A Multi-Language Environment for Reproducible Research

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Documentation Tools in Computational Biology

- Demand for scientific documentation and transparent results
- Depends on the existence of suitable software
- Current approaches mainly target a single programming language and few output formats
- But current research is often multi-lingual

Org-mode as a Reproducible Research Tool

- Org-mode is an extension to the emacs editor system
- Structuring of documents in plain-text markup
- Literate programming and interactive coding
  for more than 30 programming languagues
- Embedding of results in the raw document
- Direct passing of simple data structures
  between different languages
- Exporting and publishing to multiple formats
  - Tangling
  - Caching
  - HTML, LaTeX/PDF, ODT, wiki markups, . . .
  - Sweave (currently developed by Charles Berry)