

February 2020

CURRICULUM VITAE
University of Pittsburgh
School of Medicine

BIOGRAPHICAL

Name: **Kymerly D. Young**

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Institute and Clinic
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EDUCATION and TRAINING

UNDERGRADUATE

2001-2005	Dickinson College Carlisle, PA	B.A. (2005) <i>Suma Cum Laude</i>	Psychology and Sociology (with honors)
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GRADUATE

2005-2007	American University Washington, DC	M.A. (2007)	Psychology: Behavior, Cognition, Neuroscience
2007-2009	American University Washington, DC	PhD (2009)	Psychology: Behavior, Cognition, Neuroscience

POSTGRADUATE

2010-2016	Laureate Institute for Brain Research Tulsa, OK	Postdoctoral Associate: Clinical Neuroscience	Advisors: Wayne C. Drevets, MD and Jerzy Bodurka, Ph.D
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APPOINTMENTS and POSITIONS

2014-2016	Laureate Institute for Brain Research, Tulsa, OK	Associate Investigator
04/2016-	University of Pittsburgh School of Medicine Pittsburgh, PA	Assistant Professor of Psychiatry

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Alpha Lambda Delta Honor Society	2002-present
Phi Beta Kappa Honor Society	2005-present
Psi Chi Psychology Honor Society	2004-present

Golden Key International Honor Society	2007-present
Society for Neuroscience	2008-present
Organization for Human Brain Mapping	2010-present
Society of Biological Psychiatry	2012-present
Association for Behavioral and Cognitive Therapies	2019-present

HONORS and AWARDS

The John Dickinson Scholarship for merit	2001-2005
Stephen D. Benson '56 Endowed Fellowship in Psychology – In recognition for excellence in undergraduate psychological research	2004
The Gaylord H. Patterson Memorial Sociology Prize	2005
The Joseph Middleton and Isabel Mullin Burns Memorial Prize for Achievement	2005
American University College of Arts and Sciences Graduate Student Research Mellon Award	2006
The Donald J. Nash Memorial Outstanding Oral Presentation Award for the 86 th Annual Meeting of the American Association for the Advancement of Science – Southwestern and Rocky Mountain Division	2012
The Society of Biological Psychiatry's 2017 Chairman's Choice Award	2017
The Laurel E. Zaks Memorial Research Award	2019

PUBLICATIONS

ORIGINAL PEER REVIEWED ARTICLES

1. **Young, K.** Peynircioğlu, Z.F., Hohman, T.J. Revelation effect in metamemory. *Psychon Bull Rev.* 2009: 16(5):952-56. PubMed PMID: 19815804.
2. **Young, K.**, Drevets, W.C., Schulkin, J., Erickson, K. Dose-dependent effects of hydrocortisone infusion of autobiographical memory recall. *Behav Neurosci.* 2011: 125(5):735-41. PubMed PMID: 21942435.
3. **Young, K.** Erickson, K., Nugent, A., Fromm, S., Mallinger, A., Furey, M., Drevets, W.C. Functional anatomy of autobiographical memory recall deficits in depression. *Psychol Med.* 2012: 42(2):345-58. PubMed PMID: 21798113.
4. **Young, K.**, Erickson, K., Drevets, W.C. Differential effects of emotionally versus neutrally cued autobiographical memories on performance of a subsequent cognitive task: Effects of task difficulty. *Front Psychol.* 2012: 8;3:299. PubMed PMID: 23060823.
5. **Young, K.**, Erickson, K., Drevets, W.C. Match between cue and memory valence during autobiographical memory recall in depressed subjects versus healthy controls. *Psychol Rep.* 2012: 111(1):129-48. PubMed PMID: 23045855.
6. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., Drevets, W.C. Behavioral and neuropsychological correlates of autobiographical memory deficits in depressed subjects and individuals at high risk for depression. *JAMA Psychiatry.* 2013: 70(7):698-708. PubMed PMID: 23677007.
7. **Young, K.**, Preskorn, S.H. Neuroscience basis of corticosteroid-induced changes in human cognitive and emotional processing: Implications for affective illness. *J Psychiatr Pract.* 2013: 19(4):309-15. PubMed PMID: 23852106.
8. Zotev, V., Phillips, R., **Young, K.**, Drevets, W., Bodurka, J. Prefrontal control of the amygdala during real-time fMRI neurofeedback training of emotion regulation. *PLoS One.* 2013: 8(11):e79184. PubMed PMID: 24223175.

9. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., Drevets, W.C. Functional neuroimaging of sex differences in autobiographical memory recall. *Hum Brain Mapp.* 2013; 34(12):3320-32. PubMed PMID: 22807028.
10. **Young, K.**, Zotev, V., Phillips, R., Misaki, M., Yuan, H., Drevets, W.C., Bodurka, J. Real-time fMRI neurofeedback training of amygdala activity in patients with major depressive disorder. *PLoS One.* 2014; 9(2):e88785. PubMed PMID: 24523939.
11. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., Drevets, W.C. Neurophysiological correlates of autobiographical memory deficits in currently and formerly depressed subjects. *Psychol Med.* 2014; 44(14):2951-63. PubMed PMID: 25065602.
12. Yuan, H., **Young, K.**, Phillips, R., Zotev, V., Misaki, M., Bodurka, J. Resting state functional connectivity modulation and sustained changes after real-time fMRI neurofeedback training in depression. *Brain Connect.* 2014; 4(9):690-701. PubMed PMID: 25329241.
13. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., Drevets, W.C. Functional neuroimaging correlates of autobiographical memory deficits in subjects at risk for depression. *Brain Sci.* 2015; 5(2):144-64 PubMed PMID: 25919972.
14. Misaki, M., Savitz, J., Zotev, V., Phillips, R., Yuan, H., **Young, K.**, Drevets, W., Bodurka, J. Contrast enhancement by combining T1- and T2- weighted structural brain MR images. *Magn Reson Med.* 2015;74:1609-1620. PubMed PMID: 25533337.
15. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., Drevets, W.C. Autobiographical Memory Deficits Correlate with Gray Matter Volume in Depressed and High Risk Participants. *Soc Cogn Affect Neurosci.* 2015 Nov;10(11):1588-95. PubMed PMID: 25925269.
16. **Young, K.**, Siegle, G., Bodurka, J., Drevets, W.C. Amygdala activity during autobiographical memory recall in depressed and vulnerable individuals; Association with symptom severity and autobiographical overgenerality. *Am J Psychiatry.* 2016;173(1):78-89. PubMed PMID: 26541813.
17. **Young, K.**, Drevets, W.C., Bodurka, J., Preskorn, S. S. Amygdala activity during autobiographical memory recall as a biomarker for residual symptoms in patients remitted from depression. *Psychiatry Res. Neuroimaging.* 2016; 248:159-61. PubMed PMID: 26809279
18. Zotev, V., Yuan, H., Misaki, M., Phillips, R., **Young, K.D.**, Feldner, M.T., Bodurka, J.B. Correlation between amygdala BOLD activity and frontal EEG asymmetry during real-time fMRI neurofeedback training in patients with depression. *NeuroImage: Clinical.* 2016; 11:224-38. PubMed PMID: 26958462
19. **Young, K.D.**, Drevets, W.C., Dantzer, R., Teague, K.T., Bodurka, J., Savitz, J.S. Kynurenine Pathway Metabolites are Associated with Hippocampal Activity during Autobiographical Memory Recall in Patients with Depression. *Brain Behav Immun.* 2016; 56:335-342. PubMed PMID: 27091600
20. **Young, K.**, Preskorn, S., Victor, T., Misaki, M., Bodurka, J., Drevets, W.C. The effect of mineralocorticoid and glucocorticoid receptor antagonism on autobiographical memory recall and amygdala response to implicit emotional stimuli. *Int J Neuropsychopharmacol.* 2016; 19(9):1-11. PubMed PMID: 27207909
21. **Young, K.**, Bodurka, J., Drevets, W.C. Differential Neural Correlates of Autobiographical Memory Recall in Bipolar and Unipolar Depression. *Bipolar Disord.* 2016; 18:571-582. PubMed PMID: 27813234
22. **Young, K.D.**, Siegle, G.J., Zotev, V., Phillips, R., Misaki, M., Yuan, H., Drevets, W.C., Bodurka, J. Randomized clinical trial of real-time fMRI amygdala neurofeedback for major depressive disorder: Effects on symptoms and autobiographical memory recall. *Am J Psychiatry.* 2017; 174(8):748-755. PMID: 28407727
23. **Young, K.D.** Misaki, M., Harmer, C.J., Victor, T., Zotev, V., Phillips, R., Siegle, G.J., Drevets, W.C., Bodurka, J. Real-Time fMRI Amygdala Neurofeedback Changes Positive

Information Processing in Major Depressive Disorder. *Biol Psychiatry*. 2017; 82(8):578-586. NIHMS 863613

24. **Young, K.D.**, Bodurka, J., Drevets, W.C. Functional Neuroimaging of Sex Differences in Autobiographical Memory Recall in Depression. *Psychol Med*. 2017; 47(15):2640-2652. PMID: 28446254
25. **Young, K.D.**, Siegle, G., Misaki, M., Zotev, V., Phillips, R., Drevets, W.C., Bodurka, J. Altered Task-Based and Resting-State Amygdala Functional Connectivity Following Real-Time fMRI Amygdala Neurofeedback Training in Major Depressive Disorder. *NeuroImage: Clinical*. 2017; 17:691-703. PMID: 29270356
26. Himmelstein, P., Barb, S., Finlayson, M.A., **Young, K.D.** Linguistic Analysis of the Autobiographical Memories of Individuals with Major Depressive Disorder. *PLOS ONE*. 2018; 13(11): e0207814. PMID: 30475918
27. Sorger, B., Scharnowski, F., Linden, D.E.J., Hampson, M., **Young, K.D.** Control freaks: Towards optimal selection of control conditions for fMRI neurofeedback studies. *NeuroImage*. 2019;186:256-265. PMID: 30423429
28. Bu, J., **Young, K.D.**, Hong, W., Ma, R., Song, H., Wang, Y., Ma, R., Song, H., Want, Y., Zhang, W., Hampson, M., Hendler, T., Zhang, X. Effect of de-activation of activity patterns related to smoking cue reactivity on nicotine addiction. *Brain*. 2019;142(6):1827-1841. PMID: 31135053
29. Ros, T., Enriquez-Geppert, S., Zotev, V., **Young, K.**, Wood, G., Whitfield-Gabrieli, S., et al. Consensus on the reporting and experimental design of clinical and cognitive-behavioral neurofeedback studies (CRED-nf checklist). *Brain*. In Press.

