

# Piotr Majka

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Laboratory of Neuroinformatics  
Nencki Institute of Experimental Biology  
3 Pasteur Street, 02-093 Warsaw; Poland

## EDUCATION

- 2014                      Ph.D. in Neuroinformatics,  
Nencki Institute of Experimental Biology, Warsaw; Poland  
Thesis: *Integration of structural imaging data of gray short-tailed opossum brain*, graduated summa cum laude.
- 2004 – 2009            Master of Science in Engineering (applied physics)  
Faculty of Physics, Warsaw University of Technology,  
graduated summa cum laude

## RESEARCH INTERESTS

- Digital (including three-dimensional) brain atlases construction and dissemination,
- Digital image acquisition and processing including image registration and reconstruction of 3D brain images based on serial sections,
- Integration of multimodal and multiscale neuroanatomical image data.
- Membership in the International Neuroinformatics Coordinating Facility Program on Digital Brain Atlasing.

## PEER REVIEWED PUBLICATIONS

- **Majka, P.**, Kowalski, J. M., Chlodzinska, N., and Wójcik, D. K. (2013). *3D Brain Atlas Reconstructor Service-Online Repository of Three-Dimensional Models of Brain Structures*. Neuroinformatics 11, 507–18, doi: 10.1007/s12021-013-9199-9 .
- **Majka, P.**, Kublik, E., Furga, G., and Wójcik, D. K. (2012). *Common atlas format and 3D brain atlas reconstructor: infrastructure for constructing 3D brain atlases*. Neuroinformatics 10, 181–97, doi: 10.1007/s12021-011-9138-6 .

## PROFESSIONAL EXPERIENCE

- 2010.02 – now            Software developer  
at Nencki Institute of Experimental Biology  
3 Pasteur Street, 02-093 Warsaw
- 2011.08                    System administrator at annual Advanced Course in  
Computational Neuroscience 2011 at Będlewo; Poland.
- 2007.07 – 2010.01        Gemius S.A., 7 Wołoska St, 02-675 Warsaw  
Internet analyst in Gemius Audience Research Department

## PROFESSIONAL SKILLS

- Proficiency in Python, Unix shell, HTML, JavaScript; Competent in C/C++, PHP, SQL, Mathematica, ITK and VTK toolkits, various image processing and registration software,
- Managing small IT projects (up to 3 developers), designing scientific software and enforcing good practices in software development,
- Deployment and administration of Linux-based desktops, servers and computational clusters, performing large scale computations.

## TRAININGS AND INTERNSHIPS

- 09.2013: participation in the INCF sponsored course *Imaging the brain at different scales: how to integrate multi-scale structural information?*, Antwerp, Belgium.
- 08.2013: participation in the *EIBIR Summer School on Neurology Imaging 2013*, Dubrovnik, Croatia.
- 09.2012: participation in *Advanced Python Summer School 2012*; Kiel, Germany.
- 06.2012: participation in *Allen Brain Atlas Hackathon 2012* organized by the Allen Institute for Brain Science; Seattle, USA.
- 05.2010: INCF travel grant for visiting Donders Institute for Brain, Cognition and Behavior; University Medical Centre St. Radboud; Nijmegen, The Netherlands. Creating a mechanism allowing for data exchange between Scalable Brain Atlas and 3d Brain Atlas Reconstructor by developing suitable converters and overcoming technical difficulties.
- 01.2010: participation in the Second Polish-Norwegian Neuroinformatics Workshop *How to model neurons and neural systems? Integrating biophysics, morphology, and connectivity*, Warsaw, Poland, January 14-15, 2010.

## TALKS AND LECTURES

- **Majka P.** (2014): *Integration of multimodal structural imaging data of gray short-tailed opossum brain*. Centre for Advanced Imaging University of Queensland, Brisbane; Australia.
- **Majka P.** (2014): *Multimodal stereotactic template of the gray short-tailed opossum brain*. Department of Physiology, Monash University, Melbourne; Australia
- **Majka P.** (2012): *The Scalable Brain Atlas and the 3d Brain Atlas Reconstructor*, talk during the Joint MRC/INCF/SICSA Workshop on Atlas Informatics; Edinburgh, May 15-16.
- **Majka P.** (2011): *3D Brain Atlas Reconstructor and Common Atlas Format, the infrastructure for constructing three dimensional brain atlases*, presentation during the Python in Neuroscience 2011 Conference. Ecole Normale Supérieure, Paris; August 29-30.

- **Majka P.** (2009): *Causality Analysis of Molecular Dynamics Events with Mathematica 7*, presentation during the Poland Mathematica Conference 2009. Cracow; May 25-26.

