

CENDRI HUTCHERSON

Department of Psychology
University of Toronto, Scarborough
1265 Military Trail
Toronto, ON M1C 1A4

Office: SW565
Phone: +1-416-287-7447
Email: c.hutcherson@utoronto.ca
<http://decisionneurolab.com>

EMPLOYMENT

University of Toronto	Assistant Professor	2015-
<ul style="list-style-type: none">• Director, Toronto Decision Neuroscience Lab		

EDUCATION

California Institute of Technology	Post-doctoral Scholar	2008-2015
<ul style="list-style-type: none">• Supervisor: Antonio Rangel		
Stanford University	Ph.D. in Psychology	2002-2008
<ul style="list-style-type: none">• Advisor: James Gross		
Harvard University	B.A. in Psychology	1998-2002
<ul style="list-style-type: none">• Advisors: Daniel Simons and Robert Stickgold• Graduated <i>summa cum laude</i>		

RESEARCH INTERESTS

Affective and cognitive influences on decision making – Computational dynamics of value construction and response selection; controlled and automatic influences on value judgments and decisions; neural mechanisms for the cognitive control of choice behavior

Computational and neural bases of social behavior – Computational underpinnings of altruistic and moral behavior; interaction of controlled and automatic processes on social decision making; emotion's role in moral judgment; neural bases of choice for self and other.

RESEARCH GRANTS AND CONTRACTS

2018-2021	P.I., Canada Foundation for Innovation - John R. Evans Leadership Fund and Ontario Ministry of Research and Innovation
<ul style="list-style-type: none">• Title: The Decision Neuroscience Laboratory: Tracking the computational dynamics of decision making and self-control• Total Amount: CAD \$250,000	

- 2017-2022 Co-Investigator, NIH Conte Center Grant**
- Title: The neurobiology of social decision-making: social inference and context.
 - Total Sub-contract Amount: CAD\$371,810
- 2016-2021 P.I., Natural Sciences and Engineering Research Council Discovery Grant**
- Title: Testing the implications of a dynamic, neurally-informed computational model of valuation, decision making, and self-control.
 - Total Amount: CAD\$140,000
- 2016-2019 P.I., Social Sciences and Humanities Research Council Insight Grant**
- Title: Why are people generous? New model-based approaches to long-standing questions.
 - Total Amount: CAD\$130,468
- 2016-2018 P.I., Connaught New Researcher Award**
- Title: Tracking the dynamics of attention and inhibition during dietary self-control
 - Total Amount: CAD\$34,250
- 2007 P.I., Flora Family Foundation Research Grant**
- Title: Neural Correlates of Socio-moral Judgment
 - Total Amount: \$5,000
- 2005 P.I., Francisco K. Varela Research Grant Mind and Life Institute**
- Title: Neural and Behavioral Correlates of Loving-Kindness Meditation
 - Total Amount: \$10,000

HONORS AND AWARDS

- 2018-2023 Canada Research Chair in Decision Neuroscience, Government of Canada
 2014 Best Poster Award, Society for Neuroeconomics
 2008 Psychology Department Continued Excellence in Teaching Award
 2006 Psychology Department Graduate Student Teaching Award
 2006 Wisconsin Health and Emotions Research Symposium Fellow
 2003-2006 NIMH Pre-doctoral Training Grant in Affective Science
 2002-2005 Stanford Graduate Fellowship, Regina Casper Fellow
 2002 Harvard University Psychology Faculty Distinguished Thesis Prize
 2001 Phi Beta Kappa (*one of 48 elected in the fall of senior year*)
 2000-2002 John Harvard Scholarship
 1999 Harvard College Scholarship
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PUBLICATIONS

Supervised trainees indicated via underline.

Tusche, A., & **Hutcherson, C.A.** (in press). Cognitive regulation alters social and dietary choice by changing both domain-general and domain-specific attribute representations. *eLife*.

Lin, H.S., Saunders, B., **Hutcherson, C.A.**, & Inzlicht, M. (2018). Midfrontal theta and pupil dilation parametrically track subjective conflict (but also surprise) during intertemporal choice. *NeuroImage*, *172*, 838-852.

