Nikoloz **Sirmpilatze**

MD PhD, Research Software Engineer

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Education

German Primate Center - Functional Imaging Lab — *Göttingen, Germany*

PhD in Neuroimaging — *May 2017 - Sep. 2021*

- *Thesis title:* Functional imaging of the anesthetized brain in primates and rodents
- *Supervisor:* Prof. Dr. Susann Boretius
- *Final grade:* Summa cum laude

Georg-August University of Göttingen - IMPRS for Neurosciences — *Göttingen, Germany*

MSc in Neuroscience — *Sep. 2015 - Apr. 2017*

- *Thesis title:* The temporal stability of BOLD fMRI measurements in medetomidine-anesthetized rats
- *Supervisor:* Prof. Dr. Susann Boretius
- *Final grade:* excellent 1.1 (1.0 down to 5.0)

Aristotle University of Thessaloniki — *Thessaloniki, Greece*

Doctor of Medicine (MD) — *Oct. 2009 - Jul. 2015*

- *Final grade:* excellent 9.45/10, top of the class of 2015 (valedictorian)

Advanced Courses & Workshops

Sep. 2019	**Brainhack Comparative MRI**, PRIME-DE Global Collaboration Workshop	*London, UK*
Feb. 2018	**Introduction to Data Science with python**, GGNB graduate school	*Göttingen, Germany*
May 2017	**Regression Modeling in R**, Leibniz Science Campus Primate Cognition	*Göttingen, Germany*
Nov. 2016	**Laboratory Animal Science Course on Primates**, European Primate Network (EUPRIM-NET)	*Göttingen, Germany*
Oct. 2016	**Laboratory Animal Science (FELASA Category B)**, Central Animal Facility, University Medical Center	*Göttingen, Germany*

Teaching

2018-20	**Supervision of 1 MSc student and 2 interns**, Functional Imaging Lab, German Primate Center	*Germany*
2017-19	**TA for Introduction to MRI/fMRI**, IMPRS for Neurosciences MSc Program	*Germany*
2013	**Community TA for Medical Neuroscience**, Online course offered by Duke University	*www.coursera.org*
2011	**TA for Neuroanatomy**, Medical School, Aristotle University of Thessaloniki	*Greece*

Stipends & Awards

2022	**Otto Creutzfeldt PhD Award**, International Max Planck Research School for Neurosciences	*Göttingen, Germany*
2022	**Best PhD Thesis Award 2021**, German Primate Center	*Göttingen, Germany*
2019	**Magna cum Laude Merit Award & Educational Stipend**, 27th Annual Meeting of the ISMRM	*Montreal, Canada*
2015	**Full MSc Student Scholarship**, German Academic Exchange Service (DAAD)	*Germany*
2010	**Undergraduate distinction**, Yearly Stipend from the State Scholarships Foundation of Greece (IKY)	*Greece*

Community Roles

PRIME-RE (PRIMatE Resource Exchange)

Maintainer and contributor — *Sep. 2019 - present*

- Open data and resources for non-human primate neuroimaging: prime-re.github.io
- Member of the core team that conceived the idea and built the website

Neurizons Conference

Organizer — *2017 - 2020*

- Biennial student-organized neuroscience conference: neurizons.uni-goettingen.de
- Was responsible for graphic design in 2018 and led the migration to an online format in 2020

Skills

MRI	acquisition (Siemens 3T, Bruker 9.4T) & analysis (FSL, ANTS, Freesurfer, AFNI, nipype, nilearn)
Optical	*in vivo* 2-photon calcium imaging & analysis (suite2p)
Coding	Python, R, Bash, git, LaTeX
Animals	rodent handling, anesthesia, surgery, stereotaxic injections
Languages	Greek (native), Georgian (native), English (fluent), German (advanced), Russian (intermediate)

Research Output

Peer-reviewed publications

1. **Sirmpilatze**, N., Mylius, J., Ortiz-Rios, M., Baudewig, J., Paasonen, J., Golkowski, D., Ranft, A., Ilg, R., Gröhn, O. & Boretius, S. Spatial signatures of anesthesia-induced burst-suppression differ between primates and rodents. *eLife* **11,** e74813. doi:10.7554/eLife.74813 (2022).
2. **Sirmpilatze**, N., Baudewig, J. & Boretius, S. Temporal stability of fMRI in medetomidine-anesthetized rats. *Scientific Reports* **9,** 16673. doi:10.1038/s41598-019-53144-y (2019).
3. Messinger, A., **Sirmpilatze**, N., Heuer, K., Loh, K. K., Mars, R. B., Sein, J., Xu, T., Glen, D., Jung, B., Seidlitz, J., Taylor, P., Toro, R., Garza-Villarreal, E. A., Sponheim, C., Wang, X., Benn, R. A., Cagna, B., Dadarwal, R., Evrard, H. C., Garcia-Saldivar, P., Giavasis, S., Hartig, R., Lepage, C., Liu, C., Majka, P., Merchant, H., Milham, M. P., Rosa, M. G., Tasserie, J., Uhrig, L., Margulies, D. S. & Klink, P. C. A collaborative resource platform for non-human primate neuroimaging. *NeuroImage* **226,** 117519. doi:10.1016/j.neuroimage.2020.117519 (2021).
4. Hafner, G., Guy, J., Witte, M., Truschow, P., Rüppel, A., **Sirmpilatze**, N., Dadarwal, R., Boretius, S. & Staiger, J. F. Increased Callosal Connectivity in Reeler Mice Revealed by Brain-Wide Input Mapping of VIP Neurons in Barrel Cortex. *Cerebral Cortex.* bhaa280. doi:10.1093/cercor/bhaa280 (2020).
5. Lohrberg, M., Winkler, A., Franz, J., van der Meer, F., Ruhwedel, T., **Sirmpilatze**, N., Dadarwal, R., Handwerker, R., Esser, D., Wiegand, K., Hagel, C., Gocht, A., König, F. B., Boretius, S., Möbius, W., Stadelmann, C. & Barrantes-Freer, A. Lack of astrocytes hinders parenchymal oligodendrocyte precursor cells from reaching a myelinating state in osmolyte-induced demyelination. *Acta Neuropathologica Communications* **8,** 224. doi:10.1186/s40478-020-01105-2 (2020).

