

# WELCOME TO AMEMR

ADVANCES IN MARINE ECOSYSTEM MODELLING RESEARCH CONFERENCE

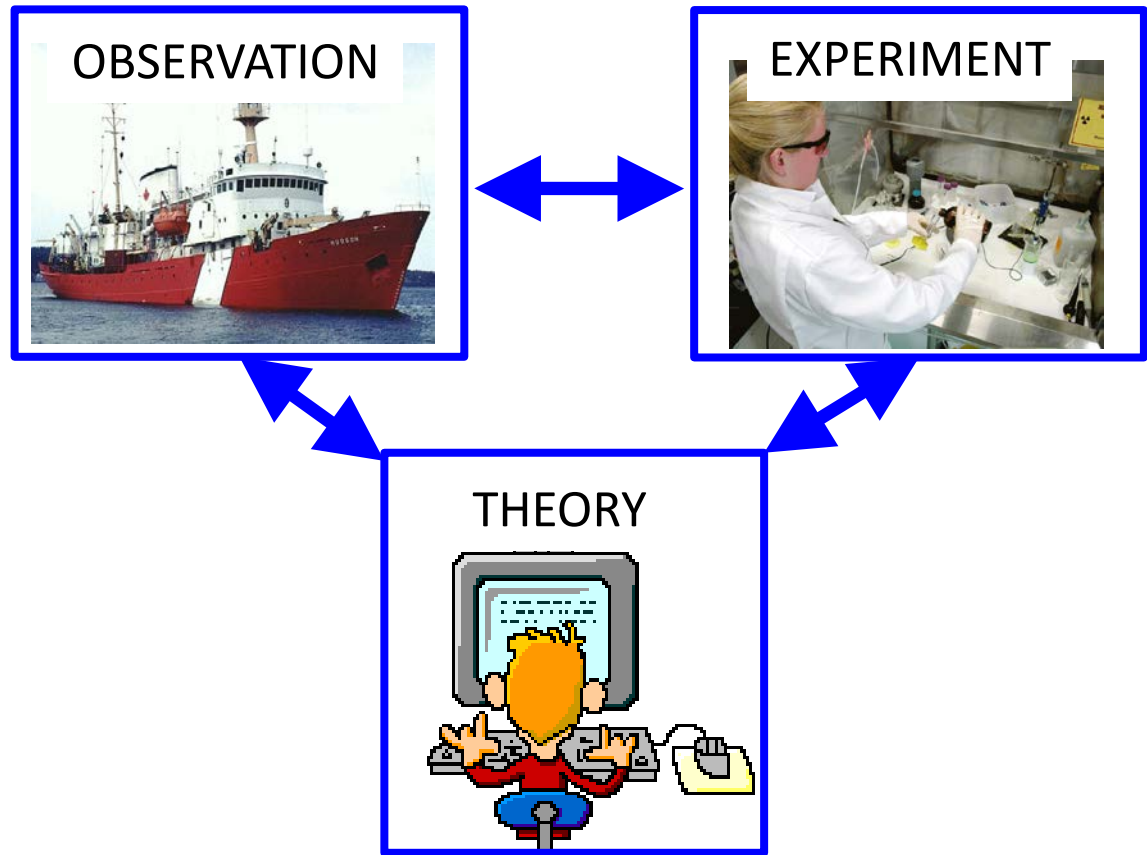
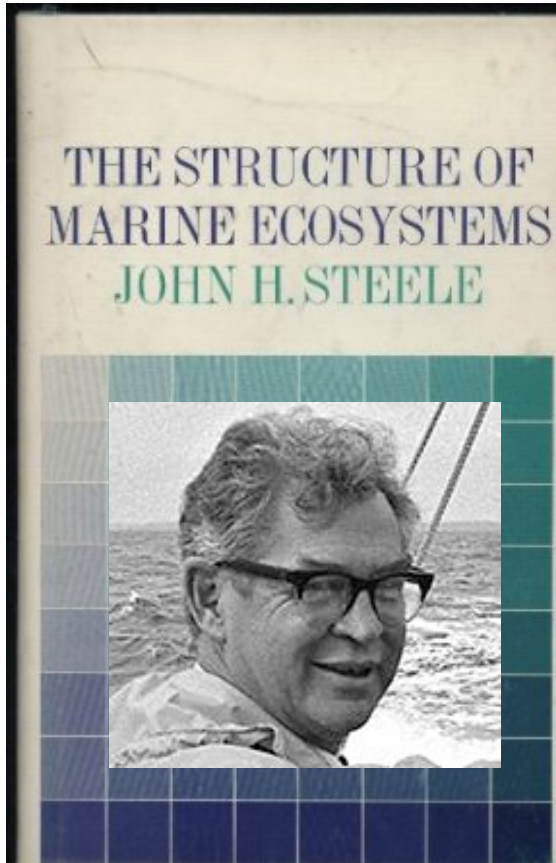
**3-6 July 2017**





