

BICT 2023 Technical Program at a Glance

DAY 1 (April 11)

11:30 – 13:00	Registration and lunch
13:00 – 13:10	Opening
13:10 – 14:00	Keynote: William C. Tang (National Taiwan University, Taiwan)
14:15 – 15:30	Session I
15:45 – 16:45	Session II
17:00 – 17:45	Session III
19:00 – 21:00	Banquet

DAY 2 (April 12)

10:00 – 10:10	Day 2 Opening
10:10 – 11:00	Keynote: Winston K.G Seah (Victoria University of Wellington, New Zealand)
11:00 – 12:00	Session IV
12:00 – 13:30	Lunch
14:00 – 16:00	Molecular Communication Workshop
16:15 – 16:30	Closing

Day 3 (April 13)

Research collaboration meeting (TBA)

Paper Presentation Guidelines

Presentation time

- 15 minutes, including QAs

Equipment available

- Projector
- Connection to a projector
- Microphone
- (Please bring your own laptop. PCs will NOT be available at presentation rooms.)

Session chairs

- Arrive early.
- Ensure your session runs strictly on schedule.
- Give a 5-minute-remaining warning to each paper presenter.

BICT 2023 Full Program

DAY 1 (April 11)

11:30 – 13:00 Registration and lunch

13:00 – 13:10 Opening

*Yifan Chen (The University of Electronic Science and Technology of China, China);
Tadashi Nakano (Osaka Metropolitan University, Japan)*

13:10 – 14:00 Keynote:

Subnetwork Communications within the Hippocampus and High-Efficiency Computing

William C. Tang (National Taiwan University, Taiwan)

14:15 – 15:30 Session I

Chair: *Tadashi Nakano (Osaka Metropolitan University, Japan)*

High-Speed Molecular Communication in Vacuum: The Role of Velocity Filters

Sajjad, Taha (York University, Canada); Eckford, Andrew (York University, Canada)

Mechanism of Directional Fluctuations of Molecular Shuttle Movements Driven by Motor Proteins

Nitta, Takahiro (Gifu University, Japan); Sweet, (Gifu University, Japan); Kang'iri, Samuel Macharia (Gifu University, Japan)

Collective Bio-nanomachine Rotation via Chemical and Physical Interactions: A Three- dimensional Model

Wang, Jiwen (Osaka Metropolitan University, Japan); Nakano, Tadashi (Osaka Metropolitan University, Japan)

A Intelligent Nanorobots Fish Swarm Strategy for Tumor Targeting

Wen, Shanchao (Chengdu University of Technology, China); Sun, Yue (Chengdu University of Technology, China); Chen, Siyang (Chengdu University of technology, China); Chen, Yifan (University of Electronic Science and Technology of China, China)

15:45 – 16:45 Session II

Chair: *Yue Sun (Chengdu University of Technology, China)*

Reinforcement Learning for Multifocal Tumour Targeting

Hao, Yi (University of Electronic Science and Technology of China, China); Wang, Zhijing (University of Electronic Science and Technology of China, China); Liu, Minghao (University of Electronic Science and Technology of China, China); Chen, Yifan (University of Electronic Science and Technology of China, China); Sun, Yue (University of Electronic Science and Technology of China, China)

A Novel Visualization Method of Vessel Network for Tumour Targeting:

A Vessel Matrix Approach

Zhai, Mengsheng (University of Electronic Science and Technology of China, China); Liu, Minghao (University of Electronic Science and Technology of China, China); Wang, Zhijing (University of Electronic Science and Technology of China, China); Chen, Yifan (University of Electronic Science and Technology of China, China); Sun, Yue (University of Electronic Science and Technology of China, China)

Wet-laboratory Experiments and Computer Simulation of Interacting Cell Spheroids

Matsushita, Karin (Osaka Metropolitan University, Japan); Nakano, Tadashi (Osaka Metropolitan University, Japan); Koujin, Takako (National Institute of Information and Communications Technology, Japan); Kobayashi, Shouhei (National Institute of Information and Communications Technology, Japan)

