

# Richard Cameron Craddock

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## Education

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**PhD in Electrical and Computer Engineering** 05/2003 – 12/2009

Georgia Institute of Technology, Atlanta, GA

*Dissertation:* Support Vector Classification Analysis of Resting State Functional Connectivity fMRI

*Specializations:* MR Physics, Bioengineering, and Digital Signal Processing

*Minor:* Mathematics

*Advisors:* Xiaoping Hu, PhD and Helen Mayberg, MD

**MS in Electrical and Computer Engineering** 01/2001 – 05/2003

Georgia Institute of Technology, Atlanta, GA

*Specializations:* Bioengineering and Digital Signal Processing

*Minor:* Mathematics

*Advisor:* Linda Wills, PhD

**Bachelor of Computer Engineering** 06/1995 – 08/1999

Georgia Institute of Technology, Atlanta, GA

*Specializations:* Telecommunications and Digital Signal Processing

## Experience

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**Director of Imaging** 07/2012 – present

Center for the Developing Brain, Child Mind Institute, New York, NY

**Research Scientist** 07/2012 – present

Research Foundation for Mental Health, Inc.,

Nathan S. Kline Institute for Psychiatric Research, Orangeburg, NY

**Postdoctoral Associate** 10/2010 – 06/2012

Virginia Tech Carilion Research Institute, Roanoke, VA

*Supervisor:* Stephen M. LaConte, PhD

**Research Associate** 10/2009 – 10/2010

Computational Psychiatry Unit, Department of Neuroscience, Baylor College of Medicine, Houston, TX

*Supervisor:* Stephen M. LaConte, PhD

**Supervising Research Specialist** 01/2007 – 10/2009  
Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta, GA  
*Supervisors:* Helen Mayberg, MD and Paul Holtzheimer, MD

**Guest Researcher** 06/2004 – 01/2007  
Centers for Disease Control and Prevention, Atlanta, GA  
*Supervisors:* Brian Gurbaxani, PhD and Suzanne Vernon, PhD

**Research Assistant** 11/2001 – 05/2004  
School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA  
*Supervisor:* Linda Wills, PhD

**Engineer** 01/2000 – 09/2001  
Opuswave Networks Inc., Colorado Springs, CO

**Junior Systems Engineer** 08/1998 – 12/1998  
Lucent Technologies Product Realization Center, Atlanta, GA

**Stokes Undergraduate Scholar** 08/1995 – 12/1999  
Central Intelligence Agency, Washington DC

## Active Grant Support

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1R01MH101555: Real-time fMRI Neurofeedback Based Stratification of Default Network Regulation  
*Principle Investigator:* R. Cameron Craddock, PhD  
*Funding Source:* National Institute of Mental Health BRAINS Award  
*Support Period:* 08/2013 – 08/2017  
*Funding Amount:* \$400,000 USD per year

## Previous Grant Support

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Neuro-Feedback for Default Mode Network Regulation in Major Depressive Disorder  
*Principle Investigator:* R. Cameron Craddock, PhD  
*Mentors:* Stephen LaConte, PhD and Helen Mayberg, MD  
*Funding Source:* The Brain and Behavior Research Fund NARSAD Young Investigator Award  
*Support Period:* 01/2011 – 01/2013  
*Funding Amount:* \$60,000 USD

## Patents

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European Patent 11188849.1 – 1560 11/11/11  
*Inventors:* R. Cameron Craddock, Yating Lv, Daniel Margulies, Arno Villringer  
*Title:* Method and apparatus for visualization of tissue perfusion by means of assessing BOLD signal fluctuations

