INTERNATIONAL SYMPOSIUM
2019

Predict . Prevent . Protect

28-31 May 2019
The Ritz-Carlton, Nur-Sultan, Kazakhstan

Department of Operational Support
United Nations
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Welcome Note

Mr. Atul Khare
Under-Secretary-General Department of Operational Support
United Nations

Welcome to the 5th International Partnership for Technology in Peacekeeping Symposium. I am sincerely grateful to our host, our newest partner in the Partnership initiative, the Republic of Kazakhstan.

The mandates that drive our operations are increasingly complex given the integrated and multi-dimensional aspects of both peacekeeping and peacebuilding. At the same time we operate, often, in unpredictable and hostile environments, with daily threats to United Nations civilian and military personnel.

Technology is a key driver of our efforts to become more efficient and effective in meeting these challenges. It is an effective vehicle for innovative and new solutions in support of field mission mandate implementation, the support of which is a key objective of the Department of Operational Support.

Given the transformative power of technology and the tactical importance of information and communication networks globally, this week’s discussions promise exciting opportunities for all of us.

New information communication technologies, such as artificial intelligence and 3D printing, can be used for peaceful or for military purposes. Innovations intended for civilian applications, such as synthetic biology or facial recognition software, can also be repurposed for harmful outcomes. All these developments impact the role of the UN in conducting peacekeeping operations. Implementing an effective field-focused innovation and technology structure now will leverage effective technologies in support of peacekeeping operations, while developing an innovative culture as the foundation for supporting future operations.

I thank all of you for your willingness to partner with us. This initiative promises exciting and new opportunities to solve our collective problems.

Thank you for joining us. I wish you all an enjoyable and productive week.
Mr. Jean-Pierre Lacroix
Under-Secretary-General Department for Peace Operations
United Nations

My warmest welcome to the participants and guests of this exciting Symposium on the Partnership for Technology in Peacekeeping. I want to express my gratitude to the authorities of Kazakhstan for hosting this important event.

The Secretary-General’s Action for Peacekeeping (A4P) initiative, launched in March 2018, underlines that partnerships are a key solution to the multitude of challenges that we face in our peacekeeping missions today, such as increasing threats, complex mandates, stalled political processes. This symposium is precisely an example of the type of partnership that is needed to ensure that peacekeeping can most efficiently address the challenges it faces in the field. New technologies can and will play an increasingly important role in making our missions more effective, efficient, nimble, innovative and flexible. As set out in the A4P Declaration of Shared Commitments, which has been endorsed by 151 governments and partner organizations so far, we require the strong, collective action from all peacekeeping stakeholders. We need your support to be able to make UN peacekeeping fit for the future. I look forward to engaging with you on these important issues during this symposium. I want to take the opportunity to thank you all for joining us this week in Nur-Sultan, Kazakhstan, and for your commitment to this partnership and to United Nations peacekeeping.
Major-General Nurlan Yermekbayev
Minister of Defence
Republic of Kazakhstan

Dear Participants,

It is our great honour to welcome you all, our distinguished guests to Nur-Sultan for the 5th International Symposium on Partnership for Technology in Peacekeeping. Kazakhstan is privileged to host this symposium together with the UN Department of Operational Support and the UN Department of Peace Operations, to both of whom we express our appreciation for this very productive collaboration.

With a deep sense of commitment to the UN and the ideals of multilateralism that Kazakhstan stands for, it is only natural that our country has stepped forward to bring Member States together to deliberate on one of the most important pillars of the UN, peace and security, and especially peacekeeping, its most important tool. We are proud that Central Asia for the first time is hosting this symposium, in the true spirit and principle of regional representation.

Kazakhstan has been participating in a range of UN peacekeeping missions for ten years now, starting with United Nations missions in Nepal (in 2009), Cote d’Ivoire (2015-2016), on referendum in Western Sahara (since 2014), and most recently, in UNIFIL in Lebanon (since 2018).

Though a new and young troop contributing country, we will expand our own contributions towards strengthening UN Peacekeeping through innovative approaches and building partnerships. Kazakhstan joins others in the larger effort to modernize peacekeeping for greater responsiveness, efficiency, accountability and relevance. So holding this symposium in Nur-Sultan is a clear demonstration of our commitment.

The theme of this year’s symposium – “Partnership for Technology in Peacekeeping: Predict. Prevent. Protect” – is most relevant because the current challenges demand new innovations and strategies. There have been many efforts to improve UN peacekeeping with specific recommendations, and corresponding reforms and changes; but the death toll continues to remain high. Hence the discussions on how peacekeeping technology can be harnessed to acquire in-depth data analysis, gather information, counter IEDs, and promote eco-responsibility and telehealth are very timely.

Fortunately, a new wave of technology is driving rapid global change, creating platforms for multilateral cooperation, not only in sustainable development but also just as dramatically in peace and conflict, international security, and global governance.

This symposium will address how these technologies, innovations and new developments can best be mobilized, where, how and under what circumstances, together with the mechanisms, resources and capacity building that are called for.

Our event, with its participants will come forward with guideposts for the future, and thus it promises to be most thought provoking and marks a quantum leap forward in new frontiers in peacekeeping to which we are all deeply committed.

I wish you productive discussions and fruitful outcomes!
Agenda at a Glance

MONDAY
- Arrival and Registration
- Registration
- Opening Plenary
  - Operational Perspectives on UN Peacekeeping
  - Partnerships, People and Process
  - Project Implementation Video
  - Projects and Partners

TUESDAY
- Registration
- Keynotes:
  - Applying Data Science in the Field
  - Applying Machine Learning in the Field

WEDNESDAY
- Registration
- Keynotes:
  - Applying Data Science in the Field
  - Applying Machine Learning in the Field
- Working Groups
- Working Groups

THURSDAY
- Keynote/Panel Discussions:
  - TRACIR: Trauma Care in a Rucksack
  - IOT and its application for PK Missions
  - UN Open GIS: “Open Standards for Secure Information Sharing”
  - Partnerships Video
- Plenary Outcomes
  - Working Group Outcomes
  - Areas of Cooperation
  - Next Steps for Engagement
  - Close

FRIDAY
- Working Groups
- Plenary Outcomes
- Closing Plenary
- Departure
Working Group Topics

We have five in-depth topics and panel discussions that will provide you with the opportunity to dive in. We’ve divided each topic into two working group sessions that cover important areas that you, as technical professionals, will focus on.

