

INFORMATION PAPER

SUBJECT: Mad Scientist Conference: Megacities and Dense Urban Areas

1. **Purpose.** To provide information on the upcoming Mad Scientist Conference to be held at Arizona State University (ASU), Phoenix, Arizona from 21-22 April 2016, with a specific focus on Megacities and Dense Urban Areas in 2025 and Beyond.

2. **Facts.**

a. Mad Scientist (MS) is a TRADOC G2 initiative that enables continuous dialogue between Joint military, international partners, academia, policy institutions, and private sector organizations to help the Army explore the evolution of the Operational Environment (OE) through the year 2040. Mad Scientist also seeks to examine the effects of all aspects of technology on the far future of armed conflict.

b. MS allows for continuously learning, adaptation, and innovation and allows for broader engagement in problem solving. MS supports understanding the future OE and the underlying technology evolution to support the Campaign of Learning, 2025 Maneuvers, science and technology (S&T) investments, and capability development for the Army.

c. By 2030, 60% of the world's population is expected to reside in cities. Adversaries are increasingly moving to environments where U.S. advantages in detection, standoff, and precision firepower may be constrained. Further, the potential for Army involvement within cities may be exacerbated by global challenges including: liberal trade and economic coordination; climate change; nuclear proliferation; responsibility to protect, and failing states and ungoverned areas.

d. The types of tasks that the Army may be required to perform in a megacity or in dense urban areas include: Non-combatant evacuation; humanitarian assistance disaster relief (HADR) missions; raids; deny adversary objectives; counter weapons of mass destruction operations; conduct military engagement and security cooperation; provide a global stabilizing presence; provide support to civil authorities, and counter terrorism/counterinsurgency missions.

e. Training and Doctrine Command (TRADOC) G-2 in collaboration with ASU, Army Capabilities Integration Center (ARCIC) and Intelligence Center of Excellence (ICOE), will address four primary objectives:

(1) Situational understanding: What emerging concepts and capabilities will enable Intelligence Preparation of the Battlefield (IPB); Intelligence Surveillance and Reconnaissance (ISR) capabilities; Mission Command Systems; electronic warfare

(EW), and a human, demographic, and cultural understanding within megacities/dense urban areas?

(2) Freedom of movement and protection: What emerging concepts and capabilities will enable access and freedom of movement in, above (buildings and airspace), below (sub-terrain), and around megacities? What new capabilities for Decentralized Urban Logistics can improve sustainment efficacy in urban areas? What will protect vehicles and Soldiers, while enabling freedom of movement, from multitude of advanced and conventional military technologies as well as environmental threats (e.g., water, sanitation, air pollution; etc.)?

(3) Expeditionary operations: What emerging concepts and capabilities will enable expeditionary maneuver; evolve Army Health Support of Operations; enhance the ability to manage or influence large population centers, and offer solutions for achieving partner interests and strategic objectives throughout a range of military operations (during peace and combat operations)?

(4) Future training challenges: What emerging concepts and capabilities must the Army explore in order to represent the complexities of a megacity to a training audience (home station and Combat Training Centers) and to build cohesive teams that thrive in ambiguity, austerity, or chaos within OE of 2025 and Beyond (Human Dimension Strategy Strategic Objective #2).

f. If you cannot physically attend the conference, we invite you to join us remotely on the TRADOC Watch website at: <http://www.tradoc.army.mil/watch/>

g. Remote attendees will also be able to participate in the discussions via an online chat room and will be provided an opportunity to provide questions that will be proposed to conference speakers.

h. Please join the All Partners Access Network (APAN) to receive updates on the conference, to include list of speakers, agenda, and related information at: <https://community.apan.org/wg/tradoc-g2/mad-scientist/>

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