KATHERINE BOTTENHORN, PhD

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EMPLOYMENT

POSTDOCTORAL SCHOLAR – RESEARCH ASSOCIATE **SEPT 2021 TO PRESENT**
Urban air pollution and neurobehavioral trajectories in the ABCD study; The role of air pollution in emotional neurodevelopment and risk for psychiatric disorders; Impacts of ambient air pollutants on brain microstructure and functional connectome development.
ADVISOR: Dr. Megan Herting
DEPARTMENT OF POPULATION AND PUBLIC HEALTH SCIENCES, KECK SCHOOL OF MEDICINE OF USC
UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, CA, USA

COURTESY POSTDOCTORAL ASSOCIATE **NOV 2021 TO PRESENT**
ADVISOR: Dr. Angela Laird
DEPARTMENT OF PSYCHOLOGY, FLORIDA INTERNATIONAL UNIVERSITY, MIAMI, FL, USA

EDUCATION

Ph.D. FLORIDA INTERNATIONAL UNIVERSITY, PSYCHOLOGY **AUGUST 2021**
DISSERTATION: *Understanding individual differences within large-scale brain networks across cognitive contexts* MENTOR: Dr. Angela Laird
Real Triumphs Graduate

M.S. FLORIDA INTERNATIONAL UNIVERSITY, PSYCHOLOGY **DECEMBER 2018**
THESIS: *Cooperating yet distinct brain networks engaged by naturalistic fMRI paradigms: A meta-analysis of functional MRI results* MENTOR: Dr. Angela Laird

B.A. AUBURN UNIVERSITY, CHEMISTRY **MAY 2015**
B.A. AUBURN UNIVERSITY, PSYCHOLOGY **MAY 2015**
HONORS THESIS: *Connectivity of the human hypothalamus* MENTOR: Dr. Jennifer Robinson
Summa cum laude, University Honors Scholar

RESEARCH

HERTING LABORATORY **SEPT 2021 TO PRESENT**
Postdoctoral scholar, *Department of Population and Public Health Sciences, Keck School of Medicine of USC, University of Southern California*

PRINCIPAL INVESTIGATOR: DR. MEGAN HERTING

NEUROINFORMATICS AND BRAIN CONNECTIVITY LABORATORY **AUG 2015 TO AUG 2021**
Graduate research assistant, *Departments of Physics & Psychology, Florida International University*

PRINCIPAL INVESTIGATOR: DR. ANGELA LAIRD

COGNITIVE AND AFFECTIVE NEUROSCIENCE LABORATORY **NOV 2012 TO MAY 2015**
Undergraduate research assistant, *Department of Psychology, Auburn University*

PRINCIPAL INVESTIGATOR: DR. JENNIFER ROBINSON

BEN-JONATHAN LABORATORY JUNE 2013 TO AUG 2013
Undergraduate Research Fellowship, *Department of Cancer Biology, University of Cincinnati School of Medicine*

PRINCIPAL INVESTIGATOR: DR. NIRA BEN-JONATHAN

MEMORY, ATTENTION, & DECISION LABORATORY JAN 2012 TO NOV 2012
Undergraduate research assistant, *Department of Psychology, Auburn University*

PRINCIPAL INVESTIGATOR: DR. ANA FRANCO-WATKINS

RESEARCH SUPPORT

CURRENT:

Southern California Environmental Health Sciences Center Pilot Grant
PI: Bottenhorn P30ES07048-27
Impacts of ambient air pollutants on brain microstructure and functional connectome development
03/01/2023 – 02/28/2024, TOTAL AWARD: **$10,000** 1.1 months
This project uses data from the Adolescent Brain and Cognitive Development (ABCD) Study to assess how parallel microstructural and functional brain changes in children ages 9-12 years are associated with exposure to various sources of fine particulate matter.

PENDING:

BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00),
PI: Bottenhorn K99MH135075
Endocrine-mediated pubertal brain network development: Bridging datasets with machine learning
Requested start: 12/01/2023, Impact score: 30, TOTAL AWARD: **$999,927** 5 years
This project aims to assess the role of sex hormones in concurrent development of cortical microarchitecture and functional connectivity during puberty, by using multivariate, machine learning techniques to study these phenomena with MRI and endocrine data from multiple datasets.

COMPLETED:

FIU University Graduate School Dissertation Year Fellowship
PI: Bottenhorn
Understanding individual differences within large-scale brain networks across cognitive contexts
01/09/2021 – 08/09/2021, TOTAL AWARD: **$16,600** 8 months

HONORS & AWARDS

Real Triumphs Graduate Florida International University **2021**
Magna Cum Laude Merit Award International Society for Magnetic Resonance in Medicine 2021 **2021**
Trainee Travel Award ($1,000) BRAIN Initiative Investigator's Meeting **2019**
1st place poster ($350) FIU, College of Arts, Sciences, and Education Graduate Scholarly Forum **2019**
Undergraduate Research Fellowship ($4,500) Auburn University, College of Science and Mathematics **2014 to 2015**
Opportunities for Undergraduate Research in the College of Liberal Arts ($4,500) Auburn University

2014

Summer Undergraduate Research Fellowship ($4,000) University of Cincinnati 2013
Dean's List Auburn University, College of Sciences and Mathematics 2011 to 2015
National Scholars' Presidential Scholarship Auburn University 2011 to 2015
National Merit Scholar Auburn University & National Merit Scholarship Corporation 2011

SOFTWARE & PROJECT DEVELOPMENT

Meta-analytic K-means github.com/62442katieb/meta-analytic-kmeans
Matlab (2013b) and Python (v. 2.7.13) pipelines. Performs and evaluates k-means clustering of stereotaxic coordinate results of functional neuroimaging data. Includes k-means, kernel k-means, and hierarchical clustering (using Ward's algorithm) across a pre-specified range of solutions; evaluates the performance of each method across solutions with numerical and graphical representations.

Responsible for pipeline adaptation, testing. See Bottenhorn et al., (2018) for an example of its implementation.