## Journal Publications

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- [1] Z. Shehzad, C. Kelly, P. T. Reiss, **R. Cameron Craddock**, J. W. Emerson, K. McMahon, D. A. Copland, F. X. Castellanos, and M. P. Milham. A multivariate distance-based analytic framework for connectome-wide association studies. *Neuroimage*, 93 Pt 1:74--94, Jun 2014.
- [2] Cyrus Eierud, **R. Cameron Craddock**, Sean Fletcher, Manek Aulakh, Brooks King-Casas, Damon Kuehl, and Stephen M. LaConte. Neuroimaging after mild traumatic brain injury: Review and meta-analysis. *NeuroImage: Clinical*, 4(0):283 -- 294, 2014.
- [3] K. J. Gorgolewski, D. Lurie, S. Uchrs, J. A. Kipping, **R. Cameron Craddock**, M. P. Milham, D. S. Margulies, and J. Smallwood. A Correspondence between Individual Differences in the Brain's Intrinsic Functional Architecture and the Content and Form of Self-Generated Thoughts. *PLoS ONE*, 9(5):e97176, 2014.
- [4] Zhen Yang, **R. Cameron Craddock**, Daniel Margulies, Chao gan Yan, and Michael P. Milham. Common intrinsic connectivity states among posteromedial cortex subdivisions: Insights from analysis of temporal dynamics. *NeuroImage*, 2014. in press.
- [5] Gaël Varoquaux and **R. Cameron Craddock**. Learning and comparing functional connectomes across subjects. *Neuroimage*, 80:405--415, Oct 2013.
- [6] Callie L. McGrath, Mary E. Kelley, Paul E. Holtzheimer III, Boadie W. Dunlop, W. Edward Craighead, Alexandre R. Franco, **R. Cameron Craddock**, and Helen S. Mayberg. Toward a neuroimaging treatment selection biomarker for major depressive disorder. *JAMA Psychiatry*, 70(8):821--829, Aug 2013.
- [7] **R. Cameron Craddock**, Saad Jbabdi, Chao-Gan Yan, Joshua Vogelstein, F. Xavier Castellanos, Adriana Di Martino, Clare Kelly, Keith Heberlein, Stan Colcombe, and Michael P. Milham. Imaging human connectomes at the macroscale. *Nature Methods*, 10(6):524--539, Jun 2013.
- [8] **R. Cameron Craddock**, Michael P. Milham, and Stephen M. LaConte. Predicting intrinsic brain activity. *Neuroimage*, 82C:127--136, May 2013.
- [9] F. Xavier Castellanos, Adriana Di Martino, **R. Cameron Craddock**, Ashesh D. Mehta, and Michael P. Milham. Clinical applications of the functional connectome. *Neuroimage*, Apr 2013.
- [10] C. J. Keller, S. Bickel, C. J. Honey, D. M. Groppe, L. Entz, **R. C. Craddock**, F. A. Lado, C. Kelly, M. Milham, and A. D. Mehta. Neurophysiological Investigation of Spontaneous Correlated and Anti-correlated Fluctuations of the BOLD Signal. *Journal of Neuroscience*, 33(15):6333--6342, Apr 2013.
- [11] Chao-Gan Yan, **R. Cameron Craddock**, Xi-Nian Zuo, Yue-Feng Zang, and Michael P. Milham. Standardizing the Intrinsic Brain: Towards Robust Measurement of Inter-Individual Variation in 1000 Functional Connectomes. *Neuroimage*, Apr 2013.
- [12] Yating Lv, Daniel S. Margulies, **R. Cameron Craddock**, Xiangyu Long, Benjamin Winter, Daniel Gierhake, Matthias Endres, Kersten Villringer, Jochen Fiebach, and Arno Villringer. Identifying the perfusion deficit in acute stroke with resting-state functional magnetic resonance imaging. *Annals of Neurology*, 73(1):136--140, 2013.
- [13] Christiane S. Rohr, Hadas Okon-Singer, **R. Cameron Craddock**, Arno Villringer, and Daniel S. Margulies. Affect and the Brain's Functional Organization: A Resting-State Connectivity Approach. *PLoS ONE*, 8(7):e68015, 2013.
- [14] Chao-Gan Yan, Brian Cheung, Clare Kelly, Stan Colcombe, **R. Cameron Craddock**, Adriana Di Martino, Qingyang Li, Xi-Nian Zuo, F Xavier Castellanos, and Michael P Milham. A comprehensive assessment of regional variation in the impact of head micromovements on functional connectomics. *NeuroImage*, 2013.

