

**Global Agenda Council on Space Security**

**Workshop on Bringing Space Down to Earth  
at**

**Institute of Air and Space Law (IASL), McGill University**

**Room 316, 3660 Peel Street, Montreal, Canada**

**on**

**4 and 5 July 2013**

**Financially supported by:**Erin J. C. Arsenault Fund

&

McGill University Office of the Vice-Principal (Research & International Relations)

**PROGRAM**

***Background, Objectives and Format***

The World Economic Forum’s Global Agenda Council on Space Security is currently working towards highlighting the crucial role that space technology plays in tackling numerous challenges on Earth and the great potential that this technology has to solve various global and regional problems. For this purpose, the Council will launch a short publication called *Bringing Space Down to Earth,* a guide on using space technologies to address Earth's greatest challenges. In order to initiate the drafting of this publication, a brainstorming workshop is organized at McGill University in Montreal, Canada.

Specific objectives of the Workshop are:

* To discuss *Bringing Space Down to Earth* and strengthen the publication’s content and value for non-space audiences;
* To enable discussions and collaboration between experts in satellite applications and experts in other domains to address challenges on Earth;
* To brainstorm concrete ways in which the Space Security Council can help non-space Global Agenda Councils benefit from space derived applications and services.

In order to seek insights and expertise on how space technology can help in the resolution of major global challenges, several external experts are invited to participate in the Workshop. Also invited are the members of the World Economic Forum’s Network of Global Agenda Councils.

Seven working sessions are planned. Speakers are requested to take 15 – 20 minutes to make their presentations. Each presentation will be followed by a question and answer session from the participants. Summaries of the findings and views expressed at the sessions will be recorded and distributed to members of the WEF’s Global Agenda Council on Space Security so that they may use them as background and source material for the drafting of their respective chapters.

**THURSDAY, 4 JULY 2013**

09:30-09:45 **Welcome & Introduction**

(Paul Dempsey, Sarah Stroud, Brian Weeden)

09:45-11:00  
**Session – 1: Development**

* Sustainable management of water, forests and fish (Brian Weeden)
* Sustainable Development

(Ciro Arévalo Yepes & Mazlan Othman)

Moderator: Joseph Pelton (ISU-IAASS)

Rapporteur: Isavella Vasilogeorgi (McGill-IASL)

Invited Expert:

* Harinder Ahluwalia (Info-Electronics Systems Inc.)

11:00-11:20***Tea/Coffee***

11:20-13:00   
**Session – 2: Environment & Climate**

* Climate change adaptation
* Arctic (Brian Weeden)

Moderator: Paul Dempsey (McGill-IASL)

Rapporteur: Isavella Vasilogeorgi (McGill-IASL)

Invited Expert:

* Vern Singhroy (International Space University)
* Jim Keravala (Shackleton Energy Company) via Skype

13:00-14:30***Lunch***Room 16, 1st floor Old Chancellor Day Hall,

Faculty of Law

14:30-17:30

*(Tea/Coffee from 16:00 - 16:20)*

**Session – 3: Infrastructure & Competitiveness**

* Spectrum Mismanagement
* Unsustainable Uses of Earth Orbit (Bhupendra Jasani & Ram Jakhu)
* Transport/navigation
* Economic competitiveness (new space economy)

Moderator: Ram Jakhu (McGill-IASL)

Rapporteur: Ashleigh Tomlinson (McGill-IASL)

Invited Experts:

* Steve Bochinger (EUROCONSULT)
* Joseph Pelton (ISU-IAASS)
* Martin Griffin (ICAO)
* Joan Harvey (Canadian Space Agency)

19:00-22:00***Dinner***

IL CORTILE Restaurant

1442 Sherbrooke West (between Bishop and Mackay Streets)  
TEL: (514) 843-8230

**FRIDAY, 5 JULY 2013**

09:30-11:00

**Session – 4: Education & Human Rights**

* Education in areas of low coverage (Li Juqian)
* Education in Africa
* Human Rights (Ram Jakhu & Jonathan Hutson)

Moderator: Mazlan Othman (UN OOSA)

Rapporteur: Ashleigh Tomlinson (McGill-IASL)

Invited Experts:

* Joseph Pelton (ISU-IAASS)
* Eya David Macauley (International Criminal Court)

