

7th International Bio-Medical Interface Symposium 2026

IBMI 2026

March 7th-8th, 2026



Graduate School of Medicine, University of the Ryukyus
1076 Kiyuna Ginowan, Okinawa 901-2725, Japan



https://ksoga.com/ibmi/?page_id=148

Symposium Chairs

Prof. Hidehiro KISHIMOTO, University of the Ryukyus, Japan

Prof. Kohei SOGA, Tokyo University of Science, Japan

Prof. Tsung-Rong KUO, Taipei Medical University, Taiwan

PROGRAM AT A GLANCE

Day 1 Sat. March 7th, 2026

9:40-10:00 OPENING REMARKS

Day 1 Sat. March 7th, 2026

10:00-11:30 Session A. Diagnosis & Medicine

Chairs: Prof. Masato TSUTSUI (UR), Prof. Jiunn-Horng KANG(TMU)

Day 1 Sat. March 7th, 2026

12:00-13:30 Poster Session & Lunch, Committee Lunch Meeting

Day 1 Sat. March 7th, 2026

13:30-15:00 Session B. Drug Development

Chairs: Prof. Masakazu UMEZAWA(TUS), Prof. Jen-Chang YANG (TMU)

Day 1 Sat. March 7th, 2026

15:20-16:40 Session C. Special Session: Designology for Human Function

Chairs: Prof. Kohei SOGA(TUS), Prof. Tsung-Rong KUO(TMU)

