

AI TOOLS FOR UNDERSTANDING AND MANAGING BLACK SEA ECOSYSTEMS

Philip Alexander Hedlund Smith

E-mail: pahsm@dtu.dk

**Technical University of Denmark
(DTU Aqua)**



BRIDGE-BS

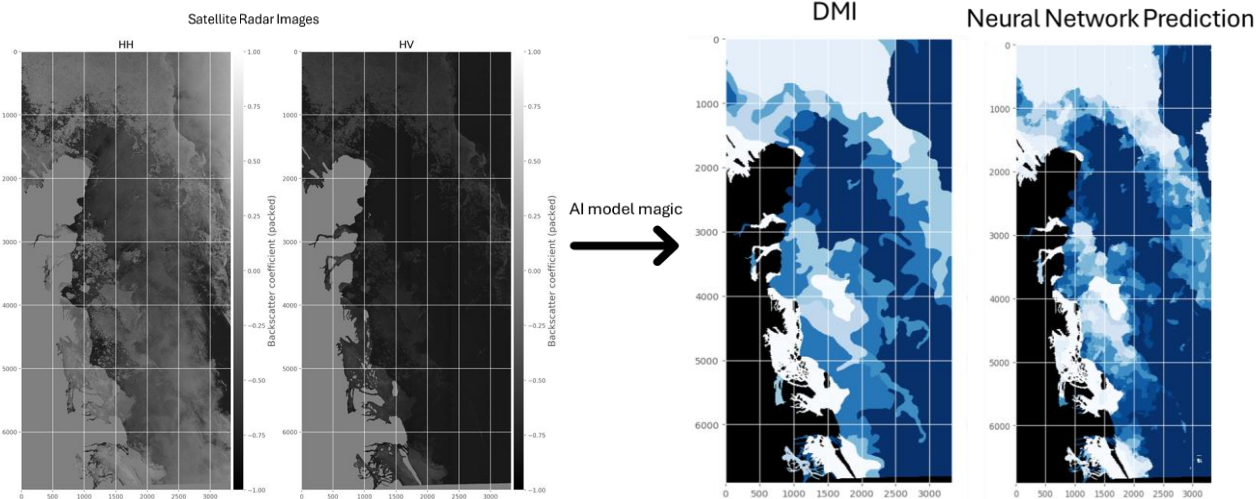


*This project has received funding from the European Union's Horizon 2020
Research and Innovation Programme under Grant Agreement No:101000240.*

