Stanford

Johanna O'Day

Scientific Program Manager - Education and Communications

Wu Tsai Human Performance Alliance

Resume available Online

Bio

BIO

I believe in using human-centered design and bioengineering to improve health. I have developed open-source tools that use wearables to better understand and improve mobility. I am passionate about building empathetic communities equipped with the skills and knowledge to make our world healthier, smarter, and more collaborative.

ACADEMIC APPOINTMENTS

- Research Engineer, Wu Tsai Human Performance Alliance

HONORS AND AWARDS

- Bio-X Bowes Graduate Research Fellowship, Stanford Bio-X (9.2017-9.2020)

PROFESSIONAL EDUCATION

- PhD, Stanford University , Bioengineering (2021)
- MS, Stanford University , Bioengineering (2017)
- BS, Boston College , Biochemistry (2015)

Publications

PUBLICATIONS

- **The menstrual cycle through the lens of a wearable device: insights into physiology, sleep, and cycle variability.** *NPJ digital medicine*
  Gonzalez, A., O'Day, J. J., Johnson, S. C., Kim, J., Jasinski, S. R., Holmes, K. E., Delp, S. L., Hicks, J. L.
  2026
- **Estimating Magnetic Field at Joint Centers Reduces Kinematic Errors in Inertial Motion Capture.** *Research square*
  Skov, S., Werling, K., O'Day, J., Hicks, J., Liu, C. K., Delp, S.
  2026
- **Real-Time Kinematic Adaptive Deep Brain Stimulation Safely Reduces Gait Impairment and Freezing of Gait in Parkinson's Disease.** *medRxiv : the preprint server for health sciences*
  Karjagi, S., Kehnemouyi, Y. M., Petrucci, M. N., Parisi, L., Lambert, E. F., Melbourne, J. A., Akella, P., Wilkins, K. B., O'Day, J., Dorris, H. J., Diep, C., Gala, A. S., Cui, et al
  2026
- **Decoding menstrual health across the lifespan: a scoping review of digital health tools in research.** *medRxiv : the preprint server for health sciences*
  Johnson, S. C., O'Day, J., Kraus, E., Delp, S., Hicks, J.
  2026

- **Kinematic adaptive deep brain stimulation for gait impairment and freezing of gait in Parkinson's disease.** *Brain stimulation*
  Melbourne, J. A., Kehnemouyi, Y. M., O'Day, J. J., Wilkins, K. B., Gala, A. S., Petrucci, M. N., Lambert, E. F., Dorris, H., Diep, C., Herron, J. A., Bronte-Stewart, H. M.
  2023

- **Quantitative Digitography Measures Motor Symptoms and Disease Progression in Parkinson's Disease.** *Journal of Parkinson's disease*
  Wilkins, K. B., Petrucci, M. N., Kehnemouyi, Y., Velisar, A., Han, K., Orthlieb, G., Trager, M. H., O'Day, J. J., Aditham, S., Bronte-Stewart, H.
  2022

- **OpenSense: An open-source toolbox for inertial-measurement-unit-based measurement of lower extremity kinematics over long durations.** *Journal of neuroengineering and rehabilitation*
  Al Borno, M., O'Day, J., Ibarra, V., Dunne, J., Seth, A., Habib, A., Ong, C., Hicks, J., Uhlrich, S., Delp, S.
  2022; 19 (1): 22

- **Assessing inertial measurement unit locations for freezing of gait detection and patient preference.** *Journal of neuroengineering and rehabilitation*
  O'Day, J., Lee, M., Seagers, K., Hoffman, S., Jih-Schiff, A., Kidzinski, L., Delp, S., Bronte-Stewart, H.
  2022; 19 (1): 20

- **Ramp Rate Evaluation and Configuration for Safe and Tolerable Closed-Loop Deep Brain Stimulation.** *International IEEE/EMBS Conference on Neural Engineering : [proceedings]. International IEEE EMBS Conference on Neural Engineering*
  Petrucci, M. N., Wilkins, K. B., Orthlieb, G. C., Kehnemouyi, Y. M., O'Day, J. J., Herron, J. A., Bronte-Stewart, H. M.
  2021; 2021: 959-962

- **Gait Parameters Measured from Wearable Sensors Reliably Detect Freezing of Gait in a Stepping in Place Task.** *Sensors (Basel, Switzerland)*
  Diep, C., O'Day, J., Kehnemouyi, Y., Burnett, G., Bronte-Stewart, H.
  2021; 21 (8)

