

**Term Assignment**

Selection of five key publications: October 4<sup>th</sup>

Presentation due date: November 22<sup>nd</sup>

**Description:** The objective of this project is to write a review and explanation of a method or application of in acoustical oceanographic. The presentation should aim to be clear and informative, suitable for the class audience or a conference of experts. The presentation must cite at least five key publications on the topic, although the widest read possible is encouraged. The current state-of-the-art of the research topic should be presented. Presentations will be 15 minutes, ~12 minutes of discussion, with ~3 minutes for questions at the end.

**Resources:** Journal subscriptions are available when connected to the Dalhousie Network. VPN access is available through the library website.

**Topics:** The following topics are suggested, although you may choose an unlisted topic with approval of Dr. Barclay or Dr. Hay.

Noise tomography in the deep ocean  
Acoustical tomography in deep and shallow water  
Broadband scattering: acoustic colour  
Time reversal ocean acoustics  
Underwater acoustic communications  
The effect of internal waves on propagation  
Passive geoacoustic inversion  
Surface processes using active sonar  
Seabed processes using active sonar  
Sediment generated noise  
Acoustic identification of fish species  
Non-linear methods for geoacoustic inversion and acoustic localization  
Range estimation and tracking of marine mammals with a single hydrophone  
Quantifying rainfall at sea with passive acoustics  
Acoustic signature of snowfall in open and ice covered seas  
Effect of ice cover on propagation  
Surface wave effects on propagation  
Acoustic vector sensor performance  
Passive estimates of air-sea gas exchange  
Acoustic gravity waves  
Seismic oceanography

**Grading:** A grade out of 30 will be awarded. Equal weight will be given in the categories of

- 1) Scientific accuracy – Demonstrate a complete physical and mathematical grasp of the topic.
- 2) Instructional clarity – How clearly does the presentation explain the questions that arise from the topic? Are the explanations at the appropriate level?