

John D. Medaglia, Ph.D.

Associate Professor
Applied Cognitive & Brain Sciences
Department of Psychological & Brain Sciences
Drexel University

ACADEMIC PREPARATION & APPOINTMENTS

2023-Current	Associate Professor Applied Cognitive & Brain Sciences Department of Psychological & Brain Sciences <i>Drexel University</i>
2021-Current	Affiliated Scientist (Courtesy) <i>Moss Rehabilitation Research Institute</i>
2018-Current	Assistant Professor (Courtesy) Department of Neurology <i>Drexel University</i>
2017-Current	Adjunct Assistant Professor Department of Neurology <i>Perelman School of Medicine University of Pennsylvania</i>
2017-2023	Assistant Professor Applied Cognitive & Brain Sciences Department of Psychological & Brain Sciences <i>Drexel University</i>
2016-2017	Research Assistant Professor Department of Psychology <i>University of Pennsylvania</i>
2014-2016	Research Fellow/Visiting Scholar Translational Neuroscience Fellowship <i>Moss Rehabilitation Research Institute/University of Pennsylvania</i>
2014	Doctor of Philosophy, Clinical Psychology Specializations in Cognitive and Affective Neuroscience; Neuropsychology <i>The Pennsylvania State University</i>
2011	Master of Science, Clinical Psychology <i>The Pennsylvania State University</i>

2004-2008 Bachelor of Science, Psychology
Magna Cum Laude, Honors with Distinction
Drexel University

PROGRAM & CENTER AFFILIATIONS

2020-2021 Technical Working Group Member
National Endowment for the Arts Research Lab
Positive Psychology Center
University of Pennsylvania

2020-present Core Faculty
Brain Science, Technology, Innovation, & Modulation Center
(brainSTIM)
University of Pennsylvania

2020-present Faculty Member
Center for Neuroscience & Society
University of Pennsylvania

2017-present Core Faculty
Applied Cognitive & Brain Sciences Program
Drexel University

TEACHING

2019-2023 Drexel STAR Scholar Mentor
Students: Julia Dengler, Abigail Hatcher
Drexel Vertically Integrated Projects Mentor
Students: Julia Dengler, Abigail Hatcher, Guadalupe Fernandez, Kim Bui,
Nicole Marie, Edward Blaney, Ivy Lo, Katelynn Rudolph, Sanjna
Srinivasan, Sarmistha Madan, Sky Harper

2018-Current Undergraduate Courses
Cognitive Neuroengineering for Mental Flexibility
Neuropsychology
Graduate Courses
Graduate Statistics III
Multilevel Regression
Applied Network Analysis
Philosophy, Science, & Practice of Psychology
Drexel University

2014-2017 Guest Lecturer
Neuroscience Core III
Network Neuroscience
The University of Pennsylvania

- 2012-2013 Undergraduate Courses
Clinical Neuropsychology
The Neural Bases of Behavior
The Pennsylvania State University
- 2009-2012 Teaching Assistant
Psychology of Adjustment
Physiological Psychology
Research Methods
Cognitive and Affective Neuroscience
The Pennsylvania State University
- 2007-2008 Course Builder/Teaching Assistant
Drexel University
- 2005-2006 Teaching Colleague
Drexel University

PUBLISHED MANUSCRIPTS

- Dengler, J., Deck, B.L., Stoll, H., Fernandez-Lupez, G., Kelkar, A.S., Rich, R.R., Erickson, B.A., Erani, F.A., Faseyitan, O., Hamilton, R.H., **Medaglia, J.D.** (2024). Enhancing Cognitive Control with Transcranial Magnetic Stimulation in Subject-Specific Frontoparietal Networks. *Cortex*, 172, 141-158.
- Kelly, A.E., Kenett, Y.N., **Medaglia, J.D.**, Reilly, J.R., Dudhat, P., & Chrysikou, E.G. (2024). Conceptual structure of emotions. *Emotion*.
- Erickson, B. A., Rich, R.R., Shankar, S., Driscoll, N., Fernandez-Nunez, L., Vitale, F., & **Medaglia, J. D.** (2024) Evaluating and benchmarking the EEG signal quality of high-density, dry MXene-based electrode arrays against gelled Ag/AgCl electrodes. *Journal of Neural Engineering*, 21, 016005.
- Deck, B.L., Kelkar, A.S., Erickson, B.A., Erani, F.R., McConathey, E., Sacchetti, D., Faseyitan, O., Hamilton, R.H., & **Medaglia, J.D.** (2023). Individual-level Functional Connectivity Mapping Predicts Cognitive Control Performance. *NeuroImage*, 283, 120386.
- Kim, B., Erickson, B.A., Fernandez-Nunez, G., Rich, R., Mentzelopoulos, G., Vitale, F., & **Medaglia, J.D.** (2023). EEG Phase Can Be Predicted With Similar Accuracy Across Cognitive States After Accounting For Power and SNR. *eNeuro*, 10(9), ENEURO.0050-23.2023.
- Mentzelopoulos, G., Driscoll, N., Rich, R.R., Kim, Brian., Shankar, S., Fernandez-Nunez, L., Stoll, H., Erickson, B.A.*, **Medaglia, J.D.***, & Vitale, F.* (2023). Investigating the rhythmicity of alerting attention using novel dry EEG arrays. *Frontiers in Behavioral Neuroscience*, 17, 1176865.

- Medaglia, J.D.**, Erickson, B.A., Pustina, D., Kelkar, A.S., DeMarco, A.T., Dickens, J.V., Turkeltaub, P.E. (2022). Simulated attack reveals how lesions affect network properties in post-stroke aphasia. *The Journal of Neuroscience*, 42 (24), 4913-4926
- Erani, F., Patel, D., Deck, B. L., Hamilton, R. H., Schultheis, M. T., & **Medaglia, J. D.** (2022). Investigating the influence of an effort–reward interaction on cognitive fatigue in individuals with multiple sclerosis. *Journal of Neuropsychology*.
- Erickson, B.A., Kim, B., Deck, B.L., Pustina, D., DeMarco, A.T., Dickens, V., Kelkar, A.S., Turkeltaub, P.E., **Medaglia, J.D.** (2022). Glass Half Full: Preserved Anatomical Bypasses Predict Variance in Language Functions After Stroke. *Cortex*. doi:10.1016/j.cortex.2022.05.023
- McCall, J. D., Dickens, J. V., Mandal, A. S., DeMarco, A. T., Fama, M. E., Lacey, E. H., ... & Turkeltaub, P. E. (2022). Structural disconnection of the posterior medial frontal cortex reduces speech error monitoring. *NeuroImage: Clinical*, 33, 102934.
- Cember, A.T.J., Deck, B.L., Kelkar, A., Faseyitan, O., Zimmerman, J.P., Erickson, B.A., Elliott, M., Coslett, H.B., Hamilton, R.H., Reddy, R., **Medaglia, J.D.** (2022). Glutamate-Weighted Magnetic Resonance Imaging (GluCEST) Detects Effects of Transcranial Magnetic Stimulation to the Motor Cortex. *NeuroImage*, 256, 119191.
- Erani, F., McKeever, J., **Medaglia, J.D.**, & Schultheis, M.T. (2022). The Relationship between Fatigue and a Clinically Accessible Measure of Switching in Individuals with Multiple Sclerosis. *The Archives of Clinical Neuropsychology*.
<https://doi.org/10.1093/arclin/acac017>
- Juarascio, A., Presseller, E.K., Michael, M.L., Kelkar, A.S., Srivastava, P., Chen, J.Y., Dengler, J., Manasse, S.M., **Medaglia, J.D.** (2022). Correcting the reward imbalance in binge eating: A pilot randomized trial of a novel reward re-training treatment. *Appetite*, 106103
- Fernandez, K.A., Hamilton, R.H., Cabrera, L.Y., & **Medaglia, J.D.** (2022). Context-dependent Risk & Benefit Sensitivity Mediate Judgments About Cognitive Enhancement. *AJOB Neuroscience*, 13(1), 73-77.
- Medaglia, J.D.**, Harvey, D.Y., Kelkar, A.S., Zimmerman, J.P., Mass, J., Bassett, D.S., & Hamilton, R.H. (2021). Language Tasks and the Network Control Role of the Left Inferior Frontal Gyrus. *eNeuro*, 8 (5).
- Dickens, J.V., DeMarco, A.T., van der Stelt, C.M., Snider, S.F., Lacey, E.H., **Medaglia, J.D.**, Friedman, R.B., Turkeltaub, P.E. (2021). Two types of phonological reading impairment in stroke aphasia. *Brain Communications*, 3(3), fcab194.
- Yeager, B.E., Dougher, C.C., Cook, R.H. & **Medaglia, J.D.** (2021). The Role of Transcranial Magnetic Stimulation in Understanding Attention-Related Networks in Single Subjects. *Current Research in Neurobiology*, 2, 100017.

