CHRISTINA M. KARNS
Curriculum Vitae
Psychology Department, University of Oregon
Center for Brain Injury Research and Training (Rainier 201) ckarns@uoregon.edu
Lewis Integrative Science Building (LISB 226) Eugene, OR 97403-1227 (541) 346-0550 (Tel)

Education

Ph.D. University of California, Berkeley, 2008
Area: Neuroscience, Advisor: Robert T. Knight, M.D.
Dissertation: Multisensory Integration and Attention

B.S. University of California, San Diego, 1999
Major: Cognitive Science, Clinical Aspects of Cognition
Minors: 1. Psychology, 2. Literature/Creative Writing
Advisor for Honors Research: Jaime Pineda, Ph.D.

Academic Positions

2018 - present Assistant Research Professor
Center for Brain Injury Research and Training
Psychology Department, University of Oregon

2023 – present Senior Instructor I, Psychology Department, University of Oregon
Affiliate Faculty, Clark Honors College, University of Oregon

2018 – 2023 Instructor, Psychology Department, University of Oregon
Affiliate faculty, Clark Honors College, University of Oregon

Other Positions

2019 - present Vice President for Research Faculty Affairs
United Academics for the University of Oregon

Past Research Positions

2008 – 2018 Research Associate, Brain Development Lab, Department of Psychology,
University of Oregon. Lab Director: Helen Neville, Ph.D.

2014 – 2017 Adjunct Instructor, Pro Tempore
Department of Psychology & Clark Honors College, University of Oregon

2001 – 2008 Graduate Student Researcher, Helen Wills Neuroscience Institute,
University of California, Berkeley. Advisor: Robert T. Knight, M.D.

1999 – 2001 Research Assistant, University of California San Diego & San Diego Children's Hospital
Center for Autism Research, Director: Eric Courchesne, Ph.D.

Honors

Faculty Honors:

Williams Instructional Grant (AY 2024-2025)
Member: Provost's Teaching Academy (Fall 2019 - present)

Doctoral/Postdoctoral Honors:

Fellow, Summer Institute for Cognitive Neuroscience, 2014
Society for Neuroscience Graduate Student Travel Award, 2007
University Fellowship for Graduate Study, Univ of California, Berkeley, 2001 – 2006

Undergraduate Honors:

Summa Cum Laude
The University of CA, San Diego, Marshall College Provost's Award (Awarded to the top student)

Departmental Honors with Highest Distinction – Cognitive Science
Phi Beta Kappa
University of California, San Diego, Research Scholar
Reuben H. Fleet Memorial Science Scholarship
Madge E. Lawhead Academic Scholarship (2 year award)
Best Undergraduate Instructional Assistant, Cognitive Science (Statistical Methods)

Research Interests

I develop and evaluate evidence-based behavioral interventions that utilize the neuroplasticity of emotions and cognition to support people in positive and healthy interactions with society and each other. My research uses multiple methodologies including behavior, standardized assessments, qualitative interviews, and human neuroimaging (EEG and fMRI) to address research questions such as: How do brain injury and developmental disability affect individuals and families? How do individuals engage with interventions to support positive change? How do attention, self-regulation, and positive emotions support healthy development?

Grant Support

Project Title:	Enhancing Parenting Skills: Application of a Web-Based Three-Tiered Model *Development and rigorous evaluation of an intervention to reduce challenging behavior in young children with intellectual and developmental disabilities, for use in community settings.*
Agency/Amount:	NIDILRR
Role:	Co-Principal Investigator
Grant Number:	90DPHF0003-01-00 (PI: McIntyre)
Status:	9/30/18-9/29/24

Project Title:	Physiological Responses to Natural Indoor Animation *Disorders of stress are increasingly recognized as a major public health concern. Coinciding with this is increased human isolation from environments that may reduce stress, such as natural or restorative environments. This collaboration at the intersection of architecture, neuroscience and psychology explores whether naturally animated indoor spaces can improve health and cognitive function to reduce physiological and psychological stress.*
Agency/Amount:	Office of the VP for Research and Innovation, University of Oregon/ $50,000
Role:	Principle-Investigator
Grant Number:	I3
Status:	7/1/19-12/30/23

Project Title:	Broader Implementation of a Successful Dual-Generation Intervention in Partnership with Head Start of Lane County *Partnership with Head Start of Lane County to develop a scaled-up model of a dual-generation intervention, Parents and Children Making Connections--Highlighting Attention, that is delivered by Head Start specialists and sustainable and replicable by other Head Start programs.*
Agency/Amount:	DHHS/Administration for Children and Families
Role:	Collaborator, Key Research Personnel
Grant Number:	90YR0076-01-00 (PI: Pakulak)
Status:	9/30/13-9/29/18

