

## EDUCATION

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- Georgetown University. Washington, DC.** July, 2015 – Dec, 2021  
PhD Candidate, Interdisciplinary Program in Neuroscience  
*Laboratory on Social and Affective Neuroscience*  
Thesis Title: "Affective Processes in Human Empathy and Social Behavior"  
Advisor: Abigail A. Marsh, Ph.D.
- The Pennsylvania State University. University Park, PA.** May, 2013  
B.S., with distinction. Biology (Neuroscience Option)

## RESEARCH EXPERIENCE

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- National Institute of Mental Health. Bethesda, MD.** May, 2013 – May, 2015  
Post-baccalaureate Research Fellow  
*Section on Neurobiology of Fear and Anxiety*  
PIs: Christian Grillon, Ph.D. & Monique Ernst, M.D., Ph.D.
- The Pennsylvania State University. University Park, PA.** September, 2012 – April, 2013  
Research Assistant  
*The Addiction, Smoking and Health Laboratory*  
PI: Stephen Wilson, Ph.D.
- Columbia University Medical Center. New York, NY.** May, 2012 – July, 2012  
Research Intern  
*Division of Movement Disorders*  
PIs: Roy Alcalay, M.D. & Elise Caccappolo, Ph.D.

## PUBLICATIONS

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- O'Connell, K.**, Marsh, A. A., Edwards, D. F., Dromerick, A. & Seydell-Greenwald, A. (2021). Emotion recognition impairments and social well-being following right-hemisphere stroke. *Neuropsychological Rehabilitation*. ePub ahead of print.
- Cardinale E. M., Reber J., **O'Connell, K.**, Turkeltaub, P. E., Tranel, D., Buchanan, T. W. & Marsh, A. A. (2021). Bilateral amygdala damage linked to impaired ability to predict others' fear but preserved moral judgements about causing others fear. *Proceedings of the Royal Society B: Biological Sciences*. 288(1943), 20202651.
- O'Connell, K.**, Berluti, K., Rhoads, S. A. & Marsh, A. A. (2021). Reduced social distancing early in the COVID-19 pandemic is associated with antisocial behaviors in an online United States sample. *PLoS One*. 16(1), e0244974.
- Berluti, K., **O'Connell, K.**, Rhoads, S. A., Brethel-Haurwitz, K. M., Cardinale, E. M., Robertson, E. L., Walitt, B., VanMeter, J.W. & Marsh, A. A. (2020). Reduced multi-voxel pattern similarity of vicarious neural pain responses in psychopathy. *Journal of Personality Disorders*. 34(5), 628-649.
- Vekaria, K. M., **O'Connell, K.**, Rhoads, S. A., Brethel-Haurwitz, K. M., Cardinale, E. M., Robertson, E. L., Walitt, B., VanMeter, J.W. & Marsh, A. A. (2020). Activation in bed nucleus of the stria terminalis (BNST) corresponds to everyday helping. *Cortex*. 127, 67-77.

