

# The 1st International Conference on Health Science and Technology (ICHST-2023)

## TENTATIVE PROGRAM

Venue: C2 Hall, Hanoi University of Science and Technology  
Hanoi, December 28<sup>th</sup>-29<sup>th</sup> 2023

### DAY 1: 28<sup>th</sup> December 2023

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	<b>RECEPTION AND OPENING, C2 Hall</b>
7:30-8:30	Reception
8:30-9:00	Opening remark and welcome speech
	<b>Prof. Huynh Quyet Thang, President of HUST</b>
	<b>Prof. Kazem Kazerounian, Dean of the School of Engineering, University of Connecticut</b>
	Group Photo
9:00-10:30	<b>PLENARY SESSION, C2 Hall</b> Chair: Prof. Nguyen Duc Thanh
9:00-9:30	<i>Prof. Robert S. Langer, Massachusetts Institute of Technology, USA</i> Title: From nanotechnology to mRNA vaccines: How overcoming skepticism led to new medical treatments and ways to tackle a global health challenge
9:30-10:00	<i>Prof. Cato T. Laurencin, University of Connecticut, USA</i> Title: Regenerative Engineering
10:00-10:30	<i>Prof. Kam W. Leong, Columbia University, USA</i> Title: Targeting Nucleic Acids to Combat Inflammation: A New Therapeutic Strategy
10:30-11:00	<i>Prof. Mark Prausnitz, Georgia Institute of Technology, USA</i> Title: Translation of drug delivery devices from lab to clinic
11:00-11:30	<b>COFFEE BREAK</b>
11:30-12:00	<b>KEYNOTE SESSION, C2 Hall</b> Chair: Prof. Mark Prausnitz
11:30-12:00	<i>Prof. Thang Toan Phan, National University of Singapore, Singapore</i> Title: Translational Research in Cellular Therapy: Umbilical Cord Stem Cell 4.0 for Regenerative Medicine, Cellular and Gene Therapy and Healthy Longevity
12:00-12:30	<i>Prof. Ho Ba Tho Marie-Christine, Université de Technologie de Compiègne, France</i> Title: Knowledge extraction from medical imaging for advanced patient specific musculoskeletal models
12:30-14:00	<b>LUNCH</b>
14:00-15:00	<b>KEYNOTE SESSION, C2 Hall</b> Chair: Prof. Bin Feng
14:00-14:30	<i>Prof. Yadong Wang, Cornell University, USA</i> Title: Design and application of bioelastomers
14:30-15:00	<i>Prof. Thanh Duc Nguyen, University of Connecticut, USA</i> Title: Smart biodegradable polymers at small scales for medical and healthcare applications
	<b>SCIENTIFIC SESSION</b>

