

**PCC586**  
**UW Program on Climate Change**  
**RESEARCH SEMINAR – Autumn 2010**  
**Theme – Climate Change Feedbacks**

Tuesday 3:30 (and other times)  
OSB425

James W. Murray  
Oceanography  
543-4730

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|-----------------------|--|
| October 5             | No Class   |
| October 12            | Dennis Hartmann (UW-Atmos)<br>Overview and Discussion: Understanding Climate Change Feedbacks<br>Reading: Selections from NAS NRC Report (2003)  |
| October 19            | Chris Bretherton (UW – Atmos)<br>Presentation and Discussion: Fast Feedbacks and Water Vapor<br>Reading: NAS NRC Report (2003) Chapter 2 Cloud, Water Vapor and<br>Lapse Rate Feedbacks  |
| October 26            | Kyle Armour (UW-Atmos)<br>Presentation and Discussion: Sea Ice Feedbacks<br>Reading: NAS NRC Report (2003) Chapter 3 Sea Ice Feedbacks   |
| November 2            | No Class   |
| November 9            | Preparation for Andreas Schmittner (Oregon State University)<br>Reading and Discussion: Schmittner and Galbraith (2008) Glacial<br>Greenhouse gas fluctuations controlled by ocean circulation changes.<br>Nature 456, 373-376 |
| November 12<br>Friday | Andreas Schmittner<br>Seminar: 1230 425 OSB (part of Chem Ocean Lunch Seminar)<br>Title: Can we constrain climate-carbon cycle feedbacks using modern<br>observations?   |

- November 15 Hugh Ducklow (The Ecosystem Center, Woods Hole)  
Monday Seminar: 330 425 OSB  
Title: Rapid Climate Warming and Ecosystem Response on the West Antarctic Peninsula  
Reading: 1. Schofield et al (2010) How do polar marine ecosystems respond to rapid climate change? Science 328, 1520-1523.  
2. Montes-Hugo et al (2009) Recent Changes in Phytoplankton Communities Associated with Rapid Regional Climate Change Along the Western Antarctic Peninsula Science 323, 1470-1473
- November 23 No Class Thanksgiving Week
- November 30 Preparation for Nicole Lovenduski (Univ. Colorado)  
Reading: LeQuere et al (2007) Saturation of the Southern Ocean CO<sub>2</sub> sink due to recent climate change. Science 316, 1735-1738
- December 6 Nicole Lovenduski (Univ. Colorado)  
Monday Seminar: 330 425 OSB  
Title: Recent Changes in Southern Ocean Biogeochemistry
- December 7 Preparation for Eric Galbraith (McGill University)  
Reading: Schmittner et al (2009) Using tracer observations to reduce the uncertainty of ocean diapycnal mixing and climate-carbon cycle projections. Global Biogeochemical Cycles 23, GB4009 and  
Friedlingstein et al (2006) Climate-Carbon Cycle Feedback Analysis: Results from the C4MIP Model Intercomparison. Journal of Climate 19, 3337-3353.
- December 10 Eric Galbraith (McGill University)  
Friday Seminar: 1230 425 OSB  
Title: Salted, not stirred: mixing up an abyssal cocktail for low glacial CO<sub>2</sub>