- Rhoads, S. A., Cardinale, E. M., **O'Connell, K.**, Palmer, A. L., VanMeter, J. W., & Marsh, A. A. (2020). Mapping neural activity patterns to contextualized fearful facial expressions onto callous-unemotional (CU) traits: Intersubject representational similarity analysis reveals less variation among high-CU adolescents. *Personality Neuroscience*. 3(e12), 1–18.
- O'Connell, K.**, Brethel-Haurwitz, K. M., Rhoads, S. A., Cardinale, E. M., Vekaria, K. M., Robertson, E. L., Walitt, B., VanMeter, J. W. & Marsh, A. A. (2019). Increased similarity of neural responses to experienced and empathic distress in costly altruism. *Scientific Reports*. 9(1), 10774.
- Cardinale, E.M., **O'Connell, K.**, Robertson, E.L., Meena, L.B., Breeden, A.L., Lozier, L.M., VanMeter, J.W. & Marsh, A.A. (2019). Callous and uncaring traits are associated with reductions in amygdala volume among youths with varying levels of conduct problems. *Psychological Medicine*. 49(9), 1449-1458.
- Torrise, S., Gorka, A., Gonzalez-Castillo, J., **O'Connell, K.**, Balderston, N., Grillon, C. & Ernst, M. (2018). Extended amygdala connectivity changes during sustained shock anticipation. *Translational Psychiatry*. 8(1), 33.
- Brethel-Haurwitz, K.M., **O'Connell, K.**, Cardinale, E.M., Stoianova, M., Stoycos, S., Lozier, L., VanMeter, J.W. & Marsh, A.A. (2017). Amygdala-midbrain connectivity indicates a role for the mammalian parental care system in extraordinary altruism. *Proceedings of the Royal Society B: Biological Sciences*. 284(1865), 20171731.
- Grillon C., Robinson, O.J., Krinsky, M., **O'Connell, K.**, Alvarez, G. & Ernst, M. (2017). Anxiety-Mediated Facilitation of Behavioral Inhibition: Threat Processing and Defensive Reactivity during a Go/No-Go Task. *Emotion*. 17(2), 259.
- Grillon, C., Robinson, O.J., **O'Connell, K.**, Davis, A., Alvarez, G., Pine, D.S. & Ernst, M. (2017). Clinical anxiety promotes excessive response inhibition. *Psychological Medicine*. 47(3), 484-494.
- Grillon, C., **O'Connell, K.**, Lieberman, L., Alvarez, G., Geraci, M., Pine, D. & Ernst, M. (2017). Distinct responses to predictable and unpredictable threat in anxiety pathologies: effect of panic attack. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. 2(7), 575-581.
- Balderston, N.L., Quispe-Escudero, D., Hale, E., Davis, A., **O'Connell, K.**, Ernst, M. & Grillon, C. (2016). Working memory maintenance is sufficient to reduce state anxiety. *Psychophysiology*. 53(11), 1660-1668.
- Torrise, S., Robinson, O.J., **O'Connell, K.**, Davis, A., Balderston, N., Ernst, M. & Grillon, C. (2016). The neural basis of improved cognitive performance during anxiety by threat of shock. *Social Cognitive and Affective Neuroscience*. 11(11), 1677-1686.
- Balderston, N.L., Vytal, K., **O'Connell, K.**, Torrise, S., Ernst, M. & Grillon, C. (2016). Anxiety patients show reduced working memory related DLPFC activation during safety and threat. *Depression and Anxiety*. 34(1), 25-36.
- Torrise, S., **O'Connell, K.**, Davis, A., Reynolds, R., Balderston, N., Fudge, J., Grillon, C. & Ernst, M. (2015). Resting state connectivity of the bed nucleus of the stria terminalis at ultra-high field. *Human Brain Mapping*. 36(10), 4076-4088.
- Ernst, M., Hale, E. & **O'Connell, K.** (2014). Response to commentaries regarding the Triadic Systems Model perspective. *Brain and Cognition*. 89, 122-126.

Link to full publication list: <https://www.ncbi.nlm.nih.gov/myncbi/katherine.o'connell.2/bibliography/public/>

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## CHAPTERS

**O'Connell, K.**, Rhoads, S. A., Marsh, A.A. (in press). Fear: An Evolutionary Perspective on its Biological, Behavioral, and Communicative Features. In L. Al-Shawaf & T. Shackelford (Eds.). *The Oxford Handbook of Evolution and the Emotions*. Oxford University Press.

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## INVITED TALKS

**O'Connell, K.** (2021, forthcoming). Can acute pain tolerance be measured remotely? Experiences from an online trial conducted during COVID-19 social distancing. #WeAreAllInThisTogether Pain Research Centre COVID-19 Journal Club

**O'Connell, K.** (2019). Neural Response Patterns to Experienced and Empathic Pain and Links to Altruism. Oral presentation at The Organization for Human Brain Mapping Annual Meeting. Rome, Italy.

**O'Connell, K.** (2015). Connectivity of the Human BNST: Implications for normal and maladaptive anxiety. Oral presentation at the Association for Clinical and Translational Science. Washington, DC.

