



Daniel L. Bowling, PhD

Instructor, Psychiatry and Behavioral Sciences

 Curriculum Vitae available Online

Bio

BIO

As a translational neuroscientist, my research aims to integrate music neuroscience, therapy, and technology to advance new diagnostics and treatments for mental health disorders, with a particular focus on mood, anxiety, and reward. My approach is rooted in the biology of vocal behavior, particularly its functions in emotional regulation, communication, and social connection.

I earned my PhD in Neurobiology from Duke University in 2012 for work on the biological bases of emotion in musical tonality. Following this, I completed postdoctoral work at the University of Vienna on the neurophysiology of group singing and rhythmic entrainment. In 2019, I started an instructorship in translational psychiatry at Stanford Medicine, focusing on auditory-vocal processing in individuals with autism and digital music-based interventions for depression and anxiety.

My work has been supported by awards from the NIMH (K01), the Austrian Science Fund (Lise Meitner Fellowship), the University of Vienna's Faculty of Life Sciences (Young Investigator Grant), and Stanford's Wu Tsai Neuroscience Institute (Seed Grant). I have authored over 40 scientific articles in journals including Science, PNAS, Molecular Psychiatry, Translational Psychiatry, PLoS Biology, Trends in Cognitive Science, and Physics of Life Reviews—aiming to advance a rational framework for understanding music's role in human biology as a foundation for applying its effects to improve human health.

ACADEMIC APPOINTMENTS

- Instructor, Psychiatry and Behavioral Sciences
- Member, Maternal & Child Health Research Institute (MCHRI)

LINKS

- Ocid page: <https://orcid.org/0000-0002-5303-5472>

Teaching

STANFORD ADVISEES

Postdoctoral Research Mentor

Juan Gomez Canon

Publications

PUBLICATIONS

- **Biological principles for music and mental health.** *Translational psychiatry*
Bowling, D. L.
2023; 13 (1): 374
- **ACOUSTICALLY-DRIVEN PHONEME REMOVAL THAT PRESERVES VOCAL AFFECT CUES.** *Proceedings of the ... IEEE International Conference on Acoustics, Speech, and Signal Processing. ICASSP (Conference)*
Noufi, C., Berger, J., Frank, M., Parker, K., Bowling, D. L.
2023; 2023
- **Vocal similarity theory and the biology of musical tonality.** *Physics of life reviews*
Bowling, D. L.
2023; 46: 46-51
- **Oxytocin and the social facilitation of placebo effects.** *Molecular psychiatry*
Itskovich, E., Bowling, D. L., Garner, J. P., Parker, K. J.
2022
- **Endogenous oxytocin, cortisol, and testosterone in response to group singing.** *Hormones and behavior*
Bowling, D. L., Gahr, J., Ancochea, P. G., Hoeschele, M., Canoine, V., Fusani, L., Fitch, W. T.
1800; 139: 105105
- **Progress without exclusion in the search for an evolutionary basis of music.** *The Behavioral and brain sciences*
Bowling, D. L., Hoeschele, M., Dunn, J. C.
2021; 44: e97
- **Harmonic and Roughness in the Biology of Tonal Aesthetics.** *Music perception*
Bowling, D. L.
2021; 38 (3): 331-334
- **Selection on vocal output affects laryngeal morphology in rats.** *Journal of anatomy*
Lesch, R., Schwaha, T., Orozco, A., Shilling, M., Brunelli, S., Hofer, M., Bowling, D. L., Zimmerberg, B., Fitch, W. T.
2021
- **Is consonance attractive to budgerigars? No evidence from a place preference study.** *Animal cognition*
Wagner, B., Bowling, D. L., Hoeschele, M.
2020
- **Claims of categorical primacy for musical affect are confounded by using language as a measure.** *Proceedings of the National Academy of Sciences of the United States of America*
Bowling, D. L.
2020
- **Rapid evolution of the primate larynx?** *PLoS biology*
Bowling, D. L., Dunn, J. C., Smaers, J. B., Garcia, M. n., Sato, A. n., Hantke, G. n., Handschuh, S. n., Degg, S. n., Kerney, M. n., Kitchener, A. C., Gumpenberger, M. n., Fitch, W. T.
2020; 18 (8): e3000764
- **Pupillometry of Groove: Evidence for Noradrenergic Arousal in the Link Between Music and Movement** *FRONTIERS IN NEUROSCIENCE*
Bowling, D. L., Ancochea, P., Hove, M. J., Fitch, W.
2019; 12
- **Temporal modulation in speech, music, and animal vocal communication: evidence of conserved function.** *Annals of the New York Academy of Sciences*
Filippi, P. n., Hoeschele, M. n., Spierings, M. n., Bowling, D. L.
2019

- **Comparing Chalk With Cheese-The EGG Contact Quotient Is Only a Limited Surrogate of the Closed Quotient** *JOURNAL OF VOICE*
Herbst, C. T., Schutte, H. K., Bowling, D. L., Svec, J. G.
2017; 31 (4): 401-9