



SCIENCE AND TECHNOLOGY ORGANIZATION
COLLABORATION SUPPORT OFFICE



HUMAN FACTORS & MEDICINE (HFM) PANEL

CALL FOR PAPERS

HFM-254 Symposium on

"Health Surveillance and Informatics in Missions: Multidisciplinary Approaches and Perspectives"



To be held in

Paris, France

12-14 October 2015

The Symposium is OPEN to Partnership for Peace (PfP),
Mediterranean Dialogue (MD) and Selected Contact Nations

DEADLINE FOR RECEIPT OF ABSTRACTS:

31 March 2015

For information please contact [terry.rauch@ha.osd.mil or clere.jm@hotmail.fr]

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NATO's Science and Technology Organization (STO)

The NATO Science and Technology Organization (STO) is defined as the selective and rigorous generation and application of state-of-the-art, validated knowledge for defence and security purposes. S&T activities embrace scientific research, technology development, transition, application and field-testing, experimentation and a range of related scientific activities that include systems engineering, operational research and analysis, synthesis, integration and validation of knowledge derived through the scientific method.

NATO's S&T is addressed using the following business models:

- The Collaborative business model where NATO provides a forum where NATO Nations and partner Nations elect to use their national resources to define, conduct and promote cooperative research and information exchange;
- The In-House delivery business model where S&T activities are conducted in a NATO dedicated executive body, having its own personnel, capabilities and infrastructure.

The purpose of the NATO STO is to help position the Nations' and NATO's S&T investments as a strategic enabler of the knowledge and technology advantage for the defence and security posture of NATO Nations and partner Nations, by:

- Conducting and promoting S&T activities that augment and leverage the capabilities and programmes of the Alliance, the NATO Nations and the partner Nations, in support of NATO's objectives;
- Providing support to the activities conducted by the NATO Nations and NATO;
- Organizing and conducting scientific research and technology development and deliver innovative and field tested S&T solutions to address the defence and security needs of NATO Nations and partner Nations.

The Human Factors and Medicine Panel (HFM) is part of the Science & Technology Organization, Collaboration and Support Office (STO-CSO): Consult our STO/CSO website at <http://www.cso.nato.int>

The HFM Panel covers the fields of three, complementary, domains which are represented in the three 'Area Committees':

A) The **Health, Medicine and Protection Area (HMP)** provides the scientific basis for establishing an operationally fit and healthy force, restoring health, minimizing disease and injury, optimizing human protection, sustainability and survivability. This encompasses research in the field of military medicine, physiology, psychology and human protection technology. Areas of interest include, among others, medical diagnosis, prevention, treatment and evacuation. HMP also focuses on enhancing human protection research on physiological and physical influences, e.g. of cold, heat, air pressure, noise, vibration, ionizing and non-ionizing radiation, acceleration, motion, biological and chemical effects on the human body, and developing appropriate countermeasures.

B) The **Human Effectiveness Area (HE)** optimizes individual readiness and organizational effectiveness by addressing psychosocial, cognitive, social, organizational, and cultural aspects in operations. Contributions on individual readiness cover values and ethics, leadership, multi-national operations and coping with new demands on the individual. Contributions on organizational effectiveness encompass human resource management, training, interoperability, civil-military cooperation, shared decision-making, synchronized situational awareness, understanding terrorism, psychological operations and coping with new demands on military organizations.

C) The **Human System Integration Area (HSI)** optimizes the performance of human-operated technical systems by addressing the human-machine interactions, processes, tools and measures of effectiveness. Specific contributions cover complexity, total life-cycle affordability, human error and fatigue management, intelligent agent, human-system communication, human cognitive and physical resources management, anthropometry, interface, design of information displays and controls, human-human communications and teamwork, performance enhancement and aiding, training and function allocation in automated systems.