18:00-20:30 BBQ Dinner

Day 2 Sun. March 8th, 2026

10:00-11:30 Session D. Rehabilitation and Nursing Care

Chairs: Prof. Hiroshi TAKEMURA (TUS)/ Prof. Bing-Shiang YANG

(NYCU/ITRI) Day 2 Sun. March 8th, 2026

11:30-11:50 CLOSING REMARKS

PROGRAM DETAILS

Day 1 Sat. March 7th, 2026			
<i>10:00-12:00 Session A. Diagnosis Chairs: Prof. Masato TSUTSUI (UR), Prof. Jiunn-Horng KANG(TMU)</i>			
10:00	A01	Kenya KUSUNOSE (UR) "Artificial Intelligence in Echocardiography"	2
10:15	A02	Ching-Li TSENG (TMU) "Develop Injectable, Multi-Component Hydrogels as Vitreous Substitutes for Eye Health Management"	4
10:30	A03	Takeshi KINJO (UR) "Diagnostics of Infectious Diseases"	6
10:45	A04	Jian-Chiun LIOU (TMU) "Near-Infrared Phototherapy for Optimal Hemodialysis Body Impedance Analysis"	8
11:00	A05	Ayano OSHIRO (UR) "Quantitative Evaluation and Early Prediction of Sunset Glow Fundus in Vogt–Koyanagi–Harada Disease Using HSB Color Space Analysis"	10
11:15	A06	Andrew E.-Y. CHUANG (TMU) "Intranasal Sonoresponsive Hemoglobin-Laden Glycol-Chitosan Vesicles Enable Programmable Shockwave Therapy and Cascade Immunomodulation for Ischemic Stroke Rescue"	12
<i>13:30-15:00 Session B. Drug Development Chairs: Prof. Masakazu UMEZAWA(TUS), Prof. Jen-Chang YANG (TMU)</i>			
13:30	B01	Masao KAMIMURA (TUS) "Targeted Remote Heating-Based Activation of Mitochondria Using Photothermal Nanoheaters"	14
13:45	B02	Chien-Chung P. J. CHEN (TMU) "Microtube Array Membranes (MTAM) Encapsulated Mesenchymal Stem Cells for Long-Term Neurodegenerative Diseases Treatment"	16
14:00	B03	Takashi MIYANO (TUS) "TRPV4 Channels as Mechanosensors Regulate Cellular Response to Hyperosmotic Stress"	18
14:15	B04	Chih-Hsin LIN (NYCU) "A Machine Learning Liver-on-a-Chip System for Safer Drug Formulation"	20
14:30	B05	Masakazu UMEZAWA (TUS) "Regulation of Pathological and Cellular Phenotypes by Long Noncoding RNAs"	22
14:45	B06	Jen-Chang YANG (TMU) "Green Process of Silk Fibroin Nanofibrils and Its Preliminary Hemostatic Observations in a Pilot Porcine Model"	24
<i>15:20-16:40 Session C. Special Session: Designology for Human Function Chairs: Prof. Kohei SOGA(TUS), Prof. Tsung-Rong KUO(TMU)</i>			
15:20	C01	Toshiyuki WATANABE (TUS) "Designing an Explanatory Tool for Treatment Procedures to Improve Patient Understanding: An Approach by “Design Thinking”"	26
15:40	C02	Jiunn Horng KANG (TMU) "Develop a Real-World Model with Computer Vision and Wearable Devices to Facilitate the Care of Sarcopenia"	28
16:00	C03	Nodoka YAMAUCHI (TUS) "Development of a Manual Wheelchair “Nomoca”—Designing QOL with Dignity, Technology That Empowers Us"	30
16:20	C04	Kohei SOGA (TUS) "What’s Design? Why Design?"	32
Day 2 Sun. March 8th, 2026			
<i>10:00-11:30 Session D. Rehabilitation and Nursing Care Chairs: Prof. Hiroaki HOBARA (TUS) / Prof. Cheng-Yu TSAI (TMU)</i>			
10:00	D01	Hiroshi KOBAYASHI (TUS) "Introducing the Lumbar Support Exoskeleton: Muscle Suit and Its Application to Healthcare"	34
10:15	D02	Ming-I SUN (Yin-Ann Social Work Practice) "How to Utilize the Concept of Mentalization and Parallel Processcan to Promote the Quality of Care"	36
10:30	D03	Keisuke KITANO (TUS) "IMU-Based Motion Analysis for Activities of Daily Living in Indoor Environments"	38

