

Yu-Chin Chiu, Ph.D.

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PROFESSIONAL POSITIONS

2024, Aug- **Associate Professor**, Department of Psychological Sciences
Purdue University, West Lafayette, IN

2024-25 **Visiting Associate Professor**, Department of Psychology
National Cheng Kung University, Tainan City, Taiwan

2018-23 **Assistant Professor**, Department of Psychological Sciences
Purdue University, West Lafayette, IN

2013-18 **Post-Doctoral Associate**, Center for Cognitive Neuroscience
Duke University, Durham, NC

2012-13 **Assistant Project Scientist**, Department of Psychology
University of California San Diego, La Jolla, CA

2011-12 **Post-Doctoral Fellow**, Department of Psychology
University of California San Diego, La Jolla, CA

2004-05 **Research Assistant**, Institute of Linguistics
Academia Sinica, Taipei, Taiwan

EDUCATION

2010 **Ph.D. Psychological and Brain Sciences**
Johns Hopkins University, Baltimore, MD

2007 **M.S. Psychological and Brain Sciences**
Johns Hopkins University, Baltimore, MD

2004 **B.S. Psychology** (Dean's list 2001-2004)
National Taiwan University, Taipei, Taiwan

HONORS & AWARDS

2022 Fellowship to the ERP Boot Camp, UC Davis, Davis, CA

2020 Elected Fellow, Psychonomic Society

2012 Travel award to Determinants of Executive Function & Dysfunction Annual Conference, University of Colorado at Boulder, CO

2009 Fellowship to the Summer Institute in Cognitive Neuroscience, UC Santa Barbara, CA

2008 Fellowship to the Summer School of Mathematics in Brain Imaging, Institute for Pure and Applied Mathematics (IPAM), UC Los Angeles, CA

2005-08 Graduate Fellowship in Cognitive Neuroscience, Ministry of Education, Taiwan

RESEARCH SUPPORT

1. Purdue University
CEREBBRAL Pilot Grant

The cognitive neuroscience of human learning

5/5/2024-12/31/2025

Total Amount of Award: \$10,000

Role: Dr. Chiu is a Co-investigator on this project, responsible for study design, programming one of the experiments, EEG data collection, analysis, and interpretation.

2. Ford Motor Company
Strategic Alliance Agreement
Objective Measures: In-Vehicle Wellbeing Experiences
7/1/2023-6/30/2025
Total Amount of Award: \$203,294
Role: Dr. Chiu is a Co-investigator on this project, responsible for providing consultations with EEG data analyses and interpretation.
3. Purdue University
PIIN Grand Challenges in Neuroscience
Pathways to Substance Use Disorder: A Unified Model of Animal and Human Neuroscience to Predict Illness Development
7/1/2020 – 6/30/2023 (includes no-cost extension)
Total Amount of Award: \$156,200
Role: Dr. Chiu is a Co-investigator on this project, responsible for fMRI portion of the project, such as designing and programming experiments, collecting data, performing data analysis, generating reports, and collaborating closely with other Co-investigators.
4. Purdue University
HHS MRI Pilot Grant
Neural Mechanisms of Adaptive Context Reinstatement
7/1/2020 – 12/1/2021
Total Amount of Award: \$3,000
Role: PI
5. Indiana Clinical and Translational Science Institute (CTSI)
Core Pilot Grant
Neural Mechanisms of Cognitive Flexibility in Humans
8/1/2020 – 7/31/2021
Total Amount of Award: \$10,000
Role: PI
6. Purdue University
HHS COVID Rapid Response Grant
Nurses' Psychological Trauma and Cognitive Control in the COVID-19 Pandemic
5/1/2020 – 4/30/2021
Total Amount of Award: \$10,000
Role: Dr. Chiu is a Co-investigator on this project, responsible for administering multiple cognitive tasks to assess cognitive control remotely and collaborating with the other Co-investigators on reports of the research findings.
7. Tourette Syndrome Association
Clinical Research
Investigation of neural mechanisms of competing response therapy using real-time fMRI
5/1/2012 – 5/31/2013
Total Amount of Award: \$75,000
Role: PI

PUBLICATIONS (published under "Yu-Chin, C" after 2022, and under "Chiu, YC" before)

