

Conference Overview

2021 The Fifth International Conference on Biological Information and Biomedical Engineering (BIBE2021) was held on July 20-21, 2021 via online platform due to the pandemic of COVID-19. Online BIBE2021 aims to provide a platform for scholars and researchers from all over the world to share their research achievements, discuss the hot issues and exchange the new experiences and technologies in the field of Biological Information and Biomedical Engineering.



The BIBE2021 online conference was attended by nearly 40 experts and scholars. The conference consisted of three parts: keynote presentations, oral presentations and poster presentations.

Professor Bin Chen, from Xi'an Jiaotong University, China, presided over the conference.



Keynote Speeches

We were honored to invite five sophisticated keynote speakers to deliver keynote speeches during the conference.



The slide features a blue header with the logos of the Center for Bioinformatics & Computational Biology and the University of Delaware Data Science Institute. The main title is "Integrative Text Mining and Semantic Computing for Data-Driven Biomedical Knowledge Discovery". Below this is a yellow box containing "BIBE 2021" and "2021 The Fifth International Conference on Biological Information and Biomedical Engineering". At the bottom, the speaker's name and affiliation are listed.

Center for Bioinformatics & Computational Biology
UNIVERSITY OF DELAWARE
DATA SCIENCE INSTITUTE

Integrative Text Mining and Semantic Computing for Data-Driven Biomedical Knowledge Discovery

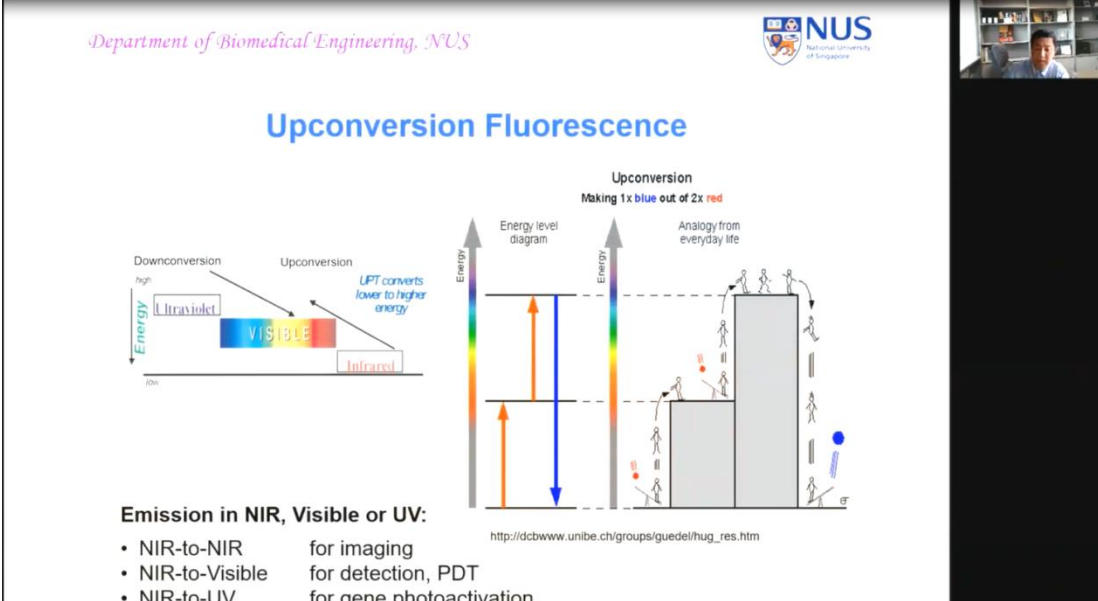
BIBE 2021 2021 The Fifth International Conference on Biological Information and Biomedical Engineering

Cathy H. Wu, Ph.D.
Unidel Edward G. Jefferson Chair in Engineering and Computer Science
Director, Center for Bioinformatics & Computational Biology
Director, Data Science Institute
University of Delaware

Prof. Cathy H. Wu

Departments of Computer & Information Sciences and Biological Sciences, University of Delaware, USA

Speech Title: Integrative Text Mining and Semantic Computing for Data-Driven Biomedical Knowledge Discovery



The slide is titled "Upconversion Fluorescence" and includes the NUS logo. It features two diagrams: one showing the visible spectrum with arrows indicating downconversion (UV to visible) and upconversion (infrared to visible), and another energy level diagram with an analogy of people climbing stairs. A list of applications for NIR, visible, and UV emission is provided at the bottom.

