

# James Kent

## Curriculum Vitae

### Education

- 2014 – **PhD. Neuroscience**, *University of Iowa*, Iowa City, IA.  
Research Focus: fMRI Methods/Reproducible Research  
Advisor: Dr. Michelle W. Voss
- 2014 **B.A. Major: Psychology & Concentration: Neuroscience**, *Grinnell College*, Grinnell, IA.

### Teaching Experience

- 2019 **Workshop Instructor**, *University of Iowa*, Iowa City, IA.  
Brain Research Workshop. Organizer: Jan Wessel
- 2018 **Teaching Assistant**, *University of Iowa*, Iowa City, IA.  
PSY:6280:0001 Structural Functional MRI Methods/Applic. Professor: Michelle Voss
- 2016 **Teaching Lab Assistant**, *University of Iowa*, Iowa City, IA.  
ACB:6252:0001 Functional Neuroanatomy. Professor: Justin Sipla

### Awards and Fellowships

- 2019 Reproducible Neuroimaging Fellowship
- 2016 Post Comprehensive Exam Research Award
- 2015 University of Iowa Training Grant T-32
- 2013 Grinnellink Grant Fund
- 2012 Grinnell Summer Research Grant
- 2012 – 2014 Student-Athlete Academic All Conference (Swimming)

### Technical Expertise

Analysis of functional magnetic imaging data, data management, coding

#### Technologies

- Scientific FSL, AFNI, Freesurfer/FsFast, NiPype, PsychoPy, E-Prime
- Cluster Oracle/Sun Grid Engine (SGE)
- computing
- Containers Docker, Singularity
- Version git (GitHub, git-annex)
- control
- Continuous circleci, travisci
- Integration

#### Programming Languages

- Proficient Born Again SHell (BASH), Python 2/3

Competent R  
Familiar MATLAB, L<sup>A</sup>T<sub>E</sub>X

---

## Hackathons

- 2020 **Computational Psychiatry Hackathon**, *University of Iowa*, Iowa City, Iowa.  
Predicted bipolar diagnosis using brain measures
- 2019 **OHBM Hackathon**, *Rome*, Italy.
- 2019 **Coastal Coding**, *Florida International University*, Miami, Florida.  
[Development of meta-analysis package NiMARE](#)
- 2019 **ABCD Neurocognitive Prediction Challenge**.  
[Predicted fluid intelligence from T1w images](#)
- 2018 **HACKUIOWA**, *University of Iowa*, Iowa City, Iowa.  
[Predicted behavioral outcomes from lesions](#)

---

## Training

- 2020 **TILE (transform, interact, learn, engage) Classroom Training**, *University of Iowa*, Iowa City, Iowa.
- 2020 **Certified Instructor**, *Software Carpentry*.
- 2018 - 2020 **Writing in the Neurosciences**, *University of Iowa*, Iowa City, Iowa.  
Monthly lecture and workshop on writing samples, giving and receiving peer review
- 2018 – **Teaching Club**, *University of Iowa*, Iowa City, Iowa.  
Bi-weekly meetings about teaching strategies in the classroom
- 2018 **Neurohackademy**, *University of Washington*, Seattle, Washington.
- 2017 **Code Sprint**, *Stanford University*, Stanford, California.