Design and Implementation of a General-purpose Multicellular Molecular Communication Simulator

Saiki, Takanori (Osaka City University, Japan); Nakano, Tadashi (Osaka Metropolitan University, Japan)

17:00 – 17:45 Session III

Chair: *Tseng, Fan-Hsun (Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan)*

Instant Messaging Application for 5G Core Network

Tseng, Fan-Hsun (Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan); Wu, Tung-Yi (Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan); Chang, I-Lung (Information Engineering, National Cheng Kung University, Taiwan); Hsu, Chia-Chen (Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan); Chen, Yi-Cen (Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan)

Genetic Algorithm-based Fair Order Assignment Optimization of Food Delivery Platform

Cho, Hsin-Hung (National Ilan University, Taiwan); Lin, Guo-Yu (National Ilan University, Taiwan); Zeng, Jiang-Yi (National Ilan University, Taiwan); Yu, Chia-Mu (National Yang Ming Chiao Tung University, Taiwan); Tsai, Min-Yan (National Yang Ming Chiao Tung University, Taiwan); Chen, Chi-Yuan (National Ilan University, Taiwan)

Smart Farm Teaching Aids Based on STEM Concepts

Wu, Hsin-Te (National Ilan University, Taiwan); Tseng, Kuo-Chun (National Ilan University, Taiwan)

19:00 – 21:00 Banquet

DAY 2 (April 12)

10:00 – 10:10 Opening

10:10 – 11:00 Keynote:

Quantum Internet

Winston K.G Seah (Victoria University of Wellington, New Zealand)

11:00 – 12:00 Session IV

Chair: *Yifan Chen (The University of Electronic Science and Technology of China, China)*

Development of Capacitive Sensors to Detect and Quantify Fluids in the Adult Diaper

Tanweer, Muhammad (Aalto University, Finland); Sepponen, Raimo (Aalto University, Finland); Tanzer, Ihsan Oguz (Aalto University, Finland); Halonen, Kari A (Aalto University, Finland)

Influence of Number of Virtual Data Generated in pdi-Bagging

Irie, Honoka (Kansai University, Japan) and Hayashi, Isao (Kansai University, Japan)

Acquisition of Ball Trajectory and Tactics in Table Tennis from Broadcast Video

Hayashi, Isao (Kansai University, Japan), Irie, Honoka (Kansai University, Japan), Yangyun, Feng (Kansai University, Japan), Yoshida, Kazuto (Juntendo University, Japan), Kondric, Miran (University of Ljubljana, Slovenia)

12:00 – 13:30 Lunch

14:00 – 15:00 Molecular Communication Workshop: Online Session I

Chair: *Lin Lin (Tongji University, China)*

Modeling and Simulation of a Bio-inspired Nanorobotic Drug Delivery System

Zhao, Qingying (Changshu Institute of Technology, China); Lin, Lin (Tongji University, China)

Signal Transmission Through Human Body Via Human Oxygen Saturation Detection

Zhang, Chengyi (Tongji University, China); Yan, Hao (Shanghai Jiao Tong University, China); Liu, Qiang (University of Electronic Science and Technology of China, China); Yang, Kun (University of Essex, UK); Lin, Lin (Tongji University, China)

Simple ISI-Avoiding and Rate-Increasing Modulation for Diffusion-base Molecular Communications

Lin, GuoYing (University of Electronic Science and Technology of China, China); Yang, Kun (University of Essex, UK); Liu, Qiang (University of Electronic Science and Technology of China, China)

ISI Mitigation with Molecular Degradation in Molecular Communication

Jing, Dongliang (Northwest A&F University, China); Li, Linjuan (Northwest A&F University, China); Wang, Jingjing (Northwest A&F University, China)

15:15 – 16:00 Molecular Communication Workshop: Online Session II

Chair: *Peng He (Chongqing University of Posts and Telecommunications, China)*

Cooperative Relaying in Multi-Hop Mobile Molecular Communication via Diffusion

Cheng, Zhen (Zhejiang University of Technology, China); Zhang, Zhichao (Zhejiang University of Technology, China); Sun, Jie (Zhejiang University of Technology, China)

