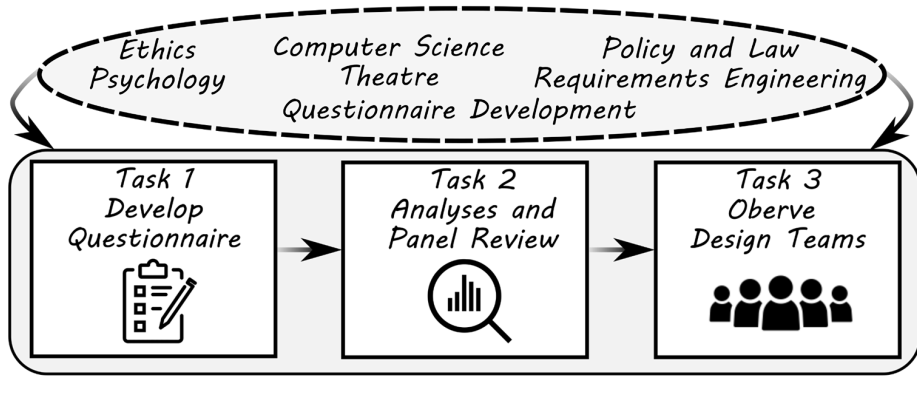


# Who Makes Johnny 5 Come Alive? Using Diverse Perspectives to Drive Requirements for Human-Robot Teams



Proposed Research Tasks

## Problem Statement

- Investigate the impact diversity in requirements formation teams has on final requirement sets for autonomous systems which have inherent uncertainties in their use and operational environments.
- Develop a novel experiment and questionnaire to determine requirements formed by diverse participants and their perception of requirements from diverse disciplines.
- Develop a toolset to aid in the formation of teams to create autonomous systems requirements.

## Impact

- **Research Impact:** Technical report and/or one or more journal manuscripts discussing the experiment and the observations of USNA/USMA/USFA design teams that will impact formation of autonomous systems requirements; Reusable requirements formation experiment and questionnaire on diversity in teams
- **Warfighting Impact:** Evidence of the influence of diversity on formation of autonomous systems requirements; Findings toolset will be directly applicable to DON systems and design engineers.
- **Assessment:** Rigorous statistical and engineering analyses

## Transition

- Multiple agencies in DoD, as well as NASA, have to create requirements to support the operator in ambiguous situations. Providing an understanding of diverse perspectives should create better systems for the force
- In addition to the benefits to DoD and NASA, this research will keep the NPS and UAH curricula at the forefront of how we teach student to develop requirements for autonomous systems.