

NIK SAWE

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EDUCATION

Stanford University, Stanford, CA 2016
PhD in Environment and Resources
Emmett Interdisciplinary Program in Environment and Resources
Dissertation: The Neuroeconomics of Environmental Decision-Making: Individual Differences and Behavior
Advising Committee: Drs. Brian Knutson, Nicole Ardoin, Robert Sapolsky, Ursula Heise

Stanford University, Stanford, CA 2007
Bachelor of Science, Biology

ACADEMIC APPOINTMENTS

Lecturer, Emmett Interdisciplinary Program in Environment and Resources, Stanford University 2016 – Present

Senior Fellow, Effective Philanthropy Lab, Stanford University 2017 – Present

Project Scientist, Energy Analysis & Environmental Impacts Division, Lawrence Berkeley National Laboratory 2018 – Present

Research Associate, Precourt Energy Efficiency Center, Stanford University 2016 – 2017

Postdoctoral Scholar, Management Science & Engineering, Stanford University 2016

RESEARCH INTERESTS

My work adapts neuroeconomics to study decision-making on environmental issues, using nationwide surveys in tandem with behavioral economics and neuroimaging experiments using fMRI, I assess individual decisions across topics from energy efficiency consumer behavior to environmental philanthropy and valuation of natural resources. The ultimate aim is to improve choice architecture and efficacy of environmental policies and valuation metrics, with neuroimaging experiments employed to enhance prediction of population-level environmental behavior impacts.

PUBLICATIONS

PEER-REVIEWED JOURNAL ARTICLES

Sawe, N. 2018, "Adapting Neuroeconomics for Environmental and Energy Policy," *Behavioural Public Policy* (In Press).

Sawe, N. 2017, "[Using Neuroeconomics to Understand Environmental Valuation](#)," *Ecological Economics*, 135, 1-9.

Lukacs, H., Sawe, N., Ulibarri, N. 2017, "[Risk, Uncertainty, and Institutional Failure in the 2014 West Virginia Chemical Spill](#)," *Case Studies in the Environment*, 1, 1-7.

Sawe, N., Knutson, B. 2015, "[Neural Valuation of Environmental Resources](#)," *NeuroImage*, 122, 87-95.

Sawe, N., Steinberg G K, Zhao H. 2008, "[Dual Roles of the MAPK/ERK1/2 Cell Signaling Pathway After Stroke](#)," *Journal of Neuroscience Research*, 86 (8), 1659-1669.

FORTHCOMING MANUSCRIPTS & WORKING PAPERS

Sawe, N., Sahoo, A., Hershfield, H., Knutson, B. "Distinct Roles of Future Self-Continuity and Temporal Discounting in Asset Accumulation and Allocation," Under Revision for *Marketing Science*.

Sahoo, A., Sawe, N. 2015, "The Heterogeneous Effects of Eco-Labels on Internalities and Externalities," Working Paper available at:
https://steyvertaylor.stanford.edu/sites/default/files/publications_files/heterogeneouseffectsms.pdf

IN PREPARATION

Sawe, N., Sahoo, A., Tang, G., Knutson, B. "The Neural Basis of Energy-Efficient Purchases." In Preparation for *Nature Energy*.

Flora, J., Sawe, N., Saphir, M., Anderson, R., Lappe, M. "Effects on Knowledge, Attitude, and Behavioral Intentions of a Climate Science Lesson: A Controlled Comparison of Live and Digital Presentations," In Preparation for *Nature Climate Change*.

Sahoo, A., **Sawe, N.** "Differences in Numeracy and Pro-Environmental Attitudes Influence Individual Response to Eco-Labels."

RESEARCH GRANTS

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|---|-------------|
| Precourt Institute for Energy's Bits and Watts Seed Funding Grant: "Using Behavioral Economics to Forecast Energy Consumer Engagement and Response." (\$28,000) | 2017 |
| National Geographic Society Education Grant: "Using Neuroimaging to Advance Conservation Education," w/ T. Thys (\$75,000) | 2017 |
| Precourt Energy Efficiency Center Research Grant, w/ B. Knutson and A. Sahoo (\$143,000) | 2012 |
| Center for Cognitive and Neurobiological Imaging Research Grants (\$14,740) | 2011 – 2018 |
| Emmett Interdisciplinary Program in Environment and Resources Summer Research Grants (\$16,000) | 2011 – 2014 |
| Stanford School of Earth Sciences McGee Grant (\$6,000) | 2011 – 2014 |
| Stanford Angel Grant (\$3,000) | 2007 |

TEACHING

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| EnvRes 240. Environmental Decision-Making and Risk Perception <i>Lecturer and Course Developer</i> | 2014 – 2018 |
| EnvRes 250. Environmental Governance <i>Lecturer and Course Developer</i> | 2017 – 2018 |
| EnvRes 200/EarthSys 200. Sustaining Action: Research, Analysis, and Writing for the Public <i>Teaching Assistant (2012) and Guest Lecturer (2013-2015)</i> | 2012 – 2015 |

See below for further guest lecture history.