Project Title:	Brain Injury Support and Strategies for Families Impacted by Childhood TBI (TIPS) *To produce the Traumatic Brain Injury Positive Strategies (TIPS) program, a comprehensive educational and training resource to help families improve their knowledge and skills in supporting a child with TBI experiencing cognitive, behavioral,*

and social challenges.
Agency/Amount: NICHD
Role: Co-Investigator
Grant Number: 2R44HD059255-02A1 (Glang; sub award)
Status: 7/15/16 - 6/30/19

Project Title: TRACK (Tools for Reading to Acquire Content Knowledge): An intelligent application for middle and high school students with neurodevelopmental disorders
To develop TRACK (Tools for Reading and Acquisition of Content Knowledge), a cloud-based, intelligent tutoring system that uses highly innovative natural language processing (NLP) technology integrated with evidence-based learning strategies to promote the acquisition and retention of information as students study content-rich informational text assigned as homework and in-class assignments.
Agency/Amount: NIDILRR
Role: Co-Investigator
Grant Number: 90BISA0017-01-00 (PI: Catrin Rode; Ann Glang; sub award)
Status: 9/30/18-3/31/19

Project Title: Effects of early adversity on autonomic and neural mechanisms underlying cognitive control in preschool children and adults.
Agency/Amount: National Science Foundation/$594,785
Role: Co-writer/Collaborator/Key Personnel
Grant Number: 1539698 (Co-PIs: Helen Neville and Eric Pakulak)
Status: 2015 – 2018

Project Title: Beyond the essential moral self: the importance of social relationships in judgments of first- and third person identity change
Agency/Amount: Templeton Foundation/$28,000 direct
Role: Principal Investigator with Graduate student Co-PIs, Livingston and Skorburg
Status: 2016 – 2018

Project Title: Giving from the heart: The heart and the brain in virtuous motivation and integrity
Agency/Amount: Templeton Religion Trust via Self, Motivation and Virtue Project, Institute of Human Flourishing, Oklahoma University/$190,000 direct
Role: Co-Principal Investigator with Mark Alfano
Status: 2015 – 2018

Project Title: The Grateful Brain
Agency/Amount: Lewis Center for Neuroimaging, University of Oregon.
In kind pilot fMRI funds.
Role: Principal Investigator
Status: 2012 - 2013

Project Title: The Grateful Brain: An fMRI study of generosity and social agency following intervention.
Agency/Amount: Greater Good Science Center via John Templeton Foundation/$200,000 direct
Role: Principal Investigator
Status: 2012 - 2014

Project Title: Multisensory Integration and Attention
Agency/Amount: Ruth Kirschstein pre-doctoral training NRSA/$48,000 direct
Role: Principal Investigator
Grant Number: F31MH74342
Status: 2005 – 2007

Technical Skills

Event Related Potentials (ERP)
Oscillations/Spectral Analysis of EEG
Functional Magnetic Resonance Imaging (fMRI)
Diffusion Tensor Imaging (DTI)
Independent component analysis (EEG/fMRI)
Autonomic physiology (HRV, PEP)
Statistical Analysis/Design
Permutation Statistics
Network Analysis
MATLAB, EEGLAB, SPSS

Publications

+graduate student co-author, ++ Undergraduate co-author, *Equal contribution 1st-authorship

Manuscripts in Review

Karns C.M., Powell L., Durany K., Slocumb J., Beck L., Gau J., Glang A. (*Submitted*) Online training for family members of adults with brain injury: A randomized control trial.

Peer Reviewed Publications

+graduate student co-author, ++ Undergraduate co-author, *Equal contribution 1st-authorship

Kunze, M., Gomez, D., Glenn, E., Todis, B., Riddle, I., Karns, C.M., Glang, A., McIntyre, L. L. (2023). Parenting young children with developmental disabilities: Experiences during the COVID-19 pandemic in the US. *Journal of Childhood, Education & Society*, *4*(2), 156-175.

Karns C.M., Wade S.L., Slocumb J., Keating T., Gau J., Slomine B., Suskauer S.J., Glang, A. (2023) Traumatic Brain Injury Positive Strategies for Families: A preliminary randomized-trial of an online parent-training program. *Archives Physical Medicine and Rehabilitation.* https://doi.org/10.1016/j.apmr.2023.03.013

Hoyer R.S.+, Pakulak E., Bidet-Caulet A., & Karns C.M. (2023, BioRxiv 2021) Relationships among age, socioeconomic status, and distractibility in preschoolers as assessed by the Competitive Attention Test. *Journal of Experimental Child Psychology* 227, 105584.

