

Curriculum Vitae
Travis Edward Baker, PhD

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CURRENT POSTION

Associate Professor

Center for Molecular and Behavioral Neuroscience
Rutgers University
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Newark, NJ, USA

RESEARCH INTERESTS: The central goal of my research program is threefold: 1) advance our scientific knowledge of the neurocognitive and computational mechanisms that underlie goal-directed navigation, 2) optimize brain stimulation and neuroimaging methods to better identify and modulate these functions in the brain, and 3) understand how these functions are disrupted in clinical populations in order to improve psychiatric care.

RESEARCH AND EDUCATION

Jeanne Timmins Costello Post-doctoral Fellow (2015-2016)

Department of Neurology and Neurosurgery, Montreal Neurological Institute, McGill University.
Project title: *Brain networks as targets of neurodegeneration in Parkinson's and Alzheimer's disease*. Research Director: Dr. Alain Dagher.

Canadian Institute of Health Research Post-doctoral Fellow (2012-2015)

Sainte-Justine Mother and Child Hospital Research Center, University of Montreal.
Project title: *“Optimizing multi-modal neuroimaging methods to examine and improve cognitive control functioning in addiction.”* Research Director: Drs. Paul Lesperance and Patricia Conrod.

PhD (2012) Brain and Cognitive Science, University of Victoria, Canada

Dissertation title: *“Genetics, Drugs, and Cognitive Control: Uncovering Individual Differences in Substance Dependence.”* Advisor: Dr. Clay B Holroyd.

Addiction and Transdisciplinary Research Trainee (2007-2011)

Intersections of Mental Health Perspectives in Addictions Research Training program (IMPART). CIHR funded. Director: Dr. Ellexis Boyle.

Master of Science (2007) Experimental Neuropsychology, University of Victoria, Canada.

Thesis title: *“Applying electrophysiological methods to investigate brain mechanisms involved in the processing of rewards, punishments, and performance feedback.”* Advisors: Drs. Clay B. Holroyd and R.W. Skelton

Bachelor of Arts (2004) Psychology Major (with distinction), Vancouver Island University.

Thesis title: *“Individual and sex differences in spatial navigation of virtual environments.”*
Advisor: Dr. Tony Robertson.

FELLOWSHIPS, HONOURS, AND AWARDS

2023: Cutting-Edge Basic Research Award (CEBRA; \$275, 000 USD over two years). National Institute on Drug Abuse. CEBRA is designed to foster highly innovative or conceptually creative research related to the pathophysiology, prevention, or treatment of substance use disorders.

2020: Nominated by Rutgers University for the Rita Allen Foundation Scholars Program (one nomination per university).

2019: Cutting-Edge Basic Research Award (CEBRA; \$275, 000 USD over two years). National Institute on Drug Abuse. CEBRA is designed to foster highly innovative or conceptually creative research related to the pathophysiology, prevention, or treatment of substance use disorders.

2015

- Dr. Richard Murphy Travel Award (\$1500), Montreal Neurological Institute, McGill University.
- Jeanne Timmins Costello Post-doctoral Fellowship (\$40, 000), Montreal Neurological Institute, McGill University.

2013: Canadian Psychological Association: Certificate of Academic Excellence in recognition of outstanding thesis

2012-2015: Canadian Institute of Health Research Post-doctoral Fellowship (\$135, 000). *Optimizing multi-modal neuroimaging methods to examine and improve cognitive control functioning in addiction.*

2011

- Canadian Institute of Health Research Competition Silver Medal (\$250)
- Canadian Student Health Research Forum Travel Award (\$1000).
- American Psychological Association Dissertation Competition Nomination

2009-2012

- Canadian Institute of Health Research: Frederick Banting and Charles Best Canada Graduate Scholarships (\$105, 000).
- Intersections of Mental Health Perspectives in Addictions Research Training award (\$15, 000).

2008 -2009

- Robert and Douglas Vickery Graduate Award (\$850).
- W. H. Gaddes Scholarship (\$1800).
- University of Victoria travel grant (\$2000).
- Presidents Research Award, University of Victoria (\$2000).
- Innovative and Development Corporation Invention Competition Award (\$500).

2006-2008

- Intersections of Mental Health Perspectives in Addictions Research Training Doctoral fellowship (\$84, 000).
- Presidents Research Award, University of Victoria (\$4000).
- Innovative and Development Corporation Invention Competition Award (\$200).
- Michael Smith Foundation Health Research Fellowship, University of Victoria (\$5000).
- Exceptional Research Merit Award, University of Victoria (\$4500).

RESEARCH GRANTS

I. Awarded

1. **2023-2025**. “Closed-loop neuromodulation of the brain reward system in nicotine use disorder”. *Cutting-Edge Basic Research Award from the National Institute on Drug Abuse / National Institutes of Health*. (NIH R21). Role: Principal Investigator. Co-investigator: Drew Headley, Rutgers University. \$423, 213 USD.
2. **2022-2024**. “Beyond Computational Behaviorism: The Structure of Thought in Naturalistic Behaviors”. *Research Corporation for Science Advancement: MOLECULAR BASIS OF COGNITION (MBC) Award*. \$50, 000 USD.
3. **2022-2027** “Recovery of reward function in nicotine use disorder using a combination of robotics, electrophysiology, and TMS” *National Institute on Drug Abuse / National Institutes of Health (UG3/UH3)*. Total costs - \$2,493,872 USD. Role: Principal Investigator.
 - National Institute on Drug Abuse Summer Research Internship Award (RDA049574A). Grant Supplement Total - \$8, 800. Role: Principal Investigator and Mentor. Awarding Applicant: Yusuf Mousa (undergraduate fellowship).
4. **2022-2024** “Targeting Memory Circuit Function to Develop Noninvasive Brain Stimulation Treatment Strategies for Alzheimer’s Disease” *Rutgers Busch Biomedical Grant Program*. Total costs - \$60, 000 USD. Role: Principal Investigator.
5. **2021-2023** “Candidate mechanisms for chemotherapy-induced neurocognitive deficits in pediatric non-CNS tumor patients”. *National Cancer Institute / National Institutes of Health* (NIH R21CA262491). Total costs - \$403,687 USD. Role: Principal Investigator
6. **2020-2022** “Using combined EEG and non-invasive brain stimulation to examine and improve reward functioning in opioid use disorder.” *Cutting-Edge Basic Research Award from the National Institute on Drug Abuse / National Institutes of Health*. (NIH R21DA049574). Total costs - \$429,834USD. Role: Principal Investigator
 - National Institute on Drug Abuse Summer Research Internship Award (RDA049574A). Grant Supplement Total - \$8, 800. Role: Principal Investigator and Mentor. Awarding Applicant: Marissa Cortright (undergraduate fellowship).
7. **2021** “Recovery of reward function in substance use disorders using a combination of robotics, electrophysiology, and TMS.” *Rutgers Core Facility Utilization Grant*. Total direct costs - \$5,000.00 USD. Role: Principal Investigator
8. **2020-2022** “Cognitive control deficits in survivors of childhood non-CNS solid tumors”. *New Jersey Commission on Cancer Research*. Total direct costs - \$100, 000. Role: Principal Investigator and Mentor. Fellowship Applicant: Mei-heng Lin, PhD (post-doc).
9. **2020-2021** “Improving cognitive control functioning in opioid use disorders: At the intersection of brain, trauma, and neuromodulation”. *Rutgers Center of Alcohol & Substance Use Studies pilot research grant*. Total direct costs - \$20,000.00 USD. Role: Principal Investigator, co-applicant: Lesia M. Ruglass. PhD.
10. **2019-2020** “Examining real-world navigation using augmented reality”. *Rutgers Research Council Grant*. Total direct costs - \$2,700. Role: Principal Investigator

