Dav Clark
davclark@berkeley.edu
+1 (917) 544-8408

D-Lab
356 Barrows Hall
Berkeley CA 94720

Resume

Positions

2016–present *Research Scientist, Kennedy Krieger Insititute*
Developing and assessing interventions for children with developmental challenges. Data include TMS, fMRI, physiologic and motor measures, and cognitive and clinical testing. Extensive secondary usage of existing data sources.

2013–2016 *Data Scientist, UC Berkeley Data-intensive Social Science Lab (D-Lab)*
Big Data Compute lead. Providing broad support across campus for computaionally intensive social science. Includes training, consulting, data management, and software development for internal programs. Data Czar for Berkeley's EdX (Massive Online Open Course) program. Work with research computing support to make standard (virtual) computing environments available for training and collaborative research.

2014–2016 *Fellow, UC Berkeley Institute for Data Science (BIDS)*
Selected via a highly competitive application process to be a fellow in the Moore–Sloan initiative to improve computational scientific practice. My focus is on the collection and management of social data, inclusive of non-technical concerns like privacy and security.

2014, 2015 *Lecturer, UC Berkeley School of Information*
Masters in Data Science (2014): Introduction to machine learning course that my students have said is the most challenging, most rewarding course in the program. Hacking Measurement (2015): Project-based introduction to sensor, mobile, and structured text mining for social, health and environmental data.

2012–2014 *Chief Scientist, Oroeco*
Ruby on Rails project to scaffold climate-relevant behavioral change. Responsible for components of the web application, and developing approaches to systematically analyze user behaviors—in particular the results of interventions.

Positions (continued)

2007–present *Feldenkrais Teacher, Consultant*
Hands-on and verbal instruction to improve students' movement abilities, often in a rehabilitative context. Completed 4-year training. Have taught weekly classes, various dance workshops, and private lessons. Full day FGNA conference presentation in 2012.

2004–2013 *Web Service Developer, Contractor / KeepOpen.com*
Using technologies like HDF5, Zope and Google Maps to implement services for community events management, small businesses, resource sharing, etc. Patent development.

2006–2007 *Principal Scientist, Entrieva*
Developed multiple reporting frameworks using relational database and hierarchical HDF5 design. Analysis and reduction of code to basic mathematical notation. Domain expert in computational linguistics and semantic web technology. Primary responsibility: Do good stuff.

2006 *Programmer, Wandell Lab / Stanford*
Developing a brain imaging repository from scratch using REST design and HDF5 data storage using PyTables. Clients include a Matlab / Java program, a web browser and mounting via WebDAV. Server written using mod_python. NumPy used for matrix operations.

2005–2006 *Programmer/Analyst, Davachi Lab / NYU*
Variety of novel analyses of subsequent memory fMRI data collected during free viewing of a movie. Working with an undergraduate researcher in developing analysis of associated eye-tracking data. Duties also include development, automation and technical support of other analyses being done in the lab.

2003–2004 *Various Independent Activities*

- Business plan competitions: MIT Sloan (semi-finalist) and Harvard (runner up, $4000 as in-kind services)
- Classical opera and contemporary performance art
- Real estate agent
- Extensive travel
- Organic farming, straw bale and mud brick house construction
- Organizer and attendee for various holistic bodywork training sessions

Positions (continued)

2002 *Programmer/Analyst, Massachusetts General Hospital*
Supported complex analyses in a flagship brain imaging research center. Included implementing novel techniques for statistics and visualization, integrating fMRI, sMRI and MEG.

Education

2007–2013 *PhD in Psychology, UC Berkeley*
Thesis committee: Rich Ivry (co-chair), Michael Ranney (co-chair), Sonia Bishop, and John Canny
Thesis: Climate change and conceptual change
Qualifying committee: John Kihlstrom (chair), Jack Gallant, Rich Ivry, and Michael Ranney
Exam topics: Automaticity, Skill Learning, Brain Imaging Methods
RCME Fellow (Full support / stipend for 2 years)

1999–2002 *MS in Cognitive Neuroscience, MIT*
Supervised by Anthony Wagner
Thesis: Neurocognitive circuitry supporting neoword learning
NSF Graduate Student Fellowship
Jacob Javits Fellowship (declined)