IN COLLABORATION WITH MICHAEL RIEDEL

Individual differences in brain connectivity (IDConn) github.com/62442katieb/IDConn
Python pipeline. Performs graph-theoretic analysis of fMRI data for investigations of individual differences in task-based and resting-state brain network topology and connectivity.

Developed and tested pipeline. See Gonzalez et al., (2019) for an example of its implementation.

Brainspell Neo + metaCurious github.com/neurostuff/metaCurious
Brainspell neo is a database of neuroimaging literature for open, human-curated classification of published neuroimaging results. MetaCurious is the web application for scientists to interact with Brainspell, to curate and annotate collections of experiments for meta-analysis, build using HTML, CSS, and JavaScript in Vue.js.

Contributed user story and UX design, assisted with frontend development.

IN COLLABORATION WITH J-B POLINE AND ANISHA KESHAVAN

Neurosynth 2.0 / Neurosynth Compose compose.neurosynth.org
Web-based application. Facilitates curation, annotation, and analysis of datasets for neuroimaging meta-analysis, leveraging the Neurostore backend.

Contributed user story and UX consulting for frontend development, testing.

SERVICE

Peer review ongoing
Reviewed manuscripts for *Imaging Neuroscience, Environmental Pollution, Neuroimage*, *Journal of Open Source Software, Cortex, Frontiers in Neuroscience, Network Neuroscience, Journal of Abnormal Child Psychology, BJPsych Open, Frontiers in Human Neuroscience, Frontiers in Endocrinology, Scientific Data.*

Brainhack Global
Diversity, Equity, and Inclusivity Committee • Member October 2021 – October 2022

Coordinated and organized efforts to broaden diversity, equity, and inclusivity in the Brainhack Global organization and related efforts in the neuroimaging research community.

Organization for Human Brain Mapping
Open Science Special Interest Group • Secretary September 2020 – September 2021
Organized and took minutes taking for monthly of the Open Science Special Interest Group; assisted in organizing and hosting OHBM's Hackathon and Open Science Room for the annual meeting in 2021

Organization for Human Brain Mapping
Technology Taskforce • SIG Representative September 2020 – June 2021
Represented the Open Science Special Interest Group in developing a plan for meeting community needs in online platforms and resources for the 27th annual meeting of the Organization for Human Brain Mapping in 2021, a virtual meeting due to COVID-19 concerns.

Organization for Human Brain Mapping
Distance Based Education Taskforce • SIG Representative March 2020 – June 2020
Represented the Open Science Special Interest Group in designing online resources based on programming from annual meetings of the Organization for Human Brain Mapping, planning virtual meeting in place of the 2020 annual meeting (due to COVID-19 concerns)

Organization for Human Brain Mapping
Open Science Special Interest Group • Secretary Elect August 2019 – August 2020
Assisted with organizing and minute taking for meetings in anticipation for my role as Open Science Special Interest Group Secretary from August 2020 to August 2021; assisted in hosting social hours, discussions, and panels in the Open Science Room for the 2020 virtual meeting of OHBM

Florida International University, Department of Psychology •
Student Representative, Cognitive Neuroscience PhD Program August 2019 – August 2020
Represented the interests of the students in FIU's Cognitive Neuroscience PhD Program at Department faculty meetings; served as student liaison with Department of Psychology.

Neuroinformatics and Brain Connectivity Lab • Training Workshop Coordinator August 2017 – 2019
Organized and occasionally led weekly/bi-weekly training workshops on neuroimaging methods & related analytic techniques, Florida International University

Cognitive Neuroscience Journal Club • Coordinator 2015 – 2017, 2019 – 2020
Organized and communicated details of weekly/bi-weekly journal clubs for the Cognitive Neuroscience Graduate Program at Florida International University

Neuroinformatics and Brain Connectivity Lab • Website Admin August 2015 – August 2017
Responsible for maintenance of and updates to the NBC Lab's website.

HACKATHONS & COMPUTATIONAL EXPERIENCE

OHBM Hackathon 2023 • Montreal, QC CA July 2023
OHBM Hackathon 2022 • Glasgow, Scotland UK June 2022
OHBM Virtual Hackathon 2021 • Virtual June 2021
Brainhack Global 2020 – Donostia • Virtual November 2020
OHBM Virtual Hackathon 2020 • Virtual June 2020

DC Code Convergence • National Institutes of Health • Washington, DC, USA November 2019
OHBM Hackathon 2019 • Rome, Italy June 2019
Coastal Coding Workshop & Hackathon • Florida International University • Miami, FL, USA January 2019
BIDS Statistical Models Workshop • Stanford University • Palo Alto, CA, USA October 2018
INCF Neuroinformatics Hackathon • McGill University • Montreal, QC, CA August 2018
BrainConn Hackathon • Florida International University • Miami, FL, USA August 2018
Code Rodeo • University of Texas – Austin • Austin, TX, USA January 2018
OHBM Hackathon 2017 • University of British Columbia • Vancouver, BC, CA June 2017

CONTINUING EDUCATION

SHARP Machine Learning Bootcamp • Columbia Mailman School of Public Health • Virtual Summer 2023
On-the-Spot Feedback Workshop • Astronomical Society of the Pacific • Virtual Fall 2020
NeuroHackademy • University of Washington – eScience Institute • Seattle, WA, USA July-August 2019
Nipype Workshop & Hackweek • Massachusetts Institute of Technology • Cambridge, MA USA March 2017
Software Carpentry Workshop • Florida International University • Miami, FL, USA August 2016
Graph Theoretic Models of Brain Networks • Organization for Human Brain Mapping • Geneva, Switzerland June 2016

TEACHING, SCIENCE EDUCATION & OUTREACH

Cultivating Open Science Practices in Academic Research and Culture June 2022
Organized a half-day course, comprising 6 lectures and a panel discussion, focusing on integrating open science practices into existing research workflows at multiple levels of technical expertise, career stage • Educational Course at the 28th annual meeting of the Organization for Human Brain Mapping • Glasgow, Scotland, UK

