

09:00-10:30(CET)

## Technology presentations by German and Japanese startups/scaleups

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### Startups/Scaleups from BioM

#### EpiQMAx: Decoding epigenetics for clinical applications

##### EpiQMAx

**Speaker** Dr. Victor SOLIS (Chief Scientific Officer - EpiQMAx GmbH)

Epigenetic markers are key readouts for understanding how environmental and lifestyle factors affect our predisposition and development of diseases. Epigenetic marks serve as good drug targets because they are heritable, reversible and many are causally linked with diseases. Researchers, Pharmaceutical and Diagnostic companies are in the constant search for such markers. To fulfil their demand, EpiQMAx has standardized methods and is robotizing experimental protocols into a technology platform that quantifies epigenetic marks from biofluids, solid tissues and buccal swabs. We commercialize our product together with machine learning tools that discover and validate markers associated with diseases and other conditions.

URL [www.epiqmax.com](http://www.epiqmax.com)



Decoding epigenetics

#### Transforming the Lives of Patients with Severe Pulmonary Disease

**ethris Speaker** Priv.-Doz. Dr. Carsten Rudolph, CEO

Ethris has paved a new path from genes to therapeutic proteins using its proprietary, non-immunogenic messenger RNA technology platform to discover, design and develop innovative therapies. We are a global leader in delivering stabilized mRNAs directly to the respiratory system via optimized formulation and nebulization technologies. We are rapidly approaching proof of concept for generating therapeutic antibodies against COVID-19 in the lung through a partnered program while advancing our pipeline of immuno-modulation and mRNA-based protein replacement therapies with the ultimate goal of improving patients' lives.

URL [www.ethris.com](http://www.ethris.com)



#### Revolutionizing medical diagnostics by proteomics

##### OmicEra

**Speaker** Dr. Sophia Doll, Co-Founder and Chief Business Officer at OmicEra Diagnostics GmbH

At OmicEra Diagnostics, we are revolutionizing medical diagnostics. We transform today's single analyte blood tests to parallelized big data acquisitions using our mass spectrometry-based proteomics platform. This will catalyze the discovery of novel early disease biomarkers by profiling every individual's unique proteome – the ensemble of all proteins.

URL <https://omicera.com>



#### Viral vectors to support Cell & Gene Therapies from Early Stage

##### SIRION Biotech

**Speaker** Dr. Cristina URECHE, Head Discovery & Preclinical Services

Clinical trials focussed on gene therapy are increasing, so does the need for viral vectors. Drug developers require specialists with competence around viral vectors that fit any type & stage of development. The presenter will walk you through key success factors when considering viral vectors for your gene therapy or CAR-T and cell therapy developments. A smooth transfer from preclinical stage to clinics is of utmost importance.

URL <https://www.sirion-biotech.com/>



## Startups/Scaleups from Tsukuba

### **The challenge of new drug discovery based on bioactive peptide DRPs (disulfide-rich peptides): the cutting-edge drug discovery platform Veneno Suite™**

**Veneno Technologies Co. Ltd.**

**Speaker Kazunori Yoshikawa, President and CEO**



DRPs, a group of tightly folded peptides with three or more disulfide bonds in the molecule, are attracting attention as a next-generation drug discovery modality because of their high activity and selectivity for various ion channels and other membrane proteins such as GPCRs, as well as their excellent physicochemical properties such as resistance to degrading enzymes and high thermal stability.

In this presentation, we will introduce the difficulties of DRP drug discovery and the new basic technology, Veneno Suite™, which solves these difficulties.

URL <https://veneno.co.jp>

### **Consecutive Discovery of New Drug Candidates with Proprietary Medchem Technology**

**Alchemedicine, Inc. Speaker CEO Tanaka Keigo**

Alchemedicine, carve-out biotech from Eisai Co. Ltd., is a drug discovery biotech dedicated to discovering novel small molecule drugs by using proprietary medchem technology. We have two business models: one is the licensing of internal R&D pipelines, another is the discovery of new drug candidates under the collaboration with outer parties followed by the licensing of our rights. In this presentation, we will introduce company overview and business opportunities.

URL <https://alchemedicine.com/>



## Startups/Scaleups from Kawasaki

### Drug and Biomarker Discovery by HMT's Next-gen Metabolomics Human Metabolome Technologies, Inc.

#### Speaker

**Kenjiro Kami, Ph.D., Executive Officer, Head of Global Sales Department**

Human Metabolome Technologies (HMT) has been providing metabolome analysis service to researchers worldwide since 2003 and contributed to over 6,000 projects with more than 500 publications. Continuously innovating CE-MSbased metabolomics technology, HMT dramatically improved analytical sensitivity and coverage of target metabolites recently and developed a sophisticated cheminformatics approach for predicting the structure of unknown compounds, with which dozens of new metabolites were successfully identified. Taken together, HMT introduces a novel solution for elucidating drug efficacy and toxicity mechanisms and discovering patient stratification biomarkers using the cutting-edge metabolomics technologies.

