

East West Alliance 2010 Conference

June 3-4, 2010

Brodie Centre
University of Manitoba



Chinese University of
Hong Kong



Shantou University



Stanford University Medical Center



UNIVERSITY OF
CAMBRIDGE



Leading with Innovation
Serving with Compassion

ST. MICHAEL'S HOSPITAL
A teaching hospital affiliated with the University of Toronto



University of Hong Kong



INSTITUT PASTEUR



UC - Berkeley



Oxford University



UNIVERSITY
OF MANITOBA

The East West Alliance

The East-West Alliance is an international network of Asian and Western medical research institutions and faculties, linked together because all of them are beneficiaries of the Li Ka Shing Foundation. The aim of the Alliance is to foster productive collaborations between institutions, leading to high impact research and educational projects.

At its first planning meeting in 2006, Alliance members specifically identified four key areas of strategic partnership: cancer and stem cells, infection and immunity, aging and imaging, and knowledge transfer and translation.

At its third scientific meeting in 2009, Alliance members identified global health and medical education as important areas of discussion at the next scientific meeting.

Members of the East-West Alliance in 2010 are:

Chinese University of Hong Kong

Shantou University

St. Michael's Hospital, University of Toronto

Stanford University

University of California, Berkeley

University of Cambridge

University of Hong Kong and Institute Pasteur

University of Manitoba

University of Oxford

The first scientific meeting of the Alliance was hosted by the University of Hong Kong in 2007, and the second meeting was hosted by the University of Cambridge in 2008. The third meeting was hosted by Stanford University in 2009.

Welcome

On behalf of the Organizing Committee and the University of Manitoba, welcome to the East-West Alliance 2010 Conference. At its last meeting at Stanford, Alliance members identified global health and medical education as areas of discussion for this year's meeting.

We are delighted that all institutions of the Alliance are represented in this Conference. The first day of the Conference on Global Health, will be held in conjunction with the Canadian Students Health Research Forum. The second day of the Conference will be a workshop on Medical Education. The participation of many senior educators in this workshop clearly underscores the importance of novel approaches in the training of future physicians.

We thank Dr. David Barnard, President of the University of Manitoba, and Dr. J. Dean Sandham, Dean of Medicine, University of Manitoba, for their support of this Conference. We also thank Dr. Edwin Kroeger for his enthusiasm and cooperation in amalgamating the first part of the East West Alliance with the Canadian Students Health Research Forum. Dr. Kroeger has been the Coordinator of the Canadian Students Health Research Forum for the last two decades.

Thank you again for your participation in this Conference. For our out-of-town guests, we welcome you to Winnipeg, and hope that your stay is a pleasant one.

Patrick Choy
Organizer, 2010 EWA Conference

Organizing Committee

Patrick Choy, Chair
Kevin Coombs
Joanne Embree
Barbie Haddon
Edwin Kroeger
Verena Menec

James Blanchard
Clayton Dyck
Keith Fowke
Grant Hatch
Xinmin Li
Terri Turner

Harvey Chochinov
David Eisenstat
Yuewen Gong
Geoff Hicks
Bruce Martin

Program

June 3 (Thursday)

8:30 am **Continental Breakfast on site (provided)**

Gaspard Theatre

9:00 am **Welcome-** Dr. J. Dean Sandham, Dean of Medicine, University of Manitoba

9:05 am **Session I: Challenges in Global Health**

Moderator- *Philip Pizzo (Stanford)*

Panel Participants- *James Strong (Manitoba)*

Kamran Khan (St. Michael's Hospital, Toronto)

James Blanchard (Manitoba)

10:15 am **Break**

10:45 am **Session II: Research Response to Pandemic Threats**

Moderator- *Frank Plummer (Manitoba)*

Panel Participants- *Yi Guan (Hong Kong)*

Russell Vance (UC-Berkeley)

Machen(UC-Berkeley)

Brodie Centre Atrium

12:00 noon **Lunch on site (provided) and poster viewing**

Gaspard Theatre

1:30 pm **Session III: The Impact of H1N1 on Global Health**

Moderator- *Joanne Embree (Manitoba)*

Panel Participants- *Jiang Gu (Shantou)*

Joel Kettner (Manitoba)

Arjen Dondorp (Oxford)

2:45 pm **Break**

3:15 pm **Session IV: Coordinating Medical Research and Education in Times of Crisis**

Moderator- *Niv Patil (Hong Kong)*

Panel Participants- *Blake Ball (Manitoba)*

Keith Fowke (Manitoba)

Patricia Houston (St. Michael's Hospital, Toronto)

4:20 pm **Summary and Round Table Discussion**

Philip Pizzo, Frank Plummer, Joanne Embree and Niv Patil.

4:45 pm Bus leaving at the Brodie Centre for the Reception at Government House-
By Invitation Only.

Program

June 4 (Friday)

8:30 am **Continental Breakfast on site** (provided)

Gaspard Theatre

9:00 am **Session V: Workshop on Medical Education: Training of Physicians**

Moderator- *Samuel Wong (Chinese U of Hong Kong)*

Panel Participants- *Sharon Straus (St. Michael's Hospital, Toronto)*

Charles Prober (Stanford)

Patrick Sissons (Cambridge)

Dean Sandham (Manitoba)

10:15 am **Break**

10:45 am **Session VI: Workshop on Medical Education: Teaching the Teachers**

Moderator- *Teodor Grantcharov (St. Michael's Hospital, Toronto)*

Panel Participants- *Junhui Bian (Shantou)*

Shekhar Kumta (Chinese U of Hong Kong)

12:00 noon **Summary and Round Table Discussion**

Joe Doupe Concourse

12:30 pm **Lunch on site** (provided)

Conference Room 405 (4th floor, Brodie Centre)

1:30 pm **Business Meeting for the East-West Alliance**

4:00 pm Bus leaving Brodie Centre for Inn at the Forks.

5:00 pm Bus leaving Brodie Centre for Inn at the Forks.

5:10 pm Bus leaving Inn at the Forks for the Presidential Reception.

5:30 pm Presidential Reception and Dinner-
By Invitation Only.

