, has specific challenges that need to be afforded through national and international initiatives that are also going to be addressed in this session.

**Emiliano Giardina**, University of Roma 2

***Translation of precision medicine into medical practice: lessons from the use of genomic biomarkers***

**Adrián Llerena**, Universidad de Extremadura

***Translation in Pharmacogenetics: the Medea project***

**Angel Carracedo**, Universidad Santiago de Compostela

***Translation in Personalized Medicine: the IMPACT programme***

**Máximo Vento**, Health Research Institute La Fe

***Seeking early reliable biomarkers of brain damage in newborn medicine***

SDDN Partner



Event Sponsor



Villapharma





29-30<sup>th</sup> November, 2021

Oral sessions will also be available on-line via live streaming, and recorded for post-meeting viewing.

**Monday, November 29<sup>th</sup>**

**15:30 – 17:30**

## **Session 2**

### **ADVANCED DRUG DELIVERY TECHNOLOGIES**

Chair / co-Chair: **María Jesús Vicent** (CIPF) / **Julio Martín** (Sciengement Lab Consulting)

Drug Discovery is living transformational times. Recent technological advances in gene editing, culturing of human cells, emerging biology and digital sciences are allowing us to develop novel therapeutic modalities to drugging the undruggable targets. Proteins, nucleic acids and cells are being added to the classical therapeutic armamentarium of small (or not so small) molecules. Nevertheless, regardless its nature, for a drug to exert its effect, it must reach its target. No matter how efficacious a drug can potentially be, it will have to be efficiently delivered to the site of action. The range of systems and approaches that can be used to deliver therapeutics is growing and advancing at an incredible rate, so learning about the advances in drug delivery has important implications for anyone working in drug discovery.

This session will address advanced methodologies to deliver all range of therapeutic modalities, i.e. DNA, RNA, antibodies and small molecules. Special attention will be paid to nanotechnologies for targeted delivery and precision medicine: sensing, diagnoses and therapeutics at one go. Likewise, we will review the state of the art in optical molecular imaging for monitoring the distribution of therapeutic agents throughout the body.

**Steve Hood**, Senior Scientific Director, Imaging Expertise Networks, GSK R&D  
***Bioimaging – Answering the “What, Where and How Much?” of Modern Drug Discovery***

**Ramon Martinez-Mañez**, Professor, Universidad Politecnica de Valencia (UPV) &  
Director, Ciber-BBN  
***Drugs and probes targeting senescent cells.***

**María de la Fuente Freire**, DIVERSA Co-founder and Head of Nano-oncology and Translational Therapeutics, Hospital Universitario de Santiago de Compostela  
***Versatile and biocompatible sphingomyelin-based nanosystems for the intracellular delivery of biomolecules and development of advanced therapeutics***

**María J. Vicent**, Polymer Therapeutics Lab, Centro de Investigación Príncipe Felipe (CIPF)  
***Modulating nanoconjugate tropism by a rational design***

SDDN Partner



Event Sponsor



Villapharma





29-30<sup>th</sup> November, 2021

Oral sessions will also be available on-line via live streaming, and recorded for post-meeting viewing.

Tuesday, November 30<sup>th</sup>

09:00 – 11:00

### Session 3

## THE IMPACT OF ARTIFICIAL INTELLIGENCE IN MODERN DRUG DISCOVERY

Chair / co-Chair: **Jordi Quintana** (Chemotargets) / **Arsenio Nueda** (Almirall)

Artificial Intelligence (AI) and machine learning technologies have an increasing role in the drug discovery and clinical development processes, ranging from the analyses of large amounts of heterogeneous data from in vitro and in vivo experimental models to the mining of electronic health records and real-world data from patients. This session will address both the benefits and the challenges encountered when applying AI techniques along the different phases of the drug discovery value chain, from early discovery to patients' reports. We will also aim to discuss on the possible evolution of this field. Selected speakers will cover:

- How AI could contribute to the discovery of novel biological pathways underlying disease taking advantage of the vast multidimensional data landscape available in public databases.
- The use of AI combined with human expert knowledge to support multiparametric lead optimization from initial hit to clinical candidate.
- How AI may contribute to the integration of efficacy and safety data across the full drug discovery and development process.
- How AI could contribute to the integration of realworld patient's data to support the discovery of new potential therapies.

**Teresa Sardon**, Senior Researcher and Business Unit Manager – Anaxomics Biotech  
*Systems Biology + AI: a successful combination to understand human pathophysiology.*

**Laura I. Furlong**, Medbioinformatics Solutions.  
*DISGENET plus: an AI-powered disease genomics platform to support drug R&D*

**Victor Guallar**, ICREA Professor, Barcelona Supercomputing Center  
*PELE-AI, putting together the best of molecular modeling and machine learning techniques for drug design*

**Ignacio Medrano**, Neurologist, Founder and Chief Medical Officer, SAVANA  
*Medical Artificial Intelligence, separating facts from fiction*

SDDN Partner



Event Sponsor



Villapharma





29-30<sup>th</sup> November, 2021

Oral sessions will also be available on-line via live streaming, and recorded for post-meeting viewing.

**Tuesday, November 30<sup>th</sup>**

**12:30 – 14:30**

## **Session 4**

### **THE CONTRIBUTION OF SPANISH SCIENCE TO PANDEMIC PREPAREDNESS**

Chair / co-Chair: **Ana Martínez** (CSIC) / **Carmen Gil** (CSIC)

According to WHO priorities, research on antiviral drugs and vaccines is urgently needed for eradication of infectious diseases with a great public health risk due to their epidemic potential and/or whether there is no or insufficient countermeasures. While the vaccines are obviously required, antivirals are still needed to face the acute infections and also as post-exposure prophylaxis.

The unprecedented pandemic caused by the novel coronavirus, SARS-CoV-2, in December 2019 mobilized the research community around the world and we are now racing to develop treatments and vaccines to fight against this virus. In this sense, efforts made by the Spanish scientific community have been of high value. Remarkably, public and private centers such as CSIC or Navarra University and IS Global are working at the forefront of science in the face of the COVID-19 pandemic. They are involved in the race to identify effective therapies for treatment, both antivirals that manage to alleviate the symptoms and put an end to the infection, and vaccines that can protect us from the virus and that are also effective in blocking its transmission.

**Ana Sanz Herrero**, Manager at Office for the support of therapies and vaccines against COVID-19 development, Deputy Vicepresidency of Knowledge Transfer, Spanish National Research Council (CSIC).

***CSIC COVID-19 research contributions from Technology Transfer Office's perspective***

**Urtzi Garaigorta**, Centro Nacional de Biotecnología (CSIC)

***The CSIC Antiviral Screening Platform: a collaborative scientific network to fight viral infections***

**Carlos Chaccour**, ISGlobal, Barcelona Institute for Global Health & Universidad de Navarra  
***Ivermectin and COVID-19: keeping rigor in times of urgency***

SDDN Partner



Event Sponsor



Villapharma

