



BEB

Conference on Biomedical
Engineering and Biotechnology

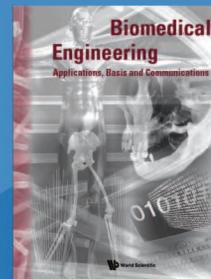
The 10th International Conference on Biomedical Engineering and Biotechnology (ICBEB 2021)

Conference Program

Hosted by



Supported by



November 15-18, 2021 (GMT+8, Beijing Time)

Online Conference via Microsoft Teams



ICBEB 2021

CONFERENCE PROGRAM

November 15th-18th, 2021

China Standard Time (GMT+8:00)

ONLINE-Microsoft Teams Meeting

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Part I Conference Schedule Summary

MS Teams Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

Monday, November 15, 2021

09:00-12:00

MS Teams Online Conference Testing

14:00-17:00

Tuesday, November 16, 2021

08:30-08:35

OPENING CEREMONY Chaired by:

Prof. Chengyu Liu, Southeast University, China

08:35-08:40

WELCOME SPEECH 1

Prof. Zhongze Gu, Conference General Chair, Institute of Biomaterials and Medical Devices, Jiangsu Industrial Technology Research Institute & Institute of Biomedical Devices (Suzhou), Southeast University, China

08:40-08:45

WELCOME SPEECH 2

Prof. Yi Peng, Challenge Director, Chinese Academy of Medical Sciences & Pecking Union Medical College, China

08:45-08:50

Keynote Speeches Chaired by:

Prof. Lung-Kwang Pan, Central Taiwan University of Science and Technology, Chinese Taichung

08:50-09:35

Keynote Speech 1: High Contrast Vein Visualization with Active Dynamic Thermography (ADT)

Prof. Eddie Y. K. Ng, Nanyang Technological University, Singapore

09:35-10:35

Keynote Speech 2: Psoriasis: Update on Biologic Agents

Prof. Alan Menter, Baylor University Medical Center, U.S.A.

10:35-10:45

BREAK

10:45-11:30

Keynote Speech 3: Wearable ECG Intelligent Monitoring: Data, Algorithm and Clinical Applications

Prof. Chengyu Liu, Southeast University, China

11:30-12:05

Keynote Speech 4: Calipered Unrestricted Kinetically Aligned TKA: The Target, Verification Checks, Accuracy, Implant Survival, and 'Athletic' Implant Design

Prof. Stephen M. Howell, University of California at Davis, U.S.A.

12:05-12:30

Poster Session

Tuesday, November 16, 2021

MS Teams Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

14:00-17:40 **Oral Session 1: 2021 the 4th China Physiological Signal Challenge (CPSC2021)**

Wednesday, November 17, 2021

MS Teams Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

08:30-12:25 **Oral Session 2: Cell biology & Medicinal Chemistry (I)**

12:25-14:00 **BREAK**

14:00-17:00 **Oral Session 3: Medical Imaging Technology & Signal Processing**

Thursday, November 18, 2021

MS Teams Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

08:30-12:35 **Oral Session 4: Cell biology & Medicinal Chemistry (II)**

12:35-14:00 **BREAK**

14:00-18:10 **Oral Session 5: Biomedical Science & Biotechnology**

Thursday, November 18, 2021

Session Room Link (new): <http://www.academicconf.com/teamslink?confName=icbeb2021&sessionid=2>

14:30-18:00 **Oral Session 6-Special Session: H2020 BAMOS - Biomaterials and Additive Manufacturing for Early Intervention of Osteoarthritis**

Part II Keynote Speeches

Keynote Speech 1: High Contrast Vein Visualization with Active Dynamic Thermography (ADT)



Prof. Eddie Y. K. Ng

Nanyang Technological University, Singapore

Biography: Eddie is elected as:

- * Academician for European Academy of Sciences and Arts (EASA, EU);
- * Fellow of the American Society of Mechanical Engineers (FASME, USA);
- * Fellow of Institute of Engineering and Technology (FIET, United Kingdom);
- * Fellow of International Engineering and Technology Institute (FIETI, Hong Kong);
- * Distinguished Fellow for Institute of Data Science and Artificial Intelligence (DFIDSAI, China);
- * Academician for Academy of Pedagogy and Learning, (USA).

He has published numerous papers in SCI-IF int. journal (430); int. conf. proceedings (130), textbook chapters (>105) and others (32) over the 29 years. Co-edited 14 books in STEM areas.

He is in the Stanford list of the World's top 2% Scientists since 2019 (ranked 173 as 0.001% in the field of Biomedical Engineering).

He is the:

- *Lead Editor-in-Chief for the ISI Journal of Mechanics in Medicine and Biology for dissemination of original research in all fields of mechanics in medicine and biology since 2000;
- *Founding Editor-in-Chief for the ISI indexed Journal of Medical Imaging and Health Informatics;
- *Associate editor or EAB of various referred international journals such as Applied Intelligence, BioMedical Engineering OnLine, Computers in Biology & Medicine, and Journal of Advanced Thermal Science Research.

More details can be found in: Cv: <https://dr.ntu.edu.sg/cris/rp/rp00847>.