- [15] Chao-Gan Yan, **R. Cameron Craddock**, Yong He, and Michael P. Milham. Addressing Head Motion Dependencies for Small-World Topologies in Functional Connectomics. *Frontiers in Human Neuroscience*, 7(910), 2013.
- [16] **R. Cameron Craddock**, G. Andrew James, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. A whole brain fMRI atlas generated via spatially constrained spectral clustering. *Hum Brain Mapp*, 33(8):1914--1928, Aug 2012.
- [17] Clare Kelly, Bharat B Biswal, **R. Cameron Craddock**, F Xavier Castellanos, and Michael P Milham. Characterizing variation in the functional connectome: promise and pitfalls. *Trends in Cognitive Sciences*, 2012.
- [18] S. Lavoie-Courchesne, P. Rioux, F. Chouinard-Decorte, T. Sherif, M.-E. Rousseau, S. Das, R. Adalat, J. Doyon, **R. C. Craddock**, D. Margulies, O. Lyttelton C. Chu, A. C. Evans, and P. Bellec. Integration of a neuroimaging processing pipeline into a pan-canadian computing grid. *Journal of Physics: Conference Series*, 341(1), 2012.
- [19] Kate Brody Nooner, Stanley J Colcombe, Russell H Tobe, Maarten Mennes, Melissa M Benedict, Alexis L Moreno, Laura J Panek, Shaquanna Brown, Stephen T Zavitz, Qingyang Li, et al. The NKI-Rockland sample: a model for accelerating the pace of discovery science in psychiatry. *Frontiers in neuroscience*, 6, 2012.
- [20] Christopher B. Glielmi, Qin Xu, **R. Cameron Craddock**, and Xioaping P. Hu. Simultaneous acquisition of gradient echo/spin echo bold and perfusion with a separate labeling coil. *Magn Reson Med*, 64(6):1827--1831, Dec 2010.
- [21] **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. Disease state prediction from resting state functional connectivity. *Magn Reson Med*, 62(6):1619--1628, Dec 2009.
- [22] G. Andrew James, Mary E Kelley, **R. Cameron Craddock**, Paul E Holtzheimer, Boadie W Dunlop, Charles B Nemeroff, Helen S Mayberg, and Xiaoping P Hu. Exploratory structural equation modeling of resting-state fmri: applicability of group models to individual subjects. *NeuroImage*, 45(3):778--787, Apr 2009.
- [23] Andres M. Lozano, Helen S. Mayberg, Peter Giacobbe, Clement Hamani, **R. Cameron Craddock**, and Sydney H Kennedy. Subcallosal cingulate gyrus deep brain stimulation for treatment-resistant depression. *Biol Psychiatry*, 64(6):461--467, Sep 2008.
- [24] Lucile Capuron, Leonie Welberg, Christine Heim, Dieter Wagner, Laura Solomon, Dimitris A. Papanicolaou, **R. Cameron Craddock**, Andrew H Miller, and William C. Reeves. Cognitive dysfunction relates to subjective report of mental fatigue in patients with chronic fatigue syndrome. *Neuropsychopharmacology*, 31(8):1777--1784, Aug 2006.
- [25] Gordon Broderick, **R. Cameron Craddock**, Toni Whistler, Renee Taylor, Nancy Klimas, and Elizabeth R Unger. Identifying illness parameters in fatiguing syndromes using classical projection methods. *Pharmacogenomics*, 7(3):407--419, Apr 2006.
- [26] **R. Cameron Craddock**, Renee Taylor, Gordon Broderick, Toni Whistler, Nancy Klimas, and Elizabeth R Unger. Exploration of statistical dependence between illness parameters using the entropy correlation coefficient. *Pharmacogenomics*, 7(3):421--428, Apr 2006.
- [27] Toni Whistler, Renee Taylor, **R. Cameron Craddock**, Gordon Broderick, Nancy Klimas, and Elizabeth R. Unger. Gene expression correlates of unexplained fatigue. *Pharmacogenomics*, 7(3):395--405, Apr 2006.

