

Martin M. MONTI, Ph.D.

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Education

Ph.D. in Psychology & Neuroscience Department of Psychology, Princeton, NJ 08544, USA	Princeton University Jan 2006–Jun 2007
M.A. in Psychology & Neuroscience Department of Psychology, Princeton, NJ 08544, USA	Princeton University Sep 2003–Dec 2005
Laurea in discipline economiche e sociali Department of Psychology, Milan, MI 20120, Italy Grade: 110/110 <i>Cum Laude</i>	Università Commerciale L. Bocconi Sep 1997–Jun 2002

Work Experience

Full Professor Department of Psychology Department of Neurosurgery, Brain Injury Research Center (<i>joint</i>)	University of California Los Angeles Jul 2020–Present
Associate Professor Department of Psychology Department of Neurosurgery, Brain Injury Research Center (<i>joint</i>)	University of California Los Angeles Jul 2016–Jun 2020
Associate Professor Department of Psychology Department of Neurosurgery, Brain Injury Research Center (<i>joint</i>)	University of California Los Angeles Jan 2011–Jun 2016
Postdoctoral Scientist Cognition & Brain Sciences Unit (Cambridge, UK)	Medical Research Council Sep 2007–Dec 2010

Other Positions

Chair, Cognitive Area Department of Psychology	University of California Los Angeles Sep 2021–Present
Chair, Therapeutic Interventions Neurocritical Care Society, CDE Working Groups	Curing Coma Campaign Initiative Oct 2020–Sep 2023
Board Member & Officer Board Member, Treasurer	Institute for Advanced Studies of Consciousness Nov 2019–Present
Representative, Legislative Assembly Academic Senate	University of California Los Angeles Sep 2018–Present
Research Affiliate Università Vita-Salute San Raffaele Milan, Italy	Center for Experimental & Applied Epistemology Jan 2011–Present

National Habilitation

Abilitazione Scientifica Nazionale (Italian National Scientific Habilitation)

Scientific domain 11/E1: *Psychology, psychobiology & psychometrics* 2019–2025

Awards and Fellowships

UCLA School of Life Sciences Award Outstanding Research Publication [‡]	Jun 2020
UCLA Psychology Department Distinguished Teaching Award	Jun 2019
Siacca Foundation International Prize Giuseppe Siacca	Oct 2018
UCLA Psychology Department Distinguished Teaching Award	Jun 2015
UCLA School of Life Sciences Award Outstanding Research Publication [‡]	Jun 2020
Association for Psychological Science (APS) “ Rising Star ”	Apr 2013
Association of Princeton Graduate Alumni (APGA) Teaching Award	Jun 2006
National Academy of Sciences Kavli Fellowship	Aug 2015
Medical Research Council Career Development Fellowship	2007–2011
Mathey College Graduate Fellow	2006–2007
Princeton Graduate School Summer Fellowship	Summer 2006
Princeton University Graduate Fellowship	2003–2004
Rice University Lodieska Stockbridge Vaughan Fellowship	2002–2003
Rice University Graduate Fellowship	2002–2003

Selected Funding (as Principal Investigator)

National Institute of Biomedical Imaging & Bioengineering	2024–2026
<i>Predicting recovery after TBI: Development and comparison of MR-supplemented models</i>	\$427,518
UCLA Brain Injury Research Center	2024–2026
<i>Finding consciousness: validating the Perturbational Complexity Index in the ICU</i>	\$100,000
Department of Defense (CDMRP, TBIPHRP)	2024–2028
<i>Safety and efficacy of thalamic focused ultrasound stimulation for promoting recovery after severe traumatic brain injury</i>	\$2,169,063
Tiny Blue Dot Foundation	2019–2023
<i>Measuring consciousness: From theory to practice (Phase II)</i>	\$3,986,296
Tiny Blue Dot Foundation	2016–2019
<i>Measuring consciousness: From theory to practice (Phase I)</i>	\$417,112
Dana Foundation	2014–2019
<i>Filling the treatment gap: Ultrasonic thalamic stimulation in disorders of consciousness</i>	\$300,000
James S. McDonnell Foundation Scholar Award	2011–2017
<i>Cognitive processing and awareness at the lower boundaries of consciousness: Insights from the Vegetative State</i>	\$600,000