Abstract. In this talk, a novel method that will aid in the visualization of vein topology on a target area on the body of a human subject is presented. An external cooling means is configured to cool the left forearm of fourteen study participants, effecting an active thermal change or recovery in the target area upon removal of cooling. An infrared (IR) thermal camera was used to capture a series of transient thermal images. These images were then processed to extract Dynamic Synthetic Images (SI) throughout the active thermal change or recovery process. Dynamic SI was calculated using a new quantitative parameter named Tissue Activity Ratio (TAR), defined by the rate of rewarming to the rate of cooling at each pixel of interest. A fixed step size of rewarming temperature (0.5) was used to progressively extract multiple synthetic images throughout the whole recovery process. Compared to a Static SI extraction method, where only a single SI results from the whole active dynamic thermography (ADT) sequence, our study demonstrates a live feed of high contrast vein visualizations by using the novel Dynamic SI method. The dependency of Dynamic SI contrast on the temperature of the external cooling stimulation was investigated. Three cooling stimulation temperatures (5, 8, and 11) were tested, where no statistically significant difference in the resulting SI contrast was found. In all, I

will discuss on assisting venipuncture or cannulation-based clinical applications, through the incorporation of the proposed method with a projection system.

Keywords: Active Dynamic Thermography; Image Contrast; Tissue Activity Ratio (TAR); Thermal Image Reconstruction; Vein Visualization; Vein Projection; Venepuncture

Ref.:

Saxena and Ng et al, "A Method to Produce High Contrast Vein Visualization in Active Dynamic Thermography (ADT)", *Computers in Biology and Medicine*, (2021), Vol. 132, pp. 104309 (9 pages), <https://doi.org/10.1016/j.combiomed.2021.104309>

Keynote Speech 2: Psoriasis: Update on Biologic Agents



Prof. Alan Menter

Chairman, Division of Dermatology, Baylor University Medical Center, U.S.A.

Biography: Dr. Alan Menter was born in England and is a graduate of the Medical School of the University of Witwatersrand, South Africa. He completed his dermatology residency at Pretoria General Hospital at the University of Pretoria, also in South Africa, and two fellowships in London at Guy's Hospital and St. John's Hospital for Diseases of the Skin.

A fellowship with the University of Texas Southwestern Medical Center in Dallas brought Menter to the United States in 1975. Since then, he has held several positions within the UT and Baylor University Dallas systems. In 1992, he was appointed chairman of the Division of Dermatology at Baylor University Medical Center and still holds that position. In 2007, he was appointed director of the Baylor Research Center and in 2010, Program Director of the newly formed Dermatology Residency Program at Baylor University Medical Center.

Committed to patients

Dr. Menter has a long-held interest in psoriasis and psoriatic disease research. In 1994, he co-authored the first gene discovery for psoriasis, published in *Science* in 1994. His research on psoriasis has examined everything from ultraviolet phototherapy, new biologic therapy to the mapping of genetic patterns to predict if a person is at risk of developing psoriasis pharmacogenomics.

In August 2004, Dr. Menter helped found the International Psoriasis Council to raise international awareness of psoriasis as a serious autoimmune disease that can significantly impact quality of life. His clinical practice includes more than 1,800 patients on systemic and biologic therapy.

Dedicated to research

Dr. Menter held the position of clinical director of the National Psoriasis Foundation Gene Bank from 1996 to 2002. His resume lists some 385+ articles, 6 books and 21 book chapters. He serves as a member of the editorial board for several medical journals, including the *Journal of Clinical Dermatology* and *Clinical and Experimental Dermatology*. He is Dermatology Chair at Baylor Scott & White, Dallas and Program Director our Dermatology Residency Program as well as clinical professor of dermatology at the University of Texas Southwestern Medical School in Dallas and professor at Texas A&M Health Science Center, College of Medicine.

Other accomplishments

Dr. Menter has been listed in the Best Doctors in America since 1994 and Who's Who in Medicine and Healthcare since 1996. He also represented the South African National Rugby team, the Springboks, in 1968. In 2013, Dr. Menter received the Lifetime Achievement Award from the National Psoriasis Foundation. In March 2015, he received the Dermatology Foundation annual Clark W. Finnerud award at the AAD meeting in San Francisco. Dr. Menter also received the Presidential Citation March 2016 and 2018 at the AAD meetings.

Abstract. The development of new biologic agents for the treatment of moderate-to-severe psoriasis has taken a major advance over the past decade. The original biologic drugs were the TNF- α agents, i.e.

Etanercept, Adalimumab, Certolizumab and Infliximab, all of which were first approved, prior to psoriasis, for psoriatic and rheumatoid arthritis. Subsequently, after the advent of Ustekinumab, the only IL 12-23 agent, 6 new biologic agents, i.e. IL-17 and IL-23 antagonists have been approved for moderate-to-severe psoriasis, with excellent clinical efficacy as well as high quality safety.

In 2019, the American Academy of Dermatology along with the National Psoriasis Foundation published a full and lengthy review of updated Guidelines for the management and treatment of psoriasis with biologic agents. Three IL-inhibitors, i.e. Secukinumab, Ixekizumab, and Brodalumab, as well as three IL-23 inhibitors, Tildrakizumab, Guselkumab and Risankizumab were all fully discussed, along with clinical trial data of all 6 agents.

A number of then original biologic agents, i.e. the 4 TNF- α agents have now lost their patent protection with exactly equivalent biosimilar products available world-wide, at considerable (30-40%) price reduction.

Thanks to modern science, even complex molecules like the biologic psoriasis drugs can be developed as biosimilars today.