## Invited Talks

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- [1] **R. Cameron Craddock.** Using real-time fmri based neurofeedback to probe default network regulation. In *Pioneering Frontiers in Functional Brain Imaging for Psychiatry Symposium, Society of Biomedical Psychiatry 69th Annual Meeting, New York, NY, New York, NY*, 2014.
- [2] **R. Cameron Craddock.** The configurable pipeline for the analysis of connectomes. In *Neuroimaging "Big Data" Challenges and Computational Workflow Solutions Educational Workshop, Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA, Seattle*, 2013.
- [3] **R. Cameron Craddock.** The current state of resting state literature. In *The systematic and automated analysis of the large functional brain databases of papers*, Paris, France, 2012.
- [4] **R. Cameron Craddock.** Tracking resting state networks in real time. In *Educational Workshop, Proceedings Organization of Human Brain Mapping 18th Annual Meeting, Beijing, Beijing*, 2012.
- [5] **R. Cameron Craddock.** Using realtime fmri based neurofeedback to probe default network regulation. In *Yale University Magnetic Resonance Research Center fMRI Speaker Series, New Haven, Connecticut*, 2012.
- [6] **R. Cameron Craddock**, Jonathan M. Lisinski, Pearl Chiu, Helen S. Mayberg, and Stephen M. LaConte. Real-time tracking and biofeedback of the default mode network. In *Proceedings Organization of Human Brain Mapping 18th Annual Meeting, Beijing, Beijing*, 2012.
- [7] **R. Cameron Craddock**, Jonathan M. Lisinski, and Stephen LaConte. Online denoising strategies for real-time tracking default mode network activity. In *Proceedings Third Biennial International Conference on Resting-State Functional Connectivity*, Magdeburg, Germany, 2012.
- [8] **R. Cameron Craddock.** Applications of mvpa to the analysis of resting state fmri data: Disease state prediction, brain state prediction, and real-time fmri. In *Max Planck Institute, Leipzig, Germany*, 2010.
- [9] **R. Cameron Craddock.** Applications of mvpa to the analysis of resting state fmri data: Disease state prediction, brain state prediction, and real-time fmri. In *Otto von Guericke University, Magdeburg, Germany*, 2010.
- [10] **R. Cameron Craddock.** Applications of mvpa to the analysis of resting state fmri data: Disease state prediction, brain state prediction, and real-time fmri. In *University of Modena and Reggio Emilia, Modena, Italy*, 2010.
- [11] **R. Cameron Craddock.** Applications of mvpa to the analysis of resting state fmri data: Disease state prediction, brain state prediction, and real-time fmri. In *Brain Imaging Series Lecture, Center for Advanced Brain Imaging, Atlanta, GA*, 2010.
- [12] **R. Cameron Craddock.** Applying mvpa to fmri. In *New York University Child Study Center, New York, NY*, 2010.
- [13] **R. Cameron Craddock** and Daniel S. Margulies. What is the neuro bureau? In *Proceedings Second Biennial International Conference on Resting State Connectivity, Milwaukee, MI*, 2010.
- [14] **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. Disease state prediction from resting state fmri. In *Proceedings OHBM 15th Annual Meeting, San Francisco.*, 2009.
- [15] **R. Cameron Craddock.** Computing for public health. In *Intel Opportunities Scholars Program, Georgia Institute of Technology, Atlanta, GA*, 2006.
- [16] **R. Cameron Craddock**, Brian M. Gurbaxani, and Suzanne D. Vernon. Evaluation of single channel oligonucleotide preprocessing pipelines using predictability and reproducibility. In *BioInfoSummer, Canberra, AU*, 2006.

- [17] **R. Cameron Craddock**, Renee Taylor, Gordon Broderick, Toni Whistler, Nancy Klimas, and Elizabeth R. Unger. Exploration of statistical dependence between illness parameters using the entropy correlation coefficient. In *CFS Computation Challenge, Banbury Conference Center, Cold Springs Harbor Lab*, Cold Spring Harbor, NY, 2006.
- [18] **R. Cameron Craddock**. Computing in biology. In *Intel Opportunity Scholars Program, Georgia Institute of Technology*, Atlanta, GA, 2005.

