



CAPAM



NIWA
Taihoro Nukurangi

CAPAM workshop on the creation of frameworks for the next generation general stock assessment models

The Center for the Advancement of Population Assessment Methodology (CAPAM) in collaboration with the National Institute of Water and Atmospheric Research Ltd (NIWA) will host a technical workshop on the creation of frameworks for the next generation general stock assessment models in Wellington, New Zealand November 4-8, 2019. The workshop venue is Prefab Hall, 14 Jessie St, Te Aro, Wellington. <https://www.prefabhall.co.nz/>

Contemporary integrated fish stock assessments are complex and require sophisticated software, which takes substantial resources to develop. Fourth generation languages (e.g. TMB) aid development of these models, but generating new applications remains expensive and highly technical. Unfortunately, there are too few resources in terms of funding and skilled scientists to develop applications for all the populations that require assessment.

For this reason, several general models have been developed and applied in a wide range of situations (e.g. a4a, CASAL, Gadget, MULTIFAN-CL, SAM, Stock Synthesis). These have been funded and developed by regional/national groups to meet perceived management needs using regionally available data, but are nevertheless very similar in structure. However, due to differing objectives and independent development, they have some significantly different features, different inputs and outputs, and few tools for translation between systems.

Development of the next generation general model (or models) can overcome shortcomings among the current generation of models, but will require collaboration among a diverse group of scientists to take advantage of knowledge spread among the different disciplines: Efficient estimation algorithms from mathematicians and statisticians; Efficient programming from computer scientists; Modelling assumptions from population dynamicists and biologists; Likelihood functions from statisticians; Information requirements from fishery managers.

The goal of the workshop is not to develop the next generation stock assessment model, but to bring together researchers from a range of disciplines to discuss frameworks for next generation general models, to set the foundation for those interested in development, and to initiate collaborations to ensure success. Topics covered include: coding philosophies and software structure, the underlying language base, hosting the project, stock assessment model features, user interface and good practices defaults, coordination, project planning, and funding. Invited speakers include Johnnoel Ancheta (ADMB), Corinne Bassin (NOAA Toolbox), Nick Davies (MFCL), Bjarki Elvarsson (GADGET), Jim Ianelli (CEATTLE), Ernesto Jardim (a4a), Rick Methot (SS), Anders Nielsen (SAM), Andre Punt (everything), Scott Rasmussen (CASAL2), Matthew Supernaw (programming), and Ian Taylor (r4ss).

Scientists are encouraged to present work from both ongoing research and completed studies. Please submit a presentation title and abstract (one-page maximum) by September 20, 2019 (earlier submission is encouraged). Presentations will have a 20-minute maximum and 10-minute question period. For information about the workshop, please contact the Chair Mark Maunder (mmaunder@iattc.org), and visit the CAPAM website (www.CAPAMresearch.org) for updates. Funding for the workshop is provided by Fisheries New Zealand.

CAPAM workshop on the creation of frameworks for the next generation general stock assessment models: Second announcement