Berkman, E., **Hutcherson, C.A.**, Livingston, J. L., Kahn, L. E., & Inzlicht, M. (2017). Self-control as value-based choice. *Current Directions in Psychological Science*, *26*, 422-428.

Inzlicht, M. & **Hutcherson, C.A.** (2017). People work less hard for others. *Nature Human Behaviour*, *1*, s41562-017-0148.

Hutcherson, C.A., Bushong, B., & Rangel, A. (2015). A neurocomputational model of altruistic choice and its implications. *Neuron*, *87*, 451-462.

Hutcherson, C.A., Montaser Kouhsari, L., Woodward, J. & Rangel, A. (2015). Emotional and utilitarian appraisals of moral dilemmas are encoded in separate areas and integrated in ventromedial prefrontal cortex. *Journal of Neuroscience*, *35*, 12593-12605.

Hutcherson, C.A., Seppälä, E.M., & Gross, J.J. (2015). The neural correlates of social connection. *Cognitive, Affective, and Behavioral Neuroscience*, *15*, 1-15.

Sullivan, N., **Hutcherson, C.A.**, Harris, A.M., & Rangel, A. (2015). Dietary self-control is related to the speed with which health and taste attributes are processed. *Psychological Science*, *26*, 122-134.

Seppala, E.M., **Hutcherson, C.A.**, Nguyen, D.T.H., Doty, J.R. & Gross, J.J. (2014). Loving-kindness meditation: A tool to improve healthcare provider compassion, resilience, and patient care. *Journal of Compassionate Healthcare*, *1*, 1-9.

Hutcherson, C.A., Plassmann, H., Gross, J.J., & Rangel, A. (2012). Cognitive regulation during decision-making shifts behavioral control between ventromedial and dorsolateral value systems. *Journal of Neuroscience*, *32(39)*, 13543-13554.

Sokol-Hessner, P., **Hutcherson, C.A.**, Hare, T., & Rangel, A. (2012). Decision value computation in DLPFC and VMPFC adjusts to the available time. *European Journal of Neuroscience*, *35*, 1065-1074.

Hutcherson, C.A., & Gross, J.J. (2011). The moral emotions: a social functionalist account of anger, disgust, and contempt. *Journal of Personality and Social Psychology*, *100*, 719-737.

Pace-Schott, E.F., **Hutcherson, C.A.**, Bemporad, B., Morgan, A., Kumar, A., Hobson, A., &

Stickgold, R. (2009). Failure to find executive function deficits following one night's total sleep-deprivation in university students under naturalistic conditions. *Behavioral Sleep Medicine*, 7, 136-163.

Hutcherson, C.A., Seppälä, E.M., & Gross, J.J. (2008). Loving kindness meditation increases social connectedness. *Emotion*, 8, 720-724.

Hutcherson, C.A., Goldin, P.R., Ramel, W., McRae, K.N., & Gross, J.J. (2008). Attention and emotion influence the relationship between extraversion and neural response. *Social Cognitive and Affective Neuroscience*, 3, 71-79.c

Bailenson, J.N., Pontikakis, E. D., Mauss, I.B., Gross, J.J., Jabon, M.E., **Hutcherson, C.A.C.**, Nass, C., & John, O. (2008) Real-time classification of evoked emotions using facial feature tracking and physiological responses. *International Journal of Human Machine Studies*, 66, 303-317.

Hutcherson, C.A., Goldin, P.R., Ochsner, K.N., Gabrieli, J.D., Feldman Barrett, L., & Gross, J. J. (2005). Attention to emotion: Does rating emotion alter neural response to sad and amusing films? *NeuroImage*, 27, 656-668.

Goldin, P.R., **Hutcherson, C.A.C.**, Ochsner, K.N., Glover, G.H., Gabrieli, J.D.E., & Gross, J.J. (2005). The neural bases of amusement and sadness: A comparison of block and subject-specific emotion intensity regression approaches. *NeuroImage*, 27, 26-36.

MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

Supervised trainees indicated via underline.

Schmidt, L., Tusche, A., Manoharan, N., **Hutcherson, C.A.**, Hare, T., Plassmann, H. (submitted revision). Neuroanatomy of the vmPFC and dlPFC predicts individual differences in cognitive regulation during dietary self-control across regulation strategies. *Journal of Neuroscience*.

Harris, A.* , Clithero, J.* & **Hutcherson, C.A.*** (under revision). Accounting for taste: A multi-attribute neurocomputational model explains the neural dynamics of choices for self and others. *Journal of Neuroscience*.

Cameron, C.D., **Hutcherson, C.A.**, Scheffer, J., Ferguson, A., & Inzlicht, M. (under review) Empathy is hard work: People choose to avoid empathy because of its cognitive costs. *Journal of Experimental Psychology: General*.

O'Leary, D., **Hutcherson, C.A.**, Smith, A., & Gross, J.J. (under review). Socioeconomic status and food choice: A value-based decision-making account. *Motivation and Emotion*.

Rosenthal, I.A., **Hutcherson, C.A.**, Adolphs, R., & Stanley, D.A. (under review). Model-based analysis of theory-of-mind learning in autism. *Nature Communications*.

Hutcherson, C.A., Lin, H.S., Ilangomaran, D., & Inbar, Y. (in prep). Taboo for you? How people resist the temptation to violate sacred moral values.

Teoh, Y., Yao, Z., Cunningham, W., & **Hutcherson, C.A.** (in prep). No time to be nice? Attentional priorities explain why time pressure changes altruistic choice.

Tusche, A.*, Rangel, A., & **Hutcherson, C.A.*** (in prep). Inhibitory control and virtuous choice: A neurocomputational model.

* Equal contribution.

SELECTED POSTERS AND PRESENTATIONS

Supervised trainees indicated via underline.

Hutcherson, C.A. (2018). Computational insights into sacred values, temptation, and self-control. *Talk presented at the Wharton School of Marketing, University of Pennsylvania, Philadelphia, PA.*

Hutcherson, C.A. (2018). Why doing the right thing is hard, and how to make it easier. *Talk presented at Graduate Professional Day, University of Toronto Scarborough. Toronto, ON.*

Hutcherson, C.A. (2017). Neurocomputational insights into social decision making, morality, and self-control. *Talk presented at the Ryerson University Perception and Cognition colloquium series, Toronto, ON.*

Hutcherson, C.A. (2017). Neurocomputational insights into social decision making, morality, and self-control. *Talk presented at the York University Social Psychology colloquium series, Toronto, ON.*

Hutcherson, C.A., Lin, H., Ilangomaran, D., & Inbar, Y. (2017). Taboo for you? Computational approaches to sacred values and moral temptation. *Talk presented at the 2017 Society for Experimental Social Psychology annual meeting, Boston, MA.*

Clithero, J., Harris, A., & **Hutcherson, C.A.** (2017). Accounting for taste: A multi-attribute neurocomputational model explains divergent choices for self and others. *Talk presented at the 2017 Society for Neuroeconomics annual meeting, Toronto, ON.*

Lin, H., Saunders, B., **Hutcherson, C.A.**, & Inzlicht, M. (2017). Self-control in decision making involves prefrontal theta band oscillatory dynamics. *Poster presented at the 2017 Society for Neuroeconomics annual meeting, Toronto, ON.*

Lin, H., Saunders, B., **Hutcherson, C.A.**, & Inzlicht, M. (2017). Midfrontal theta and pupil dilation parametrically track subjective conflict (but also surprise) during value-guided choice. *Poster presented at the 2017 Society for Neuroeconomics annual meeting, Toronto, ON.*

Schmidt, L., Tusche, A., Manoharan, N., **Hutcherson, C.A.**, Hare, T., & Plassmann, H. (2017). Neuroanatomy of the vmPFC and dlPFC predicts individual differences in self-control ability of dietary decision-making across tasks. *Talk presented at the 2017 Society for Neuroeconomics annual meeting, Toronto, ON.*

