

EDUCATION, TRAINING & PROFESSIONAL EXPERIENCE

- Dartmouth College 2003 A.B. in Psychology, Minor in Neuroscience
- University of California, Davis 2009 Ph.D. in Psychology
- Johns Hopkins University 2012 Postdoctoral Fellowship in Psychopharmacology

Professional Experience (in chronological order, earliest first)

Dates	Position	Institution
01/2000 – 06/2000	Research Intern	Dartmouth Hitchcock Medical Center, Hanover, NH
06/2002 – 06/2003	Undergraduate Thesis	Dartmouth College, Hanover, NH
06/2003 – 08/2004	Research Assistant	Dartmouth College, Hanover, NH
09/2004 – 09/2009	Doctoral Student	University of California, Davis Advisor: George R. Mangun, PhD
06/2005 (2 weeks)	Fellow	Summer Institute in Cognitive Neuroscience Dartmouth College, Hanover, NH Director: Michael Gazzaniga, PhD
06/2006 (1 week)	Fellow	Mind and Life Summer Research Institute Garrison Institute, Garrison, NY Director: Richard Davidson, PhD
06/2009 (1 week)	Fellow	International Conference on Science & Spirituality, Cortona, Italy Director: Pier Luigi Luisi, PhD
09/2009 – 09/2012	Postdoctoral Fellow	Behavioral Pharmacology Research Unit Dept. of Psychiatry & Behavioral Sciences Johns Hopkins University S.O.M. Mentor: Roland R. Griffiths, PhD
09/2011 – 12/2011	Adjunct Instructor	Department of Psychology University of Baltimore, Baltimore, MD
09/2012 – 09/2014	Faculty Instructor (tenure-track)	Department of Psychiatry & Behavioral Sciences Johns Hopkins University S.O.M.
11/2015 – 12/2017	Director	Psychedelic Education & Continuing Care Program, Center for Optimal Living, NYC
08/2017 – current	Sub-investigator	MAPS Study for MDMA-Assisted Psychotherapy PIs: Ingmar Gorman, PhD & Casey Paleos, MD

Honors & Awards

2003	Phi Beta Kappa, Dartmouth College
2003	Magna Cum Laude and High Honors, Dartmouth College
2003	Benner Award (best oral thesis presentation) and Escaboza Award (best written thesis), Dept. of Psychological & Brain Sciences, Dartmouth College
2005-2009	Predoctoral Research Fellow, NSF Graduate Research Fellowship Program

2010, 2011	NIDA Director's Travel Award, The College on Problems of Drug Dependence Annual Meeting
2012-2014	Heffter-Linton Neuropsychopharmacology of Consciousness Young Investigator Award

