TAYLOR SALO

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PROFILE

Methodologically oriented cognitive neuroscientist interested in neuroinformatics. Strong technical skills in neuroimaging data processing, analysis, and meta-analysis. Passionate about transparency and reproducibility.

EDUCATION

Florida International University, Doctor of Philosophy, Psychology **2015 – present**
- Cognitive neuroscience program
- Advisor: Dr. Angela Laird

Cornell University, Bachelor of Arts, Psychology **2009 – 2013**
- Concentration in behavioral and evolutionary neuroscience
- Advisor: Dr. Timothy DeVoogd

EXPERIENCE

Graduate Assistant, ***Neuroinformatics and Brain Connectivity Laboratory*** **2015 – present**
Dr. Angela Laird, *Florida International University*
- Currently assisting in the development of a tool for annotation of the neuroimaging literature using natural language processing and machine learning.
- Currently engaged in a project quantitatively comparing the Neurosynth and BrainMap frameworks.
- Providing assistance in the development and implementation of neuroimaging data analysis pipelines for several projects within the lab.

Junior Specialist, ***Translational Cognitive and Affective Neuroscience Laboratory*** **2013 – 2015**
Dr. Cameron Carter, *University of California, Davis*
- Acquired neuroimaging and behavioral data from healthy controls and patients with psychosis for projects studying the effects of psychosis on cognitive control, emotion regulation, and brain structure.
- Contributed to and maintained a custom codebase for the analysis of neuroimaging and behavioral data.
- Processed and analyzed neuroimaging and behavioral data for several lab projects.
- Administered behavioral tests and cognitive tasks, including the WASI and WRAT, to both control and clinical populations.
- Trained incoming personnel to administer behavioral and cognitive tasks.

Lab Co-Manager/Research Assistant, ***Laboratory for Lifespan Affective Neuroscience*** **2011 – 2013**
Dr. Barbara Ganzel, *Cornell University*
- Contributed to projects investigating functional and structural changes associated with subclinical trauma.
- Trained undergraduate students to preprocess and perform data diagnostics on fMRI data.

Undergraduate Research Assistant, ***Bird Song Behavior Laboratory*** **2012 – 2013**
Dr. Timothy DeVoogd, *Cornell University*
- Prepared solutions for, and assisted in, intracranial perfusion, dissection, and staining of bird brains.
- Examined avian song-related neural regions microscopically.

PUBLICATIONS

Morawetz, C., Riedel, M. C., **Salo, T.**, Berboth, S., Eickhoff, S., Laird, A. R., & Kohn, N. (2020). Multiple large-scale neural networks underlying emotion regulation. *Neuroscience & Biobehavioral Reviews*. doi:10.1016/j.neubiorev.2020.07.001.

Botvinik-Nezer, R., Holzmeister, F., ..., **Salo, T.**, ..., Poldrack, R. A., & Schonberg, T. (2020). Variability in the analysis of a single neuroimaging dataset by many teams. *Nature* 582, 84–88. doi:10.1038/s41586-020-2314-9.

Esteban, O., Ciric, R., Finc, K., Blair, R., Markiewicz, C. J., Moodie, C. A., Kent, J. D., Goncalves, M., DuPre, E., Gomez, D. E. P., Ye, Z., **Salo, T.**, Valabregue, R., Amlien, I. K., Liem, F., Jacoby, N., Stojić, H., Cieslak, M., Urchs, S., Halchenko, Y. O., Ghosh, S. S., De La Vega, A., Yarkoni, T., Wright, J., Thompson, W. H., Poldrack, R. A., & Gorgolewski, K. J. (2020). Analysis of task-based functional MRI data preprocessed with fMRIPrep. *Nature Protocols* 15, 2186–2202. doi:10.1038/s41596-020-0327-3.

Poudel, R., Riedel, M. C., **Salo, T.**, Flannery, J. S., Hill-Bowen, L. D., Eickhoff, S. B., Laird, A. R., & Sutherland, M. T. (2020). Common and distinct brain activity associated with risky and ambiguous decision-making. *Drug and Alcohol Dependence* 209. doi:10.1016/j.drugalcdep.2020.107884

Flannery, J. S., Riedel, M. C., Bottenhorn, K. L., Poudel, R., **Salo, T.**, Hill-Bowen, L. D., Laird, A. R., & Sutherland, M. T. (2020). Meta-analytic clustering dissociates brain activity and behavior profiles across reward processing paradigms. *Cognitive Affective Behavioral Neuroscience* 20, 215–235. doi:10.3758/s13415-019-00763-7