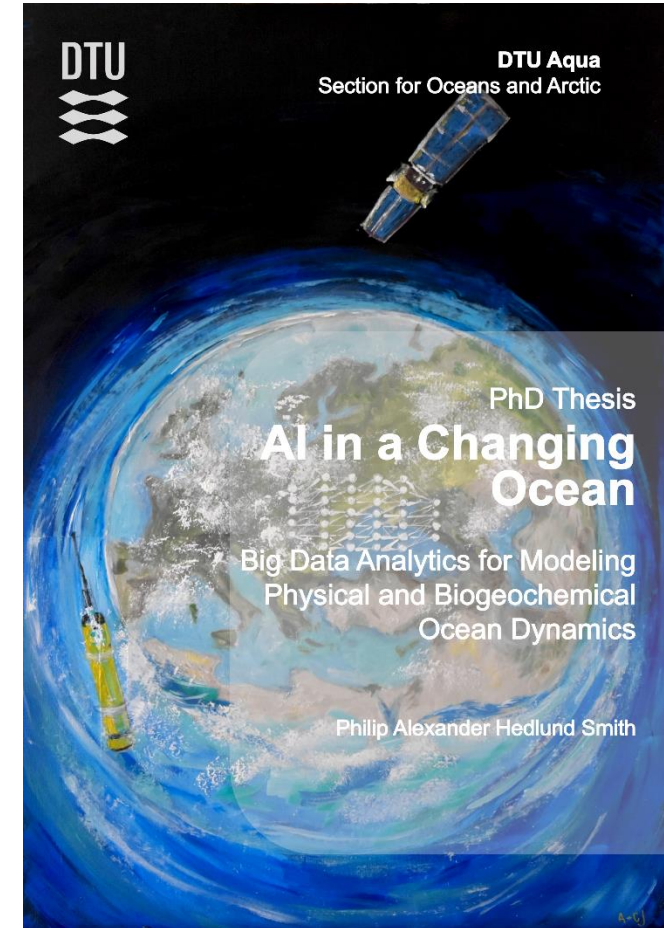


Philip Alexander Hedlund Smith

- MSc in Earth and Space Physics & Engineering
 - Worked with AI for satellite-based sea ice charting → sparked interest in ocean processes
- PhD at DTU Aqua under BRIDGE-BS
 - Focused on ocean modeling, integrating multiple data sources, and analyzing dynamics using AI



Main supervisors:
Patrizio Mariani and
Mike St. John



Defended in August 2025

Why AI and Neural Networks?

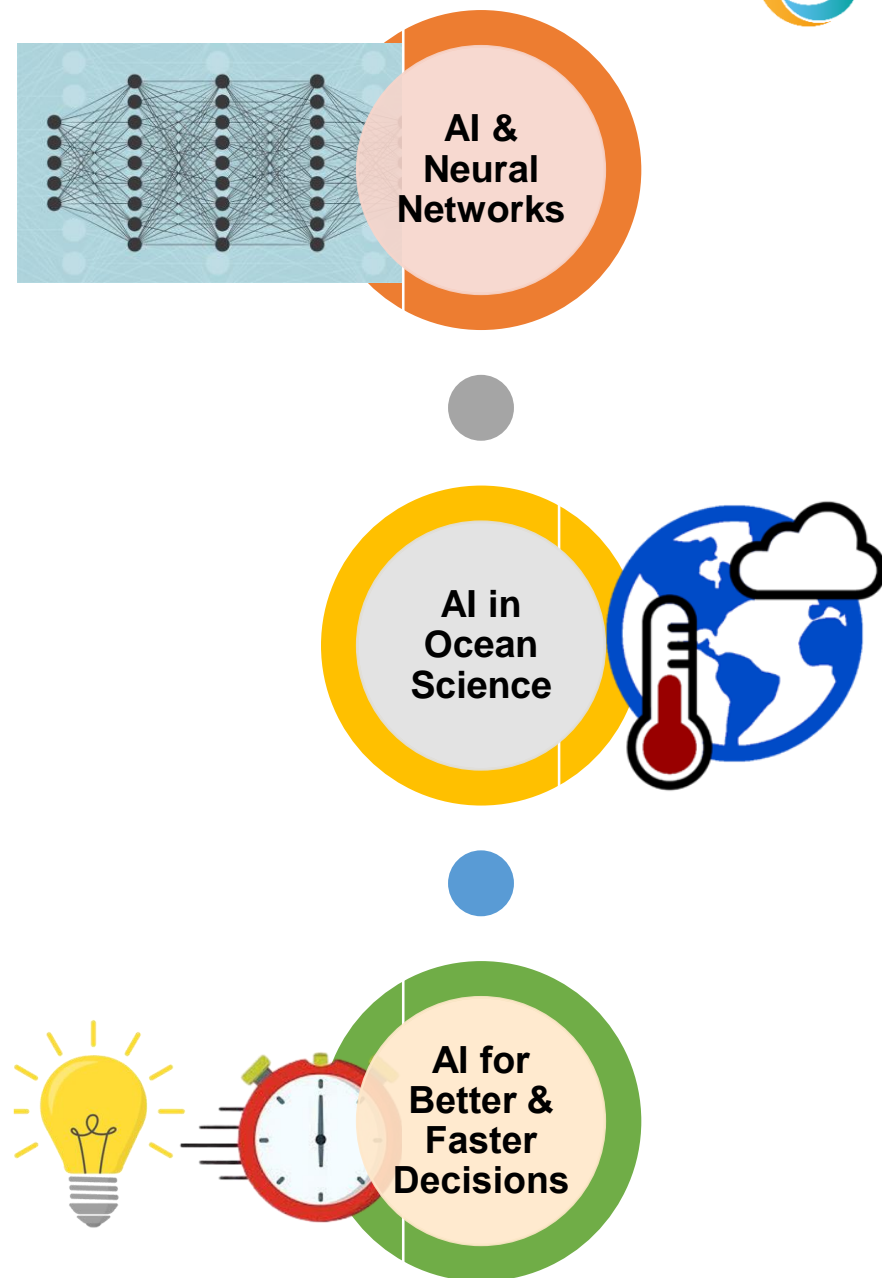
- *AI finds patterns in complex systems*
- *AI delivers insights and predictions extremely fast*