Build your agenda based on your specific needs and areas of interest.

- Focus on the strategic insight that supports the development or implementation of an actionable plan.

Sponsor or engage in a project and/or initiative.

- Walk away with actionable ideas for the topics, projects and initiatives that you are most interested in.

Interact with colleagues from other member states and UN staff.

- Moderated discussions are for exchanging ideas and best practices with your peers with a focus on the reality and challenges in peacekeeping today.
- Working group sessions and coffee breaks offer small scale and interactive opportunities to drill down on specific topics.

Big Data Analysis in Peace Operations

Global trends in advanced analytics, predictive modelling, statistical algorithms and what-if analysis powered by high-performance analytics systems will be included in the discussions. This working group will present planned initiatives to utilize big data analysis and data science methods in support of peace operations.

Emerging Technologies and Eco-Responsibility

Peacekeeping environments provide a unique opportunity to test and pilot innovative initiatives. This working group will look at some of the more frontier solutions and will identify various environmental protection opportunities including leveraging the Internet of Things (IOT) to monitor utilization and consumption of valuable resources.

Enhancing Military-Peacekeeping Intelligence Practices Utilizing Technology

Military-Peacekeeping Intelligence provides critical information to allow decision makers to take appropriate actions. Technology plays a part. This working group will review technology options in support of Military-Peacekeeping Intelligence including tools and training.

Improvised Explosive Devices (IED) and the Relationship to Other Asymmetric Threats

Improvised Explosive Devices (IED) pose a grave threat to many peace operations. The threat evolves as armed elements adjust to the counter measures implemented. This topic aims to discuss current developments in IED threat management and mitigation.

Telehealth in Peace Operations

Telehealth encompasses the use of a broad range of technologies to support and promote clinical health care and patient and professional health-related education in challenging and remote locations. Technologies, such as videoconferencing, store-and-forward imaging, streaming media, and terrestrial and wireless communications. Having the best possible medical care available to UN deployments and practical options to support the delivery of technology supported medical services will be reviewed by this working group.
Opening Remarks

Tuesday

Mr. Atul Khare
Under-Secretary-General Department of Operational Support
United Nations

Mr. Atul Khare has served the United Nations in various capacities. He served as Chief of Staff and Deputy Special Representative of the Secretary-General with the United Nations Mission of Support to East Timor (UNMISET) from June 2002 until its completion in May 2005. In December 2006, Mr. Khare was appointed as the Special Representative to the Secretary-General and Head of the United Nations Integrated Mission in Timor-Leste (UNMIT), serving until December 2009.

Mr. Jean-Pierre Lacroix
Under-Secretary-General for Peace Operations
United Nations

Mr. Jean-Pierre Lacroix is the Under-Secretary-General for Peacekeeping Operations. Mr. Lacroix brings to the position over 25 years of political and diplomatic experience, with a focus on multilateral organizations, and United Nations activities and programmes. Mr. Lacroix served from 2014 to 2017 as Director for United Nations, International Organizations, Human Rights and Francophonie at the French Ministry of Foreign Affairs. His previous appointments include Ambassador of France to Sweden, Chief of Protocol of France, Deputy Permanent Representative at the Permanent Mission of France to the United Nations in New York, Deputy Chief of Mission at the French Embassy in Prague and First Secretary then Second Counsellor at the French Embassy in Washington.

Major-General Nurlan Yermekbayev
Minister of Defence
Republic of Kazakhstan

Mr. Anthony O’Mullane  
Director, Operations Support Division, Office of Information and Communications Technology  
United Nations

Mr. Anthony O’Mullane has worked for the United Nations for 25 years in ICT, 21 years of which were with United Nations Peacekeeping Operations, beginning in 1994 in the Balkans, where he was deployed in Croatia, Bosnia and Kosovo. In subsequent years he has served in UN missions in Sierra Leone, Pakistan/India, Afghanistan and Lebanon before moving to the New York Headquarters in 2014 to work for the Chief Information Technology Officer (CITO) of the United Nations and was involved in the latter part of the development of the organization’s ICT strategy as Director, Global Operations Division.

Major-General Timur Dandybayev  
Deputy Minister of Defence  
Republic of Kazakhstan

Born June 2 1969, in the village of Kirov, Kaskelensky district, Alma-Ata region. In 1990 Major General Dandybayev graduated from the Volsk Higher Military School of Logistics. In 2001, he graduated from the University of Humanities, named after D. Kunaev, with a specialty in jurisprudence and in 2006 from the Royal College of Defense Studies (London, UK) and in 2013 he graduated from higher academic courses at the National Defense University with a specialty in military security for the state.

Yerzhan Ashikbayev  
Deputy Minister of Foreign Affairs  
Republic of Kazakhstan

Yerzhan Ashikbayev was born on June 16 1974 in Almaty, Kazakhstan. In 1998, he graduated from the Al-Farabi Kazakh State National University with BA degree in International Relations. In 2012, he graduated with master’s degree in Public Administration from the John F. Kennedy School of Government at Harvard University as the “Bolashak” Scholar. Yerzhan Ashikbayev started his career at the Ministry of Foreign Affairs of the Republic of Kazakhstan in 1998 as a desk officer at the Asia, Middle East and Africa Division of the Fourth Department. From 1999 to 2001, he held consecutive positions of Attaché, Third and Second Secretary at the Department for International Economic Cooperation.
Keynote Speakers
Lieutenant General Carlos Loitey
Military Adviser and Assistant-Secretary-General
United Nations

LtGen Loitey graduated from the Military Academy of Uruguay as an infantry Lieutenant on the 21 December 1977. As a junior officer, he served in the 3rd, 9th and 14th Infantry Battalions as a platoon and company commander and as a free-fall paratrooper and jump master. In 1993, he attended the Command and Staff Course at the Uruguayan Staff College in Montevideo and subsequently the Armed Forces War College, and he has extensive command and staff experience. As a Major, he was Deputy Commander of the 14th Infantry Parachute Battalion in Toledo and, in 1999, as a Lieutenant Colonel he commanded the 15th Mechanized Infantry Battalion. As a Colonel, he commanded the 1st Infantry Brigade from 2006-2009, and as a Major General he commanded the 2nd Army Division which, was stationed on the border with Argentina.

