

# BME2008 HONG KONG Biomedical Engineering International Conference 香港國際生物醫學工程會議

## “Converging Frontiers in Biomedical Engineering from Novel Research to Patient Benefits”

Website  
網址

[www.hkpc.org/bme2008](http://www.hkpc.org/bme2008)

Date  
日期

23rd - 25th October 2008

二〇〇八年十月二十三至二十五日

Venue  
地址

HKPC Building, 78 Tat Chee Avenue, Kowloon Tong, Hong Kong  
香港九龍塘達之路78號生產力大樓

Since the establishment of the Biomedical Discipline by the Hong Kong Institution of Engineers in 2004, the status of biomedical engineers in Hong Kong has been recognised and raised, leading to the further enhancement of the professionalism. As a multi-disciplinary professional, biomedical engineering penetrates various aspects, e.g. orthopaedics, prosthesis, bioinformatics, biomechanics, biomaterials, rehabilitation, and sterilisation. The biomedical engineering professional has been provided with increasing attention in Hong Kong through the continuous promotion of the high level engineering practice and integrity, the provision of new initiatives in research and development, as well as the active participation in supporting the medical device listing and future mandatory regulations, making Hong Kong and the BME2008 Hong Kong Biomedical Engineering International Conference (BME2008 Hong Kong) the most timely platform for information exchange. The BME conference series has been a biennial converging point of biomedical professionals of different nationalities, disciplines and research foci since 1992. BME2008 Hong Kong composes of 2-day scientific presentation and workshop plus 1-day technical visit, serves as a platform for the biomedical engineers, researchers, regulators, industrialists and healthcare professionals to exchange the latest information

and achievements. Presentation topics cover from laboratory research to clinical application, facilitating the idea exchange on the new advancement of R&D and industry update in a wide spectrum and allowing further promotion of the professional development in the field.

自2004年香港工程師學會成立生物醫學專業界別起，香港生物醫學工程師的專業資格備受認同，地位逐步提升。作為一個多範疇的專業，生物醫學技術滲透多個層面，其應用包括外科、矯形、生物信息、生物力學、生物材料、復康及消毒等。近年來，生物醫學在香港漸受各界關注，行內專業人員除了致力於新的研究及開發項目，提供高水平及高誠信的服務，更積極參與及支持本地醫療器材之表列及即將推行的強制性立法規管。香港素來是業內交流最新資訊的樞紐，是次BME2008香港國際生物醫學工程會議(BME2008香港)更適逢其會，提供一個進行相關的技術及行業資訊交流的平台，機遇一时无兩。國際生物醫學工程會議由1992年開始舉行。這個兩年一度的盛會雲集各地生物醫學精英，互相交流研究成果。BME2008香港為期三日，當中包括兩日的專題研討暨工作坊及一日技術參觀。是次會議的研究題目涵蓋範圍從實驗室科研到社區臨床科技應用，讓從事有關行業的工程師、研究員、企業家等交流資訊，促進科技研發，為生物醫學工程的長遠發展奠基。

Guest of Honor  
榮譽嘉賓

Ir KW HO, JP, Director of Electrical and Mechanical Services, Electrical and Mechanical Services Department, The Government of HKSAR  
何光偉工程師、太平紳士，香港特別行政區政府機電工程署署長

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主辦單位



Biomedical Division  
The Hong Kong Institution of Engineers  
香港工程師學會生物醫學分部

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香港生產力促進局

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香港城市大學物理及材料科學系

Department of Health, The Government of HKSAR  
香港特別行政區政府衛生署

Hong Kong Academy of Medicine  
香港醫學專科學院

Hong Kong College of Orthopaedic Surgeons  
香港骨科醫學院

Hong Kong Radiographers' Association  
香港放射技師協會

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IEEE Engineering in Medicine and Biology Society —  
Hong Kong Chapter  
IEEE 生物醫學工程學會 — 香港分會

International Federation for Medical and Biological  
Engineering  
國際生物醫學工程聯盟

The Chinese University of Hong Kong — Department of  
Orthopaedics and Traumatology  
香港中文大學矯形外科及創傷學系

The Hong Kong Polytechnic University —  
Department of Health Technology and Informatics  
香港理工大學醫療科技及資訊學系

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Special acknowledgement to Ir Prof Francis HY CHAN and his family for the sponsorship to the first keynote presentation in the coming 5 BME International Conferences  
特別鳴謝陳和晏教授、工程師及其家人為未來五屆國際生物醫學工程會議首席主題演講提供贊助

