

**CURRICULUM VITAE**

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Keywords: Decision Making, Volition, Machine-Learning Models, Multivariate Decoding, Real-Time Analysis, Voluntary Action, Neuroethics, Motor Control, Free Will, and Moral Responsibility

**Current Positions**


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September, 2017	Assistant Professor of Computational Neuroscience, Crean College of Health and Behavioral Sciences and Institute for Interdisciplinary Brain and Behavioral Sciences, Chapman University
January, 2017	Affiliated Faculty, Behavioral Decision-Making, UCLA Anderson School of Management
January, 2015	Visiting Researcher in Neuroscience, California Institute of Technology (Caltech), Pasadena, California, USA
January 2013	Bial-Foundation Fellow

**Past Positions**


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2015-2017	Assistant Adjunct Professor	Department of Psychology, UCLA
2015	Assistant Research Professor	Department of Neurosurgery, School of Medicine, UCLA
2009-2014	Postdoctoral Scholar	Division of Biology, Caltech
2010-2014	Visiting Postdoctoral Scientist	Department of Neurosurgery, Cedars Sinai Medical Center
2007-2009	Postdoctoral Fellow	Department of Computer Science and Applied Mathematics, Weizmann Institute of Science, Rehovot, Israel
2007-2008	Research Group Leader	Van Leer Jerusalem Institute, Israel
2003, 2004	Guest PhD Student	Perception and Action Lab of Prof. Alain Berthoz, College de France, Paris, France
2002-2007	Guest PhD Student	Department of Computer Science and Applied Mathematics, Weizmann Institute of Science, Rehovot, Israel
2000-2008	PhD Student	Interdisciplinary Center for Neural Computation, Hebrew University of Jerusalem, Israel

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**Postdoctoral Research Advisors**

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2014-2015	Ralph Adolphs, California Institute of Technology
2012-2013	Christof Koch and Ralph Adolphs, California Institute of Technology
2009-2012	Christof Koch, California Institute of Technology
2008-2009	Shimon Ullman, Weizmann Institute of Science
2007-2008	Tamar Flash, Weizmann Institute of Science

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**PhD Advisors**

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2002-2008	Tamar Flash, Weizmann Institute of Science; and Yair Weiss, Hebrew University of Jerusalem
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**Education**

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2008	PhD in Neural Computation	Interdisciplinary Center for Neural Computation Hebrew University of Jerusalem, Israel
2000	BSc (cum laude)	Computer Science and Amirim, Hebrew University's Signature Interdisciplinary Honors Program in Social Sciences and Humanities

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**Chairing Symposia**

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2014	Chair "Human Decision-Making: Neural Mechanisms" Nanosymposium, Society for Neuroscience (SfN) meeting, 2014
2013	Chair "Feeling, Consciousness and decision-making" concurrent session, 17 <sup>th</sup> meeting of the Association for the Scientific Study of Consciousness (ASSC)

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**Organizing Symposia**

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2017	International Conference on Free Will, Sigtuna, Sweden (with Hans Liljenstrom)
2009	Neuroscience and Society – Mutual Influences and Criticism, Van Leer Jerusalem Institute

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**Summer Schools**

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7/2017	Speaker, "Neural correlates of volition", International Max Planck Research School on Neuroscience of Communication: Function, Structure, and Plasticity, University College London
7/2013	Speaker, "Cognitive Neuroscience and Criminal Responsibility", Summer Institute in Cognitive Neuroscience, Lake Tahoe, California

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**Ad-Hoc Reviewing**

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Behavioral Sciences, Cognition and Consciousness, Frontiers in Consciousness Research, IEEE Intelligent Systems, Philosophical Psychology, PNAS, Psychological Science
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## Teaching