- Driscoll, N., ... **Medaglia, J.D.**, & Vitale, F. (2021). MXtrodes: MXene-infused bioelectronic interfaces for multiscale electrophysiology and stimulation. *Science Translational Medicine*, 13 (612), eabf8629.
- Tardiff, N., **Medaglia, J.D.**, Bassett, D.S., & Thompson-Schill, S.T. (2021). The modulation of brain network integration and arousal during exploration. *NeuroImage*, 240, 118369.
- Kuersten, A., & **Medaglia, J.D.** (2021). Neuroscience and the Model Penal Code's *Mens Rea* Categories. *Duke Law Journal Online*, 71.
- Ye, C., Slavakis, K., Nakuci, J., Muldoon, S.F., & **Medaglia, J.D.** (2021). Fast Sequential Clustering in Riemannian Manifolds for Dynamic and Time-Series-Annotated Multilayer Networks. *IEEE Signal Processing*, 2, 67-84.
- Ye, C., Slavakis, K., Patil, P. V., Muldoon, S. F., & **Medaglia, J.D.** (2021). Brain-Network Clustering via Kernel-ARMA Modeling and the Grassmannian. *IEEE Signal Processing*, 179, 107834.
- Oathes, D.J., Balderston, N.L., Kording, K.P., DeLuisi, J.A., Perez, G.M., **Medaglia, J.D.**, Fan, Y., Duprat, R.J., Satterthwaite, T.D., Sheline, Y.I., Linn, K.A. (2021). TMS/fMRI for Probing and Modulating Neural Circuits Relevant to Affective Disorders. *WIRE: Cognitive Science*, e1553.
- Haslam, M.H., Yaden, D.Y., & **Medaglia, J.D.** (2021). Moral framing and mechanisms influence public willingness to optimize cognition. *Journal of Cognitive Enhancement*, 5, 176-187.
- Medaglia, J.D.**, Hamilton, R.H., & Kuersten, A. (2020). Protecting Decision Making in the Era of Neuromodulation. *The Journal of Cognitive Enhancement*, 4, 469-481.
- Olsen, A., ... **Medaglia, J.D.**, et al. (2020). Toward a Global and Reproducible Science for Brain Imaging in Neurotrauma: The ENIGMA Adult Moderate/Severe Traumatic Brain Injury Working Group. *Brain Imaging & Behavior*, 1-29.
- Wang, Y., Metoki, A., Smith, D.V., **Medaglia, J.D.**, Zang, Y.Y., Benear, S., Lin, Y., & Olson, I.R. (2020). Multimodal Mapping of the Face Connectome. *Nature Human Behaviour*, 1-15.
- Medaglia, J.D.**, Haslam, M., Helion, C., & Yaden, D. (2019). Moral Attitudes and Willingness to Enhance and Repair Cognition with Brain Stimulation. *Brain Stimulation*, 12(1), 44-53.
- Medaglia, J.D.**, Erickson, B., Zimmerman, J., & Kelkar, A. (2019). Personalizing Neuromodulation. *International Journal of Psychophysiology*, 154, 101-110.
- Hillary, F.G. & **Medaglia, J.D.** (In Press). What the Replication Crisis Means for Interventional Science. *International Journal of Psychophysiology*, 154, 3-5.

- Solomon, S., **Medaglia, J.D.**, & Thompson-Schill, S.T. (2019). Implementing the Concept Network Model. *Behavior Research Methods*, 51, 1717–1736.
- Betzel, R.F., **Medaglia, J.D.**, Kahn, A.E., Soffer, J., Schonhaut, D.R., & Bassett, D.S. (2019). Inter-regional ECoG correlations predicted by communication dynamics, geometry, and correlated gene expression. *Nature Biomedical Engineering*, 1.
- Medaglia, J.D.**, Huang, W., Karuza, E., Thompson-Schill, S.L., Ribeiro, A., & Bassett, D.S. (2018). Functional Alignment with Anatomical Networks is Associated with Cognitive Flexibility. *Nature Human Behaviour*, 2(2), 156.
- Medaglia, J.D.**, Harvey, D.Y., White, N., Kelkar, A., Zimmerman, J., Bassett, D.S., Hamilton, R.H. (2018). Network Controllability in the Inferior Frontal Gyrus Relates to Controlled Language Variability and Susceptibility to TMS. *The Journal of Neuroscience*, 0092-17.
- Bansal, K., **Medaglia, J.D.**, Bassett, D.S., Vettel, J.M., & Muldoon, S.F. (2018). Data-driven brain network models differentiate variability across language tasks. *PLOS Computational Biology*, 14(10), e1006487.
- Fisher, A.F., **Medaglia, J.D.**, & Jeronimus, B. (2018). A lack of group-to-individual generalizability is a threat to human subjects research: Evidence from six independent samples. *Proceedings of the National Academy of Sciences*, 201711978.
- Medaglia, J.D.**, Satterthwaite, T.D., Moore, T.M., Ruparel, K., Gur, R.C., Gur, R.E. Gu, S., Yang, M., Bassett, D.S. (2018). Brain state expression and transitions are related to complex executive cognition in normative neurodevelopment. *NeuroImage*, 166, 293-306.
- Medaglia, J.D.** (2018). Clarifying Cognitive Control and the Controllable Connectome. *WIRE: Cognitive Science*, doi: 10.1002/wcs.1471.
- Khambhati, A., **Medaglia J.D.**, Karuza, E.A., Thompson-Schill, S.T., & Bassett, D.S. (2018). Subgraphs of functional brain networks identify dynamical constraints of cognitive control. *PLOS Computational Biology*, 14(7), e1006234.
- Huang, W., Bolton, T.A.W., **Medaglia, J.D.**, Bassett, D.S., Ribeiro, A., & Van De Ville, D. (2018). A Graph Signal Processing Perspective on Functional Brain Imaging. *Proceedings of the IEEE*, 106(5), 868-885.
- Kenett, Y., Beaty, R.E., & **Medaglia, J.D.** (2018). A computational network control theory analysis of depression symptoms. *Personality Neuroscience*, 1.
- Kenett, Y.N., **Medaglia, J.D.**, Beaty, R.E., Chen, Q., Thompson-Schill, S.L., & Qiu, J. (2018). Driving the brain towards creativity and intelligence: A network control theory analysis. *Neuropsychologia*, 118, 79-90.
- Yaden, D.B., Eichstaedt, J., **Medaglia, J.D.** (2018). The Future of Technology in Positive Psychology: Methodological Advances in the Science of Well-being. *Frontiers in Psychology*, 9, 962.

- Betzel R., **Medaglia, J.D.**, & Bassett, D.S. (2018). The diversity of connectome meso-scale architecture. *Nature Communications*, 9(1), 346.
- Pustina, D., Avants, B., Faseyitan, O., **Medaglia, J.D.**, Schwartz, M., Coslett, H.B. (2018). Improved accuracy in lesion to symptom mapping with multivariate sparse canonical correlations. *Neuropsychologia*, 115, 154-166.
- Medaglia, J.D.**, Zurn, P., Sinnott-Armstrong, W. & Bassett, D.S. (2017). Mind Control as a Guide for the Mind. *Nature Human Behaviour*, 0119.
- Medaglia, J.D.**, Huang, W., Segarra, S., Olm, C., Gee, J., Grossman, M., Ribeiro, A., McMillan, C. Bassett, D.S. (2017). Brain network efficiency is influenced by the pathologic source of corticobasal syndrome, *Neurology*, 89(13), 1373-1381.
- Gu, S., Yang, M., **Medaglia, J.D.**, Gur, R.C., Gur, R.E., Satterthwaite, T.D.[†], Bassett, D.S.[†]. (2017). Functional Hypergraph Uncovers Novel Covariant Structures over Neurodevelopment. *Human Brain Mapping*, 38(8), 3823-3835. [†] Co-senior author.
- Medaglia, J.D.** (2017). Functional Neuroimaging in TBI: From Nodes to Networks. *Frontiers in Neurology*, 8, 407.
- Medaglia, J.D.**, (2017). Graph Theoretic Analysis of Resting State fMRI. *Neuroimaging Clinics of North America*, 27, 593-607.
- Medaglia, J.D.**, Pasqualetti, F., Hamilton, R.H., Thompson-Schill, S.L, Bassett, D.S. (2017). Brain and Cognitive Reserve: Translation via Network Control Theory. *Neuroscience & Biobehavioral Reviews*, 75, 53-64.
- Pustina, D., Coslett, H. B., Ungar, L., Faseyitan, O. K., **Medaglia, J. D.**, Avants, B., & Schwartz, M. F. (2017). Enhanced estimations of post-stroke aphasia severity using stacked multimodal predictions. *Human Brain Mapping*, 38(11), 5603-5615.
- Fisher, A.F., Reeves, J.W., Lawyer, G., **Medaglia, J.D.**, & Rubel, J.A. (2017). Exploring the Idiographic Dynamics of Mood and Anxiety via Network Analysis. *Journal of Abnormal Psychology*, 126(8):1044-1056
- Betzel, R.F., **Medaglia, J.D.**, Papadopoulos, L., Baum, G., Gur, R., Gur, R., Roalf, D., Satterthwaite, T.D., Bassett, D.S. (2017). The modular organization of human anatomical brain networks: Accounting for the cost of wiring. *Network Neuroscience*, 1(1), 42-68.
- Betzel, R., Gu, S., **Medaglia, J.D.**, Pasqualetti, F., Bassett., D.S. (2016). Optimally controlling the human connectome: the role of network topology. *Scientific Reports*, 6.
- Karuza, E. A., Balewski, Z. Z., Hamilton, R. H., **Medaglia, J. D.**, Tardiff, N., & Thompson-Schill, S. L. (2016). Mapping the parameter space of tDCS and cognitive control via manipulation of current polarity and intensity. *Frontiers in Human Neuroscience*, 10.

