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## Part I Conference Schedule

Sept. 25 ~ Sept. 27, 2014

| Time        | Activity     | Location                      |
|-------------|--------------|-------------------------------|
| 08:00-19:00 | Registration | Lobby of Beijing Kuntai Hotel |

### Friday Morning, Sept.26

| Time        | Activity  | Location: 2 <sup>nd</sup> floor, Ballroom C |
|-------------|---|---|
| 08:30-08:45 | Opening Ceremony  |   |
| 08:45-09:30 | Keynote Speech 1: Antibody-Based Vaccines and Therapeutics for HIV-1<br><i>Prof. Dan Barouch</i>  |   |
| 09:30-10:15 | Keynote Speech 2: Software algorithm and hardware design for real-time implementation of new spectral estimator<br><i>Dr. Edward J. Ciaccio</i>   |   |
| 10:15-10:25 | Pose for a Group Photo  |   |
| 10:25-11:15 | Coffee Break & Visit the Exhibition on Biotechnology and Equipment(Ballroom A)  |   |
| 11:15-12:00 | Keynote Speech 3: Quantitative means for differentiating kidney obstruction by modelling renography data and derivation of novel renal index of urine flow rate<br><i>Dr. Ng Yin Kwee</i> |   |

### Friday Noon, Sept.26

|             |              |  |
|-------------|--------------|--|
| 12:15-13:30 | Buffet Lunch | Location: 1 <sup>st</sup> floor, Joy Coffee Shop |
|-------------|--------------|--|

### Friday Afternoon, Sept.26

| Time        | Activity   | Location: 2 <sup>nd</sup> floor, Ballroom C |
|-------------|--|---|
| 14:15-15:00 | Keynote Speech 4: Integrative cellular mechanobiology and biomechanics and the emergence of primary cilia as mechanosensors<br><i>Dr. Christopher R. Jacobs</i>  |   |
| 15:00-15:45 | Keynote Speech 5: Paradox of immunosenescence and inflammation & autoimmunity: role of dendritic cells<br><i>Prof. Sudhir Gupta</i>  |   |
| 15:45-16:15 | Coffee Break & Visit the Exhibition on Biotechnology and Equipment(Ballroom A)   |   |
| 16:15-17:00 | Keynote Speech 6: Model of bipolar electrogram fractionation and conduction block associated with activation wavefront direction at infarct border zone lateral isthmus boundaries<br><i>Dr. Edward J. Ciaccio</i> |   |
| 17:00-17:45 | Keynote Speech 7: Control of delta (d) glucose with intensive insulin therapy is fundamental to renal preservation in diabetes<br><i>Prof. Anil K. Mandal</i>  |   |

|             |  |
|-------------|--|
| 17:45-18:00 | Workshop of the Exhibition on Biotechnology and Equipment - Brief Introduction of the Brain-Computer Interface (BCI)<br><i>Mr. Gunther Krausz-</i> |
|-------------|--|

**Friday Evening, Sept.26**

|             |   |  |
|-------------|---|--|
| 18:00-19:30 | Buffet Dinner                           | Location: 1 <sup>st</sup> floor, Joy Coffee Shop |
| 19:30-22:00 | Brain-Computer Interface (BCI) Workshop | Location: 2nd floor, 5th Room                    |

**Saturday Morning, Sept.27 (Part A)**

| Time        | Activity  | Location: 2 <sup>nd</sup> floor, Ballroom C |
|-------------|---|---|
| 08:30-09:15 | Keynote Speech 8: Carbon-13 NMR chemical shift of OMe group: structural significance for methoxylated aromatic compounds<br><i>Dr. Pawan K. Agrawal</i>   |   |
| 09:15-10:00 | Keynote Speech 9: Genomics and the transformation of the clinical, chemical and pharmaceutical sciences<br><i>Prof. Alain-Li Wan Po</i>   |   |
| 10:00-10:15 | Coffee Break  |   |
| 10:15-11:00 | Keynote Speech 10: The potential energy landscapes of biologically relevant molecules revealed by matrix-isolation infrared spectroscopy and quantum chemical calculations<br><i>Prof. Rui Fausto</i> |   |
| 11:00-12:30 | Oral 3: Chemistry and Pharmacy  |   |

**Saturday Morning, Sept.27 (Part B)**

| Time                                     | Activity                           | Location                                    |
|--|------------------------------------|---|
| 8:30-12:00<br>(10:00-10:15 Coffee Break) | Poster 1: Biomedical Engineering   | 2 <sup>nd</sup> floor, 6 <sup>th</sup> Room |
|  | Poster 2: Biomedical Imaging       |   |
|  | Poster 3: Chemistry and Pharmacy   |   |
|  | Poster4: Biomechanical Engineering |   |

**Saturday Noon, Sept.27**

|             |              |  |
|-------------|--------------|--|
| 12:30-13:30 | Buffet Lunch | Location: 1 <sup>st</sup> floor, Joy Coffee Shop |
|-------------|--------------|--|

**Saturday Afternoon, Sept.27**

| Time                                      | Activity                          | Location: 2 <sup>nd</sup> floor |
|---|-----------------------------------|---------------------------------|
| 14:30-18:30<br>(16:00-16:15 Coffee Break) | Oral 1: Biomedical Engineering(1) | 6 <sup>th</sup> Room            |
|   | Oral 2: Biomedical Imaging        | 5 <sup>th</sup> Room            |

|  |                                   |                      |
|--|-----------------------------------|----------------------|
|  | Oral 4: Biomechanical Engineering | 3 <sup>th</sup> Room |
|  | Oral 5: Biomedical Engineering(2) | 7 <sup>th</sup> Room |

### Saturday Evening, Sept.27

|             |               |  |
|-------------|---------------|--|
| 18:30-19:30 | Buffet Dinner | Location: 1 <sup>st</sup> floor, Joy Coffee Shop |
|-------------|---------------|--|

### Sunday, Sept.28

|             |  |  |
|-------------|--|--|
| 08:00-18:00 | Gathering at the lobby of Kuntai Hotel on 07:30am and going for trip in Beijing <b>Badaling Great Wall &amp; the South Luogu Lane or the Forbidden City &amp; the Summer Palace.</b> |  |
|-------------|--|--|

## 大会日程（中文版）

### 2014年9月25日-27日

| 时间          | 日程安排 | 地点       |
|-------------|------|----------|
| 08:00-19:00 | 注册报到 | 北京昆泰酒店大厅 |

### 9月26日，星期五上午

| 时间          | 日程安排  | 地点：二楼会议厅 C 厅 |
|-------------|---|--------------|
| 08:30-08:45 | 开幕式   |              |
| 08:45-09:30 | 主题报告 1: Antibody-Based Vaccines and Therapeutics for HIV-1<br>报告专家: Dan Barouch教授   |              |
| 09:30-10:15 | 主题报告 2: Software algorithm and hardware design for real-time implementation of new spectral estimator<br>报告专家: Edward J. Ciaccio高级科学家   |              |
| 10:15-10:25 | 与会代表集体合影  |              |
| 10:25-11:15 | 茶歇&参观生物技术和仪器设备展示会(二楼会议厅 A 厅)  |              |
| 11:15-12:00 | 主题报告 3: Quantitative means for differentiating kidney obstruction by modeling renography data and derivation of novel renal index of urine flow rate<br>报告专家: Ng Yin Kwee 副教授 |              |

### 9月26日，星期五中午

| 时间          | 日程安排 | 地点      |
|-------------|------|---------|
| 12:15-13:30 | 自助午餐 | 一楼悦阁咖啡厅 |

9月26日，星期五下午

| 时间          | 日程安排  | 地点：二楼会议厅 C 厅 |
|-------------|---|--------------|
| 14:15-15:00 | 主题报告 4: Integrative cellular mechanobiology and biomechanics and the emergence of primary cilia as mechanosensors<br>报告专家: Christopher R. Jacobs 副教授  |              |
| 15:00-15:45 | 主题报告 5: Paradox of Immunosenescence and inflammation & Autoimmunity: Role of Dendritic Cells<br>报告专家: Sudhir Gupta 教授   |              |
| 15:45-16:15 | 茶歇&参观生物技术和仪器设备展示会(二楼会议厅 A 厅)  |              |
| 16:15-17:00 | 主题报告 6: Model of bipolar electrogram fractionation and conduction block associated with activation wavefront direction at infarct border zone lateral isthmus boundaries<br>报告专家: Edward J. Ciaccio 高级科学家 |              |
| 17:00-17:45 | 主题报告 7: Control of delta (d) glucose with intensive insulin therapy is fundamental to renal preservation in diabetes<br>报告专家: Anil K. Mandal 教授   |              |
| 17:45-18:00 | Brief Introduction of the Brain-Computer Interface (BCI) Workshop-生物技术和仪器设备展示会-脑机接口简介<br>报告专家: Gunther Krausz 工程师   |              |

9月26日，星期五晚上

| 时间          | 日程安排     | 地点      |
|-------------|----------|---------|
| 18:00-19:30 | 自助晚餐     | 一楼悦阁咖啡厅 |
| 19:30-22:00 | 脑机接口专场分会 | 二楼 5 号厅 |

9月27日，星期六上午

| 时间          | 日程安排  | 地点：二楼会议厅 C 厅 |
|-------------|---|--------------|
| 08:30-09:15 | 主题报告 8: Carbon-13 nmr chemical shift of OMe group: structural significance for methoxylated aromatic compounds<br>报告专家: Pawan K. Agrawal 博士   |              |
| 09:15-10:00 | 主题报告 9: Genomics and the transformation of the clinical, chemical and pharmaceutical sciences<br>报告专家: Alain-Li Wan Po 教授   |              |
| 10:00-10:15 | 茶歇  |              |
| 10:15-11:00 | 主题报告 10: The potential energy landscapes of biologically relevant molecules revealed by matrix-isolation infrared spectroscopy and quantum chemical calculations<br>报告专家: Rui Fausto 教授 |              |

|             |               |
|-------------|---------------|
| 11:00-12:30 | 口头报告 3: 化学与药学 |
|-------------|---------------|

**9月27日，星期六上午**

| 时间                             | 日程安排          | 地点      |
|--------------------------------|---------------|---------|
| 8:30-12:00<br>(10:00-10:15 茶歇) | 张贴报告1: 生物医学工程 | 二楼 6 号厅 |
|                                | 张贴报告2: 生物医学影像 |         |
|                                | 张贴报告3: 化学与药学  |         |
|                                | 张贴报告4: 生物力学工程 |         |

**9月27日，星期六中午**

| 时间          | 日程安排 | 地点      |
|-------------|------|---------|
| 12:30-13:30 | 自助午餐 | 一楼悦阁咖啡厅 |

**9月27日，星期六下午**

| 时间                              | 日程安排               | 地点: 二楼 |
|---------------------------------|--------------------|--------|
| 14:30-18:30<br>(16:00-16:15 茶歇) | 口头报告 1: 生物医学工程 (1) | 6 号厅   |
|                                 | 口头报告 2: 生物医学影像     | 5 号厅   |
|                                 | 口头报告 4: 生物力学工程     | 3 号厅   |
|                                 | 口头报告 5: 生物医学工程 (2) | 7 号厅   |

**9月27日，星期六晚上**

| 时间          | 日程安排 | 地点      |
|-------------|------|---------|
| 18:30-19:30 | 自助晚餐 | 一楼悦阁咖啡厅 |

**9月28日，星期日**

| 时间          | 日程安排   |
|-------------|--|
| 08:30-18:00 | 八达岭长城及南锣鼓巷一日游 或者 故宫及颐和园一日游<br>(请于早上 07:30 在昆泰酒店一楼大厅集合) |

## Part II Invited Keynote Speakers

### Keynote Speaker: Prof. Dan Barouch



**Prof. Dan Barouch**

Professor of Medicine, Harvard Medical School, USA

Dan Barouch received his Ph.D. in immunology from Oxford University and his M.D. from Harvard Medical School. He is currently Professor of Medicine at Harvard Medical School, Chief of the Division of Vaccine Research at Beth Israel Deaconess Medical Center, and a member of the Steering Committee of the Ragon Institute of MGH, MIT, and Harvard. His laboratory focuses on studying the immunology and virology of HIV-1 infection and developing novel vaccine strategies. His laboratory has explored a series of novel vaccine technologies, including adjuvanted DNA vaccines, poxvirus vectors, and alternative serotype adenovirus vectors in both preclinical and clinical studies. In particular, he has advanced a series of novel adenovirus vector-based HIV-1 vaccine candidates from concept and design to preclinical testing to phase 1 clinical trials that are currently underway in both the U.S. and sub-Saharan Africa. Dr. Barouch is board certified in Internal Medicine and Infectious Disease, and he is highly committed to teaching students, clinical fellows, research fellows, and junior faculty and to providing clinical care to patients with infectious diseases.

### Keynote Speaker: Dr. Edward J. Ciaccio



**Dr. Edward J. Ciaccio**

Department of Medicine, Division of Cardiology, Columbia University, USA

Edward J. Ciaccio Ph.D. is a computational biologist and biomedical engineer. Since 2010 he has been a faculty member in the Department of Medicine - Division of Cardiology at Columbia University Medical Center in New York City, and since 2014 he holds the top-level rank of senior research scientist. Dr. Ciaccio also works part-time for the Celiac Disease Center at Columbia



University Medical Center. He was staff and research faculty with the Department of Pharmacology, Columbia University Medical Center from 1990 - 2010. He has also taught as an adjunct assistant professor in the Department of Biomedical Engineering at Columbia University, and at the City University of New York, from 1996 - 2006.

Dr. Ciaccio's main areas of research focus are biosignal analysis (cardiac electrophysiology), and bioimage analysis (videocapsule studies for celiac disease). His group has developed a new frequency spectrum estimator and transform for the analysis of biomedical data. These quantitative methods have been used to detect dominant frequency components and dominant time-series patterns in atrial fibrillation and ventricular tachycardia electrograms. This work also includes the implementation of a real-time spectral estimator. Dr. Ciaccio's group has developed models to explain electrogram fractionation and functional electrical conduction block in post infarction hearts. In the area of computer hardware, the group has designed a fast data acquisition and electrical activation mapping system with multichannel inputs.

Dr. Ciaccio has received an Established Investigator Award from the American Heart Association (1998) and a Paper of the Year Award from Heart Rhythm Journal (2008). He became editor-in-chief of Computers in Biology and Medicine, published by Elsevier, in January 2013. He is also an editorial board member for BioMedical Engineering OnLine, Heart Rhythm, Journal of Cardiovascular Electrophysiology, World Journal of Gastroenterology, and World Journal of Gastrointestinal Endoscopy. Dr. Ciaccio reviews for over 30 scientific journals and has published over 80 peer-reviewed articles in his field. His current research focus includes the development of an electrical activation wavefront curvature model of reentrant ventricular tachycardia. This work may also be applicable to the mechanism of induction and maintenance of other heart arrhythmias. He is also working on a book entitled 'Handbook of Intelligent Bioengineering Systems' which will include methods and results for fast analysis of biomedical data.

## **Keynote Speaker: Dr. Ng Yin Kwee**



**Dr. Ng Yin Kwee**

College of Engineering, Nanyang Technological University,  
Singapore

Dr. E. Y. K. Ng, received his Ph.D. from Cambridge University, UK and is an associate professor at Nanyang Technological University, Singapore. He serves as editor for eight international journals and as Editor-in Chief for two SCIE indexed Journals. His research interests are in thermal imaging, biomedical engineering, breast cancer detection, and computational fluid dynamics and heat

transfer. Ng has had more than 250 ISI journal articles and 80 conference papers and 11 books published including “Compressor Instability with Integral Methods” by Springer (2007); “Cardiac Pumping and Perfusion Engineering” by WSPC Press (2007); “Imaging and Modelling of Human Eye” by Artech House (2008); “Distributed Diagnosis and Home Healthcare, D2H2 v.1 & 3” by ASP (2009, 2012); “Performance Evaluation in Breast Imaging, Tumor Detection & Analysis” by ASP (2010); “Computational Analysis of Human eye with Applications” by WSPC (2011); “Multimodality Breast Cancer Imaging” by SPIE (2013); “Human eye imaging and modeling”, “Image Analysis and Modeling in Ophthalmology” & “Ophthalmology Imaging and Applications” by CRC (2013, 2014). He has supervised more than 6 researchers as well as over 25 Master and PhD ‘s students. He has amassed over SGD\$5M worth of research funding from various organizations in the capacity of the principal investigator.