Ms. Atefeh Riazi
Chief Information Technology Officer and Assistant-Secretary-General
Office of Information and Communications Technology, United Nations

On 9 May 2013, Secretary-General Ban Ki-moon appointed Ms. Atefeh Riazi, a United States national born in Iran, as Chief Information Technology Officer, Assistant Secretary-General, Office of Information and Communications Technology, Department of Management. Ms. Riazi brings with her wide-ranging experience in the public and private sector, with a focus on leading complex organizational change involving large departments in challenging environments to deliver vital business transformation through the use of innovation and technology. She started her professional career with the Metropolitan Transit Authority of New York City.

Mr. Simon Mulongo
Deputy Special Representative for African Union Commission Chairperson (DSRCC) and Deputy Head of African Union Mission to Somalia (AMISOM)
United Nations

Mr. Simon Mulongo is the Deputy Special Representative for African Union Commission Chairperson (DSRCC) and Deputy Head of African Union Mission to Somalia (AMISOM). He leads the substantive units of the mission and is one of the key players in the Somali Transitional Plan (STP). The STP stipulates gradual handover of security responsibilities from AMISOM to Somalia security forces as dictated by the United Nations Security Council Resolutions and eventual exit. Mr. Mulongo is a national security professional with wide experience in defence and security assignments in the Great Lakes Region and the Greater Horn of Africa.
Seamus McMenamin has over 20 years experience as a military officer, C-IED expert and United Nations staff member. ‘Shay’ holds an honors degree in safety and risk management, a post graduate diploma in ordnance mechanical engineering as well as qualifications in project management and chemical biological radiological and nuclear threats. With extensive experience as a high threat Improvised Explosive Device Disposal operator, Shay brings his knowledge and leadership to the United Nations in support of Peace Operations. Shay has served in a diverse range of theaters in the Middle East and Africa including South Sudan, Somalia and Lebanon, both in military and civilian roles.

Dr. Jillann Farmer is the Director of the Division of Healthcare Management and Occupational Safety and Health (DHMOSH) for the United Nations, based at the headquarters in New York. Prior to this, she was the Medical Director of the Patient Safety Centre in Queensland Health, and the inaugural Director of the Clinician Performance Support Service. Jillann worked for the Medical Board of Queensland, building the Health Assessment and Monitoring Program for management of registrants with illnesses that impact their ability to practice. She also lead a program of national reforms that address the way Medicare Australia interacted with Practitioners whose practice had been identified as significantly different to peers.

Mr. Eduardo Artigas is the Chief Business Relationship Management Section, Regional Service Management Section of the Office of Information and Communications Technology. With more than 28 years of Peacekeeping experience, 15 of them in the field, Mr. Artigas worked in Missions in Middle East, Southeast Asia, Africa and Central America. Previously Chief ICT in UNTSO (Jerusalem), UNLB (Italy) and MINUSTAH (Haiti). Before joining UN, he was the technical Director of the Uruguayan Radio State Network. His current focus is on new technologies in support of Peacekeeping Operations.
Applying Data Science in an Operational Field Environment

Mr. Alejandro (Alex) Jaimes
Senior Vice President of A.I. and Data Science
Dataminr, United States

Dr. Paula Hidalgo-Sanchis
Manager, United Nations Global Pulse Lab Kampala
United Nations

Mr. Amirkhan Temirbayev
Director of Science and Technology Park
Al-Farabi Kazakh National University

Sentiment Analysis and Hate Speech Technologies

Mr. Amirkhan Temirbayev was born on April 27, 1986. He attended schools with physical and mathematical bias. In 2003, he applied to the Faculty of Physics at the al-Farabi KazNU. He graduated with honors from the Faculty of Physics and in the same year became a master's degree student. His doctoral thesis “Synchronization in the system of radio-technical generators with global and non-linear communication” was defended in October 2012 by the specialty “6D060400-Physics”. In the dissertation thesis A.A. Temirbayev, for the first time, experimentally discovered self-organized quasi-periodic dynamics in a real physical system. For the first time, a non-linear connection between generators was experimentally studied. From October 2012 to January 2015 he worked as the head of the KazNU laboratory of engineering profile.
Dr. Medhi Bennis is an Associate Professor at the Centre for Wireless Communications, University of Oulu, and an Academy of Finland Research Fellow. His main research interests are in radio resource management, heterogeneous networks, game theory and machine learning in 5G networks and beyond. Medhi has co-authored one book and published more than 200 research papers in international conferences, and journals. He was the recipient of the 2015 Fred W. Ellersick Prize from the IEEE Communications Society, the 2016 Best Tutorial Prize, the 2017 EURASIP Best paper Award and the 2017 Oulu University research award.

LtCol(GS) Lemm served in the Bundeswehr for more than 31 years, and has held command positions at company and battalion level and at the ministry of defense, when taking over the Military Element of ICTD. He ensures the close cooperation between OICT/OSD and the DPO/Office of Military Affairs. His priority areas of responsibilities are peacekeeping mission support, especially supporting the efficient use of technology in peacekeeping.

Dr. Ronald Poropatich is the Director of the Center for Military Medicine Research, Health Sciences and Professor of Medicine in the Division of Pulmonary, Allergy, and Critical Care Medicine at the University of Pittsburgh, and also serves as a Senior Advisor for Telemedicine, University of Pittsburgh Medical Center. He served 30 years on active duty in the U.S. Army retiring in 2012 at the rank of Colonel and led the U.S. Army telemedicine program across 22 time zones. Dr. Poropatich received his medical degree from Drexel University and completed all his medical training at the Walter Reed Army Medical Center.
Foggy forest in southern Kazakhstan.
Panel Discussions

Thursday, 14:00

**A Fireside Chat on Emerging Technologies: Leveraging Start-up Potential**

Panel: Ms. Galina Ozgur, Dr. Ki-Joune Li

Moderator

Ms. Galina Ozgur

Venture Scout

Aera VC, United States

Ms. Galina Ozgur is a startup mentor, advisor and technology ecosystem builder with a focus on establishing, managing and expanding startup innovation programs with a global vision. Based in New York, Galina is currently sourcing and evaluating startup dealflow on behalf of the New Zealand fund Aera VC, focusing on ventures improving society or the environment with transformative technology and business models. Galina’s most recent experience includes serving as Entrepreneur in Residence with 500 Startups + Sberbank Accelerator Program in Moscow and delivering ecosystem development consulting for the World Bank in Belgrade, Serbia.

