Vincent P. Clark, PhD

Department of Psychology, Logan Hall MSC03-2220 The University of New Mexico Albuquerque, NM 87131-0001

Educational History:

Intramural Research Fellow, 1993-1997

Laboratory of Brain and Cognition, National Institute of Mental Health, NIH. 10 Center Dr., MSC 1366, Bldg. 10, Room 4C104, Bethesda, MD 20892-1366 Major Field of Study: Neuroimaging; Mentors: Dr. Leslie Ungerleider and Dr. James Haxby

Ph.D. in Neuroscience, 1987-1993

Graduate Program in Neuroscience, University of California, San Diego 9500 Gilman Drive, La Jolla CA 92093-0634 Major Field of Study: Cognitive Neuroscience; Dissertation Advisor: Dr. Steven A. Hillyard Dissertation Title: *Localization and Identification of Functional Regions within the Human Visual System*

B.S. in Psychobiology with Honors in Psychology, 1982-1987

Department of Psychology, University of California, Los Angeles 1285 Franz Hall, Box 951563, Los Angeles, CA 90095-1563 Mentors: Dr. Jackson Beatty and Dr. Eric Halgren

Employment History

Principal Positions:

Professor, 2013-Present

Department of Psychology, University of New Mexico, MSC03-2220, 1 University of New Mexico, Albuquerque, NM 87131-1161

Associate Professor, 2002-2013

Department of Psychology, University of New Mexico, MSC03-2220, 1 University of New Mexico, Albuquerque, NM 87131-1161

Assistant Professor, 1997-2002

Department of Psychiatry, University of Connecticut Health Center, MC 1410, 263 Farmington Avenue Farmington, CT 06030-1410

Concurrent Appointments and Consultantships:

Professor, 2012-Present

Translational Neuroscience, The Mind Research Network, 1101 Yale Blvd. NE, Albuquerque, New Mexico 87106

Director, 2011-Present

Psychology Clinical Neuroscience Center, Dept. Psychology, University of New Mexico, 1 University of New Mexico, MSC03-2220, Albuquerque, NM 87131-1161

Professor, Secondary Appointment, 2013-Present

Department of Neuroscience, University of New Mexico, MSC08-4740, 1 University of New Mexico, Albuquerque, NM 87131

July 6th, 2023

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Previous Positions:

Guest Scholar, 2019

IMT School for Advanced Studies, Piazza S. Francesco, 19, 55100 Lucca LU, Italy

Associate Professor, 2009-2012

Translational Neuroscience, The Mind Research Network, 1101 Yale Blvd. NE, Albuquerque, New Mexico 87106

Area Head, 2006-2011

Doctoral Program in Cognition, Brain and Behavior, Department of Psychology, University of New Mexico, MSC03-2220, 1 University of New Mexico, Albuquerque, NM 87131-1161

Scientific Director, 2006-2009

The MIND Institute and Research Network, 1101 Yale Blvd. NE, Albuquerque, New Mexico 87106

Director of Neuroscience, 2004-2006

The MIND Institute and Research Network, 1101 Yale Blvd. NE, Albuquerque, New Mexico 87106

Staff Scientist, 2002-2004

The MIND Institute and Research Network, 1101 Yale Blvd. NE, Albuquerque, New Mexico 87106

Associate Professor, Secondary Appointment, 2003-2013

Department of Neuroscience, University of New Mexico, MSC08-4740, 1 University of New Mexico, Albuquerque, NM 87131

Faculty Member, 1998-2002

Program in Biomedical Engineering, Room 217, A.B. Bronwell Building, 260 Glenbrook Road, Unit 2247, University of Connecticut, Storrs, CT 06269-2247

Visiting Scientist and Lecturer, 1996-1997

Department of Psychology, O'Boyle Hall Room 314, The Catholic University of America, Washington DC 20064

Professional Recognition, Honors, etc.:

High Research Ranking Award, 2017, 2020, 2021

Award given to faculty with highest research rankings in the Department of Psychology, UNM

Inducted into TransTech 200, 2016 & 2017

Annual list of companies and innovators who are driving technology for mental and emotional wellbeing forward. http://transtech200.com/

Education Chair (Elected by peers), 2008, Co-Chair 2007, 2009-2010 Organization for Human Brain Mapping

Post-Doctoral Training Fellowship (Competitive), 1993 McDonnell-Pew Center for Cognitive Neuroscience, UCSD

Fellowship (Competitive), 1991

Dartmouth Summer Institute in Cognitive Neuroscience

Pre-Doctoral Training Fellowships (Competitive), 1990-1993 McDonnell-Pew Center for Cognitive Neuroscience, UCSD

Honors in Psychology, 1987

Department of Psychology, University of California, Los Angeles

Short Narrative Description of Research, Teaching and Service Interests

Research: I utilize neuroimaging (EEG, MEG, fNIRS and MRI including fMRI, ASL, DTI/DSI and MRS) and brain stimulation/neuromodulation, including electrical (tDCS/tACS/tRNS/TES), magnetic (TMS), light (tPBM), ultrasound (TUS and fTUS) and closed-loop audible acoustic modalities for stimulation, as well as other methods to examine hypotheses regarding the mechanisms of attention, perception and memory and how these processes are altered in patients with neuropsychiatric illnesses. My current research interests include three major areas: 1) The application of neuroimaging for the study of healthy cognition and for the diagnosis of neurological and psychiatric disorders.; 2) The development of novel treatment modalities for these disorders.; 3) The development of neuromodulation techniques for cognitive enhancement in healthy volunteers. I currently have 121 publications (107 peer-reviewed) with an H-index of 43 (M of 1.4) and average annual citation percentile of 83% in Web of Science and over 15,000 citations in Google Scholar, with an H of 58 (M of 1.8), and an i10 of 98 and H of 39 since 2018. I have helped to acquire over \$112 million in extramural funding, with over half (\$70 million) of these projects active within the last 5 years, acquiring and/or managing approximately \$45 million of this as PI, co-PI or Scientific Director. I have developed several new technologies currently used in cognitive neuroscience, including the imaging of cortical laminar architecture in-vivo with MRI, and randomized task designs for fMRI studies, which were summarized in an invited article for an issue of NeuroImage commemorating the 20th anniversary of fMRI (63). We have found many useful applications for neuromodulation, including increasing learning and memory in both young adults by a factor of 2 to 4 times across studies, and recently have found over 10 times improvement in older adults with mild dementia. I have been quoted or my research described in a wide variety of popular media, including Nature, Science, The New Yorker, The New York Times, The Economist, The Atlantic, Psychology Today, Wall Street Journal, Scientific American, Forbes, NPR and NPR Morning Edition, BBC, Radio Sputnik, ABC Nightline, and podcasts such as Smart Drug Smarts and other media outlets in the US and internationally. Our paper focusing on memory enhancement using closed-loop tACS during sleep (Ketz et al. 2018) has an Altmetric attention score of 482, ranking in the top 1% compared to outputs of the same age. My research focusing on the use of novel methods to treat brain and mental illness led to a TEDx talk, and an invited hour-long lecture at UC Davis that has received approximately100K views on YouTube to date.

Teaching and Mentoring: I supervise and maintain an active research laboratory for training, and I have organized a variety of courses at the graduate and undergraduate level, and have also organized a number of professional meetings and courses for the broader scientific community. Six of my former students have completed their PhDs and another five have completed their Masters. I have mentored many undergraduates including minority students from the McNair Achievement Program who have gone on to graduate or medical school. I teach several courses including Brain and Behavior, Intro to Functional Neuroimaging, Advanced Functional Neuroimaging, Clinical Neuroimaging, CBB Seminar, and both EEG Laboratory and Introduction to the PCNC Laboratory courses. My lab courses are designed to train students to use the facilities offered by the Psychology Clinical Neuroscience Center. I have chaired several educational scientific meetings here in Albuquerque, including a workshop entitled *Imaging Neuroinflammation and Neuropathic Pain* leading to a special issue of the *Journal of NeuroImmune Pharmacology* that I co-edited. I was also elected Education Chair by my peers for the Organization for Human Brain Mapping, where I helped to organize courses for approximately 1500 attendees in Melbourne, San Francisco and Barcelona,.

Service: My service interests have focused on facilitating cognitive neuroscience research and education locally, nationally and internationally. Locally, I have focused on developing and supporting neuroimaging and neuromodulation research infrastructure, which barely existed when I was recruited to UNM in 2002 to help build and organize the Mind Research Network (www.mrn.org). As Scientific Director, I helped to purchase, organize and manage its research infrastructure, including an HD-EEG suite, an Illumina genome system, 2 MEGs and 3 MRIs with numerous upgrades, including the first mobile MRI capable of functional imaging, and extensive data processing resources. Extramural funding increased from less than \$500,000 (and \$7 million in debt) to more than \$20 million, with over 300 employees and volunteers. I recently served as interim PI of the COBRE Phase III: Multimodal Imaging of Neuropsychiatric Disorders (MIND), P30GM122734 based at MRN, with a \$6.5 million, 5 year budget. I have previously served as Area Head for the UNM Graduate Program in Cognition, Brain and Behavior, and as Chair of the Junior Promotion and Tenure Committee for College of Arts and Sciences. In addition, I have served as Handling Editor for NeuroImage and currently serve as Associate Editor for Aperture Neuro, a new journal established by the Organization for Human Brain Mapping, and Handling Editor for Brain Sciences and Frontiers in Human Neuroscience, and I serve on the Editorial Boards of Human Brain Mapping, and Brain Stimulation. I am also the founding Director of the Psychology Clinical Neuroscience Center (pcnc.unm.edu), a 10,000 s.f. facility with 4 HD-EEG labs, 3 neuromodulation labs, data processing, meeting rooms, testing rooms and lab space supporting 10 PIs and over 120 faculty, staff, volunteers and trainees. Finally, I conceived of and am the founding Chair of the Brain Stimulation and Imaging Meeting (BrainSTIM, brainstim-meeting.org), held eight times since 2015 in Honolulu, Geneva, Vancouver, Singapore, Rome, and Helsinki (online in 2020 and again in-person June 2023).

Scholarly Achievements Refereed Articles:

(Corresponding authorship indicated by "*")

- *Jones AP, Bryant NB, Robert BM, Mullins TS, Trumbo MCS, Ketz NA, Howard MD, Pilly PK, Clark VP. (2023). Closed-loop tACS delivered during slow-wave sleep reduces retroactive interference on a paired-associates learning task. *Brain Sciences*, 13(3):468. <u>https://doi.org/10.3390/brainsci13030468</u>
- *Robert, B, Jones, A, Mullins, TS, Trumbo, M, Ketz, NA, Howard, MD, Pilly, PK, Clark, VP. (2022). Closed-loop transcranial alternating current stimulation of slow wave oscillations during sleep reduces declarative learning the next day. *Brain Stimulation*, 15(6):1565-1566. <u>https://doi.org/10.1016/j.brs.2022.12.002</u>
- Quinn, DK, Story-Remer, J, Brandt, E, Fratzke, V, Rieger, R, Wilson, JK, Gill, D, Mertens, N, Hunter, M, Upston, J, Jones, TR, Richardson, JD, Myers, O, Arciniegas, DB, Campbell, R, Clark, VP, Yeo, RA, Shuttleworth, CW, Mayer, AR. (2022). Transcranial direct current stimulation modulates working memory and prefrontal-insula connectivity after mild-moderate traumatic brain injury. *Frontiers in Human Neuroscience*, 16:e1026639. <u>https://doi.org/10.3389/fnhum.2022.1026639</u>
- Brunoni, AR, Ekhtiari, H, Antal, A, Auvichayapat, P, Baeken, C, Benseñor, IJ, Bikson, M, Boggio, PS, Borroni, B, Brighina, F, Brunelin, J, Carvalho, S, Caumo, W, Ciechanski, P, Charvet, LE, Clark, VP, Cohen Kadosh, R, Cotelli, MS, Datta, A, Deng, Z, de Raedt, R, De Ridder, D, Fitzgerald, PB, Floel, A, Frohlich, F, George, MS, Ghobadi-Azbari, P, Goerigk, S, Hamilton, RH, Jaberzadeh, S, Hoy, KE, Kidgell, DJ, Khojasteh Zonoozi, A, Kirton, A, Laureys, S, Lavidor, M, Lee, K, Leite, J, Lisanby, SH, Loo, CK, Martin, DM, Miniussi, C, Mondino, M, Monte-Silva, K, Morales-Quezada, L, Nitsche, M, Hideki Okano, A, S Oliveira, C, Onarheim, B, Pacheco-Barrios, K, Padberg, F, Nakamura-Palacios, EM, Palm, U, Paulus, W, Plewnia, C, Priori, A, Rajji, TK, Razza, LB, Rehn, EM, Ruffini, G, Schellhorn, K, Zare-Bidoky, M, Simis, M, Skorupinski, P, Suen, PJ, Thibaut, A, Valiengo, L, Vanderhasselt, M, Vanneste, S, Venkatasubramanian, G, Violante, IR, Wexler, A, Woods, AJ, & Fregni, F (2022). Digitalized transcranial electrical stimulation: A consensus statement. *Clinical Neurophysiology*, 143:154-165. https://doi.org/10.1016/j.clinph.2022.08.018
- *Gibson, BC, Claus, ED, Sanguinetti, J, Witkiewitz, K, Clark, VP (2022). A review of functional brain differences predicting relapse in substance use disorder: Actionable targets for new methods of noninvasive brain stimulation. *Neuroscience and Biobehavioral Reviews*, 141:104821. <u>https://doi.org/10.1016/j.neubiorev.2022.104821</u>
- *Gibson, BC, Vakhtin, A, Clark, VP, Abbott, CC, Quinn, DK. (2022). Revisiting hemispheric asymmetry in mood regulation: Implications for rTMS for major depressive disorder. *Brain Sciences*, 12:112. <u>https://doi.org/10.3390/brainsci12010112</u>
- Frangou, S, Modabbernia, A, ..., Clark, VP, ... [204 authors total] (2022). Cortical thickness across the lifespan: Data from 17,075 healthy individuals aged 3-90 years. *Human Brain Mapping*, 43(1):431-451. doi: 10.1002/hbm.25364. <u>https://onlinelibrary.wiley.com/doi/full/10.1002/hbm.25364</u>
- 8. Wierenga LM, Doucet GE, Dima D, ..., Clark, VP, ... [159 authors] (2022). Greater male than female variability in regional brain structure across the lifespan. *Human Brain Mapping*, 43(1):470-499. doi: 10.1002/hbm.25204. https://onlinelibrary.wiley.com/doi/full/10.1002/hbm.25204
- 9. Dima, D, Modabbernia, A, Papachristou, E....Clark, VP, ... (2022). Subcortical volumes across the lifespan: Data from 18,605 healthy individuals aged 3-90 years. *Human Brain Mapping*, 43(1):452-469. doi: 10.1002/hbm.25320.
- Gibson, BC, Votaw, VR, Stein, ER, Clark, VP, Claus, E, Witkiewitz, K. (2021). Transcranial direct current stimulation provides no additional benefit to improvements in self-reported craving following mindfulness-based relapse prevention. *Mindfulness*, 13(1), 92-103. <u>https://doi.org/10.1007/s12671-021-01768-5</u>
- 11. *Jones, AP, Goncalves-Garcia, M, Gibson B, Trumbo, MCS, Coffman, BA, Robert, B, Gill, HA, Mullins, T, Hunter, MA, Robinson, CSH, Combs, A, Khadka, N, Bikson, M, Clark, VP. (2021). Investigating the brain regions involved in tDCS-Enhanced category learning using finite element modeling. *Neuroimage: Reports, 1,* 100048. <u>https://www.sciencedirect.com/science/article/pii/S2666956021000465?via%3Dihub</u>
- 12. *Trumbo, MCS, McDaniel, MA, Hodge, GK, Jones, AP, Matzen, LE, Kittinger, LI, Kittinger, RS, Clark, VP. (2021). Is the testing effect ready to be put to work? Evidence from the laboratory to the classroom. *Translational Issues in Psychological Science*, 7(3), 332-355. https://web.p.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=e782b689-b406-4175-a35f-415c65bf65ed%40redis
- Hubbard, RJ, Zadeh, I, Jones, AP, Robert, B, Bryant, N, Clark, VP, Pilly, PK. (2021). Brain connectivity alterations during sleep by closed-loop transcranial neurostimulation predict metamemory sensitivity. *Network Neuroscience*, 1, 23.