INVITED TALKS AND LECTURES

CONFERENCES

"Using Neuroscience to Predict Nationwide Energy Decisions." Oral Presentation. Behavior, Energy, and Climate Change Conference, October 2017.

"Neural Predictors of Energy-Efficient Purchases." Oral Presentation. Interdisciplinary Symposium for Decision Neuroscience, June 2017.

"The Influence of Eco-Labeling on Neural Predictors of Energy-Efficient Purchases." Poster Presentation. Society for Neuroscience Annual Conference, November 2016.

"Neural Valuation of Eco-Labeled and Energy-Efficient Purchases." Oral Presentation. Association for Psychological Science Annual Conference, May 2016.

"The Neuroeconomics of Energy-Efficient Purchases." Oral Presentation. Behavior, Energy, and Climate Change Conference, October 2015.

"The Neuroscience of Environmental Decision-Making." Oral Presentation. Association for Environmental Studies and Sciences Annual Conference, June 2015.

"Neural Valuation of Environmental Resources." Poster Presentation. Society for Neuroeconomics Annual Conference, September 2014.

"Neural Valuation of Environmental Resources." Poster Presentation. Interdisciplinary Symposium on Decision Neuroscience, June 2014. *Awarded Silver Medal for Best Poster Presentation.*

"The Impact of the Energy Star Label on Consumer Decision-Making." With Anshuman Sahoo, Oral Presentation. United States Association of Energy Economics North American Conference, July 2013.

"Neural Correlates of Environmental Valuation." Poster Presentation. Social and Affective Neuroscience Society Meeting, April 2013.

"Neuroimaging of Environmental Valuation." Oral Presentation. Society for Risk Analysis Annual Meeting, December 2012.

INVITED LECTURES

- “Using Neuroimaging to Understand How Nature Imagery Drives Engagement and Philanthropy.” National Geographic Workshop: *The Science of Visual Storytelling*, London, December 2017.
- “Exploring Our Environmental Decisions: From an Individual Brain to National Behavior.” National Geographic / Wall Street Journal Expedition, *Celebrating Human Ingenuity: An Exploration of Technology and Creativity by Private Jet*, October 2017.
- “The Psychology of Science Communication.” UC Santa Cruz, October 2017.
- “The Science of Decision-Making.” Panel Discussion. Worldview Stanford (Executive Ed.), April & July 2015, April 2017.
- “Neural Valuation of Environmental Resources.” Seminar lecture, with Brian Knutson. UC Merced, Mind, Technology, and Society seminar series, February 2016.
- “Environmental Risk and Resilience.” Panel Discussion. Worldview Stanford (Executive Ed.), December 2014.
- “The Climate Debate Demystified: The Psychology, Media, and Communication Behind Climate Change.” Panel Discussion. Stanford School of Earth Sciences, November 2014.
- “Neuroeconomics, Behavioral Nudges, and Environmental Valuation.” University of Wisconsin-Madison, October 2014.

SELECTED GUEST LECTURES

EnvRes 315. Environmental Research Design Seminar (2017), CEE 146A. Engineering Economy (2016), EnvrInst 220. The Social Ocean: Ocean Conservation, Management, Ethics, and Policy (2016), EarthSys 291. Introduction to Environmental Communication (2015), Law 330. Judgment and Decision-Making (2013).

PUBLIC OUTREACH

SELECTED PUBLIC TALKS

- “Our Brains, Our Choices, and the Environment.” Blue Mind Summit, Monterey, CA, May 2016.
- “[Your Brain, The Environment, and Our Decisions](#).” TEDx Stanford, May 2015.
- “How Our Brains Motivate Environmental Protection.” Bioneers Summit Conference, San Rafael, CA, October 2014.
- “Nature, the Brain, and Our Decisions.” Blue Mind Summit, Cornwall, UK, June 2014.
- “Heuristics and Biases in the Perception of Climate Change Risk.” with Fran Moore. Breakout Session. Connecting the Dots 2014: The Climate, Energy, Food, and Water Nexus, Stanford University, April 2014.
- “Visual Cortex String Quartet: Sonification of fMRI Data.” Talk and Concert Piece. Center for Computer Research in Music and Acoustics Spring Concert, Bing Concert Hall, Stanford University, May 2013.
- “Your Brain on Nature: Using fMRI to Understand How We Value the Environment.” Blue Mind Summit, San Francisco, June 2012.
- “Behavioral Economics, Decision Science, and Environmental Activism.” Environmental Defense Fund, San Francisco, June 2011.
- “The Neuroeconomics of Environmental Decision-Making.” Environmental Defense Fund, San Francisco, March 2011.
- “The Yellowstone Reintroduction.” Lecture Series on wolf reintroduction, numerous schools, libraries, and camps, 2001.