1995–1999 *Bachelor's degrees at U of MD, College Park*
BA with honors in Linguistics
BS in Computer Science
BS with high honors in Mathematics
Thesis: Modeling language change with markov models
Magna Cum Laude
Banneker/Key Scholarship (Full support / stipend for 4 years)
Arts and Humanities Senior Scholar
University Honors Citation
Omicron Delta Kappa leadership honors fraternity

Technical Skills

Professional-level programming competence

- R (a free dialect of the S language for Statistics, similar to S-Plus)

Technical Skills (continued)

- Python, including many scientific libraries
- Web application programming (Ruby on Rails, Javascript, Amazon Web Services)

Brain Imaging

- fMRI data collection and analysis
- MEG/EEG data collection and analysis
- NiPype – analysis pipelines for reproducible research (co-author)

Other

- Statistics: including classical, non-parametric, SEM, Monte Carlo methods
- Machine Learning
- Data visualization: including interactive, multipanel and 3D plots
- Transparent and reproducible research
- Revision control / team project management (Subversion and Git)
- Basic electronics and embedded systems
- High performance computing and GPU-accelerated computing boxes)

Publications

Ranney, M. A., & Clark, D. (2016). Climate Change Conceptual Change: Scientific Information Can Transform Attitudes. *Topics in Cognitive Science 8*, 1, 49–75. doi:10.1111/tops.12187.

Clark, D., Schumann, F., & Mostofsky, S. H. (2015). Mindful movement and skilled attention. *Frontiers in Human Neuroscience, 9*, 297. *doi:10.3389/fnhum.2015.00297*

Clark, D., (2014). MTurk Admin. Retrieved from Open Science Framework. *osf.io/iwdru*

Gorgolewski, K., Burns, C. D., Madison, C., **Clark, D.**, Halchenko, Y. O., Waskom, M. L., & Ghosh, S. S. (2011). Nipype: a flexible, lightweight and extensible neuroimaging data processing framework in python. *Frontiers in Neuroinformatics, 5,* 13. *doi:10.3389/fninf.2011.00013*

Clark, D., & Ivry, R. B. (2010). Multiple systems for motor skill learning. *Wiley Interdisciplinary Reviews: Cognitive Science, 1*(4), 461–467. *doi:10.1002/wcs.56*

Publications (continued)

Hasson, U., Furman, O., **Clark, D.**, Dudai, Y., & Davachi, L. (2008). Enhanced Intersubject correlations during movie viewing correlate with successful episodic encoding. *Neuron, 57*(3), 452–462. [Note: First 3 authors contributed equally]

Kahn, I., Pascual-Leone, A., Theoret, H., Fregni, F., **Clark, D.**, & Wagner, A. D. (2005). Transient disruption of ventrolateral prefrontal cortex during verbal encoding affects subsequent memory performance. *Journal of Neurophysiology, 94,* 688–698.

Clark, D., & Wagner, A. D. (2003). Assembling and encoding word representations: fMRI subsequent memory effects implicate a role for phonological control. *Neuropsychologia, 41,* 304–317.

Peer-reviewed Conference Papers

Clark, D., Culich, A., & Hamlin, B. (2014). A Common Scientific Compute Environment for Research and Education. *Proceedings of SciPy, 2014.* Austin, TX.

Clark, D., Ranney, M. A., & Felipe, J., (2013). Knowledge Helps: Mechanistic Information and Numeric Evidence as Cognitive Levers to Overcome Stasis and Build Public Consensus on Climate Change. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Cooperative Minds: Social Interaction and Group Dynamics; Proceedings of the 35th Annual Meeting of the Cognitive Science Society* (pp. 2070–2075). Austin, TX: Cognitive Science Society.

Ranney, M. A., **Clark, D.**, Reinholz, D. L., & Cohen, S. (2012). Changing Global Warming Beliefs with Scientific Information: Knowledge, Attitudes, and RTMD (Reinforced Theistic Manifest Destiny Theory). In N. Miyake, D. Peebles, & R.P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society* (pp. 2228–2233). Austin, TX: Cognitive Science Society.