10:45	D04	Li-Ru CHEN (MacKay Memorial Hospital) "Multidisciplinary Burn Rehabilitation and Crisis Response: Insights from Mackay Memorial Hospital, Taiwan"	40
11:00	D05	Yusuke YAMANOI (TUS) "Towards the Realisation of Medical and Welfare Equipment Utilising Cyborg Technology"	42
11:15	D06	Bing-Shiang YANG (NYCU) "From Unmet Needs to Technology Development and Practice"	44
Day 1 Sat. March 7th, 2026			
<i>Poster Session</i>			
12:00	P02	Chang CHUN-CHI (TMU) "Piezoelectrically Activated Exosome Nanotherapeutic Platform for Synergistic Thrombolysis, Immune Reprogramming, and Vascular Regeneration"	47
12:00	P03	Yongyin YANG (TMU) "Multifunctional Plasmonic Gold Nanoisland Films for Enhanced Cell Theranostics Through Photothermal Therapy and Surface-Enhanced Raman Scattering Detection"	48
12:00	P05	Ting-Chiau HUANG (TMU) "Integrated Nanomedical Strategy Utilizing Piezoelectric Microelectrostimulation and Antioxidant Synergy to Overcome Diabetes-Driven Bone–Vascular Disorders"	49
12:00	P06	Yi-Chun CHENG (TMU) "Fluorine-Guided Synthesis of Copper Nickel Compounds With 2-Methylimidazole and Temperature Control for Battery Supercapacitor Hybrids"	50
12:00	P07	Chih-Hsuan LIU (TMU) "Curcumin-Loaded ADSC Extracellular Vesicles (CL-ADSC-EVs) Combined PBM for Enhanced Angiogenesis and Anti-Fibrosis in Chronic Wound Repair"	51
12:00	P08	Arunima PANDEY (TMU) "Microfluidic Integration of Salivary Extracellular Vesicles Unveils Robust Downstream Biomarkers for Oral Cancer Diagnosis"	52
12:00	P09	Amina RIAZ (TMU) "Effects of Temporal Interference Stimulation (TIS) for Enhancing Motor Recovery & Locomotion in Clip Compression Incomplete Spinal Cord Injury: A Preclinical Study"	53
12:00	P10	Ming-Wei LU (TMU) "Gold Nanostars-Embedded Urinary Catheters for Enhanced Photothermal Sterilization to Combat Bacterial Infections"	54
12:00	P11	Pradeep KUMAR (TMU) "Multi-Photon Fluorescent Profiling of Localized Mitochondrial Viscosity in Alzheimer Disease Model"	55
12:00	P12	Shilpa KUMARI (TMU) "A Dual-Functional Lecithin-Coated Nano-Assembly for Microglial Modulation in Alzheimer's Disease Therapy"	56
12:00	P13	Dinesh Kumar KANNAN (TMU) "Biorecognition-Driven SERS Biosensor for Activity-Based Urinary Cathepsin-D Detection in Early Diabetic Nephropathy"	57
12:00	P14	Bhuvan LOKESH MARENAHALLI (TMU) "Rose-Like Structure of Calcium Molybdate Decorated on Halloysite Nanotubes as an Electrocatalyst: Highly Sensitive and Selective Electrochemical Determination of Promethazine Hydrochloride in Biological and Environmental Samples: Density Functional Theory Studies"	58
12:00	P15	Yao-En CAI (TMU) "CHL@RB-BSA-MoS ₂ -PRO Nanotherapeutic Platform Integrating Remote Optical Guidance and Sono-Photo Deep-Penetration for Tumor Microenvironment Immune Remodeling and Deep Tumor Eradication in Bladder Cancer Toward Clinical Translation"	59
12:00	P16	Ya-Ching YU (TMU) "Zebrafish Modeling of Diabetic Retinopathy for Therapeutic Evaluation of Anti-Angiogenic Drug-Loaded Platelet-Derived Extracellular Vesicles"	60
12:00	P17	Yun-Juan YANG (TMU) "Sodium Sulfate-Assisted Synthesis of C8-MSNs: Tuning Colloidal Stability and Biodegradation for Enhanced Nanomedicine Performance"	61
12:00	P18	Cong Kai LIN (TMU) "A Multimodal Chick CAM Platform Enabling Nanomedicine Applications in Tumor Therapy, BBB Transport, and Living Organ-on-Chip Systems"	62
12:00	P19	Pin-Yu CHEN (TMU) "Development of a Hair Growth-Promoting Tonic Based on a Nanoformulation of Polygonum Multiflorum Extract"	63
12:00	P20	Renee Shaine BALANAY (TMU) "Enhancing Light-Driven Biological Nitrogen Fixation in Azotobacter vinelandii Using Carbonized Polymer Dots"	64
12:00	P21	Lutvi Vitria KADARWATI (TMU) "Coffee Bean-Derived Extracellular Vesicles: Isolation, Characterization, and Stability Evaluation"	65
12:00	P22	Hung Quang HO (TMU) "Knee Hyperextension Measured by Markerless Pose Estimation Is Associated With the Ipsilateral Knee Pain in Ambulatory Chronic Stroke Survivors"	66

VENUE

Room# 9701, 1st Floor, Research Building (Build. A)

Nishi-Futenma Campus of University of the Ryukyus

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① Building A (Research Build.)

- ② B (Edu Build.)
- ③ C (Adv.Med.Res.Center)
- ④ D (Admin. Build.)



BANQUET PLACE

18:00~20:30 Day 1 Sat. March 7th, 2026

Bird's Eye OKINAWA

1028 Ameku, Naha, Okinawa 900-0005 那覇市天久 1028

(2 buses will bring you to the site)