Bolt, T., Nomi, J. S., Arens, R., Vij, S. G., Riedel, M. C., **Salo, T.**, Laird, A. R., Eickhoff, S. B., & Uddin, L. Q. (2020). Ontological dimensions of cognitive-neural mappings. *Neuroinformatics*. doi:10.1007/s12021-020-09454-y

Bielczyk, N. Z., Ando, A., ..., **Salo, T.**, ..., Zhou X., & OHBM Student and Postdoc Special Interest Group. (2020). Effective Self-Management for Early Career Researchers in the Natural and Life Sciences. *Neuron*, *106*(2), 212-217. doi:10.1016/j.neuron.2020.03.015

Bartley, J.E., Riedel, M.C., **Salo, T.**, Boeving, E. R., Bottenhorn, K. L., Bravo, E. I., Odean, R., Nazareth, A., Laird, R. W., Sutherland, M. T., Pruden, S. M., Brewe, E., & Laird, A. R. (2019). Brain activity links performance in science reasoning with conceptual approach. *NPJ Science of Learning 4*(20). doi:10.1038/s41539-019-0059-8

Gonzalez, A. A., Bottenhorn, K. L., Bartley, J.E., Hayes, T., Riedel, M.C., **Salo, T.**, Bravo, E. I., Odean, R., Nazareth, A., Laird, R. W., Sutherland, M. T., Brewe, E., Pruden, S. M., & Laird, A. R. (2019). Sex differences in brain correlates of STEM anxiety. *NPJ Science of Learning 4*(18). doi:10.1038/s41539-019-0058-9

Yarkoni, T., Markiewicz, C. J., de la Vega, A., Gorgolewski, K. J., **Salo, T.**, Halchenko, Y. O., McNamara, Q., DeStasio, K., Poline, J. B., Petrov, D., Hayot-Sasson, V., Nielson, D. M., Carlin, J., Kiar, G., Whitaker, K., DuPre, E., Wagner, A., Tirrell, L. S., Jas, M., Hanke, M., Poldrack, R. A., Esteban, O., Appelhoff, S., Holdgraf, C., Staden, I., Thirion, B., Kleinschmidt, D. F., Lee, J. A., Visconti di Oleggio Castello, M., Notter, M. P., & Blair, R. (2019). PyBIDS: Python tools for BIDS datasets. *Journal of Open Source Software*, *4*(40), 1294. doi:10.21105/joss.01294

Riedel, M. C., **Salo, T.**, Hays, J., Turner, M. D., Sutherland, M. T., Turner, J. A., & Laird, A. R. (2019). Automated, efficient, and accelerated knowledge modeling of the cognitive neuroimaging literature using the ATHENA toolkit. *Frontiers in Neuroscience*, 13, 494. doi:10.3389/fnins.2019.00494

Bartley, J. E., Boeving, E. R., Riedel, M. C., Bottenhorn, K. L., **Salo, T.**, Eickhoff, S. B., Brewe, E., Sutherland, M. T., & Laird, A. R. (2018). Meta-analytic evidence for a core problem solving network across multiple representational domains. *Neuroscience and Biobehavioral Reviews*, 92, 318-337. doi:10.1016/j.neubiorev.2018.06.009

Brewe, E., Bartley, J. E., Riedel, M. C., Sawtelle, V., **Salo, T.**, Boeving, E. R., Bravo, E. I., Odean, R., Nazareth, A., Bottenhorn, K. L., Laird, R. W., Sutherland, M. T., Pruden, S. M., & Laird, A. R. (2018). Toward a Neurobiological

Basis for Understanding Learning in University Modeling Instruction Physics Courses. *Frontiers in ICT*, 5, 10. doi:10.3389/fict.2018.00010

Ray, K. L., Lesh, T. A., Howell, A. M., **Salo, T.**, Ragland, J. D., MacDonald, A. W., Gold, J. M., Silverstein, S. M., Barch, D. M., & Carter, C. S. (2017). Functional network changes and cognitive control in schizophrenia. *NeuroImage: Clinical*, 15, 161-170. doi:10.1016/j.nicl.2017.05.001

Lopez-Garcia, P., Lesh, T. A., **Salo, T.**, Barch, D. M., MacDonald, A. W., Gold, J., Ragland, J. D., Strauss, M., Silverstein, S., & Carter, C. S. (2016). The neural circuitry supporting goal maintenance during cognitive control: a comparison of AX-CPT and dot probe expectancy paradigms. *Cognitive, Affective, & Behavioral Neuroscience*, *16*(1), 164. doi:10.3758/s13415-015-0384-1

