

**Curriculum Vitae**  
**Summer 2008**  
**Kathleen Carrie Armel**

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Stanford University

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## **Research Positions**

- 7/08-Current, Research Associate, Precourt Institute for Energy Efficiency, Stanford
- 1/07-6/08, Postdoctoral Fellow, Stanford Prevention Research Center, Stanford University
- 2004-6, Postdoctoral Fellow, Economics Department, Stanford University
- 1995-6 Research Assistant, Massachusetts Jamaica Plains VA & Beth Israel Hospital, Time Estimation in Amnesic and Frontal Patients
- 1994-5 Honors Thesis, NCSU, Mechanisms Underlying Visual Imagery
- 1994 Research Assistant, NCSU, Nutritional Support by Neuronal Glial Cells

## **Higher Education**

- Ph.D., 10/03, University of California, San Diego  
Joint degree in Psychology and Cognitive Science, Concentration in Neuroscience
- M.A., 1997, University of California, San Diego
- B.A., 1995, North Carolina State University, Raleigh  
Magna Cum Laude; Psychology  
Pre-Medicine concentration & Cognitive Science minor

## **Work in Progress**

- Preparing an integrative paper that identifies the most effective behavior change techniques from multiple disciplines so that they may be translated and applied to addressing climate change. It also identifies key questions for future research.
- Developing climate-positive behavior change interventions.
- Developing tools for measuring climate change relevant behaviors, for use in evaluating the efficacy of behavior change interventions, and in providing feedback to individuals. With Thomas N. Robinson, I developed the “Stanford Climate Change Behavior Survey”. I am also working with a team of several faculty to adapt technologies that can objectively quantify behavior and provide feedback.
- Developing a “Behavior and Energy” website and literature database, which serves as a central repository for research on climate relevant behavior, and also serves as the official website for the Behavior, Energy, and Climate Change conferences.  
<http://piee.stanford.edu/behavior>

## **Professional Associations & Service**

- Ad-Hoc Reviewer for: Climatic Change, American Economic Review, Neurocase, Psychophysiology
- Member of: Society for Neuroeconomics, Society for Neuroscience, Cognitive Neuroscience Society, Society for Psychophysiological Research
- 2008 Chair of the “Electricity Use, Measurement, and Feedback Workshop” (Stanford, CA)

- 2008 Invited expert on electricity measurement technologies at the American Gas Association Board Meeting, San Diego, CA
- 2008 Invited expert to the Department of Energy workshop on “Behavior and Residential Energy Use”
- 2008 Co-chair for the 2<sup>nd</sup> national “Behavior, Energy, and Climate Change Conference” (Sacramento, CA)
- 2007 Co-chair for the 1<sup>st</sup> national “Behavior, Energy, and Climate Change Conference” in Sacramento, CA (and moderator for the sessions “Building on Experience: What We Can Learn From Entertainment & Other Fields” and “Quantifying Behavior and its Impact”)
- 2007 Developed the Precourt Institute for Energy Efficiency’s “Behavior and Energy” website and database
- 1998-2002 Appeared on NBC nightly news, Nova, and BBC
- 1999-2000 Served as Colloquium Representative, UCSD Department of Psychology
- 1999 Organized the Brain, Conscious Experience, and Human Nature Conference in La Jolla which lasted two days and included 15 international speakers

## Awards

- 2007 Grant from the Precourt Institute at Stanford University, for developing a website, literature database, and review paper. (\$63,000)
- 2001-2 University of California President’s Dissertation Fellowship
- 2000 Summer Institute in Cognitive Neuroscience, Dartmouth
- 1999, 2000 Graduate Student Travel & Subject Payment Grants, UCSD

## Peer-Reviewed Publications

Armel, K. C. (in preparation). Behavior and energy: A solutions-oriented approach on how an understanding of behavior can help address climate change and energy insecurity.

Armel, K. C. (in preparation, invited by Environmental Law Review). Estimating greenhouse gas emissions for individual behaviors.

Armel, K. C., Yan, K., & Robinson, T. N. (submitted to Climatic Change). Validation of the Stanford Climate Change Behavior (SCCB) Survey: Assessing greenhouse gas emissions-related behaviors in individuals and populations.

Ian Karjibich, I., Armel, C., & Rangel, A. (in preparation). Visual attention drives the construction and comparison of values in simple economic choice.

Chiba, A. A. and Armel, K. C. (in preparation). Neural underpinnings of the mere exposure effect.

Balogh, J., Armel, C., & Cohen, M.H. (submitted). Preference for rapid reprompt as an error recovery strategy.

Armel, K. C., Pulido, C., Wixted, J., Chiba, A. (accepted at Learning and Motivation). Forming preferences: Behavioral, facial electromyography, and preferential looking findings.