- Medaglia, J.D.**, Lynall, M.E., & Bassett, D.S. (2015). Cognitive Network Neuroscience. *The Journal of Cognitive Neuroscience*, 27(8): 1471-1491.
- Gu, S., Satterthwaite, T.D., **Medaglia, J.D.**, Gur, R.E., Gur, R.C., Bassett, D.S. (2015). Emergence of System Roles in Normative Neurodevelopment. *Proceedings of the National Academy of Sciences*. 112(44), 13681-13686.
- Gu, S., Pasqualetti, F., Cieslak, M., Telesford, Q., Yu, A., Kahn, A., **Medaglia, J.D.**, Vettel, J., Miller, M., Grafton, S.T., & Bassett, D.S. (2015). Controllability of Structural Brain Networks. *Nature Communications*, 6, 8114.
- Medaglia, J.D.** VanKirk, K.K., Oswald, C.B., & Church, L.W.P. (2015). Interdisciplinary Differential Diagnosis and Care of a Patient with Atypical Delusional Parasitosis due to early HIV-related Dementia. *The Clinical Neuropsychologist*, 29(4): 559-569.
- Medaglia, J.D.**, McAleavey, A.A., Rostami, S., Slocomb, J. & Hillary, F.G. (2015). Modeling distinct imaging hemodynamics early after TBI: the relationship between signal amplitude and connectivity. *Brain Imaging and Behavior*, 9(2): 285-301.
- Hillary, F.G., Rajtmajer, S.M., Roman, C., **Medaglia, J.D.**, Slocomb, J., Good, D.C., & Wylie, G.R. (2014). The rich get richer: brain injury elicits hyperconnectivity in core subnetworks. *PLoS ONE*, 9(8), e104021.
- Hillary, F.G., **Medaglia, J.D.**, Gates, K.M., & Good, D.C. (2014). Examining network dynamics after traumatic brain injury using the extended unified SEM approach. *Brain Imaging and Behavior*, 8(3), 435-445.
- Bryer, E.J., **Medaglia, J.D.**, Rostami, S., & Hillary, F.G. (2013). Neural recruitment after mild traumatic brain injury is task dependent: A meta-analysis. *Journal of the International Neuropsychological Society*, 19(7), 751-762.
- Medaglia, J.D.**, Chiou, K.S., Slocomb, J., Fitzpatrick, N.M., Wardecker, B.M., Ramanathan, D., Vesek, J., Good, D.C., & Hillary, F.G. (2012). The less BOLD, the wiser: support for latent resource hypothesis after neurotrauma. *Human Brain Mapping*, 33(4), 979-993.
- Medaglia, J.D.**, Ramanathan, D., Venkatesan, U.M., & Hillary, F.G. (2011a). Non-Ergodicity in Neural Networks. *Network: Computation in Neural Systems*, 22 (1-4), 148-153.
- Hillary, F.G., Slocomb, J., Hills, E., Fitzpatrick, N., **Medaglia, J.D.**, Wang, J., Good, D., & Wylie, G. (2011). Changes in Resting Connectivity during Recovery from Severe Traumatic Brain Injury. *International Journal of Psychophysiology*, 82(1), 115-123.
- Hillary, F.G., **Medaglia, J.D.**, Gates, K., Molenaar, P., Slocomb, J., Peechatka, A., Good, D. (2011). Examining working memory task acquisition in a disrupted neural network. *Brain*, 134(5), 1555-1570.

Hillary, F.G., Genova, H.M., **Medaglia, J.D.**, Fitzpatrick, N.M., Chiou, K.S., Wardecker, B.M., Franklin, R.G., Wang, J., & DeLuca, J. (2010). The Nature of Processing Speed Deficits in Traumatic Brain Injury: is Less Brain More? *Brain Imaging and Behavior*, 4(2), 141-154.

Ruocco, A.C., **Medaglia, J.D.**, Ayaz, H., & Chute, D.L. (2010). Abnormal prefrontal cortical response during affective processing in borderline personality disorder. *Psychiatry Research: Neuroimaging*, 182(2), 117-122.

Ruocco, A.C., **Medaglia, J.D.**, Tinker, J.R., Ayaz, H., Forman, E. M., Williams, J. M., Hillary, F.G., Platek, S., Onaral, B., & Chute, D.L. (2010). Medial Prefrontal Cortex Hyperactivation during Social Exclusion in Borderline Personality Disorder. *Psychiatry Research: Neuroimaging*, 181(3), 233-236.

MANUSCRIPTS IN REVIEW AND REVISION

Erani, F.A., Stoll, H., Patel, D., Schultheis, M.T., **Medaglia, J.D.** Money versus Feedback: Comparing Reward Types and Frequency on Subjective Cognitive Fatigue.

Deck, B.L., **Medaglia, J.D.**, (In review). The Impulsivity Umbrella: the inter-relationship of impulsive behaviors and traits across psychopathology.

Fernandez, K.A., Kable, J., Hamilton, R.H., & **Medaglia, J.D.** (Under review). Prospect Theory and Judgments About Cognitive Enhancement.

BOOK CHAPTERS, ENCYCLOPEDIA ENTRIES, PEER-REVIEWED COMMENTARIES

Medaglia, J.D., & Fernandez, K.A. (2022). The “‘Crisis’ Crisis” in Psychology. *Behavioral and Brain Sciences*, 45.

Medaglia, J.D., Jeronimus, B., & Fisher, A. (2019). Conditional equivalence and imperatives for person-level science. *Proceedings of the National Academy of Sciences*, 116(14), 6542-6543.

Medaglia, J. D., Jeronimus, B. F., & Fisher, A. J. (2019). Conditional equivalence and imperatives for person-level science. *Proceedings of the National Academy of Sciences*, 116(14), 6542-6543.

Kelkar, A., & **Medaglia, J.D.** (2018). Evidence of Brain Modularity. *Encyclopedia of Evolutionary Psychological Science*. Springer Press.

Medaglia, J.D. (2018). Networks of cognitive processes: functional and anatomical correlates of cognition, emotions and social cognition. In Baune & Harmer (Eds.) *Cognitive Dimensions of Major Depressive Disorder*. Oxford, UK: Oxford University Press.

Medaglia, J.D., & Bassett, D.S. (In Press). Network Analysis in Nervous System Disorders. *Oxford Research Encyclopedias*. Oxford University Press.

Schatz, P., Ruocco, A.C., **Medaglia, J.D.**, & Chute, D.L. (2008). Observing Neural Networking In Vivo. In Benjamin, L., et. al. (Eds.) *Activities Handbook for the Teaching of Psychology, Volume 5*. Washington, DC: American Psychological Association.

PEER-REVIEWED CONFERENCE PROCEEDINGS

Humphreys, V., Erani, F.R., Patel, D., Schultheis, M.T., **Medaglia, J.D.**, & Devlin, K.N. (2023). Depression and Reward Responsiveness in Multiple Sclerosis. *Journal of the International Neuropsychological Society*, 29(s1), 559-560.

Erani, F., Stoll, H., Patel, D., Schultheis, M.T., & **Medaglia, J.D.** (2023). Money versus Feedback: Comparing Reward Types and Frequency on Cognitive Fatigue. *Journal of the International Neuropsychological Society*, 29(s1), 805.

Stoll, H., Brecher, A., Coslett, H.B., Dresand, H., Faseyitan, O., Hamilton, R.H., Harvey, D.Y., Kelkar, A.S., **Medaglia, J.D.**, Sacchetti, D., Turkeltaub, P.E. (2023). Changes in Right Pars Triangularis Network Role and Naming Errors in Post-Stroke Aphasia. *Archives of Clinical Neuropsychology*, 38(7), 1451.

Kim, B., Erickson, B.A., Fernandez-Nunez, G., **Medaglia, J.D.**, Mentzelopoulos, Rich, R.R., Vitale, J.D. (2023). EEG Phase Can be Predicted with Similar Accuracy across Cognitive States after Accounting for Power and SNR. *Archives of Clinical Neuropsychology*, 38(7), 1347-1348.

Medaglia, J.D. (2019). Proceedings# 58: Cognitive Neuroengineering: Defining a New Paradigm. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 12(4), e147-e149.

Ye, C., Slavakis, K., Nakuci, J., Muldoon, S. F., & **Medaglia, J.D.** (2021, June). Online Classification of Dynamic Multilayer-Network Time Series in Riemannian Manifolds. In *ICASSP 2021-2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)* (pp. 3815-3819). IEEE.

Yaden, D.Y., Eichstaedt, J.C., **Medaglia, J.D.** (2018). Emerging Technology in Positive Psychology. *MindCare: Pervasive Computing Paradigms for Mental Health*, 253, 1-5.

