Data Management Plan

Research Products

The goals of this project are to (**1**) create a generalizable probabilistic framework for incorporating interlineage interactions into models of trait and spatial evolution, and (**2**) collate and distribute an ecomorphological database for Australian reptiles. Both of these products will be freely available by the end of this fellowship.

Data Format and Content

All progress with data collection and methods development will be diaried in a version-controlled repository on Github www.github.com/iangbrennan. Code in development will be available to collaborators, and will primarily be written in the opensource R and C++ programming languages. They will be accompanied by Rmarkdown tutorials, to facilitate their use.

Raw data for the reptile trait database will be stored as .csv files, before being incorporated into the Atlas of Living Australia. At the end of Year 1, the data will be made available in the ALA web portal, for use by all.

Data Access, Archiving, and Redistribution

The release of the reptile database and incorporation into ALA will be documented in a data specific journal such as *Nature: Scientific Data*, and/or as a note in a popular systematics or ecology journal such as *Ecology* or *Systematic Biology*. Moving forward, the data will be maintained by the ALA, though I will retain a personal backup on my Github page. Data licensing will be transferred to the ALA, and released to the public domain for broad use.

Software Distribution

The comparative methods developed for this fellowship will be bundled into an R package, and distributed freely either via the Comprehensive R Archiving Network (CRAN), and backed up on Github. During development it will be stored in a version-controlled repository.

Roles and Responsibilities

Ian Brennan will be responsible for the collection, management, and archiving of all data. Dr. O'Meara will provide guidance on database development and management. The Atlas of Living Australia will provide help with data formatting and integration into the ALA system.