Department of Biomedical Engineering, NUS

NUS
National University of Singapore

Upconversion Fluorescence

Upconversion
Making 1x blue out of 2x red

Energy level diagram
Analogy from everyday life

Downconversion
Upconversion
LPT converts lower to higher energy

Energy
high
low

Ultraviolet
VISIBLE
Infrared

Energy
Energy

http://dcbwww.unibe.ch/groups/guedel/hug_res.htm

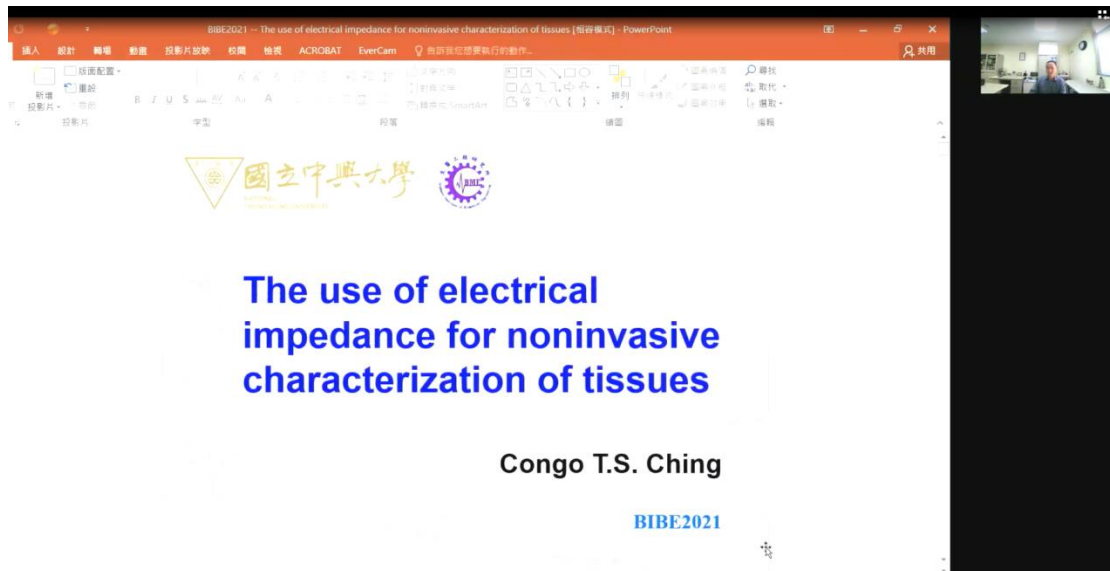
Emission in NIR, Visible or UV:

- NIR-to-NIR for imaging
- NIR-to-Visible for detection, PDT
- NIR-to-UV for gene photoactivation

Prof. Yong Zhang

Department of Biomedical Engineering, Faculty of Engineering, National University of Singapore, Singapore

Speech Title: Upconversion Nanomaterials: Properties and Applications in Life Sciences and Medicine (Video Presentation)



Prof. Congo Tak Shing CHING

College of Engineering, National Chung Hsing University, Taiwan, China

Speech Title: The use of electrical impedance for noninvasive characterization of tissues.

