

Philip A. Spechler, M.A.

Predoctoral Trainee (PhD Student)

Curriculum Vitae

Contact Information

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Education

University of Vermont

M.A. General/Experimental Psychology

January 2017

Ph.D. General/Experimental Psychology

Expected Completion May 2019

University of Pittsburgh

B.A. History and Philosophy of Science

May 2010

Peer Reviewed Publications

1. **Spechler, P.A.**, Chararani, B., Orr, C., Mackey, S., Higgins, S.T., ... Garavan, H., Althoff, R.R. & the IMAGEN consortium (*in press*). Neuroimaging evidence for right orbitofrontal cortex differences in adolescents with emotional and behavioral dysregulation. *Journal of the American Academy of Child & Adolescent Psychiatry*.
2. Orr, C., **Spechler, P.A.**, Cao, Z., Albaugh, M., Chararani, B., Mackey, S., D'Souza, D., Allgaier, N., ... Garavan, H. & the IMAGEN consortium (*in press*). Grey Matter Volume Differences Associated with Extremely Low Levels of Cannabis Use in Adolescence. *Journal of Neuroscience*.
3. Mackey, S., Allgaier, N., Chararani, B., **Spechler, P.A.**, Orr, C., ... Garavan, H. & the ENIGMA Addiction Working Group (*in press*). Mega-Analysis of Grey Matter Volume in Substance Dependence: General and Substance-Specific Regional Effects. *American Journal of Psychiatry*.
4. Papanastasiou, E., Mouchlianitis, E., Joyce, D.W., ... **Spechler, P.**, et al. (2018). Examination of the Neural Basis of Psychoticlike Experiences in Adolescence During Reward Processing. *JAMA Psychiatry*. 75(10), 1043-1051.
5. **Spechler, P.A.**, Allgaier, N., Chararani, B., Whelan, R., Orr, C., Albaugh, M., D'Alberto, N., Higgins, S.T., Hudson, K.E., Mackey, S., Potter, A., ... Althoff, R.R., Garavan, H. & the IMAGEN consortium (2018). The Initiation of Cannabis Use in Adolescence is Predicted by Sex-Specific Psychosocial and Neurobiological Features. *European Journal of Neuroscience*.

6. Chaarani, B., **Spechler, P.A.**, Ivanciu, A., Snowe, M., Nickerson, J.P., Higgins, S.T., & Garavan, H. (2018). Multimodal Neuroimaging Differences in Nicotine Abstinent Smokers Versus Satiated Smokers. *Nicotine & Tobacco Research*, 1, 9.
7. D'Alberto, N., Chaarani, B., Orr, C.A., **Spechler, P.A.**, Albaugh, M.D., Allgaier, N., ... Garavan, H. & the IMAGEN Consortium. (2018). Individual differences in stop-related activity are inflated by the adaptive algorithm in the stop signal task. *Human Brain Mapping*.
8. Dougherty, L., Schwartz, K. T., Kryza-Lacombe, M., Weisberg, J., **Spechler, P.A.**, & Wiggins, J. L. (2018). Preschool and School-Age Irritability Predict Reward-Related Brain Function. *Journal of the American Academy of Child & Adolescent Psychiatry*. 57(6), 407-417.
9. Albaugh, M.D., Ivanova, M., Chaarani, B., Orr, C., Allgaier, N., Althof, R.R., D'Alberto, N., Hudson, K., Mackey, S., **Spechler, P.A.**, ...Alexandra S. Potter & the IMAGEN Consortium. (2018). Ventromedial prefrontal volume in adolescence predicts hyperactive/inattentive symptoms in adulthood. *Cerebral Cortex*.
10. Bourque, J., **Spechler, P.A.**, Potvin, S., Whelan, R., Banaschewski, T., Bokde, A. L., ... Conrod, P. & the IMAGEN Consortium. (2017). Functional neuroimaging predictors of self-reported psychotic symptoms in adolescents. *American Journal of Psychiatry*. 174(6), 566-575.
11. Albaugh, M.D., Orr, C., Chaarani, B., Althoff, R.R., Allgaier, N., D'Alberto, N., Hudson, K.E., **Spechler, P.A.**, ... Garavan, H. & the IMAGEN Consortium. (2017). Inattention and reaction time variability are linked to ventromedial prefrontal volume in adolescents. *Biological Psychiatry*. 82 (9), 660-668.
12. Wiggins, J. L., Schwartz, K. T., Kryza-Lacombe, M., **Spechler, P.A.**, Blankenship, S. L., & Dougherty, L. (2017). Neural reactivity to reward in school-age offspring of depressed mothers. *Journal of Affective Disorders*, 214, 81-88.
13. Mackey, S., Chaarani, B., Kan, K. J., **Spechler, P.A.**, Orr, C., Banaschewski, T., ... Garavan, H. & the IMAGEN Consortium (2016). Brain regions related to impulsivity mediate the effects of early adversity on antisocial behavior. *Biological Psychiatry*. 82 (4), 275-282
14. **Spechler, P.A.**, Orr, C. A., Chaarani, B., Kan, K.-J., Mackey, S., Morton, A., ... Garavan, H & IMAGEN Consortium. (2015). Cannabis use in early adolescence: Evidence of amygdala hypersensitivity to signals of threat. *Developmental Cognitive Neuroscience*, 16, 63–70.
15. Dougherty, L. R., Blankenship, S. L., **Spechler, P.A.**, Padmala, S., & Pessoa, L. (2015). An fMRI Pilot Study of Cognitive Reappraisal in Children: Divergent Effects on Brain and Behavior. *Journal of Psychopathology and Behavioral Assessment*, 37(4), 634-644.
16. Tracy, J.I., Osipowicz, K., **Spechler, P.**, Sharan, A., Skidmore, C., Doucet, G., & Sperling, M. (2014). Functional Connectivity Evidence of Cortico-Cortico Inhibition in Temporal Lobe Epilepsy. *Human Brain Mapping*. 35(1), 353-366.
17. Choi, J.M., Padmala, S., **Spechler, P.**, & Pessoa, L. (2013) Pervasive competition between threat and reward in the brain. *Social, Cognitive, and Affective Neuroscience*. 9 (6), 737-750.