Clark, D., Reinholz, D. L., Cohen, S., & Ranney, M. A. (2012). Improving Americans Modest Global Warming Knowledge in the Light of RTMD (Reinforced Theistic Manifest Destiny) Theory. In J. van Aalst, K. Thompson, M. M. Jacobson, & P. Reimann (Eds.), *The Future of Learning: Proceedings of the Tenth International Conference of the Learning Sciences,* Volume 2 (pp. 2-481 to 2-482). International Society of the Learning Sciences, Inc.

Clark, D., & Ranney, M. A. (2010). Known knowns and unknown knowns: Multiple memory routes to improved numerical estimation. In K. Gomez, L. Lyons, & J. Randinsky (Eds.), *Learning in the Disciplines: Proceedings of the Ninth International Conference of the Learning Sciences, Vol. 1-Full Papers (pp. 460–467).* International Society of the Learning Sciences, Inc.

Retraction

Turek, D., Suen, A., and **Clark, D.** (2016–retracted). The BIDS Collaborative: Towards Effective Graduate Student Data Science Projects.

Other Presentations

Schumann, F., and **Clark, D.** (March, 2015). Mindful movement and skilled attention. Paper presented at the 18th Herbstakademie, Heidelberg, Germany.

Ranney, M. A., **Clark, D.**, Lamprey, L.N., Le, K., Shonman, M., Hu, B.S., & Zhang, L. (2014, November). Enhancing Climate Change Cognition: Direct-To-The-Public Communication (www.HowGlobalWarmingWorks.org) and Controlled Experiments. Paper presented at the annual meeting of the Psychonomic Society, Long Beach, CA.

Clark, D. (2014, October). *Mindful sensorimotor practice: Why aren't we paying more attention?* Paper presented at the International Symposium for Contemplative Studies 2014, Boston, MA.

Clark, D. (2013, November). *Measuring and Reducing Individuals' Carbon Footprints.* Behavioral Measurement & Change Seminar at UC Berkeley, Berkeley, CA.

Clark, D. (2013, June). *Combating Climate Change With Education And Incentives For Individuals.* Poster session presented at the Garrison Institute Climate, Mind, and Behavior Sympusium, Garrison, NY.

Ranney, M.A., **Clark, D.**, & Reinholz, D. (2012, November). *Enhancing Global Warming Understanding and Acceptance with Veridical Statistics and Mechanistic Information.* Poster session presented at the Behavior, Energy & Climate Change Conference, Sacramento, CA.

Clark, D. (2012, September). *Getting Precise With Our Complex Brains.* Full-day workshop presented at the Feldenkrais Method Annual Conference, San Mateo, CA.

Ranney, M.A., **Clark, D.**, Reinholz, D., Crain, M., & Gillingham, D. (2012, October). *How Journalists and Educators Can Help Preserve Earths Biosphere by Improving Numeracy and Scientific Informativeness.* Paper presented at the annual meeting of the National Numeracy Network, New York City.

Ranney, M. A., **Clark, D.**, Reinholz, D. L., Farjadi, R., Beale, M., & Wilson, J. (2012, May). *Changing Peoples Incorrect Global Warming Beliefs with True Statistics and Mechanistic Information.* Paper presented at the The Association for Psychological Sciences 24th Annual Convention, Chicago, IL.

Other Presentations (continued)

Clark, D., Stoloff, R., & Ivry, R. B. (2011, September). *The neural signature of free vs. forced hand choice.* Poster session presented at the 41st annual meeting of the Society for Neuroscience, Washington, DC.

Clark, D., Reinholz, D., Cohen, S., Walket, B., & Ranney, M. A. (2011, August). *Overcoming Climate Change Biases by Teaching the Goldilocks Asymmetry of Energy Transfer Rates: A Cognitive-Strategy Attempt to Save Us Organisms.* Paper presented at the Eighteenth Annual Meeting of the Cognitive Science Association for Interdisciplinary Learning, Hood River, OR.

Clark, D., Reinholz, D., Goldwasser, L., & Ranney, M. A. (2011, April) *Can Teaching the "Goldilocks Asymmetry" About Energy Transfer Rates Save Us Organisms? An Experiment on Climate Change Instruction.* Paper presented at the Graduate School of Education (GSE) Research Day, Berkeley, CA.