Selected Publications (from over 100; ☆ indicates MontiLab trainee)

- Toker D.,☆ Müller E., Miyamoto H., Riga M.S., Lladó-Pelfort L., Yamakawa K., Artigas F., Shine J.M., Hudson A.E., Pouratian N., **Monti M.M.** (2024) Criticality supports cross-frequency cortical-thalamic information transfer during conscious states. *Elife*, 13:e86547
- Toker D.,☆ Pappas I., Lendner J.D., Frohlich J.,☆ Mateos D.M., Muthukumaraswamy S.D., Carhart-Harris R., Paff M., Vespa P.M., **Monti M.M.**, Sommer F.T., Knight R.T., D'Esposito M. (2023) Consciousness is supported by near-critical slow cortical electro-dynamics. *Proceedings of the National Academy of Sciences USA*, 119(7):e2024455119.
- Frohlich J.,☆ Crone J.S.,☆ Johnson M.A.,☆ Lutkenhoff E.S.,☆ Spivak N.,☆ Dell'Italia J.,☆ ... **Monti M.M.** (2022). Neural oscillations track recovery of consciousness in acute traumatic brain injury patients. *Human Brain Mapping*, 43(6):1804-1820.
- **Monti M.M.**, Schnakers C. (2022) Flowchart for implementing advanced imaging and electrophysiology in patients with disorders of consciousness: to fMRI or not to fMRI? *Neurology*, 98(11), 452-459.
- Frohlich J.,☆ Toker D.,☆ **Monti M.M.** (2021) Consciousness Among Delta Waves: A Paradox? *Brain*, 144; 2257-2277.
- Chiang J.N.,☆ Peng Y., Lu H., Holyoak K.J., **Monti M.M.** (2021) Distributed Code for Semantic Relations Predicts Neural Similarity During Analogical Reasoning. *Journal of Cognitive Neuroscience*, 33(3):377-89.
- Cain J.A.,☆ Visagan S., Johnson M.A.,☆ Crone J.S., Blades R.,☆ Spivak N.,☆ Shattuck D., **Monti M.M.** (2021) Real Time and Delayed Effects of Subcortical Low Intensity Focused Ultrasound. *Scientific Reports*, 11(1):6100.
- Cain J.A.,☆ Spivak N.M.,☆ Coetzee J.P.,☆ Crone J.S.,☆ Johnson M.A.,☆ Lutkenhoff E.S.,☆ ... , **Monti, M.M.** (2021). Ultrasonic thalamic stimulation in chronic disorders of consciousness. *Brain Stimulation*, 14(2):301-303.
- **Monti M.M.** & Holyoak K.J. (2021) Relational Integration in the Human Brain: A Review and Synthesis. *Journal of Cognitive Neuroscience*, 33(3):341-56.
- Lutkenhoff E.S.,☆ Wright M.J., Shrestha V., Real C., McArthur D.L., Buitrago-Blanco M., Vespa P.M., **Monti M.M.** (2020) The subcortical basis of outcome and cognitive impairment in TBI: A longitudinal cohort study. *Neurology*, 95:e2398-e2408.
- Lutkenhoff E.S.,☆ Nigri A., Sebastiano D.R., Sattin D., Visani E., Rosazza C., D'Incerti L., ... , **Monti M.M.** (2020). EEG power spectra and subcortical pathology in chronic disorders of consciousness. *Psychological Medicine*, 52(8):1491-1500.
- Lutkenhoff E.S.,☆ Casarotto S., Massimini M., **Monti M.M.** (2020) Subcortical atrophy correlates with the Perturbational Complexity Index in patients with disorders of consciousness. *Brain Stimulation*,13:1426-1435.
- Frohlich J.,☆ Bird, L., Dell'Italia J.,☆ Johnson M.A.,☆ Hipp, J., **Monti M.M.** (2020) High-voltage, diffuse delta rhythms coincide with wakeful consciousness and complexity in Angelman syndrome. *Neuroscience of Consciousness*, 6(1):niaa005.
- Crone J.S.,☆ Lutkenhoff E.S.,☆ Vespa P., **Monti M.M.** (2020) A Systematic Investigation of the Association between Time-Varying Network Organization in the Human Brain and the State of Consciousness. *Neuroscience of Consciousness*, 6(1):niaa008.
- Schnakers C., Lutkenhoff E.S.☆, Bio B.J.☆, McArthur D.L., Vespa P.M., **Monti M.M.** (2018) Acute EEG spectra characteristics predict thalamic chronic atrophy after severe TBI. *Journal of Neurology, Neurosurgery, and Psychiatry*, 90(5):617-619.

