Ship Structure Committee

2024 Focus Areas For Project Idea Solicitation

2024 Focus Area	Examples
I. Machine Learning and Artificial Intelligence use cases for vessel design and lifecycle analysis.	Machine learning uses for efficient structural design. Use of artificial intelligence to analyze design data for improved lifecycle efficiency. Instrumentation for structural health monitoring system; data analysis methods; "digital twin".
II. Arctic Construction, Operations, Technology and Effects	Structural materials for polar operation, with respect to strength and temperature. Efficient ice strengthening in structural design. Evaluation/prediction of ice loads. Operational guidance methodologies for ships in ice based on structural assessment.
III. Novel Materials and Manufacturing	Additive Manufacturing uses in vessel construction and NDT techniques. Materials associated with alternative fuels (e.g. hydrogen, liquefied gases). Use of corrosion-resistant steels (e.g. COR-TEN) in marine application.
IV. SSC Follow-Up Report	Follow-on report to existing, outdated SSC report.

To submit a research idea, please use the template available on the Ship Structure Committee website, www.shipstructure.org, and email to: SSC@USCG.mil