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# Conference Programme 會議程序

## Day 1 (THURSDAY, 23 October 2008) 第一天 (2008年10月23日, 星期四)

Time 時間	Sessions 程序表	Venue
09:00	<b>Registration 入場登記</b>	4/F Exhibition Hall
09:15 — 09:35	<b>Opening Ceremony 開幕典禮</b> Speech by Guest-of-Honor, Ir KW HO, JP and Other Guests 榮譽嘉賓何光偉工程師、太平紳士與其他嘉賓致詞	4/F Exhibition Hall
09:35 — 10:30	<b>Keynote Presentation 專題研討 — Biorobotics: An Emerging Field for Leading Edge Research, Education and Industrial Exploitation 生物機械學：帶領科研、教育及工業發展最尖端的新興領域</b> by Prof Paolo DARIO, Full Professor, Biomedical Robotics, Scuola Superiore Sant'Anna, Italy, sponsored by Ir Prof Francis Huo-yen CHAN and his family 由陳和晏教授、工程師及其家人贊助	4/F Exhibition Hall
10:30 — 10:50	<b>Tea Break 小休</b>	
10:50 — 11:20	<b>Keynote Presentation 專題研討 — Musculoskeletal Mechanics: An Engineering Tool for Providing Solutions to Orthopaedic Conditions 骨骼肌肉力學：利用工程技術為骨科醫學提供解決方案</b> by Dr Anthony BULL, Reader in Musculoskeletal Mechanics, Department of Bioengineering, Imperial College London, UK	4/F Exhibition Hall
11:20 — 12:50	<b>Concurrent Sessions 分組論文報告</b> Biomechanics 生物力學      Medical Imaging 醫學影像	Rm 1002 / 1003
12:50 — 14:00	<b>Lunch 午膳</b>	
14:00 — 14:30	<b>Keynote Presentation 專題研討 — Nanotechnology in Biomedical Applications: Recent Developments &amp; Challenges 納米技術在生物醫學中的應用：最新研究及發展藍圖</b> by Dr Viswanathan S. SAJI, Research Professor, Department of Dental Biomaterials, College of Dentistry, Chosun University, South Korea	4/F Exhibition Hall
14:30 — 15:00	<b>Keynote Presentation 專題研討 — Bioglass Used in Human Body 用於人體裡的生物玻璃</b> by Prof Wen-hai HUANG, Professor, School of Materials Science and Engineering, Tongji University, China	4/F Exhibition Hall
15:00 — 15:20	<b>Tea Break 小休</b>	
15:20 — 15:50	<b>Keynote Presentation 專題研討 — Trend of Biomedical Engineering in China 中國的生物醫學工程發展趨勢</b> by Prof Yao-xiong HUANG, Professor, Department of Biophysics & Biomedical Engineering, Ji Nan University, China	4/F Exhibition Hall
15:50 — 16:20	<b>Keynote Presentation 專題研討 — Coronary Stents : The Path to Approval in US and Europe 冠狀動脈內支架：在美國及歐洲獲取上市核准的關鍵路徑</b> by Mr Nick PARKER, Senior Regulatory Affairs Director, Medtronic CardioVascular, United States	4/F Exhibition Hall
16:20 — 16:40	<b>Tea Break 小休</b>	
16:40 — 18:00	<b>Concurrent Sessions 分組論文報告</b> Biomaterials and Tissue Engineering (I) 生物材料及組織工程 (I)      Computer Modeling and Simulations 電腦建模及模擬	Rm 1002 / 1003