Keywords: Biologic Agent; IL 17; IL-23; Psoriasis; Biosimilars

Keynote Speech 3: Wearable ECG Intelligent Monitoring: Data, Algorithm and Clinical Applications



Prof. Chengyu Liu

State Key Laboratory of Bioelectronics, School of Instrument Science and Engineering, Southeast University, Nanjing, China

Director, Wearable Heart-Sleep-Emotion Intelligent Monitoring Lab, Southeast University, Nanjing, China

Biography: Dr. Liu received his B.S. and Ph.D. degrees in Biomedical Engineering from Shandong University, China, in 2005 and 2010 respectively. Dr. Liu has completed the Postdoctoral trainings at Shandong University, Newcastle University in UK (2013-2014) and Emory University in USA (2015-2017). He is now the Interim Director of the School of Instrument Science and Engineering in Southeast University, a Professor of the State Key Laboratory of Bioelectronics, and the founding Director of Wearable Heart-Sleep-Emotion Intelligent Monitoring Lab in Southeast University, leading the research works on medical big-data processing, medical device development and clinical applications. He also serves as the founding chair for the annual China Physiological Signal Challenge (from 2018). He is now a member of Federation Journal Committee of International Federation for Medical and Biological Engineering (IFMBE), a member of the 10th Council of Chinese Society of Biomedical Engineering (CSBME), and serves as an Executive Editorial Board member for Physiological Measurement, an Associate Editor for Medical & Biological Engineering & Computing, an International Advisory Editorial Board member for Journal of Medical and Biological Engineering, an Associate Editor for Journal of Mechanics in Medicine and Biology, an Editorial Board member for Journal of Biomedical Engineering (in Chinese), etc. He has published more than 250 original Journal/Conference papers, and holds more than 30 patents as an inventor. He won the title of “2017 Young Scientist” from the Lenovo Group (only one per two years). His team obtained the first place for the 2019 PhysioNet/Computing in Cardiology Challenge, and the Champion of the 2018 International Competition of Shenzhen Medical Health Big-data in Application Innovation Group. His research topics include: mHealth and intelligent monitoring, machine learning and big data processing for physiological signals, early detection and device development for cardiovascular diseases, sleep quality and emotion status monitoring.

Abstract. Real-time, long-term wearable ECG monitoring is essential for early detecting the cardiovascular diseases and other health risks, such as sleep disorders and emotion problems. This talk presents the important aspects about wearable ECG study, and summarizes the technology challenges exist in each aspect. High-quality well-labelled database is needed, which plays an essential role in training reliable and generalizable models. Herein, the open-access and carefully labeled databases will be starved. Challenges from algorithm aspect include: real-time signal quality assessment, robust & accurate feature detection and explainable & generalizable AI-based disease detection model development. Finally, the efficient clinical applications are also important, which refer to the specially designed clinical studies (such as atrial fibrillation detection) with the close cooperation with doctors.

Keynote Speech 4: Calipered Unrestricted Kinematically Aligned TKA: The Target, Verification Checks, Accuracy, Implant Survival, and ‘Athletic’ Implant Design



Prof. Stephen M. Howell

Professor of Biomedical Engineering, University of California at Davis, U.S.A.

Orthopedic Surgeon, Adventist Health/Lodi Memorial Hospital, U.S.A.

Biography: Dr. Stephen M Howell, MD is an orthopedic surgeon specializing in treating knee disorders, an Adjunct Professor of Biomedical Engineering at the University of California at Davis, and holds 34 patents as an inventor of orthopedic devices.

He graduated from Northwestern University Medical School in 1981 and an orthopedic surgical residency at the Rothman Institute at Thomas Jefferson University in 1986. He served three years in the United States Air Force as an orthopedic surgeon and an additional 14 years as a reservist. He was recalled to active duty for the first Persian Gulf War and retired as a Lieutenant Colonel.

Dr. Howell’s clinical practice is in Lodi and Sacramento California, where he focuses on treating degenerative and sports-related injuries of the knee. He performs over 500 calipered kinematically aligned total knee arthroplasty (TKA) and 80 ACL reconstructions per year.

Since 1989 he has collaborated with Distinguished Professor Maury Hull. They have collectively educated and graduated 4 Ph.D. students and 33 master students in mechanical or biomedical engineering. Dr. Howell has published over 189 scientific articles in peer-review journals and is the senior editor of the definitive textbook entitled Calipered Kinematically aligned Total Knee Arthroplasty (Elsevier).

His innovations since 2005 include pioneering the concept of calipered unrestricted kinematically aligned TKA. Kinematic alignment has gained worldwide interest as seven of nine randomized or case-controlled trials, and a national multi-center study showed that patients treated with kinematic alignment reported significantly better pain relief, function, flexion, a more normal feeling knee and alignment than mechanically aligned TKA. In 2006, he co-founded the first company to commercialize patient-specific instrumentation for TKA. He also identified and reported the clinical presentations, adverse consequences, and methods for reducing the risks of roof impingement and PCL impingement of the ACL graft in the late 1980s and 1990s, respectively.

He maintains two-industry relationships that enabled him to transform his concepts into products that benefit patients. Since 2016 he has consulted with the engineers at Medacta, Inc (www.medacta.com/EN/mika) and assisted them with developing the calipered unrestricted kinematic alignment platform for total knee arthroplasty. Since 1992 he has consulted with Zimmer-Biomet Sports Medicine, contributing to the design of ACL instrumentation for tunnel placement and fixation devices for soft-tissue grafts.

Dr. Howell frequently shares his clinical experiences and research findings as a presenter and invited speaker at national and international meetings and universities worldwide. For his work, he received an honorary membership in the German Arthroplasty Association in 2018. Dr. Howell is a past-president

of the International ACL Study Group and a member of the American Association of Hip and Knee Surgeons, the International Society of Arthroscopy, Knee Surgery and Orthopedic Sports Medicine, the American Academy of Orthopedic Surgeons, as well as the Arthroscopy Association of North American.

Dr. Howell is committed to surgeon education. He maintains an educational website for those that wish to learn more about calipered kinematically aligned TKA (www.drstevehowell.com) and regularly publishes instructional videos (www.vumedi.com). Weekly, he hosts experienced orthopedic surgeons worldwide who seek education in his techniques through the observance of patient care in the office, hospital, and operating room.