11. **2019-2020** “Targeted deactivation of locus coeruleus pathways during a naturalistic driving task, using transcranial magnetic stimulation.” *Research Board International Collaboration Fund, University of Nottingham*. Total direct costs - \$4,000.00 USD. Role: Co-applicant. Principal Investigator – Andrew Reid, PhD. Co-applicants – Drs. Gary Aston-Jones, Amy Kuceyeski.
12. **2018-2019** “Cognitive control deficits in childhood leukemia survivors: At the intersection of brain, behavior, and computation.” *Rutgers Brain Health Institute Pilot Research Grant in Neuroscience*. Total direct costs: \$40,000 USD. Role: Principal Investigator, Co-applicants, Drs. Peter Cole and Miriam Rosenberg-Lee.
13. **2017-2018** “Real-time neuromodulation of cortical oscillations.” *Rutgers Research Council Grant*. Total direct costs: \$4066.00 USD. Role: Principal Investigator, Co-applicant: Drew Headley, PhD.
14. **2013-2015**. “Training Vulnerable Brains in Youth for Lifelong Health”. *Canadian Institute of Health Research Team Planning Grant*. Total direct costs - \$25,000. Role: Principal Investigator. Co-applicants, Drs. Patricia Conrod and Alain Dagher.
15. **2007-2008**. “Neural and Cognitive Mechanisms of Addiction”. *BC Mental Health and Addictions Research Network seed grant*. Total direct costs - \$7500. Role: Principal Investigator.

SCHOLARLY CONTRIBUTIONS

I. Peer-reviewed publications

1. Karpov, G., Lin, MH., Headley, DB., **Baker, TE.** (2024-in press). Oscillatory correlates of threat imminence during virtual navigation *Psychophysiology*. Mar 22:e14551. doi: 10.1111/psyp.14551.
2. Stringfellow, JS., Liran, O., Lin, MH., **Baker, TE.** (2023). Recording neural reward signals in the real-world using mobile-EEG and augmented reality *bioRxiv*, 555757. (under consideration at eNEURO: minor revision).
3. Kang, D., **Baker, TE.**, Steele., VR. (2023). New discoveries in the field of brain stimulation and addiction disorders. *Frontiers in Neuroscience* 17, 1337773.
4. **Baker, TE.**, Robles, D. (2023) Theta Burst Stimulation of the Hyperdirect Pathway Boosts Inhibitory Control and Reduces Craving and Smoking in Nicotine-Dependent Adults – commentary. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* 8 (11), 1072-1074.
5. Singer, N., Poker, G., Dunskey-Moran, N., Nemni, S., Balter, SR., Doron, M., **Baker, TE.**, Dagher, A., Zatorre, RJ., Talma Hendler, T., Development and validation of an fMRI-informed EEG model of reward-related ventral striatum activation., *NeuroImage* 276, 120183.

6. Biernacki, K., Myers, C., Cole, S., Cavanagh, J., **Baker, T.E.** (2023) Prefrontal transcranial magnetic stimulation boosts response vigor during reinforcement learning in healthy adults. *European Journal of Neuroscience*. *European Journal of Neuroscience* 57 (4), 680-691. <https://pubmed.ncbi.nlm.nih.gov/36550631/>
7. Lin, M.H., Liran, O., Bauer, N., **Baker, T.E.** (2022). Scalp recorded theta activity is modulated by reward, direction, and speed during virtual navigation in freely moving humans. *Nature: Scientific Reports*, 12(1), 1-18. <https://pubmed.ncbi.nlm.nih.gov/35132101>
8. Lin, M.H., & **Baker, T.E.** (2022). A novel application of an adaptive filter to dissociate the effects of TMS on neural excitability and trial-to-trial latency jitter in event-related potentials, *Brain Stimulation*. 15, 388-390. <https://pubmed.ncbi.nlm.nih.gov/35172184>
9. Biernacki, K., Lin, M.H., **Baker, T.E.** (2020). Recovery of reward function in problematic substance users using a combination of robotics, electrophysiology, and TMS. *Int J Psychophysiol* 158, 288-298. Special Issue “*Biomarkers of Mental Disorders: Psychophysiological Measures as Indicators of Mechanisms, Risk and Outcome Prediction*”. <https://pubmed.ncbi.nlm.nih.gov/33068631>
10. **Baker, T. E.**, Lin, M.-H., Gueth, M., Biernacki, K., Parikh, S. (2020). Beyond the Motor Cortex: Theta Burst Stimulation of the Anterior Midcingulate Cortex. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 5, 1052-1060. <https://pubmed.ncbi.nlm.nih.gov/32839154>
11. **Baker, T.E.**, Zeighami, Y., Dagher, A., Holroyd, C.B. (2020). Smoking decisions: Altered reinforcement learning signals induced by nicotine state. *Nicotine and Tobacco Research*, 22, 164-171. <https://pubmed.ncbi.nlm.nih.gov/29982681>
12. **Baker, T.E.**, Castanellos-Ryan, N., Schumann G, Cattrell A, Flor H, Nees F, Banaschewski T, Bokde A, Whelan R, Buechel C, Bromberg U, Papadopoulos Orfanos D, Gallinat J, Garavan H, Heinz A, Walter H, Brühl R, Gowland P, Paus T, Poustka L, Martinot JL, Lemaitre H, Artiges E, Paillère Martinot ML, Smolka MN, Conrod P; IMAGEN consortium. (2019). Modulation of orbitofrontal-striatal reward activity by dopaminergic functional polymorphisms contributes to a predisposition to alcohol misuse in early adolescence. *Psychological Medicine*. 18, 1-10. <https://pubmed.ncbi.nlm.nih.gov/29909784>
13. García Alanis, J.C., **Baker, T.E.**, Peper, M., Chavanon, M.L. (2019). Social context effects on error-related brain activity are dependent on interpersonal and achievement-related traits. *Nature: Scientific Reports*. 9, 1728-1738. <https://pubmed.ncbi.nlm.nih.gov/30741987>
14. Torok, A., Kobor, A., Honbolygó, F., **Baker, T.E.** (2019). A novel virtual plus-maze for studying electrophysiological correlates of spatial reorientation. *Neuroscience Letters*, 694, 220-224. <https://pubmed.ncbi.nlm.nih.gov/30476567>
15. Vainik, U., **Baker, T.E.**, Dadar, M., Zeighami, Y., Michaud, A., Zhang, Y., Alanis, J., Mistic, B., Collins, L., Dagher, A. (2018) Neurobehavioural Correlates of Obesity are Largely Heritable. *Proceedings of the National Academy of Science*. 115, 9312-9317.