GRANTS & DONATIONS

R01-NS121219-01 Vitale, Medaglia (MPI) June 2021 – May 2026
NINDS Total costs: \$2,250,000
Validating MXene Electrodes for Next-Generation Electroencephalography
Role (Medaglia): Principal Investigator (MPI)

Research Gift March 2020 – Unrestricted
Starfish Neuroscience, LLC Total costs: \$500,000
Unrestricted Gift to Conduct Innovative, Personalized Brain Stimulation to Enhance and Repair Cognition
Role (Medaglia): Principal Investigator

Research Gift June 2021 - Unrestricted
Anonymous Donor Total costs: \$20,000
Unrestricted Gift to Conduct Innovative, Personalized Brain Stimulation to Enhance and Repair Cognition
Role (Medaglia): Principal Investigator

R01-HD-104158-01A1 Buxbaum (PI) September 2021-August 2026
NICHD Total costs: \$3,000,000
Efficacy and Mechanisms of Virtual Reality Treatment of Phantom Leg Pain
Role (Medaglia): Co-investigator

PRMRP 12902164 September 2020 – August 2023
Department of Army Total costs: \$1,800,000
Using Transcranial Direct Current Stimulation to Reveal Mechanisms of Language Loss and to Treat Progressive Aphasia Associated With FTD and Related Dementias
Role (Medaglia): Co-investigator

R01-DC-16800-01A1 Coslett (PI) September 2018 – September 2023
NIDCD Total costs: \$3,000,000
Transcranial Magnetic Stimulation for Aphasia: Efficacy and Neural Basis
Role (Medaglia): Co-investigator

R01-DC-014960-01A1 Turkeltaub (PI) September 2017-September 2022
NIDCD Total costs: \$3,500,000
Contributions of Spared Brain Structures and Connections to Aphasia Recovery
Role (Medaglia): Co-investigator

R01-AG-059763 Hamilton (PI) August 2019 – September 2024
NIA Total costs: \$3,000,000
Treating primary progressive aphasia and elucidating neurodegeneration in the language network using transcranial direct current stimulation
Role (Medaglia): Co-investigator

NIH Director's Early Independence Award (EIA)
DP5-OD-021352-01 Medaglia (PI) September 2015-September 2020
NIH Office of the Director Total costs: \$2,000,000
Dynamic Network Neuroscience and Cognitive Control: Network Control Theory as a Mediator of Transcranial Magnetic Stimulation Effects

Role (Medaglia): Principal Investigator

f
Translational Neuroscience Initiative April 2016-April 2019
Penn Medicine Translational Neuroscience Center Total costs: \$400,000
University of Pennsylvania

Role (Medaglia): Co-Principal Investigator

F31-NS-080574-01A1 Medaglia (PI) April 2013-July 2013
National Institute of Mental Health Total costs: \$58,540
The Cerebellum as a Latent Resource During Working Memory Following Traumatic Brain Injury.

Ruth H. Kirschstein National Research Service Award (NRSA)

Role (Medaglia): Principal Investigator

Research Voucher November 2013
Awarded by the South Carolina Clinical and Translational Research Institute
Amount Awarded: \$1000

COGDOP Dissertation Support Award December 2012
Awarded by the American Psychological Foundation
Amount Awarded: \$1000

RGSO Dissertation Support Award November 2012
Awarded by the Department of Liberal Arts at Pennsylvania State University
Amount Awarded: \$2500

HONORS AND AWARDS

- 2022 **Provost's Award for Outstanding Early-Career Scholarly Achievement**
Drexel University
One of two pre-tenure faculty members to receive this university-wide commendation awarded to individuals "who have demonstrated unusual excellence in their scholarly field and who are considered emerging leaders in these fields."
- 2019 **Fellow of the Psychonomics Society**
The Fellows program recognizes members who demonstrate clear evidence of independent scholarship, active engagement in methodologically rigorous and theoretically interesting high-level research, and indications of an imminent national/international reputation for excellence in the psychological sciences.
Psychonomics Society

- 2019 **Rising Star**
Recognizes outstanding psychological scientists in the earliest stages of their research career post-PhD whose innovative work has already advanced the field and signals great potential for their continued contributions.
Association for Psychological Science
- 2018 **Winner: Preregistration Challenge**
Award given for pre-registering study hypotheses prior to data analysis for a paper accepted at a major scientific journal.
Center for Open Science
- 2016 **Meritorious Research, Travel Award**
Selected for meritorious work: New Insights into Psychiatric Disorders through Computational, Biological, and Developmental Approaches
IBRO-PERC, The Brain Prize, and FENS
- 2016 **Loan Repayment Program Awardee**
National Institutes of Mental Health
- 2014 **Runner Up – Psychology Internship Paper Competition**
Awarded by the Charleston Consortium in Clinical Psychology
The Medical University of South Carolina
- 2014 **Meritorious Presentation**
Awarded by the Student Liaison Committee
International Neuropsychological Society
- 2011 **Marty T. Murphy Award for Excellence**
Awarded “to honor and recognize outstanding achievement by a graduate student in Clinical Psychology” once annually.
The Pennsylvania State University
- 2008-2013 **Enhanced Graduate Scholar Fellowship**
The Pennsylvania State University

MENTORSHIP

Awarded Student Grants & Other Funding:

- 2021 NIH NRSA F31 Fellowship
Awarded to Fareshte Erani
Value: \$70,000
- 2020 National Honor Society in Psychology research award
Awarded to Fareshte Erani
Value: \$1500

- 2020 Society for Medical Decision-Making trainee attendance award
Awarded to Kiante Fernandez
Value: \$350
- 2019 Carolina Neurostimulation Conference travel award
Awarded to Brooke Yeager
Value: \$500
- 2019 Barry Goldwater Scholarship
Awarded to Ashley Bishop
Value: \$7,500

INVITED LECTURES, GRAND ROUNDS, WORKSHOPS, AND SEMINARS

- 2022 Personalizing neuromodulation for cognitive enhancement.
NYC Neuromodulation and Ergonomics Conference
- 2021 Practical concerns for network control theory in psychiatry.
Keynote lecture: Psychiatry and control theory summer school
University of Tübingen, Germany (remote due to COVID-19)
- 2020 Network analysis in stroke.
T32 Training Seminar
Moss Rehabilitation Research Institute
- 2020 Network models to guide neuromodulation
Neurology Grand Rounds
University of Pennsylvania
- 2020 The public's role in the politics and practice of cognitive enhancement
Keynote lecture: annual Social, Cognitive, and Affective Neuroscience
Retreat
Center for Neuroscience & Society
University of Pennsylvania
- 2020 What people think is right and wrong to do with neuroenhancement
Public lecture series
Center for Neuroscience & Society
University of Pennsylvania
- 2019 Neuromodulation
Upper level undergraduate guest lecture
Center for Neuroscience & Society
University of Pennsylvania
- 2019 Toward Cognitive Neuroengineering for Executive Control Systems
Department of Bioengineering
George Mason University

- 2019 The Principles and Pitfalls of Transcranial Magnetic Stimulation
Neurology Grand Rounds
Drexel University
- 2018 Protecting Autonomy in the Era of Neural Control
Envision Conference on Neuroethics
Princeton University
- 2018 Public Moral Attitudes Toward Brain Stimulation
Envision Conference on Neuroethics
Princeton University
- 2018 Cognitive Neuroengineering for Executive Control Systems
Department of Psychology
George Mason University
- 2018 The Foundations of Cognitive Neuroengineering
Department of Psychology
Temple University
- 2018 The Foundations and Frontiers of Cognitive Neuroengineering
Department of Mathematics
University of Buffalo
- 2018 Toward Cognitive Neuroengineering for TMS Therapies
Swartz Center for Computational Neuroscience
University of California-San Diego
- 2018 The Future of Technology in Neuropsychology
Drexel University
- 2018 Network Neuroscience and Brain Stimulation in Neurorehabilitation
Grand Rounds
Center for Brain Plasticity and Recovery
Georgetown University & National Rehabilitation Hospital, Washington DC
- 2017 Leveraging Modern Brain Connectomics to Guide Therapeutic Brain Stimulation
Grand Rounds
Hershey Medical Center
- 2017 Realizing Personalized Noninvasive Brain Stimulation Treatments
Biomedical Engineering Seminar Series
Drexel University

- 2017 Closing the loop in neurorehabilitation: integrating brain stimulation and bioinformatics to promote recovery
*Biological Data Sciences Program
Drexel University*
- 2017 The Moral Distribution of Mind Control
*Boston Area Moral Cognition Group
Harvard University*
- 2017 Alzheimer's Disease: Clinical Considerations and Frontiers
Business Professional Women of West Chester
- 2017 Connecting the Connectome to the Clinic
*Perelman School of Medicine, Clinical Neurosciences Training Program
University of Pennsylvania*
- 2016 The Connectome and Cognitive Neuropsychology
Drexel University
- 2016 Connecting Connectomics to Neuropsychology
Philadelphia Neuropsychological Society
- 2015 Brain State Flexibility Predicts Global Cognitive Function in Development
*Perelman School of Medicine, Department of Psychiatry
University of Pennsylvania*
- 2015 Neurorehabilitation, Network Science, and Brain Stimulation
Moss Rehabilitation Research Institute
- 2014 Neuroplasticity and the Injured Brain: Working Memory Function and Failure
Louisiana State University Department of Psychology
- 2013 Neuroplasticity in Working Memory: Representation and Cognitive Remediation
The University of Pennsylvania/Moss Rehabilitation Research Institute
- Neuroplasticity in Traumatic Brain Injury: from Networks to Cognitive Repair
The University of Pennsylvania/Moss Rehabilitation Research Institute
- Dismantling Working Memory Representation in the Brain Using Exogenous Stimulation Approaches
The Medical University of South Carolina

2009-2013 The Cerebellum and Cognition
Extended Unified Structural Equation Modeling and Group Iterative
Multiple Model Estimation
Preprocessing, First, and Second Level Analytics for fMRI
The Pennsylvania State University