Abstract. Purpose: Cover the following five talking points in 25 minutes

1. Restoring the pre-arthritis joint lines is the calipered unrestricted kinematic alignment (cuKA) target;
2. Mechanical alignment (MA) to the femoral head and ankle changes the joint lines causing adverse consequences;
3. Calipered unrestricted KA with manual instruments cuts the femur to target more accurately and quickly than robotics, navigation, and PSI;
4. Calipered unrestricted KA restores native tibial compartment forces, which promotes long-term implant survival;
5. The medial ball-in-socket and flat lateral insert (GMK Sphere) restores 'athletic' like function!

Methods: Evidence for these talking points is provided 1) by published clinical and biomechanical studies from 2006 to present and 2) by sharing observations based on a 15-year clinical experience of over >6000 consecutive primary TKAs that I performed with unrestricted calipered KA and verification checks.

Results: I will provide references that support each talking point in the presentation.

Discussion: Performing calipered unrestricted KA TKA with verification checks over the last 15-years provided many benefits to my office, hospital practice, and costs when compared to my prior 20-year experience with MA TKA.

1. In terms of the office, patients recover faster, have a higher function, better motion, and are more satisfied at six weeks after calipered unrestricted KA TKA than after MA TKA. These benefits translate into shorter post-operative visits, fewer post-operative visits, with more than half of those patients with bilateral osteoarthritis scheduling their contralateral TKA at the six-week follow-up visit. I perform ~ 500 KA TKA/year. Eliminating a 3-month and 1-year visit in 90% of these patients results in 900 fewer office visits/year. Assuming a post-op visit requires 15 minutes of my time, and I perform 20 hours of office per week, then the use of KA TKA with verification checks frees me from 225 hours and 11 weeks of office hours/year.

2. In terms of the hospital, we now perform calipered unrestricted KA TKA as a same-day discharge, which we initiated as a work around when COVID closed elective admissions to the hospital in July 2020. A 90cc intraoperative periosteal injection that costs \$20 (US) provides 30 hours of post-operative pain relief.

3. In terms of costs, our use of a comprehensive pre-operative education program since 2017 eliminated the cost and use of physical therapists and visiting nurses after discharge. Coupled with same-day discharge, the health system saves ~\$4000/patient.

Part III Oral Presentations

Oral Presentation Guidelines

- ✚ Online Oral Presentation will be conducted via [Microsoft Teams Meeting](#). Click to see [How to join ICBEB 2021 via Teams](#)).
- ✚ All presenters are requested to reach the Online Session Room prior to the schedule time and complete their presentation on time.
- ✚ All presentation times are shown in **China Standard Time (GMT+8:00)**.
- ✚ If a presenter is not able to show up via Teams, the session chair/conference secretary will download and play the pre-recorded video presentation during his/her scheduled presentation time, if listeners have questions about the presentation, please contact the conference secretary to forward the questions.
- ✚ If a presenter cannot show up on time or have problem with internet connect, the session chair has the right to rearrange his/her presentation, and let the next presentation start.
- ✚ Signed and stamped electronic presentation certificate would be issued via e-mail after presentation.

Best Oral Presentations Selection

The session chair will select one best oral presentation from his/her session based on the following criteria:

- ✓ Research Quality
- ✓ Presentation Performance
- ✓ Presentation Language
- ✓ PowerPoint Design

Best Oral Presentations Award

The Best Presenter will receive an official certificate and a free registration to the ICBEB 2022.

Session 1_ 2021 the 4th China Physiological Signal Challenge (CPSC2021)

Time: 14:00-17:40, November 16, 2021 (GMT+8:00)

Session Chair: Prof. Chengyu Liu, Southeast University, China

Online Room Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

14:00-14:20	BEB6000	Paroxysmal Atrial Fibrillation Events Detection from Dynamic ECG Recordings <i>Prof. Chengyu Liu, Southeast University, China</i>
14:20-14:40	BEB6712	Accurate Paroxysmal Atrial Fibrillation Events Detection using Deep Neural Networks <i>Dr. Hao Wen, Beihang University, China</i>
14:40-15:00	BEB6720	A Deep Learning Approach for Automatic Detection of Paroxysmal Atrial Fibrillation from Dynamic ECG Recordings <i>Dr. Wenjie Cai, University of Shanghai for Science and Technology, China</i>
15:00-15:20	BEB6723	A Deep Learning Approach to Electrocardiograph Interval Estimation and Diagnosis <i>Mr. Tsai-Min Chen, National Taiwan University and Academia Sinica, Chinese Taipei</i>
15:20-15:40	BEB6729	Convolutional Recurrent Networks for Paroxysmal Atrial Fibrillation Events Detection <i>Mr. Lampros Kokkalas, University of West Attica, Greece</i>
15:40-15:50		BREAK
15:50-16:10	BEB6728	A Two-step Detection for Paroxysmal Atrial Fibrillation Events based on Machine Learning <i>Ms. Ya`nan Wang, Fudan University, China</i>
16:10-16:30	BEB6731	Segmented Pyramid Network <i>Mr. Shuhong Wei, Lu Dong University, China</i>
16:30-16:50	BEB6722	Paroxysmal Atrial Fibrillation - A Big but Not the Only Challenge for Automatic ECG Classification <i>Mr. Dávid Gajdoš, VSL Software, a.s., Kosice, Slovakia</i>
16:50-17:10	BEB6732	Identification of ECG Signal Based on CNN <i>Mr. Xinyuan Ying, Zhejiang University of Technology, China</i>
17:10-17:30	BEB6727	Paroxysmal Atrial Fibrillation Detection by Combined Recurrent Neural Network and Feature Extraction <i>Mr. Xinqi Bao, King's College London, U.K.</i>
17:30-17:40		Awarding for the 4th China Physiological Signal Challenge (CPSC2021)