Armel, K. C., Beaumel, A., & Rangel, A. (2008). Biasing simple choices by manipulating relative visual attention. *Judgment and Decision Making*, 3, 396–403.

Armel, K. C. & Rangel, A. (2008). The impact of computation time and experience on decision values. *American Economic Review*, 98, 163-68.

Armel, K. C. & Ramachandran, V. S. (2003). Projecting sensations to external objects: Evidence from skin conductance response. *Proceedings of the Royal Society of London: Biological*, 270, 1499-1506.

Armel, K. C. & Ramachandran, V. S. (1999). Acquired synesthesia in retinitis pigmentosa. *Neurocase: Case Studies in Neuropsychology, Neuropsychiatry, & Behavioural Neurology*, 5 (4), 293-296.

Ramachandran, V. S., Armel, C., Foster, C., Stoddard, R. (1998). Object recognition can drive motion perception. *Nature*, 395 (6705), 852-853.

Armel, K. C. (working paper). Characteristics and neural underpinnings of stimulus-specific predispositions (a review). (Regarding 'hard-wired' responses to affective cues.)

## Technical Publications

Armel, C., Donnelly, K., Mokriam, P. (in preparation). Reducing energy demand through electricity measurement and feedback technologies. *Precourt Institute for Energy Efficiency White Paper*, Stanford University, Stanford, CA.

Balogh, J., Armel, C., and Cohen M. H. (2000). Preference for rapid reprompt as an error recovery strategy. Internal Nuance publication.

## Invited Talks and Conference Presentations

Armel, C. (September 4, 2008). Reducing energy demand through electricity measurement and feedback technologies. *Electricity Measurement and Feedback Workshop*, Stanford University, Stanford, CA.

Armel, C. (August 4, 2008). Changes in energy usage as indicators of audience engagement in sustainability messaging. *Wallenberg Hall Summer Institute*, Media X, Stanford University, Stanford, CA.

Armel, C. (May 29, 2008). Behavior, energy, and climate change. *Stanford Prevention Research Center Research Conference*, Stanford University, Stanford, CA.

Armel, C. (April 19, 2008). Quantifying carbon emissions. *Climate Change and Consumption Conference*, Vanderbilt University, Nashville, TN.

Armel, C. (March 14, 2008). Energy impacts of behavioral choices. *Lighting and Health Symposium*, San Francisco, CA. (panel)

Armel, C. (March 4, 2008). Theory, methods, and work at the intersection of behavior and energy. Stanford's *Young Environmental Scholars Workshop*. (panel)

Armel, C. (February 27, 2008). Using the behavioral sciences to address climate change and energy security issues. Stanford's *Energy Seminar Colloquium*.

Armel, C. (February 8, 2008). Using the behavioral sciences to address climate change and energy security issues. Acterra's (SF Bay environmental group) *Be The Change* course for helping professionals to develop environmental programs.

Armel, C. (November 26, 2007). How can the behavior sciences help address climate change and energy security? Lecture in *Reducing Stanford's Carbon Footprint Course*, Stanford University, CA. (Instructor: Sarah Rizk)

Armel, C. (November 8, 2007). Applying Health Promotion Intervention Principles to Climate Change. *Behavior, Energy, and Climate Change Conference*, Sacramento, CA.

Armel, C., Dudek, B., Bad Wound, A.C. (November 8, 2007). Behavior and Energy Website and Database. *Behavior, Energy, and Climate Change Conference*, Sacramento, CA.

Armel, C. (August 24, 2007). How can the Behavioral Sciences Help Reduce Energy Use? *National Research Program and Network on Human Behavior and Climate Change*, Vanderbilt University, Nashville, TN.

Armel, C. (July 27, 2007). Behavior and Energy Efficiency. *Workshop on Energy Efficiency (sponsored by Stanford's Precourt Institute and organized jointly with the Climate Change Impacts and Integrated Assessment workshop)*, Snowmass, CO.

Armel, C. (March 6, 2007). Behavior, Energy, and Climate Change. Lecture in *Climate Change Seminar*, Stanford University, CA. (Professor: Steve Schneider)

Armel, C. (February 27, 2007). Behavior, Energy, and Climate Change. Lecture in *Controlling Climate Change in the 21st Century Course*, Stanford University, CA. (Professor: Steve Schneider)

Armel, C. (November, 2004). Forming preferences: Behavioral, facial electromyography, and preferential looking findings. *Stanford's SPANLAB Lab Meeting*, Stanford University, CA. (Professor: Brian Knutson)

Various presentations for the Precourt Institute for Energy Efficiency Advisory Board meetings and laboratory meetings, in addition to colloquia etc. during graduate school, are not listed above.