POPULAR WRITING

Sawe, N., Treviño, J., Oakes, L. 2017. “The Sound of Alaska’s Yellow Cedar Trees,” in *We Can Stay Here While We Wait – Voices in the Anthropocene*, M. Byskov, S. Thastum, L. Thastum, eds., Narayana Press, Århus, Denmark, 204-211.

Sawe, N. March 14, 2014. “[California Drought: Why It Is Hard to Conserve](#).” San Francisco Chronicle op-ed.

***Wolf Trails*, Novel**

2001

- Young Adult fiction novel chronicling the lives of a wolf pack reintroduced to the wild.

SELECTED MEDIA COVERAGE

- “[How to Listen to Data](#).” Science Friday, February 7, 2017.
- “[This Music Was Composed by Climate Change](#).” Smithsonian.com, September 23, 2016.
- “[Tree Loss Is Put to Music](#).” Scientific American, September 20, 2016.
- “[The Sound of Science](#).” Outside Podcast, September 20, 2016.

[“The Sound of Climate Change.”](#) The Atlantic, September 16, 2016.

[“The Art of Turning Climate Change Into Music.”](#) Outside Magazine Online, September 6, 2016.

[“A Penny for Your Thoughts.”](#) National Parks Magazine, Spring 2016.

[“How Emotions Sway Decisions.”](#) Stanford News, October 16, 2015.

[“Stanford Scientists See How the Brain Makes Environmental Decisions.”](#) Stanford News, September 11, 2015.

ADVISING & MENTORING

Undergraduate/M.S. Research Mentor, Rebecca Layne, B.S., Mathematical and Computational Sciences (2016 – 2018), Brittany Meghan Gibbons, M.S., Earth Systems (2017 – 2018), Armelle Coutant, B.S., Biology (Neuroscience) (2017), Elise Miller, B.S., Earth Systems (2016 – 2017), Valerie Gamao, B.S., Management Science and Engineering (2015 – 2017), Caroline Ferguson, B.S. & M.S., Earth Systems (2013 – 2015), Taurean Butler, B.A., Human Biology, M.A., Psychology (2011 – 2014)

ACADEMIC SERVICE

Stanford School of Earth Sciences Graduate Student Advisory Committee 2011 – 2012

Reviewer, *Frontiers in Psychology; Journal of Neuroscience, Psychology, and Economics*

HONORS AND FELLOWSHIPS

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|---|-------------|
| Team Leader for United Nations’ Data for Climate Action Challenge | 2017 |
| Behavior, Energy, & Climate Change Conference Student Scholarship | 2013, 2015 |
| Ethics in Society Graduate Fellowship | 2014 |
| Haas Center Graduate Public Service Fellowship | 2014 |
| Stanford Woods Institute Rising Environmental Leaders Fellowship | 2014 |
| International Association for Energy Economics Best Student Paper Award (w/ A. Sahoo) | 2014 |
| National Socio-Environmental Synthesis Center Course Travel Award | 2014 |
| Kimmelman Family E-IPER Fellowship | 2013 – 2014 |
| Stanford Center on Philanthropy and Civil Society PhD Research Fellowship | 2012 |
| William C. and Jeanne M. Landreth Fellowship | 2011 |
| Stanford School of Earth Sciences Graduate Fellowship | 2010 |
| NSF Graduate Research Fellowship Honorable Mention | 2010 |

PROFESSIONAL AFFILIATIONS (PAST & PRESENT)

Society for Neuroeconomics, Society for Neuroscience, Association for Environmental Studies and Sciences, Society for Risk Analysis, The Social and Affective Neuroscience Society

SELECTED ADDITIONAL ACADEMIC RESEARCH & EMPLOYMENT

Medical & Technical Writer – ArthroCare Corporation 2008 – 2010

- Authored numerous papers on clinical studies in the ENT, Sports Medicine, Spine, and Interventional Therapies fields for medical and science journals.
- Designed experimental protocols for clinical studies as part of the Clinical Affairs team.

Undergraduate Research - Neuroprotective Measures Against Stroke 2005 – 2008

Zhao/Sapolsky/Steinberg Lab

- Researched neuroprotection against stroke by means of pre- and postconditioning and hypothermia, via cellular responses utilizing the Akt, Wnt, and ERK protein pathways.