# Reproducibility Hackathon

## DMI-HPC Group Retreat

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2024-07-17

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**Goal**

- Try to reproduce published (part of) research papers
- Learning experience
- Reflect on own practices
- No critisim of research papers

**Reprohack**

https://www.reprohack.org/

- 16:20 – This presentation
- 16:30 – Paper Selection and Team Formation
- 18:45 – Sharing of Experiences
  - Some slides per team
  - `https://tinyurl.com/ReproHackDMI24`
- 19:00 – Conclusion

## Papers

- https://www.reprohack.org/paper/87/ (Python)
- https://www.reprohack.org/paper/33/ (Python)
- https://www.reprohack.org/paper/31/ (Python)
- https://www.reprohack.org/paper/89/ (Python)
- https://www.reprohack.org/paper/92/ (R)
- https://www.reprohack.org/paper/93/ (Python and R)
- Any paper that **you** want to reproduce!

**The Polar Transition from Alpha to Beta Regions Set by a Surface Buoyancy Flux Inversion**

ROMAIN CANEILL,[a] FABIEN ROQUET,[a] GURVAN MADEC,[b] AND JONAS NYCANDER[c]

[a] Department of Marine Sciences, University of Gothenburg, Gothenburg, Sweden
[b] LOCEAN Laboratory, Sorbonne Université-CNRS-IRD-MNHN, Paris, France
[c] Department of Meteorology, Stockholm University, Stockholm, Sweden

- https://www.reprohack.org/paper/87/
- Python, Snakemake
- should only be data analysis
- from what I have seen: mostly software environment issues

Research Track Paper

KDD 2018, August 19–23, 2018, London, United Kingdom

# Hyperparameter Importance Across Datasets

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- https://www.reprohack.org/paper/33/
- Python, Jupyter
- should only be data analysis
- Relatively "old" (5-6 years)

**DSCS**

OXFORD

Research Article

# Statistical analysis of coverage error in simple global temperature estimators

Kevin Cowtan[a,*], Peter Jacobs[b], Peter Thorne[c] and Richard Wilkinson[d]

[a]Department of Chemistry, University of York, York, UK, [b]Department of Environmental Science and Policy, George Mason University, Fairfax, VA, USA, [c]ICARUS, Maynooth University, Maynooth, Ireland and [d]School of Maths and Statistics, University of Sheffield, Sheffield, UK.

- https://www.reprohack.org/paper/31/
- Python2 !

**Southern Ocean deep mixing band emerges from a competition between winter buoyancy loss and upper stratification strength**

Romain Caneill[1], Fabien Roquet[1], and Jonas Nycander[2]

[1]Department of Marine Sciences, University of Gothenburg, Göteborg, Sweden
[2]Department of Meteorology, Stockholm University, Stockholm, Sweden

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- https://www.reprohack.org/paper/89/
- Python, Jupyter, Snakemake

https://doi.org/10.1038/s41684-023-01307-w

# Using mice from different breeding sites fails to improve replicability of results from single-laboratory studies

Check for updates

Ivana Jaric [1] ✉, Bernhard Voelkl[1], Irmgard Amrein[2], David P. Wolfer[2,3], Janja Novak [1], Carlotta Detotto[4], Ulrike Weber-Stadlbauer [5], Urs Meyer [5], Francesca Manuella[6,7,8], Isabelle M. Mansuy [6,7,8] & Hanno Würbel [1] ✉

- https://www.reprohack.org/paper/92/
- R, Rmarkdown

RESEARCH ARTICLE

# pyKNEEr: An image analysis workflow for open and reproducible research on femoral knee cartilage

**Serena Bonaretti[1,2¤]\*, Garry E. Gold[1], Gary S. Beaupre[2,3]**

1 Department of Radiology, Stanford University, Stanford, CA, United States of America, 2 Musculoskeletal Research Laboratory, VA Palo Alto Health Care System, Palo Alto, CA, United States of America, 3 Department of Bioengineering, Stanford University, Stanford, CA, United States of America

- https://www.reprohack.org/paper/93/
- Python, R

## Your turn!

**These slides**

https://guilloteauq.github.io/downloads/slides/slides-reprohack.pdf

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