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2017	Machine learning in brain science (10-week course), Psych. Dept., UCLA*
	Advanced topics in Matlab programming (10-week course), Psych. Dept., UCLA*
	Free Will and Moral Responsibility, from Neuroscience to Philosophy and Back (10-week graduate/undergraduate course), Honors Collegium, UCLA*
	Laboratory in Cognitive Psychology (10-week course), Psych. Dept., UCLA
2016	Laboratory in Cognitive Psychology (10-week course), Psych. Dept., UCLA
	Human Memory (10-week course), Psych. Dept., UCLA
	Matlab Programming for Behavioral Sciences (10-week course), Psych. Dept., UCLA ×3
2015	Matlab Programming for Behavioral Sciences (10-week course), Psych. Dept., UCLA
	Human Memory (10-week course), Psych. Dept., UCLA
2010	Free-Will & Decision-Making (class), Neurobiological Basis of Consciousness course, Caltech
2005	Between Mind, Brain and Culture (14-week course), Hebrew University of Jerusalem*
2004	Legal Thought (14-week course), Teaching Assistant, Hebrew University of Jerusalem
2003	Cognition and Computation (14-week course), Teaching Assistant, Hebrew University of Jerusalem

\* New course, designed from scratch

## Supervision

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2017	3 Graduate Students (co-mentoring), 11 Research Assistants (6 undergraduate students, 4 volunteers), UCLA
2016	1 Graduate Student (co-mentoring), 9 Research Assistants (5 undergraduate students, 4 volunteers), UCLA
2015	10 Research Assistants (8 undergraduate students, 2 volunteers), UCLA
2011-2014	3 Postdoctoral Scholars (co-mentoring), Caltech
2013-2014	2 Research Assistants, Caltech
2012-2013	3 Research Assistants, Caltech
2011-2014	1 Graduate Student, Caltech
2013	3 Undergraduate Students, Caltech
2012	4 Undergraduate Students, Caltech
2011	2 Undergraduate Students, Caltech
2008	1 Masters Student (assistant mentor), Weizmann Institute of Science

**Grants**

2015-Present	Soul & Principal Investigator	BIAL Foundation	€ 48,500 (Euros)
2013-2014	Co-Principal Investigator	Ralph Schlaeger Charitable Foundation	\$ 60,000
2013-2014	Principal Investigator	BIAL Foundation	€ 49,000 (Euros)
2011-2013	Principal Investigator	Big Questions in Free Will Initiative, Florida State University and John Templeton Foundation	\$ 399,207
2011-2012	Co-Principal Investigator	Ralph Schlaeger Charitable Foundation	\$ 91,296

**Fellowships and Awards**

2017	UCLA Summer Institute on Scientific Teaching (competitive admission)	UCLA Center for Education Innovation and Learning the Sciences	
2017	UCLA Faculty Learning Program in STEM Education (competitive admission)	UCLA Center for Education Innovation and Learning the Sciences	\$1500
2017	Competitive course proposal: Neuroscience & philosophy	UCLA Honors Collegium (w/ Dr. Pamela Hieronymi from Philosophy Department)	Quarterly salary
2016	Best Oral Presentation	2016 World Institute of Pain Congress (co-author)	
2016	Department Teaching Award, Nomination	Department of Psychology, UCLA	
2014	Merit-Based Travel Award for Poster	2 <sup>nd</sup> Human Single Neuron Recording Conference	\$500
2012	Best Poster Award	10 <sup>th</sup> European Congress on Epileptology (co-author)	
2008-2009	Full Postdoctoral Dean Fellowship	Weizmann Institute of Science	\$ 25,000
2006	Best Poster Award (first prize)	Second International Computational Motor Control Workshop (ICMC2)	\$ 400
2005-2006	Andrew Rogers Fellowship	Hebrew University of Jerusalem	\$ 20,000
2003-2004	Dean Fellowship	Hebrew University of Jerusalem	\$ 10,000
2000-2005	Merit-Based Scholarship & Stipend	Hebrew University of Jerusalem	\$ 50,000
1999-2000	Industrial Research Project Scholarship	Israel Ministry of Industry, Trade & Labor, Jerusalem Municipality and BioMedicom	\$ 12,500
1996-1999	Merit-Based Scholarship & Stipend	Hebrew University of Jerusalem	\$ 3,000

## Industry Experience

2016-Present	EEG & Data-Science Consultant	Delta Brain Inc.
2016	Data-Science Instructor	Logit Data-Science Academy
2011-Present	Neuro-Imaging & Machine-Learning Consultant	Boston Scientific Neuromodulation
1999-2000	Software Engineer, 3D Ultrasound Imaging & Analysis	BioMediCom, Jerusalem, Israel
1996-1998	Founding director	EDGE Intelligent Machines High tech company developing algorithms and applications, specializing in real-time processing

