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EDUCATION & PROFESSIONAL EXPERIENCE

2009 - present Post-Doctoral Fellow (Lab of Jose M. Carmena) • University of California, Berkeley
2003 - 2009 Ph.D., Neuroscience (Lab of Robert T. Knight) • University of California, Berkeley
1998 - 2002 Instructor, Nuclear Physics & Thermodynamics • U.S.N. Nuclear Power Training Command
1993 - 1998 B.S., Mathematics and Cognitive Neuroscience • University of Georgia

AWARDS & FELLOWSHIPS

2007 Ruth L. Kirschstein National Research Service Award (NRSA) F31 NS060406-02
2004 Varela Research Grant, Mind and Life Institute
2004 National Science Foundation Fellowship (NSF) 2004016118
2002 Navy Achievement Medal, U.S. Navy
2002 National Defense Service Medal, U.S. Navy
2001 Meritorious Unit Commendation, U.S. Navy
1998 Magna cum Laude, University of Georgia
1998 High Honors, University of Georgia Honors Program
1998 Phi Beta Kappa
1994 National Security Education Program Scholarship for Study Abroad Shanghai, China
1993 Alumni and H.O.P.E. Scholarships, University of Georgia

PEER-REVIEWED PUBLICATIONS

- **Canolty, RT**, Edwards, E, Dalal, SS, Soltani, M, Nagarajan, SS, Kirsch, HE, Berger, MS, Barbaro, NM, and Knight, RT. (2006). High gamma power is phase-locked to theta oscillations in human neocortex. *Science* 313, 5793, 1626-1628. doi:10.1126/science.1128115
- Dalal, SS, Guggisberg, AG, Edwards, E, Sekihara, K, Findlay, AM, **Canolty, RT**, Knight, RT, Barbaro, NM, Kirsch, HE, and Nagarajan, SS. (2007). Spatial localization of cortical time-frequency dynamics. *Engineering in Medicine and Biology Society*, 4941-4944. doi:10.1109/IEMBS.2007.4353449
- **Canolty, RT**, Soltani, M, Dalal, SS, Edwards, E, Dronkers, NF, Nagarajan, SS, Kirsch, HE, Barbaro, NM, and Knight, RT. (2007). Spatiotemporal dynamics of word processing in the human brain. *Frontiers in Neuroscience*, 1, 1, 185-196. doi:10.3389/neuro.01.1.1.014.2007
- Dalal, SS, Guggisberg, AG, Edwards, E, Sekihara, K, Findlay, AM, **Canolty, RT**, Berger, MS, Knight, RT, Barbaro, NM, Kirsch, HE, and Nagarajan, SS. (2008). Five-dimensional neuroimaging: Localization of the time-frequency dynamics of cortical activity. *Neuroimage*, 40, 1686-1700. doi:10.1016/j.neuroimage.2008.01.023
- Swann, N, Tandon, N, **Canolty, RT**, Ellmore, TM, McEvoy, LK, Dreyer S, DiSano, M, and Aron, AR. (2009). Intracranial EEG reveals a time- and frequency-specific role for the right frontal gyrus and primary motor cortex in stopping initiated responses. *Journal of Neuroscience*, 29, 40, 12675-12685. doi: 10.1523/jneurosci.3359-09.2009

CONFERENCE PRESENTATIONS

- The utility of the ECoG signal for brain-machine interface control. (2005). Third International Brain-Computer Interface Meeting, Albany, NY.
- High gamma band activity as a metric of attentional focus. (2005). Mind and Life Summer Research Institute, Garrison, NY.
- Theta/high gamma coupling and the oscillatory hierarchy in human neocortex. (2006). Neuropace, Inc., Palo Alto, CA.
- Spatiotemporal dynamics of word processing in the human brain. (2007). Neural Information Processing

Systems Conference (NIPS), Large-Scale Brain Dynamics Workshop, Whistler, BC.

- Tracking multi-scale interactions between distinct brain regions during complex behavior. (2008). Computational and Systems Neuroscience (COSYNE), Top-down or Bottom-up? Workshop, Snowbird, UT.
- New Frontiers in Rehabilitation of Movement Disorders: Eavesdropping on the Brain. (2008). Northern California Ataxia Support Group, Lafayette, CA.

