



NCI Conference on Bioelectricity and Cancer
Thursday, September 12, 2024
(A Virtual Conference by Zoom,
Times listed are Eastern Time)

8:30 AM Welcome

8:35 AM Keynote: Michael Levin, Tufts University

The Bioelectric basis of morphogenetic intelligence: a roadmap for cancer

9:30 AM Session 1: Bioelectricity in Normal Physiology

Michael Pycraft Hughes, Khalifa University

The cellular zeta potential: cell electrophysiology beyond the membrane

Emily Anne Bates, University of Colorado

Mechanisms underlying influence of bioelectricity in development

Robert Gatenby, Moffitt Cancer Center

Modeling non-genetic information dynamics in cells using reservoir computing

11:00 AM Session 2: Mechanisms of Bioelectricity

Joao Carvalho, University of Coimbra

A computational model of organism development and carcinogenesis resulting from cells' bioelectric properties

Xi Huang, University of Toronto

EGF receptor signaling is essential for electric-field-directed migration of breast cancer cells,

Marco Rolandi, University of California at Davis

Bioelectric Signaling: Role of Bioelectricity in Directional Cell Migration in Wound Healing

12:30 PM Session 3: Bioelectricity and cancer

Mustafa Djamgoz, Imperial College London

Electrical signaling in cancer

Madeleine J Oudin, Tufts University

Potassium channel-driven bioelectric signaling regulates metastasis in triple-negative breast cancer,

Michael R. King, Vanderbilt University

Ion channels in cancer mechanotransduction

2:00 PM Session 4: Bioelectricity potential clinical and translational research

Donglu Shi, University of Cincinnati

Bioelectricity in nano-bioprobing and cancer diagnosis

Norbert Perrimon, Harvard Medical School

Bioelectric-dependent intestinal regeneration

Dany Spencer Adams, Tufts University

Cell membrane voltage imaging to identify cancer in biopsies and surgical specimens

Rosalia Moreddu, Istituto Italiano di Tecnologia

Nanotechnology and cancer bioelectricity: bridging the gap between biology and translational medicine

4:00 PM Panel Discussion: Moving cancer bioelectricity research forward

Linda Zane, NCI SBIR funding and commercialization resources for the development and commercialization of cancer technologies"

Vish Subramaniam, EMBioSys Inc. Technologies for treatment of Metastatic Solid Tumors

4:30 PM Concluding remarks