## Conference Posters

Rangel, A., Krajbich, I., & Armel, C. (2008). Visual attention drives the construction and comparison of values in simple economic choice. *Society for Neuroscience*, Washington DC.

Karjbich, I., Armel, C., & Rangel, A. (2008). Visual attention drives the construction and comparison of values in simple economic choice. *Cognitive Neuroscience Society*, San Francisco, CA.

Armel, C., Dudek, B., Bad Wound, A.C. Behavior and Energy Website and Database. *Behavior, Energy, and Climate Change Conference*, Sacramento, CA, November 8, 2007. *Stanford University School of Engineering Reunion Homecoming Poster Session*, Stanford, CA, October 12, 2007. *Stanford's Precourt Institute for Energy Efficiency Advisory Board Meeting* Stanford, CA, April 10, 2007.

Armel, C., Rangel, A. (2005). Attention Duration and the Computation of Decision Values in Simple Choice. *Society for Neuroeconomics*, Kiawah Island, SC.

Armel, C., Pulido, C., Wixted, J., Chiba, A. (2004). Forming preferences: Behavioral, facial electromyography, and preferential looking findings. *Society for Psychophysiological Research*, Santa Fe, NM.

Armel, C., Knutson, B.K., Rangel, A. (2004). Simple Choice: Psychophysiological and Neural Correlates. *Society for Neuroeconomics*, Kiawah Island, SC.

Armel, C. (2003). A review and prospectus of the neural bases of stimulus-specific predispositions. *Society for Neuroscience*, New Orleans, LA.

Armel, C., Ramachandran V.S., Armstrong, S., & Weiss, S. (2000). Projecting sensations to external objects: Skin conductance response evidence. *Cognitive Neuroscience Society*, San Francisco, CA.

Ramachandran, V. S., Foster, C., Armel, C., Stoddard, R. (1998). Object recognition can drive motion perception. *Society for Neuroscience*, Los Angeles, CA.

Armel, C. & Ramachandran V.S. Acquired Synesthesia in Retinitis Pigmentosa. (1998). *Cognitive Neuroscience Society*, San Francisco, CA.

Ramachandran, V.S., Hirstein, W., & Armel, K. C. (1997). Heightened Religiosity in Temporal Lobe Epilepsy. *Society for Neuroscience*, New Orleans, LO.

Grossfeld, R., Armel, K. C., and others. (1994). Nutritional Support by Glial Cells. *North Carolina State University Poster Session*, Raleigh, NC.

## Teaching Experience

- 2007 & 2008 Designed and taught “Promoting Behavior Change” with Thomas N. Robinson at Stanford. The course focused on Climate Change relevant behaviors. The course focuses on behaviors relevant to climate change. It provides an overview of effective behavior

change techniques from various behavioral science disciplines, and the students translate theory into practice by working with local organization to develop interventions aimed at promoting carbon-neutral behaviors.

- 2002 Taught the upper-division undergrad. course “Brain Disorders & Cognition” at UCSD.
- 2001 Led a cognitive science graduate seminar and colloquium series on decision-making at UCSD.
- 1999-2000 Designed and taught the course “Understanding Human Nature Through The Behavioral Sciences” to minority high school students. Students were encouraged to think “outside the box” about the roots of societal problems, and how these might be alleviated. The course covered findings from cross-cultural anthropology, social psychology, behavioral neuroscience, and non-human primate behavior. Students also learned about methods in these fields; e.g., through a neuroscience laboratory visit and a primate ethology activity at the San Diego Zoo.
- 1996-2001 Teaching Assistant for numerous courses. Gave several guest lectures.

## Advisees

I have supervised the research of 20+ undergraduate and graduate students at UCSD and Stanford. The following students worked with me for at least one year and participated in honors or other special research programs: Carmen Pulido, Han Nguyen, Tim Nguyen, Aurelie Beaumel, Chris Candelaria, James Kung, Lara Rangel, Ben Dudek, and Lindsay Allen.

## Other

- Hobbies: basketball, hiking, camping, creating visual art.
- Fall 2000 and periodic consulting work. Performed usability studies at Nuance Communications, a speech recognition company. This involved interviewing and testing lay people, analyzing data, writing technical reports, and giving business presentations.
- Summer 1998 Studied bonobos (pygmy chimpanzees) at the San Diego Zoo, and helped a UCSD research group design an ethogram for recording their behaviors.
- Public Service:
  - 2004 Union of Concerned Scientists, developed an educational talk on climate change for a speakers bureau.
  - 1998-9 Raleigh NC, elected to the environmental board that advises city council.
  - 1991-4 Developed a university-wide plastic recycling program; other env. activities.
  - 1991 Easton MA, nominated to the town recycling committee.
  - 1989-91 Developed a comprehensive high school recycling program, began and ran the school environmental group, editor-in-chief of school literary arts magazine, etc.