Consortium publications

1. Grandjean, J. *et al.* StandardRat: A multi-center consensus protocol to enhance functional connectivity specificity in the rat brain. *bioRxiv.* doi:10.1101/2022.04.27.489658 (2022).
2. Gau, R. *et al.* Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. *Neuron* **109,** 1769–1775. doi:10.1016/j.neuron.2021.04.001 (2021).
3. Milham, M. *et al.* Toward next-generation primate neuroscience: A collaboration-based strategic plan for integrative neuroimaging. en. *Neuron.* doi:10.1016/j.neuron.2021.10.015 (2021).
4. Milham, M. *et al.* Accelerating the Evolution of Nonhuman Primate Neuroimaging. *Neuron* **105,** 600–603. doi:10.1016/j.neuron.2019.12.023 (2020).

Conference Contributions

1. **Sirmpilatze**, N., Mylius, J., Ortiz-Rios, M., Baudewig, J., Paasonen, J., Golkowski, D., Ranft, A., Ilg, R., Gröhn, O. & Boretius, S. *Spatial signatures of anesthesia-induced burst-suppression differ between primates and rodents* in *10th Neurizons conference.* **Best poster Award** (2022).
2. **Sirmpilatze**, N., Baudewig, J., Mylius, J., Golkowski, D., Ranft, A., Ilg, R., Paasonen, J., Gröhn, O. & Boretius, S. *fMRI mapping of anesthesia-induced burst suppression across multiple mammalian species* in *15th European Molecular Imaging Meeting (virtual).* **Talk** (2020).
3. **Sirmpilatze**, N., Baudewig, J., Mylius, J., Golkowski, D., Ranft, A., Ilg, R. & Boretius, S. *Using BOLD fMRI to map anesthesia-induced burst suppression in humans and non-human primates* in *27th Annual Meeting of the International Society for Magnetic Resonance in Medicine.* **Talk** (2019).
4. **Sirmpilatze**, N., Baudewig, J. & Boretius, S. *Are fMRI measurements in medetomidine-anesthetized rats temporally stable?* in *27th Annual Meeting of the International Society for Magnetic Resonance in Medicine.* **Poster** (2019).
5. **Sirmpilatze**, N., Baudewig, J., Kötz, K. & Boretius, S. *Optimizing medetomidine anesthesia for fMRI in rats* in *11th Forum of Neuroscience, Federation of European Neuroscience Societies.* **Poster** (2018).

6. **Sirmpilatze**, N., Baudewig, J., Kötz, K. & Boretius, S. *The temporal stability of BOLD fMRI measurements in medetomidine anesthetized rats* in *34th Annual Meeting of the European Society for Magnetic Resonance in Medicine and Biology.* **Poster** (2017).

Open Datasets

1. **Sirmpilatze**, N., Mylius, J., Paasonen, J., Gröhn, O. & Boretius, S. *Functional MRI data from isoflurane-anesthetized macaques, marmosets, and rats* (Zenodo, 2021). doi:10.5281/zenodo.5565305.
2. **Sirmpilatze**, N. & Klink, P. C. *RheMAP: Non-linear warps between common rhesus macaque brain templates* (Zenodo, 2020). doi:10.5281/zenodo.3668509.
3. **Sirmpilatze**, N., Baudewig, J. & Boretius, S. *Temporal stability of fMRI in medetomidine-anesthetized rats* (OpenNeuro, 2019). doi:10.18112/openneuro.ds001981.v1.0.3.

Open Code

1. **Sirmpilatze**, N. *niksirbi/pcarpet* 2021. doi:10.5281/zenodo.5545695.
2. Klink, P. C. & **Sirmpilatze**, N. *PRIME-RE/RheMAP* 2020. doi:10.5281/zenodo.3673081.

Invited Talks

1. *fMRI signatures of deep anesthesia in primates and rodents* in *Douglas Research Center CIC Seminar Series* (2021).