INVITED ARTICLES

1. **Young, K.D.**, Siegle, G.J., Zotev, V., Phillips, R., Misaki, M., Yuan H., Drevets, W., Bodurka, J. Amygdala Real-Time fMRI Neurofeedback for Major Depressive Disorder: A Review. *Psychiatry Clin Neurosci*. 2018; 72:466-481. PMID: 29687527
2. **Young, K.D.** Neurofeedback for Soldiers. *Nature Human Behaviour*. 2018.
3. **Young, K.D.** Neurofeedback for depression. *UPMC Synergies*, Winter 2019

PUBLISHED ABSTRACTS

1. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., & Drevets, W.C. The behavioral and functional anatomical correlates of autobiographical memory deficits associated with depression extend to individuals at high risk for developing depression. *Neuropsychopharmacology*. 2011 Dec;36 Suppl 1:S118
2. **Young, K.**, Phillips, R., Zotev, V., Drevets, W.C., & Bodurka, J. Self-regulation of amygdala activity with real-time fMRI neurofeedback in patients with depression. *Neuropsychopharmacology*. 2012 Dec;38 Suppl 1:S246
3. **Young, K.**, Phillips, R., Zotev, V., Yuan, H., Misaki, M., Drevets, W.C., & Bodurka, J. Successful self-modulation of amygdala hemodynamic activity alters depressive symptoms and emotional processing biases. *Biol. Psychiatry*. 2013 May;73(9) Supplement:185S.
4. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., & Drevets, W.C. Functional Neuroimaging Correlates of Autobiographical Memory Deficits in Subjects at Risk for Depression. *Biol. Psychiatry*. 2014 May;75(9) Supplement:54S.
5. **Young, K.**, Siegle, G., Bodurka, J., & Drevets, W.C. Amygdala activity during autobiographical memory in depressed and vulnerable individuals: fMRI evidence and initial intervention with neurofeedback. *Neuropsychopharmacology*. 2014 Dec;39 Suppl 1:S206
6. **Young, K.**, Siegle, G., Phillips, R., Zotev, V., Yuan, H., Misaki, M., Drevets, W.C., & Bodurka, J. Real-Time fMRI Amygdala Neurofeedback Improves Symptoms and Autobiographical Memory Performance in Depressed Individuals. *Biol. Psychiatry*. 2015 May; 77(9) Supplement:304S

7. **Young, K.**, Misaki, M., Victor, T., Drevets, W.C., & Bodurka, J. Real-time fMRI amygdala neurofeedback training normalizes the mood-congruent amygdala processing bias in depressed individuals. *Biol. Psychiatry*. 2016 May; 79(9) Supplement:323S
8. **Young, K.**, Siegle, G., Zotev, V., Drevets, W.C., & Bodurka, K. EEG correlates of real-time fMRI neurofeedback amygdala training in depression. *Biol. Psychiatry*. 2017 May; 81(10) Supplement: 379S
9. Barb, S., Huppert, T., Siegle, G., **Young, K.** Augmenting CBT with real-time fMRI amygdala neurofeedback training increases early response to therapy. *Biol. Psychiatry*. 2018 May; 83(9) Supplement: S188.

ABSTRACTS (not published in Scientific Journals)