### **Keynote Speaker: Dr. Christopher R. Jacobs**



#### **Dr. Christopher R. Jacobs**

Department of Biomedical Engineering, Columbia University,  
USA

Dr. Jacobs received in PhD in Mechanical Engineering in 1994 from Stanford University. His first faculty position was in Orthopaedic Surgery at Penn State. In 2001 he returned to Stanford as an Associate Professor of Mechanical Engineering. In 2008 he joined the Biomedical Engineering Department at Columbia University, where he is pursuing a vision of the future of biomechanics and mechanobiology at the cell and molecular levels. The goal of his lab, the Cell and Molecular Biomechanics Lab, is to investigate cellular mechanosensing, particularly in the skeleton, with tightly coupled integration of advanced theoretical mechanics and modern molecular biology. He has made discoveries in terms of the mechanical signals that bone cells sense and respond to and how these responses are communicated and integrated between cells. This has directly brought them to their current research question, understanding novel mechanisms for how these signals are transduced at a cellular level. Most recently his lab has identified primary cilia, enigmatic structure found in virtually all cell type, as a mechanosensor both in vitro and in vivo. They are currently investigating the mechanisms of intracellular signaling initiated by primary cilia with novel molecular biology strategies and relating those events to primary cilia biomechanical behavior and properties. They have unique evidence that cells may adapt their mechanosensitivity by modulating cilium mechanics. To date he has been awarded over \$7.5 million from federal and state agencies including for individual investigator projects, \$9.5 million in center grants. He has published over 100 peer-reviewed papers, 2 books, and 9 book chapters. He has received research awards from the American and European Societies of Biomechanics, and the Yasuda Award from the Society for Physical Regulation in Medicine and Biology. He is the 2014 recipient of the Van C. Mow medal for bioengineering from the American Society of Mechanical Engineers.

## Keynote Speaker: Prof. Sudhir Gupta



### **Prof. Sudhir Gupta**

Microbiology & Molecular Genetics, Division of Basic and Clinical Immunology, University of California, USA

Sudhir Gupta received his medical and doctorate degrees from King George's Medical College, Lucknow. He served on the faculty Columbia University, Memorial Sloan Kettering Cancer Center, and the Weil Cornell University Medical College, New York. Since 1982, he is a Professor of Medicine, Pathology & Laboratory Medicine, and Microbiology & Molecular Genetics, and Chief of the Division of Basic and Clinical Immunology at the University of California, Irvine. He also serves as the Director of Programs in Primary Immunodeficiency and Aging, at the University of California, Irvine.

He has received numerous awards, including Arthur Manzel Award from Columbia University; Lifetime Achievement Award from the J.M. Foundation, New York, and Mastership of the American College of Physicians (MACP). Dr. Gupta has been Visiting Professor at various universities around the globe and has delivered numerous Oratorical lectures.

Dr. Gupta has served on numerous important National and International committees, including NIH, FDA, and WHO. Gupta has served and serving as a member of the Editorial/Advisory Boards of more than thirty national and international scientific journals. He was the Founding Editor of the Journal of Clinical Immunology and served as its Editor-in-Chief for 3 decades.

He has published more than 540 scientific papers, invited reviews, and book chapters, and has edited 25 books.

He has trained more than 65 physicians and scientists from all over the globe. Many of his trainees are now Professors, Chairmen of the Departments, and Deans at major Medical Schools and Universities around the globe.

In recognition of his scientific contributions to immunology and to the University of California, Irvine, the President of the University of California system has established an endowed chair in his name "Sudhir Gupta Endowed Chair in Molecular Immunology".

## **Keynote Speaker: Prof. Anil K. Mandal**



**Prof. Anil K. Mandal**

Department of Medicine, University of Florida, USA

Dr. Anil Mandal is a native of India and a naturalized citizen of the United States. He graduated from Calcutta Medical College and is a diplomate of the American Board of Internal Medicine. He is the author of many books and articles on research in diabetes and kidney disease. He is a two-time Fulbright Scholar to India and Visiting Professor to 24 countries where he can lecture on diabetes, high blood pressure, and kidney disease.

Dr. Mandal began the Mandal Diabetes Research Foundation for the prevention and treatment of diabetes based on his knowledge that diabetes is the most common cause of kidney failure worldwide. Dr. Mandal's conviction is that, in the office, patient's comes first and in the home, children come first. He is dedicated to helping diabetic patients live a good life and not enter dialysis.

## **Keynote Speaker: Dr. Pawan K. Agrawal**



**Dr. Pawan K. Agrawal**

President of Natural Product Inc., Westerville, Ohio, USA

Pawan K. Agrawal is Editor-in-Chief of the international journal Natural Product Communications. He obtained his PhD at the Central Drug Research Institute, Lucknow, India, in 1981, and spent Visiting Scholar stays at the Universität des Saarlandes, Saarbrücken, Germany, University of Maryland, Baltimore and University of Alabama, Birmingham. For many years he worked as a scientist at Central Institute of Medicinal and Aromatic Plants, Lucknow, India. His research interest includes natural product chemistry, and he is the author of over 100 publications including a monograph and several book contributions.

## **Keynote Speaker: Prof. Alain-Li Wan Po**



**Prof. Alain-Li Wan Po**

Director of the Centre for Evidence-Based Pharmacotherapy,  
Nottingham, UK

Professor Alain Li-Wan-Po has served as a member of the UK Committee on Safety of Medicines and as pharmacogenomics lead at the UK National Genetics and Genomics Education Centre for several years, until its merger with Health Education England. He has acted as consultant and received research funding from numerous pharmaceutical companies including, Astra Zenecca, Bayer, Bristol-Myers Squibb, Glaxo-Smith Kline, Janssen Pharmaceuticals, Novartis, and Roche.

He has held the chair of Pharmaceutics at the Queen's University of Belfast, and the chair of Clinical Pharmaceutics at the University of Nottingham and the University of Aston, in the United Kingdom.

In addition to his training in drug development and therapy, Professor Li-Wan-Po also holds degrees in applied mathematics and statistics, and in economics and mathematical sciences.

He has written over 100 papers in scientific and medical journals and is a fellow of the Royal Pharmaceutical Society, and the Royal Statistical Society. He has also held the fellowship of the Royal Society of Chemistry and the Pharmaceutical Society of Northern Ireland. His current research interests focus on genomic and translational medicine. His next book, Genomic Medicine from A to Z: An Introduction to the Vocabulary and Main Concepts, and a shorter version entitled, Genomic Medicine: Keynotes and concepts will be published later this year.

## **Keynote Speaker: Prof. Rui Fausto**



**Prof. Rui Fausto**

Department of Chemistry, Faculty of Sciences and Technology  
of the University of Coimbra, Portugal

Rui Fausto is Full Professor at the Department of Chemistry of the University of Coimbra and is the coordinator of the Laboratory for Molecular Cryospectroscopy and Biospectroscopy (LMCB). After his post-doctoral training at the NRCCanada in the fields of infrared, Raman and resonance Raman spectroscopies of proteins, Rui Fausto returned to Coimbra and introduced in the Chemistry Department of the University of Coimbra the technique of FT-infrared spectroscopy. The first FT-IR instrument was bought under the “Ciência”-UE funded program. Later on (1994), he started the installation of the first (and unique until now) Portuguese cryospectroscopy laboratory, the LMCB, using funds from the EU-PRAXIS XXI program. This infrastructure has grown since then and it is now one of the most important infrastructures at world level dedicated to cryospectroscopy.

Rui Fausto is member of the European Academy of Arts, Sciences and Humanities (Paris), integrates the Editorial Boards of 10 international scientific journals (being the Editor-in-Chief of the Journal of Molecular Structure, Elsevier, Amsterdam), the Directive Board of the (informal) world association of matrix isolation scientists and is Vice-President of the European Congress on Molecular Spectroscopy (EUCMOS) Permanent Steering Committee. Along his career he has occupied many different positions in the administration and scientific management in the University of Coimbra, including the presidency of the Academic Council and the Vice-presidency of the Scientific and Directive boards of FCTUC and the presidency of the Institute for Interdisciplinary Research of the University of Coimbra (an association of 40 research centres of the University of Coimbra recognized by the Portuguese Science Foundation, which integrates ca. 1600 investigators). He is author or editor of 23 scientific books, from general Science to the general public (e.g., *Tempo e Ciência*, Coleção Ciência Aberta, Gradiva, ISBN 989-616-096-1) to specialized chemistry books (“*Low Temperature Molecular Spectroscopy*”, Kluwer Academic Publishers, ISBN 0-7923-4083-3) and author of ca. 300 scientific papers in high impact factor chemistry journals (Rui Fausto's h-index: 31). His work has received more than 3500 citations and some of his books are currently used as manuals in university courses both in Portugal and abroad.

## Part III Invited keynote Speeches

### Keynote Speech 1 Antibody-Based Vaccines and Therapeutics for HIV-1

**Speaker: Prof. Dan Barouch**

*Professor of Medicine, Harvard Medical School, USA*

**Time: 08:45-09:30, Friday Morning, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

**Abstract:**

Our laboratory focuses on studying the immunology and virology of HIV-1 infection and developing novel vaccine strategies. Our previous work has shown that Ad26/MVA vectors expressing Env/Gag/Pol can afford partial protection against repetitive SIVmac251 and SHIV-SF162P3 challenges in rhesus monkeys. Here we show that Env gp140 boosting prior to challenge can augment vaccine-elicited antibody responses and improve the observed protection in these models.

We also have shown that the broadly neutralizing mAb PGT121 can afford substantial therapeutic effects in untreated chronically SHIV-SF162P3-infected rhesus monkeys. In a recent study, we have explored the efficacy of PGT121 in ART-suppressed, SHIV-SF162P3-infected monkeys. We have also observed that the viral reservoir is established very early following infection and even prior to viremia. These data demonstrate new challenges facing HIV-1 eradication efforts.

### Keynote Speech 2 Software algorithm and hardware design for real-time implementation of new spectral estimator

**Speaker: Dr. Edward J. Ciaccio**

*Department of Medicine, Division of Cardiology, Columbia University, USA*

**Time: 09:30-10:15, Friday Morning, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

**Abstract:**

Frequency analysis is important to biomedical engineering for the quantitation of medical signals and images. However, the most commonly used methods, the Fourier transform and the Wavelet transform, are composed of bases which lack biophysical meaning. The standard Fourier basis consists of a series of sinusoids, which rarely if ever convey the shape of repetitive patterns present in biomedical data. Similarly, the mother wavelet used for Wavelet analysis is selected from a library of candidate mother wavelets that has been developed over the past two decades and have no known biophysical meaning. Neither the Fourier transform nor the Wavelet transform is conducive to real-time calculation. This is due to the complex nature of their implementation and the need for a recalculation of most or all steps on each successive iteration. However, implementation of a real-time system for frequency analysis would enable content evolution to be evaluated at the maximum time resolution, i.e., every sample point. Such information would be

valuable to detect spectral transients, and to understand the temporal evolution in the frequency content, including the appearance and disappearance of components, presence and absence of split frequency peaks, and the temporal relationship between spectral peaks. Often, it is also desirable to evaluate multichannel data, which can make real-time implementation difficult or unachievable with current computational power.

We have developed a new spectral estimator (NSE) with characteristics that are advantageous for biomedical analyses as compared with Fourier and Wavelet analysis. The NSE basis is data-driven and is calculated from signal averaging; thus the components have a biophysical basis. Real-time update can be done with minimal calculation by using moving signal averages. An algorithm for this purpose was devised and tested on clinical data from 216 fractionated atrial electrogram sequences. The digital sampling rate was 977 Hz, or approximately 1 millisecond between sample points. The real-time NSE power spectra were generated for 16,384 consecutive data points in the signals. The same clinical data was used for spectral calculation using a radix-2 implementation of the discrete Fourier transform. The NSE algorithm was also implemented as a real-time spectral analyzer electronic circuit board.

The results of testing showed that the average interval for a single real-time spectral calculation in software was 3.29  $\mu$ s for NSE versus 504.5  $\mu$ s for the Fourier transform. Thus the NSE algorithm was found to be 150 $\times$  faster than the Fourier method. Over a 1 millisecond sampling period, it was determined that the NSE algorithm could analyze a maximum of over 300 data channels, while the fast Fourier transform could only be used to analyze a single data channel. Furthermore, for eight second sequences, the NSE spectral resolution in the 3-12 Hz range was 0.037 Hz while the Fourier spectral resolution was only 0.122 Hz, about  $\frac{1}{4}$  of the NSE resolution. The NSE was also implemented as a standalone spectral analyzer board using less than 30 integrated circuits at a cost of slightly over \$500.

Based on the findings, the NSE real-time algorithm was shown to have low computational cost and complexity, and can be implemented in both software and hardware for 1 millisecond updates of multichannel spectra. This can be useful both for detection of transients and trends in spectral components, as well as to obtain a snapshot of the frequency content at any time epoch. Moreover, it can also be useful retrospectively to rapidly analyze big data for which it is desirable to calculate the frequency spectrum at all discrete time points, so that spectral transients and trends can be determined.

### **Keynote Speech 3 Quantitative Means for Differentiating Kidney Obstruction by modelling Renography Data and derivation of Novel Renal Index of Urine Flow rate**

**Speaker: Dr. Ng Yin Kwee**

*Division of Thermal and Fluids Engineering, School of Mechanical & Aerospace Engineering, College of Engineering, Nanyang Technological University, SG*

**Time: 11:15-12:00, Friday Morning, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

**Abstract:**



The kidney has a main role in the blood filtration process to get rid of waste materials and maintain homeostatic functions, such as regulation of electrolytes, maintenance of acid-base balance and regulation of blood pressure. Renography is a kidney imaging technique used to detect renal health status. However for the purpose of diagnosis renal obstruction, there is still no precise technique and standard protocol accepted and applied in the clinical setting. This research example was carried out to search for a non-invasive method in the assessment of renal obstruction and to come out with a benchmark for clinical evaluation of the severity of obstructed kidney. In order to achieve this objective, the model that represented the behaviour of tracer from the input into kidney through filtration process to the flow out from the renal pelvis was developed using two compartmental modelling. Then, the model was compared to clinical data from renography and it had been verified in this work that the mathematical model was accurate in predicting the relative severity of obstructed kidney. Lastly, using Support Vector Machine (SVM) classifier as a quantitative means for differentiating kidney obstructions was proposed based on the simulation results of the samples that had been compared with clinical interpretation of renograms by a certified nuclear medicine doctor. The SVM predictions had been shown accurate in diagnostic of the functionality of kidney. The SVM classifier gave precise identification whether the kidney is normal, slightly obstructed or heavily obstructed. This new method could be used to determine the condition of patient's kidneys analytically through non-invasive technique as compared to the usual invasive technique and current inaccurate subjective practice in visual interpretation of renography. The categorization for the severity level of kidney with larger number of patients will be useful for further treatment planning to determine the best solution for each clinical condition. In order to make this technique to be more convenient to be used by doctors, in-house developed specified software (instead of MATLAB) that can run the whole analysis and calculation can also be developed.