"Health Surveillance and Informatics in Missions: Multidisciplinary Approaches and Perspectives"

HFM 254 PROGRAMME COMMITTEE MEMBERS

Chairpersons

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Members

<p>Patrick A. Mason, PhD (USA) Prof. Dr. Adelbert (A.W.) Bronkhorst (NLD) Dr. Robert Foster (USA)</p>	<p>LCL Daniel Hauret (FRA) Dr. Janet Harris, (USA) Dr J. Whitehead (CAN)</p>
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NATO-STO-CSO / HFM Panel

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"Health Surveillance and Informatics in Missions: Multidisciplinary Approaches and Perspectives"

THEME

I. BACKGROUND AND JUSTIFICATION -- Relevance to NATO

In NATO operations over the past 20 years (The Balkans to Afghanistan), medical operators are being faced with a high flow of data enabled by the most modern information devices. While numerous technologies may deliver raw medical data (e.g., provided by physiological sensors, epidemiology models, and patient management devices), medical planners and health care delivery personnel are faced with large volumes of pre-processed information needing various levels of integration and sharing across a human network. The most current state-of-the-art in human factors/human systems integration must be brought in to ensure the effectiveness of the human networks in NATO medical systems.

Real-time surveillance of the health status of NATO forces (pre-deployment / deployment / post-deployment) and the population in the operational theatre is possible with emerging population health and healthcare delivery information systems. Medical informatics thus appear as an attractive tool. Rapid field diagnostic systems, equipment and materials used by NATO medical personnel across Role 1 to Role 3 operations can be enabled by emerging medical informatics technology. Modern automation-based surveillance systems collect and monitor data for occupational health concerns, disease trends and/or outbreaks for NATO with the operational objective of providing medical support personnel and systems the ability to protect the health of NATO forces and the populations within NATO operational areas. Point-of-injury casualty assessment and handling, casualty and medical evacuation and Role 2 and 3 patient management systems can be greatly enhanced by emerging surveillance and medical informatics systems (e.g., triage, evacuation, initial treatment, patient data registry). Recent technology advances allow for non-invasive and remote monitoring of physiologic parameters, permit to determine soldier ability to achieve their missions, giving another tool in managing operations and in the process of decision. A final variable to be considered in modernization in NATO medical operations is the human factors and systems integration aspect. The experience already acquired in the management of information on the battle field can be used in the concept of this medical informatics system.

In the operational domain, numeric tools and data processing have drastically transformed the operator's task. Supervising a set of automation suppliers enlarges the operational capabilities. Beside, depth in expertise is inhomogeneous making critical events more difficult to handle. The technology by itself may have perverse effects. In NATO operational centers, a large number of numeric tools are developed by contributive nations, in specific formats and used simultaneously, in parallel with NATO applications, for interoperability purpose. The problem of optimizing information use and sharing is thus crucial. Informatics may be developed in a very short delay and rapidly updated. But for operational use, they need to be field assessed, reinforced, and integrated. Operators and designers' creativeness may be left far behind in such a time line. Informatics thus question operational needs, individual creativity as well as procurement process and efficiency.

II. OBJECTIVES:

The symposium will address four objectives.

1. Across the continuum of operations (e.g., garrison operations through war and relief operations), the current state-of- research and technology in medical surveillance systems, information systems, medical modeling and simulation and computer-assisted medical training for support of both medical operations personnel and the casualties/patients will be examined.

2. In addition to considering support for NATO warfare operations, the symposium will address the current research on technology necessary for sustainment of adequate public health systems and population health in future NATO areas of operation.
3. Examination of lessons-learned and research on the state-of-art in the human factors that can be applied to the complex integration of medical personnel, medical equipment and devices, and medical information systems. Human centered approach of large and complex data display to support decision making has extensively been proposed for operational purpose. The benefits and the limitations of the resulting interfaces may drive the design of medical data display and sharing. This third objective is specifically relevant to recent NATO operations wherein new computational/numeric technologies have the potential to dramatically enlarge the operational NATO capabilities.
4. Impact of informatics developed at a large scale will be addressed at an individual and organizational level, such as development of easy use interfaces, work sharing between man and machine, access to relevant information through the NATO medical operations or decision of an engagement.