## Publications

1. **Maoz U\***, Zairi N\*, Wong SM\*, Samad M\*, Timing of intention and movement onset in deliberate and arbitrary decisions. *In preparation*
2. Scalzo F\*, **Maoz U\***, Suthana N and Fried I, A novel decoder for single-trial analysis of neural data. *In preparation*
3. **Maoz U** and Mankin E, Good vibrations – A data-driven method for locating meaningful frequencies in neural signals. *In preparation*
4. **Maoz U**, Harel J and Mekel-Bobrov N. Paresthesia and analgesia in spinal cord stimulation: an rCBF PET study. *In preparation*
5. **Maoz U**, Yaffe G, Koch C and Mudrik L. Neural precursors of decisions that matter—an ERP study of deliberate versus arbitrary choices. *Submitted to Science Advances 01/30/2017; currently under review* (available under the same name as a *bioRxiv* preprint)
6. **Maoz U**, Wong SM, Merholz-Revel, G, Can randomness be implicitly learned? On transferring the ability to create random sequences. *Submitted*
7. Titiz AS, Hill MRH, Eliashiv D, Tchomodanov N, **Maoz U**, Stern J, Tran M, Mankin E, Behnke E, Suthana, NA, Fried I. Theta-Burst Microstimulation in the Human Entorhinal Area Improves Memory. *Submitted*
8. **Maoz U** and Yaffe G (2015), What Does Recent Neuroscience Tell Us About Criminal Responsibility? *Journal of Law and the Biosciences*, 3(1): 120-139
9. **Maoz U**, Mudrik L, Rivlin R, Ross I, Mamelak A and Yaffe G (2015) On reporting the onset of the intention to move, in Alfred R. Mele, (Ed). *Surrounding Free Will: Philosophy, Psychology, Neuroscience*. Oxford University Press, 184-202
10. Mudrik L and **Maoz U** (2014) “Me & my brain”: Exposing neuroscience’s closet dualism in studies of consciousness and free will. *Journal of Cognitive Neuroscience*, 27(2): 211-221
11. **Maoz U** and Flash T. (2014) Spatial constant equi-affine speed and motion perception *Journal of Neurophysiology*, 111(2): 336-349
12. **Maoz U** and Yaffe G, Neuroscience and the Law (2013), in Gazzaniga et al. (Eds.), *Cognitive Neuroscience, The Biology of Mind 4th Edition*, Norton & Company, 1025-1033

13. **Maoz U**, Rutishauser U, Kim S, Cai X, Lee D and Koch C (2013) Predeliberation activity in prefrontal cortex and striatum and the prediction of subsequent value judgment, *Front. Neurosci.* 7:225.  
Featured in spotlight: Hunt, L. T. (2014). What are the neural origins of choice variability? *Trends in cognitive sciences.* 18(5): 222-224
  14. **Maoz U**, Ye S, Ross I, Mamelak A and Koch C (2012) Predicting Action Content On-Line and in Real Time before Action Onset – an Intracranial Human Study. *Advances in Neural Information Processing Systems* **25** MIT Press, 872-880.
  15. Flash T, **Maoz U** and Polyakov F (2009) Arm Trajectory Formation, in Binder MD, Hirokawa N, Windhorst U and Hirsch MC (Eds.), *Encyclopedia of Neuroscience*, Springer
  16. **Maoz U**, Berthoz A and Flash T (2009) Complex Unconstrained Three-Dimensional Hand Movement and Constant Equi-Affine Speed, *Journal of Neurophysiology*, 101(2): 1002-1015
  17. Pollick FE\*, **Maoz U\***, Giblin PJ, Handzel AA, Giblin PJ, Sapiro G and Flash T (2009) Three-dimensional arm movements at constant equi-affine speed. *Cortex* 45(3): 325-339
  18. **Maoz U**, Portugaly E, Flash T and Weiss Y (2005) Noise and the two-thirds power law. *Advances in Neural Information Processing Systems* 18 MIT Press
- \* Equal contribution