Dr. Ki-Joune Li

Department of Computer Science and Engineering

Pusan National University, Republic of Korea

Professor Ki-Joune Li is working at the Department of Computer Science and Engineering of Pusan National University, Republic of Korea. In 1984 and 1986 he received his bachelor’s and master’s of science degree in computer sciences from Seoul National University, Korea. In 1992 he earned a Ph.D. in spatial databases from INSA de Lyon, France. Li has been working on GIS and spatial databases and serving as the project leader of inous (Indoor-Outdoor Service) R&D initiative as well as serving as chair of OGC IndoorGML standard working group and IPIN/ISC Indoor Map Subcommittee.
Thursday, 15:00

UNOpen GIS: Open Standards for Secure Information Sharing
Panel: Dr. Maria Antonia Brovelli, Prof. Ki-Joune Li, Mr. Pekka Sarkola, Dr. HaeKyong Kang

Moderator

Dr. Maria Antonia Brovelli
Professor of GIS and Digital Mapping
Politecnico di Milano, Italy

Mr. Pekka Sarkola
CEO, Gispo Ltd.
OSGeo, Finland

Dr. HaeKyong Kang
Korea Research Institute for Human Settlements, OpenGDS
UN Open GIS, Korea

Degree with honors in physics, Ph.D. in geodesy and cartography. She is Professor of GIS and digital mapping at the Politecnico di Milano (PoliMI) and member of the School of Doctoral Studies in data science at “Roma La Sapienza”. From 2011 to 2016 she was Vice Rector of PoliMI for the Como Campus. She is the chair of ISPRS WG IV/4; member of ESA ACEO and of GeoForAll Advisory Board; chair of the UN Open GIS Initiative “Capacity Building WG”, Deputy-Chair of the UN-GGIM Academic Network. She is leading many national and international projects and is the author of 88 scientific publications.

Mr. Pekka Sarkola is a distinguished expert in geospatial sciences and engineering with more than 20 years of professional experience in the field. Besides serving as Senior Advisor for geospatial intelligence, Mr. Sarkola has substantial working experience from implementing geospatial solutions for sectors such as defense and aviation. Currently, he is the CEO of Gispo Ltd., the leading open source geospatial solutions provider in Finland. Additionally, he presides over the Finnish association for open source geospatial software (OSGeo Finland).

Dr. HaeKyong Kang works for the Korea Research Institute for Human Settlements (KRIHS) supervised by the prime minister’s office and is funded as a research fellow by the government of the Republic of Korea. She is serving as a program manager of OpenGDS R&D Group in developing open source GIS software alongside 80 researchers from nine organizations. She is responsible for the Secretariat of the UN Open GIS Initiative which aims to develop open source GIS solutions for UN operations.
Working Group Moderators

Big Data Analysis in Peace Operations

Mr. Stefan Lemm
Head Military Operations Unit, Operations Support Division of the Office of Information and Communications Technology - Lead

Dr. Paula Hidalgo-Sanchis
Manager UN PulseLab Kampala United Nations Global Pulse

Mr. Micheal Giurgea
Client Support Manager, Dataminr

Mr. Kyoung-Soo Eom
Chief Geospatial Services, Operations Support Division of the Office of Information and Communications Technology

Mr. Timur Obukhov
Officer-in-Charge, Geospatial Analysis Unit, Operations Support Division of the Office of Information and Communications Technology

Emerging Technologies and Eco-Responsibility

Ms. Jacquelyn Amoko
Chief, Environmental Technical Support Unit, United Nations - Lead

Mr. Nicola Testa
Associate Environmental Engineer, United Nations Global Service Center, Department of Operational Support

Mr. Abdul Hameed Tutakhail
Chief Service Management United Nations Global Service Center, Department of Operational Support

Sangkeon Lee
Korea Research Institute for Human Settlements (KRIHS)
Enhancing Military Peacekeeping

Major Ellen Regeling
Assessment Officer, Office of Military Affairs – Assessment Team, United Nations, Lead

Mr. Timur Obukhov
Officer-in-Charge, Geospatial Analysis Unit, Operations Support Division of the Office of Information and Communications Technology

Wing Commander Sally Courtnadge
ISR expert, Office of Military Affairs – Assessment Team, United Nations

Mr. Guillaume Criloux
Chief Geospatial Analysis Unit, Operations Support Division of the Office of Information and Communications Technology

Improvised Explosive Devices (IED) and the Relationship to Other Asymmetric Threats

Col Jose Antonio Latorre
Deputy Chief, Policy and Doctrine Team, Office of Military Affairs, United Nations, Lead

Mr. Bryan Sand
Senior Advisor, UN Mine Action Service (UNMAS), United Nations

Telehealth in Peace Operations

Dr. Jillann Farmer
Director, Division of Healthcare Management and Occupational Safety and Health, Department of Operational Support, United Nations, Lead

Dr. Mark Elcock
Retrieval Services Queensland, Australia

Mr. Daniel Best
Retrieval Services Queensland, Australia

Dr. Karen Waite
Ontario Telehealth Services, Canada
Conference Organizers

Ms. Katrina Miles
Conference Organizer and Moderator
Military Operations Unit, Operations Support Division of the Office Information and Communications Technology, United Nations

Mr. Dalibor Petrovic
Conference Media and Communications Support
Project Management Office, Operations Support Division of the Office Information and Communications Technology, United Nations

Mr. James J Smith
Conference Logistic Support
Military Operations Unit, Operations Support Division of the Office Information and Communications Technology, United Nations