## **Keynote Speech 4 Integrative cellular mechanobiology and biomechanics and the emergence of primary cilia as mechanosensors**

**Speaker: Dr. Christopher R. Jacobs**

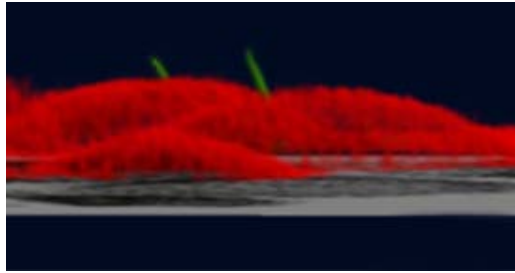
*Department of Medicine, Division of Cardiology, Columbia University, USA*

**Time: 14:15-15:00, Friday Afternoon, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

Cellular mechanosensation is critical in diseases responsible for enormous human suffering including atherosclerosis, osteoarthritis, cancer, and osteoporosis. Nonetheless, very little is understood about the molecular mechanisms of mechanotransduction outside of a small number of specialized sensory cells. Primary cilia are solitary linear cellular extensions that extend from the surface of virtually all cells. For decades, the biologic function of these enigmatic structures was elusive, however, recent evidence suggests an emerging picture in which the primary cilium functions as a complex nexus where both physical and chemical extracellular signals are sensed and responses coordinated.



A 3D reconstruction of cells (red) with their primary (green).

In our laboratory we have shown that primary cilia act as mechanical sensors in bone and that conditional deletion of primary cilia lead to mechanosensing defects. Additionally mice that receive bone marrow transplants from donors lacking primary cilia have a blunted response to loading, suggesting that they are important in stem cell proliferation, differentiation, migration, and/or engraftment. Recently, we developed a novel combined experimental/modeling approach to determine the mechanical properties of primary cilia. We found a wide variety of previously unreported deformation modes including smooth bending and rigid-body rotations. This suggests that the mechanics of both the cilium shaft and basal anchorage are important to understanding deflection patterns. Interestingly, both the cilium itself and its anchorage to the microtubule cytoskeleton alter their structure in response to physical loading, suggesting structural adaptation or “remodeling”. We have also developed novel molecular biology tools to elucidate the details of mechanically activated ciliary signaling pathways. For example, we have created a cilia-directed biosensor that has allowed us to distinguish intraciliary from intracellular calcium signaling. We have also developed a method for distinguishing the roles of the cytoplasmic and ciliary pools of proteins that are found in both compartments. In summary, primary cilia are non-linear, richly varied, mechanical structures (biomechanics) as well as structurally adaptive (mechanobiology). Simultaneously they are a biochemical microdomain where signaling events are catalyzed, enhanced, and integrated. It seems likely that we have only just begun to appreciate the wide range of cellular functions and dysfunction in which primary cilia play a crucial role.

## **Keynote Speech 5 Paradox of Immunosenescence and inflammation & Autoimmunity: Role of Dendritic Cells**

**Speaker: Prof. Sudhir Gupta**

*Microbiology & Molecular Genetics, Division of Basic and Clinical Immunology, University of California, USA*

**Time: 15:00-15:45, Friday Afternoon, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

Aging is associated with a progressive decline in T cell function, chronic inflammation, autoimmunity, poor response to vaccines, and increased susceptibility to infection as well as diseases associated with chronic inflammation. Both thymic involution and increased apoptosis of T cell subsets appear to contribute to T cell immunosenescence. Dendritic cells (DCs) in aging appears to be functionally impaired with regard to response to uptake of antigens, phagocytosis of apoptotic cells, migration, priming of CD4+ and CD8+ T cells, and production of IFN-I and IFN-III, which contribute to chronic

inflammation and autoimmunity in aging. In this presentation, I will discuss the molecular mechanisms of increased cell death in naïve and central memory T cells, and signaling mechanisms and epigenetic changes in DCs that contribute to chronic inflammation, autoimmunity, impaired T cell functions, poor response to vaccines, and increased susceptibility to infections in human aging.

## **Keynote Speech 6 Model of Bipolar Electrogram Fractionation and Conduction Block Associated with Activation Wavefront Direction at Infarct Border Zone Lateral Isthmus Boundaries**

**Speaker: Dr. Edward J. Ciaccio**

*Department of Medicine, Division of Cardiology, Columbia University, USA*

**Time: 16:15-17:00, Friday Afternoon, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

After myocardial infarction, an infarct border zone (IBZ) forms around the infarct region. The IBZ is an arrhythmogenic area where the electrical activation impulse slows and can travel along circuitous pathways. Ventricular tachycardia (VT) is a common heart arrhythmia, and is often caused by a double-loop reentrant circuit, in which two activation wavefronts propagate simultaneously around a common isthmus in the IBZ. It is possible to interrupt the circuit using radiofrequency catheter ablation during electrophysiologic study. However, correct targeting may be difficult due to the problem of identifying all arrhythmogenic regions responsible for the clinical tachycardias that occur in a particular patient, and because of hemodynamic compromise during VT, which precludes mapping of the heart surface. We have developed a method that can potentially be useful to detect arrhythmogenic regions from which VT can form, without the need for tachycardia induction or extensive electrophysiologic mapping.

A model was devised to explain both the functional electrical conduction block that occurs in the postinfarction heart, and that can be useful to explain electrogram fractionation, the appearance of multiple small deflections in the signal acquired from the heart surface at the IBZ. When the activation wavefront encounters a sharp change from lesser to greater conducting volume during propagation through the IBZ, the wavefront becomes convex and slows, due to the reduction in available current to activate viable tissue in the distal direction. For particularly large impedance mismatch, this can lead to very slow conduction, < 0.01 millimeters per millisecond, or even functional conduction block.

We have identified these conditions as occurring at the lateral boundaries present on either side of the isthmus, or diastolic pathway, of the reentrant VT circuit. At these locations, there is a sharp spatial change from thinnest to thicker IBZ. During double-loop reentrant VT, a loop of the circuit travels around each lateral boundary. Furthermore, because of the variability in thin-to-thick infarct border zone at the lateral boundaries, the electrical activation wavefront can become discontinuous, resulting in electrogram fractionation. By targeting radiofrequency catheter ablation energy across the isthmus from one lateral boundary to the other, it is possible to interrupt the circuit so that reinduction of VT is prevented, including those clinical tachycardias that are not readily mappable by current methods.

Most recently, we have shown how wavefront curvature can be used to describe reentry induction during premature excitation of the heart. The model suggests that only by applying an electrical stimulus from certain locations and at certain coupling intervals, will the conditions conducive to reentrant VT onset be achieved, and that based on the mechanism, the reentry morphology must always be in the form of a double loop. It is possible to improve the success rate for ablating clinical VT by more accurately predicting the locations where premature excitation will lead to successful induction of reentrant tachycardia using this model. It can also be shown, based on the model, that the size and shape of the reentrant VT isthmus is constrained to certain dimensions. These findings are potentially helpful for improved and rapid radiofrequency catheter ablation targeting of arrhythmogenic regions of the IBZ in patients with recurrent reentrant VT. It could go a long way toward the successful treatment of these patients without the need for follow-up study, as well as to reduce the fluoroscopy time needed for evaluation.

## **Keynote Speech 7 Control of delta ( $\delta$ ) glucose with intensive insulin therapy is fundamental to renal preservation in diabetes**

**Speaker: Prof. Anil K. Mandal**

*Department of Medicine, University of Florida, USA*

**Time: 17:00-17:45, Friday Afternoon, Sept.26**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

This presentation encompasses background information on no attention to glycemic control with sparse use of insulin therapy, but on the contrary more interest in controlling microalbuminuria with excessive use of angiotensin converting enzyme inhibitor (ACEI) and or angiotensin receptor blocker (ARB) drugs.

The results are high incidence of acute renal failure associated with cumulative high risk of end stage renal disease (ESRD) and dialysis. Steps are taken by the author to reveal that glycemic control with insulin therapy and complete exclusion of ACEI/ARB drugs are fundamental to renal preservation in diabetes. Prior to testing this hypothesis basic research was done to examine the response of vascular endothelial cells (ECS) to high glucose (30mmol or 540mg) environment for 2, 6 or 10 days. ECS are progressively injured with longer duration of exposure to high glucose but ECS injury is preventable by addition of insulin with high glucose in the culture plate. Even when glucose level in the culture plate did not change, ECS morphology remained intact.

Thus the hypothesis testing has confirmed that insulin treatment is capable of preventing microvascular diseases which are characteristics of diabetes. Our continuous investigations confirm that renal preservation is attainable with insulin treatment and complete exclusion of the use of ACEI/ARB drugs. We have innovated the factor of delta ( $\delta$ ) glucose (2h postprandial glucose-fasting glucose) to test close relationship between 2-h post prandial hyperglycemia and renal function changes. We have found the  $\delta$ glucose over 50mg/dL is associated with significant risk of renal function deterioration.

## **Keynote Speech 8 Carbon-13 NMR Chemical Shift of OMe Group: Structural Significance for Methoxylated Aromatic Compounds**

**Speaker: Dr. Pawan K. Agrawal**

*Natural Product Inc., Westerville, Ohio, USA*

**Time: 08:30-09:15, Saturday Morning, Sept.27**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

Phenolic substances, such as flavonoids, coumarins, lignans and cinnamic acids, isolated from a variety of plants, including fruits and vegetables. In many such substances, some of the phenolic hydroxyl groups are substituted, and O-methylation is often observed. The <sup>13</sup>C NMR spectra of these compounds reflect that the chemical shift range 55-62 ppm is characteristic for OMe signals. The significance of OMe chemical shift in elucidating structures of phenolic compounds will be presented.

## **Keynote Speech 9 Genomics and the transformation of the clinical, chemical and pharmaceutical sciences**

**Speaker: Prof. Alain-Li Wan Po**

*Director of the Centre for Evidence-Based Pharmacotherapy, Nottingham, UK*

**Time: 09:15-10:00, Saturday Morning, Sept.27**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

Genomics can be defined as the use of molecular methods to interrogate the genome, the complete genetic make-up of a cell, individual or population (meta-genome). Over recent years, genomic insights have led to major progress in the clinical, chemical and pharmaceutical sciences that is reminiscent of the revolutionary progress made in those sciences at the end of the 18th century, accelerating over the first half of the last century and culminating in the establishment of the double-helical structure of DNA.

The DNA double-helix may perhaps be regarded as the demarcation symbol for the transition from the first revolution to the second. From that discovery has developed the bioengineering techniques that have led to the first recombinant therapeutic proteins such as insulin, and the biopharmaceutical industry. Replacement enzymes to treat deficiency diseases caused by genetic mutations soon followed.

With recognition that cancer was essentially a genetic disease, emerged targeted therapy and evidence-based preventive strategies (e.g. BRCA1 cancer risk variants). Identification of gain-of-function driver mutations and specific gene over-expressions led to paradigm-changing drugs such as imatinib and trastuzumab. Cancer is a hard disease to cure. Better understanding of how the cancer cell develops resistance and evades the host's immunosurveillance has led to novel

approaches for managing disease recurrence or relapse.

Similarly, improved genomic understanding has improved the management of other diseases including diabetes and recalcitrant infections due to multidrug resistant micro-organisms and various viruses. Genomic approaches are also providing highly informative insights that can inform the development and management of neurodegenerative diseases such as Parkinson disease and Alzheimer's disease.

Diseases are no longer defined solely using clinical criteria. Instead, increasingly accurate and precise molecular sub-classifications are being made to allow stratification and personalisation of therapy. For example, breast cancer and lung cancer are no longer single diseases but groups of diseases that can be molecularly dissected and therapeutically targeted. Therapies are not only directed at the expressed proteins (e.g. enzyme inhibitors and monoclonal antibodies) but also at the encoding gene (e.g. gene therapy and exon skipping) and the RNA transcripts (e.g. antisense therapies and RNA-directed nucleases).

Genomic therapies are not for the future. They are already in the clinic and the range of such therapies is increasing rapidly. In this presentation we illustrate these broad-ranging applications of genomics with concrete examples and exemplars of interventions used in current practice.

## **Keynote Speech 10 The Potential Energy Landscapes of Biologically Relevant Molecules Revealed by Matrix-Isolation Infrared Spectroscopy and Quantum Chemical Calculations**

**Speaker: Prof. Rui Fausto**

*Department of Chemistry, Faculty of Sciences and Technology of the University of Coimbra, Portugal*

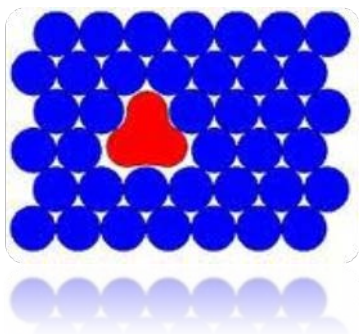
**Time: 10:15-11:00, Saturday morning, Sept.27**

**Location: 2<sup>nd</sup> floor, Ballroom C**

### **Abstract:**

The importance of molecular conformations in biochemistry (as in chemistry and physics) is well accepted. The conformations assumed by the molecules and their associated potential energy landscapes determine, for instance, catalytic mechanisms in enzymes, antifreeze cryoprotectants efficiency or membrane properties, and are the basis of the general phenomenon of molecular recognition. Conformational changes are key events in the vision process, in the control of membrane permeability and different mechanism of molecular transport in cells. Protein folding is controlled by conformations of the constituting amino acids, and the preferred spatial arrangements of the nucleic acid bases are also essential in determining the functioning of these later.

Conformational studies on small molecules which are the fundamental constituents of biomolecules (like the above mentioned amino acids and nucleic acid bases) or that exhibit pharmacological activity, have been providing the basis for our understanding of the structures and mechanisms of functioning of the complex biochemical systems and drugs.



Since its invention by George Pimentel in 1954 [1], matrix isolation has been given an enormous contribution to the study of molecular structure and reactivity. Investigation of thermal and light-induced reactions of biologically relevant molecules in cryogenic matrices is nowadays a hot topic of research [2], in particular because these studies can shed light on important details of their mechanisms of action.

The success of this approach may also be partially ascribed to the concomitant development of computational chemistry, which provides sound theoretical foundations for the interpretation of the experimental data (and also to the availability at relatively low cost of tunable lasers, which can be used as adequate irradiation sources to investigate specific processes in an elegant and powerful way).

In this lecture, besides a general introduction to matrix isolation, a series of case studies will be presented which illustrate the use of the method in the investigation of the potential energy landscapes of a series of judiciously chosen representative biologically relevant molecules. The relevance of such potential energy landscapes in determining the thermal reactivity or the light-induced processes (either triggered by UV-visible or IR light) will be emphasized.