### Selected Talks

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- IMPRS NeuroCom/ICN Summer School, London, UK (7/ 2017) “The neuroscience of volition in deliberate and arbitrary decision-making”
  - Sigtuna Conference on Free Will, Sigtuna, Sweden (6/2017) “Randomness, Competition, and Implicit Learning”
  - Behavioral Decision-Making Forum, UCLA Anderson School of management (3/2017) “Neural mechanisms of arbitrary and deliberate decisions”
  - Program on Understanding Law, Science, and Evidence Conference, UCLA Law School (3/2017) “Neuroscience and Criminal Responsibility”
  - Society for Neuroscience (SfN) Annual Symposium (11/2014) “Predicting actions in speeded reaction-time and delayed-action tasks, an intracortical human study” (Chair, "Human Decision-Making: Neural Mechanisms" Nanosymposium)
  - Cognitive Forum of the University of California Los Angeles (2/2014) “Neural Precursors of Decisions that Matter – Single-Neuron, Intracortical & ERP Studies”
  - Big Questions in Free Will Symposium, Florida State University (1/2013) “On the Neural Representation of Deliberate and Random Decisions”
  - Weizmann Institute of Science (10/2013) “Is Consciousness Involved in Deliberate Decision Making? Evidence from Intracranial Recordings”
  - 17<sup>th</sup> Annual Meeting of the Association for the Scientific Study of Consciousness (7/2013) “Is Consciousness Involved in Deliberate Decision-Making? Evidence from Intracranial Recordings” (Concurrent session chair)

- Tahoe Summer School in Cognitive Neuroscience (7/2013) “Cognitive Neuroscience and Criminal Responsibility”
- Big Questions in Free Will Symposium, Florida State University (1/2013) “Reasoned Decisions and the Causal Role of Intentions”
- SAGE Center Forum, University of California Santa Barbara (5/2012) “On Predicting Decisions and Actions, An Intracranial Study in Monkeys and Humans”
- Eidgenössische Technische Hochschule (ETH) Zurich (4/2012) “Predicting Decisions and Actions from Intracranial Signals in Monkeys and Humans”
- Bern University (4/2012) “Predicting Decisions and Actions, Intracranial Studies in Monkeys and Humans”
- Big Questions in Free Will Symposium, Florida State University (1/2012) “Intracranial Study of Free Will and Moral Responsibility”
- Memory and Decision Forum, Stanford University (9/2011) “Neural Prejudice: Prestimulus Activity in the Dorsolateral Prefrontal Cortex Predicts Subsequent Value Judgment”
- Weizmann Institute of Science (4/2011) “Neural Prejudice: Prestimulus Activity in the Dorsolateral Prefrontal Cortex Biases Subsequent Value Judgment”
- Bar Ilan University (4/2011) “Neural Prejudice: Prestimulus Activity in the Dorsolateral Prefrontal Cortex Biases Subsequent Value Judgment”
- Moral Responsibility: Neuroscience, Organization & Engineering, Delft, Netherlands (8/2009) “Deliberation on Deliberation: Moral Responsibility after Libet”
- University of Cambridge (2/2007) “Noise, Smoothness and the Two-Thirds Power Law”
- College de France (6/2005) “Power Laws of Three-Dimensional Hand Movement”
- Massachusetts Institute of Technology (4/2004) “Invariants of Three-Dimensional Movement”

### Selected Conference Abstracts

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- Wong SM, Ziari N, Samad M, **Maoz U** (2017) More on timing the onset of the decision to move in arbitrary and deliberate decisions. *Sigtuna Conference on Free Will*
- Sita K and **Maoz U** (2017) The Double Subject Fallacy: The Effect of Neuroscientific Closet Dualism on Assigning Criminal Responsibility. University of California San Diego *Psi Chi Undergraduate Research Conference*
- **Maoz U** and Merholz G (2016) Can random number generation be taught implicitly? *46<sup>th</sup> Annual Meeting of the Society for Neuroscience*
- Ziari N, Wong SM, Samad M and **Maoz U** (2016) Timing the onset of the decision to move in arbitrary and deliberate decisions. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience*
- R. Rauck, **U. Maoz**, N. Mekel-Bobrov (2016) Different Mechanisms of Action Between Paresthesia and Paresthesia-Free SCS: A PET Study (Best poster award)
- **Maoz U**, Mudrik L, Rivlin R, Yaffe G, Adolphs R and Koch C, Neural precursors of decisions that matter – an ERP study of the role of consciousness in deliberate and random choices (2015), *37<sup>th</sup> Annual Meeting of the Cognitive Science Society*