Poster Presentations

1. Pente, M., Boghossian, L., **Young, K.**, & DiClemente, D. F. (2003, May). Is It Worth the Wait? The Effect of Product Desire and Waiting on Internet Shopping. Poster presented at The 28th Annual Meeting of the Association for Behavior Analysis International, San Francisco, CA.
2. **Young, K.**, Bierbaum, K., Gortakowski, M., Karp, J., McKnight, T., Rockman, L., & Abrams, R.L. (2004, April). Testing the subword limits of unconscious processing: The Nest-Hero-Lord experiment. Poster presented at the 15th Annual Saint Joseph's University Sigma Xi Student Research Symposium, Philadelphia, PA.
3. Rauhut, A. S., Velluto, J. L., **Young, K. D.** Gardner-Kutzy, L., Lawson, M. H., Hunter, L. R., Giacobbe, S., Gower, D. M., Fiedeldey, S. & Psychology 380 Class Participants. (2004, April). Bupropion attenuates nicotine-induced hypoactivity but does not alter nicotine-conditioned place preference. Poster presented at the 75th Annual Meeting of the Eastern Psychological Association, Washington, DC.
4. **Young, K.**, Bierbaum, K., Gortakowski, M., Honig, D., Karp, J., McKnight, T., Rockman, L., & Abrams, R. (2004, November). Unconscious gender priming enabled by a non-gender practice task. Poster presented at the Undergraduate Science Research Symposium, Haverford, PA.
5. **Young, K.** & Rauhut, A. (2005, February). Understanding the Caffeine Cue: The Role of the Alpha₁-Adrenergic Receptor in Caffeine-Induced Conditioned Taste Avoidance in Rats. Poster presented at the 5th Annual Biology Student Research Symposium, Carlisle, PA.
6. **Young, K.** & Rauhut, A. (2005, April). Understanding the Caffeine Cue: The Role of the Alpha₁-Adrenergic Receptor in Caffeine-Induced Conditioned Taste Avoidance in Rats. Poster presented at the 16th Annual Saint Joseph's University Sigma Xi Student Research Symposium, Philadelphia, PA.
7. Kimbrough, T., **Young, K.**, & Rauhut, A. S. (2005, November). Effects of bupropion on acquisition and expression of nicotine-conditioned place aversion in rats. Poster presented at the 35th Annual Meeting of the Society for Neuroscience, Washington, DC.
8. **Young, K.** & Peynircioglu, Z. (2006, November). The Revelation Effect in Metamemory. Poster presented at the 47th Annual Meeting of the Psychonomic Society, Huston, TX.
9. **Young, K.** (2008, August). Effect of Cue Valence on Autobiographical Memory Recall in Healthy Subjects and MDD Patients: A Pilot Study. Poster presented at the 2008 National Institutes of Health Summer Research Program Student Poster Day, Bethesda, MD.
10. **Young, K.** (2008, September). The Effect of Low and High Dose Hydrocortisone Infusion on Autobiographical Memory Specificity. Poster presented at the 12th Annual National Institute of Mental Health Division of Intramural Research Programs Scientific Retreat, Gettysburg, PA.
11. **Young, K.**, Erickson, K., Nugent, A., Fromm, S., Mallinger, A., Furey, M., & Drevets, W.C. (2010, June). Hemodynamic response in patients with MDD and healthy subjects during

- autobiographical memory recall. Poster presented at the 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.
12. **Young, K.**, Erickson, K., Nugent, A., Fromm, S., Mallinger, A., Furey, M., & Drevets, W.C. (2010, November). Differential hemodynamic response during autobiographical memory recall in depressed subjects versus healthy controls. Poster presented at the 40th Annual Meeting of the Society for Neuroscience, San Diego, CA.
 13. **Young, K.**, Bellgowan, P.S.F., & Drevets, W.C. (2011, June). Gender differences in autobiographical memory recall. Poster presented at the 17th Annual Meeting of the Organization for Human Brain Mapping, Quebec City, Canada.
 14. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., & Drevets, W.C. (2012, June). fMRI of autobiographical memory deficits in individuals with, and at risk for, developing depression. Poster presented at the 18th Annual Meeting of the Organization for Human Brain Mapping, Beijing, China.
 15. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., & Drevets, W.C. (2013, June). fMRI of autobiographical memory recall deficits in patients remitted from depression. Poster presented at the 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, Washington.
 16. **Young, K.**, Bellgowan, P.S.F., Bodurka, J., & Drevets, W.C. (2014, June). Autobiographical Memory Deficits Correlate with Gray Matter Volume in Depression and Depression Risk. Poster presented at the 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany.
 17. **Young, K.**, Zotev, V., Yuan, H., Phillips, R., Drevets, W.C., Siegle, G., & Bodurka, J. (2015, June). Repetitive rtfMRI Amygdala Neurofeedback Training Changes Amygdala Functional Connectivity in MDD. Poster presented at the 21st Annual Meeting of the Organization for Human Brain Mapping, Honolulu, Hawaii.
 18. **Young, K.**, Misaki, M., Victor, T., Siegle, G., Drevets, W., & Bodurka, J. (2016, June). Real-Time fMRI Amygdala Neurofeedback Normalizes a Mood-Congruent Processing Bias in Depression. Poster presented at the 22nd Annual Meeting of the Organization for Human Brain Mapping, Geneva, Switzerland.
 19. Scott, L., **Young, K.**, Vine, V., Ladouceur, C., Silk, J.S., Bylsma, L. (2019). Think Again: The Recall of Autobiographical Memories among Children at High vs Low Familial Risk for Depression. Poster presented at the 2019 Anxiety and Depression Association of America Conference, Chicago, Illinois.
 20. Compere, L., Barb, S., Lazzaro, S., Huppert, T., Siegle, G.J., **Young, K.D.** Sex differences during real-time fMRI amygdala neurofeedback for major depressive disorder. Poster presented at the 2019 Postdoctoral Data & Dine Symposium, May, Pittsburgh, PA (Winner, Best Poster Award).
 21. **Young, K.**, Lazzaro, S., Compere, L., Huppert, T., Siegle, G., Barb, S. (2019). Augmenting CBT with Real-time fMRI amygdala neurofeedback training increases early therapy response. Poster presented at the 25nd Annual Meeting of the Organization for Human Brain Mapping, June, Rome, Italy.
 22. Compere, L., Barb, S., Lazzaro, S., Huppert, T., Siegle, G.J., **Young, K.D.** (2019) Unidirectional rtfMRI amygdala neurofeedback training results in bidirectional control. Poster at the real-time functional imaging and neurofeedback conference, December, Maastricht, The Netherlands.