Manuscripts Under Review

1. Hudson, K.E., **Spechler, P.A.**, Althoff, R.R., Albaugh, M.D., Chararani, B., Orr, C., Allgaier, N., ... Garavan, H. & the IMAGEN consortium. Multi-modal predictors of internalizing disorders in adolescents: Assessing dimensional and categorical impairment.
2. Chararani, B., Kan, KJ, Mackey, S., **Spechler, P.A.**, Potter, A., Orr, C., Hudson, K.E., ... Garavan, H., Althoff, R.R. & the IMAGEN consortium. Neural and Genetic Correlates of Adolescent Irritability and its Comorbidity with Psychiatric Disorders.
3. Chararani, B., Mackey, S., Kan, KJ, **Spechler, P.A.**, Potter, A., Orr, C., Hudson, K.E., ... Althoff, R.R., Garavan, H. & the IMAGEN consortium. CHRNA5 polymorphism and dose response associations between adolescent smoking and ventromedial prefrontal cortex.
4. Albaugh, M., Hudziak, J.J., Orr, C., **Spechler, P.A.**, Chararani, B., Mackey, S., Lepage, C. Fonov, V., Rioux, P., Evans, A., ... Garavan, H. and the IMAGEN Consortium. Amygdalar reactivity is associated with prefrontal cortical thickness in a large population-based sample of adolescents.
5. Ivanov, I., Parvaz, M., Velthorst, E., Sandin, S., Shiak, R., Gan, G., **Spechler, P.A.**, Mackey, S., ... & the IMAGEN Consortium. Substance use initiation in drug naïve adolescents – possible predictors and consequences, results from a large cohort naturalistic study.
6. Albaugh, M., Hudziak, J.J., Ing, A., Chararani, B., ... **Spechler, P.A.**, ... Garavan, H., & Potter, A. White matter microstructure is associated with hyperactive/inattentive symptomatology and polygenic risk for attention-deficit/hyperactivity disorder in a population-based sample of adolescents

Manuscripts In Preparation

1. **Spechler, P.A.**, Chararani, B., Allgaier, N., ... Althoff, R.R., Garavan, H. & the IMAGEN consortium. Predicting Adolescent Cannabis Use from Binge Drinking Using Random Forests.
2. Chararani, B., **Spechler, P.A.**, Garavan H., Adise, S., Ivanciu, A., & Higgins, S.T. Characterizing the neurobiology of nicotine dependence using high-resolution multimodal neuroimaging.

Published Book Chapters

1. Chararani, B., **Spechler, P. A.**, Hudson, K. E., Foxe, J. J., Potter, A. S. and Garavan, H. (2017) The Neural Basis of Response Inhibition and Substance Abuse, in *The Wiley Handbook of Cognitive Control* (ed T. Egner), John Wiley & Sons, Ltd, Chichester, UK.
2. **Spechler, P. A.**, Chararani, B., Hudson, K. E., Potter, A., Foxe, J. J., & Garavan, H. (2016). Response inhibition and addiction medicine: from use to abstinence. *Progress in Brain Research*, 223, 143-164.

