



R's deliberate role in fostering open and reproducible science

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Reproducibility of scientific research is a key goal, identified across disciplines. The foundations of reproducible research are complete access to both, the data and software used to generate the results. The former is increasingly demanded by research funding agencies and journals. However, the other requirement, open software, is less often provided. A further key requirement for reproducible science is a full documentation of the processing chain, including details about all relevant function arguments. Another aspect of reproducibility concerns the software life time, computer platform support and software version. Likewise, the practice of commenting and documenting code/scripts is far from being a standard.

R with its package policy and auxiliary functions, and RStudio with its supporting features provide all essential items to build the backbone of open and reproducible science. The PICO contribution provides a structured overview of the scientific needs and which pathways R offers to fulfil these. The presentation is intended to foster a discussion about the overarching theme of reproducible science and the role R plays in this aspect.