

# THEORY SEMINAR SPRING 2014

SIO 219, 1 unit S/U  
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Office: Keck room 353 – this is at the extreme north–east corner of SIO. As far and high as possible from the Director's Office, while still remaining on the SIO campus

**Meetings** Friday 3:30pm, Keck Conference Room

**Description** The theme of the theory seminar this quarter is ocean surface processes and inference of subsurface flow. Recent work on surface quasigeostrophy will be one focus, but other topics related to sea–surface processes (gravity waves, near–inertial oscillations) will also be discussed. There'll be a mixture of research seminars and student–led presentations of key papers. Students are encouraged to register for the class, and participation by interested post–docs and faculty is very welcome.

**Course Requirements** Students should register as S/U. Registered students will be expected to present at least one paper during the quarter and participate in the discussion each week.

The reading list below is under development. Participants are encouraged to suggest papers that they like to read and discuss.

## READING LIST

1. [Juckes, M. 1994. Quasigeostrophic dynamics of the tropopause. J. Atmos. Sci. 51, 2756–2768](#)
2. [LaCasce, J. H. and A. Mahadevan, 2006. Estimating subsurface horizontal and vertical velocities from sea–surface temperature. J. Marine Res., 64, 695–721.](#)
3. [Lapeyre G. and P. Klein, 2006. Dynamics of the Upper Oceanic layers in terms of surface quasigeostrophic theory. J. Phys. Oceanogr., 36, 165–176.](#)
4. [Held, I.M., R.T. Pierrehumbert, S.T. Garner and K.L. Swanson 1995. Surface quasi–geostrophic dynamics. J. Fluid Mech., 282, 1–20.](#)
5. [Smith, K. S. and J. Vanneste 2013. A surface–aware projection basis for quasigeostrophic flow. J. Phys. Oceanogr., 43, 548–562.](#)
6. [LaCasce, J.H., 2012. Surface quasigeostrophic Solutions and baroclinic modes with exponential stratification. J. Phys. Oceanogr., 43, 569–580.](#) and the corrigendum [LaCasce, J.H., 2012. Corrigendum.](#)
7. [Berti, S. and G. Lapeyre, 2014. Lagrangian reconstructions of temperature and velocity in a model of surface ocean turbulence. Ocean modelling, 76, 59–71.](#)
8. [Wang, J., G.R. Flierl, J. Lacasce, J.L. McClean and A. Mahadevan 2013. Reconstructing the Ocean's interior from surface data. J. Phys. Oceanogr., 43, 1611–1626.](#)

## Presenters and Papers will be posted here

- April 4, 2014: Chip Cox, "Distortion of the viscous sublayer of the wind by capillary-gravity waves causes growth, slowing and form drag of waves"
- April 11, 2014: Cecily Keppel
- April 18, 2014:
- April 25, 2014:
- May 2nd 2014:
- May 9th 2014:
- May 16th 2014:
- May 23rd 2014:
- May 30th 2014:
- June 6th 2014:

If you have any questions or comments, please contact me at [wryoung@ucsd.edu](mailto:wryoung@ucsd.edu).

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