<https://pubmed.ncbi.nlm.nih.gov/30154161>

16. Yau, Y. Zeighami, Y., **Baker, T.E.**, Larcher, K., Vanik, U., Dadar, M., Fonov, V., Mišić, B., Collins, D., Dagher, A. (2018). Network connectivity determines cortical thinning in early Parkinson's disease progression. *Nature Communications*, 9, 12-16. <https://pubmed.ncbi.nlm.nih.gov/29295991>
17. **Baker, T.E.**, Lesperance, P., Potvin, S., Tucholka, A., Jutras-Aswad, D., Zhang, Y., Larcher, K., and Conrod, P. (2017) Reversing the Atypical Valuation of Drug and Nondrug Rewards in Smokers Using Multi-Modal Neuroimaging. *Biological Psychiatry*, 82 (11), 819-827. <https://pubmed.ncbi.nlm.nih.gov/28314439>
18. Arbel, Y., Hong, L, **Baker, T.E.**, Holroyd, C. B. (2017). It's all about timing: An electrophysiological examination of feedback-based learning with immediate and delayed feedback. *Neuropsychologia* 99: 179-186. <https://pubmed.ncbi.nlm.nih.gov/28284986/>
19. Bourque, J., **Baker, T.E.**, Dagher, A., Evans, A., Garavan, H., Leyton, M., Maheu, F., Séguin, J., Pihl, R., Conrod, P. (2016). Effects of delaying binge drinking on adolescent brain development: Methods for a longitudinal neuroimaging study. *BMC Psychiatry*. 16: 445-450. <https://pubmed.ncbi.nlm.nih.gov/27955636>
20. Li, P., **Baker, T.E.**, Warren, C., and Hong, L. (2016). Oscillatory profiles of positive, negative and neutral feedback stimuli during adaptive decision making. *International Journal of Psychophysiology*, 107, 37-43. <https://pubmed.ncbi.nlm.nih.gov/27378537>
21. **Baker, T. E.**, Stockwell, T., Barnes, G., Haesevoets, R., and Holroyd, C. B. (2016). Reward sensitivity of anterior cingulate cortex as an intermediate phenotype between DRD4-521T and substance misuse. *Journal of Cognitive Neuroscience*, 28, 460-471. <https://pubmed.ncbi.nlm.nih.gov/26601911>
22. **Baker, T.E.**, Wood, J., and Holroyd, C. B. (2016). Atypical valuation of monetary and cigarette rewards in substance dependent smokers. *Clinical Neurophysiology*, 127, 1358-1365. <https://pubmed.ncbi.nlm.nih.gov/26625969>
23. **Baker, T. E.**, Umemoto, A., Krawitz, A., and Holroyd, C. B. (2015). Rightward-biased hemodynamic response of the parahippocampal system during virtual navigation. *Nature: Scientific Reports*, 5, 1-8. <https://pubmed.ncbi.nlm.nih.gov/25761577>
24. **Baker, T. E.**, and Holroyd, C. B. (2013). The Topographical N170: Electrophysiological explorations of human parahippocampal cortex function. *Biological Psychology*, 94, 90-105. <https://pubmed.ncbi.nlm.nih.gov/23669533>
25. **Baker, T. E.**, Stockwell, T., Barnes, G., and Holroyd, C. B. (2013). Constraints on Decision Making: Implications from Genetics, Personality, and Addiction. *Cognitive, Affective, and Behavioral Neuroscience*, 13, 417-436. <https://pubmed.ncbi.nlm.nih.gov/23658007>
26. **Baker, T. E.**, & Holroyd, C. B. (2011). Dissociated roles of the anterior cingulate cortex in reward and conflict processing as revealed by the feedback error-related negativity and N200. *Biological Psychology*, 87, 25-34. <https://pubmed.ncbi.nlm.nih.gov/21295109>

27. **Baker, T. E.**, Stockwell, T., Barnes, G., and Holroyd, C. B. (2011). Individual Differences in Substance Dependence: At the Intersection of Brain, Behaviour, and Cognition. *Addiction Biology*, 16, 458-466. <https://pubmed.ncbi.nlm.nih.gov/20731633>
28. **Baker, T. E.**, & Holroyd, C. B. (2009). Which way do I go? Neural activation in response to feedback and spatial processing in a virtual T-Maze. *Cerebral Cortex*, 19, 1708-1722. <https://pubmed.ncbi.nlm.nih.gov/19073622>
29. Holroyd, C. B., **Baker, T. E.**, Kerns, K. A., Müller, U. (2008) Electrophysiological evidence of atypical motivation and reward processing in attention deficit hyperactivity disorder. *Neuropsychologia*, 46, 2234-2242. <https://pubmed.ncbi.nlm.nih.gov/18367216>

II. Book chapter

Baker, T.E., Lam, V., Ni, Lan., Uban, K., Weinberg, J. (2015). Chapter title: Of mice and wo/men: transdisciplinarity, stress and sex/gender differences in research on addictions/substance use disorders. Book title: *The Alchemy of Addictions: Gender, Trauma, Transdisciplinarity*. Edited by Greaves, L., Poole, N., and Boyle, E.

III. Letter to the Editor

1. **Baker, T.E.**, and Holroyd, C.B. (2015). Impaired RPE signaling in substance dependence: comment on Parvaz et al. *Journal of Neuroscience*.
2. Holroyd, C.B., Hosseini, A. H., & **Baker, T. E.** (2012). ERPs and EEG Oscillations, Best Friends Forever: comment on Cohen et al. *Trends in Cognitive Sciences*, 16, 192.

V. Published Abstracts

*conference presenter

1. **Baker, T.E.**,* Biernacki, K., Lin MH. (2022). Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *Biological Psychiatry* 91 (9), S35-S36.
2. **Baker, T.E.*** Liran, O., Stringfellow, J., Lin, M. (2021). Reality for Psychophysiology and Psychotherapy: Current Reality and Future Possibilities. Society for Psychophysiological Research Conference. *PSYCHOPHYSIOLOGY* 58, S29-S29.
3. Gueth, M.,* Headley, D., & **Baker, T.E.** (2021). Does phase matter? Phase-locked stimulation of parahippocampal theta during spatial navigation using closed-loop EEG-TMS. *PSYCHOPHYSIOLOGY* 58, S83-S83.
4. Lin, M.,* Cole, S., Cole, P., Rosenberg-Lee, M., & **Baker, T. E.** (2021). Event-related potential correlates of reward processing in childhood leukemia survivors. *PSYCHOPHYSIOLOGY* 58, S72-S72.