Oral/Podium Presentations

1. **Young, K.** (2003, April). Video Game Violence and Aggression in Elementary and Preschool Children: A Review of the Literature. Paper presented at the 23rd Annual Mid-Atlantic Undergraduate Social Research Conference, Grantham, PA.

2. DiClemente, D. F., **Young, K.**, Grinspan, J., Clyman, N., Winoker, M., Stephens, M., Meloni, A., Serafin, L., Branham, A., Fleming, M., Jackowski, M., Smith, P., Shea, K., Stangl, B., Pregmon, J. J., Breitenbach, M., & Bonneau, L. (2003, May). Increasing Student Motivation While Improving Customer Service at a Supermarket. Paper presented at The 28th Annual Meeting of the Association for Behavior Analysis International, San Francisco, CA.
3. **Young, K.** (2012, March). Behavioral and neurophysiological correlates of autobiographical memory deficits associated with depression and family history of depression. Oral Presentation at the 86th Annual Meeting of the American Association for the Advancement of Science Southwestern and Rocky Mountain Division, Tulsa, OK.
4. **Young, K.**, Zotev, V., Yuan, H., Phillips, R., Drevets, W.C., Seigle, G., & Bodurka, J. (2015, February). Changes in amygdala functional connectivity following rt-fMRI amygdala neurofeedback training in patients with major depressive disorder. Oral presentation at the 2nd International Conference on Real-time Functional Imaging and Neurofeedback, Gainesville, Florida.
5. **Young, K.**, Siegle, G., Phillips, R., Zotev, V., Yuan, H., Mikaki, M., Drevets, W., & Bodurka, J. (2016, March). Increasing the Amygdala's Response to Positive Autobiographical Memories: A Real-Time fMRI Neurofeedback Intervention for Major Depressive Disorder. Oral presentation at the 2016 Annual Conference of the Society for Affective Science, March, Chicago IL.
6. **Young, K.** (2017). Non-ROI Feedback as Control. In Young, K (Chair). Control Freaks: Selecting an experimental control for your neurofeedback study. Symposium at the real-time functional imaging and neurofeedback conference, December, Nara, Japan.
7. **Young, K.** (2017). Feasibility and Effectiveness of Maintaining the Blind In Sham/Alternate ROI Neurofeedback Studies. In H Lau & M. Kawato (Co-Chairs). On the feasibility and importance of double-blinded placebo control in neurofeedback studies. Symposium at the real-time functional imaging and neurofeedback conference, December, Nara, Japan.
8. **Young, K.** (2018). EEG Signature of Amygdala Activity during Real-time fMRI Neurofeedback Training for Depression. Oral presentation at the 2018 International Joint Meeting of the EEG & Clinical Neuroscience Society (ECNS), International Society for Neuroimaging in Psychiatry (ISNIP), International Society for Brain Electromagnetic Topography (ISBET), & International Society for Functional Source Imaging (ISFSI), September, Pittsburgh, PA.
9. **Young, K.** (2019). Augmenting Cognitive Behavioral Therapy with Real-time fMRI amygdala neurofeedback training increases early response to therapy. In Caitlin Hitchcock (chair). Enhancing Autobiographical Memory to Improve Treatment of Depression and Posttraumatic Stress Disorder: A Translation of Experimental Cognitive Science into Clinical Practice. Symposium presentation at the 31st Association for Psychological Science Annual Convention, May, Washington, DC.

PROFESSIONAL ACTIVITIES

TEACHING

Medical Student Teaching (University of Pittsburgh School of Medicine):

2019-2020	Small Group Facilitator	Behavioral Medicine (MS1)	10 medical students
	2 sessions/semester for 2 semesters		
2019-2020	Small Group Facilitator	Introduction to Psychiatry (MS1)	10 medical students
	3 sessions/semester for 2 semesters		

Graduate Student Teaching (University of Pittsburgh School of Medicine)

2019	Lecturer	Program in Affective Neuroscience Fall Training	20 graduate students,
	2 day intensive course in Multimodal Neuroimaging		postdocs, junior faculty

Graduate Student Teaching (American University):

- 2007 Teaching Assistant Memory and Cognition (PSYC-575) 20 graduate students
2 sessions/week for 2 semesters
- 2007 Teaching Assistant Autobiographical Memory (PSYC-597) 15 graduate students
1 session/week for 1 semester

Undergraduate Student Teaching (Dickinson College):

- 2004 Teaching Assistant Design of Psych. Research (PSYC-201) 40 undergraduates
3 sessions/week for 1 semester
- 2004-05 Teaching Assistant Analysis of Psychological Data (PSYC-202) 40 undergraduates
2 sessions/week for 3 semesters

Undergraduate Student Teaching (American University):

- 2005-06 Laboratory Instructor Psych. as a Natural Science (PSYC-115) 30 undergraduates
1 session/week for 2 semesters
- 2006 Teaching Assistant Psychology of Music (PSYC-415) 30 undergraduates
1 session/week for 1 semester
- 2008 Teaching Assistant Research Design and Methods:
Experimental Psychology (PSYC-480) 30 undergraduates
2 sessions/week for 1 semester
- 2008-09 Teaching Assistant Psych. as a Natural Science (PSYC-115) 300 undergraduates
2 sessions/week for 2 semesters

Mentoring

Junior Faculty

Current

2018-present, Mary Woody, PhD, University of Pittsburgh, Department of Psychiatry, K award consultant. Topic: EEG neurofeedback intervention development.