Wilson, D., & **Hutcherson, C.A.** (2017). Attention and value integration in multi-attribute choice. *Poster presented at the 2017 Society for Neuroeconomics annual meeting, Toronto ON.*

Hutcherson, C.A. (2017). Neurocomputational insights into self-regulation. *Lecture presented at the Duke Summer School for Social Neuroscience and Neuroeconomics, Durham, NC.*

Hutcherson, C.A., Clithero, J., & Harris, A. (2017). Accounting for taste: A multi-attribute neurocomputational model explains divergent choices for self and others. *Talk presented at the 2017 Interdisciplinary Symposium on Decision Neuroscience. Stanford, CA.*

Lin, H., Saunders, B., **Hutcherson, C. A.**, & Inzlicht, M. (2017). Decision-conflict in the temporal discounting task: Midfrontal theta and pupil dilation track subjective conflict in value-based decisions. *Recipient of a Best Poster Award at the Social & Affective Neuroscience Society annual meeting, Los Angeles, CA.*

Hutcherson, C.A. (2017). Neurocomputational approaches to self-control in social and non-social contexts. *Talk presented at the 2017 Self Regulation Preconference at the Society for Personality and Social Psychology.*

Hutcherson, C.A. (2016). Neurocomputational insights into social decision making and self-control. *Talk presented at the Neuroimaging Rounds, Toronto Western Hospital, Toronto, ON.*

Hutcherson, C.A. & Inbar, Y. (2016). Taboo for you? Computational approaches to taboo tradeoffs and sacred values. *Talk presented at the Society for Judgment and Decision Making annual meeting, Boston, MA.*

Hutcherson, C.A. & Tusche, A. (2016). Neural and computational mechanisms for the attentional modulation of value. *Talk presented at the Society for Neuroscience annual meeting, San Diego, CA.*

Hutcherson, C.A. & Tusche, A. (2016). Neurocomputational insights into social decision making and self-control. *Talk presented at the California Institute of Technology Conte Meeting, Pasadena, CA.*

Lin, H., Saunders, B., **Hutcherson, C. A.**, & Inzlicht, M. (Sept 2016). Neurometric variation of decision conflict: Neurophysiological signals during intertemporal choice. *Poster presented at the Society for Psychophysiological Research annual meeting, Minneapolis, MN.*

Tusche, A., & **Hutcherson, C.A.** (2016). Neurocomputational mechanisms for the attentional modulation of value. *Talk presented at the Society for Neuroeconomics meeting, Berlin, Germany.*

Hutcherson, C.A., Tusche, A., & Rangel, A. (2016). Neurocomputational insights into values, morals, and self-control. *Talk presented at the Foundations of Utility and Risk Conference, University of Warwick, England.*

Hutcherson, C.A., Tusche, A., & Rangel, A. (2016). Neurocomputational mechanisms for the attentional modulation of value in social and non-social choice domains. *Talk presented at the Center for Vision Science Symposium: The Future of Attention, Rochester, NY.*

Hutcherson, C.A., Tusche, A., & Rangel, A. (2016). Neurocomputational insights into social decision making and self-control. *Talk presented at the 6th International Symposium on the Biology of Decision Making, Paris, France.*

Hutcherson, C.A., Sullivan, N., & Rangel, A. (November, 2014). Delays in computing health information and inhibiting taste information influence healthy eating. *Talk presented at the 2014 meeting of the Society for Judgment and Decision Making.*

Hutcherson, C.A., Bushong, B., & Rangel, A. (September, 2014). A neurocomputational model of altruistic choice and its modulation by attention. *Awarded Best Poster at the 2014 meeting of the Society for Neuroeconomics, Miami, FL.*

Hutcherson, C.A., Montaser-Kouhsari, L., & Rangel, A. (April, 2014). Neural correlates of emotional and utilitarian considerations in moral decision-making. *Talk presented at the 2014 meeting of the Social and Affective Neuroscience Society, Denver, CO.*