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15:05-17:30	Session 01: Bio-Sensing Technology and Medical Devices C2 Hall Chair: Prof. Nguyen Duc Thanh	Session 02: Biomaterials and Drug Delivery  C2 - 204 Chair: Prof. Liu Yang	Session 03: Biological and Medical Science  C2 Conference Room Chair: Prof. Thuy Ngo	Session 04: AI and Data Science for Health  C1 - 222 Chair: Dr. Nam Sy Vo
15:05-15:20	<p><b>Invited speaker: Prof. Bin Feng</b>, University of Connecticut, USA</p> <p>Title: Chronic Pain from Deep Tissues: Physiological Insights and Treatment Strategies</p>	<p><b>Invited speaker: Prof. Xu Chenjie</b>, City University of Hong Kong, China</p> <p>Title: Cryo-microneedles for Cell Delivery</p>	<p><b>Invited speaker: Dr. Dang Thuy Tram</b>, Nanyang Technological University, Singapore</p> <p>Title: Immuno-modulatory biomaterials and therapeutic delivery systems</p>	<p><b>Invited speaker: Dr. Phat K. Huynh</b>, University of South Florida, USA</p> <p>Title: Real-Time Monitoring and Diagnosis of COVID-19 Using Magnetic Respiratory Sensing Technology and Machine Learning</p>
15:20-15:35	<b>FS1-16:</b> Challenges and Difficulties of Multi-Spectral MRI Based Brain Tumor Detection and Segmentation	<b>FS2-51:</b> Medical Textile Coated by Photocatalytic Titanium Dioxide Nanoparticles for Self-Cleaning Ability	<b>FS3-11:</b> Study of Neuronal Cell Morphology and Motility on Anisotropically Patterned Surfaces	<b>FS4-32:</b> Salient Features Selection for Liver Disease Prediction using Machine Learning
15:35-15:50	<b>FS1-25:</b> A Novel Acoustic Reflection Principle for Developing Tactile Sensors Integrated with Catheters for Cardiac Ablation	<b>FS2-53:</b> Synthesis of Cu-Doped ZNO nanoparticles by co-precipitation method for photocatalytic activity and antibacterial properties into nanocellulose fiber	<b>FS3-59:</b> Clinical and molecular surveillance of artemisinin resistance falciparum malaria in Central Highlands in Vietnam	<b>FS4-61:</b> Improve Classification Quality of Fetal Status from Cardiotocogram Data by Using Machine Learning
15:50-16:00	<b>Q&amp;A</b>	<b>Q&amp;A</b>	<b>Q&amp;A</b>	<b>Q&amp;A</b>
<b>16:00-16:30</b>	<b>COFFEE BREAK AND POSTER SESSION</b>			
16:30-16:45	<b>FS1-26:</b> Integration of IMU Sensors with Fugl-Meyer Assessment for Evaluating Lower Limb Rehabilitation in Stroke Patients	<b>FS2-71:</b> Preliminary synthesis and characterization of poly(lactic acid)/chitosan/n-hydroxyapatite composite scaffolds for bone tissue engineering	<b>FS3-62:</b> Molecular epidemiology of human respiratory syncytial virus in Viet Nam National Children's Hospital	<b>Invited speaker: Dr. Nam Sy Vo</b> , GeneStory & Vingroup BigData Institute, Vietnam Title: Data Science and Machine Learning Approaches to Decoding Human Genomes at Scale
16:45-17:00	<b>FS1-44:</b> Using EMG Sensor to Evaluate the Assistance Level of a Developing Rehabilitation Device	<b>FS2-80:</b> Solutions For Affordable Plastination – An Initial Attempt on Chicken Hearts	<b>FS3-63:</b> Computer-aided building of pharmacophore and QSAR model of benzo-fused compounds applied for screening of natural neolignans	<b>FS4-65:</b> Stress prediction using machine-learning technique on physiological signal

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			featuring anti-inflammation via inhibiting NF-kB.	
17:00-17:15	<b>FS1-47:</b> The non-contact height measurement method using Mediapipe and OpenCV in a 2D space	<b>FS2-83:</b> Study on the preparation and investigation of structural and photocatalytic properties of ZnO nanostructure materials co-doped with Co <sup>2+</sup> , Ni <sup>2+</sup>	<b>FS3-67:</b> Evaluation of New Insulin Infusion Therapy with Potential Variables for Diabetes Mellitus ICU Patients	<b>FS4_116:</b> Magnetic Bead Conjugated Lung Tumor Cell Binding Efficiency Assessment Based on Deep-Learning Approach
17:15-17:30	Q&A	Q&A	Q&A	Q&A
18:30-21:00	GALA DINER			
DAY 2: 29 <sup>th</sup> December 2023				
8:00-10:00	KEYNOTE SESSION, <b>C2 Hall</b> Chair: <i>Prof. Yadong Wang, Cornell University, USA</i>			
8:30-9:00	<i>Prof. Ankur Singh, Georgia Institute of Technology, USA</i> Title: Multiscale Immune Technologies for Discovering and Modulating Immune Processes			
9:00-9:30	<i>Prof. Xiang-Dong Edward Guo, Columbia University, USA</i> Title: How Does Mechanical Loading Make Bone Microstructure			
9:30-10:00	<i>Prof. Levente Kovács, Óbuda University, Hungaria</i> Title: Robust control of Cyber-Medical Systems			
SCIENTIFIC SESSION				
10:05-12:15	Session 01: Bio-Sensing Technology and Medical Devices <b>C2 Hall</b> Chair: Prof. Bin Feng	Session 02: Biomaterials and Drug Delivery <b>C2 - 204</b> Chair: Prof. Xu Chenjie	Session 03: Biological and Medical Science <b>C2 Conference Room</b> Chair: Dr. Dang Thuy Tram	Session 04: AI and Data Science for Health <b>C1 - 222</b> Chair: Prof. Hai Vu
10:05-10:20	<b>Invited speaker: Dr. Thien Nguyen</b> , National Institute of Health, USA Title: Utilization of Near-Infrared Spectroscopy as a wearable technology to Monitor General and Pregnancy Health.	<b>Invited speaker: Prof. Liu Yang</b> , Peking University School of Stomatology, China Title: Biodegradable piezoelectric scaffold for cartilage regeneration	<b>Invited speaker: Prof. Yupeng Chen</b> , University of Connecticut, USA Title: Janus Base Nanomaterials for Regenerative Engineering	<b>FS4-121:</b> Machine Learning-based Diagnosis of Autism Spectrum Disorder using Resting-state Functional Magnetic Resonance Imaging Data
10:20-10:35	<b>FS1-60:</b> A novel breast insert design approach of mastectomy bra for breast cancer patients applying 3D scanning technology	<b>FS2-110:</b> Biomechanical Evaluation of Polyether Ether Ketone (PEEK) Cranial Implants with Different Thickness Using Finite Element Method	<b>FS3-77:</b> HosRev: A Comprehensive Aspect-Category Sentiment Analysis Dataset on Hospital Reviews in Vietnam	<b>FS4-128:</b> Identification of patients with Attention Deficit Hyperactivity Disorder from Electroencephalography Signals using Support Vector Machine Models and Linear