5. Karpov, G.,* Lin, M., Headley, D., and **Baker T.E.** (2020) Electrophysiological Exploration of Passive and Active Modes in Motivated Behavior. *PSYCHOPHYSIOLOGY* 57, S72-S72.
6. **Baker, T.E.*** (2019). Modulating cognitive control functioning in health and disease using combined EEG-TMS methods. *PSYCHOPHYSIOLOGY* 56, S39-S39.
7. **Baker, T.E.*** (2019). A comprehensive map of goal-directed navigation in the human brain. *PSYCHOPHYSIOLOGY* 56, S14-S14.
8. **Baker, T.E.*** (2019). The use of virtual-reality in psychophysiology: A case for goal-directed navigation research. *PSYCHOPHYSIOLOGY* 56, S13-S13.
9. Lin, M-H.,* Parikh, S., Bauer, N., Cocuzza, C., & **Baker, T. E.** (2019). Dissociating between TMS-induced neural and noise effects in event-related potentials (ERPs). *PSYCHOPHYSIOLOGY* 56, S74-S74.
10. Gueth, M.R.,* Shafeek, P., Mill, R., Cole, M.W., & **Baker, T.E.** (2019). Oscillatory and hemodynamic correlates during goal-directed navigation: A combined EEG-fMRI study using a virtual T-maze task. *PSYCHOPHYSIOLOGY* 56, S47-S47.
11. Biernacki, K.,* **Baker, T. E.** (2019). Modulating the reward positivity in opioid use disorder using robot-assisted TMS. *PSYCHOPHYSIOLOGY* 56, S72-S72.
12. **Baker, T.E.,*** and Parikh, S. (2018). Altering reward-specific electrophysiological signals in humans using robot-assisted theta-burst stimulation. *PSYCHOPHYSIOLOGY* 55, S37-S37.
13. **Baker, T.E.*** (2017). Optimizing Multi-modal neuroimaging methods to examine and improve reward functioning in addiction. From bench to bedside. Electrophysiological advancements in psychiatric care. *PSYCHOPHYSIOLOGY* 54, S11-S11.
14. **Baker, T. E.,*** Tucholka, A., Potvin, S., Lesperance, P., Jutras-Aswad, D., Larcher, K., & Conrod, P. (2015). Optimizing combined fMRI-DTI-TMS-ERP methods to identify and regulate reward valuation during nicotine craving. *PSYCHOPHYSIOLOGY*, 52, S37-S37.
15. Alanis, J. C.* G., Chavanon, M. L., **Baker, T. E.,** & Peper, M. (2015). Effects of agentic and affiliative extraversion on electrophysiological measures of performance monitoring during social interaction. *PSYCHOPHYSIOLOGY*, 52, S116-S116.
16. Barnes, G. E., Cea, N. F.,* **Baker, T.E.,** Holroyd, C., & Stockwell, T. (2014). Addiction Prone Personality tests and the prediction of substance use patterns in Canadian undergraduate students. *Personality and Individual Differences*, 60, S25.
17. **Baker, T.E.,*** Stockwell, T., Barnes, G., Haesevoets, R., & Holroyd, C. (2013). Top-down vs. bottoms-up! Intermediate phenotypes for cognitive control mediate the expression of dopamine genes in addiction. In *Journal of Cognitive Neuroscience*, 55, S143.
18. **Baker, T.E.*** and Holroyd, C.B. (2013). The Topographical N170: Electrophysiological evidence of a neural mechanism for human spatial navigation. *PSYCHOPHYSIOLOGY*. 50, S1.
19. **Baker, T.E.*** and Holroyd, C.B. (2011). Dissociable roles of prefrontal and parahippocampal cortical theta oscillations in goal directed virtual maze navigation. In *Front. Hum. Neurosci.*

20. **Baker, T. E.,*** Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2010). Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *PSYCHOPHYSIOLOGY*, 47, S1.
21. **Baker, T. E.,*** Stockwell, T., Barnes, G., and Holroyd, C. B. (2009). Individual Difference Underlying Addiction: At the Intersection of Brain, Cognition, and Personality. *PSYCHOPHYSIOLOGY*, 46, S31.
22. **Baker, T. E.,*** & Holroyd, C. B. (2009). Electrophysiological correlates of spatial processing. *PSYCHOPHYSIOLOGY*, 46, S82.
23. **Baker, T. E.,*** Stockwell, T., Barnes, G., and Holroyd, (2008). Neural and Cognitive Mechanisms of Addiction. *International Journal of Psychology*, 43, 3/4.
24. Kerns, K.A. & **Baker, T.E.*** (2008). Electrophysiological Evidence of Atypical Reward Processing in Children with Fetal Alcohol Spectrum Disorders. *Journal of the International Neuropsychological Society*, 14, S129.
25. **Baker, T. E.,*** Brocki, K. C., Kerns, K. A., Segalowitz, S., & Holroyd, C. B. (2007). Performance Monitoring In Children with Behavioural Dysregulation: An Electrophysiological Study. *Journal of the International Neuropsychological Society*, 78, S38.
26. **Baker, T. E.,*** & Holroyd, (2007). Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *Journal of the International Neuropsychological Society*, 78, S32.
27. **Baker, T. E.,*** & Holroyd, C. B. (2006). Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *PSYCHOPHYSIOLOGY*, 43, S22.

SCHOLARLY PRESENTATIONS

I. Conference Paper Presentations

*presenter

1. **Baker, T. E.** (2024-August) Combination of robotics, electrophysiology, and TMS. *2024 NYC Neuromodulation Conference*
2. **Baker, T. E.** (2024-August) The Integration of Composite Neurocognitive Endpoints in Addiction Neuromodulation Clinical Trials. *Workshop - Addiction Neuromodulation Trials: How to Optimize Design and Outcomes*. 2024 NYC Neuromodulation Conference
3. Stringfellow-James, J.,* Güth, M., Yang Y, Holroyd, CB., **Baker, T. E.** (2023-Oct). Finding rewp: a potential source of the reward positivity revealed by the application of representational similarity analysis of eeg-fmri data *63rd Society for Psychophysiological Research Conference. New Orleans, USA.*
4. Güth, M.,* Headley, D., , **Baker, T. E.** (2023-Oct). Real-time stimulation of theta oscillations underlying spatial memory encoding using closed-loop eegtms. Society for Psychophysiological Research Conference. New Orleans, USA.
5. **Baker, T. E.** (2023-Oct). Identifying the neural generators of the reward positivity: multimodal source localization techniques. *63rd Society for Psychophysiological Research Conference. New Orleans, USA. Organizer and Discussant.*

