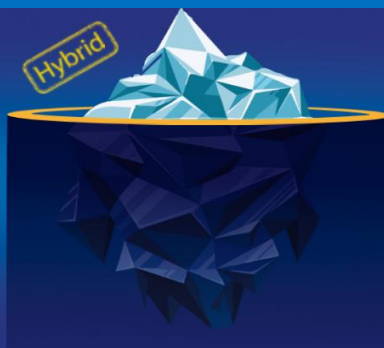


7th Joint Symposium on (Cell and Tissue)
CryoBioEngineering

21 February, 2024, Tehran, Iran
Royan Institute



Assisted Cryobiology Techniques (ACT)

Engineering based devices

Microfluidics
Microsensors
Carriers
Nanodevices

Media supplement

Antifreeze molecules
Antioxidants
Cryoprotectants (CPAs)

techniques

Slow freezing
Vitrification
Magnetic field
Electrical field

CryoSchool on Nanotechnology

Nanoparticles
Nanocomposites
Synthesis methods
Nanoparticle-drug interactions

Scientific Program

8:30 – 8:40

Opening Ceremony

8:40 – 8:50

Prof. Abdolhossein Shahverdi

(President of Royan Institute)

8:50 – 8:55

Welcome message

Dr. Rouhollah Fathi
(Scientific chairman)
(Iran)

Department of embryology, reproductive
biomedicine research center, Royan Institute for
reproductive biomedicine

9:00 – 9:25

(Virtual)

Advancing cell biology and cryo
research through microfluidic
systems

**Prof. Majid Ebrahimi
Warkiani**
Keynote lecture
(Australia)

University of Technology Sydney, school
of biomedical engineering

1st Panel: CryoSchool on Nanotechnology (Nanoparticles, Nanocomposites, Synthesis Methods, Nanoparticle-drug Interactions)

Time

Chairperson: **Dr. Somayeh Tavana**

Department of embryology, reproductive
biomedicine research center, Royan Institute for
reproductive biomedicine

9:30 – 9:55

How nanoparticles can improve
the vitrification
process

**Dr. Mohammad Reza
Ghalamboran**
(Iran)

Member of faculty, plant sciences &
biotechnology department, life sciences and
biotechnology faculty, Shahid Beheshti University

10:00 – 10:20

Nanoparticle challenges from a
pharmaceutical perspective

Dr. Zeynab Siahnouri
(Iran)

Pharmacist of infertility clinic, Royan Institute

10:25 – 10:45

Fabrication, characterization and
optimization of herbal
nanoparticles for medical
application

Dr. Reza Ghaffarzadegan
(Iran)

Director of Institute of medicinal plants, ACECR

11:00 - 11:20

Coffee break

2nd Panel: Techniques (Slow Freezing, Vitrification, Magnetic Field, Electrical Field)

Time

Chairpersons:
Dr. Azam Dalman, Dr. Fatemeh Hassani

Department of embryology, reproductive
biomedicine research center, Royan Institute for
reproductive biomedicine

11:30 – 11:50

Nanowarming technology in
ovarian tissue cryopreservation

**Dr. Zahra Shams
Mofarahe**
(Iran)

Department of biology and anatomical sciences,
school of medicine, Shahid Beheshti University of
medical sciences

11:55 – 12:15	Cryopreservation of sperm and testicular tissue; progresses and challenges	Prof. Mansoureh Movahedin (Iran)	Professor of anatomical sciences dept, medical sciences faculty, Tarbiat Modarres University
12:20 – 12:40	Oocyte cryopreservation	Dr. Mahshad Khodarahmian (Iran)	Tehran University of Medical Sciences
13:00 – 14:00	Pray & lunch		
3rd Panel: Media Supplement (Antifreeze Molecules, Antioxidant, Cryoprotectants (CPAs))			
Time	Chairpersons: Dr. Vahid Esmaili Borzabadi, Dr. Fatemeh Hassani		Department of embryology, reproductive biomedicine research center, Royan Institute for reproductive biomedicine, Royan Institute
14:00 – 14:20	Using the novel mitochondria-targeted antioxidants (mito-tempo and mitoq) in semen cryopreservation of avian and small ruminants	Dr. Reza Masoudi (Iran)	Animal science research Institute of Iran (ASRI)
14:25 – 14:45	A recent overview of microbes and microbiome preservation	Dr. Shaghayegh Nasr (Iran)	Microorganisms bank, Iranian biological resource center (IBRC), ACECR, Tehran, Iran Department of microbial biotechnology, faculty of basic sciences and advanced technologies in biology, University of Science and Culture, Tehran, Iran
14:50 – 15:10	The impact of nanoparticles on cryopreservation and in vitro fertilization in sperm of farm animal	Dr. Mehdi Hajian (Iran)	Department of animal biotechnology, reproductive biomedicine research center, Royan Institute for biotechnology, ACECR, Isfahan, Iran
15:20 – 15:45	Coffee break		
4th Panel: Engineering-based Devices (Microfluidics, Microsensors, Carriers, Nanodevices)			
Time	Chairperson: Dr. Davood Fathi		Associate professor of photonics and optoelectronics, Tarbiat Modares University, Tehran, Iran
15:50 – 16:10	Toward embryo cryopreservation-on-a-chip	Dr. Mojtaba Dashtizad (Iran)	National Institute of genetic engineering and biotechnology, department of medical biotechnology
16:15 – 16:35	Design and fabrication of gradient microfluidic chip for embryo vitrification	Dr. Ghazaleh Zandi (Iran)	National Institute of genetic engineering and biotechnology, department of medical biotechnology
16:40 – 17:00	Fabrication process of microdevices for biological purposes	Dr. Farhad Akbari Boroumand (Iran)	Khajeh Nasir Toosi University of technology, department of electronic engineering
17:05 – 17:30	Closing Ceremony Dr. Rouhollah Fathi (Scientific Chairman) Awards for a Competition to Select the Top Score Student in CryoBioEngineering		