## Conference Abstracts

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- [1] David Keator, Satrajit Ghosh, Camille Maumet, Guillaume Flandin, Nolan Nichols, Thomas Nichols, Gully Burns, Rüdiger Brühl, **R. Cameron Craddock**, Blaise Frederick, Krzysztof Gorgolewski, Daniel Marcus, Michael Hanke, Christian Haselgrove, Karl Helmer, Arno Klein, Michael Milham, Russell Poldrack, Franck Michel, Jason Steffener, Yannick Schwartz, Rich Stoner, Jessica Turner, David Kennedy, and Jean-Baptiste Poline. Developing and using the neuroimaging and data sharing data model: the nidash working group. In *Proceedings Organization of Human Brain Mapping 20th Annual Meeting, Hamburg, Germany*, Hamburg, Germany, 2014.
- [2] Adriana Di Martino, Krishna Somandepalli, **R. Cameron Craddock**, and Michael P. Milham. An emerging paradigm for examination of autism in early brain development. In *Pioneering Frontiers in Functional Brain Imaging for Psychiatry Symposium, Society of Biomedical Psychiatry 69th Annual Meeting, New York, NY*, New York, NY, 2014.
- [3] Chao-Gan YAN, **R. Cameron Craddock**, Yong He, and Michael Milham. Addressing head motion dependencies for small-world topologies in functional connectomics. In *Proceedings Organization of Human Brain Mapping 20th Annual Meeting, Hamburg, Germany*, Hamburg, Germany, 2014.
- [4] Zhen Yang, **R. Cameron Craddock**, Chao-Gan YAN, and Michael Milham. Reproducibility, reliability, and relevance of dynamic intrinsic functional connectivity. In *Proceedings Organization of Human Brain Mapping 20th Annual Meeting, Hamburg, Germany*, Hamburg, Germany, 2014.
- [5] Zhen Yang, Nathan A. Fox, Carl W. Lejuez, Zarrar Shehzad, Bennett Leventhal, Francisco X. Castellanos, **R. Cameron Craddock**, and Michael P. Milham. Intrinsic brain indices of distress tolerance identified in life span sample using static and dynamic analyses. In *Society of Biomedical Psychiatry 69th Annual Meeting, New York, NY*, New York, NY, 2014.
- [6] Zhen Yang, Daniel Lurie, David O'Connor, **R. Cameron Craddock**, and Michael Milham. Impact of hematocrit on measurement of the intrinsic brain. In *Proceedings Organization of Human Brain Mapping 20th Annual Meeting, Hamburg, Germany*, Hamburg, Germany, 2014.
- [7] Zhi Yang, Xi-Nian Zuo, Katie McMahon, **R. Cameron Craddock**, Clare Kelly, Greig de Zubicaray, Ian Hickie, Peter Bandettini, F. Xavier Castellanos, Michael Milham, and Margaret Wright. Heritability of intrinsic connectivity network profiles in the human brain. In *Proceedings Organization of Human Brain Mapping 20th Annual Meeting, Hamburg, Germany*, Hamburg, Germany, 2014.
- [8] Kaat Alaerts, Kritika Nayar, Jessica Raithe, **R. Cameron Craddock**, Michael P. Milham, F. Xavier Castellanos, and Adriana Di Martino. Relationship between social impairment and neural measures of functional connectivity in autism. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [9] **R. Cameron Craddock**, Yassine Benhajali, Carlton Chiu, Francois Chouinard, András Jakab, Qingyang Li, Alan Evans, Budhachandra Khundrakpam, John Lewis, Michael Milham, Chao-Gan YAN, and Pierre Bellec. The Neuro Bureau Preprocessing Initiative: open sharing of preprocessed neuroimaging data and derivatives. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.