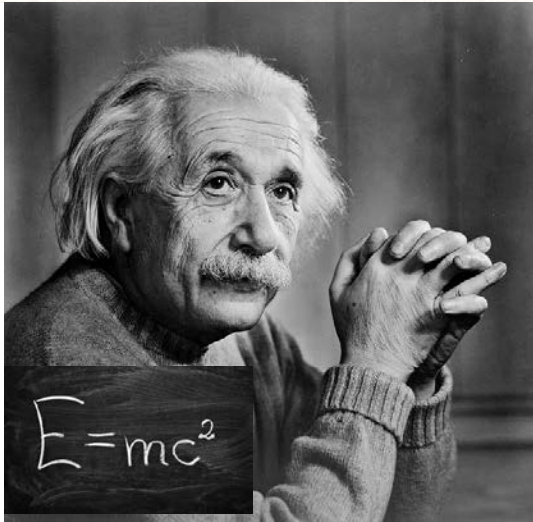
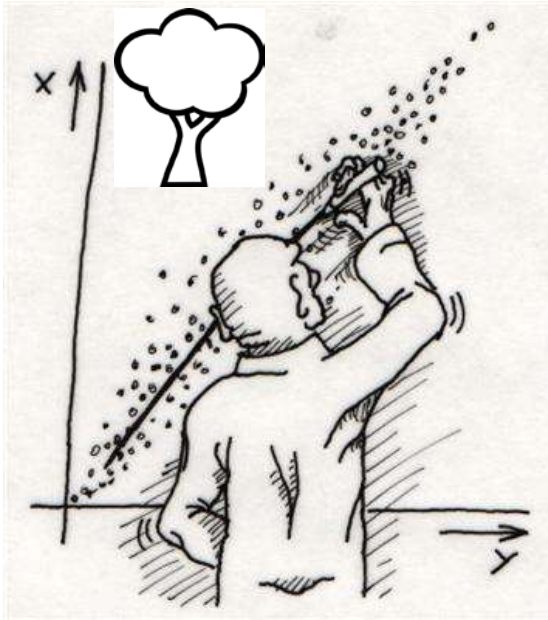
Why science teachers  
should not be given  
playground duty.

# “THE MAIN AIM OF THIS ANALYSIS...”



“...is to show how theory, observation and experiment may be combined, and how closely each depends on the other....It also provides a basis for speculation about the effect of man’s intervention in marine ecosystems”

# MODELING IS AN ART & A SCIENCE



# BUILDING BLOCKS: TRUTH OR DARE?

**“Truth =**

describe facets of biology and ecology vital to an empiricist”



**Gordon Riley on his 1946 phyto model:**

*“I really cudgelled my head harder on that than on anything else I’ve ever done”*

**“Dare =** taking risks to explore system & feedbacks, proposing component models based on limited or no empirical evidence.

***Droop on his 1968 Quota paper:***

*“It is no bad thing to be forced to look at things in a new way, and if necessary, to stick one’s neck out by questioning the limitations of accepted dogma”*