11:00-11:20***Tea/Coffee***

11:20-13:00

**Session – 5: Food & Natural Resources**

* Precision agriculture (Food Security)
* Resilience to natural disasters

Moderator: Yaw Nyampong (McGill-Law)

Rapporteur: Isavella Vasilogeorgi (McGill-IASL)

Invited Experts:

* Viacheslav I. Adamchuk

(McGill Department of Bioresource Engineering)

* Hugo Melgar-Quiñonez (McGill Global Food Security)

13:00-14:30***Lunch***Room 16, 1st floor Old Chancellor Day Hall,

Faculty of Law

14:30-16:00

**Session – 6: Global Security**

* Nuclear Security (Bhupendra Jasani)
* Black Swan Events

Moderator: Ciro Arévalo Yepes (Colombia)

Rapporteur: Sarah Mountin (McGill-IASL)

Invited Expert:

16:00-16:20***Tea/Coffee***

16:20-17: 30

**Discussion: Follow-up**

Moderator: Brian Weeden (Secure World Foundation)

Rapporteur: Sarah Mountin (McGill-IASL)

**Brief Profiles of Experts Attending the WEF-McGill Workshop on Using Space for Benefits on Earth**

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| **C:\Documents and Settings\edannalslaw\Desktop\Bhupendra Jasani.jpg** | **Prof. Dr. Bhupendra Jasani**  Dr. Jasaniis a member of the Space Security Council of the World Economic Forum and since 1990 a visiting professor at the Department of War Studies, King's College London. He holds a MSc and a PhD degree, and highlights of his career include: 1958-72, British Medical Research Council; 1972-87, Stockholm International Peace Research Institute; 1978-81, consultant to UN studying the implications of an International Satellite Monitoring Agency; 1987-90, with Royal United Services Institute for Defense Studies; Rockwell International Fellow; 1990-91, European Union Satellite Centre, Council of the EU; 1994, verification of a Comprehensive Test Ban Treaty from space, UN Institute for Disarmament Research. 2003-06, Global Monitoring for Security and Stability; 2006-09, HAWKEYE, an air/space-based hyper-spectral sensor; and since 2010, GEMES, services for Management of Operations, Situation Awareness and Intelligence for Regional Crisis Project. Member of the Editorial Board, Space Policy journal. Dr Jasani is the author of several reports for the UN International Atomic Energy Agency on commercial observation satellites and agency safeguard procedures; 25 various scientific papers; and 200 papers on nuclear and space arms control issues. In addition, Dr. Jasani has edited or co-edited 20 books and monographs. | |
| Brian Weeden | **Mr. Brian Weeden**  Mr. Weeden is the Chair of the Space Security Council of the World Economic Forum and Technical Adviser at Secure World Foundation in the US. He holds a BSc in Electrical Engineering, Clarkson University; MSc in Space Studies, University of North Dakota; 2007, Graduate, Space Studies Program, International Space University, Beijing; and a PhD in Public Policy and Public Administraion, George Washington University. Mr. Weeden has a decade of professional technical and operations experience in the national and international space security arena. For nine years, he served as an officer in US Air Force and was at the US Strategic Command's Joint Space Operations Center. Currently, he is a Technical Adviser at the Secure World Foundation, responsible for conducting research on global space situational awareness, space traffic management, protection of space assets and prevention of conflict in space. Mr. Weeden organizes national and international workshops to increase awareness of and facilitate dialogue on space security and sustainability issues. | |
| C:\Documents and Settings\edannalslaw\Desktop\caixia in 209.jpg | **Dr. Caixia Yang**  Dr. Caixia Yang is an Associate Professor at the Law School of Beijing University of Aeronautics and Astronautics since 2008. Invited by the Institute of Air and Space Law (IASL) of McGill University, she began her one year postdoctoral research in air and space law in September 2012. During her time at the IASL, she has been actively involved in academic events related to international space law. She has published several articles in French and Chinese. Dr. Yang’s main research fields are private international law and international commercial arbitration law, comparative air law and space law. Dr. Yang graduated from China University of Political Sciences and Law with a Bachelor in Law degree and a Master degree in international law. After working as legal counsel at Tsinghua University, she went to University of Paris II, where she obtained a Master degree and a Ph.D. degree. Dr. Yang is admitted to practice law in the People’s Republic of China. | |
| Ciro Arevalo Yepes | **Ambassador Ciro Arevalo Yepes**  Ambassador Arevalo Yepesis a member of the Space Security Council of the World Economic Forum and President of the Regional Group for Latin America and the Caribbean in the International Astronautical Federation. Previously, he served as Chairman of the United Nations Committee on the Peaceful Uses of Outer Space; the Colombian Ambassador to the UN. He is a member of the Advisory Committee of the Secure World Foundation and the Standing Advisory Group on Technical Assistance and Cooperation of the International Atomic Energy Agency. | |
