

Project Narrative:

The reproducibility of biomedical research results is central to the aims of integrative biology and human health. This proposal identifies critical points early in biomedical research workflows—data recording and data pre-processing—as targets to enhance data reproducibility, and provides training modules that introduce principles, guidelines, and tools for a more rigorous and reproducible approach to the steps of the research process. Covering recent advances in the principles of improving reproducibility at these steps, as well as in tools from the R programming language ecosystem to implement these principles, these training modules will be made available as an innovative open online electronic book featuring a full collection of short video lectures, with supplemental text and practical exercises, aimed at a wide range of laboratory-based scientists who may have little or no background in the use of general purpose software tools.