Towards an individualized study of brain network connectivity March 2022
Gave a lecture on the utility of dense longitudinal designs for studying individual variability in functional connectivity • Nu Rho Psi, the National Honor Society in Neuroscience, at the University of Southern California, Virtual

Meta-analysis the hard way (manually) June 2021
Gave a half-hour lecture on manual meta-analytic dataset curation for a half-day course on neuroimaging meta-analyses • Educational Course at the 27th annual meeting of the Organization for Human Brain Mapping • Virtual

Reproducible Data Visualization in Python Lecture February 2021
Gave tutorial-based lecture on visualizing data and neuroimaging results in Python • ABCD-ReproNim Course, Virtual

Brain Network Visualization in Python Tutorial August 2020
Lead tutorial on visualizing brain networks and connectomes in Python at the Cognitive Neuroscience graduate program's Current Topics in Neuroscience series • Florida International University, Miami, FL

Git & GitHub Tutorial August 2019
Lead tutorial on Git & GitHub at the Cognitive Neuroscience graduate program's Neuro Bootcamp for incoming graduate students • Florida International University, Miami, FL

Data Visualization in Python Tutorial August 2019
Lead tutorial on data visualization in python at the Cognitive Neuroscience graduate program's Neuro Bootcamp for incoming graduate students • Florida International University, Miami, FL

UM-FIU Nipype Club February 2019 – June 2019
Presented and lead Nipype tutorials to neuroscience graduate students from the University of Miami and Florida International University • University of Miami, Miami, FL

Graph Theory Workshop June 2018 – June 2019
Lead bi-weekly workshops, with lectures & occasional tutorials on various topics covered in *Fundamentals of Brain Network Analysis* to members of the Cognitive Neuroscience graduate program • Florida International University, Miami, FL

Frost Science Museum, Investigating Our Brain Spring Camp March 2018
Presented an interactive research showcase on the brain and (to a lesser extent) neuroimaging, grades K-5 • Frost Science Museum, Miami, FL

Seed-Based Functional Connectivity Workshop Summer 2017
Lead 9 weekly workshops (1) walking through the preprocessing and analysis steps involved in estimating seed-based functional connectivity, with lectures & tutorials, and (2) evaluating seminal functional connectivity papers to members of the Cognitive Neuroscience graduate program • Florida International University, Miami, FL

Frost Science Museum • Scientific Consultant, Map the Action January 2017
Consulted, provided data, visualization, and copy for a brain anatomy & function exhibit, *Map the Action*, for the Frost Science Museum in Miami, FL

Brain Myths May 2016
Gave lectures dispelling popular brain myths (e.g., you only use 10% of your brain) to Advanced Placement biology students, grades 10-12 • Westport High School, Ocala, FL

Neuropathology May 2016
Gave lectures describing the symptoms and neurobiology of stroke, aphasia, and neurodegenerative diseases to biology students, grades 10-12 • Westport High School, Ocala, FL

Auburn University Brain Camp Summer 2014
Served as a teaching assistant at an educational summer camp introducing high school students to neuroscience and neuroimaging, grades 11 & 12 • Auburn University, Auburn, AL

Junior Mad Scientist • Presenter, Organizer November 2013, 2014
Organized, developed materials, and gave presentations for a community science fair, grades K-8, hosted at Auburn University in Auburn, AL

PEER-REVIEWED JOURNAL ARTICLES (H-INDEX: 12)

1. Salo T, Yarkoni T, Nichols TE, Poline, J-B, Bilgel M, **Bottenhorn KL**, Jarecka D, Kent JD, Kimbler A, Nielson DM, Oudyk KM, Peraza JA, Pérez A, Reeders PC, Yanes JA, & Laird AR (2023). *NiMARE: Neuroimaging Meta-Analysis Research Environment*. Aperture Neuro, 3, DOI: 10.52294/001c.87681
2. **Bottenhorn KL**, Salo T, Riedel MC, Musser ED, Robinson JL, Sutherland MT, Laird AR. (2023). *Denoising physiological data collected during multi-band, multi-echo EPI sequences.* Aperture Neuro*,* 3. DOI: 10.52294/001c.87572
3. Campbell CE, Cotter DL, **Bottenhorn KL**, Burnor E, Ahmadi H, Gauderman WJ, Cardenas-Iniguez C, Hackman D, McConnell R, Berhane K, Schwartz J, Chen J-C, & Herting MM (Accepted). *Air pollution and emotional behavior in adolescents across the U.S.* Environmental Research.
4. **Bottenhorn KL**, Cardenas-Iniguez C, Mills K, Laird AR, Herting MM. (2023). *Profiling intra- and inter-individual differences in brain development across early adolescence.* NeuroImage*, 279,* 120287. DOI: 10.1016/j.neuroimage.2023.120287
5. Smith DD, Meca A, **Bottenhorn KL**, Bartley JE, Riedel MC, Salo T, Peraza JA, Laird RW, Pruden SM, Sutherland MT, Brewe E, & Laird AR (In press). *Task-based attentional and default mode connectivity associated with STEM anxiety profiles among university physics students*. Trends in Neuroscience Education*, 32,* 100204. DOI: 10.1016/j.tine.2023.100204
6. Meca A, Riedel MC, Peraza JA, Musser ED, Salo T, Flannery JS, **Bottenhorn KL**, Dick AS, Pintos Lobo R, Ucros LM, Greaves CA, Hawes SW, Sanchez M, Gonzalez MR, Sutherland MT, Gonzalez R, & Laird AR. (2023). *Acculturative orientations among Hispanic/Latinx caregivers in the ABCD Study: Associations with caregiver and youth mental health and youth brain function*. Biological Psychiatry: Global Open Science. DOI: 10.1016/j.bpsgos.2023.02.005
7. Sukumaran K, Cardenas-Iniguez C, Burnor E, **Bottenhorn KL**, Hackman DA, McConnel R, Berhane K, Schwartz J, Chen JC, Herting MM (2023). *Ambient fine particulate exposure and subcortical gray matter microarchitecture in 9- and 10-year-olds children across the United States.* iScience*.* DOI: /10.1016/j.isci.2023.106087
8. Pintos Lobo R, **Bottenhorn KL**, Riedel MC, Toma AI, Hare MM, Smith DD, Moor AC, Cowan IK, Valdes JA, Bartley JE, Salo T, Boeving ER, Pankey B, Sutherland MT, Musser ED, & Laird AR (2023). *Neural systems underlying RDoC social constructs: An activation likelihood estimation meta-analysis.* Neuroscience & Biobehavioral Reviews, *144*, 104971. DOI: j.neubiorev.2022.104971
9. Flannery JS, Riedel MC, Hill-Bowen LD, Poudel R, **Bottenhorn KL**, Salo T, Laird AR, Gonzalez R, Sutherland MT (2022). *Altered large-scale brain network interactions associated with HIV infection and error processing.* Network Neuroscience*.* 1-25. DOI: 10.1162/netn_a_00241
10. *DuPre E, *Salo T, Ahmed Z, Bandettini PA, **Bottenhorn KL**, Caballero-Gaudes C, Dowdle LT, Gonzalez-Castillo J, Heunis A, Kundu P, Laird AR, Markello R, Markiewicz CJ, Moia S, Staden I, Teves JB, Uruñuela E, Vaziri-Pashkam M, Whitaker K, Handwerker DA (2022). *TE-dependent analysis of multi-echo fMRI with* tedana. Journal of Open Source Software*,* 6(66), 3669, DOI: 10.21105/joss.03669
11. Levitis, E, Gould van Praag, CD, Gau, R, Heunis, S, DuPre, E, Kiar, G, **Bottenhorn KL**, …, Van Gulick A, Duff E, Maumet C. (2021). *Centering inclusivity in the design of online conferences*. GigaScience.
12. *Gau, R., *Noble, S., *Heuer, K., ***Bottenhorn, K. L.**, *Bilgin, I. P., Yang, Y., … the Brainhack Community (2021). *Brainhack: developing a culture of open, inclusive, community-driven neuroscience*. Neuron*.*
13. Botvinik-Nezer R, Holzmeister F, Camerer CF, Dreber A, Huber J, Johannesson M, …, **Bottenhorn KL,** … Schonberg T. (2020). *Variability in the analysis of a single neuroimaging dataset by many teams.* Nature. DOI: 10.1101/843193