RESEARCH ACTIVITIES

Publications: Peer-reviewed Original Science Research

1. Cohen, Y.E., Russ, B.E., Gifford, G.W., Kiringoda, R., & **MacLean, K.A.** Selectivity for the spatial and non-spatial attributes of auditory stimuli in the ventrolateral prefrontal cortex. *Journal of Neuroscience*. 2004; 24: 11307-16.
2. Gifford, G.W., **MacLean, K.A.**, Hauser, M.D., & Cohen, Y.E. The neurophysiology of functionally meaningful categories: macaque ventrolateral prefrontal cortex plays a critical role in spontaneous categorization of species-specific vocalizations. *Journal of Cognitive Neuroscience*. 2005; 17: 1471-82.
3. **MacLean, K.A.**, Aichele, S.R., Bridwell, D.A., Mangun, G.R., Wojciulik, E. & Saron, C.D. Interactions between endogenous and exogenous attention during vigilance. *Attention Perception & Psychophysics*. 2009; 71: 1042-1058.
4. **MacLean, K.A.**, Ferrer, E., Aichele, S.R., Bridwell, D.A., Zanesco, A.P., Jacobs, T.L., King, B.G., Rosenberg, E.L., Sahdra, B.K., Shaver, P.R., Wallace, B.A., Mangun, G.R., & Saron, C.D. Intensive meditation training improves perceptual discrimination and sustained attention. *Psychological Science*. 2010; 21: 829-839.
5. Jacobs, T.L., Epel, E.S., Lin, J., Blackburn, E.H., Wolkowitz, O.M., Bridwell, D.A., Zanesco, A.P., Aichele, S.R., Sahdra, B.K., **MacLean, K.A.**, King, B.G., Shaver, P.R., Rosenberg, E.L., Ferrer, E., Wallace, B.A., & Saron, C.D. Intensive meditation training, immune cell telomerase activity, and psychological mediators. *Psychoneuroendocrinology*. 2011; 36: 664-681.
6. Sahdra, B.K., **MacLean, K.A.**, Ferrer, E., Shaver, P.R., Rosenberg, E.L., Jacobs, T.L., Zanesco, A.P., King, B.G., Aichele, S.R., Bridwell, D.A., Mangun, G.R., Lavy, S., Wallace, B.A., & Saron, C.D. Response inhibition enhanced by intensive meditation training predicts improved adaptive socio-emotional functioning. *Emotion*. 2011; 11: 299-312.
7. Johnson, M.W., **MacLean, K.A.**, Reissig, C.J., Prisinzano, T.E., & Griffiths, R.R. Human psychopharmacology and dose-effects of salvinorin A, a kappa-opioid agonist hallucinogen present in the plant *Salvia divinorum*. *Drug & Alcohol Dependence*. 2011; 115: 150-155.
8. **MacLean, K.A.**, Johnson, M.W., and Griffiths, R.R. Mystical experiences occasioned by the hallucinogen psilocybin lead to increases in the personality domain of openness. *Journal of Psychopharmacology*. 2011; 25: 1453-1461.
9. Sagar, M., King, B.G., Zanesco, A.P., **MacLean, K.A.**, Aichele, S.R., Jacobs, T.L., Bridwell, D.A., Shaver, P.R., Rosenberg, E.L., Sahdra, B.K., Ferrer, E., Tang, A., Mangun, G.R., Wallace, B.A., Miikkulainen, R. & Saron, C.D. Intensive training induces longitudinal changes in meditation state-related EEG oscillatory activity. *Frontiers in Human Neuroscience*, 2012; 6:256.
10. **MacLean, K.A.**, Leoutsakos, J.S., Johnson, M.W., & Griffiths, R.R. Factor analysis of the Mystical Experience Questionnaire: A study of experiences occasioned by the hallucinogen psilocybin. *Journal for the Scientific Study of Religion*, 2012; 51(4): 721–737.
11. **MacLean, K.A.**, Johnson, M.W., Reissig, C.J., Prisinzano, T.E., & Griffiths, R.R. Dose-related effects of salvinorin A in humans: dissociative, hallucinogenic, and memory effects. *Psychopharmacology*, 2013; 226(2): 381-392.

12. Jacobs, T.L., Shaver, P.R., Epel, E.S., Zanesco, A.P., Aichele, S.R., Bridwell, D.A., Rosenberg, E.L., King, B.G., **MacLean, K.A.**, Sahdra, B.K., Kemeny, M.E., Ferrer, E., Wallace, B.A., & Saron, C.D. Self-reported mindfulness and cortisol during a Shamatha meditation retreat. *Health Psychology*, 2013; 32(10): 1104-1109.
13. Zanesco, A.P., King, B.G., **MacLean, K.A.**, & Saron, C.D. Executive control and felt concentrative engagement following intensive meditation training. *Frontiers in Human Neuroscience*, 2013; 7:566.
14. Caspers, M.J., Williams, T.D., Lovell, K.M., Lozama, A., Butelman, E.R., Kreek, M.J., Johnson, M.W., Griffiths, R.R., **MacLean, K.A.**, & Priszano, T.E. LC-MS/MS quantification of salvinorin A from biological fluids. *Analytic Methods*, 2013; 5(24).
15. MacCoon, D.G., **MacLean, K.A.**, Davidson, R.J., Saron, C.D., & Lutz, A. No sustained attention differences in a longitudinal randomized trial comparing Mindfulness Based Stress Reduction versus active control. *PloS One*, 2014; 9(6): e97551.
16. Sagar, M., Zanesco, A.P., King, B.G., Bridwell, D.A., **MacLean, K.A.**, Aichele, S.R., Jacobs, T.L., Wallace, B.A., Saron, C.D., & Miikkulainen, R. Mean-field thalamocortical modeling of longitudinal EEG acquired during intensive meditation training. *Neuroimage*, 2015; Jul 1;114:88-104
17. Rosenberg, EL, Zanesco, AP, King, BG, Aichele, SR, Jacobs, TL, Bridwell, DA, **MacLean KA**, Shaver PR, Ferrer E, Sahdra BK, Lavy S, Wallace BA, Saron CD. Intensive meditation training influences emotional responses to suffering. *Emotion*, 2015 Dec;15(6):775-90
18. Johnson, MW, **MacLean KA**, Caspers MJ, Priszano TE, Griffiths RR. Time course of pharmacokinetic and hormonal effects of inhaled high-dose salvinorin A in humans. *Journal of Psychopharmacology*. 2016 April: 30(4)
19. Carbonaro TM, Bradstreet MP, Barrett FS, **MacLean KA**, Jesse R, Johnson MW, Griffiths RR. Survey study of challenging experiences after ingesting psilocybin mushrooms: Acute and enduring positive and negative consequences. *Journal of Psychopharmacology*. 2016 Dec: 30(12)
20. Griffiths, RR, Johnson, MW, Richards, WA, Richards, BD, Jesse, R, **MacLean, KA**, Barrett, FS, Cosimano, MP, and Klinedinst, MA. Psilocybin-occasioned mystical-type experience in combination with meditation and other spiritual practices produce enduring positive changes in trait measures of prosocial attitudes and behaviors and in psychological functioning. *Journal of Psychopharmacology*, 2017.
21. Zanesco, A.P., King, B.G., **MacLean, K.A.**, & Saron, C.D. Cognitive aging and long-term maintenance of attentional improvements following meditation training. *Journal of Cognitive Enhancement*, 2018.