Hutcherson, C.A., Sullivan, N. & Rangel, A. (February, 2014). Altruistic motives emerge later than selfish ones: tracking the online construction of generous choices. *Poster presented at the 2014 meeting of the Society for Personality and Social Psychology, Austin, TX.*

Hutcherson, C.A., Montaser-Kouhsari, L., & Rangel, A. (November, 2013). Neural correlates of emotional and utilitarian considerations in moral tradeoffs. *Poster presented at the 2013 meeting of the Society for Judgment and Decision Making, Toronto, Canada.*

Hutcherson, C.A., (November, 2013). Investigating the dynamics of reactivity and regulation of food choice using fMRI and computational modeling. *Talk given at the 2013 meeting of the Society for Neuroscience, San Diego, CA.*

Hutcherson, C.A. (April, 2013). Consciousness, self-control, and the brain. *Invited talk presented at the University of Delaware's Center for Science, Ethics, and Public Policy, Dover, DE.*

Stanley, D.A., **Hutcherson, C.A.**, Adolphs, R. (April, 2013). A novel paradigm for investigating the neural and computational mechanisms of Theory of Mind. *Poster presented at the 2013 meeting of the Social and Affective Neuroscience Society, San Francisco, CA.*

Hutcherson, C.A., Bushong, B., Rabin, M., & Rangel, A. (October, 2012). Distinct neural computations support different motives for generosity. *Talk presented at the 2012 meeting of the Society for Neuroscience, New Orleans, LA.*

Stanley, D.A., **Hutcherson, C.A.**, & Adolphs, R. (October, 2012). A novel paradigm for investigating the neural and computational mechanisms of Theory of Mind. *Poster presented at the 2012 meeting of the Society for Neuroscience, New Orleans, LA.*

Pavlicek, B., **Hutcherson, C.A.**, & Plassmann, H. (September, 2012). Differences in dietary self-control and its psychological underpinnings. *Poster presented at the 2012 meeting of the Society for Neuroeconomics, Key Biscayne, FL.*

Hutcherson, C.A., Bushong, B., Rabin, M., & Rangel, A. (June, 2012). Making decisions about others' welfare: neural measures reveal distinct motivations for altruistic choice. *Talk presented at the Paris School of Economics Workshop on Collective Decision Making, Paris, France.*

Hutcherson, C.A. (October, 2011). The neural basis of simple and complex choice. *Lecture given at University of California, San Diego, Cog Sci 200: Cognitive Sciences Seminar, San Diego, CA.*

Hutcherson, C.A., Bushong, B., Rabin, M., & Rangel, A. (2010). Alternative neural mechanisms guide altruistic behavior. *Talk presented at the 2010 meeting of the Social and Affective Neuroscience Society, Chicago, IL.*

Hutcherson, C.A., Plassmann, H., Gross, J.J., & Rangel, A. (2010). Cognitive modulation of stimulus values at the time of decision making. *Poster presented at the 2010 meeting of the Cognitive Neuroscience Society, Montreal, Quebec, Canada.*

Hutcherson, C.A., & Rangel, A. (2009). Parallel reinforcement learning signals in the hippocampus and striatum guide acquisition of stimulus-outcome and stimulus-reward associations. *Talk presented at the 2009 meeting of the Society for Neuroeconomics, Evanston, IL.*

Hutcherson, C.A., Plassmann, H., Gross, J.J., & Rangel, A. (2009). Cognitive modulation of goal values at the time of decision making. *Poster presented at the 2009 meeting of the Society for Neuroeconomics, Evanston, IL.*

Hutcherson, C.A., & Rangel, A. (2009). Learning "What" and "How good": Ventral striatum encodes both reward and identity prediction errors. *Poster presented at the 2009 meeting of the Organization for Human Brain Mapping, San Francisco, CA.*

Hutcherson, C.A., & Rangel, A. (2009). “What” and “How Good”: Common and distinct neural mechanisms encode reward and identity prediction. *Poster presented at the 2009 meeting of the Cognitive Neuroscience Society, San Francisco, CA.*