Ghosh, S., Burns, C., **Clark, D.**, Gorgolewski, K., Halchenko, Y., Madison, C., Tungaraza R., & Millman J. (2010). *Nipype: Opensource platform for unified and replicable interaction with existing neuroimaging tools.* Poster session presented at the 16th Annual Meeting of the Organization for Human Brain Mapping.

Clark, D. (2010, April). *Surprising Feedback And Fallible Metacognition: Beliefs Versus Facts in Real-World Numerical Estimation and Recall.* Paper presented at the Graduate School of Eduction (GSE) Research Day, Berkeley, CA.

Clark, D., Ivry, R.B. (2009). *Hemispheric Asymmetry in fMRI Activation with Direct or Indirect Cueing of Sequential Movements.* Poster session presented at the 19th Annual Meeting of the Neural Control of Movement Abstracts, Waikiloa, HI.

Furman, O., Hasson, U., **Clark, D.**, Dudai, Y., Davachi, L. (2006). *Neural correlates of long-term memory formation under continuous real-life viewing conditions.* Poster session presented at the 12th Annual Meeting of the Organization for Human Brain Mapping.

O'Kane, G., **Clark, D.**, Insler, R., & Wagner, A. D. (2003). Generalized semantic repetition priming in left inferior prefrontal cortex. *Abstracts of the Cognitive Neuroscience Society, 10,* 73.

Clark, D., Rhee, J., & Wagner, A. D. (2001). Prefrontal activation during phonological encoding predicts subsequent memory. *Abstracts of the Cognitive Neuroscience Society, 8,* 58.

Other Presentations (continued)

Rhee, J., **Clark, D.**, Casasanto, D., Ullman, M., Wagner, A., & Pinker, S. (2001). Neural substrates of English past tense generation. *Abstracts of the Cognitive Neuroscience Society, 8,* 131.

Clark, D., & Wagner, A. D. (2001). A role for phonological working memory: Building representations for novel word stimuli. *Society for Neuroscience Abstracts, 27.*

Invited Talks

Fish, A., **Clark, D.**, Dumit, J., Fallon, K., & Irani, L. (2015, June). The Challenges of Research Design: Tools and Interventions. Invited roundtable at The Social Life of Medical Data, Davis, CA.

Auriti, E., Borgman, C., **Clark, D.**, Anderson, N., Stahmer, C., Lippman, A. (2014, December). Perspectives on Data Sharing Across the Research Enterprise. Invited panel at Data Rights & Data Wrongs, Davis, CA.

Clark, D. (2014, December). Collaborative training in RStudio/Rmarkdown. Training delivered at the BITSS Annual Meeting.

Clark, D., Nelson, A., Ram, K., & Koy, K. (2014, June). Data Science Meets Social Science. Invited Roundtable (moderator).

Monroe, I., & **Clark, D.** (2013, September). *Saving Oceans with Social and Behavioral Changes.* Invited talk at the Hive Big Data Think Tank, San Francisco, CA.

Clark, D., Reinholz, D., Farjadi, R., Cohen, S., and Ranney, M.A. (2011, October). *Understanding and Changing Cognitions and Behaviors About Global Warming* Seminar presented to UC Berkeley DeCal: Behavioral Change + Technology, Berkeley, CA.

Ranney, M. A., **Clark, D.**, and Reinholz, D. (2011, October). *"Rick Perry, methane, & an early hominid enter a saloon. . . ": Climate change, evolution, (anti-)knowledge, math, and geopolitics.* Invited colloquium for the Institute of Cognitive and Brain Sciences, University of California, Berkeley.

Clark, D., Reinholz, D., Farjadi, R., and Ranney, M. A. (2011, September). *Towards an informed populace: two approaches for addressing faulty prior knowledge.* Seminar presented to the UC Berkeley Cognitive Coalition (CoCoa), Berkeley, CA.

Invited Talks (continued)

Clark, D., Reinholz, D., Felipe, J., Cain, A., Beale, M., Lazaris, A., Qi, H., Fong, J., Farjadi, R., & Ranney, M. A. (2011, April). *The Goldilocks Asymmetry of Energy Transfer Rates: An Experimental Intervention Toward Saving Us from Global Warming.* Research in Cognition and Mathematics Education (RCME) proseminar, Berkeley, CA.

