Piotr Majka

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

Education

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

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 Advanded 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

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.

Technical 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.

Research activity

- 03.2011 – now: membership in the International Neuroinformatics Coordinating Facility Program on Digital Brain Atlasing. Participation in group meetings (09.2012, 05.2012, 09.2011, 03.2011) and teleconferences. Volunteer for developing on-line service for providing 3D reconstructions of brain structures (http://service.3dbar.org).

- 2009 – 2010: Participation in research grant *Environment for detecting and analysis of causal relations in biomolecular systems simulated with molecular dynamics methods* (Master Thesis).

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 Inst. 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.

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 .

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 Neroscience 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)
Laboratory of Neuroinformatics, Head
Nencki Institute of Experimental Biology
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Dr Rembrandt Bakker (r.bakker@donders.ru.nl)
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