6. **Baker, T. E.** (2022-Sept). From Bench to Bedside. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *62nd Society for Psychophysiological Research Conference Vancouver, Canada.*
**Symposium organizer and chair.
7. Biernacki, K. B.,* **Baker, T. E.** (2022-Sept). Modulating biomarkers of reward learning in substance use disorders. *62nd Society for Psychophysiological Research Conference Vancouver, Canada.*
8. Güth, M.R.,* Headley, D.B., & **Baker, T.E.** (2022, September 29th). Real-time stimulation of parahippocampal phase-resetting during spatial navigation using closed-loop EEG-TMS. Big Idea Session: New Methods in Psychophysiology. *62nd Annual Meeting of the Society for Psychophysiological Research, Vancouver, Canada.*
9. Karpov, G.,* Lin, M.H., Headley, D., & **Baker, T.E.** (2022-Sept). Oscillations dynamics during proximal and distal threat in a virtual room. *62nd Society of Psychophysiological Research, Vancouver, Canada.*
10. **Baker, T. E.** (2022-Sept). Fear and Loathing in VR: Psychophysiological Fear and Anxiety Responses in Virtual Reality. *62nd Society for Psychophysiological Research Conference, Vancouver, Canada.*
**Invited Discussant.
11. **Baker, T. E.*** (2022). Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *NIDA special symposium, American Psychological Association. New Orleans.*
12. **Baker, T. E.*** (2022). Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *Society of Biological Psychiatry. New Orleans, LA.*
13. Steele V., & **Baker, T.E. (2022)** Modulating Cognitive Systems in Substance Use Disorders and Co-Occurring Clinical Diagnoses. *Society of Biological Psychiatry.*
**Symposium chair and organizer.
14. Biernacki, K.,* **Baker, T. E.** (2021). Recovery of reward function in problematic substance users using a combination of robotics, reward-related biomarkers, and TMS. *NIDA-NIAAA Frontiers in Addiction Research Virtual Mini-Convention - Career Showcase Symposium.*
15. **Baker, T.E.* (2019).** Modulating cognitive control functioning in health and disease using combined EEG-TMS methods. *60th Society for Psychophysiological Research Conference. Washington D.C.*
16. **Baker, T.E.* (2019).** A comprehensive map of goal-directed navigation in the human brain. *Society for Psychophysiological Research Conference. Washington D.C.*
17. **Baker, T.E.* (2019).** The use of virtual-reality in psychophysiology: A case for goal-directed navigation research. *Society for Psychophysiological Research Conference. Washington D.C.* **Symposium organizer and chair
18. Güth, M.R.,* Shafeek, P., Mill, R., Cole, M.W., Headley, D., & **Baker, T.E.** (2019). Imaging and stimulation of goal-directed navigation using EEG-fMRI data fusion and closed loop EEG-TMS. *Colloquium of the Montréal Neurological Institute, Montréal, Canada.*
19. **Baker, T.E.* (2017).** Optimizing multi-modal neuroimaging methods to examine and improve reward functioning in addiction. *Society for Psychophysiological Research Conference. Vienna, Austria.*
20. **Baker, T.E. (2017).** From bench to bedside: Electrophysiological advancements in psychiatric care. *Society for Psychophysiological Research Conference. Vienna, Austria.*
**Symposium organizer.

21. **Baker, T.E.,*** Tucholka, A., Potvin, S., Lesperance, P., Jutras-Aswad, D., Larcher, K., and Conrod, P. (2015). Optimizing combined fMRI-DTI-TMS-ERP methods to identify and regulate reward valuation during nicotine craving. *Canadian Society for Brain, Behavior and Cognitive Science 25th Annual Meeting. Ottawa, Canada*
22. **Baker, T. E.,*** & Holroyd, C. B. (2012). The Topographical N170: Electrophysiological Explorations of Human Parahippocampal Cortex Function. *13th Northwest Cognition and Memory Conference. Vancouver, Canada.*
23. **Baker, T.E.*** (2011). Functional significance of human prefrontal theta oscillations during cognitive control and learning. *XI International Conference on Cognitive Neuroscience. Mallorca, Spain.*
****Symposium organizer.**
24. **Baker, T.E.*** (2011). Dissociable roles of prefrontal and parahippocampal cortical theta oscillations in goal directed virtual maze navigation. *International Conference on Cognitive Neuroscience IX. Mallorca: Spain.*
25. **Baker, T. E.,*** Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2011). Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. 12th Annual Northwest Cognition and Memory Conference. Victoria, Canada.
26. **Baker, T. E.,*** Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2009). Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *Opinions and Discussions on Cognitive Neuroscience Conference. Amsterdam, Netherlands.*
27. **Baker, T. E.,*** Stockwell, T., Barnes, G., and Holroyd, C. B. (2009). Individual Difference Underlying Addiction: At the Intersection of Brain, Cognition, and Personality. *Conference: Society for Psychophysiological Research Conference. Berlin, Germany.*
28. **Baker, T. E.,*** Stockwell, T., Barnes, G., and Holroyd, C. B. (2009). Bottoms Up! Neural and Cognitive Mechanisms of Addiction. *10th Annual Northwest Cognition and Memory Conference. Victoria, Canada.*
29. **Baker, T. E.,*** & Holroyd, C. B. (2007). Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *Canadian Society for Brain, Behaviour and Cognitive Science 17th Annual Meeting. Victoria, Canada.*
30. **Baker, T.E.*** (2007). Neural mechanisms of ‘Hot’ and ‘Cool’ executive functions in typical and atypical development: an electrophysiological investigation. *The Jean Piaget Society, 37th annual meeting. Amsterdam, Netherlands.*
31. **Baker, T. E.,*** & Holroyd, C. B. (2006). Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *7th Annual Northwest Cognition and Memory Conference. Vancouver, Canada.*
32. **Baker, T. E.,*** Price, J., & Skelton., R. (2005). Vase Maze: A Measure of Cognitive Function and Impulsivity in Children with Attention-Deficit/Hyperactivity Disorder. *Northwest Cognition and Memory Conference. Bellingham, USA.*

II. Invited Talks

1. **2024 (Spring).** Augmented reality for psychophysiology and addiction intervention: current reality and future possibilities Virtual Medicine: Best Practices in Medical Extended Reality. Cedars-Sinai Medical Center
2. **2024 (Spring).** New discoveries in the field of brain stimulation and addiction disorders C3N Seminar Series, Columbia University.

3. **2023(Fall)**. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *NJIT*.
4. **2022 (Fall)**. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *Center for Alcohol Studies, Rutgers University*.
5. **2022**. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *Department of Psychiatry, Mount Sinai NY*.
6. **2022**. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *Behavioral Science Research News Hour Series, University of Texas, MD Anderson Cancer Center*.
7. **2022**. Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders. *O'Donnell Brain Institute Symposium on Neuromodulation at UT Southwestern Medical Center*.
8. **2022**. Decisions under the influence of TMS and augmented reality: Opportunities for computational modeling. *Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry (CCNP)*.
9. **2021**. Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *Department of Psychiatry, Yale University*.
10. **2021**. Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *Department of Psychiatry, Columbia University*.
11. **2020**. Recovery of Reward Function in Problematic Substance Users Using a Combination of Robotics, Electrophysiology, and Transcranial Magnetic Stimulation. *Department of Psychiatry, University Hospital, University of Montreal*.
12. **2020**. Correcting reward-related neural dysfunction in substance use disorders using a robot-guided TMS. *ANT-neuro Educational Webinar series. Virtual talk*.
13. **2019**. Optimizing non-invasive brain stimulation methods to improve cognitive control functioning in substance use disorders. *Invited talk presented at the Psychology Department Colloquium, University of Wurzburg – Germany*.
14. **2019**. Optimizing non-invasive brain stimulation methods to improve cognitive control functioning in substance use disorders. *Invited talk presented at the Psychology Department Colloquium, Colorado State University, Fort Collins, Colorado*.
15. **2019**. Optimizing non-invasive brain stimulation methods to improve cognitive control functioning in substance use disorders. *Invited talk and symposium leader (Mental Health) at the ANT Neuromeeting, Beaune, France*.
16. **2018**. Optimizing non-invasive brain stimulation methods to improve cognitive control functioning in substance use disorders. *Psychology Department Colloquium, University of Mexico, Albuquerque, NM*.
17. **2017**. Optimizing multi-modal neuroimaging methods to examine and improve reward functioning in addiction. *Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry (CCNP)*.
18. **2016**. A maze in cognitive neuroscience research: Imaging decision making during goal-directed navigation. *Cognition and Circuits Lecture, McGill University, Montreal, Canada*.
19. **2015**. Modulating reward valuation in addiction using multi-modal neuroimaging. *2nd Annual McGill Addiction Day. Abstract was pre-selected for oral presentation*.
20. **2015**. Modulating reward valuation in addiction using multi-modal neuroimaging. *Symposium on Motivation at the Center for Studies in Behavioral Neurobiology Annual Colloquium, Concordia University, Montreal, Canada*.