Awards

1. Larner College of Medicine, University of Vermont, Excellence in Research Award (Nominated 2018).
2. Larner College of Medicine, University of Vermont, Excellence in Research Award (Nominated 2016).
3. University of Vermont, Graduate Student Senate Mini Grant. (\$300 to attend OHBM 2016).
4. University of Vermont, Graduate Student Senate Mini Grant. (\$600 to attend OHBM 2015).

Editorial Activity

Addiction (Ad-hoc Reviewer)

Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP, Ad-hoc Reviewer)

Professional Training

Human Connectome Project (HCP) Course
“Exploring the Human Connectome”

August 2016
Harvard Medical School, Boston, MA

Oral Presentations

1. **Spechler, P.A.** Predicting Cannabis Use in Adolescent Males and Females from Biobehavioral Data. Oral Presentation at the Neuroscience, Behavior and Health Research Forum for the Vermont Society for Neuroscience. 2017 January 21. Burlington, VT.
2. **Spechler, P.A.** Neural Correlates of Cue Reactivity in Smokers vs. Controls. Oral Presentation at the 26th Annual VCBH Retreat. 2016 August 18. Vergennes, VT

Poster Presentations (Selection)

1. **Spechler, P.A.**, Garavan, H., Ivanciu, A., Charani, B., Adise, S., Higgins, S. Characterizing the neurobiology of nicotine dependence using multimodal human neuroimaging. Poster Presented at: Society for Neuroscience; 2018 November 5; San Diego, CA. USA.
2. **Spechler, P.A.**, Hudson, K., Charani, B., Albaugh, M., Allgaier, N., D’Alberto, N., Mackey, S., Orr, C., Althoff, R., Garavan, H., and the IMAGEN consortium. Neurobiological antecedents of self-harm and suicidal behavior in adolescence. Poster session presented at: OHBM 2017. Annual conference for the Organization for Human Brain Mapping; 2017 June 28; Vancouver, Canada.
3. **Spechler, P.A.**, Charani, B., Ivanciu, A., Higgins, S.T., Garavan, H. Multimodal Neuroimaging Differences in Nicotine Abstinent vs. Satiated Smokers. Poster session presented at: SRNT 2017 Annual conference for the Society for Research on Nicotine and Tobacco; 2017 March 11; Florence, Italy.
4. **Spechler, P.A.**, Allgaier, A., Charani, B., Mackey, S., Hudson, K., Orr, K., D’Alberto, N., Whelan, R., Jollans, L., Watts, R., Althoff, R., Potter, A., Garavan, H., IMAGEN consortium. Predicting

adolescent drug use from neuroimaging data yields sex- and drug-specific effects. Poster session presented at: OHBM 2016. Annual conference for the Organization for Human Brain Mapping; 2016 June 30; Geneva, Switzerland.

5. **Spechler, P.A.**, Allgaier, N., Jollans, L., Chaarani, B., Hudson, K.E., Mackey, S., Watts, R., Orr, C., Althoff, R., Whelan, R., Garavan, H. Predicting adolescent cannabis use in males and females from multimodal data. Poster presented at the National Institutes of Health (NIH) “Marijuana and Cannabinoids: A Neuroscience Research Summit”. 2016 March 22; Bethesda, MD.
6. **Spechler, P.A.**, Jollans, E., Chaarani, B., Higgins, S.T., Garavan, H., Whelan, R. Predicting cigarette use in adolescence using multimodal brain and psychometric data. Poster session presented at: SRNT 2016., Annual conference for the Society for Research on Nicotine and Tobacco; 2016 March 03; Chicago, IL.
7. **Spechler, P.A.**, Orr, C., Higgins, S.T., Althoff, R.A., Chaarani, B., Kan, K.J., Mackey, S., Morton, A., Snowe, M.P., Garavan, H. Cannabis use in early adolescence is characterized by increased amygdala reactivity to threat signals. Poster session presented at: OHBM 2015. Annual conference for the Organization for Human Brain Mapping; 2015 June 13; Honolulu, HI.
8. **Spechler, P.**, Orr, C., Higgins, S.T., Althoff, R.A., Chaarani, B., Kan, K.J., Mackey, S., Morton, A., Snowe, M.P., Garavan, H. Structural brain differences in dysregulated youth. Poster session presented at: OHBM 2015., Annual conference for the Organization for Human Brain Mapping; 2015 June 13; Honolulu, HI.
9. **Spechler, P.**, Orr, C., Higgins, S.T., Althoff, R.A., Chaarani, B., Kan, K.J., Mackey, S., Morton, A., Snowe, M.P., Garavan, H. Predicting cannabis use in adolescence using multimodal brain and phenotype data. Poster session presented at: OHBM 2015., Annual conference for the Organization for Human Brain Mapping; 2015 June 16; Honolulu, HI.
10. **Spechler, P.**, Blankenship, S., Padmala, S., Pessoa, L., & Dougherty, L. The Neural Basis of Emotion Regulation in Young Children. Poster session presented at: Neuroscience 2013, Annual conference for the Society for Neuroscience; 2013 November 11; San Diego, CA.
11. Choi, J.M., Padmala, S., **Spechler, P.**, & Pessoa, L. Interactions between threat and anticipation of monetary gains and losses. Poster session presented at: Neuroscience 2013, Annual conference for the Society for Neuroscience; 2013 November 11; San Diego, CA.
12. Choi, J.M., Padmala, S., **Spechler, P.**, & Pessoa, L. Competition between reward and threat processing. Poster session presented at: Neuroscience 2012, Annual conference for the Society for Neuroscience; 2012 October 15; New Orleans, LA.
13. **Spechler, P.**, Perkins, K. Cognitive performance as a function of bupropion and modafinil therapies for smoking cessation. Poster session presented at: 2010 Undergraduate psychology directed research symposium; 2010 April 7; Pittsburgh, PA.
14. **Spechler, P.**, Stevens, C., Cohen, K., Schunn, C. First Experiences in Teaching: Introduction to Cognitive Science (PSY0005). Poster session presented at: 2008 Undergraduate teaching assistant symposium. 2008 December. Pittsburgh, PA.