- Schnakers C., **Monti M.M.** (2020) Towards improving care for disorders of consciousness. *Nature Reviews Neurology*, 16:405-406.
- Coetzee J.P.[☆], **Monti M.M.** (2018) At the core of reasoning: dissociating deductive and non-deductive difficulty. *Human Brain Mapping* 39(4):1850-1861.
- Chiang J.[☆], Rosenberg M.[☆], Bufford C., Stephens D., Lysy A., **Monti M.M.** (2018) The language of music: Common neural codes for structured sequences in music and natural language. *Brain & Language* 185:30-37.
- Zheng Z.S.[☆], Reggente N., Lutkenhoff E.S.[☆], Owen A.M., **Monti M.M.** (2017) Disentangling disorders of consciousness: insights from diffusion tensor imaging and machine learning. *Human Brain Mapping* 38(1):431-443.
- Schnakers C., **Monti M.M.** (2017) Disorders of consciousness after severe brain injury: Therapeutic options. *Current Opinion in Neurology* 30(6):573–579.
- **Monti M.M.**, Schnakers C., Korb A.S., Bystritsky A., Vespa P.M. (2016) Non-invasive ultrasonic thalamic stimulation in disorders of consciousness after severe brain injury: a first-in-man report. *Brain Stimulation*, 9(6):940-941.†
- Crone J.S.[☆], Lutkenhoff E.S.[☆], Bio B.[☆], Laureys S., **Monti, M.M.** (2016) Testing proposed neuronal models of effective connectivity within the cortico-basal ganglia-thalamo-cortical loop during loss of consciousness. *Cerebral Cortex* 27(4):2727-2738.
- Lutkenhoff E.S.[☆], Chiang J.[☆], Tshibanda L., Kamau E., Kirsch M., Pickard J.D., Laureys S., Owen A.M., **Monti M.M.** (2015) Thalamic and extrathalamic mechanisms of consciousness after severe brain injury. *Annals of Neurology* 78(1):68-76.
- **Monti M.M.**, Rosenberg M.[☆], Finoia P., Kamau E., Pickard J.P., Owen A.M. (2015) Thalamo-frontal connectivity mediates top-down cognitive functions in disorders of consciousness. *Neurology*, 84(2):167-73. With [accompanying editorial](#) by S. Goldman & N. Schiff, Functional imaging to uncover willful brain behavior in non-communicative patients, *Neurology* 84(2):1-2.
- **Monti M.M.** (2013) Editorial – Ethics, neuroimaging and disorders of consciousness: What is the question? *American Journal of Bioethics, Neuroscience*, 4(4):1-2.
- **Monti M.M.**, Lutkenhoff E.S.[☆], Rubinov M., Boveroux P., Vanhaudenhuyse A., Gosseries O., Bruno M-A., Noirhomme Q., Boly M., Laureys S. (2013) Dynamic change of global and local information processing in propofol-induced loss and recovery of consciousness. *PLoS Computational Biology*, 9(10).†
- **Monti M.M.**, Parsons L.M., Osherson D.N. (2012) Response to Tzourio-Mazoyer and Zago: yes, there is a neural dissociation between language and reasoning. *Trends in Cognitive Sciences*, 16(10):495-496.
- **Monti M.M.**, Parsons L.M., Osherson D.N. (2012) Thought beyond language: neural dissociation of arithmetic and natural language. *Psychological Science*. 23(8): 914-922.
- **Monti M.M.** (2012) Cognition in disorders of consciousness, *Annual Reviews of Clinical Psychology*, 8:431-454.
- **Monti M.M.**, Vanhaudenhuyse A., Coleman M.R., Boly M., Pickard J., Tshibanda, J-F., Owen, A.M., Laureys, S. (2010) Willful modulation of brain activity in disorders of consciousness, *New England Journal of Medicine* 362(7):579-589. With [accompanying editorial](#) by A.H. Ropper: Cogito Ergo Sum by fMRI, *New England Journal of Medicine* 362(7):648.
- **Monti M.M.**, Laureys S., Owen A.M. (2010) The Vegetative State, *BMJ* 341:c3765.

