

1145-93-717

Addison W Bohannon* (addison.w.bohannon.civ@mail.mil). *Adaptive Individualized Technology to Facilitate Teamwork in Human-Agent Military Teams*. Preliminary report.

Military operations require the teamwork of Soldiers to plan and execute collective action in a dynamic and adversarial environment. As military teams expand to include increasingly autonomous and intelligent robots, drones, and sensors, how will these human-agent teams coordinate to execute complex missions? In human teams, teamwork processes such as communication, mutually supporting goals, and shared mental models underlie effective team performance. The Army believes that adaptive interventions at the individual level can facilitate teamwork in human-agent teams. This talk will outline that approach and its scientific questions: What are the relevant teamwork processes in human-agent teams? What dynamics govern these processes? How do we observe a latent teamwork process? Finally, how do we then influence that process through individually adapted technologies? We will discuss a preliminary effort to predict latent team processes such as effective communication from the structured interactions of a military staff during a training exercise. From the pairwise interactions of team members encoded as a weighted adjacency matrix, we use matrix recovery techniques to identify communication patterns that track external evaluations of teamwork. (Received September 24, 2018)