## Part IV Oral Sessions

### Oral Presentation

Devices Provided by the Conference Organizer:

- Laptops (with MS-Office & Adobe Reader)
- Projectors & Screen
- Laser Sticks

Materials Provided by the Oral Presenters:

- PowerPoint

Duration of each Presentation (Tentatively):

- Regular Oral Session: 10-15 Minutes of Presentation, 3-5 Minutes of Q&A

### Oral Session\_1 Biomedical Engineering(1)

Session Chair: Prof. Ali Rizvi

Time: Sept.27, 14:30-18:30

Location: 2<sup>nd</sup> floor, 6<sup>th</sup> Room

| Paper ID | Paper Title   | Author          |
|----------|---|-----------------|
| ICBE2689 | Using the Continuous Glucose Sensor with Insulin Pumps to Improve Diabetes Management   | Ali Rizvi       |
| ICBE2681 | Resistance exercise prevents muscle wasting in mice with chronic kidney disease by increasing microRNA-23                     | Xiaonan H. Wang |
| ICBE1797 | Application of a novel particle tracking algorithm in the flow visualization of an artificial abdominal aortic aneurysm       | Yang Zhang      |
| ICBE1762 | Patient-specific Simulation of Hemodynamics for a Human Left Coronary Artery Tree   | Jun-Mei Zhang   |
| ICBE1721 | Mobile health-monitoring system through visible light communication   | Wan-Young Chung |
| ICBE1696 | Modelling Complex Features from Histone Modification Signatures using Genetic Algorithm for the Prediction of Enhancer Region | Nung Kion Lee   |
| ICBE1687 | An efficient and accurate approach for fabricating dental implant surgical guides   | Wei-chen Lee    |
| ICBE1660 | Quantification of osteoarticular joint defects through bone segmentation and modeling   | Jian Yang       |
| ICBE1609 | Experimental verification of depolarization effects in bioelectrical impedance measurement                                    | Xiaoyan Chen    |



|          |  |                  |
|----------|--|------------------|
| ICBE1561 | Uniform Design and Dynamic Finite Element Analysis for Micromotion Improvement of Semados Dental Implant System with Dynamic Chewing Loads | Yung-Chang Cheng |
| ICBE1473 | IEEE-802.15.4-based low-power body sensor node with RF energy harvester  | Thang Viet Tran  |
| ICBE1468 | Seamless Development of Surgical Instruments based on Biological Mechanisms using CAD and 3D Printer                                       | Ikuo Yamamoto    |
| ICBE1392 | A bioelectrical impedance phase angle measuring system for assessment of nutritional status  | Guanghao Zhang   |
| ICBE1235 | Precise improvement of ISAF reconstruction algorithm based on the computational radius of density function                                 | Gongming Wang    |

## Oral Session\_2 Biomedical Imaging

**Session Chair: Dr. Franco Bertora**

Time: Sept.27, 14:30-18:30

Location: 2<sup>nd</sup> floor, 5<sup>th</sup> Room

| Paper ID | Paper Title  | Author           |
|----------|--|------------------|
| ICBE1549 | Quest for an open MRI scanner  | Franco Bertora   |
| ICBE1680 | Interpolation-based intermediary image generation for three-dimensional histologic arterial reconstruction           | Hyunggun Kim     |
| ICBE2106 | The effect of tumor size on the imaging diagnosis: A study based on simulation                                       | Libin Wang       |
| ICBE1888 | Performance of Mobile Digital X-ray Fluoroscopy using a new flat panel detector for Intraoperative Use               | Kwon-Ha Yoon     |
| ICBE1881 | Skull defect reconstruction based on a new hybrid level set  | Ziqun Zhang      |
| ICBE1798 | Evaluation of fatty proportion in fatty liver using least squares method with constraints                            | Xingsong Li      |
| ICBE1731 | A flood map based DOI decoding method for block detector: A GATE simulation study                                    | Han Shi          |
| ICBE1727 | Dynamic 3D Reconstruction of Gastric Internal Surface under Gastroscopy  | Bin Wang         |
| ICBE1702 | Effects of distraction task on driving: A functional magnetic resonance imaging study                                | Soon-Cheol Chung |
| ICBE1665 | Iterative nonlocal means method for despeckling optical coherence tomography images                                  | Xuming Zhang     |
| ICBE1655 | Generalized relative quality assessment scheme for reconstructed medical images                                      | Shaoze Wang      |
| ICBE1653 | Performance evaluation of simple linear iterative clustering algorithm on medical image processing                   | Jinyu Cong       |
| ICBE1579 | Metal artifacts reduction in x-ray CT based on segmentation and forward-projection                                   | Shoukat Nawaz    |
| ICBE1428 | Interactive knee cartilage extraction using efficient segmentation software: Data from the osteoarthritis initiative | Hong-Seng Gan    |

|          |  |                 |
|----------|--|-----------------|
| ICBE1200 | 3D Shape Modeling Using Mesh Quality Preserved Deformable Models Based on Micro-CT Imaging | Lamei Yan       |
| ICBE1173 | Rule-based fuzzy classifier for spinal deformities   | Hayriye Korkmaz |

### Oral Session\_3 Chemistry and Pharmacy

Session Chair: Prof. Rui Fausto

Time: Sept.27, 11:00-12:30

Location: 2<sup>nd</sup> floor, Ballroom C

| Paper ID | Paper Title  | Author         |
|----------|--|----------------|
| ICBE2885 | Kingkong Elemene Liposome: an original drug with network pharmacological anti-cancer effects   | Xie Tian       |
| ICBE2800 | Oxygen delivery system for tissue engineering  | Huaifa Zhang   |
| ICBE2751 | Systematic bias in NMR diffusion measurements on polydisperse systems  | Xiaoyue Zhou   |
| ICBE2721 | Pan-811 protects neurons from anticancer drug-induced neuronal cell death  | Zhi-Gang Jiang |
| ICBE2564 | Multiresidue analysis of pesticides in agricultural products by a liquid chromatography/tandem mass spectrometry in Korea                                      | Hwa-Mi Lee     |
| ICBE1936 | Dynamic Performance of Microbial Fuel Cells with Electrical Field Applied  | Chin-Tsan Wang |
| ICBE1870 | Effect of FeSO <sub>4</sub> on Bio-Electro-Fenton Microbial Fuel Cells with Different Exchange Membranes   | Chin-Tsan Wang |
| ICBE1781 | Antibacterial activity of the essential oils extracted from cassia bark, bay fruits and cloves against <i>Vibrio parahaemolyticus</i> and <i>Listeria</i> spp. | Haiquan Liu    |

### Oral Session\_4 Biomechanical Engineering

Session Chair: Prof. Jinsheng Zhang

Time: Sept.27, 14:30-18:30

Location: 2<sup>nd</sup> floor, 3<sup>th</sup> Room

| Paper ID | Paper Title  | Author            |
|----------|--|-------------------|
| ICBE2288 | Targeted Optogenetic Corticofugal Modulation to Suppress Tinnitus  | Jinsheng Zhang    |
| ICBE1885 | The dynein-triggered ciliary motion in embryonic nodes: An exploratory study based on computational models                   | Yi Zhong          |
| ICBE1840 | Estimation of left ventricular stroke volume based on pressure waves measured at the wrist: a method aimed at home-based use | Zhipeng Deng      |
| ICBE1784 | Improving pilot mental workload evaluation with combined measures  | Xiaoru Wanyan     |
| ICBE1748 | Modeling the situation awareness by the analysis of cognitive process  | Shuang Liu        |
| ICBE1747 | The Effects Of Culture Periods And Loading On The Biomechanical Properties Of Sheep Collagen Fascicles                       | Ahmet C. Cilingir |

|          |   |                     |
|----------|---|---------------------|
| ICBE1733 | Effect Of Position Of Coronary Sinus Orifice On Aortic Leaflet Coaptation   | Youlian Pan         |
| ICBE1730 | Simulation of microcirculatory hemodynamics: estimation of boundary condition using particle swarm optimization                                       | Qing Pan            |
| ICBE1643 | Effect of elevated intraocular pressure on the thickness changes of cat laminar and prelaminar tissue using optical coherence tomography              | Xiuqing Qian        |
| ICBE1503 | The effect of anatomic variations of circle of Willis on cerebral blood distribution during posture change from supination to standing: A model study | Chi Zhang           |
| ICBE1388 | Investigations of impact biomechanics for penetrating ballistic cases   | A.Awoukeng-Goumtcha |
| ICBE1316 | Thermal-mechanical deformation modelling of soft tissues for thermal ablation   | Xin Li              |
| ICBE1310 | Finite Element Analysis of the Human Head under Side Car Crash Impacts at Different Speeds  | Yuanyuan Jiang      |
| ICBE1140 | Biomedical Response And Injury of Occupant's Pelvis In Side Impacts: Effects of The Femoral Head And Loading Conditions                               | Zhengwei Ma         |

## Oral Session\_5 Biomedical Engineering(2)

Session Chair: Dr. David A. Stout

Time: Sept.27, 14:30-18:30

Location: 2<sup>nd</sup> floor, 7<sup>th</sup> Room

| Paper ID | Paper Title  | Author                      |
|----------|--|-----------------------------|
| ICBE2698 | Mutual influence between two processes of discrete-time fractional Gaussian noise  | Yen-Ching Chang             |
| ICBE2615 | Chitosan scaffolds improved with graphene-oxide reveal high potential for bone tissue engineering applications           | Sorina Dinescu              |
| ICBE2190 | Android Based Self-Diagnostic Electrocardiogram System for Mobile Healthcare   | LING HUO<br>CHONG           |
| ICBE2058 | Spherical operator classification for coronary artery extraction   | Chen Geng                   |
| ICBE1935 | Cellular automata model for human articular chondrocytes migration, proliferation and cell death: an in vitro validation | Juan Jairo Vaca<br>González |
| ICBE1839 | Texture based feature extraction methods for content based medical image retrieval systems                               | Burhan Ergen                |
| ICBE1823 | Intramedullary cement osteosynthesis (IMCO): A pilot study in sheep  | Alireza<br>Mirzasadeghi     |
| ICBE1667 | Pilot's Visual Attention Allocation Modeling Under Fatigue   | Xu Wu                       |
| ICBE1599 | Dynamic fatigue performance of implant-abutment assemblies with different tightening torque values                       | Dandan Xia                  |
| ICBE1474 | Sleep Apnea Classification using ECG-signal Wavelet-PCA features   | Vega Pradana<br>Rachim      |
| ICBE1394 | New KF-PP-SVM classification method for EEG in brain-computer interfaces   | Yang Banghua                |

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|----------|---|-----------------|
| ICBE1177 | Quantification of the chemical composition variations of tumors in photothermal therapy by photoacoustic spectroscopy: An in vitro study                | Yubin Liu       |
| ICBE1172 | A new method based on MTANNs for cutting down false-positives:An evaluation on different versions of commercial pulmonary nodule detection CAD software | Zhenghao Shi    |
| ICBE1170 | A non-invasive navigation system for retargeting gastroscopic lesions   | Bin Wang        |
| ICBE1132 | Degradable/non-degradable polymer composites for in-situ tissue engineering small diameter vascular prosthesis application                              | Fujun Wang      |
| ICBE1012 | An efficient estimator of Hurst exponent through an autoregressive model with an order selected by data induction                                       | Yen-Ching Chang |
| ICBE1994 | Growth characteristics of different heart cells on novel nanopatch substrate during electrical stimulation  | David A. Stout  |

**NOTE: If you want to make an oral presentation but your paper ID is not included in the list, please contact the organizing committee or the session chair to arrange it.**

## Part V Poster Sessions

### Poster Presentation

Materials Provided by the Conference Organizer:

- X Racks & Base Fabric Canvases (60cm×160cm, see the figure below)
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-made Posters

Requirement for the Posters:

- Material: not limited, can be posted on the Canvases
- Size: smaller than 60cm×160cm
- Content: for demonstration of the presenter's paper

Requirement for the Presenters:

- Stand beside his (her) Poster through the Session, and discuss with the readers about his (her) paper



### Poster Session\_1 Biomedical Engineering

Time: Sept.27, 8:30-12:00

Location: 2<sup>nd</sup> floor, 6<sup>th</sup> Room

| Paper ID | Paper Title  | Author                   |
|----------|--|--------------------------|
| ICBE1305 | Interacting gene selection via cooperative game analysis for cancer diagnosis  | Xin Sun                  |
| ICBE1390 | Improved Hessian multiscale enhancement filter   | Jinzhu Yang              |
| ICBE1560 | Shoe-Integrated Sensors in Physical Rehabilitation   | María Viqueira Villarejo |
| ICBE1850 | Automatic prediction of chronic obstructive pulmonary disease exacerbations through home telemonitoring of symptoms  | M.A. Fernández-Granero   |
| ICBE1760 | The differences in waveform between photoplethysmography pulse wave and radial pulse wave in movement station        | Kun Li                   |
| ICBE1419 | Predicting the minimal inhibitory concentration of fluoroquinolones for Escherichia coli using an accumulation model | Wen Zhang                |

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| ICBE1805 | Implementation of adjustive latency com-pensation in a binaural hearing aid to prevent latency due to wireless transmission for using with multi-media devices                               | Qun Wei            |
| ICBE1183 | Osteoarthritis and psoriatic arthritis: Findings in three-dimensional biophotonics imaging   | Hada Fong Ha IEONG |
| ICBE1824 | An adaptive ultrasonic backscattered signal processing technique for instantaneous characteristic frequency detection  | Bo Jin             |
| ICBE2026 | Working memory training using EEG neurofeedback in normal young adults   | Shi Xiong          |
| ICBE1332 | Novel wireless health monitor with acupuncture bio-potentials obtained by using a replaceable salt-water-wetted foam-rubber cushions on RFID-tag   | Jium-Ming Lin      |
| ICBE1903 | Characterization and prediction of mRNA alternative polyadenylation sites in rice genes  | Xiaohui Wu         |
| ICBE1776 | Transform biological data into Hbase with MDA  | Chao Zhang         |
| ICBE1537 | Prediction of protein structure classes with flexible neural tree  | Wenzheng Bao       |
| ICBE1750 | Integrative analysis of the transcriptome and targetome identifies the regulatory network of miR-16: An inhibitory role against the activation of hepatic stellate cells                     | Qin Pan            |
| ICBE1714 | Emotional structure of jokes:A corpus-based investigation  | Yu-Chen Chan       |
| ICBE2068 | Fetal heart rate baseline estimation with analysis of fetal movement signal  | Yaosheng Lu        |
| ICBE1664 | Selection of human p75NTR tag SNPs and its biological significance for clinical association studies  | Yong-Tang Wang     |
| ICBE1056 | A phase retrieval method of interferograms add-subtracting based on two-step phase shifting  | Yuanyuan Xu        |
| ICBE1701 | Development of an development of an abosorbance-based response surface model for monitoring the growth rates of arcobacter butzleri as a function of temperature, ph, and nacl concentration | Sang-Do Ha         |
| ICBE2470 | Electrochemistry as a potential tool in molecular oncology: detection of micrnas as cancer biomarkers  | Martin Bartosik    |
| ICBE2227 | Comparison of Auditory Brainstem Responses to Round and Oval Window Stimulation in Animal Experiments  | Jong Hoon Kim      |
| ICBE2657 | The intoxication effects of Methanol and Formic Acid on Rat Retinal Function by Chromatography and Oscillation Potentials  | Jiemin Chen        |
| ICBE2516 | Drug caused mitochondrial dysfunction-mediated hepatotoxicity monitoring through Real-Time High-Content Screening  | Yumi Shim          |
| ICBE2517 | Highly Sensitive Quantum Dot-based Forensic Genomic DNA Quantification without Polymerase Chain Reaction   | Jieun Ki           |
| ICBE1081 | A549 cell proliferation inhibited by RNAi mediated silencing of the Nrf2 gene  | Bo Zhang           |
| ICBE1162 | A link partition approach for finding overlapping functional modules in the transcriptional regulatory network   | Qingyu Zou         |