Speakers

Blake Ball, University of Manitoba

Junhui Bian, Shantou University

James Blanchard, University of Manitoba

Adrianus Dondorp, Oxford University

Joanne Embree, University of Manitoba

Keith Fowke, University of Manitoba

Teodor Grantcharov, St. Michael's Hospital, University of Toronto

Jiang Gu, Shantou University

Yi Guan, University of Hong Kong

Patricia Houston, St. Michael's Hospital, University of Toronto

Joel Kettner, University of Manitoba

Kamran Khan, St. Michael's Hospital, University of Toronto

Shekhar Kumta, Chinese University of Hong Kong

Terry Machen, University of California at Berkeley

Niv Patil, University of Hong Kong

Philip Pizzo, Stanford University

Frank Plummer, University of Manitoba and Public Health Agency

Charles Prober, Stanford University

Dean Sandham, University of Manitoba

Patrick Sissons, Cambridge University

Sharon Straus, St. Michael's Hospital, University of Toronto

Jim Strong, University of Manitoba

Russell Vance, University of California at Berkeley

Samuel Wong, Chinese University of Hong Kong



Blake Ball, PhD

Adjunct Professor, Department of Immunology
University of Manitoba

Chief, National Lab for HIV Immunology

Dr. Ball obtained his BSc at the University of Manitoba (1991), MSc UM-Department of Medical Microbiology (1995), and PhD UM-Department of Medical Microbiology (2001). Currently Chief: National Laboratory for HIV Immunology, Public Health Agency of Canada, Adjunct Professor Departments of Immunology and Medical Microbiology, University of Manitoba, Senior Lecturer Center for Biotechnology and Bioinformatics, University of Nairobi. Dr. Ball's main research interests are studying natural human models of resistance and susceptibility to infectious diseases, specifically the role of innate and adaptive immune responses, and the immunoregulatory genetic factors regulating these responses to better understand how novel preventative measures such as vaccines, or microbicides can be developed.

Abstract

Coordinating Medical Research and Education in Times of Crisis:

The continued globalization of the world has lead to considerable overlap in morbidity and mortality in infectious disease pandemics between countries. In some cases medical research during a 'Time of Crises' in one country may be able to directly affect our Global understanding of how to better fight a particular pandemic in other countries, or visa-versa. Using the HIV and Tuberculosis pandemics as a model, we can demonstrate that by using cutting edge tools in the developed world, we can contribute to a global understanding of fighting these devastating pandemics.



Junhui Bian, MD, PhD

Professor, Shantou University Medical College, China

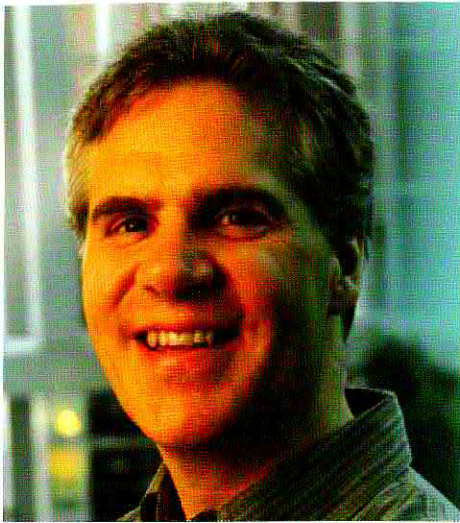
Director of Center for Faculty Development, Shantou University Medical College, Shantou, China

Dr. Junhui Bian, Professor and Director of the Center for Faculty Development, Shantou University Medical College, Shantou, China, is a graduate of Peking Union Medical College (Beijing, 1987) and University of Maryland School of Medicine (Baltimore, 1993). He worked as a researcher in the field of HIV therapeutics and cancer genetics in Oklahoma Medical Research Foundation (Oklahoma City, Oklahoma, USA) and Parke-Davis Pharmaceutical Research Division, a Warner-Lambert Company (Ann Arbor, Michigan, USA). Before joining the faculty of Shantou University Medical College in September, 2009, he had an experience of 12 years (1997-2009) teaching premedical courses at Abilene Christian University (Abilene, Texas, USA). He won the classroom teaching award in 2002. His research papers have been published in Science, J. Biol. Chem., Proc. Natl. Acad. Sci. USA, Oncogenes, Carcinogenesis, Mol. And Cellular Biology.

Abstract

Teaching the Teachers: Roles of the Center for Faculty Development.

It is not conventional to have a center for faculty development at universities in China. Governmental education institutes and teacher training centers at national or provincial levels usually claim the responsibilities of training faculties in best pedagogical practices. But their effectiveness has been very limited. The Center for Faculty Development at Shantou University Medical College (SUMC) was formally established in December, 2009. The center plays some novel roles in faculty development not commonly seen in western countries.



James Blanchard, MD, FRCPG

Associate Professor, Community Health Sciences,
Faculty of Medicine

University of Manitoba

After receiving his MD from the University of Manitoba in 1986 and completing an internship with the Manitoba Teaching Hospitals, Dr. Blanchard worked as a general practitioner for the University of Manitoba's Northern Medical Unit in Fisher Branch, Manitoba for two years.

Dr. Blanchard then pursued education in epidemiology and public health at the Johns Hopkins University School of Hygiene and Public Health receiving his Masters in Public Health in 1990 and his PhD in Epidemiology in 1997.

Dr. Blanchard is currently an Associate Professor in the Departments of Community Health Sciences and Medical Microbiology and Director of the University of Manitoba's Centre for Global Public Health. He received his Tier 2 Canada Research Chair in Epidemiology and Global Public Health in 2004. During his academic career he has received numerous awards, including the Frederick G. Banting Award from the Canadian Diabetes Association and the 2006 Rh Award for Health Sciences at the University of Manitoba from the Winnipeg Rh Institute Foundation.

Abstract

Challenges in Global Health.



Adrianus Dondorp, MD

Deputy Director of the Mahidol Oxford Clinical Research Unit and Group Head / PI

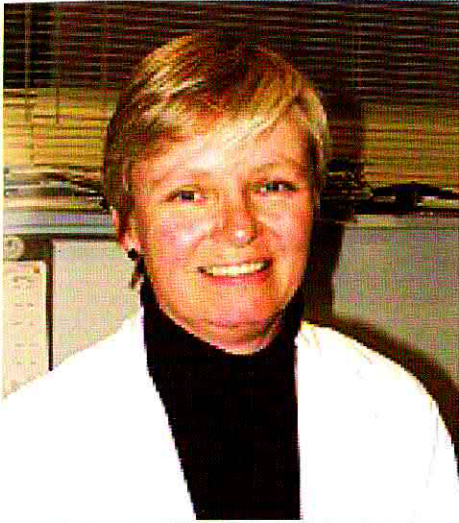
University of Oxford

Arjen Dondorp is a physician who received his training in infectious diseases and intensive care medicine in the Academic Medical Centre in Amsterdam, The Netherlands. Currently he is the Deputy Director and Head of Malaria Research at the Mahidol Oxford Tropical Medicine Research Unit in Bangkok, Thailand. The research agenda comprises a wide variety of infectious diseases causing significant morbidity and mortality in the tropics with a focus on clinical research. For this purpose a large collaborative network of clinical sites in both Africa and Asia has been established, including Thailand, Bangladesh, India, Cambodia, Mozambique and elsewhere. Dr. Dondorp's main research interests include the pathophysiology and treatment of severe malaria, antimalarial drug resistance and improvement of intensive care practice in developing countries.