| David Schorr | **Mr. David Schorr**  Mr. Schorr is a member of the Global Agenda Council on Oceans of the World Economic Forum andSenior Manager of the Transparent Seas Project at the World Wide Fund for Nature (WWF), USA. He holds a BA, Oberlin College; JD, Yale Law School. Highlights from his career include: 1989-92, international law practice, Washington; 1989, directed the Sustainable Commerce Programme, WWF; 1993-96, Washington College of Law; 1994-98, adjunct faculty teaching trade law and trade and environment, American University; 1997, Georgetown University; 1993-2001, Independent Consultant and Senior Fellow, WWF. Mr. Schorr is Chair of the US National Advisory Committee on NAFTA environmental implementation. | |
| **C:\Users\Ram\Desktop\Eya 1.jpg** | **Mr. Eya David Macauley**  Mr. Macauley is Associate Analyst - GIS at the International Criminal Court, The Hague, the Netherlands. His main activities include the application of geo-information and remote sensing techniques in evidence collection and court presentations. Previously he served as GIS Officer at Ministry of Transport, Public Works and Water Management of the Kingdom of The Netherlands. He contributed to the Evidence From Space "Use of Satellite Earth Observation Information as Evidence in Judicial and Administrative Proceedings", a study by the London Institute of Space Policy and Law commissioned by European Space Research Institute of the European Space Agency. He also wrote a chapter to the book “Evidence from Earth Observation Satellites – emerging legal issues”. Eya obtained his MSc. (1993)in Geographic Informations Systems (GIS) from the University of Amsterdam, a Postgraduate Diploma in GIS from the International Institute for Aerospace Survey and Earth Sciences, and a B.A. Ed. in Geography from Njala University College. | |
|  | **Dr. Harinder P.S. Ahluwalia**  Dr. Ahluwalia is the President and Chief Executive Officer of Info-Electronics Systems Inc. Dr. Ahluwalia has written a number of papers in the field of Electrical Engineering and Meteorology. He is a member of the Order of Engineers of Quebec, the Canadian Advanced Technology Association and the India Canada Commercial Council. In May 2013, Dr. Ahluwalia was elected the Vice President of the Canadian Meteorological and Oceanographic Society (CMOS) and will become the President of the CMOS from May 2014. In March 2001, the Governor General of Canada appointed him to the National Round Table on the Environment and the Economy (NRTEE), which as a part of the Privy Council dealt with Sustainable Development issues. Dr. Ahluwalia obtained his Bachelor of Technology in Electronics Engineering and Master of Technology in Communications Engineering from India's premier institute, Indian Institute of Technology, Delhi. Dr. Ahluwalia obtained another Master's degree in Microwaves and a Doctorate degree in Electromagnetics from the University of Manitoba. Dr. Ahluwalia was a Post-doctorate Fellow at McGill University, Montreal. | |
| http://www.mcgill.ca/globalfoodsecurity/sites/mcgill.ca.globalfoodsecurity/files/images/hugo-melgar-quinonez_web.jpg | **Prof. Dr. Hugo Melgar-Quinonez**  Dr. Melgar-Quinonez is the Director of the McGill Institute for Global Food Security and an Associate Professor at McGill University. He has previously worked in nutrition and food security research at the Mexican Public Health Institute (1996-1997), the Nutrition Department at the University of California, Davis (1998-2003), and the Department of Human Nutrition at the Ohio State University (2003-2012). After graduating as a physician in 1992 at the University Friedrich Schiller in Germany, Dr. Melgar-Quinonez received his doctoral degree in 1996 for his dissertation on the main causes of mortality in Mozambique. In Mexico, he worked on projects assessing the dietary intake among Mexican women. In the United States, Dr. Melgar-Quinonez worked on food insecurity research with Latino immigrants. His studies lead to further validation studies on adapted household food security instruments in a wide range of countries (e.g., Bolivia, Brazil, Burkina Faso, Colombia, Dominica Republic, Ecuador, Ghana, and Guatemala, Mexico, and The Philippines). The global presence of his research supported the development of a broad collaboration network that includes the United Nations Food and Agriculture Organization (FAO), the Inter-American Institute of Cooperation in Agriculture (IICA), the Inter-American Development Bank (IDB), several universities, and governmental and non-governmental food security agencies. | |
| VIP | **Mr. Jim Keravala**  **Mr. Keravala is** Chief Operating Officer and co-founder of Shackleton Energy Company Inc., Austin, USA.Mr. Keravala has been a leader of international teams in the aerospace, finance, and technology sectors for over 20 years. An expert in space systems and infrastructure, he combines a deep knowledge of international business and technology trends with practical expertise in building cross-cultural teams that cut across diverse sectors. In the early 1990s, he was responsible for establishing a commercial space development office in Moscow where he led a team of ten senior Russian engineers and staff members. He helped lead the effort to transform the Russian launch industry from centralized planning to free market economics. In 1998, Mr. Keravala became Launch Manager at the Surrey Space Centre in England. Jim is also a member of Faculty at the Singularity University for Technology Synthesis and Mapping, the Chairman of the American Institute of Aeronautics and Astronautics San Francisco Section, a member of the Economics, and Investment Committee of the International Astronautical Federation. In 2012, he was elected to the International Academy of Astronautics. | |
