

# THE FUTURE OF DIRECTED ENERGY

THE IMPACT OF FY 2018 BUDGET  
APPROPRIATIONS, UPCOMING  
DEVELOPMENTS, & R&D  
PRIORITIES



INSIGHT FROM THE U.S.  
ARMY & AIR FORCE

# INSIGHT INTO THE FUTURE DIRECTED ENERGY

Ahead of the upcoming **Directed Energy Systems Summit** this June 25th - 27th in Washington D.C., we sat down with Colonel Richard Haggerty and Dr. Boris Zhdanov to discuss how the FY 2018 budget appropriations affected directed energy (DE) programs, where DE acquisition and force integration is heading in FY 2019, their priorities for research and development and more.

Both Colonel Haggerty and Dr. Zhdanov will be speaking at the Directed Energy Systems Summit. Colonel Haggerty is currently the ninth Project Manager for Instrumentation, Targets, Threat Simulators and SOF Training Systems (PM ITTS) at PEO STRI, U.S. Army. And Dr. Zhdanov currently is a Senior Scientist at the Laser and Optics Research Center (LORC) at the US Air Force Academy (USAFA).



**COLONEL RICHARD  
HAGGERTY**

Project Manager, Instrumentation,  
Targets, Threat Simulators, and SOF  
Training Systems (PM ITTS)  
**PEO STRI, U.S. Army**



**DR. BORIS ZHDANOV**

Senior Scientist  
**US Air Force Academy**

# INTERVIEW WITH COLONEL RICHARD HAGGERTY



**Colonel Richard Haggerty** is currently the ninth Project Manager for Instrumentation, Targets, Threat Simulators and SOF Training Systems (PM ITTS) at PEO STRI, Orlando, Florida. In support of its dynamic mission, PM ITTS manages five activities: the Instrumentation Management Office (IMO), the Product Manager for Special Operations Forces Training Systems (PM STS), and the product Lead for Cyber Resiliency and Training (PL CRT) located in Orlando, Florida; and the Targets Management Office (TMO) and the Threat Systems Management Office (TSMO) located in Redstone Arsenal, Alabama.

## **Can you tell me a little about your role at PEO STRI?**

I'm the acquisition Project Manager of a joint portfolio supporting Test, Training, Cyber and Electromagnetic Activities (CEMA), and Special Operations.

## **Did the FY 2018 budget appropriations affect DE programs, and what do you expect to see in the future?**

Our Resource Sponsor has done what it can to support the directed energy test developments, but consistent and prolonged Continuing Resolutions and the current FY18 appropriation has impacted development and prevented the initiation of new efforts.

## **What direction do you see directed energy development, acquisition and force integration heading in FY 2019?**

The directed energy community is leveraging mature technologies for rapid prototyping and experimentation that will expedite the fielding of directed energy capabilities into the hands of the Warfighter. Rapid prototyping also supports military utilization assessments and tactics, techniques and procedures (TTPs) development.

## **In your role, what are the priorities for DE research and development?**

We leveraged directed energy Test and Evaluation/ Science and Technology technologies for our top priority - to develop instrumented and threat-representative capabilities. These enable open air testing of directed energy systems in operationally representative environments.

## **What are you most excited about for the Directed Energy Systems Summit?**

Collaborating and finding synergies across the services to enable more efficient and focused fielding of directed energy into the hands of the Warfighter.

# INTERVIEW WITH DR. BORIS ZH DANOV



**Dr. Boris Zhdanov** is Senior Scientist at the Laser and Optics Research Center (LORC) at the US Air Force Academy (USAFA). He has over 35 years' experience in research and development on solid-state lasers, molecular lasers, alkali lasers, nonlinear optics, laser spectroscopy, atmospheric propagation, and teaching at the university level. Dr. Zhdanov has over 200 publications and conference presentations. He previously worked at LORC USAFA on the Diode Pumped Alkali Lasers project.

## **Can you tell me a little about your role at the U.S. Air Force Academy?**

I am a contractor with Air Force Academy working as a Senior Researcher at Laser and Optics Research Center (LORC) of the Academy. I involved in research project devoted to development of Diode Pumped Alkali Lasers (DPALs), which are the most promising laser for various Directed Energy applications.

## **Did the FY 2018 budget appropriations affect DE programs, and what do you expect to see in the future?**

I think that DE programs must be better funded in future than in FY18, because development of tactical and strategic DE weapons is very important for national security and defense.

## **What direction do you see directed energy development, acquisition and force integration heading in FY 2019?**

My opinion, that it is very important to start extensive research aimed to development of a high power laser source producing high quality beam from single aperture that allows to destroy targets at very long distance.

## **In your role, what are the priorities for DE research and development?**

I would recommend to pay more attention and invest more funds to the development of high power DPALs scalable to power levels required for DE applications at long distances.

## **What are you most excited about for the Directed Energy Systems Summit?**

The opportunity to deliver my thoughts to the people, who can make decision on the future of Directed Energy Systems development.



# INTERESTED IN LEARNING MORE?

The **Directed Energy Systems Summit**, taking place this June 25th - 27th in Washington D.C., will examine the latest DE advancements, initiatives and plans regarding technology, acquisition and service roadmaps. This event brings together thought leaders, acquisition executives, industry solution providers, and academia in order to tackle some of the challenges that face this community in the near, mid, and far term fight. Over the three-day summit, we will look to gain insight and lessons learned from warfighter perspectives on the operational challenges and requirements of DES that will influence the capabilities of this game-changing technology.

## MEET COLONEL HAGGERTY & DR. ZHDANOV AT THE SUMMIT



MAIN CONFERENCE DAY ONE | TUESDAY, JUNE 26TH at 16:30

### **RESEARCH & DEVELOPMENT OF DIODE PUMPED ALKALI LASERS DIRECTED ENERGY SYSTEMS**

- Research and Development Roadmap for Diode Pumped Alkali Lasers DES Weapons.
- Perspectives And Possibilities For Future DES Weapon Development
- Implication for system integration within US Air Force Assets



MAIN CONFERENCE DAY TWO | WEDNESDAY, JUNE 27TH at 15:30

### **ENHANCING AND DEVELOPING DIRECTED ENERGY TESTING**

- Maturing and transitioning DE test technologies
- Enabling capability development for full-spectrum Test and Evaluation
- Filling current and future critical testing gaps

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