HUMAN FACTORS & MEDICINE (HFM) PANEL

CALL FOR PAPERS

HFM-249 Symposium on

“Emerging Technological Advances In Tactical Casualty Care”

To be held in

Warsaw, Poland

20-22 April 2015

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

DEADLINE FOR RECEIPT OF ABSTRACTS:

19 September 2014

For information please contact Dr. David BEAR at david.g.baer.civ@mail.mil
**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 recourses 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 partners 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](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.
Emerging Technological Advances
In Tactical Casualty Care

HFM 249 PROGRAMME COMMITTEE MEMBERS

Chairperson

CHAIR:

Dr. David BAER (United States)
US Army Institute of Surgical Research
Fort Sam Houston, Texas
Tel: +1 210 539 4327
Mail: david.g.baer.civ@mail.mil

Panel Mentor:

Col. Prof. Dr. Rafael SCHICK (Germany)
Chief, Dept. of Internal Medicine
Federal Armed Forces Hospital - Ulm
Tel: +rafaelschick@bundeswehr.org
Mail: rafaelschick@bundeswehr.org

Members

Dr. Stergios STERGIOPoulos (Canada)
Defence R&D Canada
Tel: +1 416 635 2060
Mail: stergios.stergiopoulos@drdc-rddc.gc.ca

Col. Dr. Sylvain AUSSET (France)
Percy Military Hospital
Deputy Head of Anesthesiology
And Intensive Care Unit, Clamart
Tel: + 33 1 4146 6440
Mail: sylvain.ausset@gmail.com

Col. Dr. Olaf TRUSZCZYNski (Poland)
Director Military Institute of Aviation Medicine
Tel: +48 226852601
Mail: otrusz@wiml.waw.pl

NATO-STO-CSO / HFM Panel

LtCol. Frank WESSELS
Mrs. Marie LINET
BP 25 – 7 rue Ancelle
F-92201 Neuilly sur Seine Cedex – France
Tel: +33 1 5561 2260 / 62
E-mail: frank.wessels@cso.nato.int
marie.linet@cso.nato.int
Emerging Technological Advances
In Tactical Casualty Care

THEME

I. BACKGROUND AND JUSTIFICATION (Relevance to NATO):

The NATO leadership has mandated, and our populaces expect, that to the maximum extent possible, the medical care provided to our deployed military personnel will be of the same standard as they could receive in their home countries.

Experience in recent wars has shown that the judicious applications of advanced medical technologies to combat casualty care has played a significant role in reducing combat-related mortality to the lowest level which has ever been seen. In these recent wars, analyses of deaths have consistently shown that mortality for casualties who reach a surgical hospital is low, and opportunities for further reducing mortality lie with improvements to pre-hospital care. The new NATO expeditionary strategic concept, with its emphasis on multinational shared responsibility for medical care, reduced deployed medical footprints and early evacuation, cannot be implemented from a medical point of view without effective use of all available advanced medical technologies in the multinational setting. Future NATO operations will be mobile and flexible, and will take place in remote and austere environments, providing new challenges to deployable medical services. In the past, RTO activities have investigated certain specific new technologies, such as telemedicine, and a current RTG (RTG-130) is developing a test and evaluation concept for advanced medical technologies in the multinational setting which can be incorporated into the ACT scientific program of work (SPOW) and exercise program. However, there has to date been no NATO-wide examination of the future direction which may be taken by such advanced medical technologies, nor of the utility or shortcomings of such proposed advances.

JUSTIFICATION: There is a need to gain an understanding on the part of NATO as to what new medically-relevant technologies are on the horizon, and to be able to advise the Military Committee and COMEDS as to effective integration of these technologies into our armamentarium.

II. OBJECTIVE(S):

This activity will bring together international experts in the development and fielding of advanced medical technologies, with emphasis on improving care at the point of injury and during medical evacuation. The goal is to develop a greater understanding of soon-to-be fielded technologies, and to determine how they can best be applied within the multinational NATO environment. We plan to enhance information interchange between researchers, to reduce unnecessary duplication of effort, and to introduce to the NATO leadership the current state-of-the art medical technologies and procedures. Evaluation of the potential ability of various new modalities to support NATO goals and objectives will be carried out. These new technologies to be evaluated are not limited solely to direct patient care devices, but may include other types of equipment, medical Communications and Information Systems (CIS). Both researchers and industry representatives will be invited to participate in the symposium. Opportunity for poster exhibition / practical demonstration may be available.
III. TOPICS TO BE COVERED:

A. The main themes of this symposium to be considered will include:

1- Discussions of NATO medical shortfalls which might be remedied by the use of advanced medical technologies.

2- A review of current and new developments in advanced medical technologies which may in the short term be applicable to NATO multinational medical operations.

3- Advances in medical technologies which may not be beyond the early research stages but which might in the future have applicability to NATO multinational medical operations.

4- A review of advanced non-medical technologies which may be applicable to such operations.

5- Limitations and shortfalls of such technologies.

B. The symposium will address the full scope of potential advanced medical technologies and approaches and assess the current state-of-the art, including the following topic areas:

A. New point-of-injury care devices, drugs, diagnostics and techniques
B. Acute care devices, drugs and techniques for preventing death from combat wounds
C. Use of Virtual Reality for training, patient diagnosis and treatment
D. Closed loop and open loop patient management systems
E. Patient evacuation, with and without manned vehicles
F. Vital Signs Monitoring
G. Automatic patient recovery
H. Triage tools and techniques
I. Medical Information Systems (patient tracking, patient regulating, and medical situational awareness)
J. Epidemiologic and outcomes research studies to guide future R&D investment.

Examples of technology enablers within the scope of this symposium also include hemorrhage control, resuscitation technology, pain management, telemedicine, modular intensive care units, technology for detection, diagnosis and early treatment of concussion as well as portable imaging systems (e.g. radiography, ultrasound etc.).
1. Introduction.

The three-day Symposium will be held in Warsaw, Poland, from 20 to 22 April 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. 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 Chair, Dr. David BEAR at david.g.baer.civ@mail.mil, Members and to the CSO/HFM Panel Office (marie.linet@cso.nato.int) no later than 19 September 2014 (see Abstract instructions in the next pages).

October 2014 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.

November 2014 the Programme Announcement will be displayed at the CSO website (www.cso.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.

IMPORTANT NOTE:

According to the Instructions, PAPERS will be expected by February 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 should contain the following information:

NATO-CSO-HFM-249 SYMPOSIUM on

Emerging Technological Advances
In Tactical Casualty Care

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 scenario/ level 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 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 Technical Programme Chair (david.g.baer.civ@mail.mil) and Members listed on page 3, as well as to the HFM Panel Office (marie.linet@cso.nato.int) no later than 19 September 2014.

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.

This 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)

Mrs. Marie Linet
Human Factors & Medicine Panel Assistant (marie.linet@cso.nato.int)
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 to the 19 September 2014.

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.linet@cso.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
**Title of Paper:**

<table>
<thead>
<tr>
<th>Title/Rank:</th>
<th>First name:</th>
<th>Last name:</th>
<th>Office Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please complete this form and send a copy with your abstract before 19 September 2014**

- **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