14. *Bielczyk NZ, *Ando A, *Badhwar A, *Caldinell C, *Gao M, *Haugg A, *Hernandez LM, *Ito K, *Kessler D, *Lurie D, *Makary MM, *Nikolaidis A, * Veldsman M, …, **Bottenhorn KL,** … OHBM Student and Postdoc Special Interest Group (2020). *Effective self-management for early career researchers in the natural and life sciences.* Neuron. DOI: 10.1016/j.neuron.2020.03.015
15. *Waller R, *Hawes SW, Byrd AL, Dick AS, Sutherland MT, Riedel MC, Tobia MJ, **Bottenhorn KL,** Laird AR, & Gonzalez R. (2020). *Disruptive Behavior Problems, Callous-Unemotional Traits, and Regional Gray Matter Volume in the ABCD Study*. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging. DOI: 10.1016/jbpsc.2020.01.002
16. Flannery JS, Riedel MC, **Bottenhorn KL** Poudel R, Salo T, Hill-Bowen LD, Laird AR, Sutherland MT (2020). *Meta-analytic clustering dissociates brain activity and behavior profiles across reward processing paradigms.* Cogn Affect Behav Neurosci 20**,** 215–235. DOI: 10.3758/s13415-019-00763-7
17. ***Bottenhorn KL,***Gonzalez AA, Bartley JE, Hayes T, Riedel MC, Salo T, … Laird AR (2019). *Sex differences in brain correlates of STEM anxiety.* Npj Science of Learning. DOI: 10.1038/s41539-019-0058-9
18. Bartley JE, Riedel MC, Salo T, Boeving ER, **Bottenhorn KL,** Bravo EI, … Laird AR (2019). *Brain activity links performance in science reasoning with conceptual approach.* Npj Science of Learning. DOI: 10.1038/s41539-019-0059-8
19. Bartley JE, Riedel MC, Salo T, Boeving ER, **Bottenhorn KL,** Bravo EI, … Laird AR (2018). *Meta-analytic evidence for a core problem solving network across multiple representational domains.* Neuroscience and Biobehavioral Reviews, 526574. DOI: 10.1016/j.neubiorev.2018.06.009
20. Brewe E, Bartley JE, Riedel MC, Sawtelle V, Salo T, Boeving ER, Bravo EI, Odean R, Nazareth A, **Bottenhorn KL,** Laird RW, Sutherland MT, Pruden SM, Laird AR (2018). *Toward a neurobiological basis for understanding learning in University Modeling Instruction physics courses*. Frontiers in ICT. DOI: 10.3389/fict.2018.00010
21. **Bottenhorn KL,** Flannery JS, Boeving ER, Riedel MC, Eickhoff SB, Sutherland MT, Laird AR (2018). *Cooperating yet distinct brain networks engaged during naturalistic paradigms: A meta-analysis of functional neuroimaging data*. Network Neuroscience. DOI: 10.1162/NETN_a_00050
22. Robinson JL, Barron DS, Kirby LAJ, **Bottenhorn KL,** Hill AC, Murphy JE, … Fox PT. (2015). *Neurofunctional topography of the human hippocampus*. Human Brain Mapping, 36(12), 5018–37. DOI: 10.1002/hbm.22987

