Miguel Angel Velásquez Vásquez

Personal Information:

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Education

31/12/2024 PhD in Psychology, Tulane University.
Dissertation: Investigating the effects of musical training and neurofeedback on cognitive enhancement and brain plasticity. *Advisor:* Dr. Paul J. Colombo.

07/05/2021 M.Sc. in Psychology, Tulane University.
Thesis: The effects of neural entrainment on sensorimotor synchronization. *Advisor:* Dr. Paul J. Colombo.

09/05/2014 B.S. in Psychology with Honors, University of New Orleans.
Thesis: Reciprocal relation between psychophysiological patterns of stress responsivity and sleep. *Advisor:* Dr. Elizabeth A. Shirtcliff .

Publications

(*Denotes equal contribution to the work)

2025 Galang, E. J.*, Velasquez, M. A.*, Elcin, D., O'Connell, S., & Colombo, P. J. (2025). Systematic Review and Meta-Analysis of the Relationships between Real-Time Neurofeedback Training Parameters and Acquisition of Neural Modulation. *Frontiers in Human Neuroscience, 19*, 1652607.

2024 Velasquez, M. A., Winston, J. L., Sur, S., Yurgil, K. A., Upman, A. E., Wroblewski, S. R., Huddle, A., & Colombo, P. J. (2024). Music training is related to late ERP modulation and enhanced performance during the Simon task but not the Stroop task. *Frontiers in Psychology, 18*, 1384179.

2024 Elcin, D., Velasquez, M. A., & Colombo, P. J. (2024). Effects of acute and long-term mindfulness on the conflict resolution component of attention. *Frontiers in Human Neuroscience, 18*, 1359198.

2020 Yurgil, K. A., Velasquez, M. A., Winston, J. L., Reichman, N. B., & Colombo, P. J. (2020). Music training, working memory, and neural oscillations: A review. *Frontiers in Psychology, 11*, 266.

Works in Progress

2025 Brigham, W., Velasquez, M. A., & Button, P. (In Preparation). Role of race concordance in mental health access.

Participation at Professional Meetings

(*Denotes collaborator-led presentations)

2023 Velasquez, M. A., Winston, J. L., Sur, S., Yurgil, K. A., Upman, A. E., Wroblewski, S. R., Huddle, A., & Colombo, P. J. "Music training is related to late ERP modulation and enhanced performance during the Simon task but not the Stroop task." *Poster presented at Society for Neuroscience Conference*. Washington, D.C.

2023 *Elcin, D., Velasquez, M. A., & Colombo, P. J. "Effects of acute and long-term mindfulness on the conflict resolution component of attention." *Poster presented at Society for Neuroscience Conference*. Washington, D.C.

2023 Velasquez, M. A., Yurgil, K. A., Winston, J. L., & Colombo, P. J. "The influence of musicianship on the timing of cognitive conflict resolution in Stroop and Simon tasks." *Poster presented at Tulane Research, Innovation and Creativity Summit*. New Orleans, LA.

2023 *Elcin, D., Velasquez, M. A., & Colombo, P. J. "Effects of acute and long-term mindfulness on the conflict resolution component of attention." *Poster presented at Tulane Research, Innovation and Creativity Summit*. New Orleans, LA.

2022 Velasquez, M. A., Yurgil, K. A., Domenech, L., Pearson, C., Winston, J. L., & Colombo, P. J. "Rhythmic priming results in neural entrainment and persistent effects on sensorimotor synchronization." *Poster presented at Health Science Research Days, Tulane University*. New Orleans, LA.

2021 Velasquez, M. A. "Rhythmic priming results in neural entrainment and persistent effects on sensorimotor synchronization." *Poster presented at Society for Neuroscience Conference*. Chicago, IL.

2021 Velasquez, M. A. "Musical experience is related to the time course of changes in levels of the immune response marker interleukin-6 after exposure to acute social stress." *Poster presented at Neuromusic VII – Fondazione Mariani*. Aarhus, Denmark.

2015 *Shirtcliff, E. A., Lamm, C., Lee, Y., Moody, S., & Velasquez, M. A. (2015). A neurobiological view on testosterone responsivity to reward and challenge. *Presented at the International Convention of Psychological Science (ICPS)*. Amsterdam, The Netherlands.

2014 Velasquez, M. A. "Reciprocal relation between psychophysiological patterns of stress responsivity and sleep." *Presented at Posters on the Hill*. Washington, D.C.

2014 Velasquez, M. A. "Reciprocal relation between psychophysiological patterns of stress responsivity and sleep." *Poster presented at Psychology Undergraduate Research Conference*. UCLA, Los Angeles, CA.

Talks

2022 "The effects of neural entrainment on sensorimotor synchronization." The Robert E. Flowerree III Psychology Colloquium Series, Tulane University.

Grants, Honors & Awards

2013 S. Thomas Elder Award Most Promising Undergraduate Research. Annual College of Sciences Honors Convocation

2014 Excellence in Psychology Award. 41st annual College of Sciences Honors Convocation

2012 Supervised Undergraduate Research Experience (SURE). Experimental program to Stimulate Competitive Research (LAEPSCoR). Stipend: $4000

Teaching: Mentorship

Honors Thesis Student Supervision
Charlotte Pearson

Baccalaureate Student Supervision
Laura Domensch, Eldrick Galang, Conner Angelle, Ilyssa Muise, Abby Freedman, Savannah McNair, Liam Tierney

AP Research Mentor
Eesha Dasai

Skills

Programming and Statistical Tools: Matlab, R, Python, SPSS
Neuroimaging Tools: EEG, fNIRS, ERP
Signal Processing: Time-frequency analysis, power spectral density (PSD), dynamic and static functional connectivity, steady state evoked potentials (SSEP)
Wet Lab Techniques: Enzyme-linked immunosorbent assay (ELISA)
Others: E-Prime, PsychoPy, BCI

Service to the Field

Ad Hoc Journal Reviewer
Frontiers in Psychology - Auditory Cognitive Neuroscience
Annals of the New York Academy of Sciences
Scientific Reports
Behavioral and Brain Functions

Membership in Professional Societies

Society for Neuroscience (SfN)
America Psychological Association (APA)

Society for Music Perception and Cognition (SMPC)
Multidisciplinary Association for Psychedelic Studies (MAPS)

Other

2022 **Finalist in Novel Tech Challenge technology development program** "Neurowaves: gamma wave neural stimulation through audiovisual stimulation"

2023 First LEGO League Challenge Championship Judge