Phillips, R. C., **Salo, T.**, & Carter, C. S. (2015). Distinct neural correlates for attention lapses in patients with schizophrenia and healthy participants. *Frontiers in human neuroscience*, 9. doi:10.3389/fnhum.2015.00502

PREPRINTS

Witt, S. T., van Ettinger-Veenstra, H., **Salo, T.**, Riedel, M. C., & Laird, A. R. (2020). What executive function network is that? An image-based meta-analysis of network labels. *bioRxiv*. doi:10.1101/2020.07.14.201202

Hill-Bowen, L. D., Riedel, M. C., Poudel, R., **Salo, T.**, Flannery, J. S., Camilleri, J. A., Eickhoff, S. B., Laird, A. R., & Sutherland, M. T. (2020). The cue-reactivity paradigm: An ensemble of networks driving attention and cognition when viewing drug-related and natural-reward stimuli. *bioRxiv*. doi:10.1101/2020.02.26.966549

Bartley J. E., Riedel M. C., **Salo T.**, Bottenhorn K. L., Boeving E. R., Laird R. W., Sutherland M. T., Pruden S. M., Brewe E., & Laird A. R. (2019). Sex and pedagogy influences in learning-related reorganization of brain activity. *bioRxiv*. doi:10.1101/791301

INVITED TALKS AND SOFTWARE DEMONSTRATIONS

Salo, T. & Uruñuela, E. (2020). How to Start an Open Science Project from Scratch: ICA-AROMA. Presented at BrainHack Donostia; virtual. More information here.

Salo, T. (2020). BIDS for MRI: Structure and Conversion. Presented at the University of Oldenburg Open and reproducible neuroimaging workshop; virtual. More information here.

PRESENTATIONS

Salo, T. (2018). NiMARE: A Neuroimaging Meta-Analysis Research Environment. Presented at Brainhack Global 2018; Miami, Florida. More information here.

Salo, T., Riedel, M. C., Bartley, J. E., Bottenhorn, K. L., Yarkoni, T., Turner, M. D., Turner, J. A., Sutherland, M. T., & Laird, A. R. (2017). A quantitative evaluation of Neurosynth's annotation methods. Presented at the 23rd annual meeting of the Organization for Human Brain Mapping; Vancouver, British Columbia. More information here.

Salo, T., Riedel, M. C., Bartley, J. E., Bottenhorn, K. L., Yarkoni, T., Turner, M. D., Turner, J. A., Sutherland, M. T., & Laird, A. R. (2017). A quantitative evaluation of Neurosynth's annotation methods. Presented at Florida International University's 2017 Graduate Student Scholarly Forum; Miami, Florida.

Salo, T. & Renfro, A. (2017). Open science tools: GitHub, BIDS, & preregistration. Presented at Brainhack Global 2017; Miami, Florida. More information here.

POSTERS

Salo, T., Yarkoni T., Kent J. D., Gorgolewski K. J., Glerean E., Bottenhorn K. L., Bilgel M., Wright J., Reeders P., Nielson D. N., Nichols T. E., Riedel M. C., Sutherland M. T., & Laird A. R. (2019). NiMARE: A Neuroimaging Meta-Analysis Research Environment. Presented at the 25th annual meeting of the Organization for Human Brain Mapping (Rome, Italy). More information here.

Poudel R., Riedel M. C., **Salo, T.**, Flannery J. S., Hill L. D., Laird A. R., & Sutherland M. T. (2019). Common and distinct brain regions associated with risky- and ambiguous decision-making. Presented at the SANS annual meeting (Miami, Florida). More information here.

Salo, T., Bottenhorn K. L., Nichols T. E., Riedel M. C., Sutherland M. T., Yarkoni T., & Laird A. R. (2018). NiMARE: A Neuroimaging Meta-Analysis Research Environment. Presented at INCF Neuroinformatics 2018 (Montreal, Quebec) and at the annual Brain Initiative Principal Investigators Meeting (Washington D.C.). More information here.

Bottenhorn K. L., **Salo, T.**, Sutherland M. T., & Laird A. R. (2018). Quantitative comparison of functional decoding approaches across meta-analytic frameworks. Presented at INCF Neuroinformatics 2018 (Montreal, Quebec). More information here.