1. **Yu-Chin C** & Nack C (2025). Escaping the metacontrol see-saw: Dissociating metacontrol via top-down modulation. *Collabra: Psychology*.
2. **Yu-Chin C** & Nack C (2025). Random rewards reduce task-switch costs. *Journal of Experimental Psychology: Human Perception and Performance*.
3. Lim C, Villarreal RT, Nasir M, **Yu-Chin C**, Yu D (2025). REVive: Development of a reactive environmental vigilance in-vehicle system to mitigate drowsiness-induced inattention during automated driving. *Accident Analysis and Prevention*, 217.
4. Kang MS, **Yu-Chin C** (2024). Concurrent expectation and experience-based metacontrol: EEG insights and the role of working memory capacity. *Cognitive, Affective, & Behavioral Neuroscience*, 24(3):402-420.
5. Nack C, **Yu-Chin C** (2024). Learned switch readiness via concurrent activation of task sets: Evidence from task specificity and memory load. *Memory & Cognition*.
6. Nack C, **Yu-Chin C** (2023). Cognitive flexibility and stability at the task-set level: A dual-dimension framework. *Advances in Psychology*, 1, 1–28.
7. **Yu-Chin C**, Forster AK, Zhang L, Foli KJ (2023). Nurses' Psychological Trauma and Cognitive Control in the COVID-19 Pandemic. *SAGE Open Nursing*, 9. <https://doi.org/10.1177/23779608231214601>
8. Kang MS, **Yu-Chin C** (2022). Well under control: Control demand changes are sufficient for metacontrol. *Frontiers in Psychology*, 13:1032304.
9. **Yu-Chin C** (2022). Task foreknowledge swallows item-specific but not list-wide control learning effects. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 66, 799–823.
10. **Chiu YC**, Sun F, Dietz GA (2022). Independent subsequent memory effects of conflict resolution and response inhibition. *Psychological Research*, 86, 1565–1577.
11. Foli KJ, Forster A, Cheng C, Zhang L, **Chiu YC** (2021). Voices from the COVID-19 frontline: Nurses' trauma and coping. *Journal of Advanced Nursing*, 77, 3853–3866.
12. Kang MS, **Chiu YC** (2021). Proactive and reactive metacontrol in task switching. *Memory & Cognition*, 49, 1617–1632.
13. Kiyonaga A, Powers JP, **Chiu YC**, Egner T (2021). Hemisphere-specific parietal contributions to the interplay between working memory and attention. *Journal of Cognitive Neuroscience*, 33, 1428–1441.
14. **Chiu YC**, Fröber K, Egner T (2020). Item-specific priming of voluntary task switches. *Journal of Experimental Psychology: Human Perception and Performance*, 46, 434–441.
15. **Chiu YC** (2019). Automating adaptive control with item-specific learning. In K. Federmeier (Ed.). *The Psychology of Learning and Motivation*, 71, 1-37.
16. **Chiu YC**, Egner T (2019). Cortical and subcortical contributions to context-control learning. *Neuroscience and Biobehavioral Reviews*, 99, 33–41.
17. Yin S, Sui J, **Chiu YC**, Chen A, Egner T (2019). Automatic prioritization of self-referential stimuli in working memory. *Psychological Science*, 30, 415-423.
18. **Chiu YC**, Egner T (2017). Cueing cognitive flexibility: Item-specific learning of switch readiness. *Journal of Experimental Psychology: Human Perception and Performance*, 43, 1950–1960.
19. **Chiu YC**, Jiang J, Egner T (2017). The caudate nucleus mediates learning of stimulus-control state associations. *Journal of Neuroscience*, 37, 1028–1038.
20. **Chiu YC**, Egner T (2016). Distractor-relevance determines whether task-switching enhances or impairs distractor memory. *Journal of Experimental Psychology: Human Perception and Performance*, 42, 1–5.