- **Monti M.M.**, Coleman M.R., Owen A.M. (2009) Neuroimaging and the vegetative state: Solving the behavioral dilemma? *Annals of the New York Academy of Sciences* 1157:81-9.
- **Monti M.M.**, Parsons L.M., Osherson D.N. (2009) The boundaries of language and thought in deductive inference, *Proceedings of the National Academy of Sciences* 106: 12554-59.

Teaching Experience

Consciousness: Current Debates (PSYCH 124D)	2024-Present
Undergraduate level, lecture Typical enrollment: Typical enrollment: 40 students	
Laboratory in Functional Neuroimaging (PSYCH 186D)	2012-Present
Undergraduate level, lecture & laboratory Typical enrollment: Typical enrollment: 25 students	
Cognitive Psychology (PSYCH 120A)	2011-2023
Undergraduate level, lecture Typical enrollment: 350 students	
Computational Methods for Neuroimaging (PSYCH 265)	2012-Present
Graduate level, lecture & laboratory Typical enrollment: 25 students	

Mentoring

Post-doctoral scientists

Evan S. Lutkenhoff Ph.D. (09/11-04/23) *now* Senior Scientist, Magnus Medical
 Julia Crone Ph.D. (10/14-06/22) *now* Principal Investigator, University of Vienna
 Marina Weiler Ph.D. (10/20-12/23) *now* Assistant Professor, University of Virginia
 Joel Frohlich Ph.D. (09/18-12/21) *now* Postdoctoral Scientist, University of Tübingen
 Daniel Toker Ph.D. (09/21-present)

Former doctoral students

John Coetzee (Ph.D. 2018) *now* Postdoctoral Scientist, Sanford University/Palo Alto VA
 Zhong Zheng^{★◇} (Ph.D. 2018) *now* Research Scientist, Casa Colina Research Institute
 Micah Johnson^{★◆◇} (Ph.D. 2019) *now* Postdoctoral Researcher, Johns Hopkins University
 John Dell'Italia^{★◆} (Ph.D. 2019) *now* Research Associate, AICS
 Jeff Chiang^{◆◆} (Ph.D. 2019) *now* Assistant Professor, UCLA (Neurosurgery)
 Andrew Frane[◇] (Ph.D. 2019) *now* Assistant Professor, Occidental College (Psychology)
 Joshua Cain^{△□} (Ph.D. 2022) *now* Research Scientist, AICS
 Alessandra Dallavecchia[□] (Ph.D. 2024) *now* Postdoctoral scientist, UCLA (Psychiatry)

Current doctoral students

Youngzie (Zoe) Lee, Psychology Department, Cognitive Psychology Area
 Amber Hopkins[★] Psychology Department, Cognitive Psychology Area
 Sonya Ashikyan, ^{◇♣} Psychology Department, Behavioral Neuroscience Area

International Visiting Students

Giacomo Bertazzoli (Univerità di Trento, Italy, 2022)

Luigi Fiorillo (University of Bern, Switzerland, 2022)

Matthieu Faillot (Institut Mondor de Recherche Biomédicale, France, 2021-2022).

Federico Micheli (Univerità di Trento, Italy, 2018-2019)

Luca Bruder (Maastricht University, Netherlands, 2015-2016)

Lauriens Nagels-Coune (Maastricht University, Netherlands, 2014-2015)

Florence Bouhali (Universite Paris Dauphine, France, 2013-2014)

○: **NIH F32 Kirschstein-NRSA Postdoctoral Fellowship** recipient.

★: **National Science Foundation Graduate Fellowship** recipient.

♣: **National Defense Science & Engineering Graduate Fellowship** recipient.

◆: **NeuroImaging Training Program Fellowship (NITP)** recipient.

□: **UCLA Graduate Research Mentorship fellowship** recipient.

◇: **UCLA Dissertation year fellowship** recipient.

△: **Gengerelli Distinguished Dissertation Award** recipient.

●: **American Psychological Foundation COGDOP Graduate Research Scholarship** recipient.

◇: **Cota Robles Scholarship** recipient.

♣: **Mangasar Mangasarian Endowed Fellowship** recipient.