Session 2_ Cell biology & Medicinal Chemistry (I)

Time: 08:30-12:25, November 17, 2021 (GMT+8)

Session Chair: Dr. William C. Cho, Cancer Researcher, Hong Kong, China

Session Room Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

08:30-08:50	BEB6598	Plasma Kallikrein-Kinin System Proteins Interaction with Breast Cancer Cells <i>Assoc. Prof. Guacyara da Motta, Universidade Federal de São Paulo, Brazil</i>
08:50-09:10	BEB6384	Utilization of Neoadjuvant Intensity-Modulated Radiation Therapy and Proton Beam Therapy for Esophageal Cancer in the United States <i>Asst. Prof. Waqar Haque, Houston Methodist Hospital, U.S.A.</i>
09:10-09:30	BEB6470	Na⁺/HCO₃⁻ Cotransporters in the Kidney: Physiology and Functional Regulation <i>Prof. Liming Chen, Huazhong University of Science & Technology, China</i>
09:30-09:45	BEB6701	Synergistic Therapy Involving Curcumin, PYO-bacteriophage, and Neem Extract to Reduce MRSA Infection <i>Ms. Shreya Bhandari and Hasmitha Kamineni, 11th Grade Independence High School Frisco, U.S.A.</i>
09:45-10:05	BEB6694	Computational Immunology Analysis on Brain Disease <i>Prof. Tao Gong, Donghua University, China</i>
10:05-10:20	BEB6607	SET8-methylated SNIP1 Promotes Triple-Negative Breast Cancer Metastasis by Activating YAP Signaling <i>Dr. Jianming Tang, The First Clinical Medical College of Lanzhou University, China</i>
10:20-10:35	BEB6691	Mechanism of Lycorine Induced Mitotic Disaster in Human Gastric Cancer Cell SGC-7901 <i>Ms. Jiaxin Li, Harbin University of Commerce, China</i>
10:35-10:45		BREAK
10:45-11:00	BEB6638	Effects of miR-34c-5p on Sodium, Potassium, and Calcium Channel Currents in C2C12 Myotubes <i>Dr. Xinyi Gu, Peking University People's Hospital, China</i>
11:00-11:20	BEB6620	High-throughput Technology for Cancer Research <i>Dr. William C. Cho, Cancer Researcher, Hong Kong, China</i>
11:20-11:40	BEB6710	The Role of 3D Cell Culture Systems in Stem Cell Differentiation <i>Prof. Yan-Ru Lou, Fudan University, China</i>
11:40-11:55	BEB6703	Study on the Discovery of Quality Markers in <i>Cuscuta chinensis</i> Acting as Estrogen and Synergistic Effects in Quality Markers <i>Ms. Liu Bonan, Harbin University of Commerce, China</i>
11:55-12:10	BEB6570	Protein Misfolding and Aggregation <i>Asst. Prof. Md Moazzammel Haque, Gono University, Bangladesh</i>
12:10-12:25	BEB6668	Sialoblastoma of the Submandibular Gland: A Distinct Entity? <i>Dr. Riccardo Di Micco, Medizinische Hochschule Hannover, Germany</i>

Session 3_ Medical Imaging Technology & Signal Processing

Time: 14:00-17:00, November 17, 2021 (GMT+8)

Session Chair: Prof. Lung-Kwang Pan, Central Taiwan University of Science and Technology, Chinese Taichung

Session Room Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

14:00-14:15	BEB6631	Wearable Electrochemical Sweat Sensor for Patients with Chronic Kidney Disease (CKD): Year II <i>Mr. Suran Somawardana, BASIS Shavano High School, U.S.A.</i>
14:15-14:30	BEB6568	Timing Optimization of Head and Neck CT Angiography via the Inverse Problem Algorithm: In-vivo Survey for 1001 Patients in 2020-2021 <i>Dr. Chih-Sheng Lin, The Affiliated Benq Hospital of the Nanjing Medical University, China</i>
14:30-14:45	BEB6669	Attachment Dynamics of Saccharomyces Cerevisiae Yeast Cells to the Surfaces of Micropatterned UV-irradiated SiO₂ Substrates <i>Mr. Hermanis Sorokins, Riga Technical University, Latvia</i>
14:45-15:05	BEB6697	Use of 2D Transvaginal Ultrasonography and Hysterosalpingo-foam Sonography for Assessment of the Efficacy of Essure Hysteroscopic Sterilization <i>Dr. Maja Rosič, Gynecologic Health Institution Rosič, Slovenia</i>
15:05-15:25	BEB6702	P3b Amplitude as A Signature of Cognitive Decline in the Older Population: An EEG Study Enhanced by Functional Source Separation <i>Prof. Camillo Porcaro, University of Padova, Italy</i>
15:25-15:40		BREAK
15:40-16:00	BEB6633	The Utility of FDG-PET Imaging in Differential Diagnosis of Parkinsonism <i>Dr. Leposava Brajkovic, Clinical Center of Serbia, Serbia</i>
16:00-16:10	BEB6411	I Want to Control Your Move: Human-Human Interface (HHI) Neuromuscular Electrical Stimulator (NMES) <i>Dr. Ching Yee Yong, University of Technology Sarawak, Malaysia</i>
16:10-16:25	BEB6657	Abnormality Detection based on ECG Segmentation <i>Dr. Mayur M. Sevak, Gujarat Technological University, India</i>
16:25-16:40	BEB6644	How to Maximize Clinical Effectiveness and Safety with High Intensity Micro-focused Ultrasound for Face and Neck Lifting <i>Prof. Antonino Araco, University of Rome Tor Vergata, Italy</i>
16:40-17:00	BEB6660	Development and Validation of A Navigation System Allowing Motion Tracking of Dissociated Fragments <i>Mr. Axel V. Mancino, Instituto Tecnológico de Buenos Aires, Argentina</i>