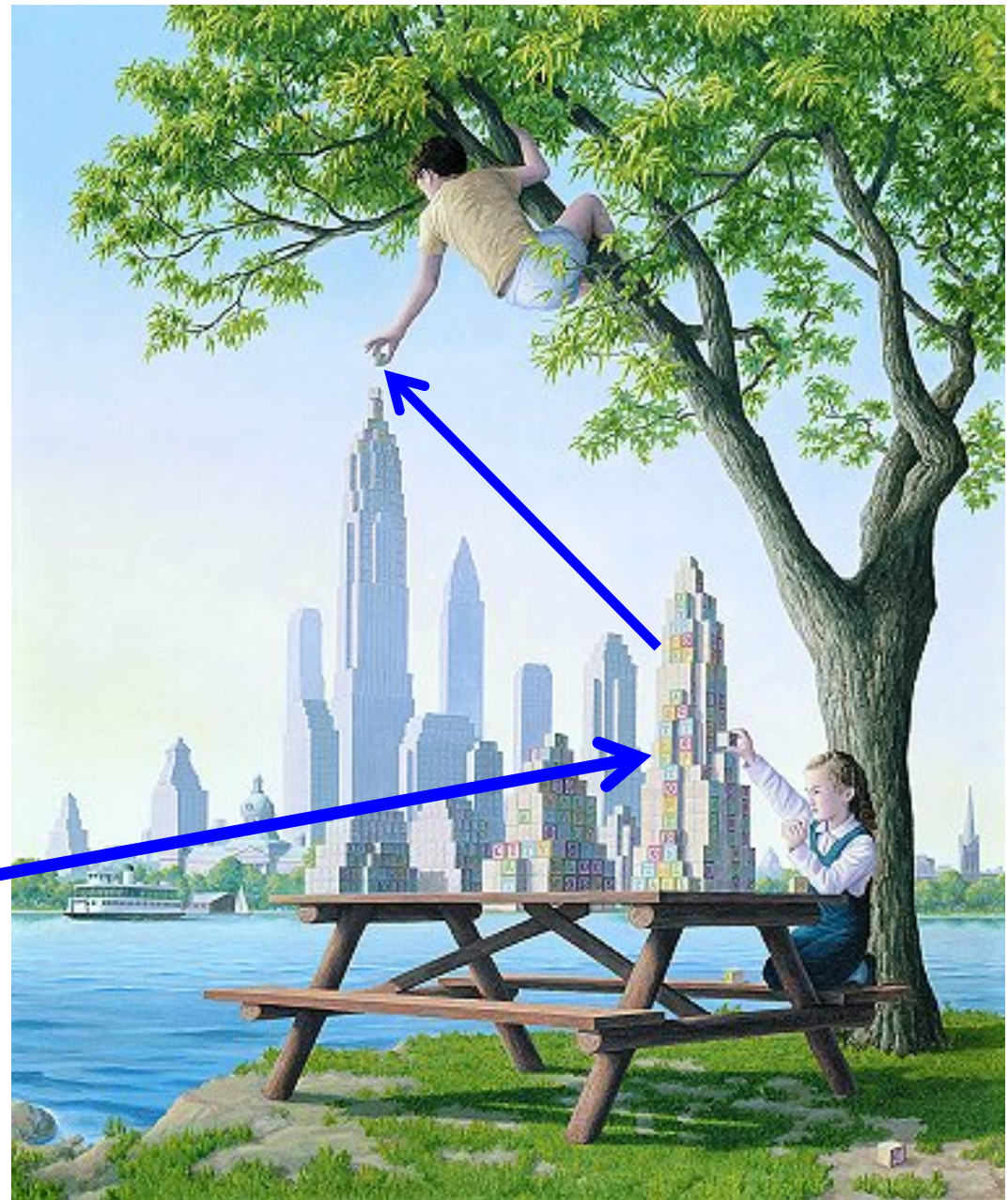


# TODAY'S SESSION:

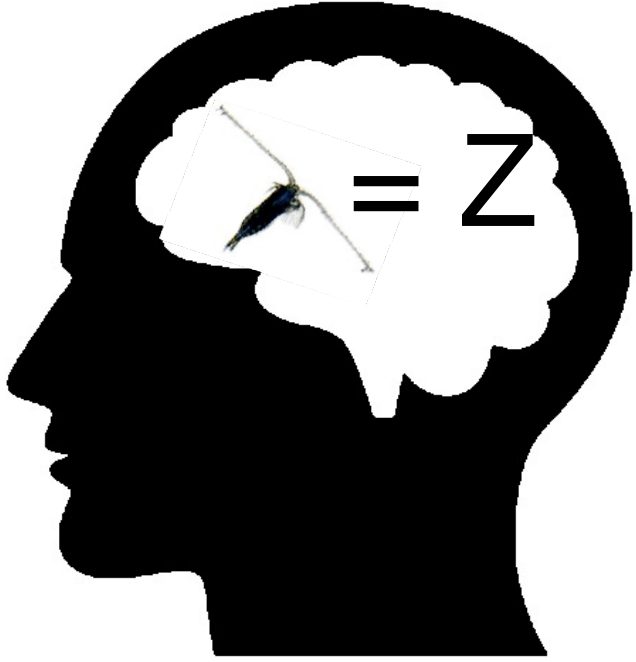
## Zooplankton as central: New ideas for improving modelling with different functional complexity

- Population interactions
- DMS-mediated feedbacks
- Mixotroph PFTs
- Coccolithophore biogeography
- Zooplankton diversity (size and trait)
- Stage duration and survivorship
- Iceberg iron
- Functional groups
- Zooplankton feeding behaviour
- Regular emergent patterns
- Macrobenthic ecosystem engineering