**O'Connell, K.** (2014). Functional connectivity of the human BNST using ultra high field fMRI: A key node for anxiety and addiction. Oral presentation at the Maryland Neuroimaging Retreat. Baltimore, MD.

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## SCHOLARLY TALKS

**O'Connell, K.** (2020) Social and emotional deficits in healthy adults and after stroke. Virtual oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Student Seminar.

**O'Connell, K.** (2019) Social and emotional deficits in healthy adults and after stroke. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Student Seminar.

**O'Connell, K.** (2018) A brain's perspective on perceiving emotion. Three-Minute Thesis oral presentation for Georgetown-Howard Universities Center for Clinical and Translational Science.

**O'Connell, K.** (2018) Determinants of social behavior and well-being in neurologically healthy adults and stroke patients. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Neurolunch.

**O'Connell, K.** (2017) Affects' effects: Influences on human prosocial and antisocial behavior. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Neurolunch.

**O'Connell, K.** (2016). Amygdala Midbrain Connectivity in Altruism. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Neurolunch.

**O'Connell, K.** (2015). Tractography-based segmentation of the striatum in adolescents. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Neurolunch.

**O'Connell, K.** (2015). Brain connectivity in children with and without dyslexia. Oral presentation at the Georgetown Interdisciplinary Program in Neuroscience Retreat.

**O'Connell, K.** (2015). Neural Mechanisms Underlying Enhanced Sustained Attention during Anxiety. Oral presentation at the NIH Postbaccalaureate Seminar Series.

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## SCHOLARLY POSTER PRESENTATIONS

**O'Connell, K.**, Marsh, A.A., Greenwald, A. (2021) Emotion recognition impairments and social well-being after right-hemisphere stroke. Virtual poster presentation at Social and Affective Neuroscience Society (SANS).

**O'Connell, K.**, Marsh, A.A. (2021) Modeling Variation in Empathic Sensitivity Using Social Reinforcement Learning. Virtual poster presented at Society for Personality and Social Psychology (SPSP).

**O'Connell, K.**, Greenwald, A., Marsh, A.A. (2020, cancelled) Emotion recognition accuracy and social outcomes after right-hemisphere stroke. Poster accepted for Social and Affective Neuroscience Society (SANS).

**O'Connell, K.**, Greenwald, A., Marsh, A.A. (2019) Impaired emotion recognition accuracy after right-hemisphere stroke. Poster presentation at Association for Clinical and Translational Science (ACTS).

**O'Connell, K.**, Padgett, B., Walsh, M., Marsh, A.A. (2018) Avoiding a stranger's loss: Modeling the influence of affect on socially-relevant behavior. Poster presentation at Social and Affective Neuroscience Society (SANS).

**O'Connell, K.**, Padgett, B., Marsh, A.A. (2018) The influence of affect on behavior: Using computational modeling to improve the identification of clinically-relevant social deficits. Poster presented at the Association for Clinical and Translational Science (ACTS).

**O'Connell, K.**, Brethel-Haurwitz, K., Cardinale, E., Vekaria, K., VanMeter, J., Marsh, A.A. (2017) Enhanced neural similarity of fear perception and fear experience in extraordinary altruists. Poster presented at Social and Affective Neuroscience Society (SANS).

**O'Connell, K.**, Brethel-Haurwitz, K., Cardinale, E., Vekaria, K., VanMeter, J., Marsh, A.A. (2017). Enhanced representational similarity between experienced and observed distress in real-world altruists. Poster presented at Georgetown Medical Center Student Research Day.

**O'Connell, K.**, Robinson, O.J., Ernst, M., Grillon, C. (2014). The impact of experimentally induced anxiety on a sustained attention task in anxious patients. Poster presented at the NIH Postbaccalaureate Poster Day.

**O'Connell, K.**, Robinson, O.J., Hale, E., Ernst, M., Grillon, C. (2014). Negative attentional bias in anxious patients during a Stroop task under threat of shock. Poster presented at the Society for Affective Science Conference (SAS).