## Day 2 (FRIDAY, 24 October 2008) 第二天 (2008年10月24日, 星期五)

Time 時間	Sessions 程序表	Venue
09:30 — 09:50	<b>Keynote Presentation 專題研討 — The Development of Spinal Instrumentation in the Past 5 Decades 脊椎植入裝置在過去半世紀的發展</b> by Prof Keith DK LUK, Tam Sai Kit Chair in Spine Surgery, Chair Professor & Head, Department of Orthopedics & Traumatology, The University of Hong Kong	4/F Exhibition Hall
09:50 — 10:10	<b>Keynote Presentation 專題研討 — Bioanalytical Microsystem for Point of Care Applications 用於即時測試的生物分析微系統</b> by Ir Prof I-ming HSING, Director, Bioengineering Graduate Program, Hong Kong University of Science and Technology	4/F Exhibition Hall
10:10 — 10:30	<b>Keynote Presentation 專題研討 — Joint University BME Programs: A Possible Platform for Multi-disciplinary Research and Education 大學聯辦生物醫學工程課程：為全方位研究及教育提供合適平台</b> by Prof Aaron HP HO, Associate Dean of Engineering (Student Affairs), The Chinese University of Hong Kong	4/F Exhibition Hall
10:30 — 10:50	<b>Keynote Presentation 專題研討 — Recent Development of Plasma Surface Technology in Biomedical Materials 等離子體表面科技在生物材料應用的最新發展</b> by Dr Kelvin YEUNG, Assistant Professor, Department of Physics and Materials Science, City University of Hong Kong	4/F Exhibition Hall
10:50 — 11:10	<b>Tea Break 小休</b>	
11:10 — 12:40	<b>Concurrent Sessions 分組論文報告</b> Biomaterials and Tissue Engineering (II) 生物材料及組織工程 (II)      Bioengineering & Clinical Application (I) 生物工程及臨床應用 (I)      Guided Tour in HKPC on biomedical, medical and healthcare device manufacturing related facilities 參觀香港生產力促進局生物醫學工程、醫療及保健器材製造之相關設施	Rm 1002 / 1003
12:40 — 13:50	<b>Lunch 午膳</b>	
13:50 — 17:30	<b>Technical Visit 技術參觀</b> - The Chinese University of Hong Kong Li Ka Shing Medical Science Building (located in Prince of Wales Hospital) 香港中文大學李嘉誠醫學大樓 (位於威爾斯親王醫院) - The Hong Kong Institute of Biotechnology (visiting biotech-related organization and facilities) 香港生物科技研究院 (參觀生物技術相關機構及設施)	

## Day 3 (SATURDAY, 25 October 2008) 第三天 (2008年10月25日, 星期六)

Time 時間	Sessions 程序表	Venue
09:30 — 10:10	<b>Keynote Presentation 專題研討 — Research in Health and Medical Technologies 保健及醫療技術的科研成果</b> by Ir Prof Wallace LEUNG, Chair Professor and Director, Research Institute of Innovative Products & Technologies, The Hong Kong Polytechnic University	1/F Lecture Theatre
10:10 — 10:30	<b>Keynote Presentation 專題研討 — Wearable Devices for P-Health 應用於個人保健的穿戴式醫療裝置</b> by Prof Yuan-ting ZHANG, Professor, Department of Electronic Engineering, The Chinese University of Hong Kong	1/F Lecture Theatre
10:30 — 11:00	<b>Workshop 研討會 — Updates on MDD Regulatory Affairs in Hong Kong and Asia 香港及亞洲醫療器械規管條例最新發展</b> by Mr Jack WONG, General Manager, British Standards Institution, Hong Kong	1/F Lecture Theatre
11:00 — 11:30	<b>Workshop 研討會 — Post-market Surveillance of Medical Devices 醫療器械的上市後監測</b> by Mr Mark LAU, Senior Engineer, Medical Device Control Office, Department of Health, The Government of HKSAR	1/F Lecture Theatre
11:30 — 12:40	<b>Concurrent Sessions 分組論文報告</b> Bioengineering & Clinical Application (II) 生物工程及臨床應用 (II)      Medical Device and Diagnostics 醫療儀器及診斷	Rm 1002 / 1003
12:40 — 13:50	<b>Lunch 午膳</b>	
13:50 — 14:20	<b>Workshop 研討會 — Product Development and Advanced Manufacturing Technology in Supporting Local Medical and Healthcare Device Industry 醫療及保健器材工業的產品設計及先進製造技術</b> by Ir Derek LOUIE, Principal Consultant, Manufacturing Technology Division, Hong Kong Productivity Council	1/F Lecture Theatre
14:20 — 15:20	<b>Workshop 研討會 — Roadmap of Medical and Healthcare Device Industry in Hong Kong 醫療及保健器材工業的未來路向</b> by Ir John MOK, Chairman, Hong Kong Medical and Healthcare Device Manufacturers Association	1/F Lecture Theatre
15:20 — 15:50	<b>Workshop 研討會 — Analysis, Selection and Processing of Materials for Biomedical Applications 應用於生物醫學的材料分析、選擇及處理</b> by Dr CN KO, Principal Consultant, Materials Technology Division, Hong Kong Productivity Council	1/F Lecture Theatre
15:50 — 16:10	<b>Tea Break 小休</b>	
16:10 — 17:10	<b>The Convergence Forum 焦點論壇 - Strength and Future Prospect of Hong Kong in Education, Research and Commercialization in Biomedical Engineering 香港生物醫學工程之教育、研究及商品化的優勢與展望</b>	1/F Lecture Theatre
17:10 — 17:40	<b>Closing Remark and Prize Presentation for Best Young Engineers' Paper Competition 閉幕致詞與最佳青年工程師論文比賽頒獎</b>	1/F Lecture Theatre