Riedel M. C., **Salo, T.**, Hays J., Turner M. D., Sutherland M. T., Turner J. A., & Laird A. R. (2018). Automating annotations of the cognitive neuroimaging literature using ATHENA. Presented at INCF Neuroinformatics 2018 (Montreal, Quebec). More information here.

Yarkoni, T., de la Vega, A., DuPre, E., Esteban, O., Halchenko, Y. O., Hanke, M., Hayor-Sasson, V., Ivanov, A., Kiar, G., Markiewicz, C., McNamara, Q., Petrov, D., **Salo, T.**, Nielson, D., Poline, J. B., Poldrack, R., & Gorgolewski, K. (2018). Pybids: Python tools for manipulation and analysis of BIDS datasets. Presented at the 24th annual meeting of the Organization for Human Brain Mapping (Singapore). More information here.

DuPre, E., Kundu, P., Esteban, O., Markello, R., Whitaker, K., **Salo, T.**, & Spreng, N. (2018). Introducing a BIDS-compliant multi-echo fMRI preprocessing pipeline. Presented at the 24th annual meeting of the Organization for Human Brain Mapping (Singapore). More information here.

Kohn, N., Riedel, M. C., **Salo, T.**, Laird, A. R., Eickhoff, S. B., & Morawetz, C. (2018). Meta-analytic brain networks underlying emotion regulation. Presented at the 24th annual meeting of the Organization for Human Brain Mapping (Singapore). More information here.

Salo, T., Riedel, M. C., Bartley, J. E., Bottenhorn, K. L., Yarkoni, T., Turner, M. D., Turner, J. A., Sutherland, M. T., & Laird, A. R. (2017). A quantitative evaluation of Neurosynth's annotation methods. Presented at the 23rd annual meeting of the Organization for Human Brain Mapping (Vancouver, British Columbia). More information here.

Bartley, J. E., Riedel, M. C., **Salo, T.**, Boeving, E. R., Odean, R., Bravo, E., Laird, R. W., Pruden, S., Brewe, E., Sutherland, M. E., Laird, A. R. (2017). Understanding the neural substrates of physics problem solving: Brain mechanisms and behavior correlates. Presented at the 23rd annual meeting of the Organization for Human Brain Mapping (Vancouver, British Columbia). More information here.

Poudel, R., Riedel, M. C., Hill L. D, Flannery, J. F., **Salo, T.**, Laird A.R., Sutherland M.T. (2017). Behavioral decoding of functionally related brain areas consistently linked to drug cue reactivity. Presented at Florida International University's 2017 Graduate Student Scholarly Forum (Miami, Florida). More information here.

Riedel, M. C., Poudel, R., **Salo, T.**, Eickhoff S. B., Fox, P. T., Laird, A. R., & Sutherland, M. T. (2016). Co-activation based parcellation of the human insula. Presented at the 22nd annual meeting of the Organization for Human Brain Mapping (Geneva, Switzerland). More information here.

Lesh, T. A., Maddock, R. J., **Salo, T.**, Tanase, C., Ragland, J. D., Niendam, T. A., Solomon, M., & Carter, C. S. (2015). Diffusion Measures of Free Water and 1H-MRS Measures of Glutathione in First Episode Patients with Schizophrenia – A Multi-Modal Investigation of an Inflammatory Model for Psychosis. Presented at the 15th biennial meeting of the International Congress on Schizophrenia Research (Colorado Springs, CO) and at the annual meeting of the American College of Neuropsychopharmacology (Phoenix, AZ).

Phillips, R. C., **Salo, T.**, & Carter, C. S. (2014). Default mode network activity precedes attention lapse in healthy subjects. Presented at the 44th annual meeting of the Society for Neuroscience (Washington D.C.) and at the second annual Northern California Consciousness meeting (Davis, CA).

HONORS AND AWARDS

Brain Initiative Principal Investigators Meeting Trainee Travel Award	**2019**
Organization for Human Brain Mapping Hackathon Travel Award	**2017**
Organization for Human Brain Mapping Merit Abstract Travel Award	**2017**

HACKATHONS

BrainHack Donostia	**2020**
OHBM Hackathon	**2020**
NIH Code Convergence	**2019**
NIH Tedana Hackathon	**2019**
OHBM Hackathon	**2019**
Coastal Coding	**2019**
FIU Brainconn Hackathon	**2018**
BrainHack Montreal	**2018**
Code Rodeo	**2018**
OHBM Hackathon	**2017**
Neurohackweek	**2016**

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