CONFERENCE TALKS AND SYMPOSIA

- Erickson, B. A., B., Kim, Nelson, B., Sabes, P., Rich, R. R., & **Medaglia, J. D.** (2022, July). Parametric Evaluation of TMS EEG Phase Resetting as a function of TMS Amplitude and Endogenous EEG Phase. Neuromodec, New York, NY, United States.
- Fernandez, K.A., Hamilton, R.H., Cabrera, L.Y., & **Medaglia, J.D.** (2021, November). Prospect theory and judgments about cognitive repair. Poster presented at the annual meeting of the International Neuroethics Society (remote due to COVID-19).
- Medaglia, J.D.** (2021, June). Personalizing Neuromodulation for Executive Functions: Promise in Brain Networks and Society. Invited talk presented at NIH's High-Risk/High-Reward Conference in Bethesda, MD (remote due to COVID-19).
- Dickens, J.V., DeMarco, A.T., van der Stelt, C., Snider, S.F., Lacey, E.H., Dvorak, E., **Medaglia, J.D.**, Friedman, R.B., & Turkeltaub, P.E. (2020, October). The Brain Basis of Phonological Reading Impairment in Chronic Aphasia. Platform talk presented at the annual meeting of the Academy of Aphasia.
- Medaglia, J.D.** (2020, April). Integrating Network Anatomy and Function to Enhance Cognition with Neuromodulation. Symposium talk presented at the annual meeting of NYC Neuromodec (remote due to COVID-19).
- Medaglia, J.D.** (2019, October). Networks that guide creativity, and guiding networks for creativity. Symposium talk presented at the inaugural B.PHL Innovation Fest in Philadelphia, PA.
- Medaglia, J.D.** (2019, October). Guiding neuromodulation with network science: how new trends in system mapping can personalize stimulation. Symposium talk presented at the annual meeting of NYC Neuromodec in Napa, California.
- Erani, F. & **Medaglia, J.D.** (2019, October). A Computational Model for Cognitive Fatigue in Multiple Sclerosis. Poster presentation submitted for consideration to the Society for Neuroscience.
- Deck, B.L., Yeager, B., Zimmerman, J., Kelkar, A., Erickson, B., **Medaglia, J.D.** Personalized neuromodulation for attention networks. (2019, October) Annual Meeting for the Society for Neuroscience, Chicago, IL.
- Yeager, B., Deck, B., Zimmerman, J., Kelkar, A., Erickson, B., & **Medaglia, J.D.** (June, 2019). Personalized Neuromodulation Modulates Executive Control of Attention. Presentation at Carolina Neurostimulation Conference.

- Cook, R., Dougher, C., Williams, R., Tessier, J., **Medaglia, J.D.**, Williams, K. & Hamilton, R. (2019, June). The Patient Neuropsychology Database: A Clinical Research Resource for the Brain Injury Recovery Center at Penn's Institute for Rehabilitation Medicine. Poster presented at the University of Pennsylvania's 2019 Penn Medicine Physical Medicine & Rehabilitation and Good Shepherd Penn Partners Research Day conference.
- Turkeltaub, P., Kelkar, A., & **Medaglia, J.D.** (2018, October). Structural networks, language deficits, and aphasia recovery. Talk at the Academy of Aphasia, Montreal, Canada.
- Medaglia, J.D.** (2018, August) Cognitive Neuroengineering: How Control Theory May Resolve Fundamental Problems in Brain Stimulation. Talk at Neuromodec in New York, New York.
- Medaglia, J.D.** (2018, June) Closing the Loop Between Network Neuroscience, Neuromodulation, and Cognitive Optimization. Talk at the Second International Neuroergonomics Conference at Drexel University, Philadelphia.
- Medaglia, J.D.** (2018, June) Technology and Neuropsychology. Invited Talk at the Future of Neuropsychology Panel at Drexel University, Philadelphia.
- Medaglia, J.D.**, Yaden, D.B., Helion, C., & Haslam, M. (2018, April). Ceremode: How the Public Views Cognitive Repair and Enhancement with Noninvasive Brain Stimulation. Paper presented at the American Psychological Association's conference on Technology, Mind, and Society.
- Medaglia, J.D.**, & Kuersten, A. (2017, October). Protecting Autonomy in the Era of Neural Control. Paper presented at the Inaugural Junior Faculty Forum for Law and STEM, University of Pennsylvania Law School.
- Medaglia, J.D.**, Huang, W., Karuza, E., Thompson-Schill, S.L., Ribeiro, A., & Bassett, D.S. (2017, May). Functional signal alignment with network anatomy is a trait associated with cognitive flexibility. Symposium talk presented at the Association for Psychological Science in Boston, MA.
- Medaglia, J.D.**, Olm, C., McMillan, C.T., Grossman, M. Anatomical Network Degeneration in Primary Progressive Aphasia. (2017, April). Platform talk presented at the annual meeting of the American Academy of Neurology, Boston, MA.
- Wurzman, R., Wiener, M., Hamilton, R.H., Coslett, H.B., **Medaglia, J.D.** (2017, April). System-level network integration predicts TMS effects on time perception. Platform talk presented at the annual meeting of the American Academy of Neurology, Boston, MA.
- Medaglia, J.D.**, Huang, W., Karuza, E., Thompson-Schill, S.L., Ribeiro, A., & Bassett, D.S. (2016, September). Functional Flexibility in the Structural Connectome Promotes Cognitive Flexibility. Talk presented at the meeting of the Federation of European Neuroscience Societies New Insights into Psychiatric Disorders through Computational, Biological, and Developmental Approaches, Copenhagen, Denmark.

- Medaglia, J.D.**, Hamilton, R. H., Bassett, D.S., & Williams, K. (2016, April). CONNECTS: A Translational Neuroscience Initiative in Networks and Neurorehabilitation. Poster presented at the Philadelphia Institute of Research Medicine Research Day, Philadelphia, PA.
- Medaglia, J.D.**, Huang, W., Segarra, S., Olm, C., Gee, J., Grossman, M., Ribeiro, A., McMillan, C.T., Bassett, D.S. (2015, October). Fronto-parietal network efficiency accurately classifies underlying pathology in corticobasal syndrome. Talk presented in a nanosymposium at the Society for Neuroscience, Chicago, IL.
- Medaglia, J.D.** & Bassett, D.S. (2015, May). Graph Theoretical Methods. Workshop talk presented at the International Society for Magnetic Resonance in Medicine. Toronto, Canada.
- Medaglia, J.D.**, Hamilton, R.H., Thompson-Schill, S.T., Gu, S., & Bassett, D.S. (2015, April). Network Control Theory as a Mediator of Transcranial Magnetic Stimulation Effects. Paper presented at the American Academy of Neurology.
- Medaglia, J.D.**, Motter, J.N., Dougherty, C., Bryer, E., Hillary, F.G. (2014, February). The Cerebellum Differentially Contributes to Working Memory Function Follow Moderate to Severe Traumatic Brain Injury. Paper presented at the International Neuropsychological Society, Seattle, WA.
- Venkatesan, U.M, **Medaglia, J.D.**, Ram, N., Good, D.C., & Hillary, F.G. (2013, August). Dynamics in goal-directed and default mode networks during new learning after moderate or severe TBI. Paper presented at the annual meeting of Division 40 of the American Psychological Association. *Recipient of the Blue Ribbon Award.*
- Roman, C.A., Rajtmajer, S.M., **Medaglia, J.D.**, Venkatesan, U.M., Wylie.G.R., Hillary, F.G. The Rich Get Richer: Brain Injury Elicits Hyperconnectivity in Core Subnetworks. Paper presented at the International Neuropsychological Society, Seattle, WA.
- Medaglia, J.D.**, Peechatka, A., Hasse, M., Ferrante, L., & Hillary, F.G. (2012, October). Prefrontal-cerebellar functional connectivity as a latent support mechanism in traumatic brain injury. Paper presented in a nanosymposium at the Society for Neuroscience, New Orleans, Louisiana.
- Medaglia, J.D.**, Peechatka, A., Hasse, M., Ferrante, L., & Hillary, F.G. (2012, February). Effective Connectivity Findings Suggest a Role of the Cerebellum in Cognitive Control. Paper presented at the 40th meeting of the International Neuropsychological Society, Montreal, Quebec.
- Bryer, E.J., **Medaglia, J.D.**, Rostami, S., & Hillary, F.G. (2012, February). Patterns of Brain Activation in Individuals with Mild TBI during Executive Working Memory Tasks. Paper presented at the 40th meeting of the International Neuropsychological Society, Montreal, Quebec.

- Medaglia, J.D.**, Gates, K., Peechatka, A., Hasse, M., & Hillary, F.G. (2011, February). Examining Network Change with Extended Unified Structural Equation Modeling: Implications for the Latent Support Hypothesis in Brain Trauma. Paper presented at the International Neuropsychological Society, Boston.
- Zelechowski, A. D., Goldstein, N. E. S., Feehan, J., Brammell, A., **Medaglia, J.D.**, Sierra, S., & Taylor, J. (2009, March). The Content of Child Custody Evaluations: A Forensic Assessment Principles-Based Analysis. Paper presented as part of a symposium at the annual conference of the *American Psychology-Law Society*, San Antonio, TX.
- Ruocco, A. C., **Medaglia, J.D.**, & Chute, D. L. (2008, May). *Right prefrontal cortex function during interpersonal inclusion and exclusion in borderline personality disorder*. Paper presented at the annual meeting of the Society for Interpersonal Theory and Research, Tempe.