The symposium will have at least four focus areas for keynote events, platform presentations, and poster sessions. These focus areas are anticipated to be: medical surveillance, medical informatics and information systems, human systems integration and technology futures in both medical surveillance and tactical systems. Summaries of research that addresses NATO operations from humanitarian assistance, to home country garrison operations, to terrorist events, to war are solicited.

III. TOPICS TO BE COVERED:

1. Medical surveillance
 - a. Operations research for NATO medical force response across the continuum of disaster/catastrophe response-to-war/and outbreak response
 - b. Policy (medical, public health) research on NATO response doctrine, procedures
 - c. Epidemiology technology for operational scenarios
 - d. Understanding the signature of early disease attack
 - e. (Post) deployment health surveillance
 - f. Computational and numeric technologies
2. Medical informatics and information systems
 - a. Field clinical laboratory technology and research
 - b. Information-enabled quarantine area and medical treatment modalities
 - c. Integration of research epidemiology into operational systems
 - d. Information technology enablers for pre-deployment readiness
 - i. Development and new sources of Medical Intelligence;
 - ii. Technology for the network of (NATO and/or civil) experts centres and databases;
 - iii. Scientific justification for information that should be gathered from reconnaissance parties
3. Human Systems Integration in Medical operations
 - a. Human systems integration of technological devices and data streams for infectious disease and wound care (e.g., operator centered design)
 - b. Coordination in Role 1 to Role 3 sites between Forces of different nations
 - c. Human factors of operating procedures (predeployment-operational site-postdeployment)
 - d. Surveillance medical informatics needed for medical and psychological support of the affected population

- e. Human-in-the-loop and information systems for monitoring of physiologic parameters and measurement of vital signs in the field
- f. Medical surveillance in a command environment, remote monitoring and guidance of field personnel
- g. Integration of nationally-developed computational and numeric technologies across NATO medical operations' platforms
4. Medical technology futures in surveillance and tactical systems
 - a. Information-integrated devices for combat medics, medevac and Role 2/3 personnel
 - b. Rapid response clinical assay systems
 - c. Medical modeling and simulation
 - d. Computer-assisted medical training (especially those systems targeted to replace live tissue training)
 - e. Dedicated medical information and communications.
 - f. New technologies for health surveillance
 - i. Follow up of deployed personnel
 - ii. What demographic information should be or is being collected?
 - iii. Use of national morbidity and mortality databases
 - g. NATO trauma and disease registries
5. Human aspects of utilization of Informatics for battlefield with :
 - a. Lessons learned from past operations
 - b. Operator's needs for data processing
 - c. Research and development of new large numeric systems in their design and in their interfaces
 - d. Computational and numeric technologies in the vehicle cockpits
 - e. Informatics for design, training and education
 - f. Informatics meta-analysis capability
6. Barriers and enhancements to achieve interoperability of NATO systems
 - a. Recognition and response to public health threats
 - b. Standardization of practices related to military preventive medicine and force health protection
 - c. Surveillance for, and analysis of, combat injuries
 - d. Surveillance for multidrug resistant organisms in theatre
 - e. Operational coordination of deployed public health assets

Format

- Two Keynote speakers
- Paper presentations and Panel discussion sessions
- Technical Evaluation Report (TER)

Symposium products

- Symposium Meeting Proceedings (Published on CSO website)
- Individual Papers
- TER Report

INSTRUCTIONS FOR ALL AUTHORS

1. Introduction.

The three-day Symposium will be held in Paris, France, from 12 to 14 October 2015. It is supported by the Human Factors and Medicine Panel (HFM) of the Science & Technology Organization, Collaboration and Support Office (STO-CSO). All sessions of the HFM Symposium will be unclassified with unlimited distribution. Attendance at the HFM Symposium is by enrolment only. The Symposium audience will include experts from NATO, PfP and MD countries, as well as selected Contact Nations.