Abstract

Lessons Learnt in the Response to the H1N1 Pandemic in Asia.

During April 2009, the world became aware of what was ultimately to become the most comprehensively documented influenza pandemic of all time. The World Health Organization informed the international community that a novel H1N1 influenza A virus strain had been identified in Mexico and the United States of America. Within weeks the virus had spread globally and the first pandemic of the 21st Century had been declared. It is unlikely to be the last and it is crucial that real lessons are learned from the experience. Asia is home to approximately 40% of the world's population and is considered a hot spot for the emergence of new pathogens including past influenza pandemics. On this occasion whilst preparing for an avian, highly virulent influenza virus (H5N1 like) originating in Asia, in fact the pandemic was originated from swine, and thankfully a less virulent influenza virus (H1N1). This discrepancy between what was planned for and what we had to deal with created its own challenges. The H1N1 pandemic has tested national healthcare infrastructures and exposed shortcomings in our preparedness as a region. Key health challenges include communication throughout the region, surge capacity, access to reliable information and access to quality care, health care worker skills, quality, density and distribution, access to essential medicines, tension between the public and private sectors and lack of organizational infrastructure for emergency preparedness and response. Despite years of preparation the public health and clinical research community were not ready to respond and opportunities for an immediate research response were missed. Despite warm words and pledges efforts to engage the international community to ensure equitable sharing of limited resources such as antivirals and vaccines fell short and stockpiles in the main remained in the rich world.



Joanne Embree, MD, FRCPC

Professor and Head Department of Medical Microbiology
and Infectious Diseases

University of Manitoba

Dr. Joanne Embree obtained her MSc at Dalhousie in 1978 and her MD in 1981. She did her internship at the University of Ottawa, and completed her residency in Pediatrics in Manitoba in 1986. Subsequently, she obtained her FRCPC in Infectious Diseases in 1991. She is Professor and Head of the Department of Medical Microbiology at the University of Manitoba, as well as Section Head in Pediatric Infectious Disease and is a Professor in the Department of Pediatrics and Child Health.

Her initial research has been related to determining the factors which affect the transmission of HIV from infected mothers to their children in Kenya and Canada. She is the Winnipeg site coordinator for IMPACT, the national immunization monitoring program in 12 of the 16 pediatric centers in Canada and is the Winnipeg Children's Hospital site coordinator of the CNIPS-CHEC hospital infection control network.

Abstract

The H1N1 2009 influenza pandemic affected children around the world. Unlike the situation among adolescents and adults in some regions, the spectrum of the clinical disease and mortality amongst infants and young children was no different than that of the seasonal influenzas circulating during the previous decade. In some, but not all regions, the absolute number of infants, children and adolescents needing hospitalization during the peaks of the various waves of the disease challenged the capacity of the local or regional health care systems. The use of neuraminidase inhibitor medications, such as oseltamivir, positively impacted the need for and duration of hospitalization, intensive care admissions, and secondary complications. Acceptance of H1N1 immunization for children by their care providers was variable over time and depended upon the accessibility of the vaccine, the ability of care providers to attend immunization clinics with their children, the tone of public media coverage of the vaccine and the immunization programs and specific local events. Issues that arose during the epidemic related to rapid etiologic diagnosis of influenza and other respiratory viral pathogens, infection prevention and control in the health care, work/school and home settings, and management of respiratory complications among the more severely affected has led to the recognition of the need to prioritize research in these areas.



Keith Fowke, PhD

Professor of Medical Microbiology
Faculty of Medicine
University of Manitoba & University of Nairobi

MHRC Chair

Dr. Fowke received his PhD in Medical Microbiology (1995) from the University of Manitoba (UM) and did a postdoctoral fellowship at the National Institutes of Health in Bethesda, Maryland (1995-1999). In 1999 he was recruited to the UM's Department of Medical Microbiology. He is currently a full professor and cross appointed with the Dept. of Community Health Science (UM) and the University of Nairobi. Dr. Fowke's laboratory focuses on defining cellular immune mechanisms of the control of, and resistance to, HIV infection and studies the immune response to influenza infection and vaccination. Dr. Fowke has a particular interest in training young investigators and has been involved in a number of workshops and international training programs.

Abstract

Conducting research and training in the heart of the HIV pandemic.

The HIV pandemic represents the greatest infectious disease threat in human history. Every day 7,400 people are newly infected and 5,500 die of HIV. In some sub-Saharan Africa countries up to 30% of the population are infected by HIV. National life expectancies have dropped by 20 years since the HIV pandemic was first felt. Even in lesser affected countries, the impact of HIV on economies and societies is dramatic. In order to develop effective prevention and treatment approaches, research in areas intensely affected by HIV is required. However, given the limited resources available within those countries most affected, how can research be a priority for governments, institutions and scientists? A model of a thirty-year collaboration between the University of Manitoba and the University of Nairobi will be discussed. This collaboration is built on a foundation of mutual respect and a commitment to capacity building. Advances in capacity building at the physical infrastructure and human development levels will be presented and their impacts on research and training discussed.



Jiang Gu, MD, PhD

Vice-President and Dean of Medicine
Shantou University

Professor of Pathology

Dr. Jiang Gu obtained his MD at the JiLin Medical University and his PhD in Pathology at the Royal Postgraduate Medical School, Hammersmith Hospital, University of London, UK (1984). He completed his postdoctoral training in Molecular Pathology and Oncology at the National Cancer Institute, NIH, Bethesda, MD, USA. His research interests are in molecular pathology, infectious diseases, pathogenesis of cancer and telepathology.

Professor Gu held faculty positions at several universities and institutes in the United States, and he was a Full Professor from 1985 to 2003. He was also Editor-in-chief (later Co-editor-in-chief) of AIMM Journal since 1995 to present (a SCI pathology journal in USA). Dr. Gu published more than 150 papers in pathology in SCI journals with a total impact factor of over 400 and a citation index of over 2500. He was the Dean of the School of Basic Medical Sciences, Beijing University Health Science Center, prior to his current appointment as Dean, Shantou University Medical College, Vice President, Shantou University, Shantou, China.

Abstract

Comparative Analysis of H1N1, H5N1 and SARS Viral Infections in Humans.

