#### October 17, 2020

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#### Today’s Saturday Morning Physics Speaker



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| **Yin Lu (Julie) Young Professor (U-M Naval Architecture and Marine Engineering)** |

 ***Smart Maritime Propulsion and Energy Harvesting Concepts***

 **Abstract**Some of the topics covered in this talk include, how can we design smart marine propulsion and energy harvesting devices to keep our oceans blue? What are the interesting physics fundamentals that govern how bodies move in water? How can we take advantage of advances in materials, manufacturing, sensing and control?

 **Biography**Professor Young’s research focuses on the dynamic fluid-structure interaction response and stability of smart/adaptive multi-functional marine structures such as marine propulsors, turbines, control surfaces. Prof. Young has written over two hundred journal and conference papers related to the fluid-structure interaction response and stability of marine and coastal structures. Her research has been supported by the Office of Naval Research (ONR), the Naval Surface Warfare Center (NSWC), and the National Science Foundation (NSF). She has also served as a consultant to industry and government.

Prof. Young is a member of the Committee on the Update of National Naval Responsibility for Naval Engineering (B0164) managed by the Transportation Research Board (TRB) Executive Committee under the National Academy of Sciences. Prof. Young is also a member of the Seakeeping Committee for the International Towing Tank Conference (ITTC), and a member of the joint ITTC-ISSC (International Ship and Offshore Structures Congress) Working Group. Prof. Young served as the Society of Naval Architecture and Marine Engineering (SNAME) representative on the United States National Committee on Theoretical and Applied Mechanics (USNC/TAM) between 2009-2014.

Prof. Young is an Associate Editor for the Journal of Ship Research and the Journal of Offshore, Mechanics, Arctic, and Ocean Engineering. She was a Guest Editor for the special issue on Hydrodynamics of Marine Propulsion for the Proceeding of the Institution of Mechanical Engineering, Part C: Journal of Mechanical Engineering Science. Prof. Young was the Lead Guest Editor for a special 2012 issue on “Marine propellers and current turbines: state-of-the-art and current challenges” for International Journal of Rotating Machinery.
Prof. Young has also served as a member of the International Scientific Committee, Scientific Organization Committee, and/or Chair of multiple domestic and international conferences, including the Symposium on Naval Hydrodynamics, International Congress of Theoretical and Applied Mechanics, U.S. National Congress on Theoretical & Applied Mechanics, International Symposium on Marine Propulsors, and many others.

 ***YouTube* Link to Saturday’s Talk:** [**https://www.youtube.com/watch?v=zey20C9\_c1M**](https://www.youtube.com/watch?v=zey20C9_c1M)

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