Karns C.M., Todis B., Glenn E.+, Glang A., Wade S.L., Riddle I., & McIntyre L.L. (2022). Seeking Out Social Learning: Online Self-Education in Parents of Children With Intellectual and Developmental Disabilities. *Intellectual and Developmental Disabilities*, 60(4), 303-315. PMID: 35868300

Gomez D., Kunze M., Glenn E.+, Todis B., Kelley K., Karns C.M., Glang A., McIntyre L.L. (2020) Professionals' perspectives on service delivery: The impact of COVID-19 on early childhood special education providers. *Topics in Early Childhood Special Education*, 02711214211073964.

Karns C.M. (*2019)* Gratitude and the ethic of care: A neuroscientific perspective. Book chapter for: *The Moral Psychology of Gratitude.* Eds. Robert Roberts and Daniel Telech. *Series: The Moral Psychology of Emotions.* Mark Alfano (Series Ed.), Rowman and Littlefield.

Giuliano R.J.+, Karns C.M., Roos L.E., Bell T.A., Petersen S., Skowron E.A., Neville H.J., Pakulak E. (2018) Effects of early adversity on neural mechanisms of distractor suppression are mediated by sympathetic nervous system activity in preschool-aged children. *Developmental Psychology*. 54(9):1674-1686. doi: 10.1037/dev0000499. PMID: 30148395.

Giuliano R.J.+, Karns C.M., Bell T.A., Petersen S., Skowron E.A., Neville H.J., Pakulak E. (2018) Parasympathetic and sympathetic activity are associated with individual differences in neural indices of selective attention in adults. *Psychophysiology*. 55(8):e13079. doi: 10.1111/psyp.13079. PMID: 29624675.

Andersson A., Sanders L.D., Coch D., Karns C.M., Neville H.J. (2018) Anterior and posterior ERP rhyming effects in 3- to 5-year-old children. *Developmental Cognitive Neuroscience*. doi: 10.1016/j.dcn.2018.02.011. PMID: 29554639.

Karns C.M., Moore W.E., Mayr U. (2017) The Cultivation of Pure Altruism via Gratitude: A Functional MRI Study of Change with Gratitude Practice. *Frontiers in Human Neuroscience*. 11:599. doi: 10.3389/fnhum.2017.00599. PMID: 29375336.

Pakulak E., Gomsrud M., Reynolds M.M., Bell T.A., Giuliano R., Karns C., Klein S., Longoria Z., O'Niell L., Santillan J., Neville H. (2017) Focusing on Families: A Two-Generation Model for Reducing Parents' Stress and Boosting Preschoolers' Self-Regulation and Attention. *Young Children*, NAEYC.

Karns C.M., Stevens C., Dow M.W., Schorr E.M.++, Neville H.J. (2017) Atypical white-matter microstructure in congenitally deaf adults: A region of interest and tractography study using diffusion-tensor imaging. *Hearing Research*. 343:72-82. doi: 10.1016/j.heares.2016.07.008. PMID: 27473505.

Karns C.M., Isbell E., Giuliano R.J., Neville H.J. (2015) Auditory attention in childhood and adolescence: An event-related potential study of spatial selective attention to one of two simultaneous stories. *Developmental Cognitive Neuroscience*. doi:10.1016/j.dcn.2015.03.001. PMCID: PMC4470421.

Giuliano R.J.+, Karns C.M., Neville H.J., Hillyard S.A. (2014) Early auditory evoked potential is modulated by selective attention and related to individual differences in visual working memory capacity. *Journal of Cognitive Neuroscience*. 26(12):2682-90. doi: 10.1162/jocn_a_00684. PMCID: PMC4327887.

Scott G.D.*, Karns C.M.*, Dow M.W., Stevens C., Neville H.J. (2014) Enhanced peripheral visual processing in congenitally deaf humans is supported by multiple brain regions, including primary auditory cortex. *Frontiers in Human Neuroscience*. 2014 Mar 26;8:177. doi:10.3389/fnhum.2014.00177. PMCID: PMC3972453. **Equal contribution first-authorship*

Karns C.M., Dow M.W., Neville H.J. (2012) Altered cross-modal processing in the primary auditory cortex of congenitally deaf adults: a visual-somatosensory fMRI study with a double-flash illusion. *Journal of Neuroscience*. 32(28):9626-38. doi:10.1523/JNEUROSCI.6488-11.2012. PMCID: PMC3752073.

Batterink L.+, Karns C.M., Neville