

NUTTIDA RUNGRATSAMEETAWEEMANA

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ACADEMIC POSITIONS

Postdoctoral Fellow , Computational Neurobiology Laboratory, The Salk Institute for Biological Studies Advisor: Dr. Terrence J. Sejnowski	July 2020 - Present La Jolla, CA
Postdoctoral Fellow , Army Research Laboratory, The U.S. Army Human Research and Engineering Directorate Advisor: Dr. Javier O. Garcia	July 2020 - Present Aberdeen, MD

EDUCATION

Ph.D. in Neurosciences (Computational Specialization) , University of California, San Diego Thesis: <i>Neural Dynamics of Probabilistic Perceptual Decision Making in the Human Brain</i> Advisors: Dr. John T. Serences & Dr. Larry R. Squire	May 2020 La Jolla, CA
M.S. in Neurosciences (Computational Specialization) University of California, San Diego Advisors: Dr. John T. Serences & Dr. Larry R. Squire	August 2016 La Jolla, CA
B.A. in Mathematics and Neuroscience with Highest Distinction Middlebury College Mathematics Thesis: <i>A Mathematical Approach to Selective Visual Attention</i> Neuroscience Thesis: <i>The Influence of Internal and External Arousal on Memory</i> Advisors: Dr. Jason Arndt & Dr. Michael Olinick	May 2014 Middlebury, VT

AWARDS AND HONORS

Funding

U.S. Army Research Laboratory Graduate Fellowship	2018 - 2020
Training Grant, UCSD Neurosciences Graduate Program	2014 - 2015

Awards

Career Advancement Award, Salk Institute	2021
Anuradha Rao Memorial Award, Cell Press/ Society for Neuroscience	2021
College Scholar Award, Middlebury College	2010 - 2014
Senior Research Fellowship, Middlebury College	2013 - 2014
Middlebury College Research Travel Award	2013
• Awarded to present a poster at <i>44th Annual Meeting of the Society for Neuroscience</i>	
Middlebury College Summer Research Fellowship	2012
• Awarded to intern in the lab of Dr. John T. Serences, UCSD	
Neuroscience Undergraduate Research Scholarship	2009 - 2014
• Awarded by the Ministry of Science and Technology of Thailand	

PUBLICATIONS

- [1] **Rungratsameetaweemana N**, Lainscsek C, Cash SS, Garcia JO, Sejnowski TJ, Bansal K. Intrinsic network topology underlies heterogeneity of seizure dynamics. Preprint, 2021.
- [2] **Rungratsameetaweemana N**, Itthipuripat S, Garcia JO, Serences JT. Distinct neural dynamics of top-down control shape decision-making under uncertainty. Preprint, 2021.
- [3] Nelli S, Itthipuripat S, **Rungratsameetaweemana N**, Serences JT. The speed-accuracy tradeoff reveals flexible access to accumulating sensory evidence during human decision-making. Under revision.
- [4] Lainscsek C*, **Rungratsameetaweemana N***, Cash SS, Sejnowski TJ. Cortical chimera states predict epileptic seizures. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 29: 121106, 2019.
- [5] **Rungratsameetaweemana N**, Squire LR, Serences JT. Preserved capacity for learning statistical regularities and directing selective attention after hippocampal lesions. *The Proceedings of the National Academy of Sciences*, 116 (39): 19705-19710, 2019.

- [6] **Rungratsameetaweemana N**, Serences JT. Dissociating the impact of attention and expectation on early sensory processing. *Current Opinion in Psychology*, 29: 181-186, 2019.
- [7] **Rungratsameetaweemana N***, Itthipuripat S*, Salazar A, Serences JT. Expectations do not alter early sensory processing during perceptual decision-making. *Journal of Neuroscience*, 38 (24): 5632-5648, 2018.
- [8] **Rungratsameetaweemana N**, Squire, LR. Preserved capacity for scene construction and shifts in perspective after hippocampal lesions. *Learning & Memory*, 25: 347-351, 2018.
- [9] Itthipuripat S, Garcia, JO, **Rungratsameetaweemana N**, Sprague TC, Serences JT. Changing the spatial scope of attention alters patterns of neural gain in human cortex. *Journal of Neuroscience*, 34(1): 112-123, 2014.

* these authors made equal contributions

INVITED TALKS

- [1] Neural dynamics of decision making under uncertainty & The importance of allyship in science *STEMinar Series*, UCSD, May, 2021.
- [2] Dynamics of top-down modulatory signals in humans and neural networks. *Dr. Dobromir Rahnev's lab*, Georgia Institute of Technology. March, 2021.
- [3] Probabilistic decision making in humans and recurrent neural networks & The importance of mentorship in supporting diversity in science. *Diversity and Science Lecture Series*, UCSD. December, 2020.
- [4] Uncovering dynamical chimera states in the human brain. *Intelligent and Complex Systems Research Seminar Series*, Chulalongkorn University, Thailand. June, 2020.
- [5] Temporal dynamics of probabilistic decision making. *Neuroscience and Psychology Research Talk Series*, Middlebury College. January, 2020.