- [10] **R. Cameron Craddock**, Yassine Benhajali, Carlton Chiu, Francois Chouinard, András Jakab, Qingyang Li, Alan Evans, Budhachandra Khundrakpam, John Lewis, Michael Milham, Chao-Gan YAN, and Pierre Bellec. The Neuro Bureau Preprocessing Initiative: open sharing of preprocessed neuroimaging data and derivatives. In *Neuroinformatics 2013, Stockholm, Sweden*, Stockholm, Sweden, 2013.
- [11] **R. Cameron Craddock**, Sharad Sikka, Brian Cheung, Ranjit Khanuja, Satra Ghosh, Chao-Gan YAN, Qingyang Li, Daniel Lurie, Joshua Vogelstein, Randal Burns, Stan Colcombe, Maarten Mennes, Clare Kelly Adriana Di Martino, F. Xavier Castellanos, and Michael Milham. Towards automated analysis of connectomes: The Configurable Pipeline for the Analysis of Connectomes. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [12] **R. Cameron Craddock**, Sharad Sikka, Brian Cheung, Ranjit Khanuja, Satra Ghosh, Chao-Gan YAN, Qingyang Li, Daniel Lurie, Joshua Vogelstein, Randal Burns, Stan Colcombe, Maarten Mennes, Clare Kelly Adriana Di Martino, F. Xavier Castellanos, and Michael Milham. Towards automated analysis of connectomes: The Configurable Pipeline for the Analysis of Connectomes. In *Neuroinformatics 2013, Stockholm, Sweden*, Stockholm, Sweden, 2013.
- [13] Cyrus Eierud, **R. Cameron Craddock**, Manek Aulakh, Sean Fletcher, Brooks King-Casas, Damon Kuehl, and Stephen LaConte. Spatially and temporally resolving the changes in white matter in mild traumatic brain injury. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [14] Anders Eklund, **R. Cameron Craddock**, Cyrus Eierud, Lisinski Jonathan, Brittany Hamilton, Damon Kuehl, and Stephen LaConte. Recovering the balance between dmn and task networks after mild traumatic brain injury. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [15] Chao-Gan YAN, Brian Cheung, Clare Kelly, Stan Colcombe, **R. Cameron Craddock**, Adriana Di Martino, Qingyang Li, Xi-Nian Zuo, F. Xavier Castellanos, and Michael Milham. Rethinking the origins, impact and handling of head motion effects for functional connectomics. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [16] Chao-Gan YAN, **R. Cameron Craddock**, Xi-Nian Zuo, Zang Yufeng, and Michael Milham. Standardizing the intrinsic brain: Towards nuisance robust measurement of inter-individual variation. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [17] Zhen Yang, **R. Cameron Craddock**, Chao-Gan YAN, Sebastian Urchs, and Michael Milham. Characterizing intrinsic connectivity microstates within the posteromedial cortex. In *Proceedings Organization of Human Brain Mapping 19th Annual Meeting, Seattle, WA*, Seattle, 2013.
- [18] **R. Cameron Craddock**, Jonathan M. Lisinski, Pearl Chiu, Helen S. Mayberg, and Stephen M. LaConte. Real-time tracking and biofeedback of the default mode network. In *Proceedings Organization of Human Brain Mapping 18th Annual Meeting, Beijing*, pages 648, MT, Beijing, 2012.
- [19] **R. Cameron Craddock**, Jonathan M. Lisinski, and Stephen LaConte. Online denoising strategies for real-time tracking default mode network activity. In *Proceedings Third Biennial International Conference on Resting-State Functional Connectivity*, Magdeburg, Germany, 2012.
- [20] **R. Cameron Craddock** and Stephen M. LaConte. Estimation of resting state network activity using multivariate prediction analysis regression (MVPA-R). In *Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Montreal*, 2011. *1<sup>st</sup> Place Functional Imaging Poster Award*.
- [21] **R. Cameron Craddock**, Stephen M. LaConte, F. Xavier Castellanos, Xi-Nian Zuo, Paul Thompson, Greig de Zubicaray, Katie McMahon, Ian Hickie, Nicholas Martin, Margaret Wright, and Michael Mil-

