



BEIS-2021

PRELIMINARY PROGRAM

2<sup>nd</sup>

# BIOMEDICAL ENGINEERING & INSTRUMENTATION SUMMIT

April 19-21, 2021

Newton Plaza Hotel Boston  
320 Washington St, Newton, MA, United States



## RESERVE YOUR EXHIBITION SPACE

Email: [secretary@biomedicalmeetings.com](mailto:secretary@biomedicalmeetings.com)

Contact:

**Bijay Patro**

Conference Secretary, BEIS-2021  
for the Scientific Committee

USG United Scientific Group (A non-profit organization)  
8105 Rasor Blvd, ST.112, PLANO, TX 75024

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## BEIS-2021

United Scientific Group- A non-profit scientific organization would like to welcome all biomedical professionals to the 2<sup>nd</sup> *Biomedical Engineering and Instrumentation Summit* (BEIS-2021) at Boston, MA during April 19-21, 2021.

The program planned to provide three days of productive discussion on diagnostic Service, health monitoring devices, image processing, sensor technology and wearable health devices, radiography, biomaterials, novel drug delivery system, etc. These are the key topics that are going to be addressed at the conference. Big data networking, research, and application in biomedical health care also going to discuss at the conference.

## Important Dates

**Abstract Submission Deadline:**

**September 07, 2020**

**Mid-Term Registration Deadline:**

**September 15, 2020**

**Registration:**

[https://biomedical.unitedscientificgroup.org/registration\\_form](https://biomedical.unitedscientificgroup.org/registration_form)

**Abstract Submission:**

[https://biomedical.unitedscientificgroup.org/abstract\\_submission](https://biomedical.unitedscientificgroup.org/abstract_submission)

## Organizing Committee

**Temple F. Smith**

Boston University, MA

**Baowei Fei**

The University of Texas at Dallas and UT Southwestern Medical Center, TX

**Lucia M. Vaina**

Boston University, MA

**Xiaojun Yu**

Stevens Institute of Technology, NJ

**Pai-Yen Chen**

University of Illinois, IL

**Kenji Suzuki**

Illinois Institute of Technology, IL

## BEIS-2021 Scientific Sessions

- Biomaterials & Tissue Engineering
- Sensors and Wearable Systems
- Signal and Image Processing
- Neural Engineering
- Nanobioengineering
- Biomechanics
- 3D Bioprinting
- Biomedical Computation and Modelling
- Biomedical Informatics
- Biomedical Imaging and Instrumentation
- Orthopaedic and Rehabilitation Engineering
- Device Technologies and Biomedical Robotics



PUBLISHING PARTNER



**BEST POSTER  
AWARD**



Prize Money  
**500 \$**

**Special Issue: Bioengineering - Selected Papers from BEIS-2021 (2<sup>nd</sup> Biomedical Engineering & Instrumentation Summit)**

**Guest Editors:**

Prof. Anthony Guiseppi-Elie  
Prof. Gordana Vunjak-Novakovic  
Prof. Thomas J. Webster

08:00-08:45

**Registrations**

08:45-09:00

Inaugural Speech by **Temple. F. Smith**, Boston University, MA

## Keynote Speakers

09:00-13:00



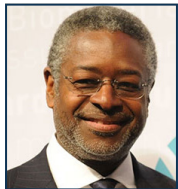
### **Gordana Vunjak-Novakovic**

The Mikati Foundation Professor of Biomedical Engineering and Medicine, Columbia University, NY



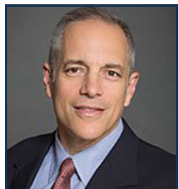
### **Thomas J. Webster**

Chair and Professor of Chemical Engineering, Northeastern University, Boston, MA



### **Anthony Guiseppi-Elie**

Professor, Department of Biomedical Engineering and TEES Professor, Houston Methodist Research Institute and Texas A&M University, TX



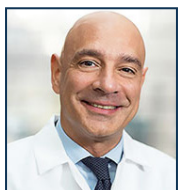
### **Elazer R. Edelman**

Director, Institute for Medical Engineering and Science, Massachusetts Institute of Technology, MA



