

Replacement Track • October 5 • Morning

WELCOME & KEYNOTE

Chaired by Sierra Lore

- 09:00 - 09:05  **Sierra Lore**, Buck Institute for Research on Aging
Welcome & Opening Remarks
- 09:05 - 09:30  **George Church**, Harvard University, MIT. *Medicine Needs De-aging Via Multiplex Genetics, & Organs. Why and How?*

RECONSTRUCTING THE HUMAN BODY

Bionics, Tissues, and the Limits of Replacement

- 09:30 - 09:50  **Alibek Moldakozhayev**, Harvard Medical School. *When Replacement is Enough and When it Isn't. Tissue-Specific Strategies to Longevity*
- 09:50 - 10:10  **Linda Griffith**, MIT Engineering
"Organs on Chips" NAMs tools to humanize research*
- 10:10 - 10:30  **Hugh Herr**, MIT Media Lab
The New Era of Bionic Reconstruction
- 10:30 - 10:40  **Raghav Sehgal**, Yale University
Can Replacement Therapies Slow Epigenetic Aging?
- 10:40 - 11:00  **Coffee break - Atrium**

ENGINEERING LIVING REPLACEMENTS

Cells, Biomaterials, and Regeneration

- 11:00 - 11:20  **Kyle Loh**, Stanford University. *Creating Diverse Human Cell-types from Pluripotent Stem Cells for Cell Replacement Therapies*
- 11:20 - 11:40  **Treena Arinze**, Columbia University. *Functional Biomaterials: Engineering Bioelectrical Cues to Enhance Tissue Regeneration*
- 11:40 - 12:00  **Anthony Atala**, Wake Forest Institute for Regenerative Medicine
Regenerative Medicine: Approaches to Healthcare
- 12:00 - 12:20  **Pamela Yelick**, Tufts University School of Dental Medicine
Novel Strategies for Bioengineered, Living Tooth Replacements
- 12:20 - 12:40  **Richard Lee**, Harvard University
GDF11 and Human Disease
- 12:40 - 12:50  **Jingfei Yao**, Harvard Medical School. *Type 2 Immune Signaling as a Regulator of Cellular and Hematopoietic Homeostasis During Aging*
- 12:55 - 13:10  **Group photo**
- 13:10 - 14:40  **Lunch**

Replacement Track • October 5 • Afternoon

FROM SPARE PARTS TO SYSTEMIC REJUVENATION

Organ Replacement for Longevity

14:40 - 15:00



Joe Betts-LaCroix, Retro Biosciences
A Timetable for Replacement

15:00 - 15:20



Justin Rebo, Kind Biotechnology
Engineering Integrated Organ Networks for Abundant Organ Replacement.

15:20 - 15:40



Basak Uygun, Harvard Medical School
Building Spare Parts: A Platform for Replacement Medicine

15:40 - 16:00



Alban Longchamp, Harvard Medical School
Beyond Organ Failure: Transplantation as an Anti-Aging Intervention

16:00 - 16:10



Daniel Roh, BU Chobanian & Avedisian School of Medicine. *The Systemic Cost of Recurrent Wound Stress: Accelerated Biological and Functional Aging Beyond the Wound Site*

16:10 - 16:30



Coffee break - Atrium

BRINGING REPLACEMENT MEDICINE TO THE CLINIC

Transplantation, Translation, and the Path Forward

16:30 - 16:50



Mike Curtis, eGenesis
Xenotransplantation and the Potential for the Future of Aging

16:50 - 17:10



Stefan Tullius, Harvard Medical School
Heterochronic Organ Transplantation

17:10 - 17:55



Replacement Panel
Can We Replace Aging? Opportunities, Limits, and the Path Forward
Moderator: Stefan Tullius
Panelists: Vadim Gladyshev, Basak Uygun, Justin Rebo

17:55 - 18:00

Replacement Track - Closing