CONFERENCE TALKS

- [1] **Rungratsameetaweemana N**, Kim R, Sejnowski TJ. Neural dynamics of probabilistic computations in humans and recurrent neural networks. Selected research spotlight, *Virtual Meeting of the Cognitive Neuroscience Society*. March, 2021.
- [2] **Rungratsameetaweemana N**, Kim R, Sejnowski TJ. Probabilistic information processing in humans and recurrent neural networks. *Neuromatch 3.0 Conference*. October, 2020.
- [3] **Rungratsameetaweemana N**, Lainscsek C, Cash SS, Sejnowski TJ. Cortical chimera states as predictors for epileptic seizures. Selected research spotlight, *IEEE Engineering in Medicine and Biology Society symposium and workshop on Brain, Mind, and Body: Cognitive Neuro-engineering for Health and Wellness*. December, 2019.
- [4] **Rungratsameetaweemana N**, Itthipuripat S, Salazar A, Serences JT. Expectation influences late stages of information processing. *18th Annual Meeting of the Vision Sciences Society*. May, 2018.
- [5] **Rungratsameetaweemana N**, Olinick M. Mathematical implications of the normalization model of attention. *Annual Conference of Women in Mathematics of New England*. September, 2012.

CONFERENCE POSTER PRESENTATIONS

- [1] **Rungratsameetaweemana N**, Kim R, Sejnowski TJ. Neural dynamics of probabilistic information processing in recurrent neural networks. *18th Annual Computational and Systems Neuroscience (Cosyne) Meeting*. February, 2021.
- [2] **Rungratsameetaweemana N**, Lainscsek C, Cash SS, Sejnowski, Garcia JO, Bansal K. Intrinsic network topologies underlie distinct propagation dynamics of focal seizures. *Society for Neuroscience Global Connectome*. January, 2021.
- [3] **Rungratsameetaweemana N**, Lainscsek C, Garcia JO, Bansal K, Cash SS, Sejnowski TJ. Uncovering dynamical states through concurrent electroencephalography (EEG) and electrocorticography (ECoG). *Virtual Meeting of the Cognitive Neuroscience Society*. June, 2020.
- [4] **Rungratsameetaweemana N**, Lainscsek C, Cash SS, Sejnowski TJ. Cortical chimera states as predictors for epileptic seizures. *17th Annual Computational and Systems Neuroscience (Cosyne) Meeting*. February, 2020.

- [5] **Rungratsameetaweemana N**, Lainscsek C, Cash SS, Sejnowski TJ. Cortical chimera states as predictors for epileptic seizures. *IEEE Engineering in Medicine and Biology Society symposium and workshop on Brain, Mind, and Body: Cognitive Neuroengineering for Health and Wellness*. December, 2019.
- [6] **Rungratsameetaweemana N**, Itthipuripat S, Serences JT. Dissociable modulation of top-down control on perceptual decision making. *19th Annual Meeting of the Vision Sciences Society*. May, 2019.
- [7] **Rungratsameetaweemana N**, Schmaelzle R, Bansal K, Wasylyshyn N, Roy H, Lauharatanahirun N, Johnson T, Fernandez R, O'Donnell M, Falk E, Metcalfe J, Vettel JM, Garcia JO. Capturing communication success of driver-passenger dyads during real-world driving. *9th International Conference of the IEEE Engineering in Medicine and Biology Society on Neural Engineering*. March, 2019.
- [8] Garcia JO, Bansal K, **Rungratsameetaweemana N**, Wasylyshyn N, Roy H, Lauharatanahirun N, Johnson T, Fernandez R, Falk E, Metcalfe J, Vettel JM. Brain network communities between driver-passenger dyads capture successful communication while driving. *9th International Conference of the IEEE Engineering in Medicine and Biology Society on Neural Engineering*. March, 2019.
- [9] **Rungratsameetaweemana N**, Vettel JM, Oliva JB, Verstynen T, Serences JT, Garcia JO. Intrinsic neural oscillations modulate feature selectivity in human visual cortex. *48th Annual Meeting of the Society for Neuroscience*. November, 2018.
- [10] **Rungratsameetaweemana N**, Itthipuripat S, Serences JT. Temporal dynamics of prior expectations on human perceptual decision-making. *41st Annual European Conference on Visual Perception*. August, 2018.
- [11] **Rungratsameetaweemana N**, Squire LR, Serences JT. Effects of attention and expectation on perceptual decision making after medial temporal lobe lesions. *47th Annual Meeting of the Society for Neuroscience*. November, 2017.
- [12] **Rungratsameetaweemana N**, Itthipuripat S, Barker E, Wagstaff L, Serences JT. Task-irrelevant contextual expectation impairs orientation discrimination performance. *16th Annual Meeting of the Vision Sciences Society*. May, 2016.
- [13] **Rungratsameetaweemana N**, Itthipuripat S, Barker E, Salazar A, Serences JT. Dissociable effects of attention and expectation on perceptual decision making. *45th Annual Meeting of the Society for Neuroscience*. October, 2015.
- [14] **Rungratsameetaweemana N**, Itthipuripat S, Serences JT. Dissociable effects of sensory evidence and expectation during visual discrimination tasks. *15th Annual Meeting of the Vision Sciences Society*. May, 2015.
- [15] **Rungratsameetaweemana N**, Arndt J. The influence of internal and external arousal on memory. *55th Annual Meeting of the Psychonomic Society*. November, 2014.
- [16] Itthipuripat S, Garcia JO, **Rungratsameetaweemana N**, Sprague TC, Serences JT. Changing the spatial scope of attention alters patterns of neural gain in human cortex. *43rd Annual Meeting of the Society for Neuroscience*. November, 2013.

