Charles M. Greenspon

Staff Scientist
University of Chicago
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Employment

Staff Scientist **2023 - present**

University of Chicago, Organismal Biology & Anatomy

Postdoctoral Scholar **2018 - 2023**

The University of Chicago, Organismal Biology and Anatomy

Education

Doctor of Philosophy **2014 - 2018**

University of Nottingham, School of Life Sciences

Bachelor's of Science **2011 - 2014**

University of Warwick, School of Life Sciences

Research Publications

Microstimulation of human somatosensory cortex evokes task-dependent, spatially patterned responses in motor cortex **2023**

Nature Communications, DOI: 10.1038/s41467-023-43140-2
N.D. Shelchkova, J.E. Downey, **C.M. Greenspon**, E.V. Okorokova, A.R. Sobinov, C. Verbaarschot, Q. He, C. Sponheim, A.F. Tortolani, D.D. Moore, M.T. Kaufman, R.C. Lee, D. Satzer, J. Gonzalez-Martinez, P.C. Warnke, L.E. Miller, M.L. Boninger, R.A. Gaunt, J.L. Collinger, N.G. Hatsopoulos, and S.J. Bensmaia

Sensory computations in the cuneate nucleus of macaques **2021**

Proceedings of the National Academy of Sciences, DOI: 10.1073/pnas.2115772118
A.K. Suresh, **C.M. Greenspon**, Q. He, J.M. Rosenow, L.E. Miller, and S.J. Bensmaia

Chronic Use of a Sensitized Bionic Hand Does Not Remap the Sense of Touch **2020**

Cell Reports, DOI: 10.1016/j.celrep.2020.108539
M. Ortiz-Catalan, E. Mastinu, **C.M. Greenspon**, and S.J. Bensmaia

Effect of scanning speed on texture-elicited vibrations **2020**

Journal of The Royal Society Interface, DOI: 10.1098/rsif.2019.0892
C.M. Greenspon, K.R. McLellan, J.D. Lieber, and S.J. Bensmaia

Lamina-specific population encoding of cutaneous signals in the spinal dorsal horn using multi-electrode arrays **2019**

The Journal of Physiology, DOI: 10.1113/JP277036
C.M. Greenspon, E.E. Battell, I.M. Devonshire, L.F. Donaldson, V. Chapman, and G.J. Hathway

Cancer Chemotherapy in Early Life Significantly Alters the Maturation of Pain Processing **2018**

Neuroscience, DOI: 10.1016/j.neuroscience.2017.11.032
G.J. Hathway, E. Murphy, J. Lloyd, **C. Greenspon**, and R.P. Hulse

Age-dependent plasticity in endocannabinoid modulation of pain processing through postnatal development **2017**

Pain, DOI: 10.1097/j.pain.0000000000001027
C.H. Kwok, I.M. Devonshire, A. Imraish, **C.M. Greenspon**, S. Lockwood, C. Fielden, A. Cooper, S. Woodhams, S. Sarmad, C.A. Ortori, D.A. Barrett, D. Kendall, A.J. Bennett, V. Chapman, and G.J. Hathway

Manganese-enhanced magnetic resonance imaging depicts brain activity in models of acute and chronic pain: A new window to study experimental spontaneous pain? **2017**

NeuroImage, DOI: 10.1016/j.neuroimage.2017.06.034
I.M. Devonshire, J.J. Burston, L. Xu, A. Lillywhite, M.J. Prior, D.J.G. Watson, **C.M. Greenspon**, S.J. Iwabuchi, D.P. Auer, and V. Chapman

Developmental alterations in noxious-evoked EEG activity recorded from rat primary somatosensory cortex **2015**

Neuroscience, DOI: 10.1016/j.neuroscience.2015.08.004
I.M. Devonshire, **C.M. Greenspon**, and G.J. Hathway

Talks

Humans are just monkeys with different problems **2023**

Society for Neuroscience - Animals in Research

ICMS based force feedback for bionic hands **2022**

Society for Neuroscience -Advances in Neural Microstimulation for Sensory Restoration and Feedback

Preprints

The integration of tactile and proprioceptive signals to achieve haptic object perception **2023**

biorxiv, DOI: 10.1101/2023.11.27.568836
R.E. Dogruoz, N.S. Shelchkova, D.E. Sheets, **C.M. Greenspon**, and S.J. Bensmaia

Tessellation of artificial touch via microstimulation of human somatosensory cortex **2023**

biorxiv, DOI: 10.1101/2023.06.23.545425
C.M. Greenspon, N.D. Shelchkova, G. Valle, T.G. Hobbs, E.I. Berger-Wolf, B.C. Hutchison, E. Dogruoz, C. Verbarschott, T. Callier, A.R. Sobinov, E.V. Okorokova, P.M. Jordan, D. Prasad, Q. He, F. Liu, R.F. Kirsch, J.P. Miller, R.C. Lee, D. Satzer, J. Gonzalez-Martinez, P.C. Warnke, L.E. Miller, M.L. Boninger, A.B. Ajiboye, E.L. Graczyk, J.E. Downey, J.L. Collinger, N.G. Hatsopoulos, R.A. Gaunt, and S.J. Bensmaia

Biomimetic multi-channel microstimulation of somatosensory cortex conveys high resolution force feedback for bionic hands **2023**

biorxiv, DOI: 10.1101/2023.02.18.528972
C.M. Greenspon, G. Valle, T.G. Hobbs, C. Verbaarschot, T. Callier, E.V. Okorokova, N.D. Shelchkova, A.R. Sobinov, P.M. Jordan, J.M. Weiss, E.E. Fitzgerald, D. Prasad, A.v. Driesche, R.C. Lee, D. Satzer, J. Gonzalez-Martinez, P.C. Warnke, L.E. Miller, M.L. Boninger, J.L. Collinger, R.A. Gaunt, J.E. Downey, N.G. Hatsopoulos, and S.J. Bensmaia

The coarse mental map of the breast is anchored on the nipple **2022**

biorxiv, DOI: 10.1101/2022.09.14.507974
K.H. Long, E.E. Fitzgerald, E.I. Berger-Wolf, A. Fawaz, **C.M. Greenspon**, S.T. Lindau, and S.J. Bensmaia

Texture coding in higher order somatosensory cortices of primates **2022**

biorxiv, DOI: 10.1101/2022.08.19.504511
K.H. Long, **C.M. Greenspon**, A.v. Driesche, J.D. Lieber, and S.J. Bensmaia

Book Chapters

Nociceptive signaling in the periphery and spinal cord **2021**

Oxford Textbook of Pediatric Pain, DOI: 10.1093/med/9780198818762.001.0001
G.J. Hathway, **C.M. Greenspon**, and M.L. Baccei

Software

NCams **2020**

Pipeline for taking 2D images with labelled bodymarkers and reconstructing kinematics.,
https://github.com/CMGreenspon/NCams