# Submodels + Teams



# Learning



**People**

+



**Machines**



# GOODBYE TO AMEMR

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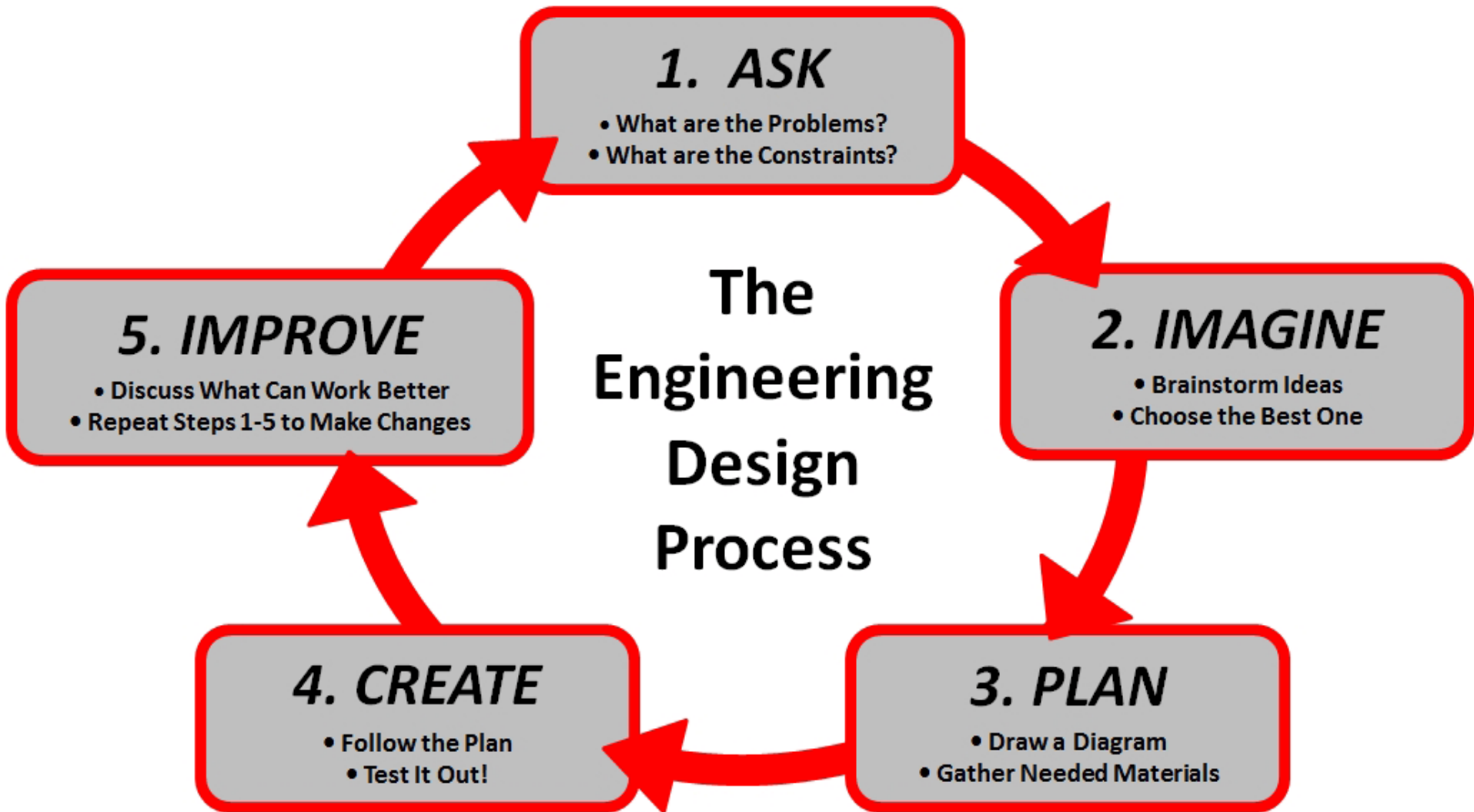




2017

2020

# DESIGNING OUR FUTURE MODELLING



# WELCOME QUESTIONS AND IDEAS

- Equip trainees with essential modeling skills and knowledge?
- Foster productive collaboration?
- Design best models: Simple vs. Complex? Uncertainty?
- Test and Generate hypotheses?
- Develop innovative and relevant applications?
- Communicate results in ways meaningful to stakeholders?
- Engage policy makers & public?