With high transmissibility, the virulence and fatality of the current influenza A (H1N1) virus have thus far remained relatively low. The reverse holds true for H5N1 influenza, which at a fatality rate exceeding 60%, is known to cause extremely severe damage to the respiratory system and beyond, but at present is not capable of transmitting efficiently from human to human. Another epidemic, SARS, had a death rate of about 7-10% and was found to have similar clinical features. More severe and fatal 2009 H1N1 influenza cases have shown symptoms similar to those reported in H5N1 influenza and SARS. Histopathological findings also appear to have similarities for all three diseases in end stage patients. Apart from the clear differences, significant similarities among these newly emerged infectious diseases warrant attention. The implications of the common and the different features in pathogenesis of these new diseases will be analyzed and discussed.



Yi Guan, MD, PhD

Professor, Department of Microbiology, Li Ka Shing Faculty of Medicine, University of Hong Kong

Director of the Joint Influenza Research Center of Shantou University Medical College and Li Ka Shing Faculty of Medicine, the University of Hong Kong

Prof. Yi Guan's research has been highly influential in the identification of viral sinks, viral transmission and the evolution of emerging infectious disease such as influenza and SARS. His long-term effort on understanding the Asian H5N1 virus has given a global insight into the ecology and evolution of this virus lineage. Professor Guan has also made important discoveries in SARS research, identifying the source of SARS viral transmission from animals to humans because of the selling of wild animals in food markets, where humans were subsequently infected. Recently, his team revealed the genesis and evolutionary history about the H1N1/2009 pandemic influenza virus. They found that the virus was derived from several viruses circulating in swine, and that the initial transmission to humans occurred several months before recognition of the outbreak. The aim of Professor Guan's research is early warning and prevention of emerging infectious zoonotic diseases.

In addition, he has pursued an aggressive research program that involves collaboration with both local and international partners including the Chinese Government and the WHO. He initiated the application for the first state key laboratory outside the mainland. He is also the Director, Joint Influenza Research Centre (SUMC & HKU), Shantou University Medical College, Shantou China. He was appointed as a member of the WHO Animal Influenza Network in May 2000.

Abstract

The emergence of pandemic H1N1/2009 influenza demonstrated that pandemic viruses could be generated in swine. Subsequent re-introduction of H1N1/2009 to swine has occurred in multiple countries. Through systematic surveillance of influenza viruses in swine from a Hong Kong abattoir, we characterize a reassortant progeny of H1N1/2009 with swine viruses. Swine experimentally infected with this reassortant developed mild illness and transmitted infection to contact animals. Continued reassortment of H1N1/2009 with swine influenza viruses could produce variants with transmissibility and altered virulence for humans. Global systematic surveillance of influenza viruses in swine is warranted.



Patricia Houston, MD, MEd, FRCPC

Professor, Department of Anesthesia,
University of Toronto

Vice-President (Education), St. Michael's
Hospital, Toronto

Dr. Patricia Houston graduated in medicine from the University of Toronto in 1978 and completed her anesthesiology residency in Toronto in 1983. She is the Anesthetist-in-chief and Vice-President Education at St. Michael's Hospital, Toronto. She oversees the Education Portfolio which encompasses all student activities, the Center for Faculty Development, the Waters Family Simulation Center and the Health Sciences Library. Dr. Houston joined St. Michael's in 1997 after having been faculty at University Health Network in Toronto and has been in her current position since 2000.

Dr. Houston is Professor and Vice-Chair Education in the Department of Anesthesia at the University of Toronto. She oversees the undergraduate, postgraduate and fellowship educational programs within the department and provides support to an ongoing faculty development program for the departmental membership. She holds an MD and Masters in Education from the University of Toronto and is a Fellow of the Royal College of Physicians and Surgeons of Canada. Her personal time is spent with her husband, an orthopedic surgeon, and their three children. She also loves to run, ski, golf and cook and has been trying to become proficient at pilates.

Abstract

The University of Toronto Approach to Management of Clinical Learners during a Pandemic.

Over the course of the summer of 2009, the University of Toronto Health Sciences Committee on Emergency Preparedness (HSCEP) reviewed and developed strategies for communicating and working with clinical sites relative to learners in an influenza pandemic. The following principles were developed and agreed upon by the university and all clinical sites in order to assist clinical sites with decision-making relative to those learners and related issues in a pandemic event.

Learners are to be included in emergency and crisis situations as an integral part of training. They should be provided with the same level of personal protection equipment (PPE) as employees in compliance with the Occupational Health and Safety Act. Participation of learners in any clinical activity should be determined according to the competence of the learner and the assessment risk of the situation by the clinical faculty. Support services for the learners will be provided by the university and the clinical sites.

These principles and the action plans developed by clinical sites, faculties and departments were broadly circulated and made available through a web-based communication process. It is hoped they will serve the educational system well in both pandemic and other crisis situations.



Joel Kettner, MD, MSc, FRCPC

Assistant Professor, Department of Community Health Sciences
University of Manitoba

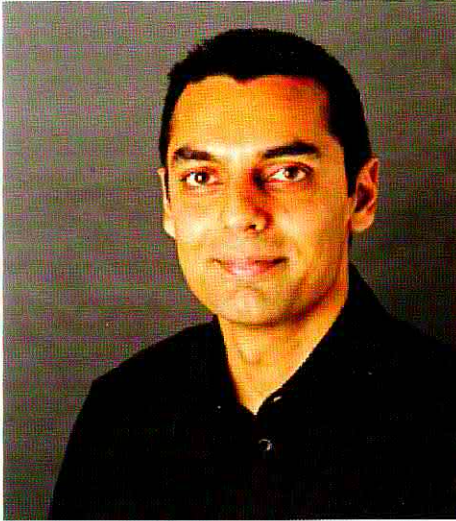
Chief Provincial Public Health Officer

Dr. Joel Kettner graduated with a medical degree at the University of Manitoba in 1976. He obtained a MSc degree in Epidemiology and completed his specialty training in Community Medicine. He worked as a Regional Medical Officer of health until his appointment as Manitoba's Chief Medical Officer of Health in 1999. He is assistant professor of the Department of Community Health Sciences, University of Manitoba, Faculty of Medicine, and is the director of the undergraduate programme in Community Medicine and is a part time urgent care and emergency physician in Winnipeg.

Throughout the past year, he has been part of Manitoba's pandemic response incident command team. He participated in the WHO Consultation on Clinical Aspects of Pandemic (H1N1) 2009 Influenza meeting in Washington DC in October 2009 and was also a member of its writing committee.