Mr. Stefan Lemm
Conference Moderator Support
Head of Military Operations Unit, Operations Support Division of the Office Information and Communications Technology, United Nations

LtCol Olzhas Khussainov
Head of International Cooperation Department
Ministry of Defence, Republic of Kazakhstan

Col Yerulan Akylbayev
Military Advisor, Permanent Representation of the Republic of Kazakhstan to the United Nations
Ministry of Defence, Republic of Kazakhstan

LtCol Ruslan Omirzakov
Chief of Euro-Atlantic Cooperation Section, International Cooperation Department
Ministry of Defence, Republic of Kazakhstan

LtCol Daulet Abdykadyrov
Chief of Protocol Directorate, International Cooperation Department
Ministry of Defence, Republic of Kazakhstan

LtCol Valikhan Baikenov
Chief of Protocol Section, International Cooperation Department
Ministry of Defence, Republic of Kazakhstan

Maj Almas Ismagulov
Senior Desk Officer of Protocol Section, International Cooperation Department
Ministry of Defence, Republic of Kazakhstan

Maj Zhandos Igilikov
Senior Desk Officer of Euro-Atlantic Cooperation Section, International Cooperation Department
Ministry of Defence, Republic of Kazakhstan
Near the Presidential Palace. Nur-Sultan, Kazakhstan
# Daily Agenda

## Tuesday, 28 May 2019

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<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Details</th>
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<tr>
<td>08:00 - 16:00</td>
<td>Registration</td>
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<tr>
<td>09:00 - 10:00</td>
<td>Opening Remarks:</td>
<td>Mr. Anthony O’Mullane, Director of Operations Support Division of the Office of Information and Communications Technology</td>
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<td>Mr. Atul Khare, Under-Secretary-General Department of Operational Support, United Nations</td>
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<td>Mr. Jean-Pierre Lacroix, Under-Secretary-General Department for Peace Operations, United Nations</td>
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<td>MajGen Nurlan Yermekbayev, Minister of Defence, Republic of Kazakhstan</td>
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<tr>
<td>10:00 - 11:15</td>
<td>Group Photo, Coffee Break, Presser</td>
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<td>Introduction of Speaker:</td>
<td>Anthony O’Mullane, Director OSD/OICT</td>
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<tr>
<td>11:15 - 12:00</td>
<td>Presentations:</td>
<td>“Operational Perspective on UN Peacekeeping”, Lt. General H. Carlos Loitey, Military Advisor and Assistant Secretary General, Office of Military Affairs, United Nations</td>
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<td>“A Technology Strategy for the United Nations”, Ms. Atefeh Riazi, Chief Information and Technology Officer and Assistant-Secretary-General, Office of Information and Communications Technology, United Nations</td>
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<tr>
<td>12:00 - 13:30</td>
<td>Lunch Break</td>
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<tr>
<td>13:30 - 14:00</td>
<td>Introduction of Speaker:</td>
<td>Anthony O’Mullane, Director OSD/OICT</td>
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<tr>
<td>13:30 - 14:00</td>
<td>Presentations:</td>
<td>“Technology - Enabling mandates - Supporting the Peacekeeper”, Mr. Simon Mulongo, Deputy Special Representative for African Union Commission Chairperson (DSRCC) and Deputy Head of African Union Mission to Somalia (AMISOM)</td>
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<tr>
<td>14:00 - 14:30</td>
<td>Presentations:</td>
<td>“Peace Operations in an Asymmetric Environment – Responding to Evolving and innovative threat patterns”, Mr. Seamus McMenamin, Operations Planning Officer with the United Nations Mine Action Service (UNMAS) at the United Nations Interim Force in Lebanon (UNIFIL)</td>
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<td>14:30 - 15:00</td>
<td>Coffee Break</td>
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### Wednesday, 29 May 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>08:00 - 16:00</td>
<td>Registration</td>
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<tr>
<td>08:30 - 09:30</td>
<td>Welcome: Ms. Katrina Miles</td>
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<tr>
<td>09:00 - 10:30</td>
<td>Keynote Presentations: <strong>Applying Data Science in an Operational Field Environment</strong>, Mr. Alejandro (Alex) Jaimes SVP of AI &amp; Data Science at Dataminr, USA</td>
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<tr>
<td>10:45 - 11:15</td>
<td>Keynote Presentations: <strong>CubeSats – Application for solving pressing challenges in Peacekeeping</strong>, Mr. Amirkhan Temirbayev, Director of Science and Technology Park, Al-Farabi Kazakh National University</td>
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<tr>
<td>11:15 - 11:45</td>
<td>Keynote Presentations: <strong>Connecting the Future: 6G Flagship Project</strong>, Dr. Medhi Bennis, Associate Professor at the Center for Wireless Communications, University of Oulu, Finland</td>
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<td>11:45 - 12:00</td>
<td>Keynote Presentations: <strong>Intro to the Working Groups: Structure, Goals, Outcomes</strong>, Mr. Stefan Lemm, Head Military Operations Unit, Operations Support Division of the Office of Information and Communications Technology, United Nations</td>
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<tr>
<td>12:00 - 13:00</td>
<td>Lunch Break</td>
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<td>13:00 - 16:00</td>
<td>Moderated Discussions: Working Groups</td>
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<td>Defining the role of technology solutions within the context of UN Peace Operations</td>
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<td>Working Group Meetings by Topic</td>
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<td><strong>“Improvised Explosive Devices (IED) and the Relationship to Other Asymmetric Threats”</strong></td>
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<td>SMART IED Threat Mitigation Technology Roadmap (SMITM/IR): Presentation and discussion on the nexus of threat, technology and equipment in a common information and knowledge hub.</td>
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<td>Moderators: Col Jose Antonio Latorre, Deputy Chief, Policy and Doctrine Team, OMA</td>
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<tr>
<td></td>
<td>Mr. Bryan Sand, Senior Advisor, UN Mine Action Service (UNMAS)</td>
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“Enhancing Military Peacekeeping Intelligence practices through Technology”
“GEOINT technologies” — Presentation and discussion on Automated Change Detection, Analytics as a Service, Near-Future New Imagery Tech, National Capabilities and Tasking Options. Can and should we change the way we do military imagery peacekeeping-intelligence in the UN?