### **Temple F. Smith**

Professor Emeritus, Department of Biomedical Engineering, Boston University, MA



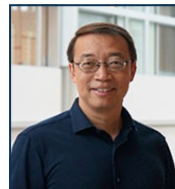
### **Zahi A. Fayad**

Director Biomedical Engineering And Imaging Institute, Professor, Icahn School of Medicine at Mount Sinai, NY

13:00-13:45

**Lunch Break**

13:45-16:15



### **Chris Xu**

Professor, Applied and Engineering Physics, Cornell University, Mong Family Foundation Director of Cornell Neurotech – Engineering, Director of Cornell NeuroNex Hub, NY



### **Stephen D Miller**

Judy Gugenheim Research Professor of Microbiology-Immunology, Northwestern University, IL



### **Irene Georgakoudi**

Professor, Optical Diagnostics for Diseased and Engineered Tissues, Tufts University, MA



### **Edward J. Ciaccio**

Professor, Department of Medicine Columbia University, NY



### **Zhongping Chen**

Professor, Biomedical Engineering, University of California, CA

08:30-13:15

Session-1

**Transcriptional Regulation of Arterial Venous Differentiation and its Role in Vascular Tissue Engineering and Vascular Diseases**

Guohao Dai

Bioengineering, Northeastern University, MA

**Engineered Models to Study the Role of Innervation in Cancer**

Madeleine Oudin

Department of Biomedical Engineering, Tufts University, MA

**Resorbable Scaffolds of Polybutylene Succinate for Soft Tissue Repair and Support**

David Martin

Tepha Inc., MA

**3D Models to Study Tumor and Immune Cell Recruitment Following Normal Tissue**

Radiation Damage Marjan Rafat

Vanderbilt University, TN

**Efficacy of Engineered Skin Grafts Prevascularized with Skin-Specific and Non-Specific Endothelial Cells**

Hasan Erbil Abaci

Columbia University Medical Center, NY

**Rylar™ a Bioresorbable Polymer for Congenital Heart Disease**

Tre Welch

Division of Pediatric Cardiothoracic Surgery, The University of Texas Southwestern Medical Center, TX

**Innovative Non-Invasive Technology for Detecting Bone Fragility in Osteoporosis**

Amit Bhattacharya

University of Cincinnati Colleges of Medicine and Engineering & Applied Science, CT

**Biologically Selective Drug-Eluting Stent**

Mehmet Hamdi Kural

Yale University, CT

**Eggshell Microparticle-Reinforced Biomaterials for Bone Regeneration**

Gulden Camci-Unal

Department of Chemical Engineering, University of Massachusetts Lowell, MA

**The Intersection of Consumer Healthcare and Biotech**

Ted Chan

Caredash, MA

**Tissue Oxygen Concentration Sensing from the Bench to the Bedside**

Conor Evans

Wellman Center for Photomedicine, Harvard Medical School, MA

**Optomechanical Sensing in Wearables and Medical Textiles**

Mathias Kolle

Massachusetts Institute of Technology, MA

**Magnetic Gene Delivery: Rotational Motion of Nanoparticles Triggers RNA Release Under Magnetic Fields**

Hiroshi Matsui

Bionanotechnology, Hunter College/Weill Cornell Medical College, NY

**Bioinspired Synthetic Nanobiomaterials for Immunotherapy**

Evan A Scott

Department of Biomedical Engineering, Northwestern University, IL

**Cellular Mechanotransduction at the Level of Organelles**

Elizabeth Bartolak-Suki

Department of Biomedical Engineering, Boston University, MA

**Hybrid Laser Platform for Printing 3D Multiscale Multi-material Hydrogel Structures**

Pranav Soman

Syracuse Biomaterials Institute, Syracuse University, NY

13:15-14:00

Lunch

14:00-17:00

Session-2 | Young Researchers Forum

**Microvasculature on Chip for Cancer Models**

Zhengpeng Wan (Jason)