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|----------|--|--------------------------|
| ICBE1587 | Initial points selection for clustering gene expression data: A spatial contiguity analysis-based approach   | Hui Yi                   |
| ICBE1666 | Using multiple linear regression and physicochemical changes of amino acid mutations to predict antigenic variants of influenza A/H3N2 viruses                                     | Haibo Cui                |
| ICBE1670 | Characterization of microbial associations in human oral microbiome  | Min Su Lee               |
| ICBE1430 | Haplotyping a single triploid individual based on genetic algorithm  | Jingli Wu                |
| ICBE1265 | Multi-boundary cardiac data visualization based on multidimensional transfer function with ray distance  | Fei Yang                 |
| ICBE1520 | Development of a simultaneous vibration and pressure-stimulation system for cognitive studies  | Hyung-Sik Kim            |
| ICBE1203 | Combining canonical correlation analysis and infinite reference for frequency recognition of steady-state visual evoked potential recordings: A comparison with periodogram method | Yin Tian                 |
| ICBE1393 | Oscillating field stimulation promotes spinal cord remyelination by inducing differentiation of oligodendrocyte precursor cells after spinal cord injury                           | Cheng Zhang              |
| ICBE2181 | A self-contained sample preparation cartridge for automated molecular testing  | Jongsu Yun & Kisoo Jeong |
| ICBE1406 | The involvement of neuronal nitric oxide synthase in antiepileptic action of alpha-asarone on pentylenetetrazol molding rats   | Jing Su                  |
| ICBE1009 | Real-time 3D visual tracking of laparoscopic instruments for robotized endoscope holder  | Zijian Zhao              |
| ICBE1431 | Anti-inflammatory mechanism research of tanshinone II A by module-based network analysis   | Shichao Zheng            |
| ICBE1854 | Simulation of injury potential compensation by direct current stimulation in rat spinal cord   | Aihua Wang               |
| ICBE1992 | Speech quality evaluation of subcutaneously implanted microphone using in vivo experiment  | Seong Tak Woo            |
| ICBE1334 | Pilot study of vibration stimulation on neurological rehabilitation  | Jianfeng Sui             |
| ICBE1349 | A study of quality control method for IMRT planning based on prior knowledge and novel measures derived from both OVHs and DVHs  | Zhengdong Zhou           |
| ICBE1574 | Hybrid Brain-Computer Interface (BCI) based on the EEG and EOG signals   | Jun Jiang                |
| ICBE1614 | Comprehensive verticality analysis and web-based rehabilitation system for people with multiple sclerosis with supervised medical monitoring                                       | Gonzalo Eguiluz-Perez    |
| ICBE1649 | Morphology variability of radial pulse wave during exercise  | Lisheng Xu               |
| ICBE1708 | Expression of Cx43 and Pax3 proteins in the human placental villi and decidua during early pregnancy   | Jinping Zhang            |
| ICBE1723 | Feet distance and static postural balance: Implication on the role of natural stance   | Gwang-Moon Eom           |

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|----------|---|--------------------------|
| ICBE1891 | The synthesis of transferrin targeted liposomes with brain derived neuro-trophic factor and research of related characteristics         | Jia-jun Chen             |
| ICBE1442 | Construction of special eye models for investigation of chromatic and higher-order aberrations of eyes                                  | Yi Zhai                  |
| ICBE1867 | The relationships between intra-abdominal echogenicity, cardiometabolic risk factors and physical performance in obese children         | Ji Won Yoo               |
| ICBE1541 | Intracerebral hemorrhage (ICH) evaluation with a novel magnetic induction sensor: a preliminary study using the Chinese head model      | Ziyi Zhang               |
| ICBE1923 | Dielectric properties of human liver from 10Hz to 100MHz: normal liver, hepatocellular carcinoma, hepatic fibrosis and liver hemangioma | Hang Wang                |
| ICBE1234 | Blood perfusion construction for infrared face recognition based on bio-heat transfer   | Zhijia Xie               |
| ICBE1351 | Resonant efficiency improvement design of piezoelectric biosensor for bacteria gravimetric sensing                                      | Jen-Tsai Liu             |
| ICBE1469 | A method for in vivo detection of abnormal subepidermal tissues based on dielectric properties  | Liang Zhang              |
| ICBE1423 | Stem cells from human exfoliated deciduous teeth differentiate into functional hepatocyte-like cells by herbal medicine                 | Wen-Ta Su                |
| ICBE1220 | Disturbed Connectivity of EEG Functional Networks in Alcoholism: A Graph-Theoretic Analysis   | Rui Cao                  |
| ICBE1457 | Investigating the efficacy of bisphosphonates treatment against multiple myeloma induced bone disease using a computational model       | Bing Ji                  |
| ICBE1558 | Technological solution for determining gait parameters using pressure sensors: A case study of multiple sclerosis patients              | Maria Viqueira Villarejo |
| ICBE1796 | Implemented a wireless communication system for VGA capsule endoscope   | Jyung Hyun Lee           |
| ICBE1930 | Kinect-based rehabilitation exercises system: therapist involved approach   | Yao Li                   |
| ICBE1030 | Gender differences in presentation and outcome of patients with Cushing's disease in Han Chinese  | Cheng Huan               |
| ICBE1279 | Predicting the human jejunal permeability and fraction absorbed of fluoroquinolones based on a biophysical model                        | Chenyin Wang             |
| ICBE1709 | Fluorescence imaging of Evans blue extravasation into mouse brain induced by low frequency ultrasound with microbubble                  | Yuanyuan Shen            |
| ICBE1381 | Development and evaluation of a new contoured cushion system with an optimized normalization algorithm                                  | Sujiao Li                |
| ICBE1551 | Bandwidth optimization for filter-based fatigue index in different inter-electrode distances  | Jungyoon Kim             |
| ICBE1569 | Comparison between the robo-horse and real horse movements for hippotherapy   | Ji H. Park               |



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|----------|--|-----------------------|
| ICBE1832 | Memory and accurate processing brain rehabilitation for the elderly: LEGO robot and iPad case study  | Leire Lopez-Samaniego |
| ICBE1296 | Screening, identification, and removal dynamics of a novel iron-manganese removal strain   | Wenwei Tang           |
| ICBE1136 | A comparison of brain phantom relative permittivity with CST simulation library and existing research  | Kim Mey Chew          |
| ICBE1460 | Preparation and characterization of polyurethane/soluble eggshell membrane nanofibers  | Long Chen             |
| ICBE1238 | Electrospun quercetin-loaded zein nanoribbons  | Dengguang Yu          |
| ICBE1568 | Surgical treatment of celiomesenteric trunk aneurysm-7 case report   | Chunxi Wang           |
| ICBE1445 | Analysis and modeling of moisture sorption behavior for antimicrobial composite protein films  | Qiao Lei              |
| ICBE1455 | Fabrication of multilayer-PDMS based microfluidic device for bio-particles concentration detection   | Jumril Yunas          |
| ICBE1466 | Effect of hydrofluoric acid (HF) concentration to pores size diameter of silicon membrane  | Norhafizah Burham     |
| ICBE1691 | Designed hydrocolloid interpenetrating polymeric networks for clinical applications of novel drug-carrying matrix systems using Tris (6-isocyanatohexyl) isocyanurate and hydroxypropylmethylcellulose | Hsia-Wei Liu          |
| ICBE1616 | Characterization of a co-electrospun scaffold of HLC/CS/PLA for vascular tissue engineering  | Chenhui Zhu           |
| ICBE1742 | In vitro toxicity evaluation of graphene oxide on human RPMI 8226 cells  | Yuzhen Wang           |
| ICBE1565 | Preparation of self-assembled nanoparticles of chitosan oligosaccharide-graft-polycaprolactone as a carrier of bovine serum albumin drug   | Fenghong Li           |
| ICBE1329 | Biosynthesis of a potential functional polypeptide derived from silk fibroin   | Jiannan Wang          |
| ICBE1720 | Microstructure, mechanical properties and in vitro bioactivity of akermanite scaffolds fabricated by laser sintering   | Zikai Han             |
| ICBE1008 | An in vitro evaluation of the zirconia surface treatment by mesoporous zirconia coating on its bonding to resin cement   | Yanli Zhang           |
| ICBE1887 | Designed Drug-release Systems Having Various Breathable Polyurethane Film-backed Hydrocolloid Acrylated Adhesive Layers for Moisture Healing   | Ching-Hsien Chang     |
| ICBE1948 | Bonding of an opaque resin to silane-treated porcelain   | Rui Li                |
| ICBE1605 | Cytotoxicity of PEGylated graphene oxide on lymphoma cell  | Li Du                 |
| ICBE1478 | Intracellular disassembly and localization of a new P123-PEI-R13/DNA complex   | Manman Zhu            |
| ICBE1524 | Polyethylenimine derivate conjugated with RGD-TAT-NLS as a novel gene vector   | Wenfang Zhao          |

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|----------|--|-------------------|
| ICBE2544 | Photo-curing behaviors of bio-based isosorbide dimethacrylate by irradiation of light-emitting diode and the mechanical properties of cured products | Baek-Jin Kim      |
| ICBE1751 | Controlled release bevacizumab in thermo-responsive hydrogel found to inhibit angiogenesis   | Chao-Chien Hu     |
| ICBE2027 | Isosorbide-based photo-polymerizable compound as an alternative of Bis-GMA   | Jin Ku Cho        |
| ICBE1783 | Carbodiimide, Cross-linked, and Biodegradation-controllable Small Intestinal Submucosa Sheets  | Ching-Cheng Huang |
| ICBE1822 | GPU-based skin texture synthesis for digital human model   | Zhe Shen          |
| ICBE1003 | Influence of mesoporous silica coating treatment on push-out bond strength of zirconia posts   | Xiaoli Feng       |
| ICBE1106 | Dynamic Recurrent Neural Network Based Classification Scheme for Myoelectric Control of Upper Limb Rehabilitation Robot                              | Yuding Cui        |
| ICBE1144 | Analysis of the effect of spine stabilization exercise using a whole body tilt device on muscle forces in the spine                                  | Kap Soo Han       |
| ICBE1548 | 20 (S)-ginsenoside Rg3-loaded magnetic human serum albumin nanospheres applied to HeLa cervical cancer cells in vitro                                | Rui Yang          |
| ICBE1527 | Ionic-liquid/glucose oxidase/polyhydroxy-C60 modified glassy carbon electrode and its biosensing for glucose   | Tian Yang         |
| ICBE2086 | A balloon-expandable stent expansion in tapered vessel and their interactions  | Xiang Shen        |
| ICBE2272 | In vitro cytocompatibility evaluation of chitosan/graphene oxide 3D scaffold composites designed for bone tissue engineering                         | Sorina Dinescu    |
| ICBE2452 | pH-responsive mesoporous silica nanocarriers based on layer-by-layer self-assembly   | Hong-Yu Zhang     |
| ICBE2455 | An investigation on the biotribocorrosion behaviour of CoCrMo alloy grafted with polyelectrolyte brush   | Hong-Yu Zhang     |
| ICBE2505 | Muscles Impulses Using Top-loader Type of Washing Machine with Different Entrance Heights and Drum Depths  | Seong Guk Kim     |
| ICBE2676 | The Effect of Steaming Process of the Medicinal Plant on Enhancing Skin-Anti Inflammation  | Hyeon Yong Lee    |
| BEB2260  | HMMotif: predicting sequence motifs governing constitutive exon splicing governing constitutive exon splicing  | Jing Xing         |

## Poster Session\_2 Biomedical Imaging

Time: Sept.27, 8:30-12:00

Location: 2<sup>nd</sup> floor, 6<sup>th</sup> Room

| Paper ID | Paper Title   | Author         |
|----------|---|----------------|
| BEB2590  | Automatic extraction of 3D airway tree from multislice CT images          | Wenjun Tan     |
| ICBE1395 | Medical Image Enhancement Based on Shearlet Transform and Unsharp Masking | Ayiguli.wubuli |

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|----------|--|--------------------------|
| ICBE1828 | Graph theory for feature extraction and classification: A migraine pathology case study  | Fernando Jorge-Hernandez |
| ICBE1766 | Automatic classification of dyslexic children by applying machine learning to fMRI images  | Yolanda García Chimeno   |
| ICBE1402 | Mouse colorectal cancer an early detection approach using nonlinear microscopy   | Mariana Bianchi          |
| ICBE1454 | Automatic segmentation of juxta-pleural tumors from CT images based on morphological feature analysis  | Jin Rim Yong             |
| ICBE2095 | Detecting Human Brain Neuronal Currents with Phase MRI   | Jie Huang                |
| ICBE1635 | Optimal subband Kalman filter for normal and oesophageal speech enhancement  | Rizwan Ishaq             |
| ICBE1484 | Geometry-constraint-scan imaging for in-line phase contrast micro-CT   | Dekai Fan                |
| ICBE1516 | Multi-subject brain decoding with multi-task feature selection   | Liye Wang                |
| ICBE1826 | Automatic detection and recognition of silicosis in chest radiograph   | Lei Zhu                  |
| ICBE1197 | CUDA-based Parallel Computation Framework for Phase Root Seeking Algorithm   | Bo Peng                  |
| ICBE1958 | Random Walker with Improved Weighting Function for Interactive Medical Image Segmentation  | Lim Khai Yin             |
| ICBE1931 | Level Set Model with Local Fitting Operation of Median Filter  | Xi Liu                   |
| ICBE1843 | Corrections to the displacement estimation based on analytic minimization of adaptive regularized cost functions for ultrasound elastography   | Bo Peng                  |
| ICBE2185 | A comparison of risk factors in the retinal layer between diabetic cystoid macular edema and postoperative cystoid macular edema after cataract surgery based on a hierarchical approach | Eun Byeol Jo             |
| ICBE2448 | Acute appendicitis diagnosis method by using artificial neural networks  | Sung Yun PARK            |
| ICBE1010 | Speckle reduction of veterinary ultrasound b-mode imaging using receive-side spatial compounding   | Haolin Liu               |
| ICBE1441 | 3D reconstruction of ultrasound scanned data for tissue mimicking material sample  | Haijiang Zhu             |
| ICBE1077 | 2D ultrasonic elastography with lateral displacement estimation using statistics   | Zhihong Zhang            |
| ICBE1148 | A carotid vasculature segmentation method for CT angiography   | Zhao-xuan Gong           |
| ICBE1166 | Classification of normal and cancerous lung tissues by electrical impedance tomography   | Jianling Gao             |
| ICBE1171 | Prognostic value of SUVmax and metabolic tumor volume on 18F-FDG PET/CT in early stage non-small cell lung cancer patients without LN metastasis   | Je Ryung Yoo             |
| ICBE1219 | Early detection of subjective memory impairment in Parkinson's disease using cerebral perfusion SPECT  | In-Uk Song               |

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|----------|---|--------------|
| ICBE1237 | Snake-based brain white matter fiber reconstruction   | Meng Lu      |
| ICBE1241 | Knowledge-based machine learning for glaucoma diagnosis from fundus image data  | Yong-Li Xu   |
| ICBE1251 | Segmentation of pediatric DTI images based on adaptive mean shift clustering method   | Bin Liu      |
| ICBE1281 | Automatic MRI brain tissue extraction algorithm based on three-dimensional gray-scale transformation model  | Jinzhu Yang  |
| ICBE1286 | Feature extraction from a novel ECG model for arrhythmia diagnosis  | Junjiang Zhu |
| ICBE1307 | A novel framework of tissue membrane systems for image fusion   | Zulin Zhang  |
| ICBE1362 | Heart visualization based on hybrid transfer function using size and gradient   | Yong Xia     |
| ICBE1401 | Sparse models for visual image reconstruction from fMRI activity  | Linyuan Wang |
| ICBE1429 | Clustering-led complex brain networks approach  | Dazhong Liu  |
| ICBE1435 | Research on potential pathological knee diagnosis for undergraduates by infrared image analysis   | Shuwang Chen |
| ICBE1456 | A homotopy perturbation method for diffuse optical tomography based on radiative transfer equation  | Bo Bi        |
| ICBE1459 | Application of L1/2 regularization logistic method in heart disease diagnosis   | Ziyi Yang    |
| ICBE1494 | Automatic heart positioning method in computed tomography scout images  | Hong Li      |
| ICBE1532 | White matter lesions Change Detection in MR images based on fuzzy nearness and NSST   | Li Ling-ling |
| ICBE1534 | Improve accuracy for automatic acetabulum segmentation in CT images   | Hao Liu      |
| ICBE1535 | A novel lung nodules detection scheme based on vessel segmentation on CT images   | Tong Jia     |
| ICBE1542 | Dynamic biometric identification from multiple views using the GLBP-TOP method  | Yu Wang      |
| ICBE1562 | Wavelet analysis of cerebral oxygenation oscillations in the screening of Moyamoya disease  | Ying He      |
| ICBE1573 | Automatic staging of placental maturity based on dense descriptor   | Xinyao Li    |
| ICBE1576 | An effective feature extraction method on mammograms: a band shaped texture analysis based on iris filter   | Hong Li      |
| ICBE1578 | Patient specific respiratory motion modeling using a limited number of 3D lung CT images  | Xueli Cui    |
| ICBE1584 | Automatic Vaginal Bacteria Segmentation and Classification Based on Superpixel and Deep Learning  | Youyi Song   |
| ICBE1586 | Automatic recognition of facial movement for paralyzed face   | Ting Wang    |
| ICBE1589 | Automated global optimization surface-matching registration method for image-to-patient spatial registration in an image-guided neurosurgery system | Xinrong Chen |