Session 4_ Cell biology & Medicinal Chemistry (II)

Time: 08:30-12:35, November 18, 2021 (GMT+8)

Session Chairs: Dr. William C. Cho, Cancer Researcher, Hong Kong, China

Prof. Tao Gong, Donghua University, China

Session Room Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

08:30-08:45	BEB6684	Inhibitory Regulation of Purple Sweet Potato Polysaccharide on the Hepatotoxicity of Tri-(2,3-dibromopropyl) Isocyanate <i>Ms. Furu Han, Harbin University of Commerce, China</i>
08:45-09:00	BEB6689	Multi-target Identification of Anastatica Hierochuntica L. Active Compound and Its Role for Oxytocin Receptor (OXTR) <i>Dr. Heny Astutik, Poltekkes Kemenkes Malang, Indonesia</i>
09:00-09:15	BEB6662	Skin Chip based Anti-inflammatory Effect Analysis of Gentiopicroside in Cosmetic Applications <i>Ms. Tianbi Duan, Shanghai Inoherb Co. Ltd, China</i>
09:15-09:45	BEB6537	Traditional Chinese and Japanese Medicines for Elderly <i>Prof. Koh Iwasaki, Natori-Kumanodoh Hospital, Japan</i>
09:45-10:00	BEB6692	Saponins of Tribulus Terrestris Attenuated Neuropathic Pain Induced with Vincristine through Central and Peripheral Mechanism <i>Dr. Mrinmoy Gautam, PSG College of Pharmacy, India</i>
10:00-10:20	BEB6735	The Anti-AD Effects of Natural Compounds and the Mechanism Related to Ferroptosis <i>Prof. Di Wang, Jilin University, China</i>
10:20-10:30		BREAK
10:30-10:45	BEB6690	Study on the Treatment of Liver Cancer by Multicomponent Traditional Chinese Medicine of Andrographis Paniculata (Burm. f.) Nees <i>Ms. Wanqiu Li, Harbin University of Commerce, China</i>
10:45-11:05	BEB6681	Tackling Neurocysticercosis a Neglected Zoonotic Brain Infection through Innovative Brain Targeted Delivery <i>Prof. Padma V Devarajan, Institute of Chemical Technology, India</i>
11:05-11:20	BEB6457	DNA Intercalating Novel Benzimidazole Derivatives as Heavy Metal Ion Filtering Agents <i>Dr. Erum Jabeen, Allama Iqbal Open University, Pakistan</i>
11:20-11:35	BEB6641	Extraction and Characterization of Zein Protein: A New Approach <i>Dr. Laura Darie Ion, Alexandru Ioan Cuza University of Iasi, Romania</i>
11:35-11:55	BEB6521	Copper Containing Amine Oxidase Purified from Vegetal Sources as A Powerful Tool to Control Intestinal Dysfunctions: Molecular Mechanisms Underlying Its Beneficial Effect <i>Dr. Lucia Marcocci, Sapienza University of Rome, Italy</i>
11:55-12:15	BEB6550	Sevoflurane: Impurities and Stability Testing <i>Prof. Quirino Piacevoli, San Filippo Neri Hospital, Italy</i>
12:15-12:35	BEB6613	Multi-target Compounds based on Hydroxy-and Amino-quinoline Scaffolds <i>Prof. Josef Jampilek, Comenius University, Slovakia</i>

Session 5_ Biomedical Science & Biotechnology

Time: 14:00-18:10, November 18, 2021 (GMT+8)

Session Chairs: Prof. Jakub D. Rybka, Adam Mickiewicz University in Poznań, Poland