\* All section titles, programme content and rundown are subject to amendments without prior notice. 上述內容如作出任何修改，恕不另行通知。

\*\* Medium of speech: English 講授語言：英語

# Keynote Speakers 專題演講者



**Prof Paolo DARIO** is currently a Professor of Biomedical Robotics at the Scuola Superiore Sant'Anna in Pisa. He has been and is Visiting Professor in many universities worldwide. He founded and coordinates the ARTS (Advanced Robotics Technologies and Systems) Laboratory and the CRIM (Center for Research In Microengineering) Laboratory of the Scuola Superiore Sant'Anna. His main current research interest is biorobotics, and in particular he is active on enabling micro, nano and ultra-precision technologies, and on the theory, design and development of different components (mechanisms, sensors, actuators, energy sources, interfaces, Microsystems) and of a variety of biomechatronic artefacts, including biomimetic and medical robots. Prof DARIO is the coordinator of many national and European projects in the above fields, the editor of two books on the subject of robotics, and the author of more than 200 scientific papers (more than 160 on ISI journals). He is Editor-in-Chief, Associate Editor and member of the Editorial Board of many international journals.

He has served in many national and international committees and boards for the evaluation of research programs and projects by funding agencies, universities and industries. He has also promoted the creation of many university start-up companies.

Prof DARIO has served as President of the IEEE Robotics and Automation Society in the years 2002-2003. Prof DARIO is an IEEE Fellow, a Fellow of the European Society on Medical and Biological Engineering, and a recipient of many honors and awards, including the Joseph Engelberger Award as a Pioneer in Research on Biomedical Robotics.

保羅·達裏奧教授現時在義大利比薩聖安娜大學出任生物醫學機械人學教授，並為大學成立及統籌「先進機械人學科技及系統實驗室」(ARTS)及「微工程研究中心實驗室」(CRIM)。達裏奧教授享譽國際，於世界各地多間大學擔任客座教授。他現時主力研究生物機械人學，尤其精於微技術、納米技術及超精密科技的應用，同時亦擅長於感應器、促動器、能量源、微系統等元件和生物機電製品的設計開發的理論基礎，成就顯著。因此他備受賞識，獲選主理多個歐洲及國家級的相關研究項目。除此之外，達裏奧教授分別為多本國際性學術期刊任主編、副編輯及編輯委員。他本人曾編輯2本有關機械人學的書籍以及發表超過200份學術文章，其中逾160份刊登於ISI期刊內。

達裏奧教授為不少由資助機構、大學及工業界撥款的國家級和國際性研究項目任評估委員，亦致力推廣大學創業公司。他是國際電子與電機工程師學會和歐洲醫學及生物工程學會會員，並曾於2002至2003年期間出任國際電子與電機工程師學會機械人與自動化學會主席。達裏奧教授獲獎無數，包括Joseph Engelberger Award，確定他對生物醫學機械人學研究的前瞻性。



**Dr Anthony BULL** is Reader in Musculoskeletal Mechanics in the Department of Bioengineering at Imperial College London. His research in the area of the mechanics of human joints has led to more than 200 papers at conference and in peer review journals, a handful of patent applications, and a university spin out company, Innovorth. Anthony's research has led to extensive collaborations with orthopaedic surgeons, physiotherapists, neurophysiologists, artists, and other engineers and physical scientists. His professional involvement includes membership of the Medical Engineering Division Board of the Institution of Mechanical Engineers for which he is vice chairman. This committee serves as the main voice for mechanical engineers involved in medical engineering and related areas. Anthony's main College role is as Academic Director of EnVision, which is a major Imperial College London initiative focusing on the way the undergraduates engineers are educated and prepared for their future careers.