| **C:\Users\rjakhu\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\L4SLNCWU\35 Harvey Joan final.jpg** | **Ms. Joan Harvey**  Joan Harvey is Head, Research & Analysis, within the Policy and External Relations Directorate of the Canadian Space Agency (CSA). Since joining the CSA in 1999, she has been responsible for the development of a strategic research program that examines socioeconomic issues, trends and policy implications within the space sector both domestically and at the international level. Chief among her responsibilities are the publication of the *State of the Canadian Space Sector*, an annual report that captures the performance of the Canadian space sector; *Canada in Space within the Global Context,* an in-depth comparison of performance on a number of key indicators; and, she guides the Agency’s work on the *Socio-economic benefits of investments in Space.*Ms. Harvey is a participating member of the OECD’s Global Forum on the Space Economy. She has directed the development of major policy and research programs for the Government of Canada since 1982. Prior to joining the CSA, she held several senior posts in Health Canada in multiple policy areas including health care facility design and programs for Canada's aging population. She is recognized for the work she championed during the development of Canada's first *National Policy Framework on Aging.*  Ms. Harvey also worked with Développement économique Canada pour les regions du Québec as the Manager of Entrepreneurship Programs, which focused on providing business support and services to pre-startup and startups (SME’s and organizations operating facilities or engaged in commercial activities, NGO’s and business incubator organizations). Ms. Harvey holds a Master’s of Science in Environmental Psychology (MSc.) from the University of Surrey, Guildford, England. | |
| Jonathan Hutson | **Mr. Jonathan Hutson**  Mr. Hutson is a member of the Space Security Council of the World Economic Forum and Director, Communications of The Enough Project, Washington, DC, USA. He holds a Master's in French, Michigan State University; JD, New York University School of Law. Mr. Hutson led negotiations to launch the Satellite Sentinel Project, which blends technology, human rights advocacy and field research to deter full-scale war between Sudan and South Sudan, and to promote accountability for mass atrocities. The Satellite Sentinel Project, an open-source human security early warning system, is a collaboration between Project Enough and DigitalGlobe. | |
|  | **Dr. Joseph N. Pelton**  Dr. Pelton is the former Dean of the International Space University, and the Director Emeritus of the Space and Advanced Communications Research Institute (SACRI) at George Washington University. He served as the founding President of the Society of the Satellite Professionals (SSPI) and as the first President of the Global Legal Information Network (GLIN). Dr. Pelton also served as Director of the Interdisciplinary Telecommunications Program at the University of Colorado, Boulder, which at that time was the world’s largest graduate level telecommunications program. Dr. Pelton was the founder of the Arthur C. Clarke Foundation and remains as the Vice Chairman of its Board of Directors. Dr. Pelton is a Fellow of the International Association for the Advancement of Space Safety (IAASS) and a member of its Executive Board and Chairman of its Academic Committee. He was Director of Strategic Policy for Intelsat in the early to mid-1980s. He is the widely read author of 30 books including Global Talk that won a Pulitzer Prize nomination. He received his degrees from the University of Tulsa, New York University and Georgetown University. | |
| C:\Users\MGriffin\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\7P2LVGRP\EXHAUST PIPE 010 (2).jpg | **Mr. Martin Griffin**  Mr. Griffin is presently seconded by EUROCONTROL to the International Civil Aviation Organisation (ICAO) having previously worked at ICAO as the Director of Air Navigation Services for Bosnia & Herzegovina based in Sarajevo. Mr. Griffin joined EUROCONTROL in 1994. Prior to this he had been an operational air traffic controller, training officer and air traffic examiner for 20 years. His position as the Head of the Air Traffic Operations and Systems Unit in EUROCONTROL gave him responsibility for the development of radar–based, tactically-oriented air traffic control operations into more strategically-oriented, trajectory-based cooperative air traffic operations. He has an MSc in Airport Planning and is a member of IFATCA. | |