EDUCATION, TRAINING & OUTREACH

Clinical Instruction (including Continuing Medical Education)

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|------------------------|--|
| March 29, 2012 (CME) | John & Tussi Kluge Research Symposium on Mechanisms of Mindfulness; Presenter
The Center for Mindfulness 10 th Annual International Scientific Conference for Clinicians, Researchers, & Educators, Worcester, MA. |
| October 22, 2016 (CME) | Psychedelic Harm Reduction & Integration Training Workshop; Presenter
The Center for Optimal Living & The New School for Social Research
New York, NY |
| May 6, 2017 | Psychedelics 101 for Clinicians
Presenter and Co-organizer
The Center for Optimal Living
New York, NY |

Conference Presentations & Invited Talks

May 27, 2011, "Intensive Meditation Training Improves Visual Perception." The Association for Psychological Science Conference, Washington, D.C.

January 27, 2012, "Training the Mind: The Effects of Intensive Meditation on Perception, Attention, and Self-regulation." The Society for Personality and Social Psychology Annual Meeting, San Diego, CA.

March 29, 2012, "The Effects of Intensive Meditation on Perception, Attention, and Self-regulation". Investigating & Integrating Mindfulness in Medicine, Health Care, and Society (10th Annual International Scientific Conference for Clinicians, Researchers, and Educators), John & Tussi Kluge Research Symposium on Mechanisms of Mindfulness, Center for Mindfulness, University of Massachusetts; Worcester, MA.

April 14, 2012, "Psilocybin and personality change -- What do increases in Openness tell us about potential mechanisms of action and therapeutic applications?" Toward a Science of Consciousness (10th Biennial Conference), Center for Consciousness Studies, University of Arizona; Tucson, AZ.

September 14, 2012, "Training the Mind and Opening the Heart: Longitudinal Studies of Meditation and Psilocybin". Invited talk sponsored by the Dept. of Psychology and the Institute for Behavioral Research, University of Georgia; Athens, GA.

September 27, 2012, "Training the Mind and Opening the Heart: Longitudinal Studies of Meditation and Psilocybin". Invited talk sponsored by the Metro-Area Research Group on Awareness and Meditation, New York University; New York, NY.

September 28, 2012, "The Effects of Meditation and Psilocybin on Personality Change and Well-being". Psychedemia: Integrating Psychedelics into Academia, University of Pennsylvania; Philadelphia, PA.

November 29, 2012, "Finding the Jaguar Within: Psychedelics, the Brain and the Shaman's Journey". Invited talk sponsored by the Michael C. Carlos Museum at Emory University; Atlanta, GA.

April 20, 2013, "What can Buddhist Meditation Teach Us about Psychedelic Science?". Psychedelic Science (2nd Biennial Conference), Oakland, CA.