Abstract

With respect to worldwide morbidity and mortality, the global impact of the pandemic H1N1 influenza has been less than most experts and officials expected or planned for. Initial observations of travelers to Mexico indicated that most cases were relatively mild; few required medical care. As the virus was transmitted to other populations in Manitoba and elsewhere, some significant morbidity and mortality occurred. This worldwide outbreak required a sustained public health and health care response at local, regional, provincial, national and international levels throughout the world. The events in Manitoba will be described and some implications for global public health of the experience with this pandemic will be discussed.



Kamran Khan, PhD

Assistant Professor, Department of Medicine
University of Toronto

Staff Scientist, St. Michael's Hospital, Toronto

Dr. Kamran Khan obtained his MD at the University of Toronto, and his MPH at Columbia University. He is an infectious disease physician and scientist at St. Michael's Hospital and an Associate Professor of Medicine at the University of Toronto. His research focuses on studying the worldwide airline transportation network and its evolving role as a conduit for the spread of emerging infectious diseases. His recent work involves the study of mass gatherings such as the Hajj and the Olympic Games and their potential implications to global health and security. He is currently developing an operating system that integrates intelligence from web-based infectious disease surveillance systems with knowledge of worldwide air traffic flows in order to enhance global situational awareness of infectious disease threats in real-time.

Abstract

As the world's population approaches seven billion people, new infectious diseases are emerging faster than at any other time in human history. At the same time the world is becoming a much smaller place, facilitated by expanding global access to the worldwide airline transportation network. This intersection is creating unprecedented opportunities for local threats to rapidly evolve into international epidemics that can compromise global health, security and economic prosperity. Understanding the worldwide airline transportation network and its relationship to the global emergence of infectious disease threats offers unique opportunities to better prepare for and respond to future threats in real-time.



Shekhar M. Kumta, MBBS, MS, PhD

Professor, Department of Orthopedics & Traumatology, Chinese University of Hong Kong

Assistant Dean (Education), Faculty of Medicine, Chinese University of Hong Kong

Professor Shekhar M. Kumta is currently Assistant Dean (Education), Faculty of Medicine, and Professor of Orthopedics and Traumatology at the Chinese University of Hong Kong. He obtained his medical degrees at the Bombay University in 1979, his Master of Surgery in Orthopedics in 1983, and his PhD at the Chinese University of Hong Kong in 1998.

The current educational interest of Dr. Kumta is to train graduating medical students to develop the non-technical domains necessary for holistic competence in practical procedural skills, using patient-focused simulation and practice. He is also holding a Teaching Development Grant, entitled "Bringing Anatomy to Life: Using 3-D Projection on the human body to teach living anatomy in the context of clinical examinations and diagnoses.

Abstract

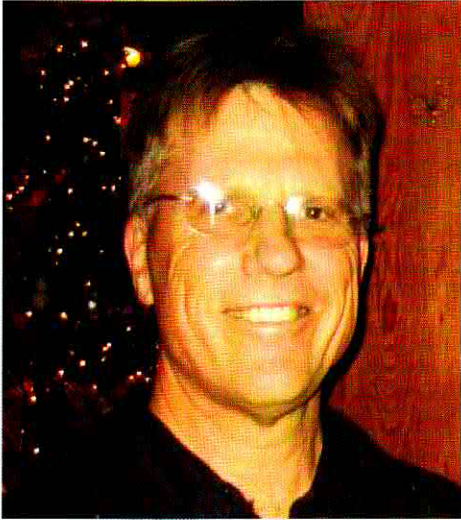
Higher Cognitive Engagement using Interactive Cases and Virtual Patients in Education.

Virtual Patients (VP's) or Computer based interactive cases are being increasingly used in formative and summative assessments in health care. In order to become effective learning tools, VP's should demand higher cognitive skills of those who attempt them and should be reviewed for their educational content and cognitive dimensions before they are used in the curriculum.

We reviewed 90 active VP's from a repository of 210 cases and mapped them using a modified Bloom's axonomy for:

- 1. Type of Knowledge - Factual, Conceptual, Procedural, metacognitive.
- 2. Cognitive depth - Recall, analysis, evaluation.

Content experts in 6 disciplines assessed VP's for instructional design and educational objectives, content validity and quality of feedback. We also tracked students over a 3 year period for the frequency and type of VP's used. Majority of our VP's (74%) involve higher cognitive demands. More students re-attempted and returned to VP's that required higher cognitive skills - Analysis/Application 64% (n=135) , Evaluation 80% (n=170), Metacognitive knowledge 54%, in comparison with Recall Cases 12% (n=25). Students generally welcomed VP's provided they were demanding enough in terms of cognitive depth. Indeed, Good quality VP's should require the students to do much more than recall facts. Thoughtfully constructed cases should reflect different depths of learning and demand higher cognitive skills or else students do not find them engaging.



Terry Machen, PhD

Professor of Cell and Developmental Biology
Associate Dean of Biology
University of California at Berkeley

Dr. Terry Machen obtained his BA UCSB in 1967, PhD UCLA in 1971; postdoctoral research Cambridge, England and UC-Berkeley. He has been a Full Professor at UCB since 1975. His research interest is in Ion transport in GI and lung epithelial cells and organelles; innate immune response of lung epithelia. His honors include Bank of America-Giannini Fndn Postdoc Fellow, EMBO Fellow, Miller Professor.

Teaching: Large undergraduate courses in physiology and introductory biology

Service: Head of CDB Division, MCB Dept; Associate Dean of Biology; Associate Editor and Editorial Boards *American Journal of Physiology*, *GI and Liver Physiology* and *Cell Physiology*, study sections for NIH, Veterans Administration, Dept of Defense and CF Foundation; ad hoc reviews for *Science*, *Nature*, *PNAS* etc.

Abstract

Innate Immune Defense in the Lungs Against the Opportunistic Pathogen
Pseudomonas aeruginosa.