21. **2015.** Modulating reward valuation in addiction using multi-modal neuroimaging. *Symposium on Cognitive Control and Motivation at the McGill Integrated Program in Neuroscience Retreat. Chaired by Dr. Lesley Fellows, McGill University, Montreal, Canada.*
22. **2014.** Optimizing neuroimaging methods to enhance cognitive control functioning during nicotine craving: A combined fMRI, DTI, TMS, and EEG study. *School of Psychology, Liaoning Normal University, Dalian, China.*
23. **2014.** Optimizing neuroimaging methods to enhance cognitive control functioning during nicotine craving: A combined fMRI, DTI, TMS, and EEG study. *Lab of Drs. Alain Dagher and Lesley Fellows, Montreal Neurological Institute, McGill University, Montreal, Canada.*
24. **2014.** Optimizing neuroimaging methods to enhance cognitive control functioning during nicotine craving: A combined fMRI, DTI, TMS, and EEG study. *Lab of Dr. Alan Evans, Montreal Neurological Institute, Montreal, Canada.*
25. **2014.** Optimizing neuroimaging methods to enhance cognitive control functioning during nicotine craving: A combined fMRI, DTI, TMS, and EEG study. *Hospital Research Center, Department of Psychiatry, University of Montreal Hospital, Montreal, Canada.*
26. **2014.** Optimizing neuroimaging methods to enhance cognitive control functioning during nicotine craving: A combined fMRI, DTI, TMS, and EEG study. *Neuromodulation Clinic, Notre-dame Hospital; Montreal Canada.*
27. **2012.** A Future in Psychology *Vancouver Island University Psychology Conference. Nanaimo, Canada.*
28. **2011.** Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *Rita Vuyk lecture hosted by University of Amsterdam. Amsterdam, Netherlands.*
29. **2010.** Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *Public Lecture hosted by the Center of Addiction Research of British Columbia. Victoria, Canada.*
30. **2008.** Neural and Cognitive Mechanisms of Addiction. *Amsterdam Center for the Study of Adaptive Control in Brain and Behavior (ACACIA). Netherlands; Amsterdam.*
31. **2007.** Performance Monitoring in Children with Behavioural Dysregulation: An Electrophysiological Investigation. *Queen Alexander Hospital for Children. Victoria, Canada.*

III. Conference Poster Presentations

***presenter**

1. Lalta, N.,*, Guth, M., Mill, R., Cole, M., & **Baker, T. E.** (2023-Oct). Using causally informed functional connectivity methods to identify prefrontal cingulate tms target for reward positivity modulation. *Society for Neuroscience, Washington, DC.*
2. Lalta, N.,*, Guth, M., Mill, R., Cole, M., & **Baker, T. E.** (2023-Oct). Using causally informed functional connectivity methods to identify prefrontal cingulate tms target for reward positivity modulation. *63rd Society for Psychophysiological Research Conference. New Orleans, USA.*
3. Kaprov, G.,* & **Baker, T. E.** (2023-Oct). Examining the intersection between childhood maltreatment, oscillatory correlates of threat imminence, and psychopathology *63rd Society for Psychophysiological Research Conference. New Orleans, USA.*

4. Stringfellow, J.,* Lin, M., Liran, O., **Baker, T.E.** (2022-Sept). Electrophysiological recording during real-world navigation using Augmented Reality. *62nd Annual Meeting of the Society for Psychophysiological Research; Vancouver, Canada.*
5. Lin, M.,* Cole, S., Cole, P., Rosenberg-Lee, M., Lalta, N., & **Baker, T. E.** (2022-Sept). Developmental changes of the topographical N170 during spatial processing of rewards in neurotypical children and pediatric cancer survivors. *62nd Annual Meeting of the Society for Psychophysiological Research; Vancouver, Canada.*
6. Biernacki, K.B*., Myers, C., Cole, S., Cavanagh, J., **Baker, T. E.** (2022). Prefrontal TMS Boosts Response Vigor During Reinforcement Learning in Healthy Adults. *The 5th Multidisciplinary Conference on Reinforcement Learning and Decision Making; Providence, Rhode Island.*
7. Cortright, M.,* Biernacki, K., Cole, S., Rutglass, L., **Baker, T.E.** (2022). Investigating the effects of childhood trauma and opioid use on the reward function of the anterior midcingulate cortex. *Undergraduate Research and the Arts Forum, Michigan State.*
8. Cortright, M.,* Biernacki, K., Cole, S., Rutglass, L., **Baker, T.E.** (2021). Investigating the effects of childhood trauma and opioid use on the reward function of the anterior midcingulate cortex. *Symposium for Undergraduate Research Experiences, Michigan State.*
9. Güth, M.R.* & **Baker, T.E.** (2021). Converging evidence of human parahippocampal theta activity during goal-directed spatial navigation. *Rutgers Newark Virtual Research Week, Newark, USA.*
10. Güth, M.R.,* Mill, R., Cole, M.W., & **Baker, T.E.** (2020). Evidence of human parahippocampal theta activity during goal-directed spatial navigation: A combined EEG-fMRI study. *6th Annual Virtual Rutgers Brain Health Institute Symposium.*
11. Karpov, G.,* Lin, M.H., Headley, D., & **Baker, T.E.** (2020). Electrophysiological explorations of passive and active modes in motivated behavior. *60th Annual Meeting of the Society for Psychophysiological Research; Quebec City, Canada.*
12. Biernacki, K.,* **Baker, T.E.** (2020). Recovery of reward function in problematic substance users using a combination of robotics, electrophysiology, and TMS. *Centre for Alcohol and Substance Use Studies 7th Annual Scholar Conference; Virtual Meeting.*
13. Güth, M.R.,* Mill, R., Cole, M.W., & **Baker, T.E.** (2020). Evidence of human parahippocampal theta activity during goal-directed spatial navigation: A combined EEG-fMRI study. *6th Annual Rutgers Brain Health Institute Symposium, Virtual Meeting.*
14. Güth, M.R.* & **Baker, T.E.** (2021). Converging evidence of human parahippocampal theta activity during goal-directed spatial navigation. *Rutgers Research Week, Newark, NJ.*
15. Güth, M.R.,* Headley, D.B., & **Baker, T.E.** (2021). Does phase matter? Phase-locked stimulation of parahippocampal theta during spatial navigation using closed-loop EEG-TMS. *61st Annual Meeting of the Society for Psychophysiological Research. Virtual Meeting.*
16. Güth, M.R.,* Headley, D.B., & **Baker, T.E.** (2021). Does phase matter? Phase-locked stimulation of parahippocampal theta during spatial navigation using closed-loop EEG-TMS. *7th Annual Virtual Rutgers Brain Health Institute Symposium, Piscataway, NJ.*
17. Güth, M.R.,* Shafeek, P., Mill, R., Cole, M.W., & **Baker, T.E.** (2019). Oscillatory and hemodynamic correlates during goal-directed navigation: A combined EEG-fMRI study using a virtual T-maze task. *59th Annual Meeting of the Society for Psychophysiological Research, Washington DC (USA).*
18. Güth, M.R.,* Shafeek, P., Mill, R., Cole, M.W., & **Baker, T.E.** (2019). Oscillatory and hemodynamic correlates during goal-directed navigation: A combined EEG-fMRI study using a virtual T-maze task. *30th Annual Center for Molecular and Behavioral Neuroscience Minisymposium, Newark, NJ (USA).*