Dr. Ching Yee Yong, University of Technology Sarawak, Malaysia

Session Room Link: <http://www.academicconf.com/teamslink?confname=ICBEB2021>

14:00-14:15	BEB6591	Telemetry Device for First Stage Covid Patient Monitoring: Case Study Mexico <i>Mr. Jos é Herminio Godoy González, Universidad Autónoma de Baja California, México</i>
14:15-14:30	BEB6512	Novel Urinary Detection of Prostate Cancer via Facile Silver Colloidal Strategy <i>Dr. Caizhi Liao, Creative Biosciences (Guangzhou) Co., Ltd., China</i>
14:30-14:45	BEB6572	Challenges of Design, Interoperability to Telemedicine <i>Mr. Eric Woo, ECRI Asia Pacific, Malaysia</i>
14:45-15:00	BEB6559	Effect of Pindolol on Antidepressants and Serotonin Response in Dorsal Raphe Nucleus Neurons <i>Asst. Prof. Burak Yaman, Gaziantep University, Turkey</i>
15:00-15:15	BEB6687	Development of DNA Aptamer-Functionalized Collagen Fibrous Scaffolds for Bone Regeneration Applications <i>Ms. Mengping Liu, The University of Hong Kong, China</i>
15:15-15:30	BEB6621	Birch Allergen Challenges in Allergic Conjunctivitis using Standard Conjunctival Allergen Challenge and ALYATEC Environmental Exposure Chamber <i>Dr. Alina Gherasim, ALYATEC Environmental Exposure Chamber, France</i>
15:30-15:40	BEB6640	Analysis of Difference in Skin Ridge Density among Identical Twins <i>Dr. Joshima Janardhanan, DM Wayanad Institute of Medical Sciences, India</i>
15:40-15:50		BREAK
15:50-16:05	BEB6643	Fluid-structure Interaction Simulation Of Tissue Degradation And Its Effects on Intra-Aneurysm Hemodynamics <i>Mr. Haifeng Wang, Ruhr-University Bochum, Germany</i>
16:05-16:25	BEB6498	The Laboratory of Applied Biotechnology–From 3D Bioprinted Meniscus To COVID-19 Immunodiagnostics <i>Prof. Jakub D. Rybka, Adam Mickiewicz University in Poznań, Poland</i>
16:25-16:40	BEB6475	TiO ₂ Anodic Nanotubes: Current Status and Prospects in Biomedical Applications <i>Dr. Anca Mazare, Friedrich-Alexander University of Erlangen Nürnberg, Germany</i>
16:40-16:50	BEB6654	Renal Artery Embolization of Non-Functioning Graft: An Effective Treatment for Graft Intolerance Syndrome <i>Dr. Riccardo Zannoni, CHU de Saint-Étienne, France</i>
16:50-17:10	BEB6670	Estimation of Stature by Percutaneous Measurement of Upper Arm Length among Native Adult Population of Dakshina Kannada District <i>Dr. Somashekar Chandran, Adichunchanagiri University, India</i>
17:10-17:25	BEB6685	Achillon Versus Open Surgery in Acute Achilles Tendon Repair <i>Dr. Stuart Place, York and Scarborough Teaching Hospitals NHS Foundation Trust, U.K.</i>
17:25-17:55	BEB6409	Pseudocapsule Thickness in Reproductive Surgery: A Further Possible Correlation between Submucous Fibroids and Fertility <i>Dr. Andrea Tinelli, “Veris delli Ponti” Hospital, Italy</i>
17:55-18:10	BEB6652	Reinforcement Learning for Control of a Time-Varying, Fatigable Biomechanical Model of Spinal Cord Injury <i>Ms. Jessica Abreu, Case Western Reserve University, U.S.A.</i>

Session 6_Special Session: H2020 BAMOS - Biomaterials and Additive Manufacturing for Early Intervention of Osteoarthritis

Time: 14:30-18:00, November 18, 2021 (GMT+8)

Session Chair: Prof. Chaozong Liu, University College London, Royal National Orthopaedic Hospital, U.K.

Session Room Link: <http://www.academicconf.com/teamslink?confName=icbeb2021&sessionid=2> (new room)

14:30-15:00	Keynote	Toward Realisation of Early Treatment of Osteoarthritis: Clinical Specification, Requirement and Translation <i>Prof. Chaozong Liu, University College London, Royal National Orthopaedic Hospital, U.K.</i>
15:00-15:15	BEB6693	Modelling Methodologies for the Mechanical Simulation of Polymeric Scaffolds obtained by Material Extrusion Additive Manufacturing <i>Ms. Gisela Vega Rodríguez, University of Las Palmas de Gran Canaria, Spain</i>
15:15-15:30	BEB6704	Development of Carbon Nanotubes-reinforced Cell-derived Matrix-silk Fibroin Scaffolds for Bone Tissue Engineering <i>Dr. F. Raquel Maia, University of Minho, Portugal</i>
15:30-15:45	BEB6705	Using Anatomy to Define and Enhance Interfacial Tissue Engineering <i>Dr. Jeremy W. Mortimer, University of Edinburgh, U.K.</i>
15:45-16:00	BEB6706	Preclinical Evaluation of A Novel Osteochondral Scaffold Showed Enhanced Bone and Cartilage Regeneration <i>Dr. Maryam Tamaddon, University College London, Royal National Orthopaedic Hospital, U.K.</i>
16:00-16:15		BREAK
16:15-16:30	BEB6714	Three-dimensional Printed Hydroxyapatite/Polyether-ether-ketone Scaffolds for In-growth and Bonding of Soft Tissue <i>Dr. Changming Sun, Xi'an Jiaotong University, China</i>
16:30-16:45	BEB6715	3D Printing PEEK Flexible Implant for Chest Wall Reconstruction <i>Dr. Jianfeng Kang, Xi'an Jiaotong University, China</i>
16:45-17:00	BEB6716	3D-printed Porous PEEK-based Composites Implant for Paranasal Augmentation <i>Dr. Yingjie Liu, Xi'an Jiaotong University, China</i>
17:00-17:15	BEB6699	Mg-doped Mesoporous Bioactive Glass Nanofibrous Scaffold Adsorbed with Matrix Fusion Protein for Bone Defect Repairment <i>Ms. Xiaoyan Wang, National University of Defense Technology, China</i>
17:15-17:30	BEB6452	Computational Prediction of Contact Pressure for Different Sizes of Knee Implants in Total Knee Replacement <i>Mr. Shahriyar Kashif, University of Engineering and Technology Lahore, Pakistan</i>
17:30-18:00	Q&A	Discussion

Part IV Poster Presentations

Poster Presentation Guidelines

Poster Presentations will consist of two parts:

- ✚ **Poster Presentations:** A collection of posters in PDF format (with/without audio) will be available at conference website for attendees to view.
- ✚ **Online Poster Q&As:** Under each Poster, Attendees could ask questions or give feedbacks, the Conference Committee will forward them to the Presenter after conference.
- ✚ Signed and stamped electronic presentation certificate would be issued via e-mail after presentation.