**O'Connell, K.**, Robinson, O.J., Hale, E., Ernst, M., Grillon, C. (2014). A Stroop task in anxious individuals: Evidence for negative emotional bias interference. Poster presented at the NIMH Intramural Research Scientific Training Day.

**O'Connell, K.**, Nichols, T., Wilson, S.J. (2013). Sex differences in the white matter of cigarette smokers: A diffusion tensor imaging study. Poster presented at the Pennsylvania State University Undergraduate Research Exhibition.

## PRE-REGISTRATIONS

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**O'Connell, K.**, Marsh, A.A. (2021) Evaluating the impact of a social meditation training on acute pain experience. *Embargoed*.

**O'Connell, K.**, Marsh, A.A. (2020) COVID-19 Response and Sub-types of Antisocial Behaviors. [osf.io/4phx7](https://osf.io/4phx7)

**O'Connell, K.\***, Rhoads, S.A.\*, Marsh, A.A. (2019) Neural representations of social distance perception and social discounting in extraordinary, real-world altruists. *Embargoed*. \*equal contribution

## GRANTS

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2019	<b>F31 Ruth L. Kirschstein National Research Service Award (1 F31AT010423-01A1), NIH/NCCIH</b>
2018, 2019	<b>Student Research Grant Program Award, Georgetown University Medical Center Graduate Student Organization (\$5,000/yr)</b>
2017 - 2019	<b>TL1 Translational Biomedical Science Scholar Award (TL1TR001431), Georgetown-Howard Universities Center for Clinical and Translational Science, NIH/NCATS</b>

TEACHING

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2018-current	<b>Guest Lecturer (NSCI-503) “Psychophysics”,</b> <i>Georgetown University</i>
2017-current	<b>Guest Lecturer (ICOS-325) “Psychopathy”,</b> <i>Georgetown University</i>
Fall, 2018	<b>Neuroanatomy Teaching Assistant (ICOS-201),</b> <i>Georgetown University</i>
Fall, 2017	<b>Junior Course Director (ICOS-325),</b> <i>Georgetown University</i>
Fall, 2016	<b>Teaching Practicum Student (ICOS-325),</b> <i>Georgetown University</i>
Summer 2016	<b>Neuroanatomy Teaching Assistant,</b> <i>Georgetown University</i>

ADDITIONAL RESEARCH EXPERIENCE

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May, 2020	<b>Student Grant Reviewer,</b> Student Research Grant Program Award, <i>Georgetown University Medical Center Graduate Student Organization</i>
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AWARDS

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2019	<b>Course Travel Award,</b> <i>Georgetown University Medical Center Graduate Student Organization</i>
2018	<b>MRI Pilot Award,</b> <i>Georgetown University Center for Functional and Molecular Imaging</i>
2015	<b>Training Fellowship Award (T32 NS041231),</b> <i>Georgetown University Office of Biomedical Graduate Education</i>
2013 - 2015	<b>Intramural Research Training Award,</b> <i>NIH/NIMH</i>
2013	<b>Top 10% of Graduating Class,</b> <i>Pennsylvania State University (Eberly Col. Science)</i>
2011, 2012	<b>Robert E. Galbrith Award,</b> <i>Pennsylvania State University</i>
2010, 2011	<b>Big Ten Distinguished Scholar Award,</b> <i>Pennsylvania State University</i>

SKILLS

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- Programming languages – Python, MATLAB, tesh
- Neuroimaging analysis software – AFNI, FreeSurfer, FSL, The Decoding Toolbox, LINDA
- Statistical analysis software – STATA
- Stimulus presentation software – Psychtoolbox, PsychoPy, EPrime, TOBII, Qualtrics
- Human psychophysiology – EMG startle, HRV, EDA, eye-tracking

LINKS

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- Google Scholar: <https://scholar.google.com/citations?hl=en&user=Lnv6DCsAAAAJ>
- NCBI Bibliography: <https://www.ncbi.nlm.nih.gov/myncbi/katherine.o'connell.2/bibliography/public/>
- Open Science Framework: <https://osf.io/erb3t/>
- GitHub: <https://github.com/kmo5128/>