CONFERENCE POSTERS

- Rich, R., Shankar, S., Erickson, B., Mentzelopoulos, G., Vitale, F., & Medaglia, J. (2023, May 24). Revolutionizing EEG Technology: Hair-Penetrating MXtrodes for Comfortable, Gel-Free, and High-Density Brain Activity Recording. Drexel College of Arts and Sciences Research Day 2023, Philadelphia, PA, USA.
- Hatcher, A., Rudolph, K., Erickson, B., Rich, R., Fernandez-Nunez, F., Deck, B., Stoll, H., Kim, B., Kelkar, A., Medaglia, J. (2023, May 24). Optimizing the Navon for Closed-Loop Stimulation: Increasing Switch Trials Without Biasing. Drexel College of Arts and Sciences Research Day 2023, Philadelphia, PA, USA.
- Srinivasan, S., Dengler, J, Kelkar, A., Medaglia, J. (2023, May 24). Evaluating the Differences in Cortical Thickness in Adolescents with. Drexel College of Arts and Sciences Research Day 2023, Philadelphia, PA, USA.
- Hatcher, A., Rudolph, K., Erickson, B., Rich, R., Fernandez-Nunez, F., Deck, B., Stoll, H., Kim, B., Kelkar, A., Medaglia, J. (2023, May). Optimizing the Navon for Closed-Loop Stimulation: Increasing Switch Trials Without Biasing Performance. Drexel University Week of Undergraduate Excellence, Philadelphia, PA, USA.
- Kim, B., Fernandez-Nunez, G., Erickson, B.A., Vitale, F., **Medaglia, J.D.** (2022, Jul). The Effect of Rest and Task States on EEG Phase Prediction Accuracy. Poster presented at the Joint Meeting of Neuroergonomics Conference & NYC Neuromodulation Conference in the City College of New York, NY.
- Kim, B., Fernandez-Nunez, G., Erickson, B.A., Vitale, F., **Medaglia, J.D.** (2022, Apr). The Effect of Rest and Task States on EEG Phase Prediction Accuracy. Poster presented at the Mahoney Institute for Neuroscience (MINS) Annual Symposium in University of Pennsylvania, PA.
- Kim, B., Erickson, B.A., Driscoll, N., Vitale, F., **Medaglia, J.D.** (2021, April). Consistency of EEG Phase Detection Across Task Stages and Training Sets. Poster presented at the Drexel Emerging Graduate Scholars Conference.

- Rich, R., Erickson, B., Driscoll, N., Shankar, S., Fernandez-Nunez, G., Mentzelopoulous, G., Mojtabavi, M., Vitale, F., Medaglia, J. (2022, July). Comparison of EEG Signal Quality between Gelled Ag/AgCl Electrodes and Novel Dry MXene-Based “MXtrodes”. The Joint meeting of Neuroergonomics Conference & NYC Neuromodulation Conference, New York City, NY, USA
- Rich, R., Erickson, B., Driscoll, N., Shankar, S., Fernandez-Nunez, G., Mentzelopoulous, G., Mojtabavi, M., Vitale, F., Medaglia, J.D. (2022, May). Comparison of EEG Signal Quality between Gelled Ag/AgCl Electrodes and Novel Dry MXene-Based “MXtrodes.” Drexel Collage of Arts and Sciences Research Day, Philadelphia, PA, USA
- Rich, R., Erickson, B., Driscoll, N., Shankar, S., Fernandez-Nunez, G., Mentzelopoulous, G., Mojtabavi, M., Vitale, F., **Medaglia, J.D.** (2022, May). Comparison of EEG Signal Quality between Gelled Ag/AgCl Electrodes and Novel Dry MXene-Based “MXtrodes.” Drexel Neuroengineering Symposium, Philadelphia, PA, USA
- Dengler J., Kelkar A., Deck B., Stoll H., Fernandez-Nunez G., Rich R.R., Erickson B., **Medaglia J.D.** Enhancing Cognitive Control with TMS in Subject-Specific Frontoparietal Networks. (2022, July). Neuroergonomics and Neuromodulation Conference: New York City, NY.
- Dengler J., Kelkar A., Deck B., **Medaglia J.D.** The Role of Transcranial Magnetic Stimulation as a Network Moderator with Precision Intrinsic System Mapping. (2022, January) Harvard National Collegiate Research Conference: Cambridge, MA.
- Deck, B. L., Cember, A. T., Kelkar, A., Faseyitan, O., Zimmerman, J. P., Erickson, B., ... Hamilton, R.H., & **Medaglia, J. D.** (2022, July). Glutamate-Weighted Magnetic Resonance Imaging (GluCEST) Detects Effects of Transcranial Magnetic Stimulation to the Motor Cortex. Joint Meeting of Neuroergonomics Conference & NYC Neuromodulation Conference, New York, New York.
- Deck, B., Erickson, B.A., Erani, F.R., & **Medaglia, J.D.** (2021, September). Predicting Attention-Deficit Hyperactivity Symptoms in Adolescents and Early Adults Using Individually Measured Functional Connectivity. Summer School on Network and Control Sciences for Psychiatry, Tübingen, Germany. *****Won Best Poster Award***.**
- Raphail, A., Navarro, G.Y., Erani, F., Split, M., Showell, M., **Medaglia, J.D.**, Hamilton, R.H., Schultheis, M.T. (2021, February). Evaluating the Role of Hemispheric Rivalry in Visual Attention Using Repetitive Transcranial Magnetic Stimulation. Annual Meeting for the International Neuropsychological Society.
- Erani, F., **Medaglia, J.D.**, & Schultheis, M.T. (2021, February). Assessing Fatigue in Individuals with Multiple Sclerosis Using a Clinically Accessible Measure of Switching. Annual Meeting for the International Neuropsychological Society.
- Medaglia, J.D.**, Kelkar, A.S., Pustina, D., DeMarco, A.T., Erickson, B.A., & Turkeltaub, P.E. (2020, October). Simulated attack reveals relationships between left-hemispheric anatomical network topology and post-stroke aphasia. Poster to be presented at the annual meeting for the Society for the Neurobiology of Language.

- Dickens, J.V., DeMarco, A.T., van der Stelt, C.M., Snider, S.F., Lacey, E.H., **Medaglia, J.D.**, Friedman, R.B., & Turkeltaub, P.E. (2020, October). Patterns of anatomical disconnection in chronic stroke reveal sublexical, lexical, and semantic contributions to reading.
- Erani, F. & **Medaglia, J.D.** (2019, October). A Computational Model for Cognitive Fatigue. Annual meeting of the Society for Neuroscience, Chicago, IL.
- Deck, B.L., Yeager, B., Zimmerman, J., Kelkar, A., Erickson, B., **Medaglia, J.D.** Personalized neuromodulation for attention networks. (2019, October) Annual meeting of the Society for Neuroscience, Chicago, IL.
- Yeager, B., Deck, B., Zimmerman, J., Kelkar, A., Erickson, B., & **Medaglia, J.D.** (2019, June). Personalized Neuromodulation Modulates Executive Control of Attention. Annual meeting of the Carolina Neurostimulation Conference.
- Cook, R., Dougher, C., Williams, R., Tessier, J., **Medaglia, J.**, Williams, K. & Hamilton, R. (2019, June). The Patient Neuropsychology Database: A Clinical Research Resource for the Brain Injury Recovery Center at Penn's Institute for Rehabilitation Medicine. The University of Pennsylvania's Penn Medicine Physical Medicine & Rehabilitation and Good Shepherd Penn Partners Research Day conference.
- Dougher, C.C., Cook, R.H., Williams, R.B., Tessier, J.M., Guido, N., Lattanzio, M., Charles, J., Hampton, S., **Medaglia, J.D.**, Williams, K.S. (2019, June). Neurorehabilitation in the Inpatient Setting: The Lasting Effect of Sleep Quality on Patient Participation. The University of Pennsylvania's Penn Medicine Physical Medicine & Rehabilitation and Good Shepherd Penn Partners Research Day conference.
- Medaglia, J.D.**, Kelkar, A., Pustina, D., & Turkeltaub, P.E. (2019, May). Impaired global network topology in residual connectomes in stroke-induced aphasia. Annual meeting of the American Academy of Neurology Conference in Philadelphia, PA.
- Medaglia, J.D.**, Cember, A., Nanga, R.P., Hariharan, H., Erickson, B., Kelkar, A., McConathey, E., Faseyitan, O., Hamilton, R.H., Coslett, H.B., Elliott, M., Reddy, R. (2019, May). Glutamate-weighted CEST (GluCEST) MRI contrast at the site of transcranial magnetic stimulation is related to changes in motor evoked potentials. Annual meeting of the American Academy of Neurology Conference in Philadelphia, PA.
- Kelkar, A., Turkeltaub, P.E., Pustina, D., & **Medaglia, J.D.** (2019, May). The Contribution of Residual Anatomical Brain Networks in Language Recovery in Post-Stroke Aphasia. Annual meeting of the American Academy of Neurology Conference in Philadelphia, PA.
- Mass, J., Harvey, D.S., Kelkar, A., **Medaglia, J.D.**, Hamilton, R.H. (2019, May). Network-Based Approach to the Role of the Inferior Frontal Gyrus in Retrieval and Selection. Annual meeting of the American Academy of Neurology Conference in Philadelphia, PA.