*Authors contributed equally to this manuscript

PREPRINTS & MANUSCRIPTS UNDER REVIEW

1. **Bottenhorn KL**, Cardenas-Iniguez C, Mills KL, Laird AR, Herting MM. (In prep). *Individual variability in early adolescent brain development differs across social determinants of health*.
2. Bottenhorn KL, Sukumaran K, Habre R, Schwartz J, Herting MM (In prep). *Air pollution from biomass burning disrupts early adolescent cortical microarchitecture development.*
3. Cotter D, Ahmadi H, Cardenas-Iniguez C, **Bottenhorn KL**, Gauderman WJ, McConnell R, ..., Herting MM. (Under review). *Sex-specific effects in how childhood exposures to multiple ambient air pollutants affect white matter microstructure development across early adolescence*. Research Square. DOI: 10.21203/rs.3.rs-3213618/v1
4. Yu Y, Pintos Lobo R, Riedel MC, **Bottenhorn KL**, Laird AR, & Nichols TE (Under review). *Neuroimaging Meta Regression for Coordinate Based Meta Analysis Data with a Spatial Model* (arXiv:2305.10360). arXiv. DOI: 10.48550/arXiv.2305.10360

SOFTWARE CONTRIBUTIONS

1. The tedana Community, Ahmed Z, Bandettini PA, **Bottenhorn KL**, Caballero-Gaudes C, Dowdle LT, DuPre E, Gonzalez-Castillo J, Handwerker D, Heunis S, Kundu P, Laird AR, Markello R, Markiewicz CJ, Maullin-Sapey T, Moia S, Salo T, Staden I, Teves J, Uruñuela E, Vaziri-Pashkam M, Whitaker K. *ME-ICA/tedana: 0.0.11.* Zenodo; 2021. Doi: 10.5281/zenodo.5541689
   - Contributed design input and Python, JavaScript code for visualization outputs.
2. Esteban O, Markiewicz CJ, Burns C, Goncalves M, Jarecka D, Ziegler E, Berleant S, Ellis DG, Pinsard B, Madison C, Waskom M, Notter MP, Clark D, Manhães-Savio A, Clark D, Jordan K, Dayan M, Halchenko YO, Loney F, …, **Bottenhorn KL,** … Ghosh, S. (2020). *nipy/nipype: 1.5.1.* Zenodo. Doi: 10.5281/zenodo.4035081
   - Wrote Python code for interfaces wrapping several AFNI tools.
3. Salo T, Yarkoni T, Nichols TE, Kent JD, Gorgolewski KJ, Glerean E, **Bottenhorn KL**, Bilgel M, Wright J, Reeders PC, Nielson DN, Yanes JA, Pérez A, Laird AR. (2020). *neurostuff/NiMARE*: 0.0.3. Zenodo. Doi: 10.5281/zenodo.3892078
   - Wrote interface for meta-analytic clustering workflow in Python.

OPEN DATASETS

1. *Salo T, ***Bottenhorn KL**, Riedel MC, Flannery JS, Kimbler A, Laird RW, & Laird AR (2020). Dense Investigation of Variability of Affect (DIVA). *OpenNeuro [Dataset]*. https://doi.org/10.18112/openneuro.ds002278.v1.0.1.
   - Contributed to overall study design, as well as MRI sequence, psychological task, and physiological data design and testing; responsible for participant recruitment and retention; collected MRI, behavioral, biospecimen, and physiological data; assisted with dataset organization & sharing. - WIP

BOOK CHAPTERS

1. **Bottenhorn KL** & Laird AR (2021). *Data Mining in the Era of Big Data: The BrainMap Database as a Resource for Characterizing Brain Networks in Psychiatric Illness* In V. Diwadkar & S. Eickhoff (Eds.), *Brain Network Dysfunction in Neuropsychiatric Illness: Methods, Applications and Implications*. New York, NY: Springer Nature.

PRESENTATIONS

1. **Bottenhorn KL** (2023, June). *Conventional vs. automated neuroimaging meta-analysis*. Oral presentation given in an educational course on Neuroimaging Meta-Analysis at the 29th annual meeting of the Organization for Human Brain Mapping. Montreal, QC, Canada.
2. ***Bottenhorn KL** ,*Atay MS (2021, June*). Addressing Inclusivity in Open Science.* Oral presentation given in a symposium Addressing the Social Limitations of Open Science at the 27th annual meeting of the Organization for Human Brain Mapping. Virtual.
3. **Bottenhorn KL** (2021, June). *Conventional, or manual, neuroimaging meta-analysis*. Oral presentation given in an educational course on Neuroimaging Meta-Analysis at the 27th annual meeting of the Organization for Human Brain Mapping. Virtual.