Authors are invited to submit papers for this Symposium. Papers and presentations **will be delivered in English only**. The Programme Committee will select papers, based on submitted abstracts that are considered suitable for presentation at the Symposium. We advocate evidence-based approaches, as well as fundamental or innovative papers, that contribute to the augmentation and solidification of the comprehensive approach.

It is expected that about 20 to 25 papers will be selected for oral presentations at the Symposium.

Proposed abstracts should be sent to the Programme Committee Chairs and Members (terry.Rauch@ha.osd.mil and clere.im@hotmail.fr) AND to the CSO/HFM Panel Office (marie.linnet@cs0.nato.int) or (frank.wessels@cs0.nato.int) **no later than 31 March 2015 (see Abstract instructions in the next pages).**

End of April 2015 all authors will be notified by the Programme Committee Chair whether or not their paper is selected. The time allowed for each speaker is normally 20 minutes, including 5 minutes for discussion. Equipment will be available for Power Point presentations. Details of the timing will be given in the Programme Announcement which will be distributed by the CSO/HFM Panel Office to all.

May 2015 the Programme Announcement will be displayed at the CSO website (www.cs0.nato.int) including enrolment details. By that time, authors of selected papers will also receive from the CSO/HFM Panel Office, Instructions for Authors, which will provide further details, as such as template to prepare your manuscript, template for clearance and detailed instructions for the presentation and transmission of short biographies. Instructions will be sent in May 2015 by CSO/HFM Panel Office.

IMPORTANT NOTE:

According to the Instructions, PAPERS will be expected by August 2015: Authors not submitting a full scientific paper will not be allowed to present at the meeting site (Maximum 25 pages including pictures and tables). Therefore, Authors of selected papers MUST provide a full scientific paper which will be published in an **official STO publication as Meeting Proceedings**. Also note that the written papers will be evaluated for their use by the Technical Evaluator, preceding the symposium and for that reason, must be delivered in time according to the instructions you will receive. This action is an important part of the Symposium activities as all manuscripts will be made available at the CSO web site for all symposium attendees one week prior to the event (password protected).

Many publishers do not consider Proceedings articles to be pre-published. The intention is to develop the papers that qualify into a published book or special journal issue following the symposium.

Authors of papers selected for presentation at NATO/STO/CSO Symposia are not financially supported by this organization. Therefore, before sending your abstract, you must ensure that you will be financially supported by your Organization/Nation for your travel to the meeting site.

2. Abstracts.

Symposium abstracts should contain the following information:

NATO-CSO-HFM-254 SYMPOSIUM
on
**"Health Surveillance and Informatics in Missions:
Multidisciplinary Approaches and Perspectives"**

TITLE OF ABSTRACT/PAPER

Title/Rank, Full Name of Author/Co-Author(s)

Company/Affiliation

Complete mailing address

Telephone, Fax, E-mail

- A. LENGTH - 200 to 500 words
- B. CONTENT - State for which objective (paragraph II above) and
- topic (paragraph III above) your paper is intended
- Introduction/relevance to the Symposium
- Rationale
- Description of methods employed (when needed) and results or
observations obtained
- Conclusions
- C. IDENTIFICATION - Information on Attachment 1 must be provided with all abstracts
- D. SUBMITTAL - By all authors
- E. CLASSIFICATION - **Abstracts must be unclassified**

2.1 For US Authors and Non US Citizens Affiliated with US Organizations:

Abstracts and the Attachments 1 & 2 of this call-for-papers should be submitted via e-mail 2 weeks before the deadline to the U.S. P.O.C. ONLY, to obtain the National US approval.

2.2 For Non US Authors (All other countries):

Abstracts and Attachment 2 (Details of Authors Form) should be e-mailed in time to reach the Dr Rauch and Dr. Clère - Programme Chairs (Terry.Rauch@ha.osd.mil and clere.jm@hotmail.fr) and Members listed on page 3, as well as to the HFM Panel Office (frank.wessels@cs0.nato.int) **no later than 31 March 2015.**

It is the responsibility of the author to ensure that his/her abstract receives any necessary clearance before it is forwarded, and sufficient time should be allowed for this.

