# Invitation to the Department of

# Department of Laboratory Medicine & KISCO conference 2025

# April 15 - 16

CONFERENCE

**Advancements in Stem Cells, Organoids, AI, and Regenerative Medicine**

**Karolinska Institutet**

**Please use the link below to register (deadline March 29, 2025)**

**Venue:**

**Jan Åke Gustafssonsalen, NEO level 5, Blickagången 16, Huddinge**

The field of regenerative medicine and advanced therapeutics is evolving rapidly, driven by breakthroughs in stem cell research, the development of organoids, and the transformative power of artificial intelligence. These advancements hold immense potential for revolutionizing how we understand, diagnose, and treat a wide range of diseases.

To foster collaboration and accelerate progress, the ***Advancements in Stem Cells, Organoids, AI, and Regenerative Medicine*** conference will bring together leading researchers, clinicians, and industry experts. Hosted by the Deparment of Laboratory Medicine, Karolinska Institutet, Stockholm, Sweden. This event aims to create an interactive platform for knowledge exchange and the exploration of innovative approaches in stem cell therapies, tissue engineering, and AI-driven medical applications.

We invite researchers, clinicians, and professionals at all levels to participate in this exciting event. Registered participants will enjoy a complimentary (free) lunch during the day, and the conference will conclude with a networking session featuring sparkling drinks and snacks to encourage informal discussions and partnerships.

Together, let's advance the frontiers of regenerative medicine and shape the future of healthcare innovation.

**We encourage KI and K researchers on all levels to participate. We will serve free lunch for registered participants and have sparkling drinks and snacks at the end of each day.**

**Welcome!**

**The organize committee**

# Agenda

**Advancements in Stem Cells, Organoids, AI, and Regenerative Medicine**

**K.I Stem Cells and Organoid Facility at Department of Laboratory Medicine.**

**Day/time: 15 April, 9:00-16:30**

**Place: Jan Åke Gustafssonsalen, NEO level 5, Blickagången 16, Huddinge**

**09:00-09:15** **Welcome,** Introduction

**09:15-09:45** **lecturer**; **Joel Nordin,** Translational journey of gene editing in hematopoietic stem cells and the central nervous system

**09:45-10:15** **lecturer; Dasja Pajkrt.** Building Miniature Organs: Advances in Technology

**10:15-11:15 Group activity & Coffee**

**11:15-11:45** **lecturer**; **Jonathan Andrew,** AI-Driven Drug Discovery in Regenerative Medicine: Opportunities and Challenges

**11:45-12:15 lecturer; Jack Sharkey,** Safety and effectiveness of potential regenerative therapies

**12:15-13:00 Lunch**

**13:00-13:30 lecturer;** **Nayere Taebnia,** 3D Bioprinting: Revolutionizing Tissue Engineering and Organ Transplantation

**13:30-14:00 lecturer; Kristina Hud,** Ethical Considerations in Stem Cell Research and Therapy

**14:00-14:30 Group activity & Coffee**

**14:30-15:00 lecturer; Carl Sellgren,** Modeling Human Diseases with Organoids: From Bench to Bedside

**15:00-15:30 lecturer; Xiaofei Li,** Next-Generation Sequencing Technologies for Studying Stem Cell Biology

**15:30-16:00 lecturer; Yuichiro Miyaoka,** CRISPR-Cas9 Gene Editing: Advancements and Applications in Regenerative Medicine

**16:30-**  **Mingle with drinks and snacks and Poster session**

**Day/time: 16 April, 9:00-16:30**

**Place: Jan Åke Gustafssonsalen, NEO level 5, Blickagången 16, Huddinge**

**09:00-09:15** **Welcome,** Introduction

**09:15-09:45** **lecturer; Georgios Sotiriou,** The Role of Biomaterials in Stem Cell-Based Therapies

**09:45-10:15** **lecturer; Jozef Dulak,** Patient-Specific iPSCs: Customizing Treatments for Genetic Disorders

**10:15-11:15 Group activity & Coffee**

**11:15-11:45** **lecturer; John De Vos,** Optimizing Stem Cell Culturing Techniques for Clinical Translation

**11:45-12:15 lecturer; Robert Storm,** Artificial Intelligence in Stem Cell Banking and Quality Control

**12:15-13:00 Lunch**

**13:00-13:30 lecturer; Emma Robertson,** chairs Challenges and Opportunities in Scaling Up Organoid Production

**13:30-14:00 lecturer; Michele Giugliano,** In vitro models of neural circuitry and optogenetic tools for their dissection

**14:00-14:30 Group activity & Coffee**

**14:30-15:00 lecturer; Thomas Winkler The** Gut-Brain Axis: Organoid Models for Studying Gut-Brain Interactions

**15:00-15:30 lecturer; Jonathan Andrew,** Regulatory Landscape of Stem Cell Therapies: Navigating the Path to Approval

**15:30-16:00 lecturer; Francico J. Diaz Corrales,** The Promise of Stem Cell-Based Therapies for Age-Related Macular Degeneration

**16:00-16:15 Events conclusion including key takeaways.**

**16:15- 17:30** **Mingle with drinks and snacks and Poster session**

**17:30 End of an Event**