## ABSTRACTS AND CONFERENCE PROCEEDINGS

- **Majka P.**, Chaplin T.A., Yu H., Pinskiy V., Mitra P., Rosa M. and Wójcik D.K. (2014). *Automated workflow for mapping tracer injection studies of the common marmoset into a reference template*. Front. Neuroinform. Conference Abstract: Neuroinformatics 2014.
- **Majka P.**, Chlodzinska N., Banasik T., Djavadian R., Węglarz W., Turlejski K. and Wójcik D.W. (2013). *Deformable coregistration of multimodal imaging data of gray short-tailed opossum brain*. Front. Neuroinform. Conference Abstract: Imaging the brain at different scales: How to integrate multi-scale structural information?.
- **Majka P.**, Chlodzinska N., Banasik T., Djavadian R., Węglarz W., Turlejski K. and Wójcik D.K., (2013). *Multimodal stereotactic template of the gray short-tailed opossum's brain*. Neuroinformatics 2013 Congress. Stockholm, Sweden, August 27-29.
- Chaplin T.A., Yu H., **Majka P.**, Yen C.C., Bakola S., Kowalski J.M., Hung C., Burman K.J., Wójcik D.K., Silva A.C. and Rosa M.G. (2013). *Mapping the marmoset monkey cortex and the construction of a multimodal digital atlas*. Neuroinformatics 2013 Congress. Stockholm, Sweden, August 27-29.
- Boline J., Avants B., Baldock R., Bakker R., Burger A., Gee J., Haselgrove C., Hess A., Ibanez L., Larson S., **Majka P.**, Okamura-Oho Y, Ruffins S., Zaslavsky I. (2012). *Registration workflows for the creation of INCF digital atlas hubs*; Society for Neuroscience Meeting. New Orleans; October 13-17.
- **Majka P.**, Chlodzinska N., Banasik T., Djavadian R.L., P. Węglarz W., Turlejski K., Wójcik D.K., (2012). *Integration of multimodal neuroanatomical data of gray short-tailed opossum*; INCF Neuroinformatics 2012 Congress. Munich; September 10-12 (<http://goo.gl/Epsoe>).
- Boline J., Avants B., Baldock R., Bakker R., Burger A., Gee J., Haselgrove C., Hess A., Ibanez L., Larson S., **Majka P.**, Okamura-Oho Y, Ruffins S., Zaslavsky I., (2012). *Registration workflows for the creation of INCF digital atlas hubs*. INCF Neuroinformatics 2012 Congress; Munich; September 10-12.
- Chlodzinska N., **Majka P.**, Banasik T., Djavadian R.L., Weglarz W.P., Wojcik D.K., Turlejski K., (2012), *System of anatomical data collection for the atlas of the opossum Monodelphis domestica brain*. 8th FENS Forum of Neuroscience; Barcelona; 14-18 July.

- **Majka P.**, et al. (2012): *Serving three-dimensional models of brain structures online*, Front. Neuroinform. Conference Abstract: 4th INCF Congress of Neuroinformatics, Boston, September 4-6.
- **Majka P.**, et al. (2011): *3D Brain Atlas Reconstructor and Common Atlas Format, the infrastructure for constructing three dimensional brain atlases*, Python in Neuroscience satellite to Euroscipy; Paris, Ecole Normale Supérieure, August 29-30.
- **Majka P.**, et al.(2010): *Automated reconstruction of three-dimensional brain structures based on 2D histological atlases*. Front. Neurosci. Conference Abstract: Neuroinformatics 2010. doi: 10.3389/conf.fnins.2010.13.00028 .
- Bakker R., Larson S.D., Strobelt S., Hess A., Wójcik D., **Majka P.** and Kötter R. (2010): *Scalable Brain Atlas: From Stereotaxic Coordinate to Delineated Brain Region* Front. Neurosci. Conference Abstract: Neuroinformatics 2010. doi: 10.3389/conf.fnins.2010.13.00028 .

#### FOREIGN LANGUAGES

Fluent in spoken and written English,  
Basic knowledge of German and Russian.

#### HOBBIES

Computer graphics, Offshore sailing, Maritime songs,  
Photography.

#### REFERENCES

Main supervisor

Daniel K. Wójcik. PhD, DSc ([d.wojcik@nencki.gov.pl](mailto:d.wojcik@nencki.gov.pl))  
Laboratory of Neuroinformatics, Head  
Nencki Institute of Experimental Biology  
3 Pasteur St, 02-093 Warsaw, Poland

Referee

Dr Rembrandt Bakker ([r.bakker@donders.ru.nl](mailto:r.bakker@donders.ru.nl))  
Donders Institute for Brain, Cognition and Behavior  
Montessorilaan 3  
6525 HR Nijmegen  
The Netherlands