- Medaglia, J.D.** (2018, August). Cognitive Neuroengineering: Defining a New Paradigm. Annual meeting of the Neuromodulation Conference in New York, New York.
- Medaglia, J.D.,** Harvey, D.Y., White, N., Kelkar, A., Zimmerman, J., Bassett, D.S., Hamilton, R.H. (2018, June). Network Controllability in the Inferior Frontal Gyrus Relates to Controlled Language Variability and Susceptibility to Neuromodulation. Annual meeting of the NIH High-Risk/High-Reward Research Symposium, Bethesda, MD.
- Bansal, K., **Medaglia, J.D.,** Bassett, D.S., Vettel, J.M., & Muldoon, S.F. (2017, November). Using data-driven models of brain dynamics to predict individual performance differences in cognitively demanding tasks. Annual meeting of the annual meeting of the Society for Neuroscience.
- Wurzman, R., Wiener, M., Hamilton, R.H., Coslett, B., & **Medaglia, J.D.** (2017, November). System-level network integration predicts trial-wise TMS effects on temporal perception. Annual meeting of the annual meeting of the Society for Neuroscience.
- Solomon, S., **Medaglia, J.D.,** & Thompson-Schill, S.T. (2017, November). Modeling Individual Concepts as Graph Theoretical Networks. Annual meeting of the Psychonomic Society.
- Medaglia, J.D.,** Harvey, D.S., White, N., Bassett, D.S., & Hamilton, R.H. (2016, November). Network controllability underlies the role of the inferior frontal gyrus in word selection processes. Annual meeting of the Society for Neuroscience, San Diego, California.
- Medaglia, J.D.,** Pasqualetti, F., Gu, S., Kable, J., Lerman, C., & Bassett, D.S. (2016, April). Network Controllability as a mediation mechanism for cognitive control. Annual meeting of the Society for Neuroscience, New York, NY.
- Medaglia, J.D.,** Bassett, D.S., Hamilton, R.H., Pasqualetti, F., & Gu, S. (2015, December). The Foundations and Repair of Cognitive Control in Human Brain Networks. Annual meeting of the NIH High-Risk High-Reward Research Symposium, Bethesda, MD.
- Baum, G.B., Roalf, D., Kahn, A., **Medaglia, J.D.,** Ciric, R., Ruparel, K., Gur, R.E., Gur, R.C., Bassett, D.S., & Satterthwaite, T.S. (2016, June). Confounds in Charting the Development of the Structural Connectome. Annual meeting of Human Brain Mapping, Geneva, Switzerland.
- Medaglia, J.D.,** Satterthwaite, T.S., Yang, M., Gu, S., Telesford, Q., Gur, R. C., Gur, R.E., and Bassett, D.S. (2015, October). Brain State Flexibility Predicts Diverse Cognitive Functions During Critical Periods in Neurodevelopment. Annual meeting of the Society for Neuroscience, Chicago, IL.
- Medaglia, J.D.,** Pasqualetti, F., Gu, S., Bassett, D.S. (2015, February). Addressing Cognitive and Brain Reserve with Network Control Theory. Annual meeting of the International Neuropsychological Society, Denver, CO.

- Medaglia, J.D.**, Pasqualetti, F., Gu, S., Bassett, D.S. (2014, November). Grounding Cognitive and Brain Reserve in Network Control Theory. Annual meeting of Cell: Translational Neuroscience, Arlington, VA.
- Medaglia, J.D.**, McAleavey, A.A., Rostami, S., Slocomb, J., & Hillary, F.G. (2014, February). The Relationship Between Blobs and Connections in Early Traumatic Brain Injury. Annual meeting of the International Neuropsychological Society, Seattle, WA.
- Medaglia, J.D.**, DePinto, N., Motter, J., Bryer, E.J., Dougherty, C., & Hillary, F.G. (2013, March). The Cerebellum as a Latent Support Following Traumatic Brain Injury. Annual meeting of the Graduate Exhibition at The Pennsylvania State University.
- Medaglia, J.D.**, Dancy, C., Bochnakova, T., DePinto, N., & Hillary, F.G. (2013, February). An Automated Person-Specific Approach to Region of Interest Selection in fMRI Data. Annual meeting of the International Neuropsychological Society, Waikoloa, Hawaii.
- Maclean, R.R., **Medaglia, J.D.**, Hillary, F.G., & Wilson, S.J. (2012, October). Resting state-functional connectivity associated with abstinence-induced craving in nicotine addiction. Annual meeting of the Society for Neuroscience, New Orleans, Louisiana.
- Peechatka, A., **Medaglia, J.D.**, Chiou, K.S., Slocomb, J., Ramanathan, D.M., & Hillary, F.G. (2012, February). A Longitudinal Study of Working Memory in Neurotrauma using functional MRI. Annual meeting of the International Neuropsychological Society, Montreal, Quebec.
- Rostami, S., **Medaglia, J.D.**, Bryer, E.J., & Hillary, F.G. (2012, February). Functional Imaging Findings of Working Memory after Traumatic Brain Injury: a Meta-analysis. Annual meeting of the International Neuropsychological Society, Montreal, Quebec.
- Venkatesan, U.M., Shanz, O.A., **Medaglia, J.D.**, Chiou, K.S., Slocomb, J., Franklin, R.G., & Hillary, F.G. (2012, February). Is Right *Right*? Hemispheric Differences During Visuospatial Working Memory in TBI. Annual meeting of the International Neuropsychological Society, Montreal, Quebec.
- Vargas, G.A., Zakrzewski, C., Genova, H., **Medaglia, J.D.**, Chiaravalloti, N., & Hillary, F.G. (2011, November). Does losing gray make you blue? Gray Matter Atrophy and Depression in Multiple Sclerosis. Annual meeting of the National Academy of Neuropsychology, Marco Island, Florida.
- Medaglia, J.D.**, Molenaar, P.C.M., & Gates, K.M. (2011, June). Space Modeling as dimension reduction and effective connectivity for neural systems. Annual meeting of Human Brain Mapping, Quebec City, Quebec.
- Gates, K.M., Molenaar, P.C.M., & **Medaglia, J.D.** (2011, June). Seeing the Forest from the Trees: How to Make Meaningful Group Inferences from Individual Connectivity Maps Using GIMME. Annual meeting of the Organization for Human Brain Mapping, Quebec City, Quebec.

- Venkatesan, U.M., **Medaglia, J.D.**, Slocomb, J., Hills, E.C., Fitzpatrick, N.M., Wang, J., Good, D.C., Wylie, G.R., & Hillary, F.G. (2011). Changes in Resting State Functional Connectivity during Recovery from Traumatic Brain Injury.
- Medaglia, J.D.**, Chiou, K.S., Slocomb, J., & Hillary, F.G. (2011, February). Functional Connectivity Between the Cerebellum and Neocortex during Working Memory. Annual meeting of the International Neuropsychological Society, Boston.
- Wardecker, B.M., **Medaglia, J.D.**, Ramanathan, D., Chiou, K.S., Slocomb, J., Hills, E., Good, B., & Hillary, F.G. (2010, March). *Location of Functional Activation Changes During Recovery from Traumatic Brain Injury*. Annual meeting of the International Brain Injury Association's World Congress on Brain Injury, Washington, D.C.
- Medaglia, J.D.**, Wardecker, B.M., Ramanathan, D., Chiou, K.S., Vesek, J., Good, D., Hills, E.C., & Hillary, F.G. (2010, February). Involvement of the Cerebellum in Task Proceduralization and Speeded Performance in Adult TBI. Annual meeting of the International Neuropsychological Society, Acapulco, Mexico.
- Wardecker, B.M., Ramanathan, D., **Medaglia, J.D.**, Chiou, K.S., Slocomb, J., & Hillary, F.G. (2010, February). *The Influence of Cognitive Functioning and Dispositional Optimism on Psychological Distress after Traumatic Brain Injury*. Annual meeting of the International Neuropsychological Society, Acapulco, Mexico.
- Ramanathan, D., Wardecker, B.M., **Medaglia, J.D.**, Chiou, K.S., Slocomb, J., Vesek, J., Wang, J., Hills, E., Good, D.C., & Hillary, F.G. (2010, February). *Axial Diffusivity and Fractional Anisotropy Correlate With Performance Following Traumatic Brain Injury*. Annual meeting of the 38th annual meeting of the International Neuropsychological Society, Acapulco, Mexico.
- Ramanathan, D., **Medaglia, J.D.**, Wardecker, B.M., Pardini, J., Lovell, M., Welling, J., & Hillary, F.G. (2010, February). *A Longitudinal fMRI Investigation of Recovery from Concussion*. Annual meeting of the International Neuropsychological Society, Acapulco, Mexico.
- Medaglia, J.D.**, Ramanathan, D., Chiou, K., Wardecker, B., Franklin, R., Genova, H., Deluca, J., Hillary, F. (2009, October). Performance Predicts Increased Frontal Cortex Activation in TBI in Spatial Working Memory. Annual meeting of the National Academy of Neuropsychology, New Orleans.
- Ramanathan, D., **Medaglia, J.D.**, Chiou, K.S., Wardecker, B.M., Slocomb, J., Vesek, J., Wang, J., Hills, E., Good, D.C., Hillary, F.G. (2009, October). The Relationship between Injury Severity and Recovery Following Traumatic Brain Injury Using Diffusion Tensor Imaging. Annual meeting of the National Academy of Neuropsychology, New Orleans.
- Chiou, K.S., Slocomb, J., Ramanathan, D., **Medaglia, J.D.**, Wardecker, B., Vesek, J., Wang, J., Hills, E., Good, D., Hillary, F. (2009, October). Longitudinal Investigation of White Matter Focal Lesions in Moderate to Severe TBI Using DTI. Annual meeting of the National Academy of Neuropsychology, New Orleans.