21. Gmeindl L*, **Chiu YC***, Esterman MS, Greenberg AS, Courtney SM, Yantis S (2016). Tracking the will to attend: Cortical activity indexes self-generated, voluntary shifts of attention. *Attention, Perception, & Psychophysics*, 78, 2176-2184. (*co-authorship)
22. **Chiu YC**, Egner T (2015). Inhibition-Induced Forgetting Results from Resource Competition between Response Inhibition and Memory Encoding Processes. *Journal of Neuroscience*, 35, 11936–11945.
23. **Chiu YC**, Egner T (2015). Inhibition-induced forgetting: when more control leads to less memory. *Psychological Science*, 26, 27–38.
24. **Chiu YC**, Cools R, Aron AR (2014). Opposing effects of appetitive and aversive cues on go/no-go behavior and motor excitability. *Journal of Cognitive Neuroscience*, 26, 1851–1860.
25. **Chiu YC**, Aron AR (2014). Unconsciously triggered response inhibition requires an executive setting. *Journal of Experimental Psychology: General*, 143, 56–61.
26. Yang C, **Chiu YC**, Yeh Y (2012). Feature saliency affects delayed matching of an attended feature. Feature saliency affects delayed matching of an attended feature. *Journal of Cognitive Psychology*, 24, 714–726.
27. Greenberg AS, Verstynen T, **Chiu YC**, Yantis S, Schneider W, Behrmann M (2012). Visuotopic cortical connectivity underlying attention revealed with white-matter tractography. *Journal of Neuroscience*, 32, 2773–2782.
28. **Chiu YC**, Esterman MS, Gmeindl L, Yantis S (2012). Tracking cognitive fluctuations with multivoxel pattern time course (MVPTC) analysis. *Neuropsychologia*, 50, 479–486.
29. **Chiu YC**, Aron AR, Verbruggen F (2012). Response suppression by automatic retrieval of stimulus-stop association: evidence from transcranial magnetic stimulation. *Journal of Cognitive Neuroscience*, 24, 1908–1918.
30. Chu C, Mourão-Miranda J, **Chiu YC**, Kriegeskorte N, Tan G, Ashburner J (2011). Utilizing temporal information in fMRI decoding: classifier using kernel regression methods. *NeuroImage*, 58, 560–571.
31. **Chiu YC**, Esterman M, Han Y, Rosen H, Yantis S (2011). Decoding task-based attentional modulation during face categorization. *Journal of Cognitive Neuroscience*, 23(5), 1198–1204.
32. Tamber-Rosenau BJ, Esterman, M, **Chiu YC**, Yantis S (2011). Cortical mechanisms of cognitive control for shifting attention in vision and working memory. *Journal of Cognitive Neuroscience*, 23, 2905–2919.
33. Esterman M, Tamber-Rosenau BJ, **Chiu YC**, Yantis S (2010). Avoiding non-independence in fMRI data analysis: leave one subject out. *NeuroImage*, 50, 572–576.
34. Esterman M, **Chiu YC**, Tamber-Rosenau BJ, & Yantis S (2009). Decoding cognitive control in human parietal cortex. *Proceedings of the National Academy of Sciences of the United States of America*, 106, 17974–17979.
35. **Chiu YC**, Yantis S (2009). A domain-independent source of cognitive control for task sets: shifting spatial attention and switching categorization rules. *Journal of Neuroscience*, 29, 3930–3938.
36. Leonard CJ*, **Chiu YC*** (2007). What you set is not what you see: unconscious activation of cognitive control. *Journal of Neuroscience*, 27, 11170–11171. (*co-authorship)
37. Lee C, Tsai J, **Chiu YC**, Tzeng OJL (2006). The early extraction of sublexical phonology in reading chinese pseudocharacters : An event-related potentials study. *Language and Linguistics*, 7.3, 619–636.
38. Yeh Y, Yang C, **Chiu YC** (2005). Binding or prioritization : The role of selective attention in visual short-term memory. *Visual Cognition*, 12, 759–799.

Google Scholar: <https://scholar.google.com/citations?user=xQPUBnQAAAAJ&hl=en>

ORCID: <https://orcid.org/0000-0001-6768-509X>

INVITED TALKS

2024 Nov	National Cheng Kung University, Tainan City, Taiwan
2024 Oct	National Taiwan University, Taipei City, Taiwan
2023 Mar	Washington University in St. Louis, St. Louis, MO
2022 Mar	Brain Awareness Week in Ukraine, Ukrainian Society for Neuroscience, Virtual
2021 Mar	Midwestern Psychological Association (MPA) Conference, Virtual
2019 Nov	University of Illinois Urbana-Champaign, Champaign, IL
2019 Sep	European Society for Cognitive Psychology, Tenerife, Spain
2018 Oct	Society for Psychophysiological Research, Quebec City, Quebec, Canada
2018 Jan	Penn State University, State College, PA
2017 Dec	The University of New Mexico, Albuquerque, NM
2017 Dec	University of Notre Dame, Notre Dame, IN
2017 Dec	Purdue University, West Lafayette, IN
2017 Jan	Rutgers University-Camden, Camden, NJ
2016 Jan	Michigan State University, East Lansing, MI
2016 Jan	University of North Carolina Greensboro, Greensboro, NC
2016 Jan	University of Arizona, Tucson, AZ
2015 Dec	McGill University, Montreal, Quebec, Canada
2012 Sep	National Central University, Taoyuan City, Taiwan
2009 Dec	National Taiwan University, Taipei City, Taiwan