A challenge to global health is the increased number of patients who may become susceptible to opportunistic infections (aging populations in developed countries, people with compromised immune systems (i.e. HIV), cystic fibrosis patients living longer etc.). *Pseudomonas aeruginosa*, which commonly infect lungs of CF patients, secrete the quorum-sensing molecule N-(3-oxo-dodecanoyl)-S-homoserine lactone (3O-C12) to regulate bacterial gene expression during infections. 3O-C12 also has multiple, interconnected effects on airway epithelia. As studied *in vitro*, 3O-C12 increases Cl⁻ and fluid secretion by nonCF, but not in CF, airway epithelia. 3O-C12 also elicits multiple effects on cell signaling: (i) activates inositol trisphosphate receptor (IP₃R), (ii) increases cytosolic [Ca²⁺] (Ca_{cyto}), (iii) reduces endoplasmic reticulum [Ca²⁺] (Ca_{er}), (iv) activates STIM1, a Ca-sensitive ER protein that regulates plasma membrane proteins, and (v) increases cytosolic [cAMP]. 3O-C12-stimulated Cl⁻ secretion was inhibited by a cAMP antagonist and increased by a phosphodiesterase inhibitor. It is concluded that 3O-C12 triggers cross-kingdom signaling in human airway epithelia by activating IP₃R, lowering Ca_{ER} and activating STIM1 and store-operated cAMP production that leads to CFTR-dependent Cl⁻ and fluid secretion. 3O-C12-stimulated Cl⁻ and fluid secretion provides a feedback mechanism to flush bacteria from the airways of nonCF, but not CF, individuals.



N.G. (Niv) Patil, MBE, MBBS, MS, FRCSEd,
FCSHK, FHKAM (Surgery)

Assistant Dean (Education Affairs), Li Ka Shing Faculty of
Medicine, University of Hong Kong
Professor of Surgery

Professor N. G. (Niv) Patil is currently a Professor and Director of the Centre for Education & Training in the Department of Surgery; and Assistant Dean (Education Affairs) & Deputy Director of Institute for Medical & Health Sciences Education at the Li Ka Shing Faculty of Medicine, The University of Hong Kong. He has been a surgeon and medical educator in India, UK and Papua New Guinea before shifting to Hong Kong in 1992. He was awarded MBE (Member of British Empire) for his outstanding services to people of Papua New Guinea.

His contributions to curriculum reform at the Li Ka Shing Faculty of Medicine, and international recognition in affairs of medical education is highly appreciated. His passion for clinical teaching was recognized by University of Hong Kong with the prestigious award of University Teaching Fellowship medal in 2004. He is also actively involved in educational affairs of the College of Surgeons of Hong Kong; and the Hong Kong Academy of Medicine. His clinical interests include ambulatory surgery and e-health.

Abstract

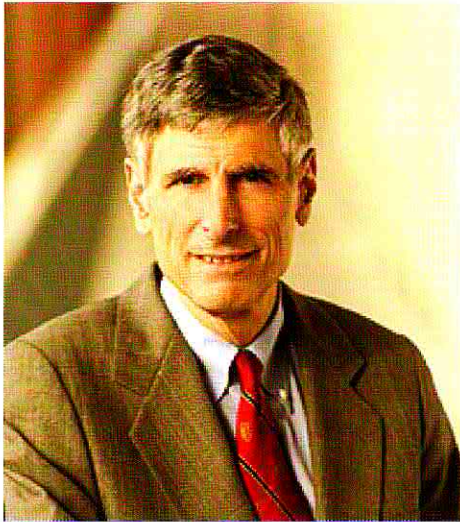
Crisis is defined in various ways as emergency, plight, catastrophe, trouble, disaster, mess, dilemma, deep water, meltdown, extremity, quandary, dire straits, critical point, climax, point of no return, height, confrontation, crunch, turning point and moment of truth.

Global pandemics, financial meltdown, unstable political situation, extreme violence in some regions have seriously affected resources; and have potential to do substantial harm to medical research and education in both developing and developed world. In addition, at the local level, institutional disputes, personality differences and leadership conflicts have hampered the progress.

However, as in dealing with emergencies and complications in patient care, we should use our natural instinct to evaluate, set priorities, change directions or emphasis; and stimulate innovations in medical research and education.

By shifting emphasis to public health education, use of online teaching & learning, collaborative research with institutions across the globe, Hong Kong successfully countered major crisis developed by SARS; and provided innovative approach to medical research and education.

In this session, panel members and delegates will highlight, with examples, strategies for coordinating medical research and education in times of difficulties and crisis.



Philip Pizzo, MD

Dean, School of Medicine, Stanford University

The Carl and Elizabeth Naumann Professor of Pediatrics and Microbiology & Immunology

Philip A. Pizzo, MD, became dean of the Stanford School of Medicine in April 2001. Before joining Stanford, he was the Physician-in-Chief of Children's Hospital in Boston and Chair of the Department of Pediatrics at Harvard Medical School. Pizzo is recognized for his contributions as a clinical investigator, especially in the treatment of children with cancer and HIV. Dr. Pizzo received his undergraduate degree from Fordham University and an MD from the University of Rochester, School of Medicine. He completed an internship and residency at Children's Hospital Medical Center in Boston, a teaching fellowship at Harvard Medical School, and a clinical and research fellowship in pediatric oncology at the National Cancer Institute. Pizzo served as head of the institute's infectious disease section, chief of the NCI's pediatric department, and acting scientific director for NCI's Division of Clinical Sciences. In 1988 Pizzo published the first article in the *New England Journal of Medicine* on antiviral therapy of HIV in children. He is also the author of more than 500 scientific articles and 14 books.

Pizzo has received several awards from the U.S. Public Health Service, including the Outstanding Service Medal in 1995. He has been cited in Best Doctors of America since 1995, and in 1990 was declared "Washingtonian of the Year" by *Washingtonian Magazine* for helping to found the Children's Inn, a temporary home for children undergoing treatment at the National Institutes of Health and their families. He is a member of a number of prestigious organizations and in 1997 was elected to membership in the Institute of Medicine of the National Academy of Sciences.

Abstract

Challenges in Global Health.



Charles Prober, MD

Senior Associate Dean, Medical Education
Stanford University School of Medicine

Professor of Pediatrics, Microbiology & Immunology

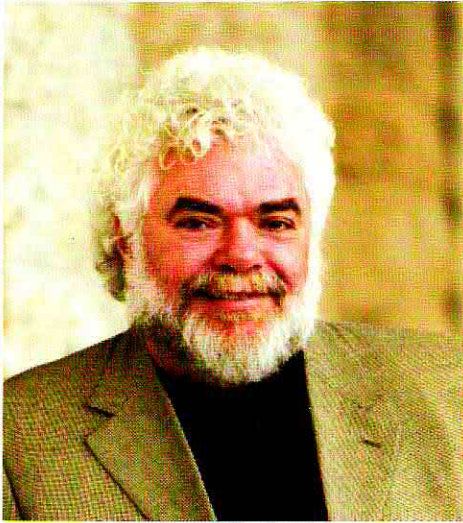
Dr. Charles Prober obtained his MD at the University of Manitoba, and completed his Internship at the Children's Hospital. He did his residency at the UCSF Medical Centre, and obtained his Board certification in Pediatrics in 1978.