Clark, D. (2009, October). *Python data discussion (HDF5, R, Numpy)*. UC Berkeley Python 4 Science seminar, Berkeley, CA.

Clark, D. (2009, April). *Learning numerical information: A memory systems approach to educational strategy.* USF Undergraduate Neuroscience Seminar, San Francisco, CA.

Clark, D. (2001, April). *More is better: Predicting word memory with prefrontal activation.* MIT Speech Communication Group Seminar Series, Cambridge, MA.

Reviewing Service

- Cognition and Instruction
- Journal of Cognitive Neuroscience
- International Conference for the Learning Sciences
- Annual Conference of the Cognitive Science Society
- SIGCHI
- Frontiers in Human Neuroscience
- Frontiers in Neuroinformatics
- SciPy
- Alfred P. Sloan Foundation
- Journal of Open Source Software

Teaching, Service, and Extracurricular Activities

As a data scientist at UC Berkeley

2015	Resident at ManyLabs (a Moore-funded science hackerspace)
2015	Social Science Matrix seminar on Hacking Measurement
2015	Lead, BIDS Collaborative for graduate student data science projects
2013–2015	Data Science Instructor in D-Lab, BITSS
2014	Chair of social science panel at SciPy 2014

Teaching, Service, and Extracurricular Activities (continued)

As a graduate student at UC Berkeley

2012	Teaching Assistant for Introduction to Cognitive Science
2010–2012	Proseminar committee, social committee – RCME fellows program
2007	Teaching Assistant for Cognitive Neuroscience

At MIT

2001–2002	President, Graduate Student Volunteer Corps
2001–2002	The Ptolemy Players (Bass vocals)
2001	Graduate Student Council Departmental Representative
2000	Teaching Assistant for Introduction to Psychology

At U of MD

1996–1999	President & Founder, Juggling Club
1996–1997	Aaron Strauss Teaching Assistant for Calculus I & II

Other

2004 *Producer, Advanced Feldenkrais Training with Paul Doron-Doroftei*
Working with children with severe cases of spastic paralysis (e.g. Cerebral Palsy).

2003 *Brewmaster, Oni Gallery Collective*
Organized all or part of various artistic events. 10 Gal Beer / week.

2001-2003 *Producer, The Voice Institute*
Various workshops and retreats – styles ranging from Gypsy to Tuvan throat singing to Modern Chamber.

2003 *Technical director & cast, Harvard's Lowell House Opera*
Managed large, untrained teams of actors in building the entire stage.

Supervision/Advising

Graduate Students

Jacqueline Felipe (UC Berkeley)

Supervision/Advising (continued)

Justin Teicheira (UC Berkeley)
Seb Benthall (UC Berkeley D-Lab)
Dillon Niederhut (UC Berkeley D-Lab)
Extensive advising on methods via D-Lab

Undergraduate Students

Jimmy Zhang (MIT)
Naomi Sulzer (MIT)
Janice Chen (MIT, now a graduate student with Anthony Wagner)
Benjamin Miron (NYU)
Konstantin Tomashevsky (UC Berkeley)
Tawny Tsang (UC Berkeley, selected as one of 20 Haas Scholars across all departments at UC Berkeley, $12,600 in stipend and budget)
Jeff Lai (UC Berkeley)
Si Wang (UC Berkeley)
Benjamin Walklet (UC Berkeley, post-bac RA)
Diane Wang (UC Berkeley BIDS)
Arjun Mehta (UC Berkeley BIDS)
Kishan Patel (UC Berkeley BIDS)
Jess Xu (UC Berkeley BIDS)
Michelle Galemmo (UC Berkeley BIDS)
Jie Li (UC Berkeley D-Lab)
Yadel Abraham (UC Berkeley D-Lab)
Yiyang Shen (UC Berkeley D-Lab)
Ethan Chiou (UC Berkeley BIDS)

References

UC Berkeley – Assoc. Dean Cathryn Carson (clcarson@berkeley.edu)
UC Berkeley – Prof. Michael Ranney (ranney@berkeley.edu)
UC Berkeley – Prof. John Canny (canny@berkeley.edu)
NYU / Weizmann – Prof. Yadin Dudai (yadin.dudai@weizmann.ac.il)