REVIEWERING

Associate Editor:

2025-	Psychonomic Bulletin & Review
2020-2024	International Journal of Psychophysiology

Journals: Journal of Neuroscience • European Journal of Neuroscience Cerebral • Cortex • Scientific Report • Neuropsychologia • Psychological Science • Neuroimage • Journal of Neurophysiology • Experimental Brain Research • Journal of Cognitive Neuroscience • Cognitive, Affective, and Behavioral Neuroscience • Cognition • Journal of Experimental Psychology: General • Journal of Experimental Psychology: Learning, Memory, and Cognition • Journal of Experimental Psychology: Human Perception and Performance • Memory and Cognition • Memory • Attention, Perception, & Psychophysics • Frontiers in Psychology • Behavioral Neuroscience • Human Brain Mapping • International Journal of Psychophysiology • Consciousness and Cognition • Acta Psychologica • BMC Neuroscience • Psychonomic Bulletin & Review • Brain Research • Cognitive Psychology • Cognition and Emotion • Cognitive Processing • Journal of Applied Research in Memory and Cognition • Quarterly Journal of Experimental Psychology • Psychological Research • eNeuro • Journal of Psychophysiology • iScience • SAGE Open Nursing

Conference: Society for Psychophysiological Research (2022 Annual Meeting), Society for Literature, Science, and the Arts (35th Annual Meeting)

Grants: National Science Foundation, Air Force Office of Scientific Research, Poland National Science Center, Collaborative Research Centre (Germany), Deutsche Forschungsgemeinschaft (DFG/German Research Foundation)

GRADUATE MENTEES

Major Professor for student theses:

1. Moon Sun Kang (2019-2024)
 - Masters thesis (2021): *Proactive and reactive metacontrol*.

- PhD thesis (2024): *Dual Mechanisms of metacontrol: from neural systems to interactive features*.
2. Corey Nack (2019-2024)
- Masters thesis (2021): *Generalizability and mechanisms of learned flexibility induced through switch probability manipulation*.
 - PhD thesis (2024): *Escaping the metacontrol seesaw: double dissociations between flexibility and stability*.

Research awards received by graduate mentees:

1. Moon Sun Kang (2024). Graduate Research Publication Award, Department of Psychological Sciences, Purdue University. \$500.
2. Moon Sun Kang (2022). Graduate Research Innovation Awards, Department of Psychological Sciences, Purdue University. "Does the effort input reduce reinforcers' values of promoting control?" \$1500.
3. Moon Sun Kang (2022). Graduate School Summer Research Grant, Purdue University. \$3400.
4. Corey Nack (2021). Psi Chi 2021-2022 Fall Graduate Research Grant. "Enhancing cognitive flexibility by offering performance-noncontingent rewards." \$480 (Funding rate =21%).

Doctoral Dissertation Committees:

Amedee Martella (2022), Maria Kon (2022), Tianfang Han (2023), Yang Jing (2023), Victoria Jakicic (2023), Li Xin Lim (2023), Yeling Jiang (2024), Gia Macias (2024), Linda Tomko (2024), Chilo Lim (2024)

Masters Thesis Committees:

Roslyn Harold (2021), Victoria Jakicic (2021), Alyssa Randez (2023), Sarah Morgan Pieper (2025)

UNDERGRADUATE MENTEES

Mentored Summer Undergraduate Research Fellowship (SURF) students:

Gloria Dietz (2020)

Mentored Office of Undergraduate Research (OUR) scholars:

Peter Zakariya (2024-2025)

Luke Dubec (2022-2023)

Haris Hasan (2021-2022)

Fangqin Sun (2019-2020)