“Managing ISR data” — Presentation and discussion on Delivering the Secure Network, Making Sense of ISR Data and Storage Solutions.

Moderators
Maj Ellen Regeling, Assessment Officer, OMA/AT - Lead
Wing Commander Sally Courtnadge, ISR expert, OMA/AT
Mr. Guillaume Criloux, Chief Geospatial Analysis Unit, UN Geospatial Information Section, Operations Support Division, OICT, United Nations
Mr. Timur Obukhov, Officer-in-Charge, Geospatial Analysis Unit, UN Geospatial Information Section, Operations Support Division, OICT, United Nations

“Big Data Analysis in Peace Operations”
Applying Existing Big Data Technologies in Support of the United Nations — Presentation and discussion on Experiences made with United Nations Entities.

Big Data and AI/ML: Data Privacy and Protection regulations and Ethics Frameworks — A presentation of existing documents and discussion requirements

Moderators
Mr. Stefan Lemm, Head Military Operations Unit, OICT/OSD - Lead
Dr. Paula Hidalgo-Sanchis, Manager UN PulseLab Kampala

Planned initiatives to utilize big data analysis and data science methods in support of Peace Operations

Moderators
Mr. Stefan Lemm, Head Military Operations Unit, OICT/OSD
Mr. Michael Giurgea, Client Support Manager, Dataminr
Dr. Paula Hidalgo-Sanchis, Manager UN PulseLab Kampala

“Emerging Technologies and Eco-Responsibility”
Challenges of Managing the Environment — The session discusses a range of technological efforts and challenges within Peacekeeping in the area of eco-responsibility.

How SMART can a UN camp get? — Beyond tags, what innovative solutions present the best opportunities for environmental performance improvement (and wider impact)?

Moderators
Ms. Jacquelyn Amoko, Chief, Environmental Technical Support Unit, UN - Lead
Mr. Kyoung-Soo Eom, Chief GIS OICT/OSD

Presentations
Ms. Jacquelyn Amoko, Chief, Environmental Technical Support Unit, UN - Lead
Prof. Young-Duk PARK of Korea Advanced Institute of Science and Technology (KAIST)
Dr. Sangkeon LEE of Korea Research Institute for Human Settlements (KRIHS)

“Telehealth in Peace Operations”
Telehealth to support emergency care in Field hospitals

Moderators
Dr. Jillann Farmer, Director, Division of Healthcare Management and Occupational Safety and Health, Department of Operational Support, United Nations

Speaker
Dr. Mark Elcock, Retrieval Services Queensland, Australia

Technical Feasibility of telehealth implementation in remote locations

Moderators
Dr. Jillann Farmer, Medical Director, United Nations

Speaker
Mr. Daniel Best, Retrieval Services Queensland, Australia

16:00 - 16:30
Coffee Break

16:30 - 17:00
Plenary: Working Group Day 1 Outcomes and Wrap-Up, Mr. Stefan Lemm, Moderator

17:00
Cultural Activities/Executive Time
Thursday, 30 May 2019

**Moderated Discussions: Working Groups**
Defining the role of technology solutions within the context of UN Peace Operations

**Working Group Meetings by Topic**

"*Improvised Explosive Devices (IED) and the Relationship to Other Asymmetric Threats*"
Current and Future Threats: Moving from reaction to prevention at the UN:  
*Presentation on current asymmetric threats to Missions and discussion on how the UN can move “left of the bang”.*

Moderators  
Col Jose Antonio Latorre, Deputy Chief, Policy and Doctrine Team, OMA  
Mr. Bryan Sand, Senior Advisor, UN Mine Action Service (UNMAS)

"*Enhancing Military Peacekeeping Intelligence practices through Technology*"

"Knowledge and Capacity Development" — Presentation and discussion on Interactive Online Training Environments, Generating Virtual Working Spaces to Share Knowledge, Digital Soldiers and a UN ISR Wiki Environment.

"Improving Analysis" — Presentation and discussion on basic and enhanced tools for analysis (including Software), Access to and Analysis of Publicly Available Information and Quick Wins Technology for Collection and Analysis.

Moderators  
Ms. Ellen Regeling, Assessment Officer, OMA/AT  
Ms. Sally Courtnadge, ISR expert, OMA/AT

"*Big Data Analysis in Peace Operations*"

"Artificial Intelligence and Machine Learning (AI/ML) based Image Interpretation and Analyst*" — Discussion on current methods, requirements for support and existing capabilities.

Moderators  
Mr. Stefan Lemm, Head Military Operations Unit, OICT/OSD  
Dr. Paula Hidalgo-Sanchis, Manager UN PulseLab Kampala  
Mr. Kyoung-Soo Eom, Chief UN Geospatial Information Section, Operations Support Division, OICT, United Nations  
Mr. Timur Obukhov, Officer-in-Charge, Geospatial Analysis Unit, UN Geospatial Information Section, Operations Support Division, OICT, United Nations

"*Emerging Technologies and Eco-Responsibility*"

"Returning maximum value" — Pulling on experience to assess how to use constrained resources and skills to deliver the highest positive impact on the environment.

Moderators  
Mrs. Jacquelyn Amoko, Chief, Environmental Technical Support Unit, UN Global Service Centre, Department of Operational Support, United Nations - Lead  
Mr. Nicola Testa, Associate Environmental Engineer, UNGSC, United Nations

"Merging the physical and digital environments" — How can enhanced analytics change our capabilities to predict, protect and prevent?