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				Discriminant Analysis Algorithm
10:35-10:50	<b>FS1-74:</b> A novel approach to protein detection utilizing the microfluidic pre-concentrator based on the impedance measurement method	<b>AS-04:</b> A novel injectable piezoelectric hydrogel for osteoarthritis treatment	<b>FS3-78:</b> Lipidomic Analysis Reveals Biomarkers for Alzheimer's Disease	<b>FS1-33:</b> Systematic evaluation of loss functions for ovarian tumors segmentation from ultrasound images
<b>10:50-11:20</b>	<b>COFFEE BREAK AND POSTER SESSION</b>			
11:20-11:35	<b>Invited speaker: Dr. Michinao Hashimoto</b> , Singapore University of Technology and Design, Singapore Title: Direct Ink Writing 3D Printing for Fabricating MicROFLUIDIC Electronic Devices		<b>Invited speaker: Prof. Thuy Ngo</b> , Oregon Health and Science University, USA Title: De-mixing high-throughput measurements of circulating RNA and extracellular vesicles in the blood for cancer detection and treatment stratification	<b>FS4-133:</b> Melanoma Classification using Machine Learning and Deep Learning
11:35-11:50	<b>FS1-130:</b> Novel Electrochemical Immunosensing Structure Based on a Functionalized Carbon Electrode with 11-MUA for NSE Protein Detection		<b>FS3-104:</b> Exploring novel plumbagin derivatives as potential inhibitors for HepG2 cell line using QSAR and molecular docking models	<b>FS4-143:</b> Application artificial intelligence to identifying and personalize lung cancer treatments
11:50-12:05	<b>FS4-123:</b> Development of a smart necklace for stroke warning based on IoT and Convolutional Neural Network Deep Learning Techniques		<b>FS3-117:</b> A novel complex impedance flow cytometry method for single-cell electrical characterization toward biomedical applications	<b>Invited speaker: Prof. Marco Santello</b> , Arizona State University, USA Title: NSF Industry-University Cooperative Research Centers: A successful model for supporting partnerships between industry and universities
11:05-12:15	Q&A		Q&A	Q&A
<b>12:30-13:30</b>	<b>LUNCH</b>			
<b>14:00-17:00</b>	<b>ROUNTABLE: TRAINING AND RESEARCH ON HEALTH SCIENCE AND TECHNOLOGY IN VIETNAM</b> <b>Room C1-222 (invited only)</b>			
<b>18:00</b>	<b>Dinner (invited only)</b>			
<b>DAY 3: 30<sup>th</sup> December 2023</b> <b>Sightseeing, Trang An – Ninh Binh (Speakers)</b>				

