Reproducible Research

- A publication =

      Article

       +

      Source code

       +

      Data

       +

Script that reproduce the paper figures

Life as an author:

Referee comments:
- Please compare your method to (XX et al, ApJ, xxx).
  * But the code is not available and seems quite difficult to implement.
  * Furthermore, even if you re-code, the authors could argue that you did not do it correctly.

- The method (XX at al, ApJ, xx) is optimal, so you cannot do better.

Referee comments:
- revised version: easy to redo the experiment and change the figures.

New Research:
- you may want to go back to older work, and redo some experiments.

Life as a Referee:

- If the code related is available, you can easily check and trust the result of the papers.

- If other codes are available, it is obvious that authors should compare their method to the existing methods with available codes.

Life as a Scientist:

- You will easily trust a scientific result from a colleague if everything is one the table.

- In the same way, others scientists will trust your results more easily ... *except if they are Bayesian and you present a sparse inpainting method* ...

- If you develop new idea, you want them to be used. Making the code available obviously help.

- If your code is used, you may get a lot of citations. Sextractor code from E. Bertin is one of the most cited papers in France.

- You may have some idea to improve a method published by somebody else. If the code is available, it is easy to implement it.

Life as a Supervisor:

- When you PhD student or postdoc leaves your lab, the code remains available.

Life as a Project Manager:

- You want to test each step of the pipeline, and compare all possible solutions to optimize the scientific products.

- You want to test the code with different parameters and check how stable is the solution.

- You want the best pipeline, including the best algorithms which are not necessary developed by the consortium members.

- If many people are using a code, it may be bug-free.

Life as a Tax Payer:

- Salaries are paid by tax payers, to any research product belong the community, and not to the researcher.

- Data collected thanks to tax payers are available, why should it be different for software ?