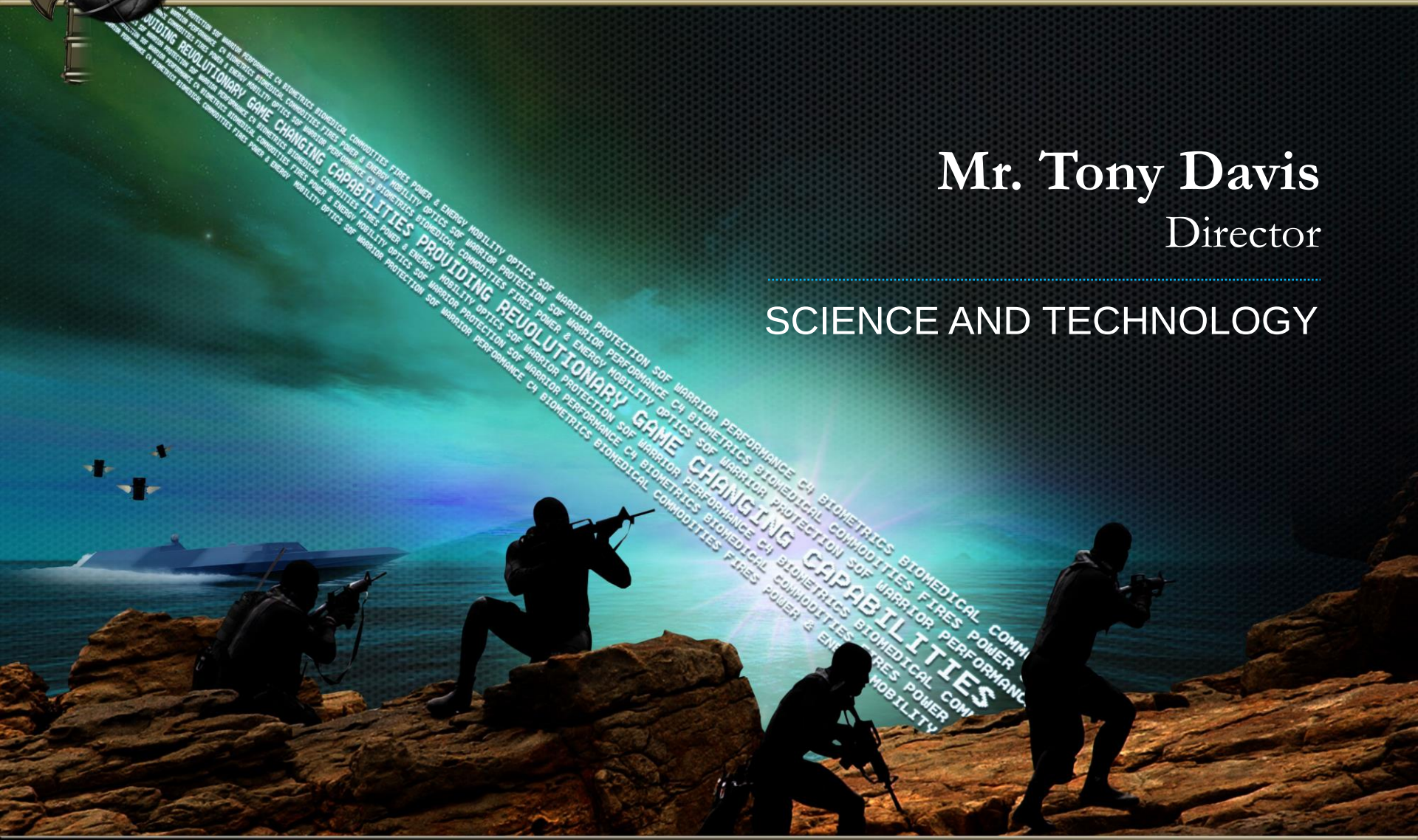
UNITED STATES SPECIAL OPERATIONS COMMAND

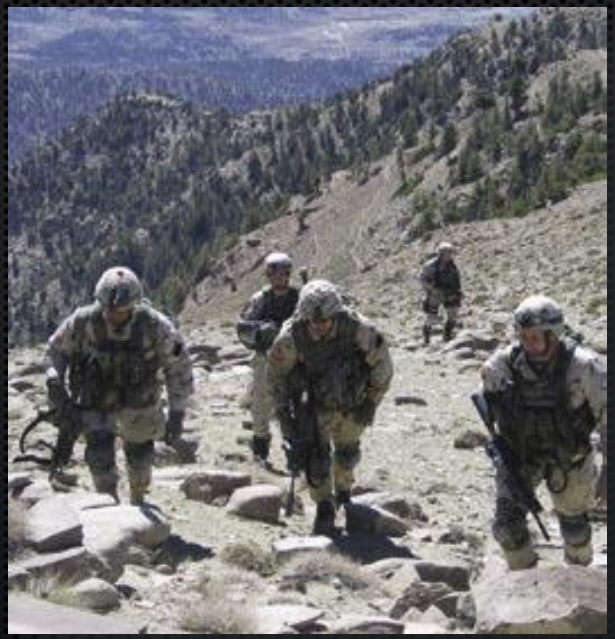


Mr. Tony Davis
Director

SCIENCE AND TECHNOLOGY

Broad Agency Announcements/Solicitations

- Consolidated and persistent SOCOM S&T BAA (**USSOCOM-BAAST-2015**)
  - Incorporates TALOS, SRSE, Tech Roadmap, and S&T addendums
  - Additional addendums added as necessary for targeted capability gaps
- Biomedical BAA--United States Army Medical Research Acquisition Activity
- Participate in OSD Rapid Innovation Fund (RIF) BAA, and Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) Solicitations