安東尼·布爾博士是英國帝國理工學院生物工程學系教授(肌肉關節力學)。布爾致力研究人體關節力學，其成果不但已於多個科學會議及多份學術期刊中發表，而且更成功應用於骨科手術、物理治療、神經生理學、工程學及物理科學等範疇。布爾於學院中擔任EnVision的學術主任，培育工程學學生，為他們指引未來事業發展路向，並兼任機械工程師學會醫學工程董事會副主席，與董事會委員就醫學工程及相關方面提供意見。



**Prof Wen-hai HUANG** is a professor of materials science and engineering and the director of the Institute of BioEngineering & IT Materials. He is the member of Science Committee of Special Glass, Chinese Ceramic Society, and the member of editorial

board of several journals, including Functional Materials, Journal of Building Materials and Glass and Enamel. He is a retired research professor from the Missouri University of Science and Technology, USA. In the past 20 years, he has published more than 200 peer-reviewed technical papers and held 12 patents.

Prof HUANG is active in glass science research. During work in USA and Tongji University, he was engaged with nucleation and crystallization theory in glass and glass-ceramic field, and with non-linear optical property of glass made through container-less process, simulated to the microgravity condition at out-space. Recently, he is engaged with several kinds of biomaterials in inorganic materials field, such as radio-therapeutic glass microspheres, bone cement based on silica-phosphate glass, drug-bearing hollow glass microspheres and bioactive glass scaffold used in bone tissue engineering.

黃文岳教授現任生物工程及資訊科技材料研究所所長，主要教授材料科學及工程學。他身任中國矽酸鹽學會特種玻璃分會會員，並為多本學術期刊擔任編輯委員會會員，包括《功能材料》、《建築材料學報》及《玻璃與搪瓷》等。他曾於密蘇里大學理工學院擔任研究教授。過去20年，他曾發表超過200篇學術論文，並擁有12項專利。

黃教授尤其長於玻璃科學研究，在美國及同濟大學工作期間，他主力從事玻璃及玻璃陶瓷的成核及結晶理論研究，與及於外空間中模擬微重力狀態，測試無容器過程中製作的玻璃之非線性光學特性。近來，黃教授轉職無機非金屬材料研究範疇的生物材料，其研究方向包括放射治療玻璃微球、二氧化矽磷酸鹽玻璃基骨水泥、附藥空心玻璃微球及作骨組織工程用的生物活性玻璃支架。



**Prof Yao-xiong HUANG** is a Professor of Biophysics & Biomedical Engineering, and the director of the Institute of Biomedical Engineering, Ji Nan University. He is also the Member of the Academic Degree Committee of the State Council of China; the Vice President of the Chinese Society of Medical Physics; the Member of the Science Committee of International Organization of Medical Physics; the President of GuangDong Society of Biophysics; the Vice President of GuangDong Society of Biomedical Engineering; and the Standing Member of Guang Zhou Association of Science & Technology.

He has won eleven academic awards and honors including a First Class Award of Natural Science, from The State Education Commission of China and 2 Second Class Awards of Scientific and Technical Progress, from The State Education Commission of China. In the past 20 years, he has published 5 academic books and over 200 papers.

黃耀熊教授現職暨南大學生物醫學工程學系教授及生物醫學工程研究所所長。黃教授活躍於多個專業學術團體，出任中國國務院學位委員會會員、中國生物醫學工程學會醫學物理分會副會長、國際醫學物理學組織科學委員會會員、廣東生物物理學會主席、廣東生物醫學工程學會副會長及廣州市科學技術協會常務會員。黃教授共獲得7個學術獎項，包括國家教育部頒發的科學(甲等)獎及2個科技進步獎(乙等)。他在過去20年，曾出版5本書籍及發表超過200篇學術論文。



**Dr Viswanathan S SAJI** has received his MSc (97), MPhil (99) and PhD (2003) degrees from University of Kerala, India. In 2004 he joined the Department of Metallurgy & Materials Science, Indian Institute of Technology, Bombay as a Research Associate. He was a Research Associate in Department of Materials Engineering, Indian Institute of Science between 2005 and 2007. He joined Department of Ceramic Engineering, Yonsei University, Seoul in 2007 as a Post-doctoral Associate. Presently he is a Research Professor in College of Dentistry, Chosun University, South Korea. His areas of research interest include Corrosion Science & Engineering, Thermodynamics, Fuel cells, Electroceramics, Nanomaterials Thin films, and Biomaterials. He has more than 25 papers in peer-reviewed journals and conferences.