Invited Lectures

1. **Spechler, P.** Introduction to Neuroimaging and Applications. Introduction to Biological Psychology. Johnson State University. Johnson, VT, USA. 31 October 2017
2. **Spechler, P.** Introduction to Neuroimaging and Applications. Learning & Memory. University of Vermont. Burlington, VT, USA. 19 July 2017
3. **Spechler, P.** Neuroimaging of Emotion. Introduction to Functional Neuroimaging. University of Vermont. Burlington, VT, USA. 15 February 2017
4. **Spechler, P.** Cannabis Use and Mental Health in Adolescence. Introduction to Psychopharmacology. University of Vermont. Burlington, VT, USA. 4 December 2015

Teaching Activities

Graduate Teaching Assistant January 2017 – May 2017
University of Vermont
NSCI395C / PSYS 296E: Introduction to Functional Neuroimaging

Faculty Teaching Assistant June 2013 – August 2013
University of Maryland
Introduction to the Linux computing environment, AFNI, and FreeSurfer (informal)

Undergraduate Teaching Assistant August 2008 - December 2008
University of Pittsburgh
PSY0005- Introduction to Cognitive Science

Mentoring Activities

Neuroscience Major Research Mentoring (NSCI 197/198)

1. Iskandar Khan, September 2017 – December 2017, “Correlations between Stress, Self-Harm, and Suicide in Adolescents”.
2. Nick Fontaine, January 2017 – May 2017, “Implementing Quality Control Procedures for Large Scale Neuroimaging Study”.
3. Bailey Holt-Gosselin, January 2017 – May 2017, “Intra-Familial Risk Factors for Self-Harming Behaviors in Adolescence”.

Past Professional Positions

University of Maryland, College Park, MD
Department of Psychology
Faculty Research Assistant August 2011 – June 2014
Laboratory of Cognition and Emotion
Lab Director: Luiz Pessoa, Ph.D

Thomas Jefferson University, Philadelphia, PA
Department of Neurology
Clinical Neuroimaging Assistant August 2010 – July 2011
Cognitive Neuroimaging Lab

Lab Director: Joseph Tracy, Ph.D

Professional Organizations

Society for Neuroscience 2011 – 2013, 2018
Organization for Human Brain Mapping 2015 – 2017

Undergraduate Research Experience

Undergraduate Clinical Research Assistant January 2010 - May 2010
UPMC Western Psychiatric Institute and Clinic- Nicotine Research Lab

Undergraduate Research Assistant August 2006 - September 2008
UPMC Department of Emergency Medicine

Computing Skills

General: High performance computing clusters, linux/mac OS.

Programming Languages: Python (preferred), bash.

Data: Python libraries, MATLAB, SPSS, Mplus.

Version Control: Git.

Neuroimaging: AFNI, SPM, FreeSurfer, FSL, HCP pipelines.

Experimental Design: Presentation, E-Prime.

Other: HTML, markdown.

Personal website: <https://philipspechler.github.io/>

References

1. Hugh Garavan, Ph.D (hgaravan@uvm.edu)
Professor of Psychiatry
Professor of Psychological Science
University of Vermont
2. Robert Althoff, M.D. Ph.D (ralthoff@uvm.edu)
Associate Professor of Psychiatry
Associate Professor of Pediatrics
Associate Professor of Psychological Science
University of Vermont
3. Scott Mackey, Ph.D (msmackey@uvm.edu)
Assistant Professor of Psychiatry
University of Vermont