Research Assistants: Ella Trevino, Aoife Combs, Claire WenHan Davis, Caleb Goodwin, Lily Bachar, Michelle Hong, Huimin Gai, Jenna Dave, Benjamin Delatorre, Hecun Liu, Yifei Gan, Piper Reed, Selina Pheik-kie Woo, Aidan Robert, Alexandria Bedard, Jodi Adachi, Mezna AlHabshi, Brianna Botka, Grace Foley, Conghao Gao, Yiran Ma, Arshia Rama, Linh Phan, Hannah Hui, Ellis Lin, Madeline Gabriel, Brock Zuyderwyk, Gloria Dietz, Skyler Van Meter, Elizabeth German, Amel Chekili, Kanika Garg, Nivedha Madhan, Hyun Joo Shin, Zhimei Niu, Georgia Gross

TEACHING

Purdue University:

Introduction to Cognitive Psychology (undergraduate course)

Sensory and Perceptual Processes (undergraduate course)

Perceptual Processes (graduate course)

Johns Hopkins University:

SELECTED CONFERENCE PRESENTATIONS (in recent years)

- Dong M, **Yu-Chin C**, Esmaeili B (2025, May). Brain Activity Patterns While Viewing Construction Signs: AN EEG Study of Attention and Memory Encoding. Poster presented at the 23rd CIB World Building Congress, West Lafayette, IN.
- Gai H, **Yu-Chin C** (2025, April) The influence of selective reinforcement on Item specific effect. Poster presented at the 97th Midwestern Psychological Association (MPA) Conference, Chicago, IL.
- Zakariya P, **Yu-Chin C** (2025, April). Decoding abstract cognitive control states from human EEG data. Poster presented at the 2025 Spring Undergraduate Research Conference at Purdue University, West Lafayette, IN.
- Kang MS, **Yu-Chin C** (2023, November). Concurrent operation of proactive and reactive metacontrol. Poster presented at the 64th Annual Meeting of the Psychonomics Society, San Francisco, CA.
- Nack C, **Yu-Chin C** (2023, April). Cognitive control of stock market panic-selling. Poster presented at the 95th Midwestern Psychological Association (MPA) Conference, Chicago, IL.
- Yu-Chin C**, Nack C (2022, November). Performance Noncontingent Rewards Promote Cognitive Flexibility. Talk presented at the 63rd Annual Meeting of the Psychonomics Society, Boston, MA.
- Nack, C, **Yu-Chin C** (2022, November). Generalizability of Learned Flexibility Induced by Switch Probability Manipulation. Poster presented at the 63rd Annual Meeting of the Psychonomics Society, Boston, MA.
- Kang MS, **Yu-Chin C** (2022, November). Working Memory Capacity Reveals a Competitive Relationship Between Proactive and Reactive Metacontrol. Poster presented at the 63rd Annual Meeting of the Psychonomics Society, Boston, MA.
- Kang MS, **Chiu YC** (2021, November). Does Aversiveness Enhance Metacontrol: Some Evidence for Gender Differences. Poster presented at the 62nd Annual Meeting of the Psychonomics Society, Virtual.
- Foli K, Forster A, Zhang L, **Chiu YC** (2021, March). Voices From the COVID-19 Frontline: Nurses' Trauma and Coping. Talk given at Sigma Theta Tau International 46th Biennial Convention, Indianapolis, IN.
- Chiu YC** (2021, April). Cognitive control-induced forgetting vs. remembering. Talk given at the 92nd Midwestern Psychological Association (MPA) Conference, Virtual.
- Nack C, **Chiu YC** (2020, November). Cognitive Control When There's Something in It for Me: Item Specific Switch Conditioning. Poster presented at the 61st Annual Meeting of the Psychonomics Society, Virtual.
- Kang MS, **Chiu YC** (2020, November). Item-specific and list-wide effects of control learning. Poster presented at the 61st Annual Meeting of the Psychonomics Society, Virtual.
- Dietz G, **Chiu YC** (2020, August). Predicting Subsequent Memory From Cognitive States During Learning. Talk presented at the 2020 Summer Undergraduate Research Fellowship (SURF) Symposium, Virtual.
- Niu Z, Gross G, **Chiu YC** (2019, April). Item-Specific Switch Probability Manipulation Modulates Voluntary Task Switching. Poster presented at the annual meeting of the Psychology Undergraduate Research Conference, West Lafayette, IN.