Postdoctoral Scholars

Current

2018-present, Laure Compere, PhD, University of Pittsburgh, Department of Psychiatry, primary mentor. Topic: real-time fMRI neurofeedback for depression with a focus on gender differences.

Achievements: Best Poster Award from the University of Pittsburgh Postdoctoral Association. 2019, Pittsburgh, PA

June 2020 (Start Date) Rajnish K. Gupta, PhD, University of Pittsburgh, Department of Psychiatry, primary mentor. Topic: EEG neurofeedback interventions for mood and anxiety disorders; Concurrent fMRI/EEG neurofeedback.

Graduate Students

Current

2018-present Marlene Strege, Virginia Tech Clinical Psychology PhD program, secondary mentor. Topic: fMRI design and analysis with emphasis on neuroimaging predictors of clinical response.

Undergraduate Students

Current

2019-present Sara Westcott, University of Pittsburgh, Department of Psychology and Biology, first experiences in research mentor. Topic: Odor cues and autobiographical memory specificity in depression

2019-present Breanna Jones, University of Pittsburgh, Department of Psychology and Neuroscience, first experiences in research mentor. Topic: Odor cues and autobiographical memory specificity in depression

2019-present Kathryn Treese, University of Pittsburgh, Department of Psychology and

Neuroscience, first experiences in research mentor. Topic: fMRI informed EEG based amygdala neurofeedback

Former

2016-2018 Philip Himmelstein, University of Pittsburgh, Department of Psychology and Neuroscience, undergraduate research, mentor. Topic: Autobiographical Memory recall and linguistic features of depressed individuals. *Currently a Post-Graduate Associate at the Yale Stress Center.*

2018 Rebecca Auron, University of Pittsburgh, Department of Psychology, undergraduate research, secondary mentor. Topic: fMRI design and implementation. *Currently Applying to Graduate Schools.*

PostBaccalaureate Students

Current

2018-present Sarah Lazzaro, University of Pittsburgh class of 2018, mentor. Topic: fMRI design and analysis, EEG neurofeedback implementation

2019-present Gia Canovali, California University of Pennsylvania class of 2019, mentor. Topic: using fMRI to understand etiology and treatment of mood and anxiety disorders.

Former

2012-2016, Raquel Phillips, Laureate Institute for Brain Research, co-mentor. Topic: fMRI design and analysis *Currently a research coordinator at Panorama Orthopedics and Spine Center*

2015-2016, Austin Mace, Laureate Institute for Brain Research, primary mentor. Clinical trial design and implementation. *Graduated 2018 from the Masters Psychology Program at Oklahoma State University.*

RESEARCH

Current Grant Support					
1	R61MH115927	Amygdala Neurofeedback for Treatment Resistant Depression	Role: PI Effort: 48% (4.8cm)	2018-2023	Direct \$2,070,355 Indirect \$786,207
2	1R01MH116943	Using fMRI of Autobiographical Memory Recall to Determine Risk and Resilience Endophenotypes in Familial Major Depressive Disorder	Role: PI Effort: 50% (6cm)	2019-2024	Direct \$2,099,086 Indirect \$1,005,880
Prior Grant Support:					
1	R00MH101235	Effects of Amygdala Neurofeedback on Depressive Symptoms and Processing Biases	Role: PI Effort: 50% (6cm)	2016-April 2020	\$747,000
1	K99MH101235	Effects of Amygdala Neurofeedback on Depressive Symptoms and Processing Biases	Role: PI Effort: 75% (9cm)	2014-2016	\$180,000
2	22347 (NARSAD Young Investigator)	Clinical Trial of Real-Time fMRI Amygdala Neurofeedback as a Depression Treatment	Role: PI Effort: N/A	2015-2017	\$65,000