# The 1st International Conference on Health Science and Technology (ICHST-2023)

## POSTER SESSION

Venue: C2 Hall, Hanoi University of Science and Technology  
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Poster Session 01: Bio-Sensing Technology and Medical Devices	Poster Session 02: Biomaterials and Drug Delivery	Poster Session 03: Biological and Medical Science	Poster Session 04: AI and Data Science for Health
<b>FS1-10:</b> Optimal Wake-Up Time Determination Based on Sleep Cycle Analysis of Electroencephalography Signals	<b>FS2-36:</b> Synthesis of arylated tetrathienylethene and post-functionalization with aggregation induced emission application for cell imaging	<b>FS3-14:</b> A numerical study of biomolecule preconcentration utilizing ion concentration polarization in the H-shaped microchannels	<b>FS4-23:</b> Forecasting Essential Drug Demand: Applying Machine Learning to Consumption Data
<b>FS1-35:</b> Improving Breast Mass Classification Performance of Radiomics-based model by Image Enhancement with Discrete Wavelet Transformation	<b>FS2-68:</b> Application of Carbon dots as Nanocarrier in Organic Carbon dots - Gallic acid Nanodelivery system for Cancer Therapy	<b>FS3-37:</b> Comparison of skin dose of flattening filter and flattening filter-free beam in volumetric modulated arc therapy treatment plan for head and neck cancer	<b>FS4-64:</b> Computer-aided drug design: Searching for potential anti-cancer agents from Xanthone derivative targets Topoisomerase II-alpha protein
<b>FS1-42:</b> Positive control of uncertain physiological systems	<b>FS2-96:</b> Synthesis of aggregation induced emission functionalized triazole tetrathienylethene based on click reactions and their application for cell imaging	<b>FS3-66:</b> Association between vital signs and urine output for the prediction of Sequential Organ Failure Assessment (SOFA)	<b>FS4-81:</b> A Design of the Open - Structure IoT Terminal Device Applying for the Collecting and Transmitting of the Water Environment Parameters
<b>FS1-48:</b> Design and development of bedside scale with embedded software to calculate treatment parameters for resuscitated patients	<b>AS2-09:</b> Highly piezoelectric, biodegradable and flexible amino acid nanofibers for medical applications	<b>FS3-76:</b> VHCOR: Vietnamese Healthcare Corpus - A Comprehensive Dataset for Vietnamese Medical Department Recognition	<b>FS4-94:</b> Application of Research Electronic Data Capture System (REDCap) for Health Care Data Collection and Management: Ovarian Cyst and Liver Cancer Case Study
<b>FS1-49:</b> A new method to detect sodium benzoate in grapefruit juice based on capacitance measurement: Preliminary study	<b>AS2-15:</b> Exercise-induced piezoelectric stimulation for cartilage regeneration	<b>FS3-89:</b> The result of mechanical mitral valve replacement with preservation of posterior leaflet in patients with severe pulmonary hypertension	<b>FS4-122:</b> Deep Learning-based Automated Assessment of Sperm Motility
<b>FS1-50:</b> Spectroscopic system for rapid detection of emamectin benzoate in cabbage	<b>AS2-139:</b> Immunostimulation Effect and Inhibition of Some Cancer Cell Lines and Cancerous Tumor Growth by Gano-Cordyceps Capsules in Vietnam	<b>FS3-90:</b> Nicolaoidesin C from <i>Boesenbergia pandurata</i> , a promising agent having ability to eliminate pancreatic cancer cells via targeting the Akt/mTOR/autophagy signaling pathways	<b>FS4-124:</b> Drug classification based on Machine learning models with a combination of Data binning and SMOTE technique

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<b>FS1-73:</b> External-exoskeleton design for hand rehabilitation using parallelogram actuator		<b>FS3-93:</b> Assessment of the possibilities of isolation, proliferation and migration of fibroblasts from diabetic ulcers	<b>FS4-144:</b> The Development of an Intelligent Robot Arm Playing chess with Human-Robot Interaction
<b>FS1-85:</b> Designing denim shirts for persons with upper limbs locomotor disabilities		<b>FS3-140:</b> Evaluation of embryogenesis efficiency of follicular fluid treated sperm by intracytoplasmic sperm injection	<b>FS4-145:</b> High accurate stroke prediction smart necklace device based on IoT and Machine Learning Algorithm
<b>FS1-86:</b> Designing women's jeans for wheelchairs users		<b>FS3-141:</b> Cloning and expression of the L1 major capsid protein of the human papillomavirus type 16 in Escherichia coli	<b>AS4-34:</b> Optimal UAV path planning based on improved Faster algorithm for emergency medicines delivery
<b>FS1-114:</b> Research and development of a portable impedance measurement system utilizing AD5941 analog integrated circuit for A549 lung cancer cell detection		<b>FS3-142:</b> Cloning and expression of a recombinant envelope domain III antigen from a Dengue 1 serotype viral isolate in Escherichia coli	<b>AS4-106:</b> Development and validation of machine learning-based predictive clinical decision support system for olanzapine in patients with schizophrenia
<b>FS1-120:</b> Harnessing the Self-Healing Effect of Terahertz Rays Advancements and Applications		<b>FS3-146:</b> Agricultural value enhancement following market insight through innovation	
<b>FS1-131:</b> Wearable device to support stroke patient during lower limb rehabilitation		<b>AS3-72:</b> The accuracy of YOLOv8 algorithm in detecting and delineating colon polyps in endoscopy videos	
<b>FS1-132:</b> Spine curvature measuring device		<b>AS3-107:</b> Clinical decision support system for medication dosage adjustments in patients with renal insufficiency: A pre-post study	
		<b>AS3-137:</b> Longitudinal Analysis of Cardiovascular Diseases Outcomes in Apnea Patients: A Wisconsin Sleep Cohort Study	