3qfKAc485ysgAAAqwwggKoBgkqhkiG9w0BBwagggKZMIIClQIBADCCAo4GCSqGSIb3DQEHATAeBglghk gBZQMEAS4wEQQMJVDPqs2LZ4b6T8frAgEQgIICX_MPbjkQAG1jfZGLUN0su_leGZl6Ctu_lsYUMFaSOa

- 14. *Gibson, BC, Heinrich, M, Mullins, TS, Yu, AB, Hansberger, JT, Clark, VP (2021). Baseline differences in anxiety affect attention and tDCS-mediated learning. *Frontiers in Human Neuroscience*, 15:541369. doi: 10.3389/fnhum.2021.541369 <u>https://www.frontiersin.org/articles/10.3389/fnhum.2021.541369/full</u>
- 15. Quinn, DK, Upston, J, Jones, T, Brandt, E, Story-Remer, J, Fratzke, V, Wilson, JK, Rieger, R, Hunter, MA, Gill, D, Richardson, JD, Campbell, R, Clark, VP, Yeo, RA, Shuttleworth, CW, Mayer, AR (2020). Cerebral perfusion effects of cognitive training and transcranial direct current stimulation in mild-moderate TBI. *Frontiers in Neurology*, 11:545174. doi:10.3389/fneur.2020.545174/https://www.frontiersin.org/articles/10.3389/fneur.2020.545174/full
- Adair, D, Truong, D, Esmaeilpour, Z, Gebodh, N, Borges, H, Hoa, L, Bremner, JD, Badran, BW, Napadow, V, Clark, VP, Bikson, M. (2020). Electrical stimulation of cranial nerves in cognition and disease. *Brain Stimulation*, 13(3):717-750. DOI:https://doi.org/10.1016/j.brs.2020.02.019
- McCallion, EA, Robinson, S, Clark, VP, Witkiewitz, K. (2020). Efficacy of transcranial direct current stimulation enhanced mindfulness-based intervention for chronic pain: A single-blind randomized sham controlled pilot study. *Mindfulness*, 11:895–904. <u>https://link.springer.com/article/10.1007/s12671-020-01323-8</u>
- *Gibson, BC, Mullins, TS, Heinrich, MD, Witkiewitz, K, Yu, AB, Hansberger, JT, Clark, VP. (2020). Transcranial direct current stimulation facilitates category learning. *Brain Stimulation*, 13:393-400. <u>https://doi.org/10.1016/j.brs.2019.11.010</u>
- Pilly, PK, Skorheim, SW, Hubbard, R, Ketz, NA, Roach, S, Lerner, I, Jones, AP, Robert, BM, Bryant, NB, Hartholt, A, Mullins, TS, Choe, J, Clark, VP, Howard, MD. (2020). One-shot tagging during wake and cueing during sleep with spatiotemporal patterns of transcranial electrical stimulation can boost long-term metamemory of individual episodes in humans. *Frontiers in Neuroscience*, 13:1416. https://www.frontiersin.org/articles/10.3389/fnins.2019.01416/full
- 20. Leung, A, Shirvalkar, P, Chen, R, Kuluva, J, Vaninetti, M, Bermudes, R, Poree, L, Wassermann, E, Kopell, B, Levy, R, Clark, VP, et al. (2020). Transcranial magnetic stimulation for pain, headache and co-morbid depression: INS-NANS expert consensus panel review and recommendation. *Neuromodulation*, 23(3), 267-290. doi: <u>https://onlinelibrary.wiley.com/doi/abs/10.1111/ner.13094</u>
- Brown, DR, Jackson, CJT, Claus, ED, Votaw, VR, Stein, ER, Robinson, CSH, Wilson, AD, Brandt, E, Fratzke, V, Clark, VP & Witkiewitz, K. (2020). Decreases in the late positive potential to alcohol images among alcohol treatment seekers following mindfulness-based relapse prevention. *Alcohol and Alcoholism*, 55, 78-85. <u>https://academic.oup.com/alcalc/advance-article/doi/10.1093/alcalc/agz096/5673174</u>
- 22. Ekhtiari, H, Tavakoli, H, Addolorato, G, Baeken, C, Bonci, A, Campanella, S, Castelo-Branco, L, Challet-Bouju, G, Clark, VP, Claus, E, Dannon, PN, Del, Felice, A, den, Uyl, T, Diana, M, di, Giannantonio, M, Fedota, JR, Fitzgerald, P, Gallimberti, L, Grall-Bronnec, M, Herremans, SC, Herrmann, MJ, Jamil, A, Khedr, E, Kouimtsidis, C, Kozak, K, Krupitsky, E, Lamm, C, Lechner, WV, Madeo, G, Malmir, N, Martinotti, G, McDonald, W, Montemitro, C, Nakamura-Palacios, EM, Nasehi, M, Noël, X, Nosratabadi, M, Paulus, M, Pettorruso, M, Pradhan, B, Praharaj, SK, Rafferty, H, Sahlem, G, Jo, Salmeron, B, Sauvaget, A, Schluter, RS, Sergiou, C, Shahbabaie, A, Sheffer, C, Spagnolo, PA, Steele, VR, Yuan, TF, van, Dongen, J, Van, Waes, V, Venkatasubramanian, G, Verdejo-García, A, Verveer, I, Welsh, J, Wesley, MJ, Witkiewitz, K, Yavari, F, Zarrindast, MR, Zawertailo, L, Zhang, XCha, YH, George, TP, Frohlich, F, Goudriaan, AE, Fecteau, S, Daughters, SB, Stein, EA, Fregni, F, Nitsche, MA, Zangen, A, Bikson, M, Hanlon, CA. (2019). Transcranial electrical and magnetic stimulation (tES and TMS) for addiction medicine: A consensus paper on the present state of the science and the road ahead. Neuroscience & **Biobehavioral** 104:118-140. doi: 10.1016/j.neubiorev.2019.06.007 Reviews. https://www.sciencedirect.com/science/article/pii/S0149763419303070?via%3Dihub
- 23. Witkiewitz, K, Stein, ER, Votaw, VR, Wilson, AD, Roos, CR, Gallegos, SJ, Clark, VP, Claus, ED. (2019). Mindfulness-based relapse prevention and transcranial direct current stimulation to reduce heavy drinking: a double-blind sham-controlled randomized trial. *Alcoholism: Clinical and Experimental Research*, 43(6):1296-1307. doi: 10.1111/acer.14053. <u>https://onlinelibrary.wiley.com/doi/full/10.1111/acer.14053</u>
- 24. Claus, ED, Klimaj, SD, Chavez, R, Martinez, AD, Clark, VP. (2019). A randomized trial of combined tDCS over right inferior frontal cortex and motivational cognitive bias modification: Null effects on drinking and alcohol approach bias. *Alcoholism: Clinical and Experimental Research*, 43(7):1591-1599. doi: 10.1111/acer.14111 https://onlinelibrary.wiley.com/doi/abs/10.1111/acer.14111
- 25. Stein, E, Witkiewitz, K, Wilson, A, **Clark, VP**, Gibson, B, Votaw, V (2019). Non-invasive brain stimulation in substance use disorders: a review of recent findings and implications for dissemination to clinical settings.

Current Opinion in Psychology, 30:6–10.

https://www.sciencedirect.com/science/article/pii/S2352250X18302410?via%3Dihub

- 26. Lerner, I, Ketz, NA, Jones, AP, Bryant, NB, Robert, B, Skorheim, SW, Hartholt, A, Rizzo, AS, Gluck, MA, Clark, VP, Pilly, PK. (2019). Transcranial current stimulation during sleep facilitates insight into temporal rules, but does not consolidate memories of individual sequential experiences. *Scientific Reports*, 9(1):1516. <u>https://www.nature.com/articles/s41598-018-36107-7</u> <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6365565/</u>
- 27. *Clark, VP. (2018). Coordinated, multimodal neuromodulation and neuroimaging. *IEEE Intelligent Informatics* Bulletin, 19(2):1-3. <u>www.comp.hkbu.edu.hk/~cib/2018/Dec/profile/iib_vol19no2_profile.pdf</u>
- *Robinson CSH, Bryant NB, Maxwell JW, Jones AP, Robert B, Lamphere M, Combs A, Azzawi HA, Gibson BC, Sanguinetti JL, Ketz NA, Pilly PK, Clark VP. (2018). The benefits of closed-loop transcranial alternating current stimulation on subjective sleep quality. *Brain Sciences*, 8(12):204. doi: 10.3390/brainsci8120204 https://www.mdpi.com/2076-3425/8/12/204
- 29. *Gibson, BC, Sanguinetti, JL, Badran, BW, Yu, AB, Klein, EP, Abbott, CC, Hansberger, JT, Clark, VP. (2018). Increased excitability induced in the primary motor cortex by transcranial ultrasound stimulation. *Frontiers in Neurology* 9:1007. doi:10.3389/fneur.2018.01007

https://www.frontiersin.org/articles/10.3389/fneur.2018.01007/full

- 30. *Jones, AP, Choe, J, Bryant, NB, Robinson, CSH, Ketz, NA, Skorheim, SW, Combs, A, Lamphere, ML, Robert, B, Gill, HA, Heinrich, MD, Howard, MD, Clark, VP, Pilly, PK. (2018) Closed-loop tACS delivered during slow-wave sleep enhances consolidation of generalized information. *Frontiers in Neuroscience*, 12:867. doi:10.3389/fnins.2018.00867 <u>https://www.frontiersin.org/articles/10.3389/fnins.2018.00867/full</u>
- 31. *Hunter, MA, Lieberman, G, Coffman, BA, Trumbo, MC, Armenta, ML, Robinson, CSH, Bezdek, MA, O'Sickey, AJ, Jones, AP, Romero, V, Elkin-Frankston, S, Gaurino, S, Eusebi, L, Schumacher, EH, Witkiewitz, K, Clark, VP. (2018) Mindfulness-based training with transcranial direct current stimulation modulates neuronal resource allocation in working memory: A randomized pilot study with a nonequivalent control group. *Heliyon*, 4(7):e00685. https://doi.org/10.1016/j.heliyon.2018.e00685 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6077241/
- 32. Ketz N, Jones AP, Bryant NB, Clark VP, Pilly PK. (2018). Closed-loop slow-wave tACS improves sleep dependent long-term memory generalization by modulating endogenous oscillations. *Journal of Neuroscience*, 38(33):7314-7326. doi:10.1523/JNEUROSCI.0273-18.2018. PMID:30037830 http://www.jneurosci.org/content/38/33/7314.long
- 33. Patel AN, Howard MD, Roach SM, Jones AP, Bryant NB, Robinson CSH, Clark VP, Pilly PK. Mental state assessment and validation using personalized physiological biometrics. (2018). Frontiers in Human Neuroscience, 12:221. <u>https://www.frontiersin.org/articles/10.3389/fnhum.2018.00221/full</u> https://doi.org/10.3389/fnhum.2018.00221
- 34. van Erp, TGM, ..., **Clark, VP,**, et al. (2018). Cortical brain abnormalities in 4474 individuals with schizophrenia and 5098 controls via the ENIGMA consortium. *Biological Psychiatry*, 84(9):644-654.
- 35. Kong, X, ..., Clark, VP,, et al. (2018). Mapping cortical brain asymmetry in 17,141 healthy individuals worldwide via the ENIGMA consortium. *PNAS*, 115(22):E5154-E5163. <u>https://doi.org/10.1073/pnas.1718418115</u> <u>https://www.sciencedirect.com/science/article/pii/S0006322318315178?via%3Dihub</u>
- 36. Thoma RJ, Haghani-Tehrani P, Turner J, Bigelow R, Clark VP, Yeo RA, Calhoun V, Stephen J (2018). Neuropsychological analysis of auditory verbal hallucinations. *Schizophrenia Research*, 192:459-460. doi:10.1016/j.schres.2017.03.044

https://www.sciencedirect.com/science/article/pii/S0920996417301846?via%3Dihub

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Forewords, Editorials, Letters:

- 1. Foreword to: Knotkova, H., Nitsche, M.A., Bikson, M., Woods, A.J. (Eds.). (2019). *Practical guide to transcranial direct current stimulation: Principles, procedures and applications.* Springer.
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- 3. *Clark VP, Parasuraman R. (2014). Neuroenhancement: Enhancing brain and mind in health and in disease. *NeuroImage*, 85(3):889–894. doi:10.1016/j.neuroimage.2013.08.071. https://www.sciencedirect.com/science/article/pii/S1053811913009385?via=ihub
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Articles Appearing in Edited Volumes:

- 1. *Clark, VP, Coffman, BA, Trumbo, MCS, Wegele, AR. (2013). An evolutionary perspective on attentional processes. pp. 207–215. In: G.R. Mangun (Ed.) *Cognitive Electrophysiology of Attention*. Elsevier. https://books.google.com/books?id=WcBuAAAAQBAJ&pg=PA207&lpg=PA207
- 2. Oyen, D Niculescu-Mizil, A, Ostroff, R, Stewart, A, **Clark, VP.** (2013). Controlling the precision-recall tradeoff in differential dependency network analysis. *arXiv*:1307.2611. <u>https://arxiv.org/abs/1307.2611</u>
- Clark, RE, Clark, VP. (2010). From neo-behaviorism to neuroscience: Perspectives on the origins and future contributions of cognitive load research. In: *Cognitive Load: Theory & Applications*. J.L. Plass, R. Moreno and R. Brünken (Eds.) Cambridge University Press, Cambridge, England, 203-228. <u>https://books.google.com/books?id=RcMLAQAAQBAJ&pg=PA203&lpg=PA203</u>
- 4. *Clark, VP. (2006). Attention. In: Encyclopedia of Human Development. N.J. Salkind, Neil J. (Ed.). Sage Publications. Thousand Oaks, CA, pp. 133-136.
- 5. *Clark, VP. (2006). Structural and Functional Brain Imaging. In: *Encyclopedia of Human Development*. N.J. Salkind, Neil J. (Ed.). Sage Publications. Thousand Oaks, CA, pp. 1232-1235.
- 6. *Clark, VP. (2006). Huntington's Chorea. In: *Encyclopedia of Human Development*. N.J. Salkind, Neil J. (Ed.). Sage Publications. Thousand Oaks, CA, pp. 660-661.
- 7. Burge, J, Clark, VP, Lane, T, Link, H, Qiu S. (2004). *Bayesian classification of fMRI data: Evidence for altered neural networks in dementia.* Technical Report TR-CS-2004-28, University of New Mexico, Albuquerque, NM.
- 8. Haxby, JV, Courtney, SC, **Clark, VP.** (1998). Functional magnetic resonance imaging and the study of attention. In: *The Attentive Brain.* R. Parasuraman (Ed.). MIT Press, Cambridge, pp. 123-142.
- 9. Haxby, JV, **Clark, VP**, Courtney, SC. (1997). Distributed hierarchical neural systems for visual memory in human cortex. In: *Connections, Cognition, and Alzheimer's Disease*. B. Hyman, C. Duyckaerts, Y. Christen (Eds.). Springer, Berlin, pp. 167-180.
- 10. Hillyard, SA, Anllo-Vento, L, **Clark, VP**, Heinze, H, Luck, SJ, and Mangun, GR. (1996). Neuroimaging approaches to the study of visual attention: A Tutorial. In: *Converging Operations in the Study of Visual Selective Attention*. M. Coles, A. Kramer and G. Logan (Eds.). American Psychological Association, pp. 107-138.

Invited Presentations:

- 1. Brain Stimulation Methods to Improve Memory Day and Night. NeuroElectrics Webinar, online, June 28, 2023. https://www.youtube.com/watch?v=eAHxiGn0sdo
- 2. Fifteen Years of Brain Stimulation and Imaging in My Laboratory: What Have We Learned, and What's Next?. Brain Stimulation and Imaging Meeting, Aalto, Finland, June 3, 2023.
- 3. Transcranial Brain Stimulation to Improve Memory in Humans. Human Anatomy and Physiology Society, HAPS23, Albuquerque, NM, May 25, 2023.
- 4. Using Electric, Acoustic and Radiant Energies to Improve Learning. Neuroergonomics Conference & NYC Neuromodulation Conference, The City College of New York, New York City, NY, July 28 August 1, 2022.
- 5. IEDs to AD and Everything in Between: A 16 Year History of F10 tDCS. MIND COBRE invited lecture. January 17, 2022.
- 6. Alternative Methods For Neuromodulation: Pressure, Sound, Light and Heat. Annual Research Seminar. Centre for Interdisciplinary Brain Research in University of Jyväskylä, Finland. December 11, 2020 [online].
- 7. Neuromodulation for Dementia and Addiction Treatment. Translational Synergy Meeting: Translational Synergy Meeting: Non-invasive Neurostimulation: Emerging Directions. Clinical & Translational Science Center, UNMHSC, Albuquerque, NM, December 3, 2020 [online].
- 8. Stimulation in the Clinic. VII International School for Young Scientists, Active and Passive Methods of Brain Research. Moscow, Russia. Planned May 21-24, 2020 [delayed].