| Mazlan Othman | **Dr. Mazlan Othman**  Dr. Othman is a member of the Space Security Council of the World Economic Forum and Director of the United Nations Office for Outer Space Affairs (UNOOSA), Vienna, Austria. She holds a PhD in Astrophysics from the University of Otago, New Zealand and is the first astrophysicist in Malaysia. Previously, she established university courses in astronomy, laboratories for undergraduate and postgraduate training and promoted space sciences; worked with the Prime Minister's Department in Malaysia; directed the design and construction of National Planetarium; and established the Malaysia Space Science Studies Division. As Director-General, Dr. Othman initiated the National Microsatellite Programme, which produced TiungSAT-1. Between 1999-2002, she was Director of the UN Office for Outer Space Affairs. In 2002, Dr. Othman set up and led the National Space Agency as Director-General, during which time she directed the launch of Malaysia's first astronaut and established National Space Centre and Observatory. Dr. Othman is also the author of numerous academic papers on astrophysics, sustainable development and management, and a fellow at several professional bodies. | |
| Li Juqian | **Prof. Dr. Juqian Li**  Dr. Liis a member of the Space Security Council of the World Economic Forum and Professor, International Law School, China University of Political Science and Law (CUPL). He obtained his Bachelor's in Law in 1991; Master's in International Economic Law in 1996; PhD in International Law in 1999 from the China University of Political Science and Law. His professional affiliations include China University of Political Science and Law, where he is Associate Dean of the International Law School and Associate Director of the International Law Center. Dr. Li is a member of Standing Council, China Space Law Institute; Standing Council, Beijing International Law Association; Council, China International Law Society. He was a Visiting Professor in Law: 2001 and 2005 in Korea; 2006 in Iceland. Dr. Li also taught Chinese astronauts at the China Astronaut Centre. He is the author of 15 books and 20 articles on international law and international economic law including Introduction of Space Law, WTO Dispute Settlement Mechanism, International Law and International Law Commentary. | |
| Paul Dempsey | **Prof. Dr. Paul Stephen Dempsey**  Dr. Dempsey is Tomlinson Professor of Global Governance in Air and Space Law and Director of the Institute of Air and Space Law at McGill University, Montreal. From 1979-2002, he held the endowed chair as Professor of Transportation Law and Director of the Transportation Law Program at the University of Denver. He was also Director of the National Center for Intermodal Transportation. Professor Dempsey has written more than fifty law review and professional journal articles, scores of newspaper and news magazine editorials, and several books. His latest book is 'Public International Air Law' (2008), published by the Institute and Research Centre of Air and Space Law. Dr. Dempsey holds the following degrees: Bachelor of Arts (1972), Juris Doctor (1975), University of Georgia; Master of Laws (1978), George Washington University; Doctor of Civil Laws (1986), McGill University. He is admitted to practice law in Colorado, Georgia and the District of Columbia. | |
| **C:\Users\Ram Jakhu\Desktop\Documents\On the Road 05 01 09\Papers - Finalised for Elsevier - 02 Jan 10\Photos-29 Dec 09\Photo_Jakhu,Ram.jpg** | **Prof. Dr. Ram S. Jakhu**  Dr. Jakhu is a member of the Space Security Council of the World Economic Forum and Associate Professor, Institute of Air and Space Law, Faculty of Law, McGill University. He holds the following degrees: BA, LLB, LLM and Doctor of Civil Law. Dr. Jakhu has over 30 years of experience in space-related fields. He was the first director of the Master of Science in Space Studies at the International Space University, Strasbourg, France, and also the Research Director of the Space Security Index Project. Currently, he teaches courses relating to space law and policy, public international law and relations. Dr. Jakhu is author of numerous books and papers, and has given expert legal opinions around the world. He is the recipient of Distinguished Service Award for significant contribution to the development of space law. Dr. Jakhu is a Fellow of the International Association for the Advancement of Space Safety (IAASS) and the Chair of its Legal and Regulatory Committee. He severed on the Board of the International Institute of Space Law for fourteen years and headed a number of its committees. | |
| http://www.euroconsult-ec.com/uploads/management/show-identity-9.jpg | **Mr. Steve Bochinger**  Mr. Bochinger has 13 years of experience at Euroconsult managing consulting projects for public institutions, space agencies, industry companies and satellite operators, advising on their strategies, policies, programs and business plans. Steve joined Euroconsult in 2001 as the Director of Institutional Affairs where he managed consulting and research activities for international government customers. Since 2008 he heads Euroconsult’s office in Canada where he is managing the company’s operations in North America. As of 2013, Steve has taken on the role of Chief Operating Officer at Euroconsult. Steve holds a Masters of Law from the Institute of Air & Space Law, McGill University (Montreal), and a Masters of International Law (La Sorbonne, Paris). | |