- Medaglia, J.D.,** Ruocco, A.C., & Chute, D.L. (2008, October). *Performance on the Tower of London-Drexel University and Barratt Impulsiveness Scale-11 in Borderline Personality Disorder*. Annual meeting of the National Academy of Neuropsychology, New York.
- Ruocco, A.C., **Medaglia, J.D.,** & Chute, D. L. (2008, October). Hemodynamic and Neuropsychological Relationships Using a Social Exclusion Protocol in Borderline Personality Disorder. Annual meeting of the National Academy of Neuropsychology, New York.
- Medaglia, J. D.,** Ruocco, A. C., & Chute, D. L. (2008, April). *Relations between the Tower of London and Barratt Impulsiveness Scale in Borderline Personality Disorder*. Annual meeting of the College of Arts and Sciences Research Day, and the fourth annual Psi Chi Research Conference, Philadelphia.
- Medaglia, J. D.,** & Chute, D. L. (2008, April). *Doing Real Science in a Virtual Environment: Online Learning with Drexel's ePsychology Program*. Annual meeting of the Psi Chi Research Conference, Philadelphia.
- Medaglia, J. D.,** Ruocco, A. C., & Swirsky-Sacchetti, T. (2007, November). *Relations between fine motor functions and personality disorder traits in patients with mild-moderate traumatic brain injury*. Annual meeting of the National Academy of Neuropsychology, Scottsdale.
- Medaglia, J. D.,** & Chute, D. L. (2007, May). *Behavioral Neuroscience in Online Education*. Annual meeting of the Canadian Association for Neuroscience, Toronto.
- Medaglia, J. D.,** Sestito, N., Da Silva, F., Jones, E., & Chute, D. L. (2007, April). *Teaching Methods in Psychology: Online Education*. Annual meeting of the College of Arts and Sciences Research Day, Philadelphia.
- Medaglia, J. D.,** Sestito, N., Da Silva, F., Jones, E., & Chute, D. L.(2007, March). *Teaching Methods in Psychology: Online Education*. Annual meeting of the Philadelphia Psi Chi Research Conference, Philadelphia.

MEDIA & PUBLIC COMMUNICATION

How to stave off Zoom Fatigue.

Interview with KYW News Radio, May 21st 2020. <https://kywnewsradio.radio.com/media/audio-channel/video-chatting-a-ton-during-covid-19-heres-how-to-stave-off-zoom-fatigue>

NATIONAL PROFESSIONAL COMMITTEES & LEADERSHIP

2018-Current **Neuroscience Liaison**

Continuing Education Task Force
Society for a Science of Clinical Psychology (SSCP) &
Coalition for the Advancement and Application of Psychological Science
(CAAPS)

2018 **Scientific Review Committee Member**

2nd International Neuroergonomics Conference, Philadelphia, PA

ACADEMIC SERVICE, COMMITTEES, AND OUTREACH

2022 **Templeton Foundation Reviewer**

Accelerating Research on Consciousness Initiative

Invited by the Scientific Peer Advisory and Review Services division of the American Institute of Biological Sciences (AIBS) on behalf of the Templeton World Charity Foundation.

2021 **NIH Reviewer**

Mental Health & Complex Functions Study Section

Committee member on a Federal NIH study section to serve as a peer-reviewer and discussant of R21 & R01 applications.

National Institutes of Health

2021 **Member**

Faculty Search Committee

Committee member reviewing tenure track applicants.

Drexel University Dept. of Psychological & Brain Sciences

2020-Current **Member**

Diversity, Equity, & Inclusion Committee

Chartered to improve the Department of Psychology's effort in recruiting a diverse, inclusive, and equitable environment and representation of identities.

Drexel University Department of Psychology

2018-Current **Founder & Faculty Sponsor**

Power, Privilege, and Professional Psychology Series

A discussion series about current issues in professional development in psychology and how to develop a more equitable field.

Drexel University & the Greater Philadelphia Area

2018-2019 **Co-Chair**

Drexel Neuroimaging Initiative

A committee to form a campus-wide interdisciplinary community and develop neuroimaging infrastructure.

Drexel University

2018-Current **Faculty Chair**

Academic Resource Planning Committee

(1) Develop transparent analytic tools to evaluate academic program quality, cost, and demand, including, but not limited to, data on program-level revenues and expenses. (2) Recommend best practices for utilizing such performance metrics to drive resource allocation (and re-allocation) within an RCM framework.

Drexel University

2018 **Research Supervisor**

Ahmad Alsibai, M.D.

Neurology Research Elective

Drexel Neurosciences Institute

Drexel University

2017-Current **Dissertation & Thesis Committees**

Lea Parker (Ph.D. in Clinical Psychology)

Yongtaek Oh (M.S., Ph.D. in Applied Cognitive & Brain Sciences)

Ali Hartman (Ph.D. in Clinical Psychology)

Natalie Shin (Ph.D. in Management)

Fareshte Erani (Ph.D. in Clinical Psychology)

Benjamin Deck (Ph.D. in Applied Cognitive & Brain Sciences)

Hayley O'Donnell (Ph.D. in Applied Cognitive & Brain Sciences)

Allie Kelly (M.S. in Psychology)

Simar Singh (M.S. in Psychology)

Fareshte Erani (M.S. in Psychology)

Benjamin Deck (M.S. in Psychology)

Harrison Stoll (M.S. in Psychology)

Brian Kim (M.S. in Psychology)

Kiante Fernandez (M.S. in Psychology)

Caitlin Dougher (M.S. in Psychology)

Brooke Yeager (M.S. in Psychology)

Riley Cook (M.S. in Psychology)

Molly Split (M.S. in Psychology)

Ali Hartman (M.S. in Psychology)

Jillian Tessier (Ph.D. in Clinical Psychology)

Alexandra Muratore (Ph.D. in Clinical Psychology)

Victoria Grunberg (Ph.D. in Clinical Psychology)

Ann-Marie Raphail (Ph.D. in Clinical Psychology/Neuropsychology)

Drexel University

Weiyu Huang (Ph.D. in Electrical and Systems Engineering)

Kevin Bui (Ph.D. in Biomedical Engineering)

Catherine Norise (M.S. in Translational Research)

University of Pennsylvania

2016-2017 **Organizing Committee for the Interdisciplinary Mind/Brain seminar series**

University of Pennsylvania

CLINICAL EXPERIENCE

2013-2014	<p>Predoctoral Neuropsychology Intern <i>The Medical University of South Carolina</i> <i>Department of Psychiatry</i> Rotations: VA Neuropsychology MUSC Neuropsychology Cognitive Behavioral Therapy Behavioral Medicine</p>
2012	<p>Clinical Rotation: Acute Stroke and Rehabilitation <i>Hershey Medical Center</i></p>
2010-2012	<p>Clinical Assistant Rotation: Personality Disorders <i>The Pennsylvania State University</i></p>
2009-2013	<p>Staff Therapist <i>The Pennsylvania State University</i> Rotations: Neuropsychology Cognitive Behavioral Therapy Psychodynamic Psychotherapy</p>

RESEARCH POSITIONS

2007-2008	<p>Research Coordinator <i>Drexel University</i></p>
2008	<p>Research Assistant <i>Drexel University</i></p>
2006 - 2007	<p>Research Intern <i>The School District of Philadelphia</i></p>
Summer 2007	<p>Research Fellowship <i>Drexel University</i></p>

OTHER FUNDING

2008-2013	<p>Travel Awards <i>Awarded by Pennsylvania State University and the Bruce V. Moore Fund</i> <i>Value: \$2650</i></p>
2008	<p>Psychology Senior Research Award <i>Awarded by Drexel University, Department of Psychology</i> <i>Value: \$200</i></p>
2007	<p>Travel Awards <i>Awarded by Drexel University, Department of Psychology.</i> <i>Value: \$800</i></p>
2006	<p>Johnston Scholarship Award in Psychology</p>

*Awarded by Drexel University, Department of Psychology.
Value: \$1635*

2006, 2007 Alice Troth Drexel Scholarship
*Awarded by Drexel University
Value: \$5000*

AFFILIATIONS

Member, Association for Psychological Science (2018-)
Member, American Academy of Neurology (2015-)
Member, Cognitive Neuroscience Society (2015-)
Member, Society for Neuroscience (2012-)
Member, International Neuropsychological Society (2010-)

PEER REVIEW ACTIVITIES

Ad hoc reviewer for: Advanced Science, Annals of Neurology; Behavioural Brain Research; Brain; Brain Communications; Brain & Language; Brain Imaging and Behavior; Brain Injury; Brain Structure and Function; Biological Psychiatry; Brain Research; Cortex; Cerebral Cortex; Frontiers in Human Neuroscience; Human Brain Mapping; IEEE Transactions on Medical Imaging; Journal of Cognitive Neuroscience; Journal of Complex Networks; Nature Communications; Nature Reviews Neuroscience; Network Neuroscience; NeuroImage; Neurology; Neuron; PLOS Biology; PLOS Computational Biology; Psychopathology and Behavioral Assessment; Psychophysiology; Restorative Neurology and Neuroscience; Psychoneuroendocrinology; Scientific Data; Scientific Reports; The Journal of Neuroscience