Cooperative Research and Development Agreements (CRADAs)

- **What…**
  - Provide a mechanism for technology transfer
  - A legal document, not a contract. No money can be exchanged.
- **Why we use them…**
  - Leveraging non-federal entity RDT&E efforts
  - Support non-federal entity to expend IR&D to support cooperative development
  - Save time and money
  - Increase communications and focus technology development
- **SOCOM S&T CRADAs…**
  - **SORDAC-ST-14-01-XX Collaborator** (Blanket document – multiple agreements) *"Development of Special Operations Peculiar Technologies to Bridge USSOCOM Capability Gaps"*

Technical Experimentation

- TE 15-3, 16-19 June 2015, Atterbury-Muscatatuck Center for Complex Operations, IN
- Experimentation Focus: Urban/Unconventional Warfare

- TE 15-4, 3-7 Aug 2015, Naval Station Coronado, CA
- Experimentation Focus: Diving/Undersea Warfare

- Solicitation Number: **USSOCOM_RFI_TE_15-3_Technical_Experimentation**
- LinkedIn Group: **SOCOM Technical Experimentation**

SOF S&T Needs

- Comprehensive Signature Management (CSM)*
- Human Performance*
- First Pass Accuracy and Lethality
- Small Unit Dominance (SOFSUD)*
- Intelligence, Surveillance, & Reconnaissance (ISR)
- Tagging, Tracking, & Locating (TTL)
- C4 Revolutionary Capabilities
- Electro-optics, IR & Lasers
- Military Information Support Operations (MISO)
- Scalable Effects Weapons (SEW)
- Anti-Access/Area Denial (A2/AD)*
- Battlespace Awareness*
- Leap Ahead Energy & Power Systems
- Sensitive Site Exploitation (SSE)

* FY15-19 Science and Technology Integrated Priority List (STIPL)

PEO Technology Insertion Roadmaps

C4

- Stabilized Rapid Adaption of Network
- Security and Network Management/Monitoring of Mobile Ad-hoc Network
- Open Standard Airborne ISR Transport Modem

Fixed Wing

- High resolution 3D & multi-color EO/IR, multiple moving target tracking
- Crew workload reduction, machine intelligent processing /Tactical Flight Mgmt
- Situational awareness with full spectrum threat reduction and counter measures
- 105 mm cannon precision guided ammunition and fuses, loitering munitions
- High energy laser, power management, aiming and focus turret

Maritime

- Common Operating Tactical Picture
- Low Probability of Intercept/ Detection Communications
- Wireless Intercom
- Surface System/Active Ride Control
- Maritime Personnel Signature Management Technologies
- Situational Awareness, High Visual/NIR Transmittance Window Films

Rotary Wing

- High Power Watts for Over the Horizon Communications
- Improved RW Counter Measures
- Advanced IR Countermeasures & Self-Protection for RW Aircraft

PEO Technology Insertion Roadmaps (Continued)

SRSE

- Maritime Forensics Exploitation Capability
- Portable, Automated 3D Room/Building Mapping Device
- Stand-off/Remote Facial Recognition & Iris Capture
- Dustless Latent Print Collection
- Rapid Identification of Materials for Site Exploitation

SOF Warrior

- * Transferrable armor for commercial vehicles
- * Helmet sensor system to monitor and record linear and rotational accelerations
- High Sulfur Diesel Engine Capability
- Camouflage Applique
- Reduced IR Signature
- Improved Gun Barrels
- Variable Transmission & Laser Protection Eyewear
- Tactical stand-alone ballistic plate
- Multiple colors or spectral bands within the same sensor and SWAP
- Thermal band Identify Friend or Foe (IFF) beacon, backwards compatible

** Advertised on BAA Appendix D*

TALOS Technological Challenges

High Technical Challenge

- Power & Energy
- Mobility & Agility
- Signature Management

Moderate Technical Challenge

- Survivability Equipment
- Human Factors & Physiology
- Processing & Control
- Operator Interface
- Offensive Systems

Low Technical Challenge

- Communications
- Supporting Systems

Unique Challenges

1. **Powered Exoskeleton**
2. **Man-portable Power Source**
3. **Actuators and control theory**
4. Lighter Armor
5. **Latency in Digital Optics**
6. Biomechanical Modeling and Simulation (exo-suit specific)
7. JATF as Lead System Integrator

Upcoming TALOS Events (2015)

- ✓ 3-5 March: Digital Optics Rapid Protoyping Session (Tampa)
- March-April: DOE-sponsored Grand Power Prize Challenge
- March-April: CTTSO/TALOS Armor Design Challenge
- 19-21 May: SOFIC (Tampa)
  - TALOS Software Development Kit Release
  - Think Tank and Ideation Sessions on TALOS Technology Challenges
- TBD (3Q FY15): Biomechanical Modeling & Sim Prize Challenge
- TBD (3Q FY15): Exoskeleton Prize Challenge
- 3-26 June: Integrated Helmet Rapid Prototyping Event (Tampa)
- Aug: Human Factors Tech Sprint (Tampa)
- Oct/Nov: TALOS Rapid Prototyping Event (Tampa)
- Nov/Dec: Computing/Application Tech Sprint (Tampa)

QUESTIONS?

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