Resources

# General academic

## Writing a research paper / review

* Research manuscript template: <https://github.com/cab79/postgrad_training/blob/master/Manuscript%20template.docx>
* Structuring a paper: <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005619>
* Writing a review: <http://crosstalk.cell.com/blog/how-to-write-a-review-article-that-people-will-read>
* Rules for figures: <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1003833>
* Advice on neuroscience and ERP figures:
  + <https://garstats.wordpress.com/2016/07/28/neuroscience-group-results/>
  + <https://garstats.wordpress.com/2016/04/02/simple-steps-for-more-informative-erp-figures/>

## Proposals/grants

* Choosing a problem: <http://www.weizmann.ac.il/mcb/UriAlon/sites/mcb.UriAlon/files/uploads/nurturing/howtochoosegoodproblem.pdf>
* Writing a research proposal:
  + <http://www.sciencemag.org/careers/2002/07/writing-research-plan>
  + <http://libguides.usc.edu/writingguide/researchproposal>
* Winning grants: <https://www.nature.com/news/the-best-kept-secrets-to-winning-grants-1.22038>
* Funding for postdocs: <https://asntech.github.io/postdoc-funding-schemes/>

## General writing tools

* Mendeley referencing software: <https://www.mendeley.com/>
* De-jargonizer: <http://scienceandpublic.com/>
* Stat error check <http://statcheck.io/>

## Presentations

* Effective presentations: <http://blogs.nature.com/naturejobs/2017/02/03/successful-vs-effective-research-presentations>
* Ten simple rules: <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005373>

## Open science

* General presentations: <https://www.nature.com/openresearch/scidata16-presentations/>
* Preregistration:
  + Reasons: <https://www.psychologicalscience.org/observer/seven-selfish-reasons-for-preregistration#.WC4LgcunzqD>
  + Advice: <https://scienceofpsych.wordpress.com/2016/02/05/so-you-want-to-pre-register-a-study/>
  + Resources:
    - <https://cos.io/prereg/>
    - <https://cos.io/rr/>
* Reasons for preprint posting: <https://nikokriegeskorte.org/2016/03/13/the-selfish-scientists-guide-to-preprint-posting/>

## Collaborations

* <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004311>

## Career advice

* Academia or industry?
  + <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1000388>
  + <http://www.pgbovine.net/academia-industry-junior-employee.htm>
* Academic funding pathways: <https://mrc.ukri.org/skills-careers/interactive-career-framework/#/home>
* Work-life balance: <https://amp.theguardian.com/science/head-quarters/2018/feb/13/how-to-be-an-academic-without-working-60-hours-a-week>
* How not to drown in email: <http://foulkesy.blogspot.co.uk/2018/03/how-to-not-drown-in-your-email.html>
* General advice to psychological scientists: <https://www.psychologicalscience.org/observer/a-letter-to-young-scientists>

## Media

* Social media advice:
  + General:
    - <http://blogs.nature.com/naturejobs/2012/09/28/social-media-tips-for-scientists/>
    - <https://arthropodecology.com/2016/04/13/using-twitter-in-science-advice-for-graduate-students/>
    - <http://www.mayaproject.org/blog/2015/10/4/top-twitter-tips-for-academics>
  + Maximising impact:
    - <https://www.postplanner.com/scientific-twitter-tips-to-get-more-retweets-followers/>
    - <https://sproutsocial.com/insights/best-times-to-post-on-social-media>
* Everything Hertz podcast: <https://soundcloud.com/everything-hertz>
* The Black Goat podcast: <http://www.theblackgoatpodcast.com/>

# General Statistics / Programming

## Educational

* Improving statistical inferences: <https://www.coursera.org/learn/statistical-inferences>
* Learning Matlab: <http://jonathanpeelle.net/learning-matlab/>
* Bayesian data analysis for newcomers: <https://link.springer.com/article/10.3758%2Fs13423-017-1272-1>
* Machine learning with R: <https://www.r-bloggers.com/in-depth-introduction-to-machine-learning-in-15-hours-of-expert-videos/>

## Frequentist tools

* Sample size / power:
  + <https://www.danielsoper.com/statcalc/>
  + <https://jakewestfall.shinyapps.io/pangea/>
  + <http://www.sample-size.net/sample-size-study-paired-t-test/>
* Equivalence testing: <http://daniellakens.blogspot.co.uk/2016/12/tost-equivalence-testing-r-package.html>
* ICC: <http://journals.sagepub.com/doi/abs/10.1191/0962280204sm365ra>