Dr. Prober received many honors and awards, including the Harry Bain Award for Excellence in Clinical Teaching, the Mayne Guest Professorship, Department of Child Health, University of Queensland, Brisbane, Australia, the National Institutes of Health, Immunologic and Infectious Diseases Academic Award, the Arthur L. Bloomfield Award for Teaching of Clinical Medicine, Stanford University, and the Harry Kaiser Award for Clinical Teaching.

The research interest of Dr. Prober is on the epidemiology, pathophysiology, prevention and treatment of infections in children. His special interest is on viral infections, especially those caused by herpes simplex virus.

Abstract

Workshop on Medical Education: Training of Physicians.



Francis A. Plummer, OC, OM, MD, FRCPC

Professor of Medical Microbiology, University of Manitoba

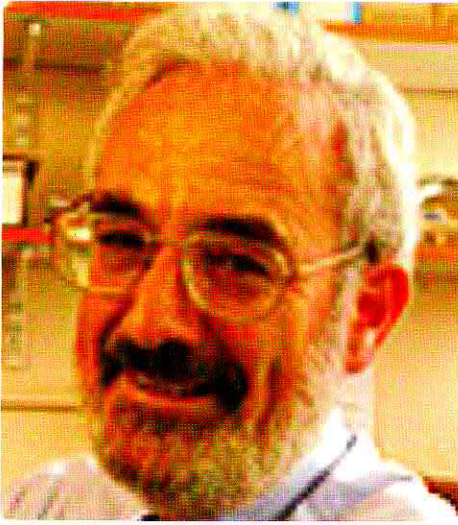
Chief Science Advisor of the Public Health Agency of Canada and the Scientific Director General of the National Microbiology Laboratory in Winnipeg.

Dr. Plummer is recognized in Canada and abroad for his work in public health and science, having received numerous honours, including most recently his investiture in the Order of Manitoba, appointment as Officer to the Order of Canada and induction into the Royal Society of Canada; being named Canada's Health Researcher of the year by the Canadian Institutes of Health Research (the Michael Smith Award). In 2001, he was named Canada Research Chair of the Canadian Institutes of Health Research. He has also been elected to the American Society of Clinical Investigation and the Association of American Physicians, has served as an advisor to the National Academy of Sciences in the US, and as a consultant to the World Bank, the World Health Organization, and the Governments of Kenya, India and Lesotho.

Dr. Plummer received his medical degree from the University of Manitoba in 1976 and trained in internal medicine and infectious diseases at the University of Southern California, the University of Manitoba, the University of Nairobi, and the Centers for Disease Control in Atlanta. He joined the University of Manitoba faculty in 1984 and is currently Distinguished Professor at that University of Manitoba, as well as Professor of Medical Microbiology and Community Health Sciences.

Abstract

Research response to pandemic threats.



Patrick Sissons, MD, FRACGP, MPH

Regius Professor of Physic,
School of Clinical Medicine
University of Cambridge

Professor (John Gerald) Patrick Sissons is currently Professor of Medicine and Head of the Department of Medicine at the University of Cambridge and Associate Medical Director and Governor of Addenbrooke's Hospital, part of Cambridge University Hospital's NHS Foundation Trust.

The holder of the Regius Chair is also Head of the School of Clinical Medicine. The Regius Professor provides strategic leadership both within the School, and in its relationship with the NHS and other stakeholders, including the MRC, Wellcome Trust and CR-UK.

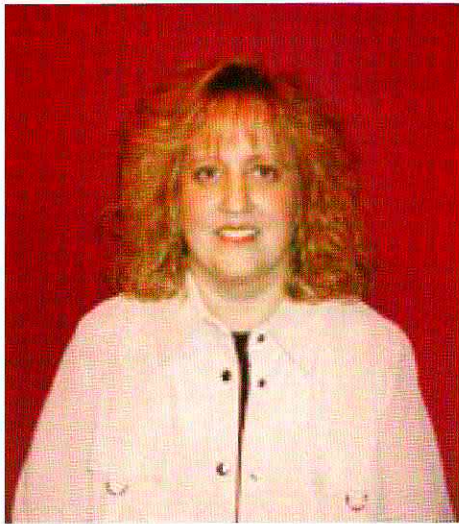
Professor Sissons joined the University in 1988, where he established an academic division of Infectious Disease within the Department of Medicine and developed the Infectious Disease Service. Since 1993, he has been Head of the Department of Medicine. Before his appointment to Cambridge, Professor Sissons held appointments in a number of London hospitals, the Royal Postgraduate Medical School and the Research Institute of Scripps Clinic, California. Professor Sissons has served on numerous national grants committees and advisory bodies and his personal research has been supported by a UK Medical Research Council programme grant for 20 years. He was appointed a Fellow of the Academy of Medical Sciences in 1998.

Note: The **Regius Professorship of Physic** is one of the oldest professorships at the University of Cambridge, founded by Henry VIII in 1540. The Professorship is a Crown appointment. "Physic" is an old word for medicine, (and the root of the word physician).

Abstract

Workshop on Medical Education: Training of Physicians.

Challenges of Postgraduate Academic Medical Training in the UK.



Sharon Straus, MD, FRCPC, MSc

Scientist

Keenan Research Centre of the Li Ka Shing Knowledge Institute, St. Michael's Hospital

Associate Professor, University of Toronto

Dr. Sharon Straus obtained her HBSc (physiology and pharmacology), University of Western Ontario; MD, University of Toronto; FRCPC (internal medicine and geriatric medicine), University of Toronto; MSc (clinical epidemiology), University of Toronto.

She is currently a Scientist in the Keenan Research Centre of the Li Ka Shing Knowledge Institute of St. Michael's Hospital, and the Director, Knowledge Translation Program, Calgary Health Region, as well as Associate Professor, Department of Medicine, University of Calgary.

She is also Associate Professor of the Department of Health Policy Management and Evaluation, University of Toronto. Her clinical specialties are internal medicine and geriatric medicine. Her research interest is in evidence-based medicine, knowledge translation, diagnostic tests, health informatics.

Abstract

Workshop on Medical Education.



James Strong, MD, PhD, FRCPC

Assistant Professor, Department of Medical Microbiology,
University of Manitoba

Clinician Scientist, Department of Pediatrics

Dr. Jim Strong obtained his MD/PhD at the University of Calgary. He is a Medical Officer with the Special Pathogens Program as well as a pediatrician at the Children's Hospital in Winnipeg. He has been a consultant to the World Health Organization for outbreaks of viral hemorrhagic fevers in Africa. He has special interests in Ebola and Marburg viruses, their interactions with host cell signaling, viral persistence as well as the ecology and potential treatments and prophylaxes of these diseases.