- 9. Alternative Methods for Neuromodulation: Ultrasound and Infrared. Brain Stimulation and Imaging Meeting, BrainSTIM2020. Aalto University, Helsinki, Finland, May 20-21, 2020 [online]. <u>https://www.youtube.com/watch?v=5Fc63mgtGlM&list=PLYB-5N10pZMgF0035lmspxFW2b8tuXi65&index=42&t=0s</u>
- 10. Brain Mapping and tES: What is the future of NIBS for treating addiction? Fourth International Network of tES/TMS Trials for Addiction Medicine (INTAM) Webinar. May 13, 2020 [online]. https://www.youtube.com/watch?v=PAvLOIXa4oI&feature=youtu.be [starting at 1:12:15].
- Invited contributions: 1) Updates and Perspectives on tDCS Effects on Cognition, in Updates on Transcranial Direct Current Stimulation (tDCS) : Applications and Mechanisms; 2) Cognitive and Emotional Interventions Paired with tDCS. NYC Neuromodulation Meeting, April 20-22, 2020 [online]. https://www.youtube.com/watch?v=PhzyPSZrZSo [starting 2:40:00].
- 12. Brain Stimulation for Cognitive Enhancement. Western New Mexico University Speaker Series, Silver City, NM. February 28th, 2020. <u>https://www.youtube.com/watch?v=F4Bjof2Wlls</u>
- 13. Multimodal Imaging of Neuropsychiatric Disorders: COBRE Phase III. 2019 NIH IDeA Western Regional Conference, Las Vegas, Nevada, October 7-9, 2019.
- 14. Mutual Benefits of Combining Neuroimaging with Neuromodulation. Invited Keynote, 13th ICME International Conference on Complex Medical Engineering. Dortmund, Germany, September 2019. http://cme2019.ifado.de/program.php
- 15. Combining Brain Imaging and Stimulation to Improve Treatments for Brain and Mental Illness. Laureate Institute For Brain Research, Tulsa, OK, August, 2019.
- 16. Invited Panel Member: Risks and Opportunities Associated with Human Biotech Engagement. 12th Annual Strategic Multilayer Assessment (SMA) Conference, Sponsored by Joint Chiefs of Staff, DoD and Homeland Security. Joint Base Andrews, MD. May 2019.
- 17. Combining Neuroimaging and Neuromodulation for Cognitive Enhancement. University of Padua, April, 2019.
- 18. Combining Neuroimaging with Neurostimulation: New Frontiers in Clinical and Cognitive Neuroscience. Centre Hospitalier Le Vinatier, Lyon, France. March 2019.
- 19. Brain Imaging and Stimulation: Latest Trends and Updates. IMT School for Advanced Studies, Lucca, Italy. March 2019.
- 20. Brain Stimulation & Research Trends. Albuquerque Consciousness Hackers monthly meeting. November 2018.
- 21. New Developments in Brain Stimulation and Imaging Clinical Potential. Invited Keynote address for the Organization for Human Brain Mapping Alpine Chapter Meeting, Innsbruck, Austria, Nov. 9-10, 2018.
- 22. Combining Neuroimaging with Neurostimulation: New Frontiers in Cognitive Neuroscience. Klinik und Poliklink für Psychiatrie und Psychotherapie, Universität München, Munich, Germany, November, 2018.
- 23. Invited contributions: 1) Panel: Advances, Issues, and Controversies in tES; 2) Presentation: Imaging Neuromodulation; 3) Presentation: Neurotechnology for Mindfulness; 4) Session Chair: Neuromodulation and Decision Making in Cognition and in Addictions. 2018 NYC Neuromodulation Conference and NANS Summer Series. New York, NY, August 2018.
- 24. Combining Neuroimaging with Neurostimulation: New Frontiers in Cognitive Neuroscience. Hong Kong University, June 2018.
- 25. Maximizing Yourself as a Faculty Candidate. 11th Annual NIH Career Symposium, National Institutes of Health, Bethesda, MD, May 18, 2018.
- Non-therapeutic applications of tDCS. Presentation at the Neural Control of Movement (NCM) Annual Meeting, Santa Fe, NM, May 1-4, 2018.Neural Control of Movement (NCM) Annual Meeting, Sante Fe, NM, May 1-4, 2018.
- 27. TDCS Combined with Neuroimaging to Improve Human Learning and Memory. Using Noninvasive Brain Stimulation to Modulate Learning in Humans Symposium, The International Conference on Learning and Memory, UC Irvine, April, 2018.
- 28. Combining Neuroimaging with Neurostimulation. UCSB, March, 2018.
- 29. Neuroimaging Combined with Neurostimulation for Clinical and Cognitive Research. Arizona State University, March 2018.
- 30. Neuromodulation Combined with Neuroimaging to Study and Augment Human Cognition. Oxford University, UK, January, 2018.
- 31. Brain Imaging Integrated with Neurostimulation: New Frontiers in Cognitive Neuroscience. Alpine Brain Imaging Meeting, Champéry, Switzerland, January 2018.

- 32. State of the Science of Neuromodulation in Addiction Transcranial Direct Current Stimulation (tDCS). NIDA Neuromodulatory Devices to Treat Substance Use: State of the Science and Future Directions Meeting, Rockville, MD, November, 2017.
- 33. Combining Brain Stimulation and Imaging. NIMH Multimodal Brain Stimulation Speaker Series, Bethesda, MD, September, 2017. <u>http://ytchannelembed.info/watch/Hz6w3CUkhHU#.WgPE14ZrwmJ</u>
- 34. Combining Brain Stimulation and Imaging. Georgetown University, Washington, DC, September, 2017.
- 35. Neuroimaging Combined with Neurostimulation: New Methods for Verifying and Utilizing the Causal Connections Between Brain and Behavior. School of Biological and Health Systems Engineering, Arizona State University, Tempe, AZ, June, 2017.
- 36. Non-Invasive Brain Stimulation Devices to Change Thought and Behavior. Non-Invasive Brain Stimulation Plenary Lecture. The Science of Consciousness Conference, La Jolla, CA, June, 2017. <u>https://www.youtube.com/watch?v=tE5m4lxA6H8</u>
- 37. Neuroimaging Combined with Neurostimulation: New Methods for Verifying and Utilizing the Causal Connections Between Brain and Behavior. Buehler-Martin Keynote Address, Institute for Research in Statistics and its Applications (IRSA), University of Minnesota. Minneapolis, MN, May, 2017.
- 38. Brain Mapping and Neurostimulation. 14th Annual World Congress of Society for Brain Mapping and Therapeutics. Los Angeles, April 2017.
- 39. Combining Neurostimulation and Neuroimaging for Enhancing Cognition. Stevens Neuroimaging and Informatics Institute, USC, April, 2017.
- 40. Combining Neurostimulation and Neuroimaging for Enhancing Cognition and Developing Novel Treatments for Brain and Mental Illness. Cognitive Neuroscience Colloquium Lecture, UC Berkeley, April, 2017.
- 41. Learning from our Successes and Failures in tDCS Trials on Human Performance. NYC Neuromodulation 2017. New York, NY, January 2017.
- 42. fMRI Guided tDCS. NYC Neuromodulation 2017. New York, NY, January 2017.
- 43. Efficacy of Transcranial Stimulation. 32nd Meeting of the Committee on Science, Technology, and Law, National Academies of Science, Engineering and Medicine. Washington DC, October 2016.
- 44. Combining Neuroimaging with Neurostimulation. Transcranial current stimulation (TCS): Mechanisms, technology and therapeutic applications. NIMH, NIH, Bethesda, MD, Sept. 29-30, 2016.
- 45. Neuroimaging Combined with Neurostimulation for Cognitive Research and Clinical Treatment. Symposium on Neuromodulation. Society for Psychophysiological Research, Minneapolis, MN, Sept. 21-25, 2016.
- 46. Brain Stimulation for Cognitive Enhancement. Neuroscience Seminar, UNM, August, 2016.
- 47. Neuroimaging Combined with Neurostimulation. Department of Psychiatry, University of British Columbia, July 2016.
- 48. Claus, ED, Klimaj, SD, Clark VP. Combining brain stimulation and motivational bias retraining to influence implicit biases and drinking: null results from a preliminary trial. Alcoholism-Clinical and Experimental Research 40, S1: 189A. Conference: 39th Annual Scientific Meeting of the Research-Society-on-Alcoholism (RSA). New Orleans, June, 2016.
- 49. Neurostimulation Based Treatments for Brain and Mental Illness. Grand Rounds, Department of Psychiatry and Behavioral Sciences, University of New Mexico, Albuquerque, NM, May 2016.
- 50. Neuroenhancement: Promise, Perils, and Proof. Keynote lecture for Society for Behavioral and Cognitive Neurology Workshop, American Neuropsychiatric Association, San Diego, CA, March 2016.
- 51. Electrical Brain Stimulation to Enhance Learning and Memory. Winter Conference on Neural Plasticity, Maui, HI, Feb. 2016.
- 52. Neuroimaging Combined with Neurostimulation for Cognitive and Clinical Research. Hughes Research Laboratory, Malibu, CA, Sept. 2015.
- 53. Combining Neuroimaging and Neurostimulation for Clinical and Cognitive Research. Principal Investigator Meeting, Mind Research Network, July 2015.
- 54. Neurostimulation Combined with Neuroimaging for Cognitive and Clinical Research. Brain Mapping Center Seminar Series, UCLA Brain Mapping Center, Los Angeles, CA. April 2015.
- 55. Neuroimaging Combined with Neurostimulation for Cognitive and Clinical Research. Texas Tech, Lubbock, TX, Jan. 2015.
- 56. The Next Stages of Neuroenhancement: From Optimism to Enthusiasm. Invited speaker, NYC Neuromodulation 2015 Conference, New York, NY, Jan. 2015. <u>https://www.youtube.com/watch?v=35u1_FrED30</u>
- 57. Neuroimaging Combined with Neuroenhancement for Cognitive and Clinical Research. Medical University of South Carolina, Sep. 2014.

- 58. Neuroenhancement: Some Novel Methods to Alter Brain and Behavior. School of Psychology, Bangor University, Wales, UK, June 2014.
- 59. TDCS for Cognitive Enhancement and Treatment of Brain and Mental Illness. University of Hawaii, Honolulu, HI, June 2014.
- 60. Combined Brain Stimulation and Imaging Studies to Develop Novel Treatments for Brain and Mental Illness. National University of Singapore, Department of Psychology, April 2014.
- 61. Increased Threat Detection and Learning With Low-Level Transcranial Direct Current Stimulation (tDCS). Invited speaker, Adaptive Responses in Biology and Medicine. University of Massachusetts Amherst, April 22 23, 2014. https://www.youtube.com/watch?v=ncgk2p4LI3I
- 62. Diagnosis and Treatment of Neuroinflammation and Chronic Pain Or How Being a Father Can Change Your Life. Student Interest Group in Neurology (SIGN), University of New Mexico Medical School, Jan 2014.
- 63. "Current and Future Applications of tDCS" and "Using Transcranial Direct Current Stimulation (tDCS) for Enhancement." Special invited guest speaker, Southwest University, Chongqing, China, Dec. 2013.
- 64. The Future of Neuroenhancement: Reasons To Be Optimistic. Invited speaker, NYC Neuromodulation 2013 Conference, New York, NY, Nov. 2013.
- 65. TDCS for Cognitive Enhancement. Invited speaker, Summit on Transcranial Direct Current Stimulation (tDCS), UC Davis Center for Mind & Brain, Davis, CA, Oct. 2013. <u>http://www.youtube.com/watch?v=dUMUIXNeBRQ</u> over 72,000 views.
- 66. Why Should We Care about Brain Stimulation? Chair's introduction to "Brain Stimulation" symposium. One of four non-concurrent symposiums selected by committee for the Organization for Human Brain Mapping meeting, Seattle, WA, June 2013.
- 67. Simpler Medicine: What Psychology Can Offer Modern Health Care. Keynote Address, Department of Psychology Convocation, UNM, May 2013.
- 68. From the Review Committee's Perspective What You Should Know. Junior Tenure and Promotion Chair's presentation to junior Arts and Sciences College faculty, UNM, March 2013.
- 69. Oral Orthotics For the Treatment of Spasmodic Torticollis. Invited Presentation, National Spasmodic Torticolis Association Meeting, New Orleans, LA, 2012.
- 70. New Solutions for Some Old Problems: Brain Stimulation and Oral Orthotics for the Treatment of Pain and Motor Illness. PAL Talk, Dept. Psychology, UNM, 2012.
- 71. Starting a Small Revolution in Medicine. TEDxABQ, Albuquerque, NM, 2012. http://www.youtube.com/watch?v=iNWBveV7RBI
- 72. Using tDCS to Alter Visual Perception and Learning. Spaulding Rehabilitation Hospital, Harvard Medical School, Boston, MA, 2012.
- 73. Neuroimaging, Neuroinflammation, and Neural Information Processing. Imaging Neuroinflammation and Neuropathic Pain. Meeting of the Reflex Sympathetic Dystrophy Syndrome Association, Albuquerque, NM, 2011. <u>http://www.youtube.com/watch?v=8kB_cbPhfIU</u>
- 74. Prediction of Relapse to Stimulant Use with fMRI. University of Hawaii, Honolulu, HI, 2011.
- 75. Artificial Attention using Brain Stimulation. Cognitive Electrophysiology: Signals of the Mind, a Tribute to Steven A. Hillyard. San Francisco, CA, 2011.
- 76. Increased Learning and Performance using Brain Stimulation and Neuroimaging. Student-Invited Lecture. Tulane University, New Orleans, LA, 2011.
- 77. Acceleration of Learning to Identify Concealed Threats using Brain Stimulation Targeted with Neuroimaging. Los Alamos National Laboratory, Los Alamos, NM, 2011.
- 78. Clark, V.P., Coffman, B.A., Garcia, C., Weisend, M. P., Lane, T.D.R., Mayer, A., Raybourn, E.M., Calhoun, V.D., Wassermann, E.M. Transcranial direct current stimulation (TDCS) targeted using brain imaging accelerates learning. Oral Presentation, Brain Stimulation session. Organization for Human Brain Mapping, Barcelona, Spain, 2010.
- 79. Improving Learning and Performance Using Electrical Brain Stimulation. PAL Talk, Dept. Psychology, UNM, 2010.
- 80. Learning to Recognize Concealed and Disguised Objects: A Combined Multimodal Imaging and Brain Stimulation Study. Center for Brain and Mind, UC Davis, Davis, CA, 2010.
- 81. Improving Learning and Performance Using Electrical Brain Stimulation Targeted with Multimodal Neuroimaging. National Institute of Mental Health, NIH, Bethesda, MD, 2010.
- 82. Enhancing Cognition and Learning using Brain Stimulation. Center of Excellence in Neuroergonomics, Technology, and Cognition (CENTEC), Washington, DC, 2010.

- 83. Bioprediction in Stimulant Addiction. Conference on Bioprediction. Co-Sponsored by the MacArthur Foundation and the Oxford Centre for Neuroethics. Washington, DC, 2010.
- 84. Using Brain Imaging to Guide Brain Stimulation. Human Factors and Applied Cognition Program, Department of Psychology, George Mason University. Fairfax, VA, 2010.
- 85. Brain Stimulation Targeted with Neuroimaging Accelerates Perceptual Learning. Universitätsklinik für Neurologie, Universitätsklinikum Magdeburg, Magdeburg, Germany, 2010.
- 86. Better Learning through Brain Stimulation. Erasmus University Rotterdam, 2010.
- 87. Transcranial Direct Current Stimulation Targeted with Brain Imaging Greatly Accelerates Visual Learning. Abteilung Klinische Neurophysiologie, Universitätsmedizin Göttingen – Georg-August-Universität, Göttingen, Germany, 2010.
- 88. *Clark, V.P., Coffman, B.A., Garcia, C., Weisend, M. P., van der Merwe, A., Browning, E.S., Lane, T., Kelly, K., Mayer, A., Raybourn, E.M., Calhoun, V.D., Bikson, M., Wassermann, E.M., Phillips, J.P. Transcranial direct current stimulation (TDCS) targeted with brain imaging greatly accelerates visual learning. Oral Presentation, Neuronal Dynamics of Object and Category Perception Session #306, Society for Neuroscience, Chicago, IL, 2009.
- 89. *Clark, V.P., Beatty, G.K., Anderson, R., Kodituwakku, P., Phillips, J., Kiehl, K.A., Calhoun, V.D. Cingulate and insula activity predict relapse in recovering stimulant addicts. Abstract #1818, Oral Presentation, Psychiatric Disorders Session, Organization for Human Brain Mapping, San Francisco, CA, 2009.
- 90. Ethical Issues in Neurotechnology: Where Are We Headed? University of New Mexico Spring Research Ethics Symposium, Fostering Integrity in Research. UNM, 2009.
- 91. Stimulating Brain Science: The Future of Neurotechnology. Decade of the Mind Symposium, Neuroethics: Legal, and Social Issues. Potomac Institute, 2009.
- 92. *Clark, V.P., Beatty, G.K., Anderson, R., Kodituwakku, P., Phillips, J., Kiehl, K.A., Calhoun, V.D. FMRI activity in cingulate and insular cortex predicts relapse in recovering stimulant addicts. Oral presentation, Society for Neuroscience, Washington, DC, 2008.
- 93. The MIND Institute and National Defense. National Defense University, 2008.
- 94. Clark, V.P., Manoach, D., Gollub, R., Ho, B.C., Lim, K.O., Burge, J., Lane, T., Andreasen, N. C. A Multi-Site fMRI Study of Schizophrenia: Effects of Illness Type and Duration on Brain Function and Connectivity. International Congress on Schizophrenia Research, Colorado Springs, CO, 2007.
- 95. Brain Imaging at the MIND Institute. Neuroscience Day, Department of Neuroscience, UNM, 2007.
- 96. Brain Networks in Learning and Mental Illness. Neural Computation: Measure, Analysis & Modeling of Cellular and Network Dynamics, LANL, Santa Fe, 2007.
- 97. Brain Imaging Predicts Recovery from Drug Addiction. Institute of Neuroradiology, University of Zurich, Switzerland, 2006.
- 98. Effects of Stress on Learning and Performance. DARPA Accelerated Learning Workshop, Washington DC, 2006.
- 99. Attention Anticipates Abstinence in Addiction. Conference on Attention, Awareness and Action, Mind and Brain Center, UC Davis, 2006.
- 100. Addictions Research at the MIND Imaging Center. CASAA, UNM, 2005.
- 101. Neuroimaging at the MIND Institute. Colloquia, Department of Computer Science, UNM, 2005.
- 102. Resources, Ongoing Projects and How to Get Access to The MIND Institute. PAL Talk, Department of Psychology, UNM, 2005.
- 103. Challenges in Designing and Analyzing Multi-Site FMR Studies: The MIND Clinical Imaging Consortium. 10th International Congress on Schizophrenia Research, Savannah, GA, 2005.
- 104. Multi-Site Collaborative FMRI Studies of Auditory Target Detection in Schizophrenia, World Psychiatric Association, Florence, Italy, 2004.
- 105. The MIND Clinical Imaging Consortium fMRI Studies. The MIND Institute Science Day, Santa Fe, NM, 2004
- 106. Low dose estrogen, fMRI, and cognitive function. Bench to Bedside: Estrogen as a Case Study Workshop. National Institute on Aging, Bethesda, MD 2004.
- 107. MIND Matters: An Overview of Developing Research Programs and Tools at the MIND Institute. Department of Neuroscience Seminar, UNM, 2004.
- 108. Understanding Cognition through Functional Brain Imaging, Second Annual Workshop on Cognitive Systems, Santa Fe, NM, 2004
- 109. Combining EEG and fMRI in Clinical Populations. University of Oregon, 2004.
- 110. Applications of Neuroimaging for Clinical Research. MIND Institute, 2004.
- 111. Neuroimaging: What's it Good For? Department of Cognitive Science, University of California at San Diego, 2003.

