

Mark D. Lescroart, Ph.D.

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Current position

Assistant Professor of Cognitive & Brain Sciences
University of Nevada, Reno, Reno, NV

Jan 2018-present

Research topics

Intermediate-level visual perception, attention, computational modeling, fMRI

Education

University of California, Berkeley, Berkeley, CA

Feb 2011-December 2017

Postdoctoral researcher; Laboratory of [Dr. Jack Gallant](#)

University of Southern California, Los Angeles, CA

Aug 2005-May 2011

Ph.D. in Neuroscience conferred May 2011; Laboratory of [Dr. Irving Biederman](#)

University of Southern California, Los Angeles, CA

Aug 1998-May 2002

B.S. in Psychobiology; minor in Japanese; graduated summa cum laude

Publications

Lescroart, M.D., Nishimoto, S., & Gallant, J.L. (in preparation) Intermediate human visual areas represent the locations of boundary contours in naturalistic movies.

Abdel-Ghaffar, Samy A; Huth, Alex G; Cowen, Alan S; Stansbury, Dustin E., **Lescroart, Mark D**; Gallant, Jack L.; & Bishop, Sonia J. (under revision) Occipital-temporal cortical tuning to emotional natural images predicts associated behaviors.

Lescroart, M.D. & Gallant, J.L (2019) Scene-selective areas in human cortex represent the orientation of and distance to large surfaces. *Neuron*. doi:10.1016/j.neuron.2018.11.004 [[link](#) / [pdf](#)]

Lescroart, M. D., Kanwisher, N., & Golomb, J. D. (2016). No Evidence for Automatic Remapping of Stimulus Features or Location Found with fMRI. *Frontiers in Systems Neuroscience*, 10, 53. doi:10.3389/fnsys.2016.00053 [[link](#) / [pdf](#)]

Lescroart, M.D., Stansbury, D., & Gallant, J.L. (2015) Fourier power, subjective distance, and object categories all provide plausible models of BOLD responses in scene-selective visual areas. *Frontiers in Computational Neuroscience*, 9:135. doi: 10.3389/fncom.2015.00135 [[link/pdf](#)]

Gao, J. S., Huth, A. G., **Lescroart, M. D.**, & Gallant, J. L. (2015). Pycortex: an interactive surface visualizer for fMRI. *Frontiers in Neuroinformatics*, 9. doi:10.3389/fninf.2015.00023 [[link/code/pdf](#)]

Sato, T., Uchida, G., **Lescroart, M. D.**, Kitazono, J., Okada, M., & Tanifuji, M. (2013) Object representation in inferior temporal cortex is organized hierarchically in a mosaic-like structure. *The Journal of Neuroscience*; 33(42), 16642–56. doi:10.1523/JNEUROSCI.5557-12.2013 [[link/pdf](#)]

Lescroart, M.D. & Biederman, I. Cortical representation of medial axis structure. (2012) *Cerebral Cortex*. (New York, N.Y. : 1991). doi:10.1093/cercor/bhs046 [[link/pdf](#)]

Hayworth, K.J., **Lescroart, M.D.**, & Biederman, I. (2011) Neural encoding of relative position. *Journal of Experimental Psychology: Human Perception and Performance*. 37(4), 1032-1050. doi:

10.1037/a0022338 [\[link/pdf\]](#)

Lescroart, M.D., Biederman, I., Yue, X., & Davidoff, J. (2010) A cross-cultural study of the representation of shape: Sensitivity to generalized cone dimensions. *Visual Cognition*.18:1, 50-66
First published on: 22 December 2008 (iFirst) [\[link/pdf\]](#)

Kim, Jiye G., Biederman, I., **Lescroart, M.D.**, & Hayworth, K.J. (2009) Adaptation in the Lateral Occipital Complex (LOC): Shape or Semantics? *Vision Research*, 49, 2297-2305 [\[link/pdf\]](#)

Xu, X., Yue, X., **Lescroart, M.D.**, Kim, J.G. & Biederman, I. (2009) Adaptation in the Fusiform Face Area (FFA): Image or Person? *Vision Research*, 49, 2800-2807 [\[link/pdf\]](#)

Selected Conference Presentations

Shinkle, M & Lescroart, M.D. (2020) Voxelwise modeling reveals selectivity for body part identity and location in BOLD fMRI responses to complex naturalistic stimuli. Poster presented at the (virtual) Meeting of the Vision Sciences Society

Lescroart, M.D., Agrawal, P, & Gallant, J.L. (2016) Both convolutional neural networks and voxelwise encoding models of brain activity derived from ConvNets represent boundary-and surface-related features. Talk presented at the Meeting of the Vision Sciences Society, St. Petersburg, FL.