Best Poster Presentations Selection

Selection Criteria

- ✚ Research Quality
- ✚ Poster Design

Selection Procedure

- ✚ 3 Best Presentations will be selected based on the judgements by the TPC committee, please ensure your Paper ID (BEB****) is shown correctly on the poster page.
- ✚ Final Results will be demonstrated on the website on December 7, 2021.

Best Poster Presentations Award

The Best Presenter will receive an official certificate and a free registration to the ICBEB 2022.

List of Posters:

BEB6094	RNA-based Artificial Fish Swarm Algorithm for Edge Detection of Medical Images <i>Dr. Teng Fei, Tianjin University of Commerce, China</i>
BEB6129	Liver Vessel Segmentation Based on Inter-Scale V-Net <i>Ms. Meihan Fu, Northeast University, China</i>
BEB6325	Intelligent Immune Clonal Optimization Algorithm for Pulmonary Nodule Classification <i>Dr. Qi Mao, Shanghai University of Engineering and Technology, China</i>
BEB6414	Test-retest Reliability of Static Postural Balance Variables in Natural and Feet-together Stance Conditions <i>Asst Prof. Ji-Won Kim, Konkuk University, Republic of Korea</i>
BEB6466	Multi-modal Human Brain Longitudinal Parcellation across Life Span <i>Mr. Junyi Yan, Northeastern University, China</i>
BEB6469	The Fabrication of a Microfluidic Tumor-on-a-Chip Model for Personalized Cancer Therapy <i>Mr. Shailesh Senthil Kumar, BioCuriou, U.S.A.</i>
BEB6474	Analysis of the Effect of the Difference Between Standing and Sitting Postures on Neck Proprioception using Joint <i>Prof. Seong-Gil Kim, SunMoon University, Republic of Korea</i>
BEB6491	Baduanjin Exercise for Lumbar Disc Herniation: A Systematic Review and Meta-analysis <i>Dr. Shusheng Guo, Shandong University of Finance and Economics, China</i>
BEB6492	In Vivo Estimation of Human Breast Cancer Tissue Volume in a Subcutaneous Xenotransplantation Mouse Model using a High-sensitivity Fiber-based THz Scanning Imaging System <i>Dr. Hua Chen, Southeast University, China</i>
BEB6724	Anticancer Effects of Two Oleanane-type Triterpenoid Saponins from <i>Ardisia lindleyana</i> D.Dietr in Vitro <i>Mr. Tiqiang Zhou, Beijing University of Technology, China</i>
BEB6516	Research on Strategies of Home Care and Intervention for Stroke Based on Knowledge Rules <i>Dr. Zeguo Shao, Shanghai Medical University, China</i>
BEB6517	Arrhythmia Classification Using Deep Residual Neural Networks <i>Dr. Zhenghao Shi, Xi'an University of Technology, China</i>

BEB6564	Molecular Characterization of Cutaneous Leishmaniasis in Malakand, Khyber Pakhtunkhwa, Pakistan <i>Dr. Ismail Zeb, Abdul Wali Khan University Mardan, Pakistan</i>
BEB6600	Unreadable Segment Recognition of Single-lead ECG Signals based on XGBoost Fusion of Shannon energy envelope and Empirical Mode Decomposition <i>Ms. Hanshuang Xie, Hangzhou Proton Technology, Co., Ltd, China</i>
BEB6609	Hydrogen Emission Characteristics of Zr _{0.9} Ti _{0.1} Cr _{0.6} Fe _{1.4} Alloy under Different Temperature and Loading Conditions <i>Prof. Changho Yu, Jeonbuk National University, Republic of Korea</i>
BEB6634	FallWatch: A Novel Approach for Through-Wall Fall Detection in Real-Time for the Elderly using Artificial Intelligence <i>Mr. Aditya Chebrolu, Independence High School, U.S.A.</i>
BEB6639	Identification of Potential microRNAs and KEGG pathways in Denervation Muscle Atrophy based on Meta-analysis <i>Dr. Xinyi Gu, Peking University People's Hospital, China</i>
BEB6656	Factors of Length of Stay Following Percutaneous Coronary Intervention: A Machine Learning Approach <i>Ms. Sumin Lan, Philips Research China, China</i>
BEB6659	Indocyanine Green Fluorescence Angiography: A New ERAS Item <i>Prof. Marcello Gasparrini, Sant'Andrea Hospital University of Rome "Sapienza", Italy</i>
BEB6171	Development of an Actuation System Applying of Hydrogen Storage Alloy for Rehabilitative System <i>Ms. Miyeon Shin, Jeonbuk National University, Republic of Korea</i>
BEB6678	A Single Center, Open-label, Self-controlled Clinical Study of MEBO in the Treatment of Recessive Dystrophic Epidermolysis Bullosa <i>Ms. Yang Yu, Shantou MEBO Pharmaceutical Co., Ltd, China</i>
BEB6707	How the Pain and Physiological Characteristics of the Trapezius Change when Winback Therapy is Applied to the Trapezius of Work-related Musculoskeletal Disorders <i>Mr. Chanhee Park, Cheju halla University, Republic of Korea</i>
BEB6730	Detection of Paroxymal Atrial Fibrillation from Dynamic ECG Recordings based on Residual Network <i>Ms. Yating Hu, Dalian University of Technology, China</i>
BEB6733	3D Bioprinting Technology: A New Biomedical Technology <i>Ms. Wei Zhenzhen, Beijing University of Technology, China</i>

Part V Acknowledgements

On behalf of the ICBE2021 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. Without their support and contributions, we would not be able to hold the conference successfully in this special year. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. For those who contribute to the success of the conference organization without listing the name below, we would love to say thanks as well.

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The Technical Program Committee list above is in alphabetical order.