- 112. The Neural Mechanisms of Attention. Department of Psychology, University of New Mexico, Albuquerque, NM, 2002.
- 113. Predicting Relapse in Recovering Cocaine Addicts. Human Genetics Lecture Series, UConn. Health Center, 2002.
- 114. Using Brain Imaging to Predict Relapse in Recovering Cocaine Addicts. Department of Psychiatry, Wayne State University, Detroit, MI, 2002.
- 115. Studies of Attention and Perception using Functional Brain Imaging. Department of Psychology, Tufts University, Medford, MA, 2002.
- 116. Higher-Order Responses in Event-Related fMRI. Satellite Symposium on Brain Imaging Methods and Analysis Techniques. Seventh Annual Meeting of the Organization for Human Brain Mapping, Brighton, U.K., 2001.
- 117. FMRI Studies of Multimodal Selective Attention. Yale NMR Research Group fMRI Talk, Yale University School of Medicine, New Haven, CT, 2001.
- 118. FMRI Studies of Attention and Perception. University of New Mexico, 2001.
- 119. Applications of Multiple Regression in fMRI: Event-Related fMRI. Satellite Symposium on Brain Imaging Methods and Analysis Techniques, Sixth Annual Meeting of the Organization for Human Brain Mapping, San Antonio, TX, 2000.
- 120. Event-Related fMRI using P300 ERP Tasks. Yale NMR Research Group fMRI Talk, Yale University School of Medicine, New Haven, CT, 2000.
- 121. ERP Tasks Examined using Event-Related fMRI. Brainmap Talk, NMR Research Center, Mass General Hospital, Charleston, MA, 2000.
- 122. ERP Tasks using fMRI: What More Can It Tell Us? Center for the Neural Basis of Cognition, Mellon Institute, CMU, 2000.
- 123. Event-Related fMRI Designs. Department of Psychology, Dartmouth University, Hannover, NH, 2000.
- 124. Neuroimaging in Cocaine Dependence and Relapse. National Institute of Drug Abuse, NIH, Bethesda, MD, 1999.
- 125. Functional MRI Studies of Attention and Vigilance. Chinese University of Hong Kong, Hong Kong, 1999.
- 126. Event-Related Paradigms in Functional MRI. Haskins Institute. New Haven, CT, 1999.
- 127. Mapping the Brain with MRI. Department of Psychology, Tufts University, Boston, MA, 1999.
- 128. NeuroImaging of Attention. Brain and Behavior Research Rounds, IOL, Hartford, CT, 1998.
- 129. Functional MRI Studies of Attention and Memory. Department of Psychology, University of Connecticut, Storrs, CT, 1998.
- 130. Functional MRI Studies of Attention and Cognition. Department of Psychiatry, University of Connecticut Health Center, Farmington, CT, 1997.
- 131. Experimental Design for the Integration of fMRI and EEG data. FMRI Visiting Fellowship Program, MGH NMR Center, Harvard University, 1997.
- 132. Functional MRI Studies of Visual Attention and Perception. Salk Institute, La Jolla, CA, 1997.
- 133. *Clark, V.P., Maisog, J.Ma., Keil, K., Ungerleider, L., and Haxby, J.V. Visual Area Topography as Revealed by fMRI vs. PET. Presented at the Second International Conference on Functional Mapping of the Human Brain. NeuroImage, 3(3):S1, Boston, MA, 1996.
- 134. Comparing PET to FMRI findings in Visual Perception. Brain Map 1996: Conference on Human Brain Mapping and Modeling, San Antonio, TX, 1996.
- 135. Studies of Visual Selective Attention and Object Recognition using Functional MRI. Department of Psychology, University of Pittsburgh, 1996.
- 136. Studies of Selective Attention using fMRI. Georgetown Institute for Cognitive and Computational Studies, Georgetown University, 1995.
- 137. Studies of Selective Attention using Evoked Potentials and fMRI. Center for Behavioral Neuroscience, SUNY at Stony Brook, 1995.
- 138. Mechanisms of Visual Attention studied with fMRI. Center for Neuroscience, University of California, Davis, 1994.
- 139. Mapping the Human Brain with MRI. Department of Psychology, Stanford University, 1994.
- 140. Clark, V.P., Courchesne, E., Grafe, M. In-vivo myeloarchitectonic analysis of human occipital and parietal cortex using magnetic resonance imaging. International Conference on Cognitive Neuroscience, Jerusalem, Israel, 5:13, 1992.

Contributed (un-refereed) Presentations at Professional Meetings:

1. G Atencio, VP Clark. Effects of neuromodulation on learning. ASSURE Research Day, UNM, 2022.

- 2. Gibson, BC, Heinrich, MD, Mullins, TS, Spinks, JA, Aragon, DF, Bauchman, LP, Clark, VP. Baseline differences in anxiety affects attention and tDCS-mediated category learning. Cognitive Neuroscience Society, 2020. Graduate Student Award winner.
- 3. BC Gibson, VR Votaw, ER Stein, VP Clark, K Witkiewitz Increases in mindfulness following mindfulness-based relapse prevention and transcranial direct current stimulation to reduce heavy drinking. Alcoholism-Clinical And Experimental Research 43, 56A-56A
- 4. K Witkiewitz, DR Brown, E Claus, T Jackson, ER Stein, V Votaw, A Wilson, E Brandt, CSH Robinson, VP Clark. Drinking reductions following mindfulness based relapse prevention: associations with modulation of the late positive potential response to alcohol cues. Alcoholism-Clinical and Experimental Research 43, 326A-326A.
- Bradley M. Robert, Aaron P. Jones, Melissa D. Heinrich, Teagan S. Mullins, Praveen K. Pilly, Vincent P. Clark. Closed-Loop tACS Targeting Slow-Wave Oscillations Impairs Post Sleep Encoding. Poster presented at SWPA 2019.
- Teagan S. Mullins, J. L. Sanguinetti, Benjamin C. Gibson, Melissa D. Heinrich, Denicia F. Aragon, Jacob A. Spinks, Aaron P. Jones, Bradley M. Robert, Melanie L. Lamphere, Vincent P. Clark. Transcranial Ultrasound Stimulation of the Ventrolateral Prefrontal Cortex Impairs Inhibitory Control on a Stop Signal Task. Poster presented at SWPA 2019.
- 7. Charles S. H. Robinson, Elena Stein, Kathryn Fokas, Vincent P. Clark, Vince Calhoun, Eric D. Claus, & Katie Witkiewitz. Neural and Behavioral Associations of Drinking and Empathic Processing. 2019 Collaborative Perspectives on Addiction.
- 8. Aaron P. Jones, MS, Clark, VP. Closed-Loop tACS Targeting Slow-Wave Oscillations During Sleep Enhances Consolidation of Generalized Information. Poster and Talk presented at the 2018 NYC Neuromodulation Conference & NANS Summer Series.
- NA Mertens, NB Bryant, HA Gill, AP Jones, B Robert, V Clark, PK Pilly. REM Sleep Has No Effect on Consolidation of Emotionally Salient Information Seen in Animated Threat Detection Task. Sleep, 41(suppl_1):A37.
- 10. H A Gill, N B Bryant, N A Mertens, A P Jones, B Robert, V P Clark, P K Pilly. Low-Amplitude tDCS does not affect threat detection performance under sleep loss. Sleep, 41(suppl_1):A70–A71, 2018. https://doi.org/10.1093/sleep/zsy061.178
- 11. M L Lamphere C S Robinson N B Bryant A P Jones B Robert J Maxwell J Choe N A Ketz M D Howard V P Clark P K Pilly Effects of slow wave sleep augmentation on subjective sleep quality. Sleep, 41(suppl_1):A129, 2018. https://doi.org/10.1093/sleep/zsy061.336
- 12. MD Heinrich, NB Bryant, AP Jones, B Robert, VP Clark, PK Pilly Extroverts Outperform Introverts on a Learning Task Under Conditions of Acute Sleep Deficit Sleep 41 (suppl_1), A40-A41.
- 13. Maurer, JM, Claus, ED, Fink, BC, Clark, VP, Calhoun, VD, Kiehl, KA. Aberrant connectivity during response inhibition is related to substance use relapse propensity in incarcerated adult offenders. Society of Biological Psychiatry Conference, 2018.
- 14. Aaron P. Jones, Jaehoon Choe, Natalie B. Bryant, Charles S. H. Robinson, Steven W. Skorheim, Angela Combs, Melanie L. Lamphere, Bradley Robert, Nicholas A. Ketz, Michael D. Howard, Vincent P. Clark, Praveen K. Pilly. Effects of Closed-Loop tACS Strength During Slow-Wave Sleep on Learning in a Target Detection Task. Organization for Human Brain Mapping, Vancouver, BC, Canada, 2017.
- 15. Bryant, N. B., Ketz, N., Jones, A., Choe, J., Robinson, C., Combs, A., Lamphere, M., Robert, B., Clark, Pilly, P. K. Closed-Loop TACS During SWS boosts slow-wave and delta power and post-sleep memory for threat detection on novel stimuli. SLEEP 2017, Boston, MA.
- 16. Aaron P. Jones, Jaehoon Choe, Natalie B. Bryant, Charles S. H. Robinson, Steven W. Skorheim, Angela Combs, Melanie L. Lamphere, Bradley Robert, Nicholas A. Ketz, Michael D. Howard, Vincent P. Clark, Praveen K. Pilly. Effects of Closed-Loop tACS Strength During Slow-Wave Sleep on Learning in a Target Detection Task. Brain Stimulation and Imaging Meeting, Vancouver, BC, Canada, 2017.
- 17. K. Wilson, J. Wilson, D. Quinn, V.P Clark. Transcranial direct current stimulation (tDCS) over left prefrontal cortex improves visual detection of words. 45th Annual Meeting of the International Neuropsychological Society, New Orleans, Feb. 2017.
- 18. Hammam Yahya, Davin Quinn, Michael Hunter, Kevin Wilson, Rebecca Rieger, Vincent Clark Chronic catatonia successfully treated with transcranial direct current stimulation in a patient with cerebral palsy and bipolar disorder. Academy of Psychosomatic Medicine, Austin, TX Nov. 2016.

- 19. Jon Houck, Jessica Turner, Jeffrey Lewine, Charlotte Chaze, Vincent P. Clark, Vince Calhoun, Robert Thoma. Functional connectivity during auditory verbal hallucinations in schizophrenia patients. BIOMAG2016, Seoul, South Korea, Oct. 2016.
- 20. Quinn, DK, Hunter, MH, Yahya, H, Wilson, K, Rieger, R, Clark, VP. Chronic catatonia successfully treated with transcranial direct current stimulation in a patient with cerebral palsy and bipolar disorder. Academy of Psychosomatic Medicine, Austin, TX, Nov. 2016.
- 21. Aaron P. Jones, Michael C. Trumbo, Brian A. Coffman, Michael A. Hunter, Charles S. Robinson, Angela Combs, Kinsey Steuterman, Vickey Massey, Mohamed Aboseria, Alexander David, Marom Bikson, Vincent P. Clark; Contribution of far field effects of cortical tDCS in the cerebellum to learning in an object detection paradigm. Society for Cognitive Neuroscience Meeting, NY, NY, April 2016, #F161.
- 22. Christine A. Godwin, Michael A. Hunter, Matthew A. Bezdek, Gregory Lieberman, Katie Witkiewitz, Vincent P. Clark, Eric H. Schumacher. Large-scale resting-state network correlations predict mind-wandering tendencies. Society for Cognitive Neuroscience Meeting, NY, NY, April 2016, #E156.
- 23. Angela Combs, Aaron P. Jones, Michael C. Trumbo, Michael A. Hunter, Charles S. Robinson, Kinsey Steueterman, Vickey Massey, Brian A. Coffman, Vincent P. Clark. Bilingual advantage in learning to detect hidden objects in a complex visual environment. Society for Cognitive Neuroscience Meeting, NY, NY, April 2016, #E71.
- 24. Charles Robinson, Mikaela Armenta, Angela Combs, Melanie Lamphere, Gabrielle Garza, James Neary, Janet Wolfe, Aaron Jones, Mike Trumbo, Michael Hunter, Katie Witkiewitz, Vince Clark. Modulating emotional intelligence with transcranial direct current stimulation and meditation training: A pilot study. Society for Cognitive Neuroscience Meeting, NY, NY, April 2016, #C34.
- 25. Seth Elkin-Frankston, Sean Guarino, Victoria Romero, G Lieberman, MA Hunter, K Witkiewitz, VP Clark, E Schumacher, M Bezdek, N Martin. No evidence of improved intelligence with mindfulness meditation or brain-training games-training combined with tDCS. Society for Cognitive Neuroscience Meeting, NY, NY, April 2016, #B171.
- 26. Mika Armenta, Samuel Robinson, Vince Clark, Katie Witkiewitz. Modulating Emotion Perception with Meditation and Brain Stimulation. McNair Scholars Research Conference, UNM, October 2015.
- 27. Gregory Lieberman, Michael A. Hunter, Matthew A. Bezdek, Aaron P. Jones, Michael C. Trumbo, Brian A. Coffman, Elizabeth McCallion, Mika Armenta, Anthony O'Sickey, David Brown, Corey Roos, Sam Robinson, Angela Combs, Nicole Martin, Sean Guarino, Leonard Eusebi, Seth Elkin-Frankston, Victoria Romero, Eric H. Schumacher, Katie Witkiewitz, Vincent P. Clark. A Four Week Regimen of tDCS-Enhanced Brain Training Does Not Alter Cortical Structure. (June, 2015). BrainSTIM, Honolulu, HI.
- 28. Michael A. Hunter, Gregory Lieberman, Brian Coffman, Aaron P. Jones, Mike Trumbo, Mika Armenta, Sam Robinson, Elizabeth McCallion, Corey Roos, Anthony O'Sickley, David Brown, Tristan Collar, Sean Gaurino, Victoria Romero, Katie Witkiewitz, and Vincent P. Clark. Improved working memory load and ERP signatures resulting from tDCS-enhanced mindfulness training. (June, 2015). Brain Stimulation and Imaging Meeting (BrainSTIM), Honolulu, HI.
- 29. Gregory Lieberman, Michael A. Hunter, Matthew A. Bezdek, Aaron P. Jones, Michael C. Trumbo, Brian A. Coffman, Elizabeth McCallion, Mika Armenta, Anthony O'Sickey, David Brown, Corey Roos, Sam Robinson, Angela Combs, Nicole Martin, Sean Guarino, Leonard Eusebi, Seth Elkin-Frankston, Victoria Romero, Eric H. Schumacher, Katie Witkiewitz, Vincent P. Clark. A Four Week Regimen of tDCS-Enhanced Brain Training Does Not Alter Cortical Structure. (June, 2015). Organization for Human Brain Mapping meeting, Honolulu, HI.
- 30. Michael A. Hunter, Gregory Lieberman, Brian Coffman, Aaron P. Jones, Mike Trumbo, Mika Armenta, Sam Robinson, Elizabeth McCallion, Corey Roos, Anthony O'Sickley, David Brown, Tristan Collar, Sean Gaurino, Victoria Romero, Katie Witkiewitz, and Vincent P. Clark. Improved working memory load and ERP signatures resulting from tDCS-enhanced mindfulness training. (June, 2015). Organization for Human Brain Mapping meeting, Honolulu, HI.
- 31. Witkiewitz, K., Kirouac, M., Frohe, T., Armenta, M.L., McCallion, E.L., Roos, C., O'Sickey, A.J., Brown, D., Hunter, M.A., Coffman, B., Clark, V.P. Mindfulness and Transcranial Direct Current Stimulation as an Intervention for Tobacco Dependence: A Pilot Study. (March, 2015). Collaborative Perspectives on Addiction conference, Baltimore, MD.
- 32. Jon M. Houck, Jason Long, Jessica Turner, Jeffrey D. Lewine, Charlotte Chaze, Vincent P. Clark, Vince Calhoun, Robert J. Thoma. MEG Analysis of Network Oscillatory Activity During The Transition into Auditory Verbal Hallucinations (AVH-on) and Out of (AVH-off) Transitional Periods. International Congress on Schizophrenia Research. 2015.