Other Related Research Activities

Journal Refereeing

Editorial Board Member	
Brain Sciences	2020
Guest Editor of Special Issue on Clinical applications of imaging-based neurofeedback for <i>NeuroImage Clinical</i>	2020
Ad hoc reviewer for:	
Frontiers in Neuroscience	2012
Psychological Reports	2012
Eating and Weight Disorders	2013-2014
BioMed Research International	2014-2016
Brain Imaging and Behavior	2014-2018
Neuropsychiatric Disease and Treatment	2014
PLOS ONE	2014-2018
Psychological Medicine	2014-2018
Social Cognitive and Affective Neuroscience	2014-2018
British Journal of Education, Society & Behavioral Science	2015
British Journal of Medicine and Medical Research	2015
Cognition and Emotion	2015
Memory and Cognition	2015
Memory	2016-present
Neuropsychological Rehabilitation	2015
Neuroscience	2015
The American Journal of Psychiatry	2015-present
The Journal of General Psychology	2015
Journal of Affective Disorders	2017 -present
NeuroImage	2017 -present
AIMS Neuroscience	2017 -2018
Australian & New Zealand Journal of Psychiatry	2018
Behavioural Brain Research	2018 - 2019
Biological Psychiatry: Cognitive Neuroscience and Neuroimaging	2018 - 2019
Brain Sciences	2018 - present
Cognitive and Behavioral Neurology	2018
Journal of the International Neuropsychological Society	2018
Nature Human Behavior	2018
Neuropsychiatric Disease and Treatment	2018
Psychiatry Research: Neuroimaging	2018
Sensors	2018
Trends in Cognitive Sciences	2018
Cognitive Affective and Behavioral Neuroscience	2019-present
Cognitive Therapy and Research	2019
Developmental Cognitive Neuroscience	2019
Neuroscience & Biobehavioral Reviews	2019
Addiction	2020
Biological Psychiatry	2020
Brain and Behavior	2020
Cognitive Behavior Therapy	2020
Cognitive Neuroscience	2020
Abstract Reviewing	
Organization for Human Brain Mapping	2016-present
Real-Time Functional Imaging and Neurofeedback Conference	2017

Grant Reviewing

Czech Health Research Council	2017
The French National Research Agency	2018
National Institute of Mental Health Special Emphasis Panel R6133 and R01 Clinical Trial Awards (served 4 times)	2018-present
The Netherlands Organization for Scientific Research	2019
The Swiss National Science Foundation	2020

CURRENT RESEARCH INTERESTS

My research program investigates deficits in autobiographical memory recall in depression and related conditions, and develops therapeutic applications that utilize and target autobiographical memory recall. Most recently this has involved training patients with depression to use positive autobiographical memories to regulate amygdala activity in real-time using fMRI.

Research Experience

2003-2004	Cumberland County Prison Mental Health Intern <ul style="list-style-type: none">• Interviewed inmates for classification• Taught "Thinking for a Change" to inmates• Assisted Mental Health Case Manager
2004-2005	Dickinson College Research Assistant Advisor: Anthony Rauhut, Ph.D. Pharmacology and Addiction Research Lab <ul style="list-style-type: none">• Mixed drugs, cared for, injected, and ran rats in an experiment testing the effects of bupropion on nicotine-conditioned place preference, aversion, and a caffeine-induced conditioned-taste avoidance• Analyzed data using SPSS, designed experiments using Med-PC
2006-2009	National Institute of Mental Health Postbac Intramural Research Training Award Program Advisors: Wayne C. Drevets, M.D. and Kristine Erickson, Ph.D. Section on Neuroimaging of Mood and Anxiety Disorders <ul style="list-style-type: none">• Assisted in collecting and analyzing data for a study examining the effects of hydrocortisol administration on cognitive and emotional processing• Analyze data using SPSS
2009-2010	National Institute of Mental Health Contractor / Research Analyst Advisor: Wayne C. Drevets, M.D. Section on Neuroimaging of Mood and Anxiety Disorders <ul style="list-style-type: none">• Responsible for researching and designing an experiment using fMRI to study autobiographical memory in depressed patients• Analyze fMRI data using Matlab7 and SPM5
2010-2016	Laureate Institute for Brain Research Postdoctoral Associate/Associate Investigator Advisors: Wayne C. Drevets, M.D. and Jerzy Bodurka, Ph.D./ <ul style="list-style-type: none">• Responsible for researching and designing experiments using fMRI and pharmacological manipulation to examine autobiographical memory recall in depression and related conditions.

2016-present

- Conduct real-time fMRI neurofeedback in individuals with depression to investigate clinical potential.
- Analyze fMRI data using Afni, FreeSurfer, and Matlab

Biological Affect Modulation (BAM) Laboratory, Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine

My lab examines physiological mechanisms of emotional information and autobiographical memory processing in healthy individuals and individuals with mood and anxiety disorders through behavioral, physiological (EEG, galvanic skin response, heart rate, respiration, pupil dilation), and functional imaging methods. Our focus is on understanding onset and recovery from mental illness and developing new neuroscience-derived behavioral treatments, including real-time fMRI and EEG neurofeedback. Primary collaborators include Greg Siegle, PhD, Wayne Drevets, MD., and Jerzy Bodurka, PhD.

