

**NIMBioS Investigative Workshop – Synchrony in Biology  
April 11-13, 2011: Meeting Schedule**

**Monday, April 11**

- 8:00-8:45 Breakfast at NIMBioS
- 8:45-9:00 NIMBioS welcome (Director Louis Gross)
- 9:00-9:30 Very brief introductions by all –9
- 9:30-10:00 Brief overview of synchrony and goals of workshop (Alan – 20 minutes)
- 10:00-10:30 Brief overview of synchrony in neuroscience (Tim – 20 minutes)
- 10:30-11:00 BREAK
- 11:00-11:30 Synchrony from a mathematical point of view (Marty G or...?)
- 11:30-12:00 Open discussion
- 12:00 continue discussion over lunch at NIMBioS
- 1:00-1:30 Brief overview of synchrony in ecology (Mike B – 20 minutes)
- 1:30-2:00 Statistical Issues (Noel Cressie – 20 minutes)
- 2:00-2:30 Open discussion leading to issues for breakout groups
- 2:30-4:30 Breakout group meetings
- 4:30-5:30 Reports from breakout groups
- 5:30-6:30 Reception at NIMBioS

**Tuesday, April 12**

- 8:00-9:00 Breakfast at NIMBioS
- 9:00-9:30 Potential extra presentation to deal with issues raised Monday
- 9:30-10:00 Review potential new questions for breakout groups, reshuffle
- 10:00-12:00 Breakout group meetings
- 12:00-1:00 LUNCH at NIMBioS
- 1:00-2:00 Plenary discussion

2:00-5:00 Additional discussion/breakouts as needed

**Wednesday, April 13**

9:00-12:00 Finish discussions, wrap-up


REFERENCES THAT YOU SHOULD READ AHEAD OF TIME:

1)

This is a 20 minute video

[http://www.ted.com/talks/steven\\_strogatz\\_on\\_sync.html](http://www.ted.com/talks/steven_strogatz_on_sync.html)

2) Liebhold, A., W. D. Koenig, et al. (2004). "Spatial synchrony in population dynamics." Annual Review of Ecology, Evolution, and Systematics **35**: 467-490.

 [PDF \(251 KB\)](#)

3) M. A. Schwemmer and T.J. Lewis (2011) The Theory of Weakly Coupled Oscillators. Chapter in book: PRCs in Neuroscience: Theory, Experiment and Analysis (eds. N.Schultheiss, A.Prinz, R. Butera). Springer. (preprint)

[http://www.math.ucdavis.edu/~tlewis/pubs/Schwemmer\\_and\\_Lewis\\_2011\\_preprint.pdf](http://www.math.ucdavis.edu/~tlewis/pubs/Schwemmer_and_Lewis_2011_preprint.pdf)

4) Strogatz, S. H. (2000). "From Kuramoto to Crawford: exploring the onset of synchronization in populations of coupled oscillators." Physica D: Nonlinear Phenomena **143**(1-4): 1-20.

5) Stewart, I., M. Golubitsky, et al. (2003). "Symmetry groupoids and patterns of synchrony in coupled cell networks." SIAM J. Appl. Dynam. Sys **2**(4): 609–646.

(Biologically oriented readers should skim this, rather than get lost in the details!)