

Manned Unmanned Teaming (MUM-T) for Marine Fire Teams



Machines and Marines Collaborating

- Conduct four student theses (two students per thesis) on various aspects of Marine-machine interdependence that are of importance to the USMC Warfighting laboratory:
 - Explore the effects of cognitive load on USMC Fire Team operations, and how machines can be used to reduce cognitive load to appropriate levels
 - Extend previous research on Marine-machine team situational awareness (SA) for a USMC Fire Team by exploring team SA for a Fire Team to other command echelons
 - (Two theses) Determine if there is a robot/sub system that could consistently and dramatically improve operational performance in a segment of mission tasks such as QRF, targeting, ambush detection worth immediate investment

- Four theses related to the topics above
- Progress reports to USMC Warfighting Laboratory
- Each theses will provide at least one CRUSER monthly brief
- NPS faculty will provide an article for the CRUSER report
- Inform rest of unmanned systems community about the importance of achieving interdependence between humans and machines

- Prior research in Marine machine collaboration identified interdependence as the key to success. Interdependence is actualized by three traits: observability, predictability, and directability
- Interdependent teams are more operationally effective and efficient; we seek to show that for the USMC Fire Team
- Each thesis uses interdependence as a fundamental building block of their research areas
- Developing interdependence may be useful to all emerging man-machine team arrangements
- Interdependence analysis helps identify where machines help perform dull, dangerous, dirty, or distant tasks



FY18 Call for Proposals

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