---

## Publications

### Peer Reviewed Journals

- [1] Esteban O, Markiewicz CJ, Blair RW, Moodie CA, Isik AI, Erramuzpe A, **Kent JD**, Goncalves M, DuPre E, Snyder M, Oya H, Ghosh SS, Wright J, Durnez J, Poldrack RA, and Gorgolewski KJ (2019). fMRIPrep: a robust preprocessing pipeline for functional MRI. *Nature Methods*, 16(1):111–116. doi:10.1038/s41592-018-0235-4.
- [2] **Kent J** and Herholz P (2019). NiBetaSeries: task related correlations in fMRI. *Journal of Open Source Software*, 4(41):1295. doi:10.21105/joss.01295.
- [3] Lee HK, **Kent J**, Wendel C, Wolinsky F, Foster E, Merzenich M, and Voss M (2019). Home-Based, Adaptive Cognitive Training for Cognitively Normal Older adults: Initial Efficacy Trial. *The Journals of Gerontology: Series B*. doi:10.1093/geronb/gbz073.
- [4] DuBose LE, Voss MW, Weng TB, **Kent JD**, Dubishar KM, Lane-Cordova A, Sigurdsson G, Schmid P, Barlow PB, and Pierce GL (2017). Carotid Beta-stiffness index is associated with slower processing speed but not working memory or white matter integrity in healthy middle-aged/older adults. *Journal of Applied Physiology*, 122(4):868–876. doi:10.1152/jappphysiol.00769.2016. PMID: 28126907.

### Preprints

- [5] Esteban O, Ciric R, Finc K, Blair R, Markiewicz CJ, Moodie CA, **Kent JD**, Goncalves M, DuPre E, Gomez DEP, Ye Z, Salo T, Valabregue R, Amlien IK, Liem F, Jacoby N, Stojic H, Cieslak M,

Urchs S, Halchenko YO, Ghosh SS, De La Vega A, Yarkoni T, Wright J, Thompson WH, Poldrack RA, and Gorgolewski KJ (2020). Analysis of task-based functional MRI data preprocessed with fMRIPrep. *bioRxiv*. doi:10.1101/694364.

---

## Presentations

### Talks

- [6] **Kent J** and Voss M. The Nuisance of Denoising fMRI. University of Iowa Neuroscience Program, Iowa City, IA, September 2018. (Oral).
- [7] **Kent J** and Voss M. Synchrony is Key for Aging and Cognitive Control. University of Iowa Neuroscience Program, Iowa City, IA, October 2017. (Oral).
- [8] **Kent J** and Voss M. Midbrain Activity during Task and Rest: Two Sides of the Same Coin? University of Iowa Neuroscience Program, Iowa City, IA, May 2016. (Oral).
- [9] **Kent J** and Queathem E. Affective and Psychological effects of simulated outdoor exercise. Midwestern Psychological Association, Chicago, IL, May 2015. (Oral).
- [10] **Kent J** and Vaidya J. Reward Sensitivity and Attentional Control in Adolescents. University of Iowa Neuroscience Program, Iowa City, IA, May 2015. (Oral).
- [11] **Kent J** and Voss M. Brain Stripping Algorithms, Betcha can't use just one. University of Iowa Neuroscience Program, Iowa City, IA, June 2015. (Oral).

### Poster Presentations

- [12] **Kent J**, Evans J, Magnotta V, Vaidya J, Shaffer J, and Kosciuk T. Big Brain Data: New Opportunities at the University of Iowa. University of Iowa Informatic Program, Iowa City, IA, February 2019. (Poster).
- [13] **Kent J**, Lee HK, Wendel C, Wolinsky F, Foster E, Merzenich M, and Voss M. Task Related Brain Connectivity Decreases After Cognitive Training. Cognitive Neuroscience Society, San Francisco, CA, March 2019. (Poster).
- [14] **Kent J** and Voss M. NiBetaSeries: Tasking State Correlations. Human Brain Mapping, Rome, Italy, June 2019. (Poster).
- [15] **Kent J**, Lee HK, Schultz E, Foster E, Wolinsky F, Merzenich M, and Voss M. Can adaptive cognitive training improve efficiency of attentional control in the aging brain? Society for Neuroscience, San Diego, CA, November 2016. (Poster).