Lescroart, M.D., Stansbury, D. E., & Gallant, J.L. (2015) Semantics, space, and spatial frequency all describe the same representation in scene-selective areas of the human brain. Talk presented at the Society for Neuroscience meeting, Chicago, IL.

Lescroart, M.D. & Gallant, J.L. (2015) A model of the local environment predicts responses in human scene-selective cortex. Talk presented at the Meeting of the Vision Sciences Society, St. Petersburg, FL.

Lescroart, M.D., Nishimoto, S., & Gallant, J.L. (2014) Intermediate human visual areas represent the locations of silhouette edges in natural movies. Talk presented at the Meeting of the Vision Sciences Society, Naples, FL.

Lescroart, M.D., Nishimoto, S., & Gallant, J.L. (2013) Representation of object contour features in intermediate visual areas in the human brain. Poster presented at the Meeting of the Vision Sciences Society, Naples, FL.

Lescroart, M.D. & Biederman, I. (2011) The medial axis structures of novel objects are spontaneously perceived despite variability in the objects' orientations and component part shapes. Talk presented at the Meeting of the Vision Sciences Society, Naples, FL.

Lescroart, M.D. & Biederman, I. (2010) Voxels in LO distinguish objects with different arrangements of the same component parts. Talk presented at the Society for Neuroscience meeting, San Diego, CA.

Lescroart, M.D., Hayworth, K.J., & Biederman, I. (2009) Is there an object-centered map in LOC? Poster presented at the Meeting of the Vision Sciences Society, Naples, FL

Lescroart, M.D., Yue, X., Davidoff, J., & Biederman, I. (2007). A Cross-Cultural Study of the Representation of Shape Dimensions. Talk presented at OPAM. Long Beach, CA

Lescroart, M.D., Hayworth, K.J., & Biederman, I. (2007). Evidence for Relative Position Coding in the Posterior Fusiform Gyrus. Talk presented at Society for Neuroscience. San Diego, CA

Non-academic publications

Lescroart, M.D. Favorite Colors: Color Preference Determined by Desirability of Objects.

Scientific American Mind, Sept./Oct. 2010 [[link](#)]

Lescroart, M.D. The Healing Power of Touch: Tickling a rat's whiskers after it has a stroke prevents brain damage. Scientific American Mind, July/Aug. 2011 [[link](#)]

Awards [Ruth L. Kirschstein National Research Service Award](#) (Postdoctoral NRSA) Nov 2012-present
Mapping the representation of shape dimensions across the visual hierarchy
(F32EY021710).

USC Travel award for travel to OHBM meeting, Barcelona, Spain Jun 2010

Rockwell Dennis Hunt Scholastic Award from the University of Southern California Jan 2006
Awarded to the graduate student who is an alumnus and is most representative of the University's traditions and objectives

Trustee (full tuition) Scholarship from the University of Southern California 1998-2002
Recognized as a USC Renaissance Scholar May 2002
For outstanding study in disparate disciplines

Phi Beta Kappa National Honor Society Spring 2001

Work Experience Extreme Learning Center Tutor, SAT prep instructor 2004 – 2005
Designed and ran an after-school SAT prep class for disadvantaged students
Managed publicity, curriculum design, and budgeting.

Substitute teacher, San Jose Unified School District 2004 – 2005
Managed classrooms of middle and high school students

Assistant Language Teacher, Japan Exchange & Teaching program 2002 –2003
Developed lessons tailored to students of varied ages / English abilities.

Skills Programming languages: Python, Matlab, JavaScript, *nix scripting
Languages: Spanish, Japanese
Databases: MongoDB, CouchDB

Courses Summer Institute in Cognitive Neuroscience (UC Santa Barbara) Summer 2009
Riken BSI Summer Internship (Laboratory of Dr. Manabu Tanifuji) Summer 2008
UCLA Semel Institute Advanced Neuroimaging Summer 2007

Outreach Dinner with a Scientist (Oakland Unified School District) 2013, 2015, 2016
Bay Area Science Festival
Art in Science evening 2012
Illusion booth at AT&T park finale event 2012
Ghost room exhibit at the California Academy of Sciences [[event](#)] 2013-2014

Public talks
Science@Cal [[video](#)] 2013

NerdNite East Bay [\[video\]](#)

2013

Scarlet City Coffee House

2015

Participated as a blogger in Knight Digital Media Center's conference

Mar 2007

Best Practices: Covering Science in Cyberspace [\[sample 1\]](#), [\[sample 2\]](#), [\[sample 3\]](#)