**STOCK SYNTHESIS (SS) COURSE**

**Place**: Instituto de Investigación Pesquera. Avenue Colón 2780. Talcahuano. Chile.

**Date**: September 03 - September 07, 2018.

**Instructor**: Lee Qi. UCSB California, USA.

**Course objectives**

training about practical tools for the construction of stock assessment model using SS. Taking as an example the small pelagic data fisheries of Chile.

**Useful links**

[SS Document Library](https://vlab.ncep.noaa.gov/web/stock-synthesis/document-library)

[SS 3.30 User Manual](https://vlab.ncep.noaa.gov/documents/259399/3406930/SS3.30.10_User_Manual.pdf/db26cb84-dac5-50f3-6b17-0746a05b1de6?version=1.0)

[Methot and Wetzel 2013](https://www.sciencedirect.com/science/article/pii/S0165783612003293) ([Appendix](https://ars.els-cdn.com/content/image/1-s2.0-S0165783612003293-mmc1.pdf) with equations)

**DAY 1**. Monday 03 September

**9.15 am- 13.00**

Concepts in SS.

* General overview of Stock Synthesis
  + Where and how it’s used, what it’s been used for
  + Examples of uses of SS in fisheries
  + Data types and format of input data preparation for the model
  + Main model specifications
  + Examples of model specifications and options for population dynamics
    - Selectivity
    - Natural Mortality
    - Growth
    - Recruitment
* Getting up and running with SS, using example input files (simple model from VLab? Pacific sardine model from Kevin Hill (currently works in 3.24, not 3.30)?)
  + SS installation in software (windows, Mac, etc)
  + Test different model assumptions

**Afternoon**

Get started with modifying common sardine data for input? Hands-on debugging

**DAY 2**. Tuesday 04 September

**9.15 am- 13.00**

* r4ss
* Model diagnostics
  + Data weighting
  + Model tuning
  + Recruitment bias ramp adjustment
  + MCMC?
* SS Starter file tools and forecast file and projection options/implementation and understanding forecast output file
* Forecast, reference points and fishery harvest control rules.
* Specification and use of priors
  + Recruitment
  + Selectivity
  + Q
* Time-varying parameters / environmental indices

**Afternoon**

Simple sardine control file, with single fleet and single survey?

**DAY 3**. Wednesday 05 September

**9.15 am- 13.00**

**sardine common data**

- Implementation of stock assessment to sardine common or anchovy in SS.

**DAY 4**. Thursday 06 September

**9.15 am- 13.00**

**sardine common data**

- Implementation of stock assessment to sardine common or anchovy in SS.

**DAY 5**. Friday 07 September

**9.15 am- 13.00**

**sardine common data**

- Implementation of stock assessment to sardine common or anchovy in SS.

- General discussion.