維斯雲拿遜·S·沙嗣博士於印度University of Kerala取得學士、碩士及博士學位。其後他於2004年加入印度理工學院的冶金學及材料科學系擔任研究助理一職。在2005至2007年期間，沙嗣博士受聘於印度科學理工學院，擔任材料工程學系的研究助理。2007年，沙嗣博士遠赴南韓延慶大學，在陶瓷工程學系任博士助理。現在沙嗣博士在南韓朝鮮大學牙科學院出任研究教授，主要從事腐蝕科學及工程、熱力學、燃料電池、電陶瓷、納米材料薄膜及生物材料。他於各大學術期刊及會議上發表過超過25份學術文章。



**Mr Nick PARKER** originally qualified as a registered nurse in the UK before moving into industry, initially working in the pharmaceutical sector. He went on to gain clinical and regulatory experience in the field of orthopedic implants before moving to a US biotech start-up as their International Clinical / Regulatory Director. In 2001, Nick was recruited to join Medtronic Vascular in California and from 2003, spent two years based in Tokyo with Clinical and Regulatory responsibility for Asia Pacific. He is currently Sr Regulatory Affairs Director for Medtronic CardioVascular with responsibility for Asia and Emerging Markets.

尼克·柏加先生在英國是一位註冊護士，後來轉投藥劑業發展。他累積了不少骨科移植的臨床及有關條例管理的經驗，然後加入一間美國生物科技創業公司擔任國際臨床/條例總監。自2001年起，柏加加入Medtronic CardioVascular並於2003至2005年期間遠赴日本東京接管亞太區臨床及條例規管業務。現時柏加先生於Medtronic CardioVascular出任管理事務總監一職，掌管企業在亞洲及新興市場的業務。



**Prof Aaron HP HO** received his BEng and PhD in Electrical and Electronic Engineering from the University of Nottingham, England in 1986 and 1990 respectively. He is currently the Associate Dean (student affairs) of Engineering and a professor in CUHK. Before joining the Department of Electronic Engineering, CUHK in 2002, he has held positions as an Assistant Professor in the Department of Physics and Materials Science, CityU (1996-2002), as a Senior Process Engineer in Fiber Optics Components Operation of Hewlett-Packard (1994-96), as a research fellow in University of Nottingham and University of Leeds, UK (1989-94). Started as a compound semiconductor materials scientist, his academic interests have evolved over the years to cover a broad range of topics including nano-sized semiconductor materials for photonic and sensor applications, optical instrumentation, photonic biosensors based on the surface plasmon resonance effect and biophotonics. He has published over 180 journal/conference/book chapter articles. He is also a member of the Joint University Consortium for Biomedical Engineering (JUCBE).

何浩培教授於英國諾定咸大學取得電機電子工程學士及哲學博士學位。曾任諾定咸大學及利茲大學研究員、HP光纖光學元件營運高級處理工程師和香港城市大學物理及材料科學系助理教授，現職香港中文大學工程學院教授及副院長(學生事務)。何教授本為化合物半導體物料科學家，其後他的研究範圍逐漸涵蓋多個範疇，包括鑽研光子及傳感器應用的納米半導體物料、光學測試設備、應用表面等離子共振技術的光電傳感器及生物光子。何教授曾發表多份學術期刊文章、書籍篇章及會議論文，共超過180份。現時他是香港中文大學及香港理工大學合辦的生物醫學工程聯盟(JUCBE)會員。



**Ir Prof I-ming HSING** received his BS degree ('90) from National Taiwan University and MS ('94) and PhD ('97) degrees from the Department of Chemical Engineering at Massachusetts Institute of Technology (MIT). He has been a faculty member of Chemical and Biomolecular Engineering Department at HKUST since 1997 and was promoted to Associate Professor and Full Professor in 2004 and 2008, respectively. Concurrently, he is the Director of Bioengineering Graduate Program at HKUST. Dr HSING also holds Guest Professorships in several Chinese Universities including Sichuan University, South China University of Technology and East China Normal University.

Ir Prof HSING's group is active in multidisciplinary research initiatives. By bringing together the knowledge of molecular biology, reaction engineering, electrochemistry and microfabrication, he is interested in the research and development of biomicrosystems and fuel cells, in order to provide a detailed understanding of these systems at the fundamental level. His group has been leading the research effort at HKUST in developing microsystems for biological applications. To foster collaboration with industrial sectors in Greater Pearl River Delta of China, he is now establishing a research center for bioengineering and biomedical devices in Nansha, Guangdong.

