



ISBUS 2022 | Pasadena, CA | Dec 8-11, 2022

International Symposium on Biomolecular Ultrasound & Sonogenetics

THURSDAY DECEMBER 8

4:00 REGISTRATION OPENS

4:00 Welcome Reception

5:30 OVERVIEW: Mikhail Shapiro, Caltech

6:00 PANEL DISCUSSION: Stuart Foster, University of Toronto

7:00 Reception continues

FRIDAY DECEMBER 9

8:00 BREAKFAST

9:00 KEYNOTE: Mickael Tanter, Physics for Medicine Paris, INSERM

9:30 Claire Rabut, California Institute of Technology

Whole-brain imaging of tumor-brain interactions using acoustic reporter genes and fUSI

9:50 Sangpil Yoon, University of Oklahoma

Multiplexed imaging using high frequency ultrasound and gas vesicles

10:10 Baptiste Heiles, Delft University of Technology

3D Nonlinear Sound-Sheet Imaging of Biomolecular Contrast Agents

10:30 COFFEE BREAK/POSTER PITCHES/POSTER SESSION #1

12:00 LUNCH

- 1:00 OVERVIEW: Shrek Chalesani, SALK Institute**
- 1:30 Wen Mai Wong, Salk Institute for Biological Sciences**
Mechanisms underlying ultrasound sensitivity of a sonogenetic channel, hsTRPA1
- 1:50 Serge Picaud, Institut de la Vision**
Sonogenetic therapy for restoring vision in blind patients: a proof of concept in rodents
- 2:10 Yaoheng Yang, Washington University in St. Louis**
TRPV1-mediated sonogenetics for noninvasive and spatiotemporally precise causal control of neurons, neural circuits, and mouse behavior
- 2:30 COFFEE BREAK/POSTER PITCHES/POSTER SESSION #2**
- 4:00 OVERVIEW: Hong Chen, Washington University in St. Louis**
- 4:30 Shirin Nouraien, Rice University**
Feasibility of The Noninvasive Gene Delivery/Editing to Large Brain Areas
- 4:50 Dezhuang Ye, Washington University in St. Louis**
Incisionless targeted AAV delivery to the brain by focused ultrasound-mediated nasal administration
- 5:10 Qionghua (Nicole) Shen, Rice University**
Ultra-small gas-filled protein nanostructures for extravasation into lymphatic tissues
- 5:30 BREAK**
- 6:00 PANEL DISCUSSION: Kathy Ferrara, Stanford University**
- 7:00 End**
- 7:30 Conference Dinner, The University Club of Pasadena**

SATURDAY DECEMBER 10

8:00 BREAKFAST

9:00 KEYNOTE: Elisa Konofagou, Columbia University

9:30 James Friend, UC San Diego

Cells are depolarized through cellular membrane stretching via deflection from ultrasound

9:50 Gengxi Lu, University of Southern California

Non-invasive 2D array-based ultrasound retinal prosthesis and its frequency-dependent efficiency

10:10 Chen Yang, Boston University

High Precision Photoacoustic Neural Stimulation

10:30 COFFEE BREAK/POSTER PITCHES/POSTER SESSION #3

12:00 LUNCH

1:00 OVERVIEW: Peter Wang, University of California San Diego

1:30 Lena Gamboa, Georgia Tech & Emory University

Programming synthetic T cell immunity against solid tumors by thermal targeting

1:50 Chi Woo Yoon, University of California San Diego

Focused ultrasound-mediated mechanogenetics for immunotherapy

2:10 Junjie Yao, Duke University

Deep-tissue optogenetics and photoacoustic imaging of photoswitchable transgenic mouse models

2:30 COFFEE BREAK/POSTER PITCHES/POSTER SESSION #4

4:00 OVERVIEW: David Maresca, Delft University of Technology

4:30 Zhiyang Jin, California Institute of Technology

Ultrasonic Genetically Encoded Calcium Indicators

- 4:50 Dion Terwiel, Delft University of Technology**
Engineering of acoustic pH indicators based on genetically encoded gas vesicles
- 5:10 Marjorie T. Buss, California Institute of Technology**
Second-Generation Acoustic Reporter Genes Enable Ultrasound Imaging of Tumor-Homing and Intestinal Bacteria
- 5:30 BREAK**
- 6:00 PANEL DISCUSSION: Trainees**
- 7:00 End**

SUNDAY DECEMBER 11

- 8:00 BREAKFAST**
- 9:00 Mini-demos**
- 12:00 LUNCH/END**

Afternoon, optional beach and hiking trips



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