Abstract

As members of the Special Pathogens Program at the Public Health Agency of Canada we conduct research on some of the deadliest viral pathogens known including Ebola and Marburg viruses. These viruses are associated with highly lethal hemorrhagic fevers occurring mostly in equatorial Africa, however the potential of imported cases as well as the use as bioweapons has raised the possibilities of these infections occurring here. We also have the privilege to participate in outbreak management in Africa as consultants to the World Health Organization working alongside Medecins Sans Frontieres. I will summarize some of the work done in our laboratory, how we apply these skills in African outbreak management and the ongoing development of treatments and prophylaxes for the people (and animals) affected by these pathogens.



Russell E. Vance, PhD

Assistant Professor of Immunology, University of California at Berkeley

Burroughs Wellcome Fund Investigator

Russell E. Vance obtained his Bachelors degree in biochemistry (1994) and a Master's degree in philosophy (1995) from Queen's University, Kingston, Ontario. His PhD was obtained in 2000 from the University of California, Berkeley, under the mentorship of David H. Raulet. He undertook postdoctoral studies in microbial pathogenesis at Harvard Medical School in the laboratories of John J. Mekalanos and William F. Dietrich, before starting his independent research laboratory in the Department of Molecular & Cell Biology at UC Berkeley in 2006. He is a Burroughs Wellcome Fund Investigator in the Pathogenesis of Infectious Disease.

Abstract

Innate Immune Defense and Vaccines against Emerging Infectious Diseases.

We have a very limited ability to predict which microbial pathogens will emerge as pandemic threats. When new infectious diseases emerge, they tend to do so relatively rapidly. By contrast, research tends to proceed relatively slowly. Thus, it is challenging to identify research areas that are likely to be valuable for defense against emerging pandemic threats. Vaccines have been one of the most potent tools for combating infectious disease, yet we still have a very limited understanding of how vaccines work, vaccine development is relatively slow, and we still lack vaccines for many important infectious diseases. Vaccines work in part by stimulating innate immune responses, and the past decade has seen remarkable developments in understanding innate immunity. In my comments, I will provide an update in our understanding of the innate immune response and suggest that future research in innate immunity will be an important component in preparing for emerging infectious diseases.



Samuel Wong, MD, FRACGP, MPH

Associate Professor and Head,
Division of Family Medicine and Primary Care
School of Public Health and Primary Healthcare
Chinese University of Hong Kong

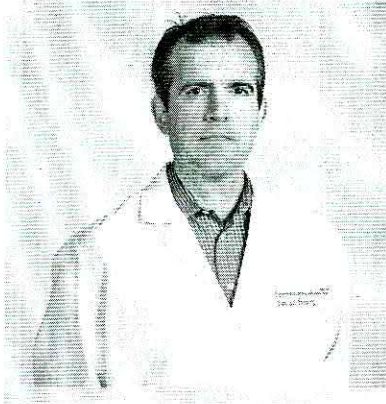
Professor Samuel Wong received his doctor of medicine degree from the University of Toronto and completed his residency training in Family Medicine at Dalhousie University, Canada. He is a certified member of the Canadian College of Family Practice and a Fellow of the Royal Australian College of General Practitioners. He also completed the Master of Public Health at the Johns Hopkins University, USA and his Doctor of Medicine (MD) research degree at The Chinese University of Hong Kong. He is a council member of the Hong Kong College of Family Physicians and the editor of the Hong Kong Practitioner, the official journal of the Hong Kong College of Family Physicians. He is a member of the Grant Review Board of the Health and Health Service Research Fund of the Food and Health Bureau, Hong Kong SAR Government and is also editorial board member of the recently launched International Journal of Family Medicine and the Journal of Medical Case Reports. He is the director of the Diploma in Family Medicine and the Master in Family Medicine of the School of Public Health and Primary Care and is the head of division of Family Medicine and Primary Health at the School of Public Health and Primary Care at the Chinese University of Hong Kong.

His research interests include mental health and primary care, training and medical education, evaluation of primary care quality, men's health and multi-morbidity with a focus on the co-morbidity of chronic conditions and depression. He has published more than 60 papers in peer-reviewed international journals.

Abstract

Workshop on Medical Education: Training of Physicians.

Global health and medical education: how can we educate our medical students to be a global citizen?



Teodor Grantcharov, MD, PhD

Assistant Professor, Department of Surgery

University of Toronto

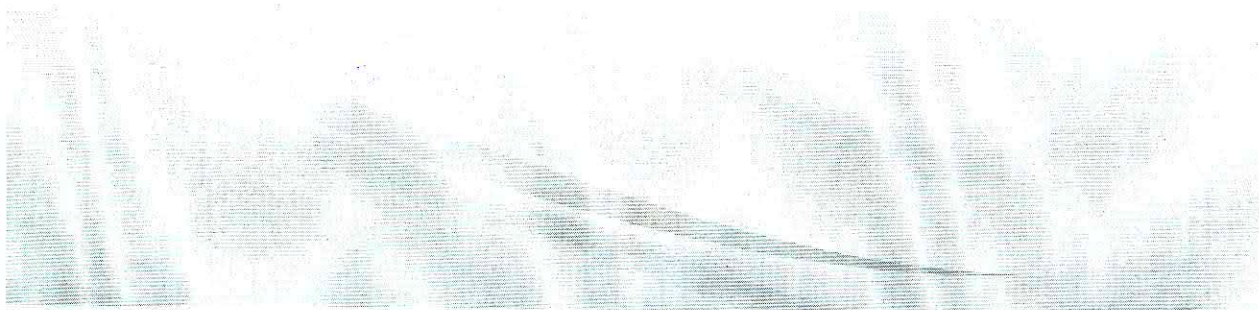
Dr. Teodor Grantcharov completed General Surgery residency at the University of Copenhagen, and a doctoral degree in Medical Sciences at the University of Aarhus in Denmark. He then completed a fellowship in Minimally Invasive Surgery at the Western Pennsylvania Hospital, Temple University School of Medicine in Pittsburgh.

Dr. Grantcharov is a staff surgeon at St. Michael's Hospital and an Assistant Professor at the University of Toronto. His clinical interest is the area of minimally invasive surgery, with a focus on foregut disease including cancer.

Dr. Grantcharov's area of academic interest is in the field of surgical simulation. He has become internationally recognized as a leader in this area with a focus on virtual reality computer simulation as a tool for training and evaluating skills in laparoscopic surgical skills.

Abstract

Simulation in Surgical Education





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