URL <https://humanmetabolome.com/>



### Accelerating Drug and Cell Medicine Development using Large-scale Data of Cells

**Knowledge Palette, Inc. Speaker CEO Hiroki Danno**

Knowledge Palette is a startup company developing platforms of phenotypic drug discovery and regenerative cell medicine. In today's drug discovery industry, the difficulty and cost of new drug development is continually rising, as few drug target substances remain in the body. On the other hand, regenerative cell medicine is expected to fulfil unmet medical needs as new medical treatments, but there is a problem in quality control as they are composed of living cells. We analyze whole gene expression profiles of cells, which are treated with new drug candidates or culture media, and screen their effects to solve the above problems by applying our large-scale transcriptome technology.

URL <https://www.knowledge-palette.com/en/>



### Innovations in Drug Delivery to Cure Brain Diseases Braizon Therapeutics, Inc.

**Speaker Global Head, Business Development,  
Braizon Therapeutics US, Inc President & CEO  
Philip Davy**

Braizon Therapeutics develops and licenses drug delivery platforms to cross the blood-brain barrier. Our first partnered product will provide IV formulated antisense oligonucleotide drugs delivered to the brain within targeted polymer micelles. These nanoparticles provide high efficiency drug loading and are being adapted to antibody, peptide, and small molecule delivery. We provide brain targeted formulation and CMC support to our partners, with a low barrier of access through feasibility studies. Concurrent with internal asset projects, Braizon is promoting alliances with pharma and biotech in Japan, the EU, and the USA.

URL <https://braizon.com/>



10:40-11:40(CET)

## Collaborative Seminar by German and Japanese Bio Industrial Clusters

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### Keynote Speech

**The future prospection of biotechnology research in Tsukuba, created by the fusion of digital and biotechnology**

**University of Tsukuba**

**Speaker Dr. Hiroyuki Nishiyama**

**Professor (Faculty of Medicine)**

**Vice Director, University of Tsukuba Hospital**

**Project Leader, Tsukuba International Center for Digital**

**Biotechnology**



The "Tsukuba International Center for Digital Biotechnology" has been selected as one of the candidate sites for a global biocommunity in Japan in 2020. This project aims to make Tsukuba Science City an international biocommunity hub based on innovation, industry-academia-government co-creation system, and digital bio-first human resources, with an emphasis on the well-being of all generations of citizens.

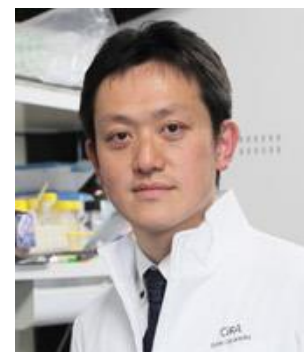
### Seminar

1.

**Development of regenerative immunotherapy with induced pluripotent stem cell technology**

**Univ. of Tsukuba/ CiRA, Kyoto Univ.**

**Speaker Dr. Shin Kaneko, Professor**



In Japan, investigator-initiated clinical trials will soon begin for ovarian cancer treatment using human leukocyte antigen (HLA)-homozygous-induced pluripotent stem cell (iPSC)-derived antiglypican-3 (GPC3) chimeric antigen receptor (CAR)-expressing natural killer/innate lymphoid cells (NK/ILC). In this presentation, we describe our methods for the stable, feeder-free production of CAR-expressing NK cells from CAR-transduced iPSC with clinically relevant scale and materials. These cells showed stable CD45/CD7/CAR expression, effector functions of cytotoxicity and interferon gamma (IFN- $\gamma$ ) production against GPC3-expressing tumor cells.

When the CAR-NK/ILC cells were injected into a GPC3-positive, ovarian-tumor-bearing, immunodeficient mouse model, we observed a significant therapeutic effect that prolonged the survival of the animals.

URL [https://www.cira.kyoto-u.ac.jp/e/research/kaneko\\_summary.html](https://www.cira.kyoto-u.ac.jp/e/research/kaneko_summary.html)

2.

**Astellas' Open Innovation**

**Astellas Pharma Inc.**

**Speaker Hiroyuki Usuda, Manager, Scouting Group, Astellas Innovation Management LLC**

Astellas Innovation Management (AIM) has offices in Cambridge, Massachusetts and Brisbane, California in the US, Cambridge in the UK, and Tsukuba in Japan and has constructed broad networks with various institutions to enable flexible partnering arrangements. We pursue the goal of realising collaboration that benefits both sides, with respect for partners' existing research and leveraging Astellas facilities and human resources. We are particularly interested in early stage partnerships with academia and biopharmaceutical companies. We are committed to transforming innovative science into VALUE for patients in collaboration with various partners who share our VISION.

URL <https://www.astellas.com/en/>