**Cell Therapy | Tissue-Engineering
WHY ?**



Biological substitutes | therapies to repair, replace, or enhance tissue function


- Aging population
 - Failing organs and tissues: not enough available
 - Longer active life-spans
- Needs in surgical procedures, wound care and diseases
 - Lack of material
 - Maintain healing
- Affections are not “drug-able”
- In vitro toxicity testing [replace animal i.e. skin, cornea]



Prof. Lee Ann Laurent-Applegate

Department of Musculoskeletal Medicine DAL, Lausanne University Hospital (CHUV),
Switzerland

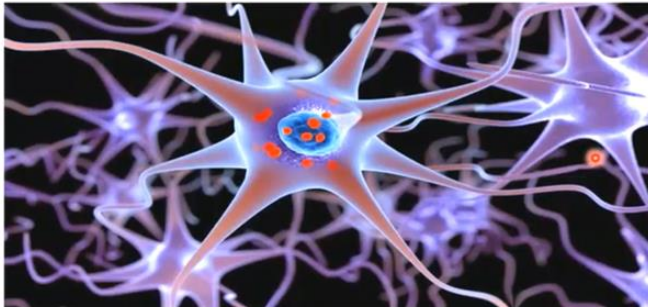
Speech Title: Bioengineering for Musculoskeletal Medicine: Importance of Cellular Choice in the Swiss Cell Therapy and Transplantation Program (Video Presentation)




UNIVERSITY OF LEICESTER

What is Parkinson's Disease

Parkinson's Disease (PD) is a progressive neurological condition, which causes problems in the brain and **gets worse over time**.



<https://www.drugtargetreview.com/news/47671/parkinsons-disease-symptoms-improved-oestrogen/>



Prof. Huiyu (Joe) Zhou

School of Informatics, University of Leicester, UK

Speech Title: Mouse detection and tracking by deep learning.

After keynote presentations, there are 11 orals presentations and poster presentations, oral speakers and poster presenters shared their latest research results with the audience, the audience actively and enthusiastically participated in by asking questions and voting.

Oral Presentations

ID	Speech Title	Speaker	Affiliation
BIBE57857	The Association between Baseline Serum SHBG and the Number of Retrieved Oocytes in Chinese Infertile Patients Undergoing IVF Treatment of PPOS Protocol: A Restrospective Cohort Study	Kai Deng	Reproductive Medicine Center, Renmin Hospital, Hubei University of Medicine
BIBE51130	Covid-19 Classification with Deep Neural Network and Belief Functions	Ling Huang	University of Technology of Compiegne
BIBE59256	Differences in Acupuncture Treatment of Dysmenorrhea Between China and Europe	Fengyuan Bai	Hainan Medical University
BIBE54597	Fluid segmentation in OCT with an improved convolutional neural network	Gang Xing	Xi'an Jiaotong University
BIBE5027	Prediction of the Progression of Coronary Atherosclerotic Heart Disease Using the Wrist Pulse Wave Sequence Features Extracted by Temporal Convolutional Network	Wenbo Qiu	East China University of Science and Technology

Poster Presentations

ID	Paper Title
BIBE51757	Localizing epileptic focus of patients with epilepsy using post-ictal scalp EEG Chunsheng Li Shenyang University of Technology, China
BIBE58284	Predicting Surgical Outcomes in Epilepsy Patients Using Directed Transfer Function and Computational Model Chunsheng Li Shenyang University of Technology, China
BIBE57060	Computation prediction of the therapeutic effect of metal stent implantation for coronary bifurcation XiaoTong Yan University of Science and Technology Beijing, China
BIBE51032	Effect of Electrode Size and Maximum Current Limitation for Multichannel Transcranial Electric Stimulation Optimization Minmin Wang Zhejiang University, China
BIBE55944	Minimally Invasive Synchronous Cardiac Assisted Pump and in Vitro study Honglong Yu Hefei University of Technology, China
BIBE52797	L1/2 Regularization-Based Deep Incremental Non-negative Matrix Factorization for Tumor Recognition Xiaohui Yang Henan University, China

We would like to express our sincere gratitude to the distinguished keynote speakers, oral speakers, poster presenters as well as all the audiences. This conference has made a big success because of their supports and assistance. We are expecting more and more experts and scholars from around the world to join this international conference next year.