| **C:\Documents and Settings\edannalslaw\Desktop\Vern_Singhroy.jpg** | **Prof. Dr. Vern Singhroy**  Dr. Singhroy is a Professor of Earth Observation at the International Space University in Strasbourg, France, and an Adjunct Professor in Planetary and Earth Sciences at UNB, and McMaster Universities. He received his Ph.D. in Environmental Engineering and Remote Sensing at State University of New York, Syracuse. He has over twenty five years of experience in Earth observation applications for resource management, environmental protection and natural hazards assessment. He is a senior research scientist at the Canadian Centre for Remote Sensing and the chief scientist of the RADARSAT Constellation Mission of the Canadian Space Agency. Dr. Singhroy was also a principal investigator of RADARSAT, ENVISAT, TERRA SAR and ALOS satellite missions in earth science applications. He has extensive experience in remote sensing projects in Canada, Middle East, Latin and South America, Japan, China and the Caribbean. He published over 300 scientific papers in books, refereed journals and conference proceedings and served on the Executive Committees of COSPAR, IEEE-IGARSS, ISPRS, IUGS and the CSA Advisory Committee on Space Exploration. Dr. Singhroy received several awards for his excellence in Canadian and international remote sensing applications. These awards are the Canadian Remote Sensing Society Gold Medal award, the Queen Elizabeth Diamond Jubilee Medal, and the Government of Guyana Special Achievement award. | |
|  | **Prof. Dr. Viachslav Adamchuk**  Dr. Adamchuk is Associate Professor at the Department of Bioresource Engineering, McGill University. Dr. Adamchuk obtained a mechanical engineering degree from the National Agricultural University of Ukraine. Later, he received both MS and PhD degrees in Agricultural and Biological Engineering from Purdue University, West Lafayette, Indiana, USA. Shortly after graduating, Dr. Adamchuk began his academic career as a faculty member in the Biological Systems Engineering Department at the University of Nebraska-Lincoln, USA. There, he taught university students, conducted research and delivered outreach programs relevant to precision agriculture, spatial data management, and education robotics. Also he was involved in the Organisation for Economic Co-operation and Development (OECD) tractor testing program and developed a methodology to validate the accuracy of tractor auto-guidance systems. After almost ten years in Nebraska, Dr. Adamchuk was appointed to the Bioresource Engineering Department at McGill University. Dr. Adamchuk’s research has focused on the development and deployment of on-the-go soil sensing technology to enhance the economic and environmental benefits of precision agriculture. Along with his work on sensors, Dr. Adamchuk has conducted numerous analyses of the agro-economic value of sensor-based information to aid in the successful deployment of emerging on-the-go sensing technology. Dr. Adamchuk has taught a number of programs dedicated to a systems approach in adopting smart farming technologies around the world. | |
|  | **Dr. Yaw Otu Nyampong**  Dr. Nyampong is Boulton Junior Fellow (Visiting Scholar) at the Faculty of Law, McGill University. As a Boulton Fellow, **he** taught a new specialized course in ‘Comparative Food Law.’ In 2010-2011, he was an Arsenault Postdoctoral Fellow on global governance in space. In 2005-06, Yaw worked as a Legal Consultant for the Food and Agriculture Organization, where he assessed existing national legislative frameworks for food safety, phytosanitary regulation and zoosanitary control in the 14 countries of the Pacific Island Forum and drafted model food control and food safety legislation and regulations for those countries. He holds a Doctor of Civil Law degree (2011) and a Master of Laws (2005) degree in Air and Space Law both from the Institute of Air and Space Law, McGill University; a Qualifying Certificate in Professional Law from the Ghana School of Law (2000); and, a Bachelor of Laws (LL.B) degree from the Faculty of Law, University of Ghana, Legon (1998). He is a member in good standing of the Ghana Bar Association. | |
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| **The World Economic Forum** is an independent international organization committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas  http://www.mcgill.ca/newsroom/sites/mcgill.ca.newsroom/files/100015.jpgThe **Global Agenda Council on Space Security** is of the view that space can help solve many global challenges faced by society and the planet, such as shortages of energy, water and resources. Space-based services monitor natural resources like fresh water and crops, and enable their more efficient management. In the energy sector, space can be a source of technological innovation for energy creation and storage, and help to maximize the output of renewable energy sources by providing information on the most efficient location and deployment of wind and solar installations. | | |
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**List of Participants**