4. **Bottenhorn KL,** Alcalà D, Ayyagari A, Bright MG, Caballero Gaudes C, Chavarria I, Ferrer V, Hayashi S, Iacovella V, Lespinasse F, Markello R, Moia S, Oostenveld R, Salo T, Stickland R, Uruñuela E, Van Der Thiel M, Zvolanek K, The physiopy contributors (2021, May). *Physiopy: A community-driven suite of tools for physiological recordings in neuroimaging.* Oral presentation given at the Oral Scientific Session of the 2021 International Society of Magnetic Resonance in Medicine & Society for MR Radiographers and Technologists, Virtual.** Awarded Magna Cum Laude Merit Award.
5. **Bottenhorn KL** (2019, June). *The ghost of hackathons present: A Brainhack Carol.* Oral presentation given at the Hackathon preceding the 25th annual meeting of the Organization for Human Brain Mapping, Rome, Italy.
6. **Bottenhorn KL,** Bartley JE, Foreman J, Sutherland MT, Brewe E, Laird AR (2019, January). *Sex differences in large-scale brain networks underlying domain-specific memory, intelligence, and academic performance.* Oral presentation given at the Current Topics in Neuroscience series, Miami, FL, USA.
7. **Bottenhorn KL,** Keshavan A, Somani N, Ramesh S, Poline, J-B, Laird AR (2018, June). *Brainspell: An open, human-curated classification of neuroimaging literature.* Oral presentation given at BrainHack–Miami 2018, Miami, FL, USA
8. **Bottenhorn KL,** Salo T, Sutherland MT, Laird AR (2018, January). *Neurosynth vs. BrainMap: A systematic comparison of functional decoding approaches.* Oral presentation given at the Current Topics in Neuroscience series, Miami, FL, USA.
9. **Bottenhorn KL,** di Visconti MOC, DuPre E, Markello R, Nielson D, Salo T. (2017, June). *AFNI Love: Porting AFNI interfaces to Nipype.* Oral presentation given at the 23rd annual meeting of the Organization for Human Brain Mapping, Vancouver, BC, Canada.
10. **Bottenhorn KL,** Robinson JL, Flannery JS, Boeving ER, Salo T, Riedel MC, Eickhoff SB, Yane, JA, Sutherland MT, Laird AR (2017, March). *A multimodal connectivity investigation of the habenula.* Oral presentation given at BrainHack–Miami 2017, Miami, FL, USA
11. **Bottenhorn KL,** Robinson JL, Flannery J, Riedel MC, Yanes JA, Sutherland M, Laird AR, (2016, March). *Resting state functional connectivity of the human habenula using ultra-high field, high-resolution imaging at 7T.* Oral presentation given at Florida International University's Graduate Student Scholarly Forum, Miami, FL, USA.
12. **Bottenhorn KL,** Laird AR, Robinson JL, (2015, October). C*onnectivity of the human hypothalamus: An integration of meta-analytic connectivity modeling and ultra-high-field MR data.* Oral presentation given at BrainHack–Miami 2015, Miami, FL, USA.
13. **Bottenhorn KL** & Robinson JL, (2015, April). *Connectivity of the human hypothalamus using ultra-high field, high-resolution imaging at 7T.* Oral presentation at Auburn University's annual Research Week, Auburn, AL, USA.

PEER-REVIEWED CONFERENCE ABSTRACTS

1. **Bottenhorn KL**, Herting MM (2023, June). *Data-driven profiles of brain development during the transition to adolescence*. Poster presented at the 29th Annual Meeting of the Organization for Human Brain Mapping, Montreal, QC, Canada.
2. Peraza JA, Salo T, Riedel MC, **Bottenhorn KL**, Poline J-B, Dockès J, Kent JD, Bartley JE, Flannery JS, Hill-Bowen LD, Lobo RP, Poudel R, Ray KL, Robinson JL, Laird RW, Sutherland MT, de la Vega A, Laird AR (2023, June). Meta-analytic decoding of the cortical gradient of functional connectivity. Poster

presented at the 29th Annual Meeting of the Organization for Human Brain Mapping, Montreal, QC, Canada.

3. Smith DD, Meca A, Bartley JE, Riedel MC, Salo T, Peraza JA, **Bottenhorn KL**, Laird RW, Pruden SM, Sutherland MT, Brewe E, Laird AR (2023, June). Task-based attentional and default mode connectivity associated with STEM anxiety profiles among university physics students. Poster presented at the 29th Annual Meeting of the Organization for Human Brain Mapping, Montreal, QC, Canada.
4. **Bottenhorn KL**, Herting MM (2022, June). *Individual variability in structural brain development with respect to sex and puberty*. Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual.
5. **Bottenhorn KL**, Salo T, Riedel MC, Laird RW, Laird AR (2022, June). *Endocrine sources of within-individual brain network variability*. Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual.
6. Handwerker D, Ahmed Z, Bandettini P, **Bottenhorn KL**, Caballero-Gaudes C, Dowdle L, DuPre E, Heunis S, Kitzbicher M, Laird AR, Moia S, Salo T, Teves J, Uruñuela E, Vaziri-Pashkam M (2022, June). *Tedana+: Multi-echo fMRI and related open tools*. Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual.
7. Yu Y, Pintos Lobo R, Riecel MC, **Bottenhorn KL**, Laird AR, Nichols TE (2022, June). *Coordinate Based Meta Regression with a Spatial Model*. Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual.
8. Kent J, Lee N, Salo T, **Bottenhorn KL**, Dockès J, Blair R, Nichols TE, Laird AR, Poline J-B, Yarkoni T, de la Vega A (2022, June). *Neurosynth-Compose: A Web-Based Platform For Reproducible Neuroimaging Meta-Analysis*. Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual
9. Romero-Bascones D, Moia S, Alcalà D, Ayyagari A, **Bottenhorn KL**, Bright MG, Caballero-Gaudes C, Chavarria I, Duncan N, Ferrer V, Hayashi S, Iacovella V, Lenc T, Lespinasse F, Oostenveld R, Salo T, Stickland R, Uruñuela E, Wang HT, Zvolanek K, Zwiers M (2022, June) *Physiopy: a Python suite for handling physiological data recording in MRI settings.* Poster presented at the 28th annual meeting of the Organization for Human Brain Mapping, Glasgow, UK & Virtual.
10. **Bottenhorn KL**, Salo T, Riedel MC, Musser ED, Robinson JL, Sutherland MT, & Laird AR (2021, June). *Denoising physiological data collected during multi-band, multi-echo EPI sequences*. Poster presented at the 27th annual meeting of the Organization for Human Brain Mapping, Virtual.
11. **Bottenhorn KL**, Salo T, Bartley JE, Flannery JS, Sutherland MT, & Laird AR (2021, June). *IDConn: A Python pipeline for investigating individual differences in functional connectivity*. Poster presented at the 27th annual meeting of the Organization for Human Brain Mapping, Virtual.
12. Markiewicz C, Blair R, **Bottenhorn KL**, Chen G, De La Vega A, DuPre E, Esteban O, Ghosh S, Lee J, Maumet C, Narayan M, Nichols T, Nielson D, Ombao H, Poldrack R, Poline J-B, Wagner A, Yarkoni T (2021, June). *BIDS Statistical Models - An implementation-independent representation of General Linear Models.* Poster presented at the 27th annual meeting of the Organization for Human Brain Mapping, Virtual.
13. Handwerker D, Ahmed Z, Bandettini P, **Bottenhorn KL**, Caballero-Gaudes C, Dowdle L, DuPre E, Gonzalez-Castillo J, Laird AR, Markello R, Moia S, Salo T, Teves J, Uruñuela E, Vaziri-Pashkam M, Whitaker K (2021, June). *Tedana: Multi-echo fMRI tools and resources.* Poster presented at the 27th annual meeting of the Organization for Human Brain Mapping, Virtual.