June 13, 2013, "Training the Mind and Opening the Heart: Longitudinal Studies of Meditation and Psilocybin". Invited talk sponsored by the California Pacific Medical Center Research Institute, San Francisco, CA.

July 12, 2013, "Psilocybin and Personality Change". Breaking Convention, University of Greenwich, London, England.

January 9, 2014, "Psychedelics and Meditation". Poetry Science Talks, New York, New York.

October 11, 2014, "Psilocybin and Personality Change". Horizons: Perspectives on Psychedelics, New York, New York.

October 18, 2014, "A Spoonful of Sugar Helps the Meditation Go Down". Buddhist Geeks conference, Boulder, CO.

April 18, 2015, "The Psychedelic Art of Dying". Psymposia conference, Amherst, MA

March 5, 2016, "Open Wide and Say Awe". TEDx Orcas Island, Eastsound, WA

October 7, 2016, "Psychedelic Integration: From the Individual to the Community", Horizons Psychedelic Conference, New York, NY

January 29, 2017, "Psilocybin & Personality Change." Driftless Psychedelic Therapy Symposium, Viroqua, WI

April 20-24, 2017, panelist (psychedelic harm reduction and psychedelic integration) and post-conference workshop leader (psychedelic integration), Psychedelic Science Conference 2017, Oakland, CA

April 29, 2017, “Psychedelic Education & Integration”, Psychedelics in Science & Medicine, Brown University Medical School, Providence, RI

Media & Interviews

07/2010 to present: First-author research publications on meditation, psychedelics, and spirituality have been featured in over 50 articles and commentaries in popular press outlets including WebMD, ABC News, US News & World Report, Bloomberg (Business Week), San Francisco Chronicle, Washington Post, National Review, Psychology Today, Huffington Post, Live Science, New Scientist, and TIME.

07/2010: Interview, The Secular Buddhist podcast, “Meditation Effects on Concentration”
http://www.theseclarbuddhist.com/episode_023.php

09/2011: Interview, The Secular Buddhist podcast, “Psilocybin and Openness”
http://www.theseclarbuddhist.com/episode_084.php

12/2013: Interview, Expanding Mind podcast, “Psychedelics and Dying”
<http://expandingmind.podbean.com/2013/12/22/expanding-mind-psychedelics-and-dying-122213/>

04/2014: Interview, C-Realm podcast, “Meditation, Psychedelics and Emptiness”
<http://c-realm.com/podcasts/crealm/411-the-strange-fuzzy-fat-brick-of-everything/>

08/2014: Interview, The Secular Buddhist podcast, “Katherine MacLean: Unplugged”
<http://secularbuddhism.org/2014/08/03/episode-205-katherine-macleane-unplugged/>

02/2015: Interviewed for major article in *The New Yorker*, “The Trip Treatment” by Michael Pollan
<http://www.newyorker.com/magazine/2015/02/09/trip-treatment>

07/2016: Interview, Tink Tink Club, “Episode 42 – Katherine MacLean”
<http://www.tinktinkclub.com/podcast/katherinemacleane>

08/2016: Interview, Psychedelics Today, “Katherine MacLean – Imagining Interesting Futures”
<http://www.psychedelictoday.com/>

08/2017: Interview, “Women Lead the Field in Psychedelic Psychotherapy”
<https://www.bitchmedia.org/article/your-brain-drugs/women-lead-field-psychedelic-psychotherapy>

EDUCATIONAL SCHOLARSHIP

Educational Publications

1. **MacLean, K.A.** The importance of meditation. *Swami Vivekananda: New Perspectives. An anthology on Swami Vivekananda*. Gol Park, Kolkata, India: Ramakrishna Mission Institute of Culture, 2013.
2. **MacLean, K.A.**, Johnson, M.W. & Griffiths, R.R. Hallucinogens and club drugs. *Textbook on Substance Abuse Treatment, 5th Edition*. Galanter, M., Kleber, H.D., & Brady, K. (Ed). 2013.
3. **MacLean, K.A.** & Weber, G. Invited commentary on “Meditation-induced bliss viewed as release from conditioned neural (thought) patterns that block reward signals in the brain pleasure center” (Sharp, P.E.). *Religion, Brain & Behavior*, 2013 (in press).