- 33. Kevin Wilson, Vincent P. Clark. Transcranial direct current stimulation (tDCS) improves spelling ability. Poster presented at UNM Neuroscience Day, 2015.
- 34. Petropoulos, H., Long, J., Chaze, C., Turner, J., Clark, V., Calhoun, V.D. and Thoma, R.J. (2015). 1H-MRS Glutamine and Inositol level predicts the severity of Auditory Verbal Hallucinations. Poster presented at the 2015 UNM BBI Neuroscience Day. (2015). UNMHSC Domenici Hall, Albuquerque, NM.
- 35. Charlotte Chaze, Vincent P. Clark, Jessica Turner, Rose Bigelow, Jason Long, Vince Calhoun, Robert J. Thoma. Treatment of auditory verbal hallucinations in schizophrenia using tDCS. Poster presented at UNM Neuroscience Day, 2015.
- 36. Charlotte Chaze, Robert J. Thoma, Rose Bigelow, Vincent P. Clark, Juan Bustillo, Vince Calhoun, Jessica Turner. Neural Networks Underlying Auditory Verbal Hallucinations in Schizophrenia. Poster presented at UNM Neuroscience Day, 2015.
- 37. Michael A. Hunter, Vincent P. Clark, Vincent D. Calhoun, Hao He, Ben Yackley and Terran Lane. Dynamic causal modeling of selective attention predicts relapse in patients recovering from addiction. 43rd Annual Meeting of the International Neuropsychological Society (INS), 2015, Denver, CO.
- 38. Charlotte Chaze, Vincent P. Clark, Jessica Turner, Michael Hunter, Rose Bigelow, Jason Long, Jeffrey D Lewine, Vince Calhoun, Robert J Thoma. An fMRI investigation of tDCS-induced changes in cortical function during auditory verbal hallucinations. *Schizophrenia Bulletin*, 41(1):S220, #2119147. ICOSR 2015, Colorado Springs, CO.
- 39. Houck, J., Lewine, J.D., Turner, J., Clark, V., Bustillo, J., Calhoun, V.D., and Thoma, R.J. (2015). Time course of auditory verbal hallucination networks in schizophrenia. *Schizophrenia Bulletin*, 41(1):S79-S80. Poster Presented at the 2015 annual meeting of the International Congress on Schizophrenia Research (ICOSR). Colorado Springs, CO.
- 40. M.A. Hunter, V.P. Clark, V.D. Calhoun, Y. Chen, J.C. Edgar, M.X. Huang, B. Howell, and J.M. Cañive. Intrinsic network connectivity differentially predicts components of attention in patients with schizophrenia and bipolar disorder. Presented at The 4th Biennial Resting-state / Brain Connectivity Conference, MIT, Cambridge, M.A., 2014.
- 41. Hunter, M.A. and Clark, V.P. The potential synergistic effects of strategy-based cognitive training & brain stimulation: A review. 2014. 17th Cognitive Remediation Conference, New York, NY.
- 42. Brian A. Coffman, Michael A. Hunter, Aaron P. Jones, Heather A. Saxon, Krista Kolodjeski, Bryce Lockmiller, Omar Khan, Tristan Collar, Julia M. Stephen, & Vincent P. Clark. Using independent components analysis (ICA) to remove artifacts associated with transcranial direct current stimulation (tDCS) from electroencephalography (EEG) data: A comparison of ICA algorithms. NYC Neuromodulation 2013 Conference, New York, NY. Winner, Best Poster Prize.
- 43. Mike Trumbo, Brian Coffman, Vincent P. Clark The effect of transcranial direct current stimulation on the attention network task (ANT): Contextualizing prior research. NYC Neuromodulation 2013 Conference, New York, NY.
- 44. Michael A. Hunter, Brian Coffman, Mike Trumbo, Aaron Jones, Charles Gasparovic, Vincent P. Clark. Modulation of large-scale network connectivity and glutamatergic concentrations by transcranial stimulation: A preliminary multimodal imaging study. NYC Neuromodulation 2013 Conference, New York, NY.
- 45. Aaron P. Jones, Michael Trumbo, Brian A. Coffman, Michael A. Hunter, Alexander David, Marom Bikson, Vincent P. Clark. Far filed effects of cortical tDCS in the cerebellum. NYC Neuromodulation 2013 Conference, New York, NY.
- 46. V. R. Steele, B. C. Fink, J. M. Maurer, M. R. Arabshirani, A. Sidz, V. D. Calhoun, V. P. Clark, K. A. Kiehl. Eventrelated potential measures of incorrect responses predict completion of substance abuse treatment. Oral Session #119, Addiction Treatment and Genetics: Translational Studies. Society for Neuroscience, San Diego, CA, 2013. Selected for "Hot Topics" book and the Neuroscience 2013's online press room.
- 47. Randy Gollub, Jody Shoemaker, Margaret King, Tonya White, Stefan Ehrlich, Scott Sponheim, Vincent Clark, Jessica Turner, Vince Calhoun. Shared repository of multi-modal, multi-site brain image data from a clinical study of schizophrenia. Organization for Human Brain Mapping, Seattle, WA, 2013.
- 48. Michael Hunter, Vincent Clark, Vince Calhoun, Jose Canive. Relationships between functional network connectivity and measures of attention in schizophrenia. Organization for Human Brain Mapping, Seattle, WA, 2013.
- 49. Coffman, B. A.; Garcia, C. M.; Weisend, M. P.; Kelly, K.; Flores, R. A.; Clark, V. P. Differences in spectrograms of oscillatory MEG activity between hidden target and nontarget stimuli. Society for Neuroscience, 2012.

- 50. Sergey Plis, Jing Sui, Terran Lane, Sushmita Roy, Vincent P. Clark, Vamsi K. Potluru, Andrew Michael, Michael Weisend, Vince Calhoun. Capturing high-order interactions in neuroimaging data. Selected for Oral Session Presentation, Modeling and Analysis Methods. Organization for Human Brain Mapping, Beijing, China, 2012.
- 51. V.P. Clark, B. A. Coffman, M. C. Trumbo, C. Gasparovic. Transcranial direct current stimulation (TDCS) produces localized and specific increases in glutamate/glutamine and NAA. #413.1 Society for Neuroscience, 2010.
- 52. L. Bullard, A. J. Van Der Merwe, E. S. Browning, V. P. Clark, B. A. Coffman, R. A. Flores, C. M. Garcia, E. B. Kimball, K. M. Paulson, D. Puffer, E. M. Raybourn, A. A. Vakhtin, E. M. Wassermann, C. L. Wootton, M. P. Weisend. The effect of TDCS on performance and fatigue during a threat detection task. Society for Neuroscience, 2010.
- 53. C. L. Wootton, E. S. Browning, V. P. Clark, B. A. Coffman, R. A. Flores, C. M. Garcia, E. B. Kimball, A. J. Van Der Merwe, K. Paulson, L. E. Petree, D. Puffer, E. Raybourn, A. A. Vakhtin, E. Wassermann, M. P. Weisend. Learning effects of anodal transcranial direct current stimulation (TDCS) differ between electrode placements. Society for Neuroscience, 2010.
- 54. S. M. Plis, E. Damaraju, C. L. Wootton, L. M. Bullard, V. P. Clark, B. A. Coffman, E. B. Kimball, A. J. Van Der Merwe, K. Paulson, A. Vakhtin, D. Puffer, R. Barrow, C. Garcia, M. P. Weisend. Effective connectivity analysis of fMRI and MEG data collected under identical paradigms. Society for Neuroscience, 2010.
- 55. Stone, D.B., Urrea, L., Aine, C., Clark, V.P., Stephen, J.M. Alterations in auditory processing and multisensory integration in schizophrenic patients revealed using EEG. Center for Biomedical Research Excellence Meeting, NCRR, NIH, Washington DC, 2010.
- 56. Bullard, L. Browning, E., Clark, V.P., Coffman, B., Jung, R., Kimball, E., van der Merwe, A., Wootton, C., Weisend, M. Transcranial direct current stimulation's effect on novice versus experienced learning. Organization for Human Brain Mapping, Barcelona, Spain, 2010.
- 57. C.M. Garcia, B.A. Coffman, V.P. Clark, M. P. Weisend, R. Barrow, A. van der Merwe, E.S. Browning, D. Puffer, E.M. Rayborn, V.D Calhoun, E.M. Wassermann, J.P. Phillips. Sensation of TDCS as a function of current density and electrode size. 7th International Conference on Biomagnetism, Dubrovnik, Croatia 2010.
- 58. B.A. Coffman, V.P. Clark, C. Garcia, M. P. Weisend, R. Barrow, A. van der Merwe, E.S. Browning, D. Puffer, E.M. Rayborn, V.D Calhoun, E.M. Wassermann, J.P. Phillips, R. Jung. TDCS accelerated learning of covert threat detection is influenced by current strength and stimuli familiarity vs. novelty. 7th International Conference on Biomagnetism, Dubrovnik, Croatia 2010.
- 59. Coffman, B.A., Clark, V.P., Garcia, C., Weisend, M. P., Barrow, R., van der Merwe, A., Browning, E.S., Mayer, A.R., Raybourn, E.M., Kelly, K., Puffer, D., Calhoun, V.D., Wassermann, E.M., Phillips, J.P. Changes in brain networks with learning of covert threat cues. Poster Presentation, High Level Visual Perception and Brain Networks Session 380, Society for Neuroscience, 2009
- 60. Ehrlich, S, Morrow, EE, Wallace, SR, Naylor, MG, Bockholt, HJ, Holt, DJ, Lundquist, AP, Yendiki, A, Roffman, JL, Ho, BC, White, T, Manoach, DS, Clark, VP, Calhoun, VD, Gollub, RL. The COMT Val158Met Polymorphism and Temporal Lobe Volumetry in Patients with Schizophrenia and Healthy Adults. Abstract #539, Oral Presentation, Genetics Session, Organization for Human Brain Mapping, San Francisco, CA, 2009.
- 61. Juárez, M, White, T, Pearlson, GD, Bustillo, J, Lauriello, J, Ho, BC, Bockholt, HJ, Clark, VP, Gollub, R, Magnotta, V, Machado, G, Calhoun, VD. Functional connectivity differences in first episode and chronic schizophrenia patients during an auditory sensorimotor task revealed by independent component analysis of a large multisite study. Abstract #2322, Organization for Human Brain Mapping, San Francisco, CA, 2009.
- 62. Michael, AM, Baum, SA, Segall, JM, Bockholt, HJ, Clark, VP, Jung, RE, Gollub, RL, Roffman, JL, Ho, BC, Andreasen, NC, Lim, KO, White, TJ, Schulz, SC, Calhoun, VD. Inter-Voxel Cross-Correlation Reveals Aberrantly Low Structural-Functional Linkage in Schizophrenia in a Multi-Site Study. Abstract #337, Organization for Human Brain Mapping, San Francisco, CA, 2009.
- 63. White, T, Leyba, L, Ho, BC, Clark, VP, Calhoun, VD, Wallace, S, Bockholt, HJ, Gollub, RL, Andreasen, NC, Schulz, SC, Magnotta, VA, Lim, KO. Cigarette Smoking Disrupts White Matter Integrity in Patients with Schizophrenia. Abstract #1020, Organization for Human Brain Mapping, San Francisco, CA, 2009.
- 64. Lane T, Plis S, Clark VP, Anderson B, Oyen D. Bayesian Analysis of Neural-Behavioral Interactions in Mental Illness. Collaborative Research in Computational Neuroscience, 2008.
- 65. Clark, V.P., Beatty, G.K., Anderson, R., Kodituwakku, P., Phillips, J., Kiehl, K.A., Calhoun, V.D. FMRI activity in cingulate and insular cortex predicts relapse in recovering stimulant addicts. Slide presentation, Society for Neuroscience, 2008.

- 66. Scully, M.S. Anderson, B., Lane, T., Bockholt, H.J., Clark, V. P., Calhoun, V., Gollub, R., Ho, B., Lauriello, J., White, T., Jung, R. A dynamic Bayesian network analysis of functional network differences during the auditory oddball task, related to general intelligence. Poster presentation, Society for Neuroscience, 2008.
- 67. Arfai, N., Wilson, M., Clark, V. P., Wallace, J. A. Accelerating recovery of behavioral & cognitive functions via single intracerebral injection of various neurotrophic factors after somatosensory contusion in adult rats. Poster presentation, Society for Neuroscience, 2008.
- 68. M. A. Monnig, A. Caprihan, D. Ruhl, P. Lysne, C. Gasparovic, V. Clark, R. A. Yeo, M. Bogenschutz, & R. J. Thoma . Diffusion tensor imaging reveals callosal white matter abnormality in alcohol dependence and recovery. Research Society on Alcoholism, 2008.
- 69. Chobok Kim, Doerte Spring, James K. Kroger, Vince Calhoun, Vince Clark. Exogenously cued attention switching recruits frontal pole: An fMRI study. Cognitive Neuroscience Society, 2008.
- 70. James K. Kroger, Doerte Spring, Chobok Kim, Vince Clark, Vince Calhoun. Double dissociations between lateral and medial frontopolar cortex for maintenance and manipulation of integrated information: An fMRI study. Cognitive Neuroscience Society, 2008.
- 71. J. Lauriello, J. Bustillo. S. C. Schulz, N. Andreasen, R. Gollub, B. C. Ho, V.P. Clark, J. Bockholt, K. O. Lim. Overview of the MIND Imaging Consortium, International Congress on Schizophrenia Research, 2007.
- 72. Beatty, G. K., Anderson, R. E., Kodituwakku, P. W., Fries, J. F., Calhoun, V. D., Clark, V.P. Response time variability and fMRI signal changes during a cognitive interference task in stimulant dependent patients. Society for Neuroscience, San Diego, CA, 2007.
- 73. Machado, G.R., Clark, V. P., Gollub, R., Lauriello, J., Magnotta, V., White, T., Calhoun, V. D. Probing schizophrenia with a sensorimotor task: large-scale (n=273) independent component analysis of first episode and chronic schizophrenia patients. Society for Neuroscience, San Diego, CA, 2007.
- 74. M. Benavidez, V. P. Clark, B. Ho, G. Kuperberg, J. Lauriello, K. Lim, V. Calhoun. Functional networks identified in an auditory oddball task of chronic and first episode schizophrenia patients (n=261) collected from the mind clinical imaging consortium. Society for Neuroscience, San Diego, CA, 2007.
- 75. Anderson, R.E., Clark, V.P., Barnes, G.E. Test of a two-path model of addiction-prone personality traits in a clinical sample. 26th International Congress of Applied Psychology, July 16-21, 2006, Athens, Greece.
- 76. Lysne, P., Montano, R., Hanlon, F., Bantz, R., Lundy, L., Euler, M., Weisend, M., Clark, V.P., Thoma, R., Hart, B. Intra-run stability of M50 auditory gating in a paired-click paradigm. Biomag 2006, Vancouver, BC, Canada.
- 77. Clark, V.P., Anderson, R.E., England, R., Beatty, G., DiPasquale, T., Posse, S., Kodituwakku, P., Rosen, A., Phillips, J.P., Blanco, R., Hicks, P., Bogenschutz, M. Multimodal imaging of relapse potential in recently abstinent stimulant dependent patients. Organization of Human Brain Mapping, Florence, Italy, 2006.
- 78. Clark, V.P., Anderson, R.E., England, R., Beatty, G., DiPasquale, T., Posse, S., Kodituwakku, P., Rosen, A., Phillips, J.P., Blanco, R., Hicks, P., Bogenschutz, M. A multimodal imaging study of relapse in stimulant dependence. Society for Cognitive Neuroscience, San Francisco, 2006.
- 79. England, R.L., Clark, V.P. The Relationship Between Psychopathic Traits and Emotional Processing using fMRI. International Neuropsychological Society, Boston, MA, 2006.
- Clark, V.P., Friedman, L., Manoach, D., Ho, B.C., Lim, K., Andreasen, N. A collaborative fMRI study of the novelty oddball task in schizophrenia: Effects of illness duration. Society for Neuroscience Abstracts, Washington, DC, 2005.
- 81. Clark, V.P., Friedman, L., Lim, K., Ho, B.C., Andreasen, N. A multi-site collaborative fMRI study of the novelty oddball task in schizophrenia. Organization for Human Brain Mapping, Toronto, CA, 2005.
- 82. Burge, J., Lane, T., Clark, V.P. Dynamic Bayesian network classification of fMRI data reveals altered functional connectivity in dementia. Organization for Human Brain Mapping, Toronto, CA, 2005.
- 83. Kovacevic, S., Clark, V.P., Okada, Y., Partridge, L.D. and C.J. Aine, C.J. Encoding of Visual Features and Their Conjunctions: An fMRI and MEG Study. Biomag 2004. Boston, MA, 2004.
- 84. Burge, J., Lane, T., Clark, V.P. Dynamic Bayesian network classification of fMRI data reveals enhanced amygdala connectivity in dementia. Society for Neuroscience Abstracts, San Diego, CA, 2004.
- 85. Clark, V.P., Stevens, M.C., Lai, S. Effects of object categorical vs. subordinate level discrimination on fMRI responses in the oddball task. Society for Cognitive Neuroscience, San Francisco, CA, 2002.
- 86. Clark, V.P., Stevens, M.C., Lai, S. Distractor novelty effects on event-related fMRI responses in the oddball task. Society for Neuroscience, 2001.
- 87. Stevens, M.C., Lai, S., Benson, R., Kaplan, R.K., Clark, V.P. Altered event-related fMRI activity with conduct disorder. 109th Annual Meeting of the American Psychological Association, 2001.

- 88. Clark, V.P., Stevens, M.C. Event-related fMRI responses to the oddball task. Research Society on Alcoholism, 2001. Alcoholism Clinical and Experimental Research, 2001, 25(5 Supplement A): 78A.
- 89. Clark, V.P., Stevens, M., Chua, E., Goff, E., Audie, J., Lai, S., and Benson, R. An fMRI study of multimodal selective attention: Effects of functional relatedness. Cognitive Neuroscience Society Eighth Annual Meeting. Journal of Cognitive Neuroscience Supplement, 2001, p. 110.
- 90. Deckel, A.W., Fannon, S., Lai, S., Benson, R., Clark, V.P. Altered fMRI activity during maze testing in Huntington's disease. Cognitive Neuroscience Society Eighth Annual Meeting, Journal of Cognitive Neuroscience Supplement, 2001, p. 21.
- 91. Lloyd, D., Chua, E. and Clark, V.P. Canonical subject analysis: Seeking the typical and atypical rather than the mean in multi-subject fMRI studies. Cognitive Neuroscience Society Eighth Annual Meeting, Journal of Cognitive Neuroscience Supplement, 2001, p. 109.
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- 111. Bavelier, D., Corina, D., Clark, V.P., Dale, A., Jezzard, P., Prinster, A., Karni, A., Lalwani, A., Rauschecker, J., Turner, R., Neville, H. Sentence reading: A 4T fMRI study of cortical regions active during an English reading task. Society for Neuroscience Abstracts, 1994 20: 352.
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- 117. Clark, V.P., Fan, S., Hillyard, S.A. Stimulus position effects on the visually evoked potential: Analysis and localization with respect to brain morphology. International Brain Research Organization 3rd World Congress, 1991, 3:400.
- 118. Clark, V.P., Fan, S., Hillyard, S.A. The effects of stimulus position in the visually evoked potential: Analysis and localization with MRI. Society for Neuroscience Abstracts, 1991, 17:656.
- 119. Gomez, C., Clark, V P., Fan, S., Hillyard, S.A. Localization of the early components of the visual ERP during spatial-selective attention. Society for Neuroscience Abstracts, 1991, 17:656.
- 120. Berka, C., Clark, V.P., Halgren, E. Event-related slow potentials topographic distribution during primary memory. Society for Neuroscience Abstracts, 1987, 13:848.