Hutcherson, C.A., Seppälä, E.M., & Gross, J.J. (2009). Selfless or Selfish: The neural correlates of compassion. *Poster presented at the 2009 meeting of the Society for Personality and Social Psychology, Tampa Bay, FL.*

Hutcherson, C.A., Seppala, E.M., & Gross, J.J. (2008). Compassion, emotion, and meditation: From behavior to brain. *Invited talk presented at the 6th Annual Scientific Conference on Mindfulness, Worcester, MA.*

Hutcherson, C.A., Goldin, P.R., Ramel, W., McRae, K., & Gross, J.J. (2007). Attention influences the relationship between personality, emotion, and neural response. *Poster presented at the 2007 meeting of the Organization for Human Brain Mapping, Chicago, IL.*

Hutcherson, C.A., Seppala, E.M., & Gross, J.J. (2007). The effects of meditation on explicit and implicit interpersonal responding. *Poster presented at the 2007 meeting of the Society for Personality and Social Psychology, Memphis, TN.*

Hutcherson, C.A., & Gross, J. J. (2006). Disgust, anger, and morality: A functionalist perspective. *Poster presented at the 2006 Society for Personality and Social Psychology Emotion Pre-conference, Palm Springs, CA.*

Hutcherson, C. A., Pace-Schott, E. F., Bemporad, B., Stickgold, R., Kumar, A. & Hobson, J. A. (2002). Development of a repeatable battery of tests of prefrontal function for sleep deprivation studies. *Sleep, 25, 625 Suppl.*

TEACHING

PSY5403. Computational and Neural Models of Decision Making (University of Toronto)

- Instructor

PSYC57H3. Cognitive Neuroscience of Decision Making (University of Toronto Scarborough)

- Instructor (Student Evaluations: 4.3/5)

PSYC13H3: Social Cognition (University of Toronto Scarborough)

- Instructor (Student Evaluations: 4.2/5)

Psych 70: Social Psychology (Stanford, Spring 2008)

- Teaching Assistant (Student Evaluations: 4.8/5)

Psych 104S: Affective Neuroscience (Stanford, Summer 2006 & 2007)

- Co-Instructor (Student Evaluations: 4.6/5)

Psych 114S: Personality and Individual Differences (Stanford, Summer 2006 & 2007)

- Co-Instructor (Student Evaluations: 4.9/5)

Psych 120/Bio 153: Cellular Neuroscience (Stanford, Winter 2005, Fall 2007)

- Head Teaching Assistant

Psych 1: Introductory Psychology (Stanford, Fall 2005 & 2006, Spring 2006)

- Teaching Assistant

Psych 50: Cognitive Neuroscience (Stanford, Winter 2004)

- Teaching Assistant

Psych 20: Brain and Behavior (Stanford, Fall 2003)

- Teaching Assistant

ASSOCIATION MEMBERSHIPS

American Psychological Association

Association for Psychological Science

Cognitive Neuroscience Society

Neuroethics Society

Organization for Human Brain Mapping

Social and Affective Neuroscience Society

Society for Judgment and Decision-Making

Society for Neuroeconomics

Society for Neuroscience

Soc. for Personality and Social Psychology

AD HOC REVIEWER

Cerebral Cortex

Cognitive, Affective, and Behavioral Neuroscience

Current Directions in Psychological Science

eNeuro

Emotion

Frontiers in Decision Neuroscience

Human Brain Mapping

Journal of Compassionate Healthcare

Journal of Experimental Psychology: General

Journal of Neuroscience

Journal of Neurophysiology

Journal of Personality and Social Psychology

Memory and Cognition

Mindfulness

Nature Human Behavior

Nature Neuroscience

Neurobiology of Stress

Neuroimage

Neuropsychologia

*Organizational Behavior and Human
Decision Processes*
Philosophical Psychology
PLOS One
PLOS Computational Biology
PNAS
Psychological Science
Social and Personality Psychology
Compass

*Social Cognitive and Affective
Neuroscience*
Personality and Social Psychology Review
*Social Psychological and Personality
Science*
Social Theory and Health
Spanish Journal of Psychology
Trends in Cognitive Sciences