Massachusetts Institutes of Technology, MA

**Circadian Control of Organoid Physiology**

Juan R. Alvarez-Dominguez

Department of Stem Cell and Regenerative Biology, Harvard Stem Cell Institute, Harvard University, MA

**Organs-On-Chips: Next Generation Platforms for Toxicological Studies of Engineered Nanomaterials**

Herdeline Ann M Ardona

Wyss Institute for Biologically Inspired Engineering, Harvard University, MA

**Human Organ-On-a-Chip Models for Predictive Drug Screening to Determine Anti-tumor Efficacy and Cardiac Safety**

Alan Chramiec

Columbia University, NY

**Inertial Sensing for Transfemoral Amputee Gait Detection**

Elissa D Ledoux

Department of Engineering Technology, Middle Tennessee State University, TN

**Injectable Microscale Optoelectronically Transduced Electrodes (MOTES)**

Sunwoo Lee

Electrical and Computer Engineering Cornell University, NY

**UHPLC-QqQ-MS/MS Method Development and Validation with Statistical Analysis: Determination of Raspberry Ketone Metabolites in Mice Plasma and Brain**

Bo Yuan

Rutgers University, NJ

**Simulating Neuroplasticity of an Isometric Movement Task Using a Corticospinal Computational Model**

Namrata Kadambi

University at Buffalo, NY

**TBA**

Seunghyun Lee

Arizona State University, AZ

**Endogenous Fluorescent Biomarkers Originate in Lipid Droplets of Adipose Tissues**

Yang Zhang

Tufts University, MA

**Label-Free Optical Detection of Circulating Tumor Cell Clusters Using Back Scattered Flow Cytometry**

Nilay Vora

Tufts University, MA

**Aortic Valve Calcification Topography as an Updated Measure for Stenosis Severity**

Farhan Khodae

Massachusetts Institutes of Technology, MA

17:00-18:00

Poster Session & Networking

09:00-13:30

Session-3

### **Protein Therapeutic Manufacturing at the Point of Care**

Leah Tolosa

Center for Advanced Sensor Technology, University of Maryland Baltimore County, MD

### **Boundary Element Fast Multipole Method for Modeling Neurostimulation of the Brain**

Sergey N Makarov

Massachusetts General Hospital, MA

### **Novel Cytotoxicity and Broad-Spectrum Genotoxicity Platforms**

Bevin P. Engelward

Massachusetts Institute of Technology, MA

**TBA**

Junseok Chae

Arizona State University, AZ

**TBA**

Bin Feng

University of Connecticut, CT

### **Real-time Optical Monitoring of Endotracheal Tube Displacement**

Bing Yu

Department of Biomedical Engineering, Marquette University, WI

### **Spatial Bioengineering of Single Cells for Visually Encoded Precision Medicine**

Ahmet F Coskun

Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, GA

### **Systems and Strategies for 3D Intravascular Ultrasound Imaging of Blood Flow Velocity Fields using Ultrasound**

Brooks Lindsey

Coulter Department of Biomedical Engineering, Georgia Institute of Technology and Emory University, GA

### **Nanomeshing Adds Multifunctionality to Conventional Neuroelectrodes**

Hui Fang

Department of Bioengineering, Northeastern University, MA

### **Understanding the Causes and Effects of Temporal Pitch Distortion in Cochlear Implant Users**

Barry Jacobson

Massachusetts Institute of Technology, MA

### **Cerebrospinal Fluid Interaction with Cerebral Cortex during Pediatric Abusive Head Trauma**

Milan Toma

College of Osteopathic Medicine, New York Institute of Technology, NY

### **Computational prediction of drug-eluting stent performance in patient-specific arteries - a virtual reality**

Farhad Rikhtegar Nezami

Harvard-MIT Biomedical Engineering Center, Massachusetts Institutes of Technology, MA

### **Biomedical and Healthcare Data as a Service: A FHIR Approach**

Rishi Saripalle

School of Information Technology, Illinois State University, IL

**TBA**

Bryan Bryson

Massachusetts Institute of Technology, MA

13:30-

Lunch & Departure

# MAIL US TO KNOW AVAILABLE SPEAKER SLOTS?

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