19. Gueth, M.,* and **Baker, T.E.**, (2018). Examining goal-directed navigation using EEG-fMRI. *Center for Molecular and Behavioral Neuroscience Annual Research Symposium, Rutgers, Newark, NJ.*
20. Lin, M.,* Parikh, S., **Baker, T.E.**, (2018). Altering reward-specific electrophysiological signals in humans using robot-assisted theta-burst stimulation. *Center for Molecular and Behavioral Neuroscience Annual Research Symposium, Rutgers, Newark, NJ.*
21. **Baker, T.E.**,* and Parikh, S. (2018). Altering reward-specific electrophysiological signals in humans using robot-assisted theta-burst stimulation. *57th Annual Meeting of the Society for Psychophysiological Research, Quebec City, Canada.*
22. Cocuzza, C.,* Cavanagh, J., Cole, M., **Baker, T.** (2018). Identifying inter-relations between genetic polymorphisms and reinforcement learning: multivariate insights from behavior and computational modeling. *Cognitive Neuroscience Society, Boston, MA.*
23. **Baker, T.E.**,* Reid, A., Zhang, Y., Dagher, A. (2016). Charting the parahippocampal theta memory system across neuroimaging modalities. *6th Meeting of the Symposium on Motivational and Cognitive Control. Saint Andrews, Scotland, United Kingdom.*
24. **Baker, T. E.**,* Tucholka, A., Potvin, S., Lesperance, P., Jutras-Aswad, D., Larcher, K., & Conrod, P. (2015). Optimizing combined fMRI-DTI-TMS-ERP methods to identify and regulate reward valuation during nicotine craving. *55th Annual Meeting of the Society for Psychophysiological Research; Seattle, USA.*
25. **Baker, T.E.**,* Tucholka, A., Potvin, S., Lesperance, P., Jutras-Aswad, D., Larcher, K., and Conrod, P. (2015). Optimizing combined fMRI-DTI-TMS-ERP methods to identify and regulate reward valuation during nicotine craving. *Organization of Human Brain Mapping, Honolulu, Hawaii, USA.*
26. **Baker, T.E.**,* Tucholka, A., Potvin, S., Lesperance, P., Jutras-Aswad, D., Larcher, K., and Conrod, P. (2015). Optimizing combined fMRI-DTI-TMS-ERP methods to identify and regulate reward valuation during nicotine craving. *Quebec Biomedical Imaging Network research conference, Montreal, Canada.*
27. **Baker, T. E.**,* Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2013). Top-down vs. bottoms-up? Intermediate phenotypes for cognitive control and personality mediate the expression of dopamine genes in addiction. *Society for Cognitive Neuroscience. San Francisco, USA.*
28. **Baker, T.E.**,* and Holroyd, C.B. (2013). The Topographical N170: Electrophysiological evidence of a neural mechanism for human spatial navigation. *53rd Annual Meeting of the Society for Psychophysiological Research; Florence, Italy.*
29. **Baker, T. E.**,* Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2010). Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *CIHR Student Health Research Forum. Winnipeg, Canada.*
30. **Baker, T. E.**,* Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2010). Individual Differences Underlying Substance Dependence. *50th Annual Meeting of the Society for Psychophysiological Research. Portland. USA.*
31. **Baker, T. E.**,* Stockwell, T., Barnes, G., Haesevoets, R., Macleod, P., and Holroyd, C.B. (2010). Genetics, Drugs, and Cognitive Control: Individual Differences Underlying Substance Dependence. *4th Meeting of the Symposium on Motivational and Cognitive Control. Oxford, United Kingdom.*
32. **Baker, T. E.**,* & Holroyd, C. B. (2009). Electrophysiological correlates of spatial processing. *49th Annual Meeting of the Society for Psychophysiological Research. Berlin, Germany.*
33. **Baker, T. E.**,* Stockwell, T., Barnes, G., and Holroyd, C. B. (2009). Bottoms Up! Neural and Cognitive Mechanisms of Addiction. *Canadian Neuroscience Meeting. Vancouver, Canada.*

34. **Baker, T. E.,*** Stockwell, T., Barnes, G., and Holroyd, C. B. (2008). Neural and Cognitive Mechanisms of Addiction. *XXIX International Congress of Psychology ICP. Berlin, Germany.*
35. **Baker, T. E.,*** Brocki, K. C., Kerns, K. A., Holroyd, C. B., & Segalowitz, S. (2007). Performance Monitoring In Children with Behavioural Dysregulation: An EEG study. *International Neuropsychological Society Conference. Portland, USA.*
36. **Baker, T. E.,*** & Holroyd, C. B. (2007). Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *International Neuropsychological Society Conference. Portland, USA.*
37. **Baker, T. E.,*** & Holroyd, C. B. (2006) Which way do I go? Neural activation in response to feedback processing and decision making in a virtual T-Maze. *Society for Psychophysiological Research Conference. Vancouver, Canada.*
38. **Baker, T. E.,*** Price, J., & Skelton., R. (2005). Vase Maze: A Measure of Cognitive Function and Impulsivity in Children with Attention-Deficit/Hyperactivity Disorder. *University of Victoria Social Science Symposium. Victoria, Canada.*

SERVICE TO THE PROFESSION

I. Ad Hoc Reviewer for Journals (31 journals)

1. Addiction
2. Addiction Biology
3. Biological Psychiatry
4. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging
5. Biological Psychiatry: Global Health
6. Biological Psychology
7. BMC Psychiatry
8. Brain Research
9. Brain and Cognition
10. Cognitive Affective and Behavioral Neuroscience
11. Clinical Neurophysiology
12. Cerebral Cortex
13. Cortex
14. Current Reviews on Drug Abuse
15. Current Research in Neurobiology
16. Current Opinion in Behavioral Sciences
17. eLife
18. Drug and Alcohol Review
19. Developmental Cognitive Neuroscience
20. Frontiers in Neuroscience
21. International Journal of Psychophysiology
22. Nature: Scientific Reports
23. Nature: Translational Psychiatry
24. Neuroimage
25. Neuroimage: Clinical and Cognitive Neuroscience
26. Neuropsychologia
27. Nicotine and Tobacco Research
28. PeerJ
29. PLOS Biology
30. PLOS Computational Biology

31. Psychophysiology
32. Social Neuroscience
33. Social Cognitive and Affective Neuroscience.
34. The New England Journal of Medicine

II. Ad Hoc Reviewer for Funding Agencies

1. Perception, Action, and Cognition program at the National Science Foundation
2. Canadian Institute of Health Research
3. Natural Sciences and Engineering Research Council of Canada
4. FWF Austrian Science Fund
5. National Science Center, Poland
6. National Science Center, Switzerland

III. Member of editorial boards

1. Review editor at *Frontiers in Decision Making Neuroscience* (2018-2020)
2. Committee chair and symposium review editor for the Annual meeting of the Society for Psychophysiology (2021-2022).