Range Expansion in Neuro-spike Synaptic Communication: Error Performance Analysis

Singh, Abhinav (VNIT Nagpur, India); Chouhan, Lokendra (IIIT Sricity, India); Sharma, Prabhat (Netaji Subhas Institute Of Technology, New Delhi, India)

Electromagnetic-induced Calcium Signal with Network Coding for Molecular Communications

Su, Mengnan (Chongqing University of Posts and Telecommunications, China); He, Peng (Chongqing University of Posts and Telecommunications, China)

16:15-16:30 Closing

Video presentations:

Features of Audio Frequency Content of Respiration to Distinguish Inhalation from Exhalation

Dow, Douglas E. (Wentworth Institute of Technology, USA); Katti, (Wentworth Institute of Technology, USA); Aveta, Federica (Wentworth Institute of Technology, USA); Basnet, Saurav (Wentworth Institute of Technology, USA)

Wearable Vibration Device to Assist with Ambulation for the Visually Impaired

Dow, Douglas E. (Wentworth Institute of Technology, USA); Robbins, Jared J. (Wentworth Institute of Technology, USA); Roberts, Kelley C. (Wentworth Institute of Technology, USA); Bannish, Seth G. (Wentworth Institute of Technology, USA); Cote, Bailey J. (Wentworth Institute of Technology, USA)

Automatic Soil Testing Device for Agriculture

Dow, Douglas E. (Wentworth Institute of Technology, USA); Vakati, Vikranth (Wentworth Institute of Technology, USA); Rosado, Mark A. (Wentworth Institute of Technology, USA); Bohra, Nitin Singh (Wentworth Institute of Technology, USA)

A Novel Durable Fat Tissue Phantom for Microwave Based Medical Monitoring Applications

Särestöniemi, Mariella (University of Oulu, Finland); Dessai, Rakshita (Microelectronic research unit, University of Oulu, Finland); Myllymäki, Sami (Microelectronics research unit, Finland); Myllylä, Teemu (Health Sciences and Technology research unit, University of Oulu, Finland)

Monte Carlo Simulation of Arbitrium and the Probabilistic Behavior of Bacteriophages

Nieto-Chaupis, Huber (UNIVERSIDAD AUTÓNOMA DEL PERÚ, Peru)

Covid-19 Versus Monkeypox-2022: The Silent Struggle of Global Pandemics

Nieto-Chaupis, Huber (UNIVERSIDAD AUTÓNOMA DEL PERÚ, Peru)

Heterogeneous Group of Fish Response to Escape Reaction

Mwaffo, Violet (United States Naval Academy, USA)

Preliminary Considerations on Non-Invasive Home-Based Bone Fracture Healing Monitoring

Parviainen, Roope (University of Oulu, Finland); Kumpuniemi, Timo (University of Oulu, Finland); Mäkelä, Juha-Pekka (University of Oulu, Finland); Hämäläinen, Matti (University of Oulu, Finland); Sinikumpu, Juha-Jaakko (University of Oulu, Finland); Iinatti, Jari (University of Oulu, Finland)

Energy Cyber Attacks to Smart Healthcare Devices: A Testbed

Al-Waisi, Zainab (IMT school for advanced studies, Italy); Soderi, Simone (IMT School for Advanced Studies, Italy); De Nicola, Rocco (IMT School for Advanced Studies, Italy)

Ensembles of Heuristics and Computational Optimisation in Highly Flexible Manufacturing System

Ogunsakin, Rotimi (Alliance Manchester Business School, UK); Mehandjiev, Nikolay (University of Manchester, UK); Marin, cesar (Information Catalyst)

Management of the Medical File in Case of Emergency

Mbaye, Mouhamadou Moustapha (Universite Alioune Diop de Bambey, Senegal); Gaye, Abdourahime (University Alioune DIOP of Bambey, Senegal); Konate, Pr. Karim (University Cheikh Anta DIOP of Dakar, Senegal); Ndao, Dr. Mamour (EL Hadji Ibrahima Niasse regional hospital (CHEIN))