Teaching

Classroom instruction

09/2004 - 06/2005	General Psychology; Health Psychology; Perception (3 courses) Teaching Assistant, University of California, Davis
09/2011 - 12/2011	Sensation & Perception (1 course) Adjunct Instructor, University of Baltimore, Baltimore, MD
02/15/2012	Human Studies of the Serotonergic Hallucinogen Psilocybin: Changes in the Personality Domain of Openness Guest Instructor (delivered lecture from Hopkins via Polycom remote access software) Norwegian University of Science & Technology, Trondheim, Norway
07/25/2012	Human Studies of the Serotonergic Hallucinogen Psilocybin Guest Instructor (delivered lecture from Hopkins via Skype remote access software) University of Montana, Helena, MT
10/02/2012	The Effects of Meditation on Perception, Attention, and Self-regulation Guest Instructor (delivered lecture from Hopkins via Polycom remote access software) Norwegian University of Science & Technology, Trondheim, Norway
03/21/2013	Training the Mind through Meditation Invited Guest Lecturer in East Asian studies course Joel Barlow High School, Redding, CT

Mentoring (pre- and post-doctoral)

- Advisees

2006 - 2009	Stephen Aichele, B.S., University of California, Santa Barbara Current position: Doctoral student, Dept. of Psychology, University of California, Davis Supervised as a research assistant at University of California, Davis.
2006 - 2007	David Bridwell, Ph.D., Dept. of Cognitive Science, University of California, Irvine Current position: Postdoctoral Fellow, Mind Research Network, New Mexico Supervised as a research assistant at University of California, Davis.
2007 - 2011	Anthony Zanesco, B.A., University of California, Davis Current position: graduate student, Dept. of Psychology, University of California, Davis Supervised as a research assistant and graduate student at University of California, Davis. Received Varela Award (\$15K) for independent research under my supervision.
2008 - 2009	Eunike Jonathan, B.A., University of California, Davis Supervised as a graduate student in Psychology at University of California, Davis. Received a predoctoral research fellowship from the National Science Foundation under my supervision.

FUNDING

09/2012- 09/2013

Heffter-Linton Neuropsychopharmacology of Consciousness Young Investigator Award

Heffter Research Institute, Santa Fe, NM

Total direct cost: \$85,111

100% effort

01/01/81 - 06/30/16, Human Behavioral Pharmacology of Substance Abuse

T32 DA007209-31

National Institute on Drug Abuse

PI: George Bigelow, Ph.D.

Total direct cost: \$467,999 per year

Role: Postdoctoral Research Fellow (2009-2012), 100% effort

Notes: This long-standing training grant provides research support for the training of postdoctoral fellows in clinical and experimental research relating to drugs of abuse. Includes projects in the areas of pharmacology, treatment of addictive behavior, neuropsychiatric assessment and rehabilitation, HIV risk, and other sequelae of drug use.

06/2005 - 06/2009

Graduate Research Fellowship Program

National Science Foundation and University of California, Davis

Total direct cost: \$160,000 (\$30,000 stipend + \$10,500 tuition per year)

Role: Predoctoral Research Fellow, 100% effort

Note: The fourth year of support was covered by UC Davis as a cost-matching agreement with NSF for all graduate students who had been awarded the 3-year NSF fellowship.

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

08/2011 - 06/2012 Coordinator, BPRU Seminar Series, Dept. of Psychiatry & Behavioral Sciences, Johns Hopkins University School of Medicine

06/2012 - 09/2012 Postdoctoral representative, BPRU, Dept. of Psychiatry & Behavioral Sciences, Johns Hopkins University School of Medicine

Editorial Activities

- Journal peer review activities

2007 - 2014	Ad hoc reviewer for <i>Journal of Cognitive Neuroscience</i>
2010 - 2014	Ad hoc reviewer for <i>Cognition, Journal of Experimental Psychology: Human Perception and Performance, and Psychological Science</i>
2011 - 2014	Ad hoc reviewer for <i>International Journal for the Psychology of Religion</i>
2012 - 2014	Ad hoc reviewer for <i>Annals of Behavioral Medicine, Current Directions in Psychological Science, Drug & Alcohol Dependence, Frontiers in Human Neuroscience, Mindfulness, PLoS ONE</i>
2013 – 2014	Ad hoc reviewer for <i>Journal of Neuroscience</i>
2012-current	Ad hoc reviewer for <i>Journal of Psychopharmacology, Psychopharmacology</i>