Introduction to sbar

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sbar is an R package for fitting stage-based fisheries stock assessment models in R. Assessments are built upon the **Template Model Builder (TMB)** framework, taking advantage of the automatic differentiation of the likelihood (Kristensen et al. 2016). Two theoretically different stage-based assessment approaches are implemented:

- **CSA (Catch-Survey Analysis)** - a well-known numbers-based two-stage model
- biomass-mass based two stage models based on the theoretical paper by Schnute (1987)
    - **Schnute original process error model**
    - **Schnute adapted observation error model**

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library(sbar)
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Kristensen, Kasper, Anders Nielsen, Casper W. Berg, Hans Skaug, and Bradley M. Bell. 2016. "TMB: Automatic Differentiation and Laplace Approximation." *Journal of Statistical Software* 70 (5): 1–21. https://doi.org/10.18637/jss.v070.i05.

Schnute, Jon. 1987. "A General Fishery Model for a Size-Structured Fish Population." *Canadian Journal of Fisheries and Aquatic Sciences* 44 (5): 924–40.