



Ethics of Engineering Life

Rome September 26-27, 2022



The Pontifical Academy for Life, the NCCR Molecular Systems Engineering of the University of Basel and ETH (Zurich, Switzerland), the Bambino Gesù Children's Hospital Rome, Italy), organize the 1st International Conference Ethics of Engineering Life, 26-27 September 2022 (Palazzo Pio, Piazza Pia 3 – 00193 Roma)

Opening session: Abp. Vincenzo Paglia, Pontifical Academy for Life, Vatican City; prof. Ralf Stutzki, NCCR; prof. Daniel Müller (Switzerland).

The engineering of molecular and cellular systems for clinical applications capitalizes on the unique competences achieved worldwide within the past 10 years. Big leaps towards applying engineering principles to clinics and to restore body functions are provided by the development of gene-based and cell-based therapies. Successful attempts include the restoration of vision, the control of metabolic disorders, or the growth of tissues and organs for replacement. While in the long run such systems engineering approaches will help to cure pertinent diseases, methods to modify, edit, correct and/or complement the genome of patients can

be also used to improve a person's lifestyle, or be even misused in various ways. To address the ethical aspects of such attempts towards engineering life, the 1st International Conference Ethics of Engineering Life brings together stakeholders in developing and applying approaches to edit and control living systems, clinicians applying such procedures, ethicists, philosophers, communicators and artists, and other relevant representatives of our global society.

<https://iceel.info/>

PROGRAMMA / PROGRAM

1st International Conference Ethics of Engineering Life
Vatican, Rome - September 26-27, 2022

Monday, September 26

09:00 – 09:20 OPENING

- Welcome, Renzo Pegoraro
- Welcome note, Vincenzo Paglia, President PAL
- Ethics and Engineering Life, introduction and overview, Ralf Stutzki
- Engineering Molecular Systems, introduction and overview, Daniel Müller

09:20 – 10:10 ETHICS AND GENE-BASED ENGINEERING Chair: Renzo Pegoraro

- Gene-editing: ethical and legal challenges, Laura Palazzani, Full professor at LUMSA (Roma), vice-president of the Italian National Bioethic Committee, member of EGE (European Group on Ethics in Science and New Technologies)
- Gene-based therapy: delivering on the promise? Luk Vandenberghe, Harvard Medical School

10:40 – 11:30 ETHICS AND CELL-BASED ENGINEERING Chair: Daniel Müller

- Engineering cellular systems: modify, repair, but not at all costs. Which ethical benchmarks? Marie-Jo Thiel, University of Strasbourg
 - Cell-based therapies of the future, Martin Fussenegger, ETH Zürich
- 11:30 – 12:20 ETHICS AND ORGANOID-BASED ENGINEERING Chair: Daniel Müller

- Exploring the ethics of gastruloids, Nienke de Graef, Leiden University Medical Center

- Stem cell-derived organoids model human disease, Hans Clevers, Roche Pharma

14:00 – 14:40 YOUNG RESEARCHERS' SESSION part I Chair: Carlo Casalone

14:40 – 15:30 PANDEMIC – LESSONS LEARNED Chair: Ana Borovecki

- Medicine changes fast. Medicine changes in the instant: healthcare professionals and COVID-19, Montserrat Esquerda Aresté, Ramon Llull University

- COVID-19 and vaccines: what did we learn?, Emanuele Cozzi, University of Padua

15:45– 16:35 REGULATION & COMMUNICATION Chair: Alberto Tozzi

- Engineering life and legal regulation: from principles to ex post evaluation, Federico de Montalvo Jääskeläinen, Comillas Pontifical University

- The challenge of communicating bioengineering in a harsh debate, Marco Cattaneo, National Geographic

16:35 – 17:45. RELIGIOUS VIEWS ON ENGINEERING LIFE

PANEL Moderators: Renzo and Ralf

Emmanuel Agius, Christianity; University of Malta

Andrea Genazzani, Judaism; University of Pisa

Guido Giordano, Buddhism; Roma Tre University

Ilhan Ilkic, Islam; Istanbul University

18:20 – 19:00 Engineering Life and Us – an ArtSci project, Michel Comte

Tuesday, September 27

09:15 – 10:30 ENGINEERING LIVING SYSTEMS AND BIOETHICAL PRINCIPLES Chair: Laura Palazzani

- The conundrum of translational ethics – Engineering gaps between theories and practices, Henk ten Have, Duquesne University

- Vision restoration, Botond Roska, Institute of Molecular and Clinical Ophthalmology Basel

- Ethical implications of digital twins, Alberto E. Tozzi, Bambino Gesù Children's Hospital

11:00 – 11:50 GLOBAL PERSPECTIVES Chair: Henk ten Have

- Unity in diversity: how development of biotechnology can serve the needs of all, Kevin Fitzgerald, Creighton University

- Global bioethics and the new possibilities for engineering life, Ana Borovecki, University of Zagreb

11:50 – 12:30 YOUNG SCIENTISTS' SESSION part II Chair: Carlo Casalone

14:00 – 16:00 FOCUS PANEL Chairs: Kevin Fitzgerald and Ana Borovecki

- GOVERNANCE

Ethical requirement for global governance and oversight of gene editing, Jacques Simpore, University of Ouagadougou

- PATIENTS VIEW

User experiences without scientific basis

How do you deal with experiences that you have gained as a patient, caretaker or equipment supplier in daily practice without being supported by scientific research and evidence?, Jack Janssen, Dutsch Najjar Foundation

- COMMUNICATION

The media's role in education and equality of access to emerging medical technology, Jennifer Copestake, Vatican Bureau, Salt+Light Television

- MEDICINE

Gene therapy: clinical perspective, Hendrik Scholl, Institute of Molecular and Clinical Ophthalmology Basel

- Corporation

Opportunities and challenges in gene and cell therapy, Tim Hunt, Alliance for Regenerative Medicine

16:00 END OF ONLINE STREAMING DAY 2

16:30 – 18:30 ETHICS STATEMENT SESSION Round table

Wednesday, September 28

10:00 – 12:00 ATTENDANCE OF THE PUBLIC AUDIENCE OF THE POPE



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PRESS REVIEW

Vatican News Italian - September 27

Vatican News Spanish - September 27

Vatican News Lietuviu - September 27

Religion Digital - September 27 2022

Notimerica (Europa Press) - September 27 2022

Ekai.Pl - September 27 2022

Catholic News Service - September 26 2022

Agensir - September 26 2022

Kerknet.be - September 26 2022

Mirage News - 25 September 2022

Twitter - 25 September 2022

Aleteia - 25 September 2022

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