OUTREACH & MEDIA

Team Member, <i>Expanding Your Horizons of San Diego</i>	2021
<ul style="list-style-type: none"> Organized an outreach workshop with the Society for Women in Graduate Studies that aimed to increase advancement of girls and women in STEM 	
Featured news article on <i>Middlebury Magazine Class Notes</i>	2021
Featured news article on <i>Pomfret School Alumni Spotlight</i>	2021
Featured news article on <i>The U.S. Army CCDC Research Spotlight</i>	2020
Member, <i>Diversity Admission Committee</i> , Neurosciences Graduate Program, UCSD	2015 - 2020
<ul style="list-style-type: none"> Represented UCSD at Annual Meeting of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science 	2019
Team Member, <i>Xiao Pengyou</i> , VT	2011 - 2014
<ul style="list-style-type: none"> Organized outreach activities for local Asian adoptees in Vermont 	
Program Leader, Pakchong Community Science Outreach, Thailand	2011 - 2013
Executive Board Member, Southeast Asian Service Leadership Network (SEALNet)	2011
Team Member, Middlebury College Community Friends Outreach Program	2011

TEACHING & MENTORING EXPERIENCE**Research Mentor**

- Julie Eitzen (Undergraduate Independent Project, UCSD) 2021
- Carolyn Deustch (Undergraduate Independent Project, Cal Poly State University) 2021
- Mia Borzello (Graduate Rotation Project, UCSD) 2020
- Brianna Marsh (Graduate Rotation Project, UCSD) 2020
- Julia Phillips (Undergraduate Research Assistant, Fordham University) 2020
- Jimmy Yu (Undergraduate Independent Project, UCSD) 2017 - 2019
- Chenlu Wang (Undergraduate Research Assistant, UCLA) 2018
- Emely Anaya (Undergraduate Research Assistant, UCSD) 2018
- Kevin Diep (Undergraduate Independent Project, UCSD) 2017
- Lilli Wagstaff (Undergraduate Independent Project, UCSD) 2016 - 2017
- Tzu-en Wang (Undergraduate Independent Project, UCSD) 2016 - 2017
- Emily Barker (Undergraduate Independent Project, UCSD) 2015 - 2017

Contest Judge, *The Afro-Academic, Cultural, Techonological and Scientific Olympics* 2021

Reviewing Mentor, *Computational & Systems Neuroscience (Cosyne) Mentoring Forum* 2020

Guest Lecturer

Neuroscience: From Brain to Behaviors, UCSD 2019
Geometry, Roong Arun High School, Thailand 2011
Calculus I, Roong Arun High School, Thailand 2011
General Biology, Princess Chulabhorn's College, Thailand 2010

Teaching Assistant

Special Topics in Psychology Course, UCSD 2015
Neurophysiology, Middlebury College 2013
Multivariable Calculus, Middlebury College 2013
Differential Equations, Middlebury College 2013
Psychological Statistics, Middlebury College 2013
Introduction to Psychology, Middlebury College 2013
Heart of Mathematics, Middlebury College 2012
Calculus II, Middlebury College 2011 - 2012

AD HOC REVIEWING

Biological Psychiatry; Global Open Science; eLife; Frontiers in Human Neuroscience; IEEE Transactions on Biomedical Engineering; Journal of Neuroscience; Learning & Memory; NeuroImage