CONFERENCE POSTERS AND PROCEEDINGS

- Oga, T, Fuhrmann, G, **Canolty, RT**, Swann, NC, Chung, A, Mima, T, and Knight, RT. (2004). Coherent alpha and beta oscillations between supplementary and primary motor areas during motor preparation. Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Dalal, SS, Edwards, E, Kirsch, HE, **Canolty, RT**, Soltani, M, Barbaro, NM, Knight, RT, and Nagarajan, SS. (2005). Spatiotemporal dynamics of cortical networks preceding finger movement and speech production. International Society for Brain Electromagnetic Topography (ISBET).
- **Canolty, RT**, Edwards, E, Dalal, SS, Soltani, M, Nagarajan, SS, Kirsch, HE, Berger, MS, Barbaro, NM, and Knight, RT. (2005). Gamma power is phase-locked to theta oscillations in human electrocorticogram. Annual Meeting of the Society for Neuroscience, Washington, DC.
- Handwerker, DA, Chung, S, Berman, JI, Edwards, E, Soltani, M, **Canolty, RT**, Berger, MS, Knight, RT, and Henry, RG. (2006). Combined use of ECoG and DTI to track information flow in neurosurgical patients. Annual Meeting of the Society for Neuroscience, Atlanta, GA.
- Edwards, E, Dalal, SS, **Canolty, RT**, Kirsch, HE, Nagarajan, SS, Barbaro, NM, and Knight, RT. (2006). High gamma activity tracks language processing in the neocortex. Annual Meeting of the Society for Neuroscience, Atlanta, GA.
- Fogelson, N, Edwards, E, **Canolty, RT**, Dalal, SS, Kirsch, HE, Nagarajan, SS, Barbaro, NM, and Knight, RT. (2006). Prefrontal cortex high frequency gamma oscillations during the n-back working memory paradigm. Annual Meeting of the Society for Neuroscience, Atlanta, GA.
- **Canolty, RT**, Edwards, E, Dalal, SS, Soltani, M, Nagarajan, SS, Kirsch, HE, Berger, MS, Barbaro, NM, and Knight, RT. (2006). Task-dependent modulation of theta/high gamma coupling strength in human neocortex. Annual Meeting of the Society for Neuroscience, Atlanta, GA.
- Alpert, GF, Mullen, T, Suppiah, S, Edwards, E, **Canolty, RT**, Dalal, SS, Soltani, M, Kirsch, HE, Barbaro, NM, and Knight, RT. (2007). Functional connectivity and information flow in the human brain during language processing: evidence from ECoG data. Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- **Canolty, RT**, Soltani, M, Dalal, SS, Edwards, E, Dronkers, NF, Nagarajan, SS, Kirsch, HE, Barbaro, NM, and Knight, RT. (2007). Electrocorticographic evidence that high gamma activity differentiates processing of words and pseudowords. Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- **Canolty, RT**, Soltani, M, Dalal, SS, Edwards, E, Dronkers, NF, Nagarajan, SS, Kirsch, HE, Barbaro, NM, and Knight, RT. (2007). Target detection increases high gamma power over lateral frontal cortex. Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Bastos, A, Mullen, T, **Canolty, RT**, Pasley, B, Freeman, R, and Knight, RT. (2008). SSVEP-based Single-Trial Classification of Attention Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Swann, NC, Tandon, N, **Canolty, RT**, Ellmore, T, Dreyer, S, and Aron A. (2008). An intracranial EEG study of response inhibition. Annual Meeting of the Society for Neuroscience, San Diego, CA.

JOURNAL PEER-REVIEWER

Brain Research (1), Cerebral Cortex (2), Experimental Brain Research (1), IEEE Transactions on BioMedical Engineering (1), IEEE Transactions on Neural Systems and Rehabilitation Engineering (1), Proceedings of the National Academy of Science (2), Public Library of Science (PLoS) Biology (1), Journal of Neurophysiology (1), Journal of Neuroscience (3), Journal of Neuroscience Methods (4), Nature Neuroscience (1), Neuroimage (4), Science (1), Trends in Cognitive Sciences (1)

REFERENCES

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