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|----------|---|----------------|
| ICBE1601 | Self-adaptive image denoising based on bidimensional empirical mode decomposition (BEMD)  | Guo Song       |
| ICBE1613 | Fundus optic disc localization and segmentation method based on phase congruency  | Lei Geng       |
| ICBE1641 | Magnetic detection electrical impedance tomography with total variation regularization  | Liling Hao     |
| ICBE1651 | Automatic detection of microcalcifications with multi-fractal spectrum  | Yong Ding      |
| ICBE1658 | Spatio-temporally smoothed coherence weighting combined with spatial compounding for ultrasound imaging                             | Xu Li          |
| ICBE1663 | Computer-aided diagnosis of early knee osteoarthritis based on MRI T2 mapping   | Yixiao Wu      |
| ICBE1715 | Ecg classification based on revised lle algorithm and kernel-based fuzzy c-means clustering   | Zhang Cong     |
| ICBE1729 | Detection and segmentation of virus plaque using HOG and SVM: Toward automatic plaque assay   | Yihao Mao      |
| ICBE1740 | Voice activity detection algorithm using perceptual wavelet entropy neighbor slope  | Gihyoun Lee    |
| ICBE1741 | Individual tooth region segmentation using modified watershed algorithm with morphological characteristic                           | Sung Dae Na    |
| ICBE1746 | Robust boundary detection and tracking of left ventricles on ultrasound images using active shape model and ant colony optimization | Yaonan Zhang   |
| ICBE1775 | A depth estimation method based on geometric transformation for stereo light microscope   | Shengli Fan    |
| ICBE1801 | Development of visible and NIR imaging equipment for small animals with smart pad   | Nyeon Sik Euma |
| ICBE1838 | Breast cancer early diagnosis based on hybrid strategy  | Peng Li        |
| ICBE1851 | Surface-based automatic coarse registration of head scans   | Fang Li        |
| ICBE1878 | Improving classification accuracy using fuzzy method for BCI signals  | Yu Wei         |
| ICBE1918 | SIFT algorithm-based 3D pose estimation of femur  | Xuehe Zhang    |
| ICBE1924 | Correlation of fractional anisotropy and metabolite concentrations measured using 1H-MRS of cerebral white matter in healthy adults | Sainan Cheng   |
| ICBE1940 | Accurate airway centerline extraction based on topological thinning using graph-theoretic analysis                                  | Zijian Bian    |
| ICBE1945 | A self-adaptive distance regularized level set evolution method for optical disk segmentation                                       | Huiqun Wu      |
| ICBE2049 | An improvement method of brain extraction tools for magnetic resonance images   | Weitun Yang    |

## Poster Session\_3 Chemistry and Pharmacy

Time: Sept.27, 8:30-12:00

Location: 2<sup>nd</sup> floor, 6<sup>th</sup> Room

| Paper ID | Paper Title   | Author          |
|----------|---|-----------------|
| ICBE2192 | Structure and function analysis of protein HD73_0859 produced by <i>Bacillus thuringiensis</i>  | Dandan Wang     |
| ICBE2829 | Identification of butyrylcholinesterase inhibitory constituents in <i>Aucklandia lappa</i>  | Zenghui Wang    |
| ICBE2838 | Development of enzyme-linked immunosorbent assay using anti-CDCA monoclonal antibody and its application for detecting CDCA in the medicines                      | Yue Zhang       |
| ICBE2738 | Effect of Si-Ni-San in a rat model of elevated platform stress: changes in blood content of cholic acid   | Huiping Feng    |
| ICBE2088 | Single-cell analysis for BDNF and TrkB receptors in cardiac microvascular endothelial cells   | Xinlei Bai      |
| ICBE2282 | Review of <i>Anemone raddeana</i> Rhizome and its Bioactivity Effects   | Shuling Wang    |
| ICBE2666 | Preparation and Characterization of Chiral Composite Microspheres   | Fei Men         |
| ICBE1991 | Aerobic cometabolic removal of a mixture of cis-1,2-dichloroethylene and trichloroethylene from soil by <i>Pseudomonas plecoglossicida</i> grown on BTEX          | Junhui Li       |
| ICBE1953 | Comparison of microstructure and chemical composition of hydroxyapatite and fluorapatite coatings deposited on Ti-6Al-4V substrates by Nd-YAG laser               | Chi-Sheng Chien |
| ICBE2671 | Antitumour activity of stilbenoids isolated from <i>Acanthopanax leucorrhizus</i>   | Haobin Hu       |
| ICBE2865 | Rapid and sensitive high-performance liquid chromatography/tandem mass spectrometry method for determination of Danshensu in rat plasma                           | Yue-sheng Wang  |
| ICBE2866 | Solid preparations of Chinese medicine groups of substances pass theoretical derivation and validation of kinetic models  | Yue-sheng Wang  |
| ICBE1358 | New designed nerve conduits with porous ionic cross-linked alginate/chitisan structure for nervous regeneration   | Jen-Ray Chaw    |
| ICBE1966 | Evaluation of 2-[18f]-fluoro-2-deoxy-d-glucose positron emission tomography/computed tomography in the rat model on hepatocellular carcinoma with liver cirrhosis | Sang In Park    |
| ICBE2655 | A novel method for on line separation of protein and small molecule drug  | C.C. LIU        |
| CSPR1112 | A review of transesterification from low-grade feedstocks for biodiesel production with supercritical methanol  | Dan Zeng        |
| ICBE2822 | FK-3000 isolated from <i>Stephania delavayi</i> Diels. inhibits MDA-MB-231 cell proliferation by suppressing NF- $\kappa$ B phosphorylation and COX-2 expression  | Hong De Xu      |

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| ICBE2823 | 6,7-di-O-acetylsinococuline (FK-3000) induces G2/M phase arrest in breast carcinomas through p38 MAPK phosphorylation and CDC25B dephosphorylation                   | Hong De Xu      |
| ICBE2283 | 6,7-di-O-acetylsinococuline (FK-3000) induces G2/M phase arrest in breast carcinomas through p38 MAPK phosphorylation and CDC25B dephosphorylation                   | Hong De Xu      |
| ICBE1800 | The Trend of Multi-scale QSAR in Drug Design   | Qiao Lian-sheng |
| ICBE1787 | Preliminary study on the virulence of XDR-TB: Low virulence owing to less cytokine expression through the TLR 2 and TLR4 pathways in BLAB/C mice                     | Zhaogang Sun    |
| ICBE1528 | Study on the construction of recombinated plasmid pMG36e-lacc1 and the electroporation of lactobacillus buchneri   | Dan Xue         |
| ICBE1386 | Effect of balanced low pressure drying of curcuma longa leaf on skin immune activation activities  | Wooseok Choi    |
| ICBE1433 | The Effect of Steaming Process of the Medicinal Plant on Enhancing Skin-Anti Inflammation  | Hyeon Y. Lee    |
| CSPR1037 | Background estimation and distribution of anthropogenic input of cadmium in arable land soil   | Dengfeng Wang   |
| CSPR1035 | Nano-SO42-/TiO2 catalyzed eco-friendly esterification of dicarboxylic acids  | Xianbing Ji     |
| CSPR1031 | Novel Framework for Improving the Desired Structure Prediction on Imbalance Data Set   | Hui Sun         |
| CSPR1152 | Antitumor Constituents of wetland Plant <i>Nymphoides peltata</i> : A Case Study for the Potential Utilization of Constructed Wetland Plant Resources                | Yuanda Du       |
| CSPR1029 | Nutrient Release Characteristics and Use Efficiency of Matrix Slow-release Fertilizer  | CHEN Zhi-wen    |
| CSPR1025 | Study on the pharmacokinetics of colon-targeted pellets of <i>Pulsatilla chinensis</i> (Bunge) Regel saponins-hydroxypropyl- $\beta$ -cyclodextrin inclusion in rats | ZHENHUA CHEN    |
| CSPR1020 | Influence of Fe <sup>3+</sup> on motility parameters and antioxidant responses in Chinese loach sperm  | Shaoyong Lu     |
| CSPR1015 | Magnetic properties of carbon-encapsulated Ni core-shell structure nanoparticles by DC Arc Plasma  | X.J. WU         |
| CSPR1117 | Conductivity and electromagnetic shielding effectiveness of flaky Ni /Ni-Cu-coated glass fibers/epoxy resin composite coatings                                       | Denggao Guan    |
| CSPR1084 | Research on transesterification parameters for producing plant sterols with supercritical methanol   | Bin Wang        |
| CSPR1080 | Structure and properties of dimer acid-based polyamide nylon modified by situ doping of Na-Montmorillonite   | Xiaohui Wang    |
| CSPR1112 | A review of transesterification from low-grade feedstocks for biodiesel production with supercritical methanol   | Dan Zeng        |
| CSPR1134 | Resveratrol attenuates TNF- $\alpha$ -induced inflammatory reaction via KLF2 in late endothelial progenitor cells  | Hong Li         |

|          |  |                              |
|----------|--|------------------------------|
| CSPR1135 | Indomethacin accelerates reendothelialization in rat carotid arterial injury model   | Min Cheng                    |
| CSPR1136 | MI133 induces autophagy to affect biological characteristics of late endothelial progenitor cells  | Xiaoyun Zhang                |
| ICBE1490 | Preparation of cellulose graft copolymer based on combination of ionic liquids and microwave heating   | Liu Dan-hui                  |
| ICBE1204 | MicroRNAs: potential biomarkers for disease diagnosis  | Li Xu                        |
| ICBE1014 | Coupled Electro-mechanic-chemical Model for F1F0-motor   | LIZHONG XU                   |
| ICBE1432 | Enhancement of anticancer activity of low-quality fresh ginseng by lactic acid fermentation and high-pressure processing   | Woon Yong Choi               |
| CSPR1050 | Micromorphology and thermostability of PEEK/PEI/PES plastics alloys  | J.B.CHEN                     |
| CSPR1048 | Effect of the addition of activated carbon on lycopene production of <i>Blakeslea trispora</i> in submerge cultivation   | Ye Li                        |
| CSPR1065 | Study on synthesis of emulsion of water-based nano silicon oxide –polymerized acrylic ester  | X.H. Wang                    |
| CSPR1033 | Discrimination of chemical composition in decoctions of <i>aconitum kusnezoffii reichb</i> and <i>pinelliae rhizoma praeparatum</i> extracted by different methods | Xingying Zhai                |
| ICBE2433 | Research of antioxidant and antimicrobial activity of water-alcohol extractions of <i>mycothallus</i> and mycelium of <i>inonotus rheades</i>                      | Penzina Tatyana A.           |
| ICBE2824 | <i>Crotonis Fructus</i> and its constituent, croton oil, stimulates lipolysis in OP9 adipocytes  | Ha-Rim Kim & Hyun-Kyung Song |
| ICBE2717 | UV-Induced photoisomerization of matrix-isolated 5-hydroxyquinoline  | Nihal Kus                    |
| ICBE2651 | Neurotransmitters Inhibit the Growth of Glioblastoma Multiforme Cells in a Dosage-Dependent Manner   | Seung Chan Kim               |

## Poster Session\_4 Biomechanical Engineering

Time: Sept.27, 8:30-12:00

Location: 2<sup>nd</sup> floor, 6<sup>th</sup> Room

| Paper ID | Paper Title   | Author           |
|----------|---|------------------|
| ICBE1707 | Hemocompatibility research on the micro-structure surface of a bionic heart valve   | Xia Ye           |
| ICBE1615 | A simplified computer model of cardiovascular system with an arm branch   | Chen Baoming     |
| ICBE1782 | Ambulatory monitoring derived blood pressure variability and cardiovascular risk factors in elderly hypertensive patients | Annamária Magdás |
| ICBE1841 | Effect studies of Uyghur sand therapy on the hemodynamics of the knee-joint arteries                                      | Rongchang Fu     |



|          |  |                     |
|----------|--|---------------------|
| ICBE1128 | Study of parameters for evaluating flow reduction with stents in a sidewall aneurysm phantom model   | Chang Ho Yu         |
| ICBE1553 | IB-LBM study on cells isolation by pinched flow fractionation  | Jing-Tao Ma         |
| ICBE1218 | Comparative analysis of basal physical fitness and muscle function in relation to muscle balance pattern using rowing machines                               | TAE KYU KWON        |
| ICBE1379 | Fundamental study of lower limb muscle activity using an angled whole body vibration exercise instrument   | Chang Ho Yu         |
| ICBE1416 | Analysis of basal physical fitness and lumbar muscle function according to indoor horse riding exercise  | Chang Ho Yu         |
| ICBE1463 | Fundamental study of basal physical fitness and activities of daily living for the aged in relation to indoor horse riding exercise                          | UI RYEONG KIM       |
| ICBE1505 | Inhibitory effects of instrument-assisted neuromobilization on hyperactive gastrocnemius in a hemiparetic stroke patient                                     | Jeong Jae Lee       |
| ICBE1552 | Determination of inertial parameters using a dynamometer   | Jongsang Son        |
| ICBE1559 | Influence of compliance on flow rate waveforms in hydraulic circuits for in vitro modeling the human circulatory system                                      | Wenbo He            |
| ICBE1672 | Constructing anisotropic finite element model of bone from computed tomography (CT)  | Siamak Kazembakhshi |
| ICBE1596 | Stochastic bifurcation characteristics of SMA intravascular stent subjected to radial and axial excitations  | Wendi Zhang         |
| ICBE1974 | Effect of recovery from muscle strength imbalance in lower limb using four point weight bearing reduction system   | Changho Yu          |
| ICBE1794 | Finite element analysis of the femur during stance phase of gait based on musculoskeletal model simulation   | Jeong-Woo Seo       |
| ICBE1788 | Implementation of a direct install 3-pole type EM transducer in round window niche for implantable middle ear hearing aids                                   | Dong Ho Shin        |
| ICBE1495 | A fluid-particle interaction method for blood flow with special emphasis on red blood cell aggregation   | Tong Wang           |
| ICBE1844 | Effects of downregulation of SIRT3 expression on proliferation and apoptosis in esophageal squamous cell carcinoma EC9706 cells and its molecular mechanisms | Mei Yang            |
| ICBE1968 | Design of a 6-DOF upper limb rehabilitation exoskeleton with parallel actuated joints  | Yanyan Chen         |
| ICBE1444 | Protective effect and mechanism of glutaredoxin 1 on coronary arteries endothelial cells damage induced by high glucose                                      | Shuyan Li           |
| ICBE1493 | Postural responses during the various frequencies of anteroposterior perturbation  | SUN HYE SHIN        |
| ICBE1557 | The research of laryngeal joints to reconstruction and modeling  | Tingchun Shi        |
| ICBE1898 | Effect of gap junctions on the firing patterns and synchrony for different external inputs in the striatal fast-spiking neuron network                       | Zhang Mingming      |
| ICBE2280 | A three-dimensional numerical simulation of cell behavior in a flow chamber based on fluid-solid interaction   | Long Bai            |
| ICBE1938 | 2D FSI determination of mechanical stresses on aneurismal walls  | Natalia Veshkina    |

|          |  |                |
|----------|--|----------------|
| ICBE1988 | Adenoviral-mediated GDNF protects bone marrow mesenchymal stem cells against apoptosis induced by hydrogen peroxide  | Xiaoqing Gao   |
| ICBE1725 | Quantitative evaluation of parkinsonian rigidity during intra-operative deep brain stimulation                       | Gwang-Moon Eom |
| ICBE1790 | Analysis of antagonistic co-contractions with motorized passive movement device in patients with parkinson's disease | Yuri Kwon      |
| ICBE1668 | Fiducial markers configuration optimization in image-guided surgery  | Nan Bao        |
| ICBE1353 | Digital design and fabrication of simulation model for measuring orthodontic force                                   | Yun-Feng Liu   |
| ICBE1480 | Feasibility of compressive follower load on spine in a simplified dynamic state: A simulation study                  | Byeong Sam Kim |
| ICBE1952 | The effects of restricting the flexion-extension motion of the first metatarsophalangeal joint on human walking gait | Ying Si        |
| ICBE1501 | Effects of innovative virtual reality game and EMG biofeedback on neuromotor control in cerebral palsy               | Ji Won Yoo     |
| ICBE1326 | One kind of lower limb rehabilitation robot for gait training  | Shuai Guo      |
| ICBE1366 | A surface acoustic wave sensor for the treatment of hydrocephalus  | Bing Zhang     |
| ICBE1517 | Numerical simulation of hemodynamics in portal vein with thrombosis by computational fluid dynamics                  | Bin Chen       |
| ICBE1591 | Gender-Difference in the relationship between postural sway and body factors during quiet standing in the elderly    | Gwang-Moon Eom |
| ICBE1772 | A study on the structure and mechanical characteristic of the cattle horns   | Yong-Jun Yu    |
| ICBE1957 | Cfd based self-propulsion simulation for frog swimming   | Jizhuang Fan   |
| ICBE1675 | Muscle activity and co-contraction of musculoskeletal model during steering maneuver                                 | Zhen-hai Gao   |
| ICBE1722 | Age-gender differences in the postural sway during squat and stand-up movement                                       | Ji-Won Kim     |
| ICBE1529 | The sEMG characteristics of the low back muscles during aerobic cycling  | Junmin Gao     |
| ICBE2283 | A Fiber-optic Goniometer for Joint Angle Measurements  | Gu-In Jung     |
| ICBE2466 | Oscillatory Flow of HFV distributed in left and right lung: a model-based ex-periment and investigation              | Yueyang Yuan   |