**Experts**[[1]](#footnote-1)\*

1. Dr. Bhupendra Jasani, Kings College, London, UK
2. Mr. Brian Weeden, Secure World Foundation, Washington DC, USA
3. Dr. Caixia Yang, Beijing University of Aeronautics and Astronautics, Beijing, China
4. Ambassador Ciro Arévalo Yepes, Colombia
5. Mr. David Schorr, Transparent Seas Project, Washington DC, USA
6. Mr. Eya David Macauley, International Criminal Court, The Hague, the Netherlands
7. Dr. Harinder Ahluwalia, Info-Electronics Systems Inc., Montreal, Canada
8. Prof. Hugo Melgar-Quiñonez, McGill Institute for Global Food Security, Montreal, Canada
9. Mr. Jim Keravala, Shackleton Energy Company Inc., Austin (via Skype), USA
10. Ms. Joan Harvey, Canadian Space Agency, St. Hubert, Canada
11. Mr. Jonathan Hutson, Enough Project, Washington DC, USA
12. Dr. Joseph Pelton, International Association for the Advancement of Space Safety, Noordwijk, the Netherlands
13. Prof. Juqian Li, China University of Political Science & Law, Beijing, China
14. Mr. Martin Griffin, International Civil Aviation Organization, Montreal, Canada
15. Dr. Mazlan Othman, UN Office of Outer Space Affairs, Vienna, Austria
16. Prof. Dr. Paul Dempsey, McGill Institute of Air & Space Law, Montreal, Canada
17. Prof. Dr. Ram Jakhu, McGill Institute of Air & Space Law, Montreal, Canada
18. Mr. Steve Bochinger, EUROCONSULT, Montreal, Canada
19. Dr. Vern Singhroy, International Space University, Strasbourg, France
20. Prof. Viachslav Adamchuk, McGill Department of Bioresource Engineering, Montreal, Canada
21. Dr. Yaw Nyampong, McGill Faculty of Law, Montreal, Canada

**Rapporteurs**

1. Ms. Ashleigh Tomlinson, McGill Institute of Air & Space Law
2. Ms. Isavella Vasilogeorgi, McGill Institute of Air & Space Law
3. Ms. Sarah Mountin, McGill Institute of Air & Space Law

**Guests/Observers**

1. Prof. Sarah Stroud, McGill Associate Vice-Principal
2. Ms. Anna Birnie-Lefcovitch, McGill Office of the Vice-Principal

**Administrative Assistants**

1. Ms. Maria D’Amico, McGill Institute of Air & Space Law
2. Mr. David Kuan-Wei Chen, McGill Institute of Air & Space Law

1. \* Although the affiliations of participants are listed here, it is important to point out that each expert participates in the Workshop in his/her personal capacity. Views and opinions expressed may therefore not be attributed to the organization with which he/she is affiliated. [↑](#footnote-ref-1)