The 31 March 2015 date is important and must be met in order to ensure consideration.

Thank you for your contributions which are highly appreciated by all the NATO community.

(Signed)

**SPECIAL NOTICE FOR US AUTHORS &
NON US CITIZENS AFFILIATED WITH US ORGANIZATIONS**

Abstracts of Papers from the U.S. must be sent **ONLY** to the following P.O.C.:

**NATO STO U.S. National Coordinator
OASD (R&E)/International Technology Programs
4800 Mark Center Drive
Alexandria, VA 22350-3600
E-mail: osd.pentagon.ousd-atl.mbx.usnatcor@mail.mil
Tel: +1 571 372 6538
Fax: +1 571 372 6548**

PLEASE NOTE THE FOLLOWING:

1. All US Authors must submit one electronic copy to this POC at least TWO Weeks prior the 31 March 2015.
2. In addition to their abstract, all U.S. Authors must provide to the POC:
 - A certification (can be signed by the author) that there are no proprietary or copyright limitations;
 - Internal documentation from their local public affairs or foreign disclosure office (or equivalent) that clearly shows:
 - Title of the paper or presentation
 - Level of clearance (i.e., Approved for public release)
 - Name, title, and organization of the approval authority
 - Details of Author(s) Form (Attachment 2)
 - NOTE: Only complete packages (abstract plus all items listed above) will be accepted by the US POC.

After review and approval, the US POC will forward **all US abstracts with the Details of Authors Form** to the HFM Panel Assistant Office (marie.linnet@cs0.nato.int).

All US abstracts must be received directly from the US POC.

US abstracts will not be accepted directly from authors.

3. In the event, there are any questions or concerns with these requirements, U.S. authors are encouraged to contact the US POC as early as possible. Delays in meeting POC deadlines will impact the timely submission of your abstract.

“DETAILS OF AUTHORS” FORM

The purpose of this form is to correctly identify the author(s), the role of authors and co-authored papers, and to enable further communication.

INSTRUCTIONS

Co-authored Papers

- Authors should be listed in the order in which they should appear on the programme.
- Unless otherwise specified, the first listed author will be presumed to be the SENIOR and SPEAKER AUTHOR, i.e. the author having the major responsibility for the content of the paper, and a major interest in the result of the selection of papers.

All Papers

- The left-hand side box should include the following details:
 - . Title or Rank, NAME, Surname
 - . Nationality (mandatory)
 - . Position, e.g. Head of Biodynamics
 - . Affiliation, e.g. Firm or Organization
 - . Telephone number - please show area/city code (unless you specify "home," it will be assumed to be your office number)
 - . Fax number
 - . E-mail address (VERY IMPORTANT – we are trying to use electronic Communications wherever possible)
- The right-hand side box is to include:
 - . Correct postal address (Office) including POSTAL CODE

PLEASE COMPLETE THIS FORM ELECTRONICALLY IN CAPITAL LETTERS

Thank you for your co-operation

DETAILS OF AUTHORS" FORM: for HFM-254 SYMPOSIUM, Bordeaux, France, 12-14 October 2015

Title of Paper:

Title/Rank: Nationality: Position: Affiliation: Telephone: E-mail address:	First name:	Last name:	Office Address:
Title/Rank: Nationality: Position: Affiliation: Telephone: E-mail address:	First name:	Last name:	Office Address:
Title/Rank: Nationality: Position: Affiliation: Telephone: E-mail address:	First name:	Last name:	Office Address:
Title/Rank: Nationality: Position: Affiliation: Telephone: E-mail address:	First name:	Last name:	Office Address:

*Please complete this form and send a copy with your abstract **before 31 March 2015***

- US authors: To osd.pentagon.ousd-atl.mbx.usnatcor@mail.mil (2 weeks prior to the deadline)

- Authors from Other Countries: All Programme Committee Members and to *CSO/HFM Panel Office* (marie.linet@cs0.nato.int)



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