Patents:

Clark, V.P. Brain Stimulation for Artistic Appreciation. Provisional US patent filed March 25, 2022.

Clark, V.P. A Method to Reduce Dementia and Age-Related Memory Loss. Provisional US patent filed June 20, 2023.

Research Funding:

Current:

Energy Creating Arts Development UNM Rainforest Innovations Gap Funding 12/1/22-4/1/2024, \$24,955 direct costs Role: Principal Investigator

Faculty Institutional Recruitment for Sustainable Transformation (FIRST), U54CA272167 Common Fund, NCI, NIH Drs. Jane Smith and Irene Salinas, PIs 9/1/2022-8/31/2027, \$15,600,000 Role: Mentor

SBIR Phase II: Enhancing Cognitive Performance and Stress Resilience During Sleep, SBIR FA864922P0036 AFRL, DoD

7/23/22-2/1/2024, \$749,985 (\$225,000 subaward to UNM) Role: Local Principal Investigator

SBIR Phase I: Improved Memory During Sleep at Home With a Wearable EEG Device For Tailored Stimulation of Slow Oscillations, SBIR 2151469 NSF 6/1/22-12/31/23, \$255,732 (\$64,074 subaward to UNM) Role: Local Principal Investigator

Clark Laboratory Fund UNM Foundation Vincent P. Clark, PI 11/1/2019-Present, \$58,322 Role: Principal Investigator

Completed:

Modern Energetic Methods of Response Improvement (MEMORI), 3P30GM122734-05S1 NIGMS, NIH 5/1/21-4/30/23, \$373,857.14 Role: Principal Investigator

Closed Loop Extracranial Activation through Reinforcement-learning (CLEAR) Phase II, SC1821701 Air Force Research Laboratory (AFRL), DoD Vincent P. Clark, PI 5/30/19 – 12/31/21, \$282,260 Role: Principal Investigator

Elucidating the Mechanisms Underlying tDCS-Enhanced Visual Target Detection Sandia National Laboratory, LDRD 11/1/20-9/30/21, \$10,981 Role: Principal Investigator

SAMPRA: Scalable Analysis, Management, and Protection of Research Artifacts, 1840069 NSF (OAC) Patrick Bridges, Lead PI 9/1/2018 – 8/31/2021, \$598,594 Role: Co-Principal Investigator

COBRE Phase III: Multimodal Imaging of Neuropsychiatric Disorders (MIND), P30GM122734 NIGMS, NIH Vincent P. Clark, PI 5/18/2018-11/30/2020, \$6,527,775 Role: Principal Investigator

University of New Mexico (UNM) Center for Brain Recovery and Repair, P20GM109089 NIGMS, NIH Bill Shuttleworth, PI 09/15/2015-06/30/2020, \$12,194,875 Role: Clinical Core & Mentor

Cognitive Tools for Target Recognition, Contract # W911NF-17-2-G-01 ARL, DoD Vincent Clark, PI 12/22/2016-10/31/2019, \$989,136 Role: Principal Investigator COBRE Phase II: Multimodal Imaging of Neuropsychiatric Disorders (MIND), P20GM103472 NIGMS, NIH Vince Calhoun, PI 07/31/2013-04/30/2019, \$12,367,560 Role: Mentor

TDCS and Cognitive Retraining to Augment Pharmacotherapy for the Treatment of Nicotine Dependence, R21DA037546 NIDA, NIH Eric Claus, PI 3/1/15-3/31/19, \$430,000 Role: Co-Investigator

TDCS Replication Study Arnold Foundation and Center for Open Science Emily Kappenman, PI 04/30/17-12/31/18, \$60,000 Role: Site PI

Enhancement of Mindfulness Meditation with Focused Ultrasound Stiller Family Foundation Jay Sanguinetti and Vincent P. Clark, co-PIs 10/1/2017-09/30/2018, \$16,567 Role: Co-Principal Investigator

Closed Loop Extracranial Activation through Reinforcement-learning (CLEAR) Air Force Research Laboratory Vincent P. Clark, PI 1/1/2018-9/17/2018, \$41,625 (Phase II funded above) Role: Principal Investigator

Mindfulness-Based Intervention and Transcranial Direct Current Brain Stimulation to Reduce Heavy Drinking: Efficacy and Mechanisms of Change, R21AA024926 NIAAA, NIH Katie Witkiewitz, PI 07/15/2016-06/30/2018, \$375,000 Role: Co-Investigator

Improving Memory Performance by Augmenting Consolidation with Transcranial Stimulation (IMPACTS), 837529 Vincent P. Clark, PI DARPA, DOD 2/19/2016-3/9/2018, \$1,252,855 Role: Principal Investigator

Phantom Head for Testing and Standardizing Transcranial Magnetic and Direct Current Stimulation Therapies, SBIR 1622060 Elizabeth Mirowski, PI NSF 07/01/2016-06/30/2017, \$35,000 Role: Site PI

Modifying Alcohol Approach Motivations with tDCS and Cognitive Retraining, R21AA021201 Eric Claus, PI NIAAA, NIH 01/01/13-12/31/15, \$507,516 Role: Co-Investigator

Noninvasive Neural Stimulation Technology, R44NS080632 Timothy A. Wagner, PI, Highland Instruments, Cambridge, MA. NINDS, NIH 2012-2016, \$2,973,728 Role: Consultant

CC*IIE Networking Infrastructure: Network Expansion to Support Data Intensive Research and Computation at the University of New Mexico, Gilbert Gonzales, PI NSF 9/1/2014-8/31/2015, \$498,620 Role: Co-Investigator

Fast Network Inference Methods for Connectome Analysis, R21MH097201 Terran Lane, PI NIMH, NIH 09/18/12-07/31/15, \$395,914 Role: Co-Investigator

Multifaceted Intervention for Robust, ARP-Focused, Customized Learning and Enhancement (MIRACLE), 2014-131270006 Vincent P. Clark, PI 01/06/14-3/31/15, \$744,000 IARPA Role: Principal Investigator

Efficacy of Intranasal Insulin in Relieving Symptoms of Tobacco Abstinence Syndrome, R03DA036054 Ajna Hamidovic, PI 04/01/14-03/31/15, \$75,500 NIDA, NIH Role: Co-Investigator

The Neurobiology and Developmental Trajectories in Children at Risk for Severe Psychopathology, 40-00812-98-11021 Tonya White, PI, Erasmus Medical Center, Rotterdam, Netherlands. Open Programma Gezondheidsonderzoek ZonMW TOP Grant, Netherlands 2011-2015, €675,000 (\$945,000) Role: Co-Investigator

Mindfulness Based Relapse Prevention and Brain Stimulation as an Intervention for Nicotine Dependence Katie Witkiewitz, PI 01/01/14-01/01/15, \$3000 Grice Foundation Role: Co-Investigator

Transcranial Direct Current Stimulation For Cognitive Enhancement in FASD, F31AA022851. Brian Coffman, PI 12/1/13-11/30/14, \$29,963 NIAAA, NIH Role: Mentor

Effects of transcranial stimulation on functional connectivity and cognitive performance using nonlinear analysis techniques, DGE-0903444 Michael Hunter, PI NSF Graduate Fellowship 06/01/2013-5/31/2016, \$132,000 Role: Mentor

Effects of Orthotics on Brain Function Vincent P. Clark, PI National Spasmodic Torticollis Association 2010-2014, \$23,000 Role: Principal Investigator

Socio-Moral Processing in Psychopathy and Substance Abuse, R01DA026505 Kent Kiehl, PI NIDA, NIH 2009-2014, \$3,808,796 Role: Co-Investigator

The Cognitive Neuroscience of Female Psychopathy. R01MH085010 Kent Kiehl, PI NIMH, NIH 2009-2014, \$3,916,112 Role: Co-Investigator

Therapeutic Actions of Oral Orthotics Vincent P. Clark, PI Grice Foundation 2012-2013, \$3,000 Role: Principal Investigator

Alcohol Research Training in Neurosciences, T32AA014127 C. Fernando Valenzuela, PI NIAAA, NIH 2012-2014, \$1,043,896 Role: Mentor for Brian A. Coffman.

Neural Mechanisms of Schizophrenia: Use of Multiple Neuroimaging Tools to Examine Dysfunctions in Neural Integration (COBRE Phase I), P20RR021938 John Lauriello and Vince Calhoun, PIs NCRR, NIH 2009-2013, \$11,640,511 Role: Mentor

Clinical Neuroscience Core Renovation for Psychology at University of New Mexico, G20RR030839 Jane Smith, PI NCRR, NIH 2010-2015, \$4,964,723 Role: Center Director

Brain Stimulation to Accelerate Learning of Threat Detection, Phase II. Vincent P. Clark and Mike Weisend, PIs DARPA, DOD 2009-2011 \$3,804,403 Role: Principal Investigator

Mind Research Network John Rasure, PI DOE 2008-2009, \$11,400,000 Role: Scientific Director

Brain Stimulation to Accelerate Learning of Threat Detection, Phase I, NBCHC070103 Vincent P. Clark, PI DARPA, DOD 2007-2009, \$1,999,692 Role: Principal Investigator

Mind Research Network. John Rasure, PI DOE 2007-2008, \$7,000,000 Role: Scientific Director

Multimodal Imaging of the Sensory Gating Deficit in Chronic Cocaine Abusers, R03DA022435 Andrew Mayer, PI NIDA, NIH 2007-2008, \$252,953 Role: Co-Investigator

Brain and Behavioral Impairment in Alcohol Dependence and Schizophrenia, K23AA016544 Robert Thoma, PI NIAAA, NIH 2006-2011, \$556,944 Role: Mentor

The Functional Role of Frontopolar Cortex: Dynamics of Frontopolar Recruitment James Kroger, PI, New Mexico State University, Las Cruces, NM. NIGMS, NIH. 2006-2008, \$320,352. Role: Consultant

fMRI Analysis of the Decision Making Processes of Human Subjects Vincent P. Clark, PI Sandia National Laboratories, LDRD Program. 2006, \$63,957 Role: Principal Investigator

The Effects of Angry and Fearful Emotion States on Decision-Making. Vincent P. Clark, PI Sandia National Laboratories, LDRD Program 2006, \$85,767 Role: Principal Investigator

Bayesian Analysis of Neural-Behavioral Interactions in Mental Illness, R01MH076282 Terran Lane, PI CRCNS, NIMH, NIH 2005-2008, \$1,012,500, Role: Co-Investigator

Neural Function in Cocaine Dependence and Relapse. Subproject 8353 in University of 5M01RR000997, New Mexico - General Clinical Research Center Vincent P. Clark, PI NCRR, NIH 2005-2007, \$169,305 Role: Principal Investigator fMRI Imaging of Learning Strategies, Sub-project in Individual Differences in Learning SBE 0350360 Vincent P. Clark and Mark McDaniel, co-PIs NSF 10/1/2003-1/31/2007, \$275,000 Role: Principal Investigator

Interactive Real-time fMRI at High Fields with Automatic Classification of Activation Patterns, R01EB002618 Stefan Posse, PI NIBIB, NIH 2003-2006, \$1,077,563 Role: Co-Investigator

Neural Function in Cocaine Dependence and Relapse, R01 DA012852 Vincent Clark, PI NIDA, NIH 9/30/2001-6/30/2007, \$1,425,000 Role: Principal Investigator

Event-Related Functional MRI of Adult ADHD Leighton Huey, PI Donaghue Medical Research Foundation 2002, \$57,949. Role: Co-Investigator

Functional MRI of Attention and Working Memory in Normal Aging and Alzheimer's Disease Brett Steinberg, PI 2001, \$100,000 UConn Research Foundation Role: Co-Investigator

FMRI of Prefrontal Cortex Function in Pathological Gamblers Vincent P. Clark, PI National Center for Responsible Gaming 2000-2004, \$172,056 Role: Principal Investigator

FMRI Responses to the Oddball Task and Risk Factors for Alcoholism Vincent P. Clark, PI UConn Alcohol Research Center and UConn General Clinical Research Center 1999-2002, \$60,000 Role: Principal Investigator

Neural Mechanisms of Attention Vincent P. Clark, PI Research Initiation and Support Enhancement Award University of Connecticut 1998-1999 \$120,000 Role: Principal Investigator

TEACHING

Classroom Teaching:

2023, Fall; Psychology 2250, Brain and Behavior

2023, Spring; Psychology 2250, Brain and Behavior 2022, Winter Intersession; Psychology 2250, Brain and Behavior 2022, Fall; Psychology 2250, Brain and Behavior 2022, Summer Intersession; Psychology 2250, Brain and Behavior 2022, Spring; Psychology 2250, Brain and Behavior 2021, Winter Intersession; Psychology 2250, Brain and Behavior 2021, Fall; Psychology 2250, Brain and Behavior 2021, Summer; Psychology 2250, Brain and Behavior 2021, Spring; Psychology 2250, Brain and Behavior 2020, Fall; Psychology 2250, Brain and Behavior 2020, Summer Intersession; Psychology 2250, Brain and Behavior 2020, Spring; Psychology 2250, Brain and Behavior 2018, Winter Intersession; Psychology 2250, Brain and Behavior 2019, Fall; Psychology 2250, Brain and Behavior 2019, Summer Intersession; Psychology 240, Brain and Behavior 2018, Winter Intersession; Psychology 240, Brain and Behavior 2018, Fall; Psychology 240, Brain and Behavior 2018, Summer Session; Psychology 240, Brain and Behavior 2017, Winter Intersession; Psychology 240, Brain and Behavior 2017, Fall; Psychology 641, Seminar in Cognition, Brain and Behavior 2017, Summer, Psychology 240, Brain and Behavior 2017, Spring, Psychology 240, Brain and Behavior 2016, Winter Intersession, Psychology 240, Brain and Behavior 2016, Summer, Psychology 240, Brain and Behavior 2015, Winter Intersession, Psychology 240, Brain and Behavior 2015, Summer, Psychology 240, Brain and Behavior 2015, Spring, Psychology 240, Brain and Behavior 2014, Winter Intersession, Psychology 240, Brain and Behavior 2014, Fall, Psychology 240, Brain and Behavior 2014, Spring, Psychology 240, Brain and Behavior 2013, Fall; Psychology 450/650L, Introduction to EEG Lab (new prep) 2013, Spring; Psychology 450/650, Clinical Neuroimaging 2012, Fall; Psychology 450/650, Introduction to the Clinical Neuroscience Center Laboratory (new prep) 2012, Fall; Psychology 450/650, EEG and MEG Analysis Laboratory, 1 Lecture 2011, Fall and 2012 Spring; Sabbatical 2011, Spring; Psychology 650, Advanced Topics in Neuroimaging 2011, Spring; CS 491/591 and ECE 595, Cognitive and Computational Neuroscience, 1 Lecture 2010, Fall; Psychology 641, Seminar in Cognition, Brain and Behavior 2010, Fall; Psych 391: Junior Honors Seminar, 1 Lecture 2010, Fall; ECE595: Cognitive Radios and Cognitive Radio Networks, 1 Lecture 2010, Spring; Psychology 650, Introduction to Functional Neuroimaging (new prep) 2009, Fall; Psychology 641, Seminar in Cognition, Brain and Behavior 2008, Fall; Psychology 641, Seminar in Cognition, Brain and Behavior 2008, Spring; Masters of Science in Clinical/Translational Research (MSCR), Current and Emerging Technology; 1 lecture. 2007, Fall; Psychology 641, Seminar in Cognition, Brain and Behavior 2006, Spring; CS595, Learning from Cognitive, Computation, and Neuroscience, 1 Lecture 2005, Fall; Psychology 240, Brain and Behavior Psychology 450/650 Sec 5, Clinical Neuroimaging (new prep) 2005, Spring; Psychology 240, Brain and Behavior 2004, Fall; Psychology 450/650 Sec 5, Magnetic Resonance Imaging and Spectroscopy: From Methods to Functional Brain Imaging (new prep) 2004, Fall; Psychology Research Seminar, 1 Lecture

- 2004, Summer; Pre-medical Summer School Lecture Series, UNMHSC Medical School, 1 lecture.
- 2004, Spring; Psychology 240, Brain and Behavior (new prep)
- 2003, Fall; Psychology 650, Applications of Functional Neuroimaging (new prep)

- 2003, Fall; Psychology 505, Research Seminar, 1 Lecture
- 2003, Spring; Psychology 450/650, Functional Neuroimaging (new prep)
- 2002, Seminar on fMRI and EEG Data Acquisition and Analysis Techniques (new prep)
- 2002, Psychiatry Post-Graduate Year III lectures (2 lectures)
- 2002, Psychiatry Post-Graduate Year IV lectures (2 lectures)
- 2002, Systems Neuroscience (Meds 371; 1 session)
- 2001, Seminars on fMRI Data Acquisition and Analysis Techniques (6 sessions)
- 2001, Psychiatry Post-Graduate Year I (1 lecture)
- 2001, Neuroimaging Immersion (5 hours / week, 1 student)
- 2001, Neuroimaging in Mood Disorders (1 lecture)
- 2001, Psychiatry Post-Graduate Year II (1 lecture)
- 2001, Psychiatry Post-Graduate Year III (2 lectures)
- 2001, Psychiatry Medical Students Year III Didactic Series (5 lectures)
- 2000, Seminars on fMRI Data Acquisition and Analysis Techniques (6 lectures)
- 2000, Laboratory Rotation, 1 semester (Meds 496)
- 2000, Psychiatry Medical Students Year III Didactic Series (5 sessions)
- 2000, Systems Neuroscience (Meds 371)
- 1999, Seminars on fMRI Data Acquisition and Analysis Techniques (6 lectures)
- 1999, Director: Neuroscience 375, Current Topics in Human Brain Imaging
- 1999, Laboratory Rotation, 2 semesters (Meds 496)
- 1999, Physiological Digital Imaging (Meds 306), 1 lecture
- 1999, Neuroscience Seminars (Psych 358), UConn Storrs
- 1998, Initiated weekly fMRI Journal Club Seminars
- 1998, Seminar on Alcohol Research, Alcohol Research Center (1 lecture)
- 1998, Neurosciences Journal Club Seminars (2 lectures)
- 1998, Auditory Journal Club Seminar (1 lecture)
- 1998, Seminars on fMRI Data Acquisition and Analysis Techniques (12)
- 1998, Laboratory Rotation, 1 semester (Meds 496)
- 1998, Independent Study Course, 1 semester (Meds 495)
- 1998, Systems Neuroscience, 1 lecture (Meds 371)
- 1998, Research Seminar in Biopsychology, 1 lecture (Psych 356), UConn Storrs
- 1997, Human Brain Mapping, Foundation for Advanced Education in the Sciences, NIH
- 1996, Experimental Design for the Integration of fMRI and EEG data. FMRI Visiting Fellowship Program, MGH NMR Center, Charleston, MA. (1 invited lecture)
- 1996, Biological Basis of Behavior, Psychology 304; Department of Psychology, Catholic University
- 1990, Human Nutrition, Biology 22. Teaching Assistant.