INVITED SEMINARS AND LECTURESHIPS

1. 2013. Self-regulation of amygdala activity with real-time fMRI neurofeedback in healthy subjects and depressed individuals. 20th Annual Zarrow Mental Health Symposium, September, Tulsa OK.
2. 2014. From autobiographical memory to neurofeedback: The development of a real-time fMRI neurofeedback intervention for depression. Colloquium, University of Pittsburgh School of Medicine, September, Pittsburgh, PA.
3. 2014. Training the amygdala: The development of a real-time fMRI neurofeedback intervention for depression. Ground Rounds, Kansas University School of Medicine, October, Wichita, KS.
4. 2015. Training the amygdala: The development of a real-time fMRI neurofeedback intervention for depression. Colloquium, University of Texas Southwestern Medical Center, March, Dallas, TX.
5. 2015. Training the amygdala: The development of a real-time fMRI neurofeedback intervention for depression. Grand Rounds, Duke University Psychiatry, April, Durham, NC.
6. 2015. Translational Neuroscience in Depression: Neurofeedback and Beyond. Colloquium, Western Psychiatric Institute and Clinic, University of Pittsburgh Medical Center, August, Pittsburgh, PA.
7. 2016. Translational neuroscience in depression: From autobiographical memory deficits to a real-time fMRI neurofeedback intervention. International Bipolar Foundation Webinar, March, available at <https://vimeo.com/158930166>.
8. 2016. Neurofeedback for Emotion Change in Psychopathology. Annual Conference of the Society for Affective Science, March, Chicago, IL.
9. 2016. Real-Time fMRI Amygdala Neurofeedback Training for Major Depressive Disorder. Annual Convention of the Association for Psychological Science, May, Chicago, IL.
10. 2016. Real-Time fMRI Amygdala Neurofeedback Training for Major Depressive Disorder. Colloquium, Mood and Brain Lab, University of Pittsburgh School of Medicine, September, Pittsburgh PA.
11. 2016. Mechanistically Guided Neurofeedback/Neurostimulation for CBT: Depression and fMRI Neurofeedback. Annual Convention of the Association for Behavioral and Cognitive Therapies, October, New York, NY.
12. 2017. Neurofeedback to Increase Positive Affect in Depression". Researchers on the Rise Lecture, University of Pittsburgh School of Medicine Department of Psychiatry, January, Pittsburgh, PA.

13. 2017. Brain Plasticity and fMRI Neurofeedback.” University of Pittsburgh Sports Medicine Seminar, University of Pittsburgh School of Health and Rehabilitation Sciences, February, Pittsburgh, PA.
14. 2019. Critical Issues When Designing Randomized Clinical Trials for Neurofeedback Interventions. NIMH Critical Examination of Real-Time fMRI Neurofeedback meeting, March, Washington, DC.
15. 2019. Linking Biological, Psychological, and Philosophical Understanding of Autobiographical Memory. Panel at the Special Interest Meeting and Autobiographical Memory and Psychopathology, December, Cambridge University, United Kingdom.
16. 2019. Augmenting Cognitive Behavioral Therapy with Real-time fMRI amygdala neurofeedback training increases early response to therapy. Special Interest Meeting and Autobiographical Memory and Psychopathology, December, Cambridge University, United Kingdom.
17. 2019. Critical Issues for Designing real-time fMRI Neurofeedback Clinical Trials. Keynote address to the 2019 Real-Time Functional Imaging and Neurofeedback Conference, December, Maastricht, The Netherlands.

Media interviews

2013, August	Your Memory on Depression.	<i>Prevention</i>
2016, January	Training the Brain to Cope with Depression.	<i>Wall Street Journal</i>
2016, March	Positive Feedback.	<i>APA Monitor on Psychology</i>
2016, August	HEALTH: The latest Treatments. Depression.	<i>Men’s Health Magazine</i>
2017, May	A strange technique that involves observing your own brain activity could be the future of treating depression.	<i>Business Insider</i>
2017, May	Can neurofeedback help you think your way out of depression	<i>Philadelphia Inquirer</i>
2017, Fall	Pixie Dust: Think happy thoughts... In a scanner, to train your amygdala	<i>Pitt Med</i>
2017, December	Psychiatrist Investigates ways that neurofeedback may lessen depression	<i>PittWire</i>

Quoted by NPR “Skunk Bear” August 2018, Reuters Health, January 2019

SERVICE

University and Medical School Service

2016-2018	Interviewer	Candidates for the MD/PhD Residency Program
2017	Member	Magnetic Resonance Research Center (MRRC) Users Advisory Group
2017-2019	Reviewer	Psychiatry department’s Research Review Committee
2018-2019	Interviewer	Candidates for K-level faculty positions
2019	Judge & Table Host	Postdoctoral Data & Dine Symposium
2019	Coordinator	Transdisciplinary Research in Emotion Neuroscience and Development (TREND) Artist in Residence Program featuring Harvey “Frzy” Daniels who examined his own brain processes during speed rapping using fMRI and EEG.
2020	Interviewer	Candidates for the WPIC Psychiatry Residence Program

Local/Community Service

2012-2014	Judge	The University of Oklahoma Health Sciences Center Research Forum
2014-2015	Member	Neuromodulation and Behavioral Workgroups – Laureate Institute

2019 Contributor for Brain Research
ABCT Think Tank on Neuroscience Video – “Seeing Inside the Box: How Clinicians can use Contemporary Neurocognitive Research in the Real World.”
https://www.youtube.com/watch?v=1aAfXjtbA7E&list=PLftisNDs50Ysf4iSTBA5WEn7t_-m8Mx7L&index=8

International Service

2017 Chair Control Freaks: Selecting an experimental control for your neurofeedback study. Real-Time functional imaging and neurofeedback conference, December, Nara, Japan.

2017 Program Committee Real-Time Functional Imaging and Neurofeedback Conference

2019 Organizing Committee Real-Time Functional Imaging and Neurofeedback Conference

2020 Program Committee Society of Biological Psychiatry