Moderators  
Mrs. Jacquelyn Amoko, Chief, Environmental Technical Support Unit, UN Global Service Centre, Department of Operational Support, United Nations - Lead  
Mr. Abdul Hameed Tutakhail, Chief Service Management UNGSC  
Mr. Ivan Zhdanov, Lead Digital Industrial Engineer, UN Environment, Crisis Management Branch
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| 09:00 - 10:30| **Panel:** "Telehealth in Peace Operations"  
"Telehealth as a core service delivery mode of a healthcare system – the possibilities are endless"  
Moderators: Dr. Jillann Farmer, Medical Director, United Nations, TBA  
Presenter: Dr Karen Waite, Ontario Telehealth Services, Canada |
| 10:30 - 10:45| Coffee Break                                                            |
| 10:45 - 11:30| Working Groups Continue                                                 |
| 11:30 - 12:00| Plenary: Working Groups Wrap-Up, Mr. Stefan Lemm, Moderator           |
| 12:00 - 13:30| Lunch Break                                                             |
| 13:30 - 14:00| Introduction to Speaker: Dr. Jillann Farmer, DOS                       |
| 14:00 - 14:45| Panel Discussion: "TRACIR: Trauma Care in a Rucksack. A closed loop autonomous and robotic controlled CPR platform utilizing Unmanned Aerial Vehicles", Dr. Ron Poropatich, University of Pittsburgh, USA |
| 14:45 - 15:00| Coffee Break                                                            |
| 15:00 - 15:45| Panel Discussion: UN Open GIS: “Open Technologies for the United Nations”,  
Dr. Maria Antonia Brovelli, Professor of GIS and Digital Mapping, Politecnico di Milano, Italy |
| 15:45 - 16:00| Partnerships Video: Ms. Katrina Miles                                  |
| 19:00 - 21:00| Formal Dinner: Mr. Yerzhan Ashykbayev, Deputy Minister of Foreign Affairs, Republic of Kazakhstan |

**Friday, 31 May 2019**

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| 09:00 - 10:00| Panel: Outcomes and Areas of Cooperation, Mr. Stefan Lemm, Moderator  
Dr. Jillann Farmer, Director, Division of Healthcare Management and Occupational Safety and Health, Department of Operational Support, United Nations  
Ms. Jacquelyn Amoko, Chief, Environmental Technical Support Unit, UN - Lead  
Dr. Paula Hidalgo-Sanchis, Manager UN Pulse Lab Kampala  
Department of Operational Support, United Nations – Lead  
Mr. Kyoung-Soo Eom, Chief Geospatial Services, Operations Support Division  
Office of Information and Communications Technology, United Nations  
Col Jose Latorre, Deputy Chief, Policy and Doctrine Team, OMA - Lead  
Maj Ellen Regeling, Assessment Officer, Office of Military Affairs  
Assessment Team, United Nations - Lead |
| 10:30 - 11:00| Presentation: "The Role of Procurement", Ms. Niiara Abliamitova, Procurement Officer, SecurityTeam/Procurement Division |
| 11:00 - 11:15| Coffee Break                                                            |
| 11:15 - 11:45| Presentation: Next Steps for Engagement, Mr. Eduardo Artigas           |
| 11:45 - 12:30| Host Country Staff Appreciation  
Closing Ceremony with Remarks                                                                |
| 12:30         | End of Symposium                                                        |
Snowy mountains in Eastern Kazakhstan.
Working Group Description

and Moderator Biographies

Big Data Analysis

This working group will present planned initiatives to utilize big data analysis and data science methods in support of peace operations. UN Global Pulse, an initiative of the Executive Office of the Secretary-General, the Operations Support Division of the Office of Information and Communications Technology (OICT) and the Office of Military Affairs are partnering to develop and provide a sentiment analysis on peace operations. The discussion will cover what is already available, what is in the pipeline, discuss new ideas, as well as standardizing, sustaining and mainstreaming these solutions. Global trends in advanced analytics, predictive modelling, statistical algorithms and what-if analysis powered by high-performance analytics systems will be included in the discussions. How can current initiatives optimize impact and what steps are needed to plan for the future? How do we approach the integration of AI/ML into satellite imagery analysis?

Moderator

Mr. Stefan Lemm

Head Military Operations Unit
Operations Support Division of the Office of Information and Communications Technology - Lead

LtCol (GS) Lemm served in the Bundeswehr for more than 31 years, and has held command positions at company and battalion level and at the ministry of defense, when taking over the Military Element of ICTD. He ensures the close cooperation between OICT/OSD and the DPO/Office of Military Affairs. His priority areas of responsibilities are peacekeeping mission support, especially supporting the efficient use of technology in peacekeeping.

Mr. Micheal Giurgea

Client Support Manager
Dataminr

Michael leads client engagement across Dataminr’s international public sector relationships. Within this capacity, Michael works directly with various stakeholders and user groups throughout the United Nations. Since joining the company, Michael has worked with thousands of users who are located on six continents.

Dr. Paula Hildago-Sanchis

Manager
UN PulseLab Kampala

Paula works as Manager of Pulse Lab Kampala, a Lab under the United Nations Global Pulse network. She has worked as humanitarian and international development practitioner for over 18 years based in Africa, Asia and America. With working experience as Manager of Innovation Initiatives, Social Policy Advisor for Governments and Analyst with the UN and a private Foundation Paula is passionate about promoting innovations for human
Emerging Technologies and Eco-Responsibility

Peacekeeping environments provide a unique opportunity to test and pilot innovative initiatives. This working group will look at some of the more frontier solutions and will identify various environmental protection opportunities including leveraging the Internet of Things (IoT) to monitor utilization and consumption of valuable resources. Strategies on changing individual and group behaviour to support eco responsible operations will be analyzed. The working group will also explore initiatives that reduce the organization’s impact on host country environments, including smart camps, with a focus on water exploration and usage, power generation and waste water management. The role of analytics and frontier technologies will be discussed as the UN is excited to engage with Member States on their shared experience and proven solutions.

Moderator

Ms. Jacquelyn Amoko
Chief, Environmental Technical Support Unit
United Nations - Lead

Ms. Jacquelyn Amoko heads the Environmental Technical Support Unit at the UN Global Service Centre in Brindisi, Italy. The unit leads the energy, water & wastewater and solid waste pillars of the environment strategy for field missions.

Mr. Kyoung-Soo Eom
Chief Geospatial Services, Operations Support Division
Office of Information and Communications Technology, United Nations

Mr. Kyoung-Soo Eom has been serving as Chief of UN Geospatial Information Section since 2005 at UNHQ. He has over 35 years of technical and management experience in the public and private sectors as well as military service.