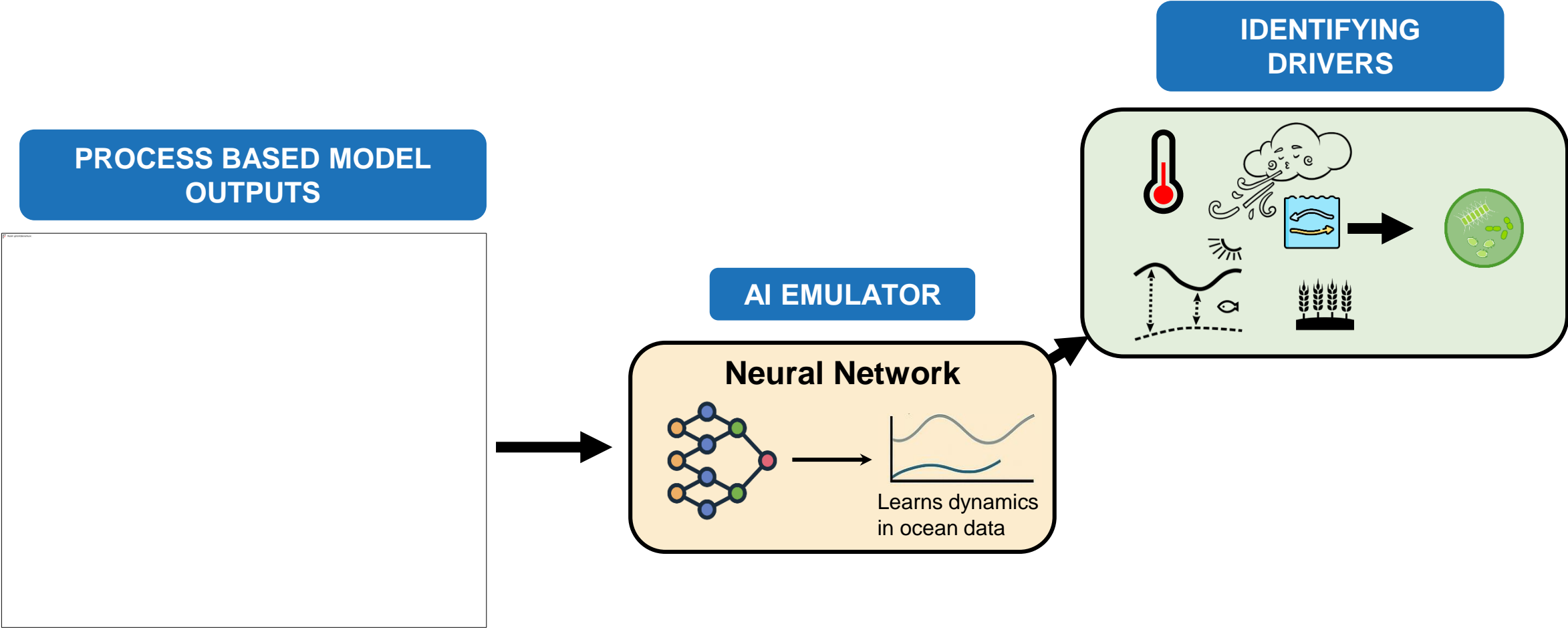
Why AI for the Ocean?

