

DARPA BROAD AGENCY ANNOUNCEMENT

## White Paper Evaluation and Response

**BAA Number:** HR001125S0001 (Fictional)  
**Program:** Resilient Autonomous Systems (RAS)  
**Technical Office:** Defense Sciences Office (DSO)  
**Program Manager:** ██████████  
**Company:** ██████████  
**PI:** ██████████  
**White Paper Date:** January 15, 2026  
**Response Date:** February 12, 2026  
**Disposition:** <b>INVITED TO SUBMIT FULL PROPOSAL</b>

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### WHITE PAPER TITLE

Bio-Inspired Distributed Decision Architecture for Multi-Agent Autonomous Systems Operating Under Communications Denial

### PROGRAM MANAGER RESPONSE

Dear Dr. ██████████,

Thank you for submitting your white paper to the Resilient Autonomous Systems program under HR001125S0001. After review, I am pleased to invite you to submit a full proposal.

Your approach to distributed decision-making using bio-inspired stigmergic coordination is of interest to the program. The concept of enabling autonomous agents to coordinate without direct communication links addresses a core challenge in the RAS program. Your preliminary simulation results demonstrating sustained coordinated behavior after 97% communications loss are noteworthy.

In your full proposal, please address the following:

- Provide more detail on how the stigmergic signals will be implemented in RF-denied environments where the environmental markers themselves may be degraded or denied.
- Clarify the transition from simulation to physical demonstration. The proposal should include at least one hardware-in-the-loop demonstration during the base period.
- Address scalability beyond the 8-agent simulations shown. The program requires demonstration potential for 50+ agent swarms.
- Include a more detailed comparison with existing decentralized coordination approaches (MANET-based, blockchain-based, etc.) and quantify the advantages of your approach.

Full proposals are due March 28, 2026. Please follow the formatting and submission instructions in Section VI of the BAA. The maximum page count for Technical Volume is 30 pages. The anticipated period of performance is 24 months with a total budget ceiling of \$2.5M.



## INTERNAL WHITE PAPER ASSESSMENT (Not Shared with Proposer)

**Note:** DARPA does not share internal white paper assessments with proposers. The response letter above is the only feedback provided. This section is included for educational purposes to illustrate the types of factors program managers consider when evaluating white papers.

### Alignment with Program Vision

The white paper directly addresses Technical Area 2 (Coordination Under Denied Communications) of the RAS BAA. The bio-inspired approach is differentiated from other submissions that propose conventional decentralized consensus algorithms. The concept has potential to achieve the program's 95% mission completion metric under contested conditions.

### Technical Credibility

The team has relevant prior work in swarm robotics and bio-inspired algorithms. The simulation results are preliminary but directionally encouraging. The PI published two relevant papers in 2024 on stigmergic coordination that demonstrate domain expertise. Key risk is the gap between simulation and physical demonstration - the team has not previously demonstrated multi-agent hardware systems.

### Differentiation from Other Submissions

Of 47 white papers received for TA-2, this submission was among 11 invited for full proposals. Most submissions proposed variants of existing MANET or mesh networking approaches. This proposal's bio-inspired approach is distinct and offers a fundamentally different solution path that the portfolio currently lacks.

### Risk Assessment

Moderate-to-high technical risk. The concept is sound in simulation but untested in hardware. Scalability beyond small agent counts is undemonstrated. However, the base period milestones are structured to retire key risks early, and the budget is reasonable for the proposed scope.

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## COMPARISON: INVITED VS DECLINED WHITE PAPERS

For educational context, below are anonymized characteristics of white papers that were declined:

Common Decline Reason	Frequency	Example
Did not address specific TA	34%	"Multi-purpose autonomy platform" with no specific connection to RAS technical areas
Incremental over existing work	28%	Proposed minor improvements to existing MANET protocols without novel approach
No preliminary data	19%	Concept described at theoretical level with no simulation or experimental evidence
Team lacks relevant expertise	11%	PI expertise in unrelated domain with no publications in autonomous systems
Misunderstood program scope	8%	Proposed single-agent autonomy when program requires multi-agent coordination