Mr. Abdul Hameed Tutakhail
Chief Service Management United Nations Global Service Center,
Department of Operational Support, United Nations

Abdul Hameed Tutakhail is the Chief of Service Management at the United Nations Global Service Center in Brindisi Italy. Prior to this he was the Chief of Technology Development and Innovation. Abdul Hameed Tutakhail brings over 10 years of experience both from the private sector having worked for industry heavyweights.

Mr. Nicola Testa
Associate Environmental Engineer, United Nations Global Service Center
Department of Operational Support, United Nations

Nicola is an Environmental Engineer with a master’s from the Institute of Environmental Engineering in Turin, Italy, during which he was for 18 months the visiting student at the EPFL, Environmental Engineering Faculty, in Lausanne, Switzerland.

Sangkeon Lee
Korea Research Institute for Human Settlements (KRIHS)

Prof. Young-Duk Park
Korea Advanced Institute of Science and Technology (KAIST)

Ivan Zhdanov
Lead Digital Industrial Engineer, UN Environment
Crisis Management Branch, DOS, United Nations
Enhancing Military-Peacekeeping Intelligence Practices Utilizing Technology

Military-Peacekeeping intelligence (MPKI) provides critical information to allow decision makers to take appropriate actions. The UN is developing related policy, operating processes and procedures. Technology plays a part. Preserving the integrity of military-peacekeeping intelligence information and utilizing effective and integrated tools is critical from an operational perspective. This working group will review technology options in support of Military-Peacekeeping intelligence including tools and training. GEOINT and the image analysis capacity is a growing requirement in Peacekeeping missions. Specific questions to be explored are: How can technology support MPK intelligence knowledge development? What technologies can do to improve baseline MPKI skills, e.g. e-learning, online exercises reinforcing understanding, virtual training environment? How do we assess an integrated suite of specialist and analytical tools to support military-peacekeeping intelligence, e.g. analysis tools, IRM&CM tools, GEOINT software?

Moderator

Major Ellen Regeling
Assessment Officer, Office of Military Affairs
Assessment Team, United Nations, Lead

Since 2016 Major Ellen Regeling works as an Assessment Officer with the Assessment Team of the Office of Military Affairs within the Department of Peace Operations. Her UN field experience includes the MINUSMA mission in Mali.

Wing Commander Sally Courtnadge
ISR expert, Office of Military Affairs – Assessment Team
United Nations

Wing Commander Sally Courtnadge joined the Royal Air Force in August 2000 as an Intelligence Officer. She has served in a wide variety of appointments and has specialised as an Imagery Analyst and an Intelligence, Surveillance and Reconnaissance (ISR) manager.

Mr. Timur Obukhov
Officer-in-Charge, Geospatial Analysis Unit,
Operations Support Division
Office of Information and Communications Technology, United Nations

Mr. Guillaume Criloux
Chief Geospatial Analysis Unit, Operations Support Division
Office of Information and Communications Technology, United Nations
Improvised Explosive Devices (IED) and the Relationship to Other Asymmetric Threats

Improvised Explosive Devices (IED) pose a grave threat to many peace operations. The threat evolves as armed elements adjust to the counter measures implemented. This topic aims to discuss current developments on IED threat management and mitigation. It will assess other related threats that can accompany IEDs such as indirect fire, complex attacks or unmanned aerial systems, more frequently used to prepare or support IED attacks.

The questions to be explored include: What are the best available platforms to securely share threat information. How do we enhance Mission Situational Awareness? What are the best practices regarding civilian, police and military responses and tactics?

Moderator

Col Jose Antonio Latorre
Deputy Chief, Policy and Doctrine Team, OMA, Lead

Mr. Bryan Sand
Senior Advisor, UN Mine Action Service (UNMAS)

Colonel Jose A Latorre is a Spanish Army officer serving in the Office of Military Affairs as Deputy Chief of Policy and Doctrine Team. He is also the UN IED Survivability Capability Development project manager. Graduated from Spanish Military Academy as Lt of Infantry in 1992, he served in Special Forces units for 14 years.

Bryan Sand is the senior advisor to the Director of the UN Mine Action Service, and lead of UNMAS’ IED Threat Mitigation Advisory Team. He has extensive experience in EOD and IEDD.
Telehealth in Peace Operations

Telehealth encompasses the use of a broad range of technologies to support and promote clinical health care and patient and professional health-related education in challenging and remote locations. Technologies utilized include videoconferencing, the internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications. In addition, aircraft, drones and other means can be utilized to deliver medical related goods and services. Options for providing access to specialist 24/7 medical expertise from field locations has been previously considered. Member States are focused on having the best possible medical care available to UN deployments with practical options to support the delivery of technology supported medical services to be reviewed by this working group.

Moderator

Dr. Jillann Farmer
Director, Division of Healthcare Management and Occupational Safety and Health
Department of Operational Support, United Nations

Dr. Jillann Farmer is the Director of the Division of Healthcare Management and Occupational Safety and Health (DHMOSH) for the United Nations, based at the headquarters in New York. Prior to this, she was the Medical Director of the Patient Safety Centre in Queensland Health, and the inaugural Director of the Clinician Performance Support Service.

Mr. Daniel Best
Retrieval Services
Queensland, Australia

Daniel has over 13 years experience in the field of telehealth in Queensland, Australia. During this time he has worked across both government and non-government sectors where his passion has always driven him to the advancement of technology in the healthcare industry. He is currently working with Queensland Health in a leadership role to expand and refine fit-for-purpose technology to enable new telehealth models of care across the state.

Dr. Mark Elcock
Retrieval Services
Queensland, Australia

Dr. Mark Elcock MBChB FACEM FRCEM is Executive Director, Aeromedical Retrieval and Disaster Management Branch, Queensland Department of Health and a Professor at the College of Public Health, Medical and Veterinary Sciences, James Cook University, Australia.

Dr Karen Waite

Ontario Telehealth Services
Canada

Karen brings over 30 years of health care experience to a diverse client base in both public and private sectors. Karen is an advocate for the use of technology in driving health system improvement.
Presidential Palace. Nur-Sultan, Kazakhstan
5th International Symposium of Partnership for Technology in Peacekeeping

For information please contact:
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