# In Vivo Imaging and Physiological Modelling – BMED360

Pensumliste (Vår 2017) / Reading list (Spring 2017)

**Digital material:**
Course material (lecture notes / lab exercises / articles / code & data) is available from the BMED360 web-site: http://sites.google.com/site/bmed360

**Printed material [ no need to buy any book ... ]** - selected chapters and sections from:

Tofts P. Quantitative MRI of the Brain: Measuring Changes Caused by Disease. Wiley 2003 (http://onlinelibrary.wiley.com/book/10.1002/0470869526) QMR web-site: http://qmri.org

**Suggested additional reading:**

Cazals F, Kornprobst P (eds) Modeling in Computational Biology and Biomedicine - A Multidisciplinary Endeavor. Springer 2013 (http://www.springer.com/book/978-3-642-31207-6 ) Foreword + Preface + Ch. 6 ("From Diffusion MRI to Brain Connectomics")
As eBook http://link.springer.com/book/10.1007%2F978-3-642-31208-3

Chung MK. Statistical and Computational Methods in Brain Image Analysis. CRC Press 2014 (http://www.crcpress.com/product/isbn/9781439836354 ) Preface + Ch. 1 ("Introduction to Brain and Medical Images") MATLAB code: http://brainimaging.waisman.wisc.edu/~chung/BIA and http://brainimaging.waisman.wisc.edu/~chung/DTI

Gieschke R, Serafin D. Development of Innovative Drugs via Modeling with MATLAB – A Practical Guide. Springer-Verlag 2014 (http://www.springer.com/book/978-3-642-39764-6 ) Preface + Ch. 1 ("Background of Phramacological Modeling") + Ch. 9 ("Outlook") + Appendix A ("Hints to MATLAB Programs") As eBook: http://link.springer.com/book/10.1007%2F978-3-642-39765-3 MATLAB code: http://www.mathworks.com/matlabcentral/fileexchange/40813-rgds-practical-guide

Gonzalez RC, Woods RE. Digital Image Processing, 3rd ed., Prentice Hall, 2008. (http://www.imageprocessingplace.com/DIP-3E/dip3e_main_page.htm)

Gonzalez RC, Woods RE, Eddins SL. Digital Image Processing Using MATLAB, 2nd ed., Gatesmark Publishing, 2009. (http://www.imageprocessingplace.com/DIPUM-2E/dipum2e_main_page.htm)

Gopi ES. Digital Signal Processing for Medical Imaging Using Matlab. Springer-Verlag 2013 (http://www.springer.com/engineering/signals/book/978-1-4614-3139-8 ) Ch. 3 ("Illustration on MRI Techniques Using Matlab") As eBook: http://link.springer.com/book/10.1007%2F978-1-4614-3140-4

Li X. Functional Magnetic Resonance Imaging Processing. Springer-Verlag 2014 (http://www.springer.com/biomed/neuroscience/book/978-94-007-7301-1)
As eBook: http://link.springer.com/book/10.1007/978-94-007-7302-8

McRobbie DW, Moore EA, Graves M, Prince MR. MRI from Picture to Proton. 2nd ed. Cambridge University Press, 2007. (http://www.cambridge.org/lr/academic/subjects/medicine/medical-imaging/mri-picture-proton-2nd-edition?format=PB)

Poldrack RA, Mumford JA, Nichols TE. Handbook of Functional MRI Data Analysis. Cambridge University Press 2011 (http://www.cambridge.org/9780521517669 ) Ch. 9 ("Multivoxel pattern analysis and machine learning"). Resources (data and code): http://www.fmri-data-analysis.org

Toennies KD. Guide to Medical Image Analysis – Methods and Algorithms. Springer-Verlag 2012 (http://www.springer.com/computer/image+processing/book/978-1-4471-2750-5)
As eBook: http://link.springer.com/book/10.1007%2F978-1-4471-2751-2

Wallisch P, Lusignan ME, Benayoun MD et al. MATLAB for Neuroscientists – An Introduction to Scientific Computing in MATLAB. 2nd ed. Elsevier 2014
As eBook: http://www.sciencedirect.com/science/book/9780123838360
Companion materials / MATLAB code: http://booksite.elsevier.com/9780123838360/

Husk at pensumlitteratur også kan være tilgjengelig digitalt gjennom http://www.uib.no/ub. Universitetsbiblioteket kjøper tilgang til mye digital litteratur som dermed er gratis tilgjengelig for UiBs studenter.