邢怡銘教授、工程師畢業於國立台灣大學，並於美國麻省理工學院取得化學工程學系碩士及哲學博士學位。邢教授自1997年加入香港科技大學化學工程及生物分子工程學系，其後分別於2004及2008年晉升為副教授及教授。現時邢教授是香港科技大學生物工程研究生課程主任，更於四川大學、華南理工大學及華東師範大學擔任客座教授。

# Keynote Speakers 專題演講者

邢教授領導的研究隊伍集分子生物學、反應工程、電化學及微製造科技等領域的大成，從事生物微系統和燃料電池的研發，就有關系統提供入門須知。邢教授正於廣東南沙發展生物工程研究中心，促進與珠三角一帶工業界的合作，將科研成果與大眾分享。



**Ir Prof Wallace LEUNG** is Director of the Research Institute of Innovative Products and Technologies and Chair Professor of Innovative Products & Technologies in Mechanical Engineering Department of PolyU. He received his BS in Aerospace and Mechanical Engineering from Cornell University, and both his MS and ScD in Mechanical Engineering from MIT. He has worked in United States for 25 years in various industries researching and developing technologies/products from energy sector and process industries to water treatment and bioprocessing before joining PolyU in 2005 to initiate the Research Institute of Innovative Products and Technologies with initial focus on developing healthcare technologies and products. Ir Prof LEUNG has written 2 books, chapters to 4 handbooks, numerous technical publications, 36 United States patents and several pending patents. He is a fellow of HKIE and is currently serving on the RGC and NSFC panels. He has been keynote speaker for conferences held in USA, Finland, Switzerland, Germany and Japan.

梁煥方教授、工程師現時為香港理工大學機械工程學系創新產品與科技學科講座教授及創新產品與科技研究所(RIIP)所長。梁教授取得美國康乃爾大學的航空/航太及機械工程學系學士學位，其後到美國麻省理工學院繼續進修，取得機械工程科學碩士及科學博士的學位。他曾於美國工作25年，從事不同工業產品及科技的研究及開發。梁教授涉獵的範圍甚廣，包括能源工業、加工處理工業、污水處理以及生物科技產品分離等。梁教授曾出版兩本著作，發表多項學術論文，並為4本學術手冊編寫章節，及擁有36個美國專利。於國際舞臺上享負盛名的他曾獲邀到世界不同的學術會議擔任主題講者。梁教授是香港工程師學會的資深會員，是香港研資局委員會(RGC)及國家自然科學基金委員會(NSFC)的成員之一。



**Prof Keith DK LUK** graduated from the University of Hong Kong in 1977 then received professional training in orthopaedics in Hong Kong and the United Kingdom and subsequently obtained his Fellowship of the Royal College of Surgeons in 1981, Master of Surgery in Orthopedics from the University of Liverpool in 1984, Fellowship of the Royal Australasian College of Surgeons in 1985 and is a founding fellow of the Hong Kong College of Orthopaedic Surgeons and President from 1999-2000.

He has written over 200 refereed articles, 18 book chapters and holds 8 patents. In March 2007, he and his collaborators in China

published in the Lancet the first successful series of intervertebral disc transplantation in the human. He was the Congress President of the SICOT (Societe Internationale de Chirurgie Orthopedique et de Traumatologie) 2008 in Hong Kong. At present he is the Honorary Treasurer of the Asia Pacific Orthopaedic Association, holds the Tam Sai Kit Chair in Spine Surgery and is Professor and Head of the Department of Orthopaedics and Traumatology, the University of Hong Kong.

陸殿驥教授早年於香港大學畢業後，曾在香港及英國接受專業骨科訓練，更獲得英國皇家外科醫學院院士、利物浦大學骨科碩士及澳洲皇家外科醫學院院士。陸教授為香港骨科醫學院創會會員之一，又在1999-2000年擔任該院院長。

陸教授發表過超過200份審閱刊物、18個書籍章節及擁有8項專利。2007年3月，他與其國內合作夥伴於著名醫學期刊The Lancet中發表首系列有關人體椎間盤移植的文章，好評如潮。陸教授於專業內享負盛名，出任多個專業職位，包括2008香港SICOT會議主席、Asia Pacific Orthopaedic Association名譽司庫及香港大學矯形及創傷外科學系系主任及明德教授講座教授。