Post-Doctoral Advisement:

Jay Sanguinetti, PhD, 2016-2020. Currently Assistant Professor, University of Arizona.

Bashar Badran, PhD, 2017-2018. Currently Assistant Professor of Psychiatry, Medical University of South Carolina. Natalie Bryant, PhD, 2016-2018. Owner, Dream Coach.

Gregory Lieberman, PhD, 2013-2015. Currently U.S. Army Research Laboratory Staff Scientist and visiting scholar, University of Pennsylvania.

Robert E. Anderson, PhD, 2004-2007. Deceased.

Doctoral Advisement:

Current:

Hector Valverde, B.S., 2021-Present.

Bradley Robert, 2017-Present. MS Thesis Title: "Closed-Loop Transcranial Alternating Current Stimulation Targeting Slow Wave Oscillations Modulates Post-Sleep Encoding", defended 2020.

- Benjamin Gibson, M.S. 2017, Thesis Title: "Understanding the Learning Benefits Associated with Transcranial Direct Current Simulation of the Right Ventrolateral Prefrontal Cortex", defended 2019. PhD Thesis: "Effects of Transcranial Direct Current Stimulation (tDCS) on Category Learning in Older Adults", Defended May, 2023. Currently at Charles River Analytics.
- Aaron Jones, PhD. M.S., 2013-2021, Thesis Title: "Contribution of Far Field Effects of Cortical tDCS in the Cerebellum to Learning in an Object Detection Paradigm", 2015. Comprehensive examination 2016: "Memory Consolidation and Recall during Wake and Sleep in Humans: Using Non-Invasive Brain Stimulation to Augment Sleep Architecture and Memory Processes to Improve Cognitive Performance." Dissertation "Effects of Closed-Loop Transcranial Alternating Current Stimulation (CL-tACS) on Sleep-Dependent Memory Consolidation," July, 2021. Currently Research Scientist, Sandia National Laboratories.
- Michael Trumbo, PhD, 2009-2016. Awarded Arts and Sciences Merit-Based Graduate Fellowship, 2009-2012. 2011, MS Thesis Title: Investigating the Effects of TDCS on Attentional Processes. Comprehensive examination 2012. PhD Title: Using Brain Stimulation to Enhance Working Memory: A Charged Topic, July 2016. Currently Research Scientist, Sandia National Laboratories.
- Michael Hunter, PhD, 2011-2016. Awarded Ford Foundation Graduate Fellowship, 2012, and National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellowship, 2013. MS Thesis Title: Large-scale intrinsic functional connectivity and attention in schizophrenia, 2013. Comprehensive examination 2015. PhD (with distinction) Title: Expanding Your Cognitive Capacity: An Assessment of the Neuroplastic Changes Associated with Mindfulness Training with Transcranial Stimulation, February 2016. Currently Staff Scientist, Quasar USA, San Diego, CA.
- Brian Coffman, PhD, 2009-2014. MS Thesis Title: Investigation of the Context Dependent Learning Effects of TDCS using mock MRI. MS awarded (with distinction). Comprehensive examination 2012 (with distinction). PhD (with distinction) Title: Increasing Your Brain Potential: Transcranial Direct Current Stimulation for Enhancement of Behavior and Event-Related Potentials in Tests Of Attention and Impulsivity. Recipient, 2014 Benjamin Franklin Haught Memorial Research Lecture Award, "Taking Control of Cognitive Control with Brain Stimulation". Recipient, Best Poster Award, NYC Neuromodulation Conference, 2013. Currently Research Instructor, Department of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA (PI: Dean Salisbury).
- Nariman Arfai, PhD; Defended 2010; Dissertation Title: Effect of the Rerouting Rostral Migratory Stream on Recovery of Cognitive Function after Medial Frontal Aspiration in Rat. Currently, Instructor, Dept. Communication Humanities & Soc Sci, CNM.
- Gregory Beatty, MS; Defended MS 2008; MS Thesis Title: Response Time Variability, Functional Magnetic Resonance Imaging Signal Changes, and Event-Related Potential Amplitudes During Cognitive Interference in Stimulant Dependence.
- Leonard Leyba, MD, PhD; Defended PhD in Neurosciences 2007; Dissertation Title: Cigarette Smoking and fMRI. Currently, Pathologist.
- Rebecca England-Amariglio, PhD, 2005, MS Thesis Title: How Do Personality Traits Mediate Emotional Processing in an Abstinent Stimulant Addicted Sample? An fMRI Study. Currently, Associate Psychologist, Brigham and Women's Hospital and Professor of Neurology, Harvard Medical School.
- Joseph Audie, MS in Biomedical Engineering, University of Connecticut, 6/2001, MS Dissertation Chair. Currently Chair, Chemistry & Physics, Sacred Heart University.
- Elaine Goff, MS, 2000, MS Thesis Title: fMRI of Face Attention and Perception.

Other Advisement:

- Mike Maurer, PhD 2019. Graduate Program in Psychology, Division of Cognitive Neuroimaging. Comprehensive examination committee, 2018. Dissertation Committee, 2018-2019. (Title: Identifying Error-Related Processing, Response Inhibition, and Structural Integrity Deficits Associated with Youth with Elevated Psychopathic Traits and Predictive of Future Recidivism)
- Jon Kevin Wilson, MS 2018. Graduate Program in Psychology, Division of Cognitive Neuroimaging. MS Thesis committee. (Thesis title: Using Transcranial Direct Current Stimulation to Enhance Spelling Ability.)
- Charles Samuel Robinson, MS. Graduate Program in Psychology, Cognition Brain and Behavior. Comprehensive examination committee, 2016-2017. Dissertation Committee, 2017-2018 (Title: Neural and Behavioral Associations of Drinking and Empathic Processing).

Vincent P. Clark, Ph.D. Page 34

- Elizabeth McCallion, PhD, Graduate Program in Psychology, Clinical, Dissertation Committee 2016-2017 (Title: Mindfulness-Based Stress Reduction and Transcranial Direct Current Stimulation as an Intervention for Chronic Pain Management).
- Jacki Janowich, MS Graduate Program in Psychology, Division of Cognitive Neuroimaging. MS Thesis Committee 2015-2016. (Thesis Title: Distinct Neuro-Cognitive Instantiations of Proactive and Reactive Control: A Double-Dissociation in EEG). Comprehensive Exam Committee 2016 (Title: Investigating timing and oscillatory mechanisms of large-scale network switching). Dissertation Committee 2017-2018 (Title: Instantiating Cognitive Control Over Different Time-Scales: To Switch or Remember?)
- John Pinner, MS, Graduate Program in Psychology, Division of Cognitive Neuroimaging. MS Thesis Committee 2014-2015 (Thesis Title: Using Electroencephalography to Assess Risky Behavior in Varying Levels of Conflict).
- Hao He, MS. Graduate Program in Computer Science. Dissertation Committee 2014-2016. (Dissertation Title: Searching Neuroimaging Biomarkers in Mental Disorders with Graph and Multimodal Fusion Analysis of Functional Connectivity).
- Samantha Fede, MS, Graduate Program in Psychology, Division of Cognitive Neuroimaging. MS Thesis Committee 2013-2015. (Thesis Title: Examining the Neural Basis of Moral Decision Making in Incarcerated Adult Males: A Functional Magnetic Resonance Imaging Study). Comprehensive Exam Committee 2015 (Title: Neuroimaging the Moral Brain: A Review of Neuroimaging Literature and a Meta-Analysis of the Specific Results of fMRI Moral Tasks using Multilevel Kernel Density Analysis and Activation Likelihood Estimation). Dissertation Committee 2015-2017.
- Eduardo Castro, PhD, Graduate Program in Computer Engineering. PhD Dissertation Committee 2013. (Dissertation Title: Application of Multiple Kernel Learning on Brain Imaging for Mental Illness Characterization).
- Danielle Rudder, MS. Graduate Program in Psychology, Division of Cognitive Neuroimaging. MS Thesis Committee 2011-2013. (Thesis Title: Transcranial Direct Current Stimulation for the Reduction of Alcohol Craving).
- Zhen Yang, PhD, Graduate Program in Psychology, Division of Behavioral Neuroscience, Comprehensive Examination Committee 2009-2010; PhD Dissertation Committee 2010-2012. (Dissertation Title: A fMRI Study of Auditory Orienting and Inhibition of Return in Pediatric Mild Traumatic Brain Injury.) Currently: Research Scientist, Nathan Kline Institute, NY.
- David Stone, Ph.D., Graduate Program in Psychology, Division of Cognitive Neuroscience, Comprehensive Examination Committee, 2011. PhD Dissertation Committee, 2011-2012. (Dissertation Title: Topological Dynamics of STDP-Driven Networks of Model Neurons).
- Lai Xu, Ph.D., Graduate Program in Electrical and Computer Engineering, PhD Dissertation Committee member, 2010-2011 (Dissertation Title: Independent Component Analysis for Structural Magnetic Resonance Imaging).
- Michelle Juárez, Ph.D., Graduate Program in Electrical and Computer Engineering, MS Thesis Committee 2010-2011, (MS Thesis Title: On The Use of Independent Component Analysis & Functional Network Connectivity Analysis: Evaluation on Two Distinct Large-Scale Psychopathology Studies).
- Per Lysne, Ph.D., MS Thesis Committee, 2008-2009. (MS Thesis Title: An MEG Investigation of the Differential Responsivity of the Human Calcarine Fissure and Fusiform Gyrus to the Emotion of Viewed Faces).
- Jon Houck, Ph.D., Graduate Program in Psychology, M.S. Committee, 2004-2006. (MS Thesis Title: Cerebellar Activation in a Mental Rotation Task). Currently Research Assistant Professor, CASAA.
- Paul Lesnik, PhD, Graduate Program in Psychology, PhD Dissertation Committee Member 2005-2007. (Dissertation Title: A Developmental Event-Related fMRI Study of Inhibition using a Go/No-Go Task.) Currently Adjunct Lecturer III, UNM.
- Masato Nakazawa, Ph.D. Graduate Program in Psychology, MS. Committee Member 2004-2006. Currently Senior Statistician, UCSD School of Medicine
- Katherine Akers, Ph.D. Graduate Program in Psychology, Division of Behavioral Neuroscience. 2003-2005. MS committee. (Currently Biomedical Research/Research Data Specialist, Wayne State University).
- Joel Bish, Ph.D. 2003 Graduate Program in Psychology, Division of Cognitive Neuroscience. Dissertation committee. Currently Associate Professor, Dept. Psychology, Ursinus College.
- Tim Martin, Ph.D. 2003-2005. Graduate Program in Psychology, Division of Cognitive Neuroscience. (Dissertation committee member). Currently Associate Professor, Dept. Psychology, Kennesaw State University.
- Jennifer Jones, M.S. 2004 Graduate Program in Psychology, Division of Behavioral Neuroscience. Comprehensive examination committee.
- Bethany Reeb, PhD. 2003-2005. Graduate Program in Psychology, Division of Behavioral Neuroscience. Comprehensive examination committee. (Currently Assistant Professor, Dept. Psychology, Florida International University).

- Eric M Jackson, Graduate Program in Psychology, Division of Cognitive Neuroscience, 2004-2006 (MS Committee Member, Title: Cerebellar Activation During Encoding for Object and Spatial Working Memory Tasks). Currently Instructor, UNM.
- John Burge, Ph.D., Graduate Program in Computer Science 2004-2007 (Dissertation Committee Member, Dissertation Title: Learning Bayesian Networks From Hierarchically Related Data with a Neuroimaging Application) Currently Software Engineer, Google Corporation).
- Sanja Kovacevic, PhD, Graduate Program in Neuroscience, 2002-2006 (Dissertation Committee Member, Thesis Title: Multimodal Imaging of Visual Feature Integration). Currently Post-doc in Department of Radiology at UC San Diego.
- Michael Stevens, Ph.D., Post-Doc, 2000-2002, Alcohol Research Center Training Grant, Communications Disorders Training Grant, UCHC. Currently Adjunct Professor of Psychiatry, Yale University; Director, Clinical Neuroscience and Development Laboratory at Olin Neuropsychiatry Research Center; Director, Child & Adolescent Research, The Institute of Living.
- Jennie Wakefield, Ph.D., Post-Doc, 1999-2002, Communications Disorders Training Grant, UCHC (Currently Statistician for CSS Dynamac / US EPA)
- Elizabeth Chua, B.S. in Psychology with Honors, Trinity College, 5/2001. (Currently Associate Professor, Department of Psychology at Brooklyn College, City University of New York)
- Erik Anderson, B.S. in Psychology with Honors, Trinity College, 5/2000.
- Sean Fannon, B.S. in Psychology, Catholic University, 5/1997. (Currently Professor of Psychology, Folsom College, CA).

Post-Graduate Student Mentoring:

Olivia O'Keeffe, 2022-Present. Post-Baccalaureate Research and Education Program (PREP@UNM).

Bachelor's Honors Advisement:

Sidney Crowley, 2022-Present. Honors in Psychology Program.

Grace Haller, 2021-2022. Honors in Psychology Program.

- Jacob Spinks, 2018-2020. Honors in Psychology Program. "Choice Blindness, Mindfulness and Meditation" Rachel Dowler Outstanding Student Award, 2020. Graduated Summa Cum Laude.
- Leslie Bauchman, 2018-2020. Honors in Psychology Program "tDCS-mediated Working Memory Training to Improve Delay Discounting". Graduated Magna Cum Laude.
- Gabe Hicks, 2017-2018. Honors in Psychology Program. "Photobiomodulation in Healthy Individuals". Graduated Summa Cum Laude
- Hector Patricio Valverde, 2016-2018. Honors in Psychology Program. "Transcranial Direct-Current Stimulation Over Broca's Area to Enhance Spelling Ability". Graduated Summa Cum Laude

Jon Kevin Wilson, 2013-2014. Honors in Psychology conferred 2014. Title: "Using Transcranial Direct Current Stimulation to Enhance Spelling Ability." Graduated Magna Cum Laude.

Undergraduate Student Mentoring:

- Gabriella Atencio, 2020-2021. Arts & Sciences Support for Undergraduate Research Experience (ASSURE) fellowship award winner.
- Denicia Aragon, 2018-2020. Ronald E. McNair Post-Baccalaureate Achievement & Research Opportunity Program.
- Mikaela Lea Armenta, 2014-2016. Ronald E. McNair Post-Baccalaureate Achievement & Research Opportunity Program.
- Ashley Racheal Wegele, 2011-2014. Ronald E. McNair Post-Baccalaureate Achievement & Research Opportunity Program.

Jason Long, B.S., 2008-2011, Ronald E. McNair Post-Baccalaureate Achievement & Research Opportunity Program.

Curriculum Development or Teaching Administrative Positions:

Area Head, Graduate Program in Cognition Brain and Behavior; 2006-2011.