IV. Professional Memberships

2006 – Present: Society for Psychophysiology

2013 – Present: Organization for Human Brain Mapping

2022 – Biological Psychiatry

2022 – American Psychological Association

SERVICE TO THE UNIVERSITY AND DEPARTMENT

I. Ad Hoc Reviewer for Funding Agencies

The Busch Biomedical Grant Program (2018, 2020, 2023).

II. Committee Member

1. Motivational & Affective neuroscience Focus Area Subcommittee member, External Advisory Committee, Brain Health Institute 5-year review (2021).
2. Departmental evaluation committee member for the reappointment of Research Associates and non-tenure track faculty (2017-2022).
3. Behavioral & Neural Sciences Graduate Program departmental qualifying exam committee member (2017-2020).
4. Behavioral & Neural Sciences Graduate Program admission committee member (2016-2019, 2021).
5. Center for Molecular and Behavioral Neuroscience Annual Symposium planning committee member (2017-2019).
6. Behavioral & Neural Sciences Graduate Program colloquium planning committee member (2017, 2019).
7. Behavioral & Neural Sciences Graduate Program new student orientation (2017-2022).
8. Co-creator and committee member of the Mice, Monkey, Men/Women Discussion Group, which seeks to bridge human and non-human neuroscience research across CMBN labs through presentations and discussions on timely topics (2016 – 2022).

V. Teaching

1. Lecturer (2017, 2019, 2024). Course developer and instructor for *Windows on the Brain*,

- a graduate-level course in Cognitive Electrophysiology at Rutgers University-Newark.
2. Lecturer (2018, 2020, 2021,2023). Course developer and instructor for *Foundation in Neuroscience III*, a graduate-level course in Cognitive Neuroscience at Rutgers University-Newark.
 3. Lecturer (2017, 2019). Co-instructor for *Foundations in Neuroscience II*, a graduate-level course on System Neuroscience at Rutgers University-Newark.
 4. Lecturer (2018, 2020, 2022, 2023). Co-instructor for *Introduction to Neuroscience*, an undergraduate-level course at Rutgers University-Newark.
 5. Lecturer (2017, 2018, 2019, 2020, 2021, 2022). Co-instructor for *Critical Thinking in Neuroscience*, a graduate-level course at Rutgers University-Newark.
 6. Lab Instructor (2008-2012). *Human electrophysiological research methods* (PSYC 574). University of Victoria, Canada.
 7. Lab Instructor (2005). *Research Methods in Psychology* (PSYC 201). University of Victoria, Canada.

VI. Mentoring

Post-doctoral students

1. Komal Bharti, PhD. Post-doctoral researcher, Rutgers-Newark (2023-present).
2. Daniel Robles, PhD. Post-doctoral researcher, Rutgers-Newark (2023-present).
3. Mei-heng Lin, PhD. Post-doctoral researcher, Rutgers-Newark (2018-2023).
4. Kathryn Biernacki, PhD. Post-doctoral researcher, Rutgers-Newark (2018-2022).

PhD and Masters students

1. Yifan Goa, Behavioral & Neural Sciences graduate student. Rutgers-Newark. (2019-present).
2. Nicole Lalta, G-RISE and Behavioral & Neural Sciences graduate student. (2023-present).
3. Jaleesa Stringfellow, G-RISE and Behavioral & Neural Sciences graduate student. (2021-present).
4. Galit Karpov, Behavioral & Neural Sciences graduate student. Rutgers-Newark. (2019-present).
5. Malte Gueth, Behavioral & Neural Sciences graduate student. Rutgers-Newark. (2018-present).
6. Adam Baker, Masters thesis. Simon Fraser University, Canada co-supervisor (2013-2018)

PhD student rotations:

1. Shira Lupkin, PhD student (rotation). Rutgers-Newark. (2018).
2. Carrisa Cocuzza, PhD student (rotation). Rutgers-Newark. (2017).

International Graduate Students

1. Martin Hochheimer, Masters (visiting student). Rutgers-Newark. (2017)
2. Jose Garciaal, PSYC Diploma. University of Marburg, Germany, co-supervisor (2013-2015)

Undergraduate Students

1. Merna Zaki, Post-Baccalaureate Research Experience (PREP) Pilot Program, Rutgers-Newark. (2022-2023)
2. Kelvin Geraldo, Louis Stokes Alliance for Minority Participation (LSAMP), National Science Foundation funded summer program, Rutgers-Newark.

3. Marissa Cortright, NIDA summer intern. (2021)
4. Esteban Cabrera, Louis Stokes Alliance for Minority Participation (LSAMP), National Science Foundation funded summer program, Rutgers-Newark (2021).
5. John Wood, Honors thesis, University of Victoria. co-supervisor (2012).
6. Somayyeh Montazer, Honors thesis, University of Victoria. co-supervisor (2011).
7. Jessica Gibson, Honors thesis, University of Victoria. co-supervisor (2010).

VII. Doctoral thesis committee member

1. Dixit Sharma, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. (current)
2. Kirsten Paterson, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. (current)
3. Richard Chen, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. (2021-defended)
4. Yinghua Liu, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. (2021-defended).
5. Alex Schielke, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. Currently being supervised. (2022 – defended).
6. Carrisa Cocuzza, Behavioral & Neural Sciences program PhD Student, Rutgers-Newark. (2022-defended)..

VIII. Research Assistant Supervision

2024- present: Josh Espinoza-Dick
 2023 – present: Emily Zhang (Rutgers).
 2020 – 2021: Sally Cole (Rutgers-now graduate student at Florida State).
 2017 – 2020: Hassan Elsamna (High school intern - now in Rutgers medical program)
 2017 – 2018: Seema Parikh (now in MD program with New Jersey Medical School).
 2017 – 2018: Fernanda Juarez (now at University of Pennsylvania).
 2017 – 2020: Neeta Bauer (now at Princeton University).
 2018 – 2020: Pavlina Coleska (Rutgers University).
 2018 – 2020: Juan Cadavid (now in Rutgers medical program).
 2018 – 2020: Peter Shafeek (Rutgers University).
 2015 – 2016: Francois Trottier (CHUM Psychiatry Student).
 2013 – 2015: Jesse Popov (McGill Medical student).
 2013 – 2015: Tiberiu Mahu (Sainte-justine children’s hospital).
 2013 – 2012: Jean-Phillip Miron (University of Montreal).
 2011 – 2015: Christoph Niemeyer, (UVIC).
 2009 – 2012: Marie Clipperton, (UVIC).
 2009 – 2012: Elizabeth Plante, (UVIC).
 2009 – 2011: Tali Cherniawsky, (UVIC).
 2008 – 2011: Kevin Lee (UVIC)
 2007 – 2009: Jenny Macsween, (UVIC).