- **Maoz U**, Mudrik L, Ye S, Eliashiv D, Chung J, Ross I, Mamelak A and Koch C (2013) Predicting deliberate decisions in a competitive environment from neural signals – an intracranial human study. *43<sup>rd</sup> Annual Meeting of the Society for Neuroscience*
- **Maoz U**, Mudrik L, Ye S, Eliashiv D, Chung J, Ross I, Mamelak A, Adolphs R, Yaffe G and Koch C (2013) Is consciousness involved in deliberate decision-making? Evidence from intracranial recordings. *17<sup>th</sup> Annual Meeting of the Association for the Scientific Study of Consciousness* (Oral presentation)
- Jefferson J, **Maoz U**, Tsuchiya N, Tudusciuc O, Ye S, Tsimerinov E, Mamelak A, Eliashiv D, Chung J (2013) Alpha-gamma Frequencies and Their Possible Role in Seizure Evolution, *Neurology*
- Chung J, **Maoz U**, Tsuchiya N, Tudusciuc O, Ye S, Mamelak A, Eliashiv D (2012) Intracranial EEG Ictal Onset Frequency: High or Low? *10<sup>th</sup> European Congress on Epileptology* (Best-poster award)
- **Maoz U**, Ye S, Ross I, Mamelak A and Koch C. (2012) An Intracortical Study of Online Realtime Action-Content Prediction in Patients. *40<sup>th</sup> Neural Interfaces Conference*
- **Maoz U**, Kim S, Rutishauser U, Lee D and Koch C (2010) Neural Prejudice – Single Neuron Representation of Biased Competition for Value-Based Decision Making in the Primate Dorsolateral Prefrontal Cortex. *17<sup>th</sup> Joint Symposium on Neural Computation*
- Rivlin R and **Maoz U** (2009) Deliberation on Deliberation: Moral Responsibility after Libet. *Moral Responsibility: Neuroscience, Organization & Engineering*
- **Maoz U**, Arieli A, Ullman S and Koch C (2008) Using single-trial EEG data to predict laterality of voluntary motor decisions. *Society for Neuroscience Abstracts*
- **Maoz U**, Portugaly E, Flash T and Weiss Y (2006) Noise, smoothness and the two-thirds power law. *Second Computational Motor Control Workshop* (Best-poster award, first prize)
- **Maoz U**, Berthoz A, Weiss Y & Flash T (2005) Power-laws of Three-dimensional Upper Limb Movement. *Progress in Motor Control V*
- **Maoz U**, Berthoz A, Bret B, Tramus MH & Flash T (2005) Three-dimensional arm movement. *Computational Motor Control Workshop*
- **Maoz U**, Berthoz A, Bret M, Tramus MH & Flash T (2004) Three-dimensional arm movement, from measurement to laws of motion. *High Brain Functions: Multidisciplinary Approach for Distributed Neural Systems – French-Israeli Binational Conference*
- **Maoz U** and Flash T (2002) Primitives of Motion - Building Blocks for a Language of Behavior. *Tubingen University German-Israeli Minerva School in Computational Linguistics*

#### Recent Lay-Audience Lectures

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- The Neural Underpinnings of Decision-Making and Free Will, *The Quale at UCLA*, May 2017
- Free will? On the role of consciousness in decision-making, with an aside on undergrad research, *Cognitive Science Student Association of UCLA*, November 2016
- Neuroscience and free will—the old and the new, *Cognitive Science Student Association of UCLA*, January 2016



Uri Maoz, Curriculum Vitae

- The role of consciousness in decision-making: can neuroscience inform the debate on free will? *Mitchabrim LA*, June 2015
- Can neuroscience contribute to the millennia-old debate on free will? *Nerd Nite LA*, February 2014
- Neuroscience, free will and medicine – predicting decisions before awareness of having decided. *Nahariya Hospital Research Forum*, October 2013
- The Problem of Free Will, *C.G. Jung Institute of Los Angeles*, November 2012
- Free Will and Moral Responsibility: A Neuroscientific Perspective, *Joseph Campbell Roundtable LA*, November 2011
- Free will, moral responsibility, neuroscience and Yom Kippur. *Ohr HaTorah Congregation*, October 2011