## Bayesian tools

* PYMC3: Bayesian inference in Python: <http://docs.pymc.io/index.html>

## Visualisation tools

* Gramm toolbox (charting): <https://github.com/piermorel/gramm>
* Raincloud plots: <https://git.fmrib.ox.ac.uk/marshall/public/tree/master/raincloud_plots>

## Media

* The 20% Statistician: <http://daniellakens.blogspot.co.uk/>
* Data Colada: <http://datacolada.org/>

# Neuroimaging

## Educational

* Pain neuroimaging primer: <http://www.jpain.org/article/S1526-5900(18)30122-6/fulltext>
* Best practices in neuroimaging: <https://vimeo.com/album/4510630>
* OHBM meeting videos (very comprehensive!): <https://www.pathlms.com/ohbm>
* Principles of fMRI: <https://www.youtube.com/channel/UC_BIby85hZmcItMrkAlc8eA/featured>
* SPM course videos: <http://www.fil.ion.ucl.ac.uk/spm/course/video/>
* EEG analysis: <http://www.mikexcohen.com/lectures.html>
* MRC CBU wiki: <http://imaging.mrc-cbu.cam.ac.uk/imaging/CbuImaging>
* Neuroimaging data processing wiki: <https://en.m.wikibooks.org/wiki/Neuroimaging_Data_Processing>
* Diffusion imaging tutorials: <http://www.diffusion-imaging.com/>

## Power and design

* <http://www.neuropowertools.org/>

## Preprocessing

* Manual ICA of fMRI data: <https://www.sciencedirect.com/science/article/pii/S1053811916307583>

## fMRI sequences

* UK biobank: <http://www.fmrib.ox.ac.uk/ukbiobank/index.html>

## Toolboxes for EEG or fMRI statistics

* EEGLAB: <https://sccn.ucsd.edu/eeglab/index.php>
* Fieldtrip: <http://www.fieldtriptoolbox.org>
* SPM: <http://www.fil.ion.ucl.ac.uk/spm/>
  + Automating SPM12 for fMRI: <https://github.com/wagner-lab/spm12w>
* MIALAB toolboxes: <http://mialab.mrn.org/software/index.html>, including group and fusion ICA for EEG and fMRI.
* Canlab (multiple toolboxes): <https://github.com/canlab>
  + E.g. mediation toolbox: <https://github.com/canlab/MediationToolbox>

## MVPA educational

* Understanding pain and emotions using MVPA: <http://wanirepo.github.io/pdfs/Woo_040915_SAStalk_pdf.pdf>
* Interpreting weight maps: <https://www.humanbrainmapping.org/files/2017/ED%20Courses/Course%20Materials/PR4NI_Schrouff_Jessica(1).pdf>

## Toolboxes for MVPA

* PRoNTo: <http://www.mlnl.cs.ucl.ac.uk/pronto/>
  + Searchlight: <https://github.com/CyclotronResearchCentre/PRoNTo_SearchLight>
* COSMOMVPA: [www.cosmomvpa.org/](http://www.cosmomvpa.org/)
* Neuropredict: <http://neuropredict.readthedocs.io/>

## Connectivity

* M/EEG network inference: <https://github.com/OHBA-analysis/MEG-ROI-nets>
* BRAPH toolbox: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0178798>

## Other analysis tools

* fMRI meta-analysis: <http://neurosynth.org/>
* Cortical atlas parcellations: <http://www.lead-dbs.org/?page_id=1004>

## Visualisation

* 3D visualisation of MRI data: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4648228/>

## Databases

* <https://openneuro.org/>
* <https://openfmri.org/>

# Computational neuroscience

## Educational

* Hierarchical models: <https://www.sciencedirect.com/science/article/pii/S0022249616300025>
* Computational Psychiatry videos: <https://www.video.ethz.ch/lectures/d-itet/2017/autumn/227-0971-00L.html>
* Variational Bayesian inference: <https://kaybrodersen.github.io/talks/Brodersen_2013_03_22.pdf>
* Free energy framework tutorial: <https://www.sciencedirect.com/science/article/pii/S0022249615000759>

## Toolboxes

* Variational Bayesian analysis: <https://mbb-team.github.io/VBA-toolbox/>, including:
  + Associative learning: <http://mbb-team.github.io/VBA-toolbox/wiki/bayesian-learning/>
  + Bayesian Model Selection: <http://mbb-team.github.io/VBA-toolbox/wiki/BMS-for-group-studies/>
* Hierarchical modelling of decision-making tasks: <https://github.com/CCS-Lab/hBayesDM>

## Media

* Podcast: <http://unsupervisedthinkingpodcast.blogspot.co.uk/>