## Part VI Workshop- Brain-Computer Interface (BCI)

**Speaker: Mr. Gunther Krausz**



**Mr. Gunther Krausz**  
**Guger Technologies OG, Austria**

Gunther Krausz is a neuropsychologist and an engineer in electronics and telecommunication. He worked for several years in the field of BCI research and EEG basic research and was a lecturer in experimental psychology before he joined g.tec in 2003. He is actively involved in several international research projects, of which most are related to BCI. g.tec supplies universities and research labs worldwide with hard- and software for biosignal acquisition, processing and analysis, especially for real-time applications like BCIs.

**Speech: Brain-Computer Interface (BCI)**

**Time: 19:30-22:00, Friday Evening, Sept.26**

**Location: 2<sup>nd</sup> floor, 5<sup>th</sup> Room**

**Abstract:**

A Brain-Computer Interface (BCI) provides a new communication channel between the human brain and a computer. Mental activity involves electrical activity, and these electrophysiological signals can be recorded with techniques like the Electroencephalogram (EEG) or Electrocorticogram (ECoG). The BCI system detects and classifies such changes and transforms them into control signals, which can be used for moving objects, writing letters, opening doors, changing TV channels and other everyday household activities. This technology helps people with limited mobility increase their independence. One of the main goals is to enable completely paralyzed patients (locked-in syndrome) to communicate with their environment. Recent approaches also show a high potential for the use of BCI technology in motor rehabilitation (e.g. for stroke patients), for coma assessment and for communication with minimally conscious patients.

## PART VII Exhibitors Introduction

### 1. 武汉农业谷生物科技有限公司 Wuhan Agricultural Valley Biological Co., Ltd.

**公司简介：** 武汉农业谷生物科技有限公司是本次大会的指定赞助单位。公司秉承“诚信为本”、以“品质承诺”为理念，以健康养生文化为契机、弘扬东方养生文化为目标。公司经过长期对天然白藜植物研究和探索，成功的研发出白藜植物系列养生产品，得到了社会的认可。同时也培育孵化出了天然白藜养生产品，创立一块独有的“白藜养生产品”系列珍稀的品牌。品牌的成功离不开社会支持与关爱。公司积极参与社会公益事业活动来回报社会。运用媒体宣传白藜养生之理念，大力弘扬东方养生文化，打造出名副其实的绿色环保健康养生产品品牌，更好地服务于社会。

**Company Profile:** Wuhan Agricultural Valley Biological Co., Ltd. is the sponsor of iCBEB2014. Adhering to the principle of "good faith" and "quality commitment", Wuhan Agricultural Valley Biological Co., Ltd. aims to promote the oriental culture of health with the concept of healthy culture as an opportunity. After the long-term research and study on natural White Ilicifolius plants, we have successfully developed the healthy products series of White Ilicifolius plants which have been highly recognized by the society. Therefore, a rare brand of healthy products series of "White Ilicifolius" has been created. The success of our brand is inseparable from the support and care of the society. In return for this, we actively participate in social welfare activities to pay back to the society. In order to better serve the society, we will further develop it into a genuine healthy green brand by publicizing the concept so as to vigorously promote the oriental culture of health.

**产品介绍：** 天然野生白藜叶中含有对人体健康极为有益的 4000 多种化合物成分。“白藜茶”健康养生饮品精心采摘初春三到四月间天然野生白藜鲜嫩芽叶精制而成，口感美味独特、回味无穷，让你感受到牵手大自然的养生境界，美味到人体每一个健康细胞永葆青春活力。长期饮用“白藜茶”是最有利于健康的最佳养身方式。

**Products:** Natural wild leaves of White Ilicifolius contain more than 4000 kinds of substances which are beneficial to human health. The healthy tea *Acanthopanax trifoliatum* (L.) Merr. is made from the tender shoot leaves of early Spring. With a distinctive refined flavor, it nourishes each of your cells and helps retain youthful vigor. Drinking the tea regularly is favorable for maintaining good health.

**用法说明：** 取本品一小袋（1.5g 白藜茶），加入开水泡饮。建议每小袋茶叶冲泡一天，且饮用后可嚼食冲泡过的茶叶。（本品取用天然野生白藜鲜嫩叶制成无其他添加成分。孕妇慎用。）

**Usage:** Take a sachet of the product (1.5g tea), then make tea with boiling water. Each sachet of tea is recommended for one day, and tea leaves are also suitable for chewing after drinking. (This product is made from the fresh wild leaves of White Ilicifolius without any additives. Caution for Pregnant women.)



**白筋小知识：**白筋茶源于天然野生植物白筋，与人参同科，乃养生补气上品。排百毒，解烟酒，抗炎症，降三高，祛风湿，养容颜，护睡眠。白筋茶对人体有益的活性化合成份含量极大，其中黄酮和皂苷含量最高，中国医学杂志：白筋叶中含有丰富黄酮，其提取液总黄酮含量可达37.01mg/g,纯化后的黄酮纯度达到24.36%，天然的生物黄酮分子量小，能被人体迅速吸收，通过血脑屏障进入脂肪组织，扩张毛细血管，疏通微循环；改善血液循环，降低胆固醇，降低和改善心脑血管的发病率和症状；黄酮阻止抗氧化能力是维生素E的十倍以上，具有抗癌延缓衰老的作用；能降压，降脂，抑制血栓；抗病毒抑菌消炎；防肝病；降血糖，对糖尿病引起的视网膜病及毛细血管脆化有很好作用。黄酮在欧洲以作为保健药物，在美国作为膳食补充品相当于我国保健品，随着对生物总黄酮于人类营养关系研究深入，黄酮类化合物将是人类必须的微营养素或必须的食物因子。

### 联系方式 Contact Information

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网址/website: www.n-y-g.com

## 2. 北京泰和利康医药技术开发有限公司 Beijing Taihe Likang Pharmaceutical Technology Development Co., Ltd (Bioreco)

**公司及产品介绍：**北京泰和利康医药技术开发有限公司成立于2000年，是一家专门致力于推广世界顶级技术、产品的高科技有限公司。公司业务涉及多学科多领域，以高效、高端的工作特点，为用户提供完美的科研及应用平台。并以优质、诚信的售后服务赢得了业界的良好口碑。本次公司作为奥地利g.tec公司产品在中国大陆及港、澳唯一授权代理商参展。

来自奥地利g.tec公司的便携式多模式生物电信号研究系统，是世界上唯一可以专业的便携式用于多模式生物电信号采集研究的生理信号处理平台，广范应用于世界上大多数顶尖实验室，涵盖领域包括电子工程、工业设计、人工智能及机器人研究、计算机科学、虚拟现实研究、生物医学工程、通信工程、心理学和神经科学等领域。

g.tec硬件放大器性能优异，每个单独通道的采样频率高达38400Hz，提供了高信噪比以使实验数据更为精确。每个通道均可采集记录EEG、ECoG、ECG、EOG和EMG数据，以及包括血压、心率、GSR、温度、声音、脉搏、眼动和SpO2等在内的各种生理信号。

该套系统提供 4 个独立的地线连接以保证信号之间相互无干扰，可以保证四位被试者在同一台主机上完成相关任务。这是世界上唯一可以进行单机多人合作研究的设备。

g. tec 提供全球唯一的专利主动传感器系统，传感器端含初级放大功能，有源供电。这种技术可以有效消除伪迹干扰，提高信号精度，尤其有利于室外复杂电磁环境下的信号采集分析任务。同时由于高信噪比无需皮肤准备，大大缩短实验前的准备时间和实验后的清理时间。

该套系统小巧便携，主机仅 1 千克，满足室外实验研究的需求。

该系统是通过了美国 FDA 认证和欧洲 CE 医疗认证，可以用于人体侵入性和非侵入性实验研究，提供更可靠的安全性，使多模式生物信号研究与神经科学等生物医学科学上下游研究工作的整合和扩展成为可能。

简而言之，g. tec 便携式多模式生物电信号研究系统是世界上仅有的适用于便携式多模式生物电信号研究的专业设备，可以节省大量的基础程序开发工作和时间，使研究者站在很高的起点，高效地结合自身研究领域，专注于自身研究方向，完成高精尖的工作。结合世界上大多数顶尖研究组的使用，其设备在文章发表、学术交流等方面提供了大量的支持工作，可以使我们的研究更上一层楼。

**Company Profile:** Beijing Taihe Likang Pharmaceutical Technology Development Co., Ltd. was founded in 2000, is a high-tech company limited a dedicated to the promotion of world top technology, product. The company's business involves multidisciplinary, with characteristics of high efficiency, high end, scientific research and application platform, perfect for the user. And with quality, integrity of the after sale service to win a good reputation of the industry. We attend the conference as the sole authorized distributor of g.tec company in Chinese mainland and Hong Kong, Macao.

From Austra's g.tec portable multi mode bioelectricity research system, is the only system in the world can be portable to study biological electrical signal acquisition model of multi physiological signal processing platform for professional, widely used in most of the world's leading laboratory, covering areas include electronic engineering, industrial design, artificial intelligence and robotics, computer science, virtual reality research, biomedical engineering, communication engineering, psychology and neural science.

The performance of g.tec hardware amplifier is excellent, the sampling frequency for each individual channel reaches as high as 38400Hz, provides high signal-to-noise ratio in order to make the experiment data more accurate. Each channel can be recorded EEG, ECoG, ECG, EOG and EMG data, including blood pressure, heart rate, GSR, temperature, noise, pulse, eye movement and SpO2, various physiological signals.

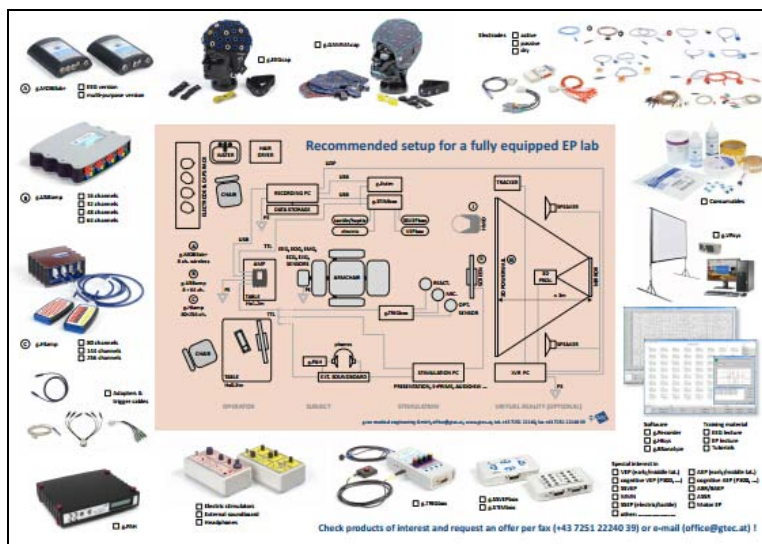
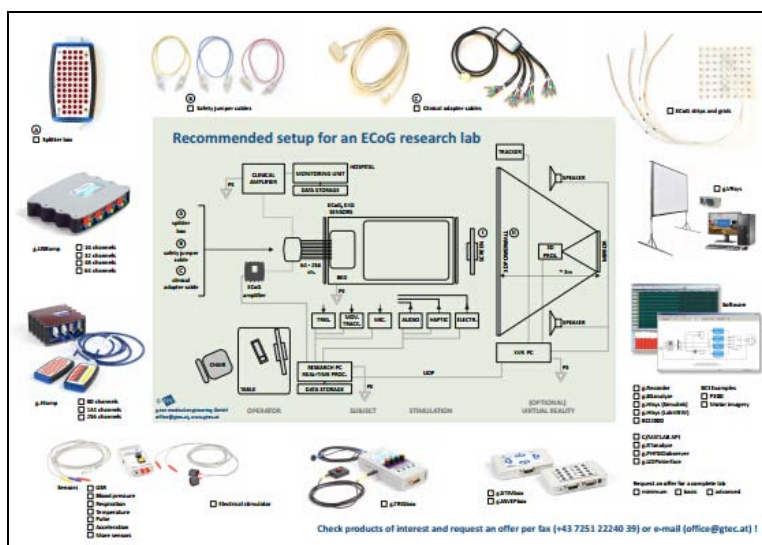
The system of 4 independent ground connection to ensure signal without interference between, can guarantee four subjects completed the tasks on the same host. This is the only instrument in the world can be studied cooperation of single people.

g.tec provides the only global patent active electrode system, the electrode terminal containing primary amplification function, active power. This technology can effectively eliminate the artifact interference, improve the precision of the signal, especially for signal acquisition outdoor complex electromagnetic environment analysis tasks. At the same time, because of the high SNR without skin preparation, greatly shorten the preparation time before and after the experiment of cleaning time.

The system is compact and portable, the device is only 1 kg, meet the outdoor experimental study demand.

The system is through the America FDA certification and the European CE medical certification, can be used in human invasive and noninvasive experimental research, provide more reliable and safer, the multimodal biometric signal research and neuroscience and biomedical science research work on the downstream integration and expansion possible.

In short, g.tec portable multi mode bioelectricity research system is the world's only for professional equipment on portable multi mode of biological signal, can save the basis of program development a lot of work and time, the researchers stood very high starting point, high efficient combined with self research field, focusing on its research direction, complete sophisticated work. Combined with the use of most of the top research group published the world, equipment, academic exchange provides a large number of support work in this paper, we can make the study of strive for further improvement.