- ham. Genetics influence inter-subject brain state prediction. In *Proceedings Organization of Human Brain Mapping 17th Annual Meeting, Quebec City*, pages 462, F--PM, Quebec City, 2011.
- [22] Alexandre Franco, Jaemin Shin, Ki Sueng Choi, **Richard Craddock**, Helen Mayberg, and Xiaoping Hu. Increased intra-slice functional correlation: Problem and solution. In *Proceedings Organization of Human Brain Mapping 17th Annual Meeting, Quebec City*, pages 640, M, 2011.
- [23] Y. Lv, D. Margulies, **R. Cameron Craddock**, X. Long, C. Rohr, B. Winter, M. Enders, K. Villringer, J. Fiebach, and A. Villringer. Diagnosis of stroke with non-invasive resting-state fmri. In *Proceedings 41st annual meeting of the Society for Neuroscience, Washington DC*, 2011.
- [24] Michael Milham, Maarten Mennes, David Gutman, Randy Buckner, **Cameron Craddock**, Daniel Margulies, Yufeng Zang, Bharat Biswal, J.K. Buitelaar, Vince Calhoun, Stan Colcombe, Eliza Congdon, Daniel Dickstein, Damien Fair, Matthew Hoptman, Maria de la Iglesia Vaya, George Andrew James, Rex Jung, Clare Kelly, David Kennedy, Kent Kiehl, Clint Kilts, Art Kramer, Stephen LaConte, Bennet Leventhal, Beatriz Luna, Larry Maayan, David Madden, Luis Martí-Bonmatí, Andrew Mayer, Stewart Mostofsky, Joel Nigg, Kate Nooner, James Pekar, Russell Poldrack, Erika Proal, Julie Schweitzer, Katerina Velanova, Arno Villringer, Xi-Nian Zuo, and F. Xavier Castellanos. The International Neuroimaging Data-sharing Initiative (INDI) and the Functional Connectomes Project. In *Proceedings Organization of Human Brain Mapping 17th Annual Meeting, Quebec City*, pages 343, Th, 2011.
- [25] Y. Shah, **R. C. Craddock**, S. M. LaConte, and S. J. Peltier. Functional connectivity: biophysical underpinnings and ramifications. In *Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Montreal*, 2011.
- [26] **R. Cameron Craddock**, G. Andrew James, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. ROI atlas generation from whole brain parcellation of resting state fMRI data. In *Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Stockholm*, 2010.
- [27] **R. Cameron Craddock**, G. Andrew James, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. A whole brain fMRI atlas generated via spatially constrained spectral clustering: Part I, method. In *Proceedings Organization for Human Brain Mapping 16th Annual Meeting*, pages 1006, MT--PM, Barcelona, 2010.
- [28] **R. Cameron Craddock**, G. Andrew James, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. A whole brain fMRI atlas generated via spatially constrained spectral clustering. In *Proceedings Second Biennial International Conference on Resting-State Functional Connectivity*, Milwaukee, MI, 2010.
- [29] **R. Cameron Craddock** and Stephen M. LaConte. Estimation of resting state network activity using support vector regression. In *Proceedings Organization for Human Brain Mapping 16th Annual Meeting*, pages 1280, WTh--PM, Barcelona, 2010.
- [30] **R. Cameron Craddock** and Stephen M. LaConte. Estimation of resting state network activity using support vector regression. In *Proceedings Second Biennial International Conference on Resting-State Functional Connectivity*, Milwaukee, MI, 2010.
- [31] G. Andrew James, **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. A whole brain fMRI atlas generated via spatially constrained spectral clustering: Part II, validity. In *Proceedings Organization for Human Brain Mapping 16th Annual Meeting*, pages 1063, MT--PM, Barcelona, 2010.
- [32] **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. Disease state prediction from resting state fMRI. In *Proceedings Organization of Human Brain Mapping 15th Annual Meeting*, pages 462, F--PM, San Francisco, 2009.