---

## Software

### Contributions to Open Source Scientific Software

- [16] **Kent JD**, Rokem A, VanderPlas J, Holdgraf C, DeStasio K, Ludwig R, Martin R, Toro-Serey C, Eschenburg K, Erramuzpe A, Herholz P, Blue B, Whitaker K, and Voss M (January 2019). HBClab/NiBetaSeries: v0.2.3. doi:10.5281/zenodo.2552303.
- [17] Esteban O, Blair R, Markiewicz CJ, Berleant SL, Moodie C, Ma F, Isik AI, Erramuzpe A, **Kent JD**, Goncalves M, DuPre E, Poldrack RA, and Gorgolewski KJ (January 2018). poldracklab/fmriprep: 1.0.5. doi:10.5281/zenodo.1156273.
- [18] Gorgolewski KJ, Esteban O, Ziegler E, Notter MP, Burns C, Ellis DG, Johnson H, Manhães-Savio A, Hamalainen C, Jarecka D, Yvernault B, Markiewicz CJ, Salo T, Waskom M, Clark D, Wong J, Loney F, Madison C, Modat M, Goncalves M, Dewey BE, Clark MG, Dayan M, Keshavan A,

Clark D, Pinsard B, Gramfort A, Berleant S, Nielson DM, Varoquaux G, Cipollini B, Nielson DM, Markello R, Rokem A, Wassermann D, Halchenko YO, Visconti di Oleggio Castello M, Kaczmarzyk J, Moloney B, Hanke M, Horea C, Bougacha S, de Hollander G, Mordom D, Buchanan C, Tungaraza R, Mancini M, Pauli WM, Iqbal S, Sikka S, Schwartz Y, Malone IB, DuPre E, Frohlich C, Welch D, Forbes J, Watanabe A, Cumba C, Huntenburg JM, Eshaghi A, Kastman E, Ginsburg D, Schaefer A, Acland B, **Kent J**, Perez-Guevara M, Gillman A, Bougacha S, Forbes J, DuPre E, Nichols BN, Giavasis S, Jordan K, Kleesiek J, Erickson D, Küttner R, Haselgrove C, Correa C, Ghayoor A, Millman J, Haehn D, Lampe L, Lai J, Zhou D, Blair R, Glatard T, Renfro M, Liu S, Kahn AE, Triplett W, Jordan K, Stadler J, Kong XZ, Hallquist M, McDermottroe C, Chetverikov A, Salvatore J, Mertz F, Park A, Poldrack R, Jordan K, Craddock RC, Inati S, Hinds O, Cooper G, Perkins LN, Tambini A, Marina A, Mattfeld A, Noel M, Snoek L, Matsubara K, Cheung B, Gerhard S, Rothmei S, Urchs S, Pannetier N, Durnez J, Geisler D, Floren A, Sharp P, Mancini M, Weinstein A, Broderick W, Saase V, Andberg SK, Harms R, Khanuja R, Schlamp K, Arias J, Visconti di Oleggio Castello M, Papadopoulos Orfanos D, Tarbert C, De La Vega A, Nickson T, Brett M, Dubois M, Falkiewicz M, Podranski K, Pellman J, Linkersdörfer J, Varada J, Schwabacher I, Flandin G, Liem F, Pérez-García F, Shachnev D, McNamee D, Davison A, and Ghosh S (January 2018). nipy/nipype: Nipype - v1.0.0. doi:10.5281/zenodo.1160610.

---

## Service/Leadership

- 2018 – **Organizer**, *Hacky Hour*, University of Iowa, Iowa City, IA.  
I work with individuals to solve their programming/data problems/encourage community across departments
- 2018 – **Organizer**, *Neuroimaging Workgroup*, University of Iowa, Iowa City, IA.  
Curate, schedule, and sometimes lead monthly sessions about the latest tools/methods to analyze MRI data
- 2018, 2019 **Organizer**, *BrainHack@UI*, University of Iowa, Iowa City, IA.  
Secured funding, space, materials, and a committee to create a yearly brainhack
- 2015 – 2020 **Committee Member**, *Eastern Iowa Brain Bee*, University of Iowa, Iowa City, IA.  
Presented at local high schools to recruit participants and helped with various aspects of setup and execution of the Brain Bee
- 2015 **Student Member**, *YOU@UI Neuroscience Outreach*, University of Iowa, Iowa City, IA.
- 2015 **Demonstrator**, *Brain Awareness Week Outreach*, University of Iowa, Iowa City, IA.