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网址/website: www.biorecosci.com

### 3. 博士视听系统（上海）有限公司 Bose Corporation-ElectroForce Systems Group

**公司及产品介绍：**美国博士（BOSE）公司创建于1964年，总部位于美国马萨诸塞州，在全球设有8个工厂和19家分公司，公司产品线涵盖音响、汽车、航天科技、生物医学、电子行业等领域。Bose ElectroForce®测试系统部是博士公司旗下一家专业材料力学测试设备研发与制造的分支机构，为全世界科研单位、大学、公司及检测实验室提供高性能生物医学材料和器械的动态力学性能测试仪器以及组织工程相关测试设备。

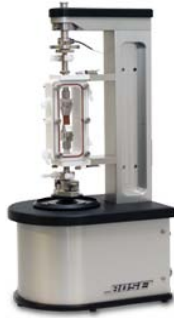
Bose ElectroForce®测试系统测试范围广泛，可对软组织、骨骼、生物材料及工业材料及各种医疗器械包括心血管支架、骨科植入物等进行疲劳和断裂，动态力学性能分析（DMA），松弛/蠕变等测试。BioDynamic™全能组织培养与测试系统可在无菌条件对生物材料和组织工程样品进行培养并进行实时高精度的力学性能测量，非常适合组织工程构建、生物材料性能、支架工程和生物相容性等的评估。了解更多内容，请访问我们的网站：[www.bose-electroforce.com](http://www.bose-electroforce.com)

**Company Profile:** Bose Corporation manufactures the ElectroForce® test instruments using proprietary linear motor technology. Bose offers instruments for the characterization of soft tissue, biomaterials, bones and a variety of medical devices including stents, endovascular grafts, and spinal implants. The BioDynamic™ test instruments provide characterization and stimulation of tissue constructs in a biological environment. Please visit our website [www.bose-electroforce.com](http://www.bose-electroforce.com) for more information.



Bose ElectroForce®生物材料动态性能测试系统





Bose BioDynamic™全能组织培养与测试系统

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网址/website: [www.bose-electroforce.com](http://www.bose-electroforce.com)

#### 4. 科讯网世界有限公司 Technology Exchange Ltd. (TEL)

**网站介绍:** 科讯交流有限公司 (TEL) 创建于 1987 年, 总部设在香港, 另于北京、上海、深圳、大连和兰州分别设立了公司及联络处。公司的主要经营项目有出版《世界》系列杂志包括《世界广播电视 | 世界宽带网络》(IBI/IBN)、《世界医疗器械》(IMD) 及《世界康复工程与器械》(IRED)。《科讯网》[tech-ex.com](http://tech-ex.com) 是以《世界》系列杂志为后盾而建立起来的跨行业交流平台, 有两个专业网: 科讯广电网 [bc.tech-ex.com](http://bc.tech-ex.com) 及科讯医疗网 [md.tech-ex.com](http://md.tech-ex.com), 提供多元化在线及离线的增值服务及网上杂志。亦设专为年青一代的科讯优网 [u.tech-ex.com](http://u.tech-ex.com) 提供在线教育。当期免费“世界”系列网络版杂志同时在《科讯网》出版。

《世界医疗器械》(IMD)、《世界康复工程与器械》(IRED) 杂志及 [md.tech-ex.com](http://md.tech-ex.com) 将参与展会。

**About TEL:** Established in 1987, Technology Exchange Ltd. (TEL) is a Hong Kong-based company with offices in Beijing, Shanghai, Shenzhen, Dalian and Lanzhou. TEL's mission is to promote the exchange of technical and market information between China and other parts of the world. To accomplish this end, the Company publishes International Broadcast Information International Broadband Network (IBI/IBN), International Medical Devices (IMD) and International Rehabilitation Engineering & Devices (IRED), keeps China's industry leaders up-to-date with information on the latest technologies, products and industry trends. TEL has a website, [www.tech-ex.com](http://www.tech-ex.com) comprises 2 professional channels, [bc.tech-ex.com](http://bc.tech-ex.com) (broadcast) and [md.tech-ex.com](http://md.tech-ex.com) (medical), that complements the 'International' family of magazines, and serves readers including professional users and manufacturers as a technical information exchange platform for multiple industries both online or offline. Besides, [u.tech-ex.com](http://u.tech-ex.com) (education sector) is added to provide on-line education and training for the under and post graduates. Our latest issue of "International" series e-Zine publishes concurrently on [bc.tech-ex.com](http://bc.tech-ex.com) and [md.tech-ex.com](http://md.tech-ex.com).

IMD, IRED and [md.tech-ex.com](http://md.tech-ex.com) will participate in this exhibition and conference.

## 联系方式 Contact Information

地址/ Address: 香港沙田火炭坳背湾街 26-28 号富腾工业中心 1102 室(Suite 1102, Fo Tan Industrial Centre, 26-28 Au Pui Wan Street, Fo Tan, Sha Tin, Hong Kong SAR, China)

电话/Tel: (852) 2602 6300

传真/Fax: (852) 2609 1687

邮箱/Email: publication@tech-ex.com

网址/website: md.tech-ex.com

## 5. 生物器材网- Bio-Equip

**网站介绍:** 中国生物器材网(www.bio-equip.com)创建于 1998 年 7 月, 是国内最早的生物器材行业网站, 经过十多年的不懈努力, 已成为中国生物界的知名网络媒体。网站分为中、英文两种版本, 生物相关的仪器、试剂、耗材、实验动物、图书、软件、技术服务等信息共有 100 多个分类。访问者来自于大学, 研究所, 医院, 生物制药, 疾控中心, 检验检疫, 食品, 农林畜牧等行业。

中文版由供应商数据库, 产品数据库, 行业资讯, 技术文章, 技术服务等栏目组成。目前已有 20,000 多家企业提供了 20 多万条产品信息和近 20 万条试剂信息, 每天点击量在 6 万次以上, 访问者多数为有采购意向的决策者, 其中高级职称占三分之一以上。

英文版(www.bio-equip.cn) 建于 2006 年, 已有 400 多家中外企业成为会员, 包括仪器试剂的生产、销售、代理商等。截至 2011 年 12 月, 已有来自世界各地 110 个国家的客户和中国企业进行交流和洽谈贸易, 其中来

访较多的国家有印度、美国、巴基斯坦、尼日利亚、马来西亚、印度尼西亚等。

行业资讯是本站特色栏目, 每天报道最新的第一手原创资讯, 包括行业新闻, 新产品, 新技术, 促销活动, 代理招商, 企业动态, 学术会议, 展览会, 技术讲座, 人才招聘, 招标投标等, 并为许多其他同行媒体所转载。

**About BIO-EQUIP:** BIO-EQUIP was built in July 1998 as a free online information portal for lab equipments and supplies. Now it is a leading provider of free News, Events & Expos, Product Directory, New Products, Technical Articles, Application Notes, Biotechnology Services and Jobs.

Serving customers through two websites, www.bio-equip.com and www.bio-equip.cn, BIO-EQUIP offers customers a complete product directory which involves more than 100 products ranges among laboratory equipments, reagents, lab wares, lab animals, Bio Services, Bio Software and Books.

Bio-equip.com serves Chinese customers from research communities, universities, hospitals and clinical diagnostic labs, pharmaceutical factory, inspection and quarantine bureau, CDC, as well as environmental control and industrial processing.

Bio-equip.cn established in 2006 is the best access to China's suppliers of laboratory equipments, reagents and laboratory wares. More than 400 Chinese and foreign enterprises have become bio-equip's register members. Visitors from 110 countries established relationship with our register members through bio-equip.cn according to the latest report in Dec.2011.

## 联系方式 Contact Information

地址/Address: 上海市长宁区仙霞路 99 号尚嘉中心 25 楼 (304B, Sanhang Mansion, 139 Pingjiang Road, Shanghai, 200032, China)  
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邮箱/Email: web@bio-equip.cn; qma@bio-equip.com  
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## PART VIII Patent

### OTG-奥特奇“肝肾免疫活素”(OTG -- OTT -liver and kidney immune element)

于圣德 教授(Prof. Shengde YU)

大连海洋生物科技开发中心(Dalian Marine Life Science and Technology Development Center, Dalian, China)

**摘要:** 医学研究表明, 现代社会人类发展规律人口老龄化, 造成的肝肾功能退化产生的肝肾亏虚, 导致的神经、内分泌、免疫等相关性疾病发生日益增多。临床医学研究发现, 现代人类近年来已不分男女、不分年龄大小、普遍性患有不同程度的肝肾亏虚; 如小儿肾性营养不良之佝偻病、中老年人及绝经期女性发生的骨质疏松, 随着骨骼的骨密度和骨量的降低, 引起的各种骨折发生率在世界范围许多国家不断地最多, 以严重的威胁着人类生命的健康。研究开发“肝肾免疫活素”提高人类的聪明才智以及健康水平, 是科学家与时俱进的重大使命。为此, 大连海洋生物科技开发中心主任、于圣德教授以应用天然海洋生物和天然补益植物为原料, 运用传统医学医理论与现代分子生物学相结合、采用生物工程科学技术研制开发创新出来的, 一种治疗因肝肾亏虚而致病的天然海洋生物 OTG----奥特奇-“肝肾免疫活素”中成药口服液, 系国家发明专利的全新产品。

**Abstract:** Medical research has shown that modern society human development regularity of population aging, liver and kidney function caused by the degradation of liver and kidney deficiency, cause nerve, endocrine, immune related diseases such as increasing. Clinical medical research found that modern humans in recent years has men and women, ranging in age size, universality, with the degree of liver and kidney deficiency; such as malnutrition in pediatric renal sex rachitis, the elderly and the occurrence of osteoporosis and menopausal women with low bone mineral density and bone mass, bone fractures of the incidence in many countries of the world, the most serious threat to the health of human life. Research and development of "kidney immune element", improve the level of human ingenuity and health is a very important mission scientists keep pace with The Times. To this end, director of the Dalian Marine Life Science and Technology Development Center, in SAN professor for application of natural Marine life and natural tonic plants as raw material, the use of traditional medicine medical theory with modern molecular biological medicine, biological engineering research and development of science and technology innovation, and a treatment for liver and kidney deficiency and the pathogenesis of natural Marine OTG -- OTT -" liver and kidney immune element "proprietary Chinese medicine oral liquid. It is a new product of national invention patent.

如对此专利感兴趣, 请联系:

联系方式 Contact Information

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## Part IX Hotel Information

### 1. Hotel Information

Beijing Kuntai Hotel, located at Wangjing Hi-tech Business Incubating Park, is a landmark of Wangjing Area. There are 500 sets of guestrooms in total equipped with modern service facilities including air-conditioning system, broadband network line insert switch, NM air cleaning system, digital safe, etc. It's about 10-minute drive from New China International Exhibition Center, National Conference Center and 798 Art Zone. Owing to its location next to Wuyuan Bridge, it will only take you about 30 minutes to drive to Capital International Airport from Kuntai Hotel, just near at hand.

**Address: No.2, Qiyang Road, Chaoyang District, Beijing, China (北京市朝阳区望京启阳路 2 号)**

**Tel.:** +86 010-8410 6531. **Fax:** +86 010-8410 6508

**Website:** www.kuntaihotel.com

### 2. How to get to the hotel

#### 1) From Beijing Capital International Airport

- A. Take a taxi to the hotel. The taxi service is available at the Capital Airport during the whole day. You can show the address written in Chinese to taxi driver or local people to get the hotel (the Chinese address is 北京昆泰酒店, 北京市朝阳区望京启阳路 2 号). The cost is about RMB 50.
- B. Take airport shuttle bus line 6 from T2 to the stop- GUANGSHUNBEIDAJIE (广顺北大街, RMB 18), and then take No. 112 special bus line from the stop-WANGJINGHUAYUQN XIQU (望京花园西区) to the stop-WANGJINGBEILUDONGKOU (望京北路东口, RMB 1) or take No. 132 bus from XIYANGZHONGLUXI (溪阳中路西) to the stop- WANGJINGBEILUDONGKOU (望京北路东口, RMB 1).

The operation time for airport shuttle bus 6 is 8:00~21:00; each bus will depart from the airport in every 40 minutes with full seats.

The operation time for No. 112 special bus is 5:15~22:00, for No.132 bus is 5:30~22:00.

#### 2) From Beijing West Railway Station

- A. Take a taxi to the hotel. The taxi service is available at the Beijing West Railway Station during the whole day. You can show the address written in Chinese to taxi driver or local people to get the hotel (the Chinese address is 北京昆泰酒店, 北京市朝阳区望京启阳路 2 号). The cost is about RMB 90.
- B. Take subway line 9 to the stop-National Library (国家图书馆, RMB 2), change for subway DAXING line to the stop- HAI DIANHUANGZHUANG (海淀黄庄, RMB 2), change for subway line 10 to the stop-SHAOYAOJU (芍药居, RMB 2), then take No. 547 bus from exit B to the

stop-WANGJINGBEILUDONGKOU (望京北路东口, RMB 1), and then take No.547 bus again from the stop- WANGJINGBEILUDONGKOU(DONGXING) (望京北路东口(东行), RMB 1) to the stop-BEIXIAOHE (北小河).

The operation time for subway line 9 is 5:59~23:19, for subway DAXING line is 5:00~22:00, for subway line 10 is 4:49~22:35.

The operation time for No. 547 bus is 5:30~22:30.

### 3) From Beijing South Railway Station

- A. Take a taxi to the hotel. The taxi service is available at the Beijing South Railway Station during the whole day. You can show the address written in Chinese to taxi driver or local people to get the hotel (the Chinese address is 北京昆泰酒店, 北京市朝阳区望京启阳路 2 号). The cost is about RMB 100.
- B. Take subway DAXING line to the stop- XUANWUMEN (宣武门, RMB 2) , change for subway line 2 to the stop-DONGZHIMEN (东直门, RMB 2) , change for subway line 13 to the stop-SHAOYAOJU(芍药居, RMB 2) , then take No. 547 bus from exit B to the stop-WANGJINGBEILUDONGKOU(望京北路东口, RMB 1) , and then take No.547 bus again from the stop- WANGJINGBEILUDONGKOU(DONGXING) (望京北路东口(东行))to the stop-BEIXIAOHE (北小河, RMB 1) .

The operation time for subway DAXING line is 5:00~22:00, for subway line 2 is 5:09~22:14, for subway line 13 is 5:35~22:42.

The operation time for No. 547 bus is 5:30~22:30.

### 4) From Beijing Railway Station

- A. Take a taxi to the hotel. The taxi service is available at the Beijing South Railway Station during the whole day. You can show the address written in Chinese to taxi driver or local people to get the hotel (the Chinese address is 北京昆泰酒店, 北京市朝阳区望京启阳路 2 号). The cost is about RMB 90.
- B. Take subway line 2 to the stop-DONGZHIMEN (东直门, RMB 2), change for subway line 13 to the stop- WANGJING West (望京西, RMB 2), then take No. 547 bus from exit B to the stop-WANGJINGBEILUDONGKOU (望京北路东口, RMB2).

The operation time for subway line 2 is 5:09~22:14, for subway line 13 is 5:35~22:42.

The operation time for No. 547 bus is 5:30~22:30.

## Part X iCBEB2015

### 4<sup>th</sup> International Conference on Biomedical Engineering and Biotechnology (iCBEB2015)

**August 7<sup>th</sup>-9<sup>th</sup>, Las Vegas, USA**

On the occasion of iCBEB2014, we are very delighted to announce that the 4th International Conference on Biomedical Engineering and Biotechnology (iCBEB2015) will be launched in Las Vegas, from August 7th to 9th, 2015. You are welcome to attend our conference again to share your new researches, and it will be appreciated that if you could forward this conference information to your colleagues and friends.

Las Vegas is an internationally renowned major resort city known primarily for gambling, shopping, fine dining and nightlife and is the leading financial and cultural center for Southern Nevada. The city bills itself as The Entertainment Capital of the World, and is famous for its mega casino–hotels and associated entertainment. The city is one of the top three leading destinations in the United States for conventions, business and meetings. Today, Las Vegas is one of the top tourist destinations in the world.



More detailed information, please visit [www.icbeb.org](http://www.icbeb.org)

Should you have any questions or suggestions, please contact us at [icbeb@icbeb.org](mailto:icbeb@icbeb.org).