- [33] **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. Disease state prediction from resting state functional connectivity. In *Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Honolulu*, page 1645, 2009.
- [34] Gopi Deshpande, G. Andrew James, **R. Cameron Craddock**, Helen S. Mayberg, and Xiaoping P. Hu. Predicting treatment in patients with major depression using granger-based connectivity and support vector machines. In *Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Honolulu*, page 3362, 2009.
- [35] Christopher B. Glielmi, Qin Xu, **R. Cameron Craddock**, and Xiaoping P. Hu. Simultaneous acquisition of gradient echo / spin echo BOLD and perfusion with a separate labeling coil. In *Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Honolulu*, page 4540, 2009.
- [36] G. Andrew James, **R. Cameron Craddock**, Mary E. Kelley, Paul E. Holtzheimer, Boadie Dunlop, Charles Nemeroff, Helen S. Mayberg, and Xiaoping P. Hu. Assessing fit of individuals to group-derived structural equation models of resting-state fMRI data. In *Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Honolulu*, page 3364, 2009.
- [37] G. Andrew James, **R. Cameron Craddock**, Mary E. Kelley, Paul E. Holtzheimer, Boadie Dunlop, Charles B. Nemeroff, Xiaoping P. Hu, and Helen S. Mayberg. Assessing intersubject commonalities and differences with group-derived structural equation models of resting-state fMRI data. In *Proceedings OHBM 15th Annual Meeting*, pages 462, F--PM; O--SU--6, San Francisco, 2009.
- [38] Jaemin Shin, **R. Cameron Craddock**, Helen S. Mayberg, and Xiaoping P. Hu. Spatial and subject variability of long-term respiration effects in fMRI. In *Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine, Honolulu*, page 1654, 2009.
- [39] KiSueng Choi, **R. Cameron Craddock**, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. White matter disruption in early- and late-onset depression: a tract-based spatial statistical analysis. In *Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine*, page 3553, Toronto, 2008. Poster Award: 2nd Place.
- [40] KiSueng. Choi, **R. Cameron Craddock**, Paul E. Holtzheimer, Zhi. Yang, Xiaoping P. Hu, and Helen S. Mayberg. A combined functional-structural connectivity analysis of major depression using joint independent components analysis. In *Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine*, page 3555, Toronto, 2008.
- [41] **R. Cameron Craddock**, Christopher B. Glielmi, Paul E. Holtzheimer, Xiaoping P. Hu, and Helen S. Mayberg. Discrepancies between functional connectivity measured with BOLD and CBF in major depressive disorder. In *Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine*, page 3599, Toronto, 2008.
- [42] G. Andrew James, Mary E. Kelley, **R. Cameron Craddock**, Paul E. Holtzheimer, and Helen S. Mayberg. Abnormal subgenual anterior cingulate connectivity in major depressive disorder. In *63rd Annual Scientific Conference of the Society of Biological Psychiatry*, Washington DC, 2008.
- [43] G. Andy James, Scott J. Peltier, **R. Cameron Craddock**, Stephen M. La Conte, Helen S. Mayberg, and Xiaoping P. Hu. Reliable modeling of resting-state emotional networks in major depressive disorder: Applicability of exploratory structural equation modeling to small sample sizes. In *Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine*, page 95, Toronto, 2008.
- [44] Helen S. Mayberg, **R. Cameron Craddock**, Paul E. Holtzheimer, David A. Gutman, Dylan Wint, and Robert Gross. Functional connectivity models of major depression and antidepressant response ex-

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## Service

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*Advisor*, 2011 - Current, Child Mind Institute Endeavor Scientist Program

*Video Advisor*, 2010 - 2011, Neurolmage YouTube Channel

*Co-founder*, The Neuro Bureau

*Journal Reviewer*, Neurolmage, Human Brain Mapping, Journal of Neuroscience Methods, Frontiers in Systems Neuroscience, IEEE Transactions in Medical Imaging, Magnetic Resonance Imaging, Biological Psychiatry, Frontiers in Neuroanatomy, Neuroinformatics, JAMA Psychiatry

*Conference Organizer*, 2012 BrainHack and UnConference, Brainhack 2013

*Conference Reviewer*, 17<sup>th</sup> Meeting of the Organization for Human Brain Mapping (2011), 16<sup>th</sup> Meeting of the Organization for Human Brain Mapping (2010), 13<sup>th</sup> International Conference on Medical Image Computing and Computer Assisted Intervention (2010)

*Judge*, 2005 Georgia State Science and Engineering Fair, Athens, GA

*Mentor*, 2002-2003, Georgia Tech Intel Opportunity Scholars, Atlanta, GA

## **Honors and Awards**

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2013, Biobehavioral Research Awards for Innovative New Scientists (BRAINS), NIH/NIMH  
2011, Poster Award, 1<sup>st</sup> Place Functional Imaging, 19th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Montreal  
2010, Philips Travel Stipend Award, Second Biennial International Conference on Resting-State Functional Brain Connectivity  
2009, Organization of Human Brain Mapping Trainee Abstract Award  
2008, CCB/IPAM MBI Summer Fellow  
2008, ISMRM Educational Stipend  
2007, ISMRM Educational Stipend  
2006, BioInfoSummer 2006 Travel Scholarship  
2006, ISMRM Educational Stipend  
2003, Georgia Tech Office of Minority Education Tower Award  
2000-2001, Opuswave Networks INC.: numerous individual/team awards  
1998, CIA Meritorious Unit Citation  
1998, Lucent Technologies Achievement Award  
1995-1999, Stokes Undergraduate Scholarship  
1995-1999, Georgia Tech Dean's List seven times  
1995-1999, Georgia Tech Faculty Honors twice

## **Professional Memberships**

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International Society for Magnetic Resonance in Medicine  
Organization for Human Brain Mapping

## **Other Education/Certifications**

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2010, Siemens ICE and SDE programming courses