

Final Report

Submitted by NIMBioS Short-term Visitor Tony Jhwueng, Department of Statistics, Feng-Chia University, Taichung Taiwan.

I was a short-term visitor at the National Institute for Mathematical and Biological Synthesis (NIMBioS) from July 20-30, 2012. The title of my short term visit project was "Investigating the performance of AIC in selecting substitution models."

I report on the general results of my short-term visit activities at NIMBioS including progress on manuscripts and collaborative relationships. I am grateful to the support because being located in Taiwan, collaboration with US researchers is more difficult.

I worked on four new manuscripts while at NIMBioS. The following manuscripts cite NIMBioS support:

- [1] Jhwueng, DC, Model selection and goodness of fit for phylogenetic comparative method. In revision.
- [2] Jhwueng DC, Huzurbazar S, O'Meara BC, and Liu L. Investigating the performance of AIC in selecting substitution models. In revision
- [3] Jhwueng DC and O'Meara BC. Studying trait evolution in hybrid species on phylogenetic networks. In revision
- [4] Orzack, S. and Jhwueng DC, Comparative method for testing of adaptive hypothesis Modeling adaptation to a randomly evolving environment: an OU-OU approach to study a randomly evolving environment. In progress.

I worked collaboratively with members of NIMBioS and UT, including Brian O'Meara (University of Tennessee, Knoxville), Liang Liu (University of Georgia), Snehalata Huzurbazar (SAMSI) and Steven Orzack (Fresh Pond Institute).

During visiting NIMBioS, I also attend the 2012 annual meeting of society of mathematical biology meeting in Knoxville convention center. I presented a poster for a paper:

Beaulieu, JM, Jhwueng, DC, Boettiger, C. and O'Meara, BC. 2012. Modeling stabilizing selection: expanding the Ornstein-Uhlenbeck model of adaptive evolution. *Evolution* 66: 2369-2383.