14. Lespinasse F, Moia S, **Bottenhorn KL**, Alcala D, Ayyagari A, Bright M, Caballero-Gaudes C, Chavarria I, Ferrer V, Hayashi S, Iacovella V, Markello R, Oostenveld R, Salo S, Stickland R, Uruñuela E, Van Der Thiel M, Zvolanek K, The physiopy contributors phys2bids (2021, June). *Physiopy/phys2bids v2.3.3: BIDS formatting of physiological recordings.* Poster presented at the 27th annual meeting of the Organization for Human Brain Mapping, Virtual.
15. Pintos Lobo R, Toma AI, **Bottenhorn KL,** Hare MM, Smith D, Moor AC, Cowan IK, Valdes JA, Musser ED, Laird AR. (2020, Sept.) *Neural systems underlying RDoC social constructs: An activation likelihood estimation meta-analysis.* Flux 2020 Virtual Congress, 2020.
16. **Bottenhorn KL,** Bartley JE, Riedel MC, Salo T, Bravo, EI, Odean R, Nazareth A, Laird RW, Pruden SM, Sutherland MT, Bewe, E, Laird AR (2020, June). *Intelligence and academic performance: Is it all in your head?* Poster presented at the 26th annual meeting of the Organization for Human Brain Mapping, Montreal, Canada (moved online due to the COVID-19 global pandemic).
17. Salo T, **Bottenhorn K,** Nichols T, Gorgolewski K, Riedel MC, Kent J, Glerean E, Bilgel M, Wright J, Reeders P, Nielson D, Yanes JA, Pérez A, Sutherland MT, Laird AR. (2020, June) *NiMARE: A neuroimaging meta-analysis research environment.* 26th annual meeting of the Organization for Human Brain Mapping, Montreal, Canada (moved online due to the COVID-19 global pandemic, 2020.
18. Handwerker D, Bandettini P, **Bottenhorn KL,** Caballero-Gaudes C, Dowdle L, Dupre E, Gonzalez-Castillo J, Laird AR, Lee J, Markello R, Moia S, Salo T, Teves J, Uruñuela E, Vaziri-Pashkam, Whitaker K. (2020, June) *tedana: Multi-echo software and communal resources.* Poster presented at the 26th annual meeting of the Organization for Human Brain Mapping, Montreal, Canada (moved online due to the COVID-19 global pandemic).
19. Yanes JA, **Bottenhorn KL** , Salo T, Riedel M**,** Laird AR, Robinson J. (2019, August). *Data mining reveals discrete neurobiological systems that contribute to pain processing.* Poster presented at UW eScience Institute's NeuroHackademy summer school in Seattle, WA, USA
20. **Bottenhorn KL,** Bartley JE, Riedel MC, Salo T, Bravo EI, Odean R, Nazareth A, Laird RW, Pruden SM, Sutherland MT, Bewe E, Laird AR (2019, June). *Large-scale brain networks underlying domain-specific memory, intelligence, and academic performance.* Poster presented at the 25th annual meeting of the Organization for Human Brain Mapping in Rome, Italy.
21. Yanes JA, **Bottenhorn KL**, Salo T, Riedel M, Laird AR, Robinson J. (2019, June) *Data mining reveals discrete neurobiological systems that contribute to pain processing.* Poster presented at the 25th annual meeting of the Organization for Human Brain Mapping, Rome, Italy, 2019.
22. Salo T, **Bottenhorn KL,** Nichols TE, Gorgolewski C, Riedel MC, Sutherland MT, Yarkoni T, Laird AR. (2019, June) *NiMARE: Neuroimaging Meta-Analysis Research Environment.* Poster presented at the 25th annual meeting of the Organization for Human Brain Mapping, Rome, Italy, 2019.
23. Bartley J, Riedel M, Salo **Bottenhorn KL,** Bravo E, Odean R, Nazareth A, Laird R, Sutherland M, Pruden S, Brewe E, Laird AR. *Brain networks underlying sex and pedagogy differences in physics learning.* Poster preseted at the 25th annual meeting of the Organization for Human Brain Mapping, Rome, Italy, 2019.
24. **Bottenhorn KL,** Riedel MC, Sutherland MT, Gonzalez, R, Laird AR (2019, May). *Uncovering a latent factor structure underlying pre-adolescent self-regulation and its neural substrates.* Poster presented at the annual meeting of the Social and Affective Neuroscience Society in Miami, FL, USA.
25. **Bottenhorn KL,** Robinson JL, Yanes, JA, Flannery JS, Sutherland MT, Laird AR (2019, May). *Intrinsic connectivity of the human habenula and its relation to negative affect.* Poster presented at the annual meeting of the Social and Affective Neuroscience Society in Miami, FL, USA.