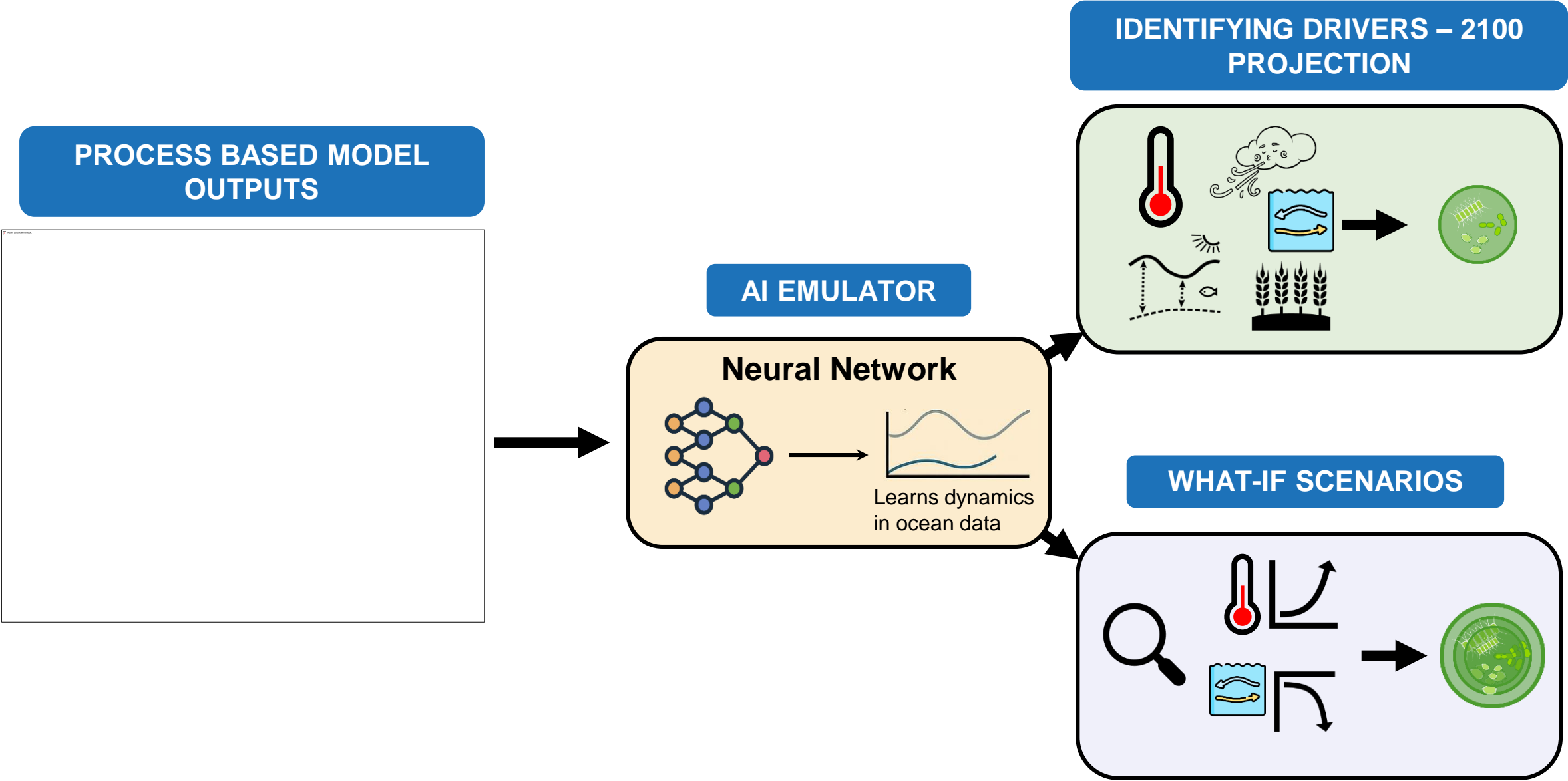
- *The ocean is highly dynamic and changing rapidly*
- *Traditional models are accurate but slow to run*

What AI gives us

- *Fast forecasts, scenario testing, understanding of key drivers, and better use of all available data*







BRIDGE-BS Meetings



20.09.2024 00:19



Sharing My Work



University of Liège





THANK YOU!

STAY TUNED!

bridgeblacksea.org



@BRIDGE_BlackSea



BRIDGE Black Sea



@BRIDGEBlackSea



BRIDGE Black Sea



BRIDGE-BS