- **Ramp Rate Evaluation and Configuration for Safe and Tolerable Closed-Loop Deep Brain Stimulation**
  Petrucci, M. N., Wilkins, K. B., Orthlieb, G. C., Kehnemouyi, Y. M., O'Day, J. J., Herron, J. A., Bronte-Stewart, H. M., IEEE
  IEEE.2021: 959-962

- **Perspective: Evolution of Control Variables and Policies for Closed-Loop Deep Brain Stimulation for Parkinson's Disease Using Bidirectional Deep-Brain-Computer Interfaces.** *Frontiers in human neuroscience*
  Bronte-Stewart, H. M., Petrucci, M. N., O'Day, J. J., Afzal, M. F., Parker, J. E., Kehnemouyi, Y. M., Wilkins, K. B., Orthlieb, G. C., Hoffman, S. L.
  2020; 14: 353

- **A Closed-loop Deep Brain Stimulation Approach for Mitigating Burst Durations in People with Parkinson's Disease.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
  Petrucci, M. N., Anderson, R. W., O'Day, J. J., Kehnemouyi, Y. M., Herron, J. A., Bronte-Stewart, H. M.
  2020; 2020: 3617–20

- **Demonstration of Kinematic-Based Closed-loop Deep Brain Stimulation for Mitigating Freezing of Gait in People with Parkinson's Disease.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
  O'Day, J. J., Kehnemouyi, Y. M., Petrucci, M. N., Anderson, R. W., Herron, J. A., Bronte-Stewart, H. M.
  2020; 2020: 3612–16

- **Neural Closed loop deep brain stimulation for freezing of Gait.** *Brain stimulation*
  Petrucci, M. N., Neuville, R. S., Afzal, M. F., Velisar, A. n., Anidi, C. M., Anderson, R. W., Parker, J. E., O'Day, J. J., Wilkins, K. B., Bronte-Stewart, H. M.
  2020

- **The turning and barrier course reveals gait parameters for detecting freezing of gait and measuring the efficacy of deep brain stimulation.** *PloS one*
  O'Day, J. n., Syrkin-Nikolau, J. n., Anidi, C. n., Kidzinski, L. n., Delp, S. n., Bronte-Stewart, H. n.
  2020; 15 (4): e0231984

- **Demonstration of Kinematic-Based Closed-loop Deep Brain Stimulation for Mitigating Freezing of Gait in People with Parkinson's Disease**
  O'Day, J. J., Kehnemouyi, Y. M., Petrucci, M. N., Anderson, R. W., Herron, J. A., Bronte-Stewart, H. M., IEEE

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- **A Closed-loop Deep Brain Stimulation Approach for Mitigating Burst Durations in People with Parkinson's Disease**
  Petrucci, M. N., Anderson, R. W., O'Day, J. J., Kehnemouyi, Y. M., Herron, J. A., Bronte-Stewart, H. M., IEEE
  IEEE.2020: 3617–20
- **Neuromodulation targets pathological not physiological beta bursts during gait in Parkinson's disease** *NEUROBIOLOGY OF DISEASE*
  Anidi, C., O'Day, J. J., Anderson, R. W., Afzal, M., Syrkin-Nikolau, J., Velisar, A., Bronte-Stewart, H. M.
  2018; 120: 107–17
- **Neuromodulation targets pathological not physiological beta bursts during gait in Parkinson's disease.** *Neurobiology of disease*
  Anidi, C. M., O'Day, J. J., Anderson, R. W., Afzal, M. F., Syrkin-Nikolau, J., Velisar, A., Bronte-Stewart, H. M.
  2018
- **Sixty hertz subthalamic deep brain stimulation improves freezing of gait with less attenuation of beta band power than 140Hz stimulation**
  Anidi, C., O'Day, J., Afzal, M., Syrkin-Nikolau, J., Velisar, A., Bronte-Stewart, H.
  LIPPINCOTT WILLIAMS & WILKINS.2018
- **Coordinated Reset Vibrotactile Stimulation Shows Prolonged Improvement in Parkinson's Disease** *MOVEMENT DISORDERS*
  Syrkin-Nikolau, J., Neuville, R., O'Day, J., Anidi, C., Koop, M., Martin, T., Tass, P. A., Bronte-Stewart, H.
  2018; 33 (1): 179–80