

**OFFICE OF NAVAL RESEARCH  
INNOVATIONS FOR THE FUTURE FORCE**



**Unmanned Systems and Autonomy**  
**FOCUS AREA FORUM**

**[WWW.ONR.NAVY.MIL](http://WWW.ONR.NAVY.MIL)**



# A Message from the Chief of Naval Research

## **Rear Admiral Matthew L. Klunder**

Chief of Naval Research (CNR)  
Director, Test and Evaluation and Technology Requirements

### **Welcome to our first Focus Area Forum!**

This event provides a unique opportunity to learn and share ideas. Today, we will foster collaboration and new partnerships on complex autonomy challenges, and your participation will influence the future of naval autonomy.

I understand opportunities to engage with the Office of Naval Research are sometimes limited, and your time is valuable. You are encouraged to participate fully, ask good questions and engage with my staff during your day here at the ONR. In fact, you helped make this happen.

As you know, effective collaboration is central to the creative process in science and technology research. We have discussed the challenge of travel constraints with many of you in the field. It was mentioned that focusing on a different innovation domain/topic each quarter at ONR could be a valuable opportunity for everyone. The leadership team here agreed, and felt that “Unmanned Systems and Autonomy” would be an important first capability to discuss for the Navy and Marine Corps team.

Admittedly, current funding is tight these days, but good ideas may be identified as future opportunities, and this is a chance for you to influence the future research direction of our autonomy portfolio.

The Navy and Marine Corps need more autonomous capability. Unmanned systems and autonomy are force multipliers with the potential to increase affordability for future mission capabilities. We are looking for autonomy ideas that go beyond “dull, dangerous and dirty” missions, specifically:

- Systems that work as teams with the warfighter
- Scalable systems as solutions to ensure access to maritime domains
- Solutions to intelligence and logistics challenges
- Decision support in complex adversarial environments.

Today, the morning general session will offer an overview of innovations we are pursuing. This will be followed by a panel of ONR program officers discussing disruptive technologies and tough problems we aim to solve. Please feel free to ask questions. The afternoon will be reserved for listening to you in one-on-one appointments, and in an open poster session/information exchange to promote dialogue.

Again, thank you all for coming. The innovative work you do greatly supports the Sailors and Marines defending our nation!

## WHY AUTONOMY?

**C**ontinued rapid advances in computing, power and energy, robotics, sensors and position guidance technologies—coupled with the proliferation of inexpensive threats—require a nimble, forward-thinking Navy and Marine Corps to meet an ever-adapting adversary.

Unmanned systems, together with well-trained personnel, form a “hybrid force” capable of performing difficult missions in contested environments. These systems expand the Department of the Navy’s ability to meet Anti-Access/Area Denial (A2/AD); Intelligence, Surveillance and Reconnaissance (ISR) and logistics challenges; and reduce risks for Sailors and Marines.

## AGENDA

<b>8:30 – 9:30 a.m.</b>	Check-in and coffee with CNR/ONR leadership
<b>9:30 a.m. – noon</b>	General session
<b>9:30 – 10 a.m.</b>	CNR: “Strategic Dialogue on Autonomy Focus Area Innovation”
<b>10 – 10:15 a.m.</b>	Marc Steinberg: Science of Autonomy/Tough Problems List overview
<b>10:15 – 11:30 a.m.</b>	Autonomy emerging technologies, research challenges and initiatives <ul style="list-style-type: none"><li>• Undersea: Dan Deitz, Terri Paluszkiwicz, Jason Stack</li><li>• Surface: Bob Brizzolara</li><li>• Air: Marc Steinberg, Max Snell, Julie Marble</li><li>• Expeditionary: Keith Hammack</li><li>• Novel Platforms: Tom McKenna</li></ul>
<b>11:30 a.m. – noon</b>	Break for discussions with panelists
<b>Noon – 2:30 p.m.</b>	Lunch begins for those who ordered a box lunch
	- One-on-one appointments with program officers - Open poster session information exchange - 1:30 p.m.: Classified side session (by invite only in room 1454)
<b>2:30 – 3 p.m.</b>	Final remarks and Q&A with CNR
<b>3 – 3:30 p.m.</b>	Check-out (at lobby table)



<http://www.onr.navy.mil/Conference-Event-ONR/Focus-Area-Forum.aspx>

**#focusautonomy**



**Human/Unmanned  
Systems Collaboration**

**Intelligence Enablers  
and Architectures**



**Scalable and Robust  
Distributed Collaboration**



**Perception and Intelligent  
Decision-Making**