26. Yanes J, **Bottenhorn KL**, Salo T, Riedel M, **Laird AR**, Robinson J. (2019, May). *Data mining reveals discrete neurobiological systems that contribute to pain processing.* Poster presented at the annual meeting of the Social and Affective Neuroscience Society in Miami, FL, USA
27. **Bottenhorn KL,** Bartley JE, Riedel MC, Salo T, Bravo, EI, Odean, R, Nazareth, A, Laird RW, Pruden, S. M, Sutherland MT, Brewe E, Laird AR (2019, April). *Large-scale brain networks underlying domain-specific memory, intelligence, and academic performance.* Poster presented at the annual meeting of the Conference of Florida Graduate Schools Statewide Graduate Research Symposium & Poster Competition in Miami, FL, USA.
28. **Bottenhorn KL,** Keshavan, A, Somani N, Ramesh S, Poline, J-B, Laird AR (2019, April). *metaCurious: A web application for meta-analytic dataset curation and annotation.* Poster presented at the Fifth Annual BRAIN Initiative Investigator's Meeting in Washington, DC, USA. ** Awarded Trainee Travel Award.
29. Salo T, **Bottenhorn KL**, Nichols TE, Riedel MC, Sutherland MT, Yarkoni T, Laird AR. *NiMARE: Neuroimaging Meta-Analysis Research Environment.* Fifth Annual BRAIN Initiative Investigator's Meeting, Washington, DC, USA, 2019.
30. **Bottenhorn KL,** Bartley JE, Riedel MC, Salo T, Bravo, EI, Odean R, Nazareth A, Laird RW, Pruden SM, Sutherland MT, Brewe E, Laird AR (2019, March). *Large-scale brain networks underlying domain-specific memory, intelligence, and academic performance.* Poster presented at Florida International University's annual Graduate Student Appreciation Week Scholarly Forum & Poster Competition in Miami, FL, USA. ** Awarded 1st place in the College of Arts, Sciences, and Education Poster Session.
31. **Bottenhorn KL,** Salo T, Sutherland MT, & Laird AR (2018, August). *Quantitative comparison of functional decoding approaches across meta-analytic frameworks.* Poster presented at the annual meeting of the International Neuroinformatics Coordinating Facility, Neuroinformatics 2018, in Montreal, QC, Canada (doi: 10.7490/f1000research.1115906.1)
32. Salo T, **Bottenhorn KL**, Nichols TE, Riedel MC, Sutherland MT, Yarkoni T, Laird AR. *NiMARE: Neuroimaging Meta-Analysis Research Environment*. International Neuroinformatics Coordinating Facility (INCF) Congress, Montreal, Canada, 2018.
33. **Bottenhorn KL,** Robinson JL, Flannery JS, Boeving ER, Salo T, Riedel MC, Eickhoff, S. B, Yanes JA, Sutherland MT, Laird AR (2017, June). *Connectivity of the human habenula using 7T resting state and meta-analytic co activation modeling.* Poster presented at the 23rd annual conference of the Organization for Human Brain Mapping, Vancouver, BC, Canada.
34. Flannery JS, Riedel MC, Poudel R, Salo T, **Bottenhorn KL,** Hill L, Laird AR, Sutherland MT. (2017, June) *Meta-analytic clustering dissociates activation and behavior profiles across reward processing data.* Oral presentation given at the 23rd annual meeting of the Organization for Human Brain Mapping, Vancouver, Canada, 1428.
35. Salo T, Riedel MC, Bartley JE, **Bottenhorn KL**, Yarkoni T, Turner MD, Turner JA, Sutherland MT, Laird AR. (2017, June). *A quantitative evaluation of Neurosynth's annotation methods.* Oral presentation given at the 23rd annual meeting of the Organization for Human Brain Mapping, Vancouver, Canada, Oral Presentation 1674.
36. Boeving ER, Toma A, Riedel MC, Bartley JE, **Bottenhorn KL**, Bzdok D, Eickhoff SB, Sutherland MT, Glahn DC, Laird AR. (2017, June) *Social neuroimaging meta-analysis through the RDoC lens yields distinct context-driven cliques.* Oral presentation given at the 23rd annual meeting of the Organization for Human Brain Mapping, Vancouver, Canada, 4226.

37. **Bottenhorn KL,** Sutherland MT, Laird AR (2016, June). *Naturalistic paradigms in fMRI research: An ALE meta-analysis.* Poster presented at the 22nd annual conference of the Organization for Human Brain Mapping, Geneva, Switzerland.
38. **Bottenhorn KL** & Robinson JL (2015, June). *Functional connectivity of the human hypothalamus: A meta-analytic and ultra-high field magnetic resonance imaging study.* Poster presented at the 21st annual conference of the Organization for Human Brain Mapping, Honolulu, HI, USA.
39. **Bottenhorn KL** & Robinson JL (2014, June). *Functional connectivity of the human hypothalamus using meta-analytic connectivity modeling.* Poster presented at the 20th annual conference of the Organization for Human Brain Mapping, Hamburg, Germany.
40. **Bottenhorn KL** & Robinson JL (2014, April). *Functional connectivity of the human hypothalamus using meta-analytic connectivity modeling.* Poster presented at Auburn University's annual Research Week, Auburn, AL.
41. **Bottenhorn KL,** Tuttle R, Ben-Jonathan N. (2013, August). *Dopamine receptor agonists suppress viability of head and neck cancer cells.* Poster presented at the University of Cincinnati Summer Undergraduate Research Fellowship Poster Presentation, Cincinnati, OH, USA.

ADDITIONAL QUALIFICATIONS & TRAINING

- Fluent in English, conversational in Spanish.
- Proficient in Python (including Scikit-Learn, Seaborn, Pandas, Numpy, Scipy), R, CSS, HTML, and bash. Novice in JavaScript. Familiar with Docker, Singularity, git.
- Experienced in MR data processing including FSL tools, and Python packages including Nipype, Nilearn, and more for functional and diffusion-weighted MRI preprocessing and analysis. Familiar with the Brain Imaging Data Structure (BIDS) and associated tool ecosystem.
- Experienced in fMRI task development using E-Prime.
- Experienced in neuroimaging experimental design, study piloting and implementation
- Familiar with multi-echo functional MRI sequence development
- Four years of experience collecting behavioral and neuroimaging data with children and adolescents aged 9 – 12 for the NIH-funded Adolescent Brain and Cognitive Development (ABCD) Study
- Experienced in psychophysiological data collection in MR environments using BioPac and AcqKnowledge; physiological data cleaning and processing using AcqKnowledge and Python tools.
- Experience in front-end web development and UX design.
- Certified by the Collaborative Institutional Training Initiative for the protection of human subjects in biomedical research.
- Laboratory skills include cell line growth and treatment, PCR and rt-PCR, RNA extraction, electrophoresis, and Western Blotting.