

Breakout Session 11: What are We Missing?

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DSO Proposers Day

June 22-23, 2016





DSO Recent Programs



Materials for Transduction (MATRIX)	Integrate transduction modeling, design and validation into unified R&D approach with applications focus	BAA release: 1/23/2015
Revolutionary Enhancement of Visibility by Exploiting Active Light-fields (REVEAL)	Comprehensive theoretical framework to enable maximum information extraction from complex scenes by using all photon pathways and leveraging light's multiple degrees of freedom	BAA release: 5/22/2015
Make-It	Automated chemical synthesizer that can produce, purify, characterize and scale a wide range of small molecules	BAA release: 6/9/2015
Tailorable Feedstock and Forming (TFF)	Rapid manufacturing of small aerospace composite parts at costs competitive with metal	BAA release: 9/11/2015
Complex Adaptive System Composition And Design Environment (CASCADE)	Design system of systems architectures for resilient response to unexpected situations	BAA release: 11/23/2015
Fundamental Limits of Detection (Detect)	Establish the first-principles limits of photon detection by developing new models, and by testing those models in proof-of-concept experiments	BAA release: 1/21/2016
Improv	Scope emerging threats to military personnel, technology, and operations posed by commercially available technology and products	BAA release: 3/11/2016
Next Generation Social Science (NGS2)	New experimental methods, models, and practices for conducting research into complex social systems	BAA release: 3/18/2016
Intense and Compact Neutron Sources Phase Two (ICONS2)	Revolutionary increases in neutron source intensity and reductions in device size, weight, and power (SWaP) for in-the-field neutron radiography and analytical techniques.	BAA release: 4/28/2016
Accelerated Computation for Efficient Scientific Simulation (ACCESS)	Computational architectures that will achieve the equivalent of petaflops performance in a benchtop form-factor and be capable of what traditional architectures would define as "strong" scaling for predictive scientific simulations of interest	BAA release: 5/6/2016
Transformative Design (TRADES)	Develop/exploit new mathematics to incorporate advanced materials and manufacturing techniques into the design of solid parts and structures	BAA release: 5/11/2016



Breakout Sessions



1. Human-Machine Cooperation and Collaboration - Reza and Jan
2. DARPA 101: Engaging with DARPA & DSO - Stefanie
3. Opportunities in Quantum Science - Prem
4. DARPA 102: Universities working with DARPA - Bill
5. Frontiers of Social Science - Adam and Bill
6. Doing Business with DARPA - Kristen
7. Learning, Modeling and Modulating Complex Dynamic Systems - Fariba and Jim
8. How DARPA Develops Programs - Bill
9. Frontiers in Optics - Prem and Predrag
10. Defining the Frontier for DARPA's DARPA: Understanding and Accelerating Technological Revolution - John Main and John Paschkewitz
11. What Are We Missing? – Stefanie
12. Complexity in Natural Systems – Tyler and Jim



Bubbling Technology Opportunities



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(Tell us what you think they are)