SERVICE

 2022-Present Associate Editor, Frontiers in Human Neuroscience 2022 Ad-hoc Editor, <i>Proceedings of the National Academy of Science (PNAS)</i> 2021-Present UNM Computational Science and Engineering Advisory Board member. 2021-Present Handling Editor, <i>Brain Sciences</i> 2020-Present DSMB member, UNM IRB #20-623, "Noninvasive modulation of motivational brain regions in healthy volunteers." Dr. Jeremy Hogeveen, PI. 2020-Present Internal Advisory Board member, P50AA022534, "New Mexico Alcohol Research Center", Dan Savage, PI. <u>https://hsc.unm.edu/nmarc/</u> 2020-Present Internal Advisory Board member, P20GM109089, "University of New Mexico (UNM) Center for Brain Recovery and Repair", Bill Shuttleworth, PI. <u>https://hsc.unm.edu/research/centers-programs/bbhi/</u> 2020-Present DSMB member, AG068167, "Non-Invasive Home Neurostimulation for Mild to Moderate Alzheimer's Disease: Double-Blind, Sham Controlled Randomized Clinical Trial", J. Verghese and H. Knotkova, PIs, <u>https://clinicaltrials.gov/ct2/history/NCT04404153</u>
 Ad-hoc Editor, <i>Proceedings of the National Academy of Science (PNAS)</i> 2021-Present UNM Computational Science and Engineering Advisory Board member. Handling Editor, <i>Brain Sciences</i> 2020-Present DSMB member, UNM IRB #20-623, "Noninvasive modulation of motivational brain regions in healthy volunteers." Dr. Jeremy Hogeveen, PI. 2020-Present Internal Advisory Board member, P50AA022534, "New Mexico Alcohol Research Center", Dan Savage, PI. <u>https://hsc.unm.edu/nmarc/</u> 2020-Present Internal Advisory Board member, P20GM109089, "University of New Mexico (UNM) Center for Brain Recovery and Repair", Bill Shuttleworth, PI. <u>https://hsc.unm.edu/research/centers-programs/bbhi/</u> 2020-Present DSMB member, AG068167, "Non-Invasive Home Neurostimulation for Mild to Moderate Alzheimer's Disease: Double-Blind, Sham Controlled Randomized Clinical Trial", J. Verghese and H. Knotkova, PIs, <u>https://clinicaltrials.gov/ct2/history/NCT04404153</u>
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1 15, <u>mpsounteantais.govet2/mistory/1(010/10/100</u>
2020-Present Handling Editor Aperture Neuro
Handling editor for a new journal specializing in neuroimaging, created by the Organization for
Human Brain Mapping.
https://www.humanbrainmapping.org/i4a/pages/index.cfm?pageid=4064
2020-Present Scientific Advisory Board Member, NeuroGeneces, Santa Fe, NM.
2019-Present Advisory Board Member, DRL-1920653, NSF "Measuring and Enhancing Scientific Creative Thinking
for STEM Education and Research: Classroom-Aligned Assessment and Network Neuroscience-
Based Mechanisms" Georgetown University.
https://www.nsf.gov/awardsearch/showAward?AWD_ID=1920682
2019 Ad-hoc Editor, Proceedings of the National Academy of Science (PNAS)
2013-Present Editorial Board Member, Brain Stimulation
https://www.journals.elsevier.com/brain-stimulation/editorial-board
2012-2014 Clark, V.P., Parasuraman, R., Guest Editors, special issue. "Neuroenhancement: Enhancing brain and
mind in health and in disease." NeuroImage, 85(3).
Leaders in the field of brain stimulation and related neuroenhancement techniques contributed to this
peer-reviewed special issue of <i>NeuroImage</i> .
2011-2013 Cooper, M.S., Clark, V.P., Chang, L., Guest Editors, special issue. "Imaging Neuroinflammation and
Neuropathic Pain." Journal of NeuroImmune Pharmacology, 8(3), 2013.
Selected speakers from our October 2011 meeting, Imaging Neuroinflammation and Neuropathic Pain,
contributed to this peer-reviewed special issue.
2010-2014 Handling Editor, <i>NeuroImage</i>
One of 15 handling editors for one of the most highly cited journals specializing in neuroimaging.
Identified reviewers and made decisions on over 300 manuscripts.
2009 Pietrini, P., Bookheimer, S. and Clark, V.P., Editors. Proceedings, Organization for Human Brain
Mapping 15th Annual Meeting (Barcelona). NeuroImage, 47(81). Co-Organized and co-edited
program book for OHBM meeting.
2002-Present Editorial Board Member, Human Brain Mapping
Reviewing for national and international organizations
2023 Promotion and tenure review, Chinese University of Hong Kong.
2022 Italian Science Fund, Italian Ministry for Universities and Research (MUR), ad-hoc reviewer.
2022 Promotion and tenure review, Boston University.
2022 United Kingdom Research and Innovation, Biotechnology and Biological Sciences Research Council (UKRI-BBSRC), ad-hoc reviewer.
2021 Faculty Early Career Development Program (CAREER), National Science Foundation, ad hoc
reviewer.
2021 Promotion and tenure review, City College of New York.
2021 Integrative Strategies for Understanding Neural and Cognitive Systems (NCS), National Science Foundation, Special ad-hoc reviewer
2021 NWO Talent Programme, Dutch Research Council (NWO), ad-hoc reviewer.

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2020	Promotional review, N FU School of Medicine.
2019	BioTechMed-Graz Flagship Projects, Austria, ad-hoc reviewer.
2019	Medical Research Council, UK Research and Innovation, ad-hoc reviewer.
2019	French National Research Agency (ANR), Panel CE37 - Neurosciences intégratives et cognitives, ad-
	hoc reviewer
2018	Leverbulme Trust ad-hoc reviewer
2010	Swigs National Science Foundation Dialogy and Medicine (Division III) ad hear aviewer
2017	Swiss National Science Foundation, Biology and Medicine (Division III), ad-not reviewer
2016	Neuromodulation - New Tools and Techniques for Spatiotemporal Precision (R01 Applications)
2014	Brain and Cognitive Science, Cogneuro, National Science Foundation, ad-noc reviewer
2012	Biomedical Research Council (BMRC), Agency for Science, Technology and Research, Singapore, ad-
	hoc reviewer
2011	Medical Research Council, Great Britain, ad-hoc reviewer
2011	Netherlands Organization for Scientific Research, ad-hoc reviewer
2008	Wise Reviewer Canadian Foundation for Innovation
Oct and	wise Reviewer, Canadian Foundation for innovation
	Intermetional and Commentione Duringte (ICD1) Study Section for Economy Intermetional Decomple
July 2008	International and Cooperative Projects (ICP1) Study Section for Fogarty International Research
	Collaboration Award in Basic Biomedical Science, NIH.
June 2007	Special Emphasis Panel ZDA1 KXN-G 05, NIDA, NIH
Oct 2006	International and Cooperative Projects (ICP1) Study Section for Fogarty International Research
	Collaboration Award in Basic Biomedical Science, NIH.
June 2005	RFA 05-006 Study Section ZDA1 MXS-M (31) NIDA NIH
June 2003	RPHB-B Special Emphasis Panel Study Section NIH
Oat 2000 and	KI IID-D Special Emphasis I and Study Section, MIT
Oct 2000 and	
May 2001	NSD-A Study Section, NINDS, NIH
2000-2012	Psychology/Neuroscience Study Section, Canadian Foundation for Innovation
Administrative	work with professional societies, elected offices held
2020	Awards Committee Member, NYC Neuromodulation Meeting 2020.
2019	
2017	Ncientific Advisory Roard Member 13th II ME International Conference on Complex Medical
	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2010) Dortmund Cormony
2012 2015	Engineering (CME 2019), Dortmund, Germany
2012-2015	Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association
2012-2015 2005-2010 and	Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association
2012-2015 2005-2010 and 2012-2015	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping
2012-2015 2005-2010 and 2012-2015 2007-2010	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize
2012-2015 2005-2010 and 2012-2015 2007-2010	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona.
2012-2015 2005-2010 and 2012-2015 2007-2010	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona.
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2012-2015 2005-2010 and 2012-2015 2007-2010 <u>Current adminis</u> 2023	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board
2012-2015 2005-2010 and 2012-2015 2007-2010 <u>Current adminis</u> 2023 2021-Present 2021-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present 2021-Present 2019-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present 2021-Present 2019-Present 2019-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee Member, Faculty/Student Idea Exchange Committee
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present 2021-Present 2019-Present 2019-Present 2019-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee Member, Faculty/Student Idea Exchange Committee Member, Computer/Web Committee
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present 2021-Present 2019-Present 2019-Present 2019-Present 2019-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee Member, Faculty/Student Idea Exchange Committee Member, Computer/Web Committee Member, Steering Committee. New Mexico Alcohol Research Center
2012-2015 2005-2010 and 2012-2015 2007-2010 Current admini- 2023 2021-Present 2021-Present 2019-Present 2019-Present 2019-Present 2019-Present 2019-Present 2019-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee Member, Faculty/Student Idea Exchange Committee Member, Steering Committee, New Mexico Alcohol Research Center Member, Steering Committee, New Mexico Alcohol Research Center Member, Policy & Planning Committee, UNM Psychology
2012-2015 2005-2010 and 2012-2015 2007-2010 Current adminis 2023 2021-Present 2019-Present 2019-Present 2019-Present 2019-Present 2019-Present 2019-Present 2006-Present 2006-Present	Scientific Advisory Board Member, 13th ICME International Conference on Complex Medical Engineering (CME 2019), Dortmund, Germany Scientific Advisory Committee Member, Reflex Sympathetic Dystrophy Syndrome Association Program Committee Member, Organization for Human Brain Mapping Education Chair, Organization for Human Brain Mapping. Elected by peers to help design and organize OHBM Education Day courses in Melbourne, San Francisco and Barcelona. <u>strative work in Department, College, University committees</u> Consulting pre-review for promotion to Full Professor, Dept. Speech and Hearing, UNM Member, CARC CSE Advisory Board Member, Performance Review Committee, UNM Psychology Member, Grant Mentoring Committee Member, Faculty/Student Idea Exchange Committee Member, Steering Committee, New Mexico Alcohol Research Center Member, Policy & Planning Committee, UNM Psychology Eaculty Member, Concentration in Pedaviared Neuroscience, UNM Psychology
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2016	Member, Salary Committee (elected by faculty), UNM Psychology
2012-2014	Chair, EU (Online) Money Committee, Psychology, UNM
2006-2014	Member, Conflict of Interest Committee-D, UNM
2012-2013	Chair, Junior Tenure and Promotion Committee, College of Arts and Sciences, UNM
2010-2011	Member, Junior Tenure and Promotion Committee, College of Arts and Sciences, UNM
2010-2011	Chair, Computer/Web Committee, UNM Psychology
2009-2011	Member, Grant Writing & Mentoring, UNM Psychology
2007-2009	Chair, DOE Internal Awards Progress Review, MRN
2007	Member, Salary Committee (elected by faculty), UNM Psychology
2006-2011	Area Head, Cognition, Brain and Behavior, UNM Psychology,
2005	Member, Committee on Distinction, UNM Psychology
2003-2019	Member, Executive Committee for Publications, MIND Clinical Imaging Consortium
2003-2005	Member, Science of Learning Center Advisory Committee
2005	Member, T-32 Grant Proposal Advisory Committee, UNM
2004-2011	Member, Walker Award Committee, UNM Dept. Neuroscience
2004-2005	Chair, Cognitive Search Committee, UNM Psychology
2002-2010	Member, Awards Committee, UNM Psychology
2002-2010	Member, Honors Committee, UNM Psychology
2002-2006	Admissions, UNM Psychology
2002-2005	Member, Computer Usage Committee, UNM Psychology
2002-2005	Member, Domenici Hall Design Committee
2002-2004	Member, MEG Purchasing Committee, MIND Imaging Center
2002-2004	Member, Lead Physicist Search Committee, Mind Imaging Center
2002-2003	Chair, MRI Purchase Committee, Mind Imaging Center
2001-2002	Member, Medical Admissions, UCHC.
2000-2002	Member, Computer Users Advisory Committee, UCHC
1998	Chair, NS-D Neurosciences Chair Search Committee, UCHC
1997-2002	Co-Director, Program in Functional NeuroImaging, UCHC

Community service

2015	Lectures (2), How the brain works: Explore Academy High School.
2014	Advisor, National Consultative Ethics Committee, Paris, France.
2012	Presentations (2) to New Mexico Dystonia Support Group on new techniques for reducing dystonia
2010	Judge, Dennis Chavez Elementary School Science Fair
2010	Presentation on brain research to APS middle school students
2008-Present	Advisor, Science & Entertainment Exchange, National Academy of Sciences
2005-2009	Lectures on the brain to elementary school children, Sunset Mesa Elementary School.
2000	Lectures (2), Drugs and the brain: Mini Med School, UConn Health Center.
2000	Bulkeley High School Health Professions Center of Excellence Program

Other

Media Coverage

- Brown, R (2023). Study: New Mexicans Need More Sleep. *Public News Service*, Apr. 13. <u>https://www.publicnewsservice.org/2023-04-13/health/study-new-mexicans-need-more-sleep/a83947-1</u>
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- Sutherland, B. (2017). How to make soldiers' brains better at noticing threats, *The Economist*, July 27. <u>https://www.economist.com/news/science-and-technology/21725543-target-recognition-warfare-how-make-soldiers-brains-better-noticing</u>
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- Underwood, E. (2016). Cadaver study casts doubts on how zapping brain may boost mood, relieve pain. *Science*, April 20, DOI: 10.1126/science.aaf4149. <u>http://www.sciencemag.org/news/2016/04/cadaver-study-casts-doubts-how-zapping-brain-may-boost-mood-relieve-pain</u>
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Symposia Chaired and Organized

- Co-Chair (with Dr. Risto Illmoniemi, Aalto University), *Brain Stimulation and Imaging: BrainSTIM2020*. Alto University, Helsinki, Finland (in person), June 2-3, 2023.
- Co-Chair (with Dr. Risto Illmoniemi, Aalto University), Brain Stimulation and Imaging: BrainSTIM2020. Alto University, Helsinki, Finland (online), May 19-20, 2020.
- Co-Chair (with Dr. Franca Tecchio, Cattolica University Congress Center, Rome, Italy), Brain Stimulation and Imaging: BrainSTIM2019. Rome, June 7-8, 2019. Keynote Presenters: Charlotte Stagg, MD, Michael Nitsche, MD, PhD, Risto Ilmoniemi, PhD, Giacomo Koch, MD, PhD, Frank Padberg, MD. <u>http://brainstim-meeting.org</u>
- Co-Chair (with Dr. Annabel Chen, Nanyang Technological University Singapore), *Brain Stimulation and Imaging: BrainSTIM2018.* Singapore, June 15-16, 2018. Keynote Presenters: Peter Fox, Hartwig Siebner, Nicole Wenderoth, Hugues Duffau, Michael Nitsche, Sven Bestmann. <u>http://brainstim-meeting.org</u>
- Chair and Co-Organizer, *New Mexico Clinical Neurostimulation Conference*, Albuquerque, New Mexico, October 4-6, 2017. Presenters: Adam Woods, Bashar Badran, Bernadette Gillick, Claudia Tesche, Danny Wang, Davin Quinn, Eric Wassermann, Helena Knotkova, Jay Sanguinetti, Jessica Richardson, John George, Katie Witkiewitz, Michael Nitsche, Min-Fang Kuo, Roy Hamilton and Sarah Pirio Richardson. <u>https://hsc.unm.edu/research/research-centers/center-for-brain-recovery-and-repair/nm-clinical-neurostimulation-conference.html</u>
- Chair and Organizer, *Brain Stimulation and Imaging: BrainSTIM2017.* Vancouver, Canada, June 23-24, 2017. Presenters: Michael Nitsche, Marom Bikson, Andrea Antal, Charlotte Stagg, Christoph Michel, Lucas Parra, Alexander Opitz, Jay Sanguinetti and John George. <u>http://brainstim-meeting.org</u>
- Co-Chair (with Dr. Christoph Michel, University of Genenva), *Brain Stimulation and Imaging: BrainSTIM2016*. Geneva, Switzerland, June 24-25, 2016. Presenters: Sarah Hollingsworth Lisanby, Michael Fox, Peter Tass, Ashesh Mehta, Christoph Herrmann, Don Tucker, Pedro Cavaleiro Miranda and others. <u>http://brainstim-meeting.org</u>
- Co-Chair (with Dr. Linda Chang, University of Hawaii), *Brain Stimulation and Imaging: BrainSTIM2015*. Honolulu, HI, June 12-13, 2015. Presenters: Peter Fox, Peter Bandettini, Marom Bikson, Michael Nitsche and others. http://brainstim2015.org http://youtu.be/Nz5YEJDYCSc
- Chair, *Brain Stimulation: Past, Present and Future.* Half-day educational course, Organization for Human Brain Mapping, Hamburg, Germany, June 8, 2014. Presenters: Drs. Michael Nitsche, Alberto Priori, Bruce Luber, Antonio Strafella, Andrea Antal, Agnes Flöel, Charlotte Stagg, and Lucas Parra.
- Chair, *Brain Stimulation*. Non-concurrent symposium, Organization for Human Brain Mapping, Seattle, WA, June 17, 2013. Presenters: Drs. Michael Nitsche, Mark George, Heidi Johansen-Berg and Timothy Wagner.
- Co-Organizer and Chair, *Imaging Neuroinflammation and Neuropathic Pain*. Annual meeting, Reflex Sympathetic Dystrophy Syndrome Association, Tamaya Resort, Albuquerque, NM, October 13-15, 2011. Co-organizer with Dr. Mark Cooper, University of Washington, and Dr. Erin Milligan, Dept. Neuroscience, UNM. Presenters: James Giordano, Judith Kitzes, Joanna Katzman, Debra Nelson-Hogan, Richard Larson, Corey Ford, Linda Watkins, Mark Cooper, David Borsook, Karen Davis, Do-Hyung Kang, Yong-Chul Kim, Erin Milligan, Jeffrey Norenberg, Ralph James, Terry Lall, Anthony Sims, Nathan Staff, Penny Gowland, Alan Koretsky, Nick Devoogdt, Sandip Biswal, Mike Dailey, Tony Wyss-Coray, Philip Getson, Carl Saab, Joshua Prager, Linda Chang, Mera Barr, Candy McCabe, Norman Harden.
- Chair, *Multimodal Neuroimaging: Examples, Benefits and Challenges.* Organization for Human Brain Mapping Educational Session, Barcelona, Spain, June 2010. Presenters: Jon Shah, Rolf Gruetter, Wim Vanduffel, Matti Hamalainen, Tom Eichele, Vince Calhoun, Rainer Goebel.
- Chair, Science Offsite Meeting, Mind Research Network, Tamaya Resort, NM, June 2008.
- Chair, Science Report, Mind Research Network Board of Trustees Meeting, Domenici Hall, April 2006; October 2006; April 2007; October 2007; April 2008.
- Chair, *Cognitive Neuroimaging: Progress and Processes*. University of New Mexico and MIND Institute, April 2003. Presenters: S.A. Hillyard, J.V. Haxby, R. Cabeza, J. Gabrieli, H. Neville, S. Petersen, S. Bookheimer, and R. Buckner.