**Dr Kelvin WK YEUNG** received his BSc (Hons) from City University of Hong Kong by 1998 and was then admitted to the HKU Faculty of Medicine for post-graduate study. He finished his MPhil and PhD by 2001 and 2005, respectively. In 2005 he joined the Department of Orthopaedic and Traumatology as Post-doctoral Research Fellow and also appointed as Honorary Assistant Professor, and then quickly promoted to Research Assistant Professor. After a year, he has been recruited by CityU as Assistant Professor at the Department of Physics and Materials Science to develop biomedical science research. Despite the departure of his full time position at HKU, he has been reappointed as Honorary Assistant Professor at the Department of Orthopaedics and Traumatology of HKU and plays a significant role to continue the collaborative research projects.

Kelvin had received numbers of awards and scholarships from academic and social service. He was also trained at a famous overseas medical research centre for half year as he won a competitive overseas fellowship. A significant honor he received is the Young Scientist Award offered by Hong Kong Institution of Science. The total amount of grants and sponsors directly arising from his PhD project is about HK\$17M and he has now secured about HK\$4.6M from CityU and HK government in capacity of principal investigator for his research projects. Up to now, he has published more than 40 peer-reviewed journal papers at the top-journals of the field, 70 international conference papers together with more than 10 full patents in various countries.

楊偉國博士在1998年於香港城市大學取得名譽醫學士學位後，於香港大學醫學院修讀碩士課程。2005年取得哲學博士學位後加入香港大學矯形及創傷外科學系進行研究。楊博士獲委任為名譽助理教授後不久，迅即晉升至研究助理教授。一年後，楊博士受聘於香港城市大學物理及材料科學系研發生物醫學科技。儘管楊博士已離開香港大學，他仍獲委任為矯形及創傷外科學系名譽助理教授職銜，為大學的研究項目出力。

楊博士的哲學博士研究項目獲得的資助及獎金總數達港幣一千七百萬元，最近更獲得香港城市大學由香港特區政府撥款港幣四百六十萬，助其主理研究項目。除了於學術上取得重大成就外，楊博士的研究成果更造福社群，而且榮獲香港科學會頒發的香港青年科學家獎。迄今他已發表超過40份學術文章，70份於國際會議上發表之論文，及於多國擁有超過10項專利。



**Prof Yuan-ting ZHANG** received his PhD from the University of New Brunswick, Canada in 1990. He is currently Director of the Joint Research Center for Biomedical Engineering and the founding Head of the Division of Biomedical Engineering at the Chinese University of Hong Kong. He also serves as the Director of the Key Lab for Biomedical Informatics and Health Engineering of the Chinese Academy of Sciences, the Director of the SIAT Institute of Biomedical and Health Engineering of Chinese Academy of Science and the Chairman (Adjunct) of the Department of Biomedical Engineering at Sun Yat-Sen Medical School, Guangzhou, China. He chaired the Biomedical Division of Hong Kong Institution of Engineers in 1996/97 and 2000/01. He is currently on the Editorial Board of the Book Series of Biomedical Engineering published by the IEEE press, the IEEE-EMBS Technical Committee of Wearable Systems and Sensors, and an Editorial Board Member of the Journal of China Medical Device Information. Prof ZHANG's research interests include neural engineering, wearable medical devices, and body sensor networks particularly for mobile health and telemedicine. He has published more than 300 scientific articles in the area of biomedical engineering and filed over 15 patent applications.

張元亭教授1990年於加拿大University of New Brunswick獲得博士學位，目前擔任中國科學院深圳先進技術研究院生物醫學與健康工程研究所所長、中國科學院生物醫學資訊與健康工程學重點實驗室主任、香港中文大學生物醫學工程聯合研究中心主任、香港中文大學生物醫學工程學部主任、廣州中山大學中醫藥學院生物醫學工程學系(兼)主任。張教授曾擔任香港工程師學會生物醫學分部1996/97年度及2000/01年度主席。目前，他擔任由IEEE出版的生物醫學工程系列叢書編委會成員，IEEE-EMBS穿戴式系統與傳感器技術委員會委員，中國醫療器械資訊編委會成員以及神經工程與康復雜誌副主編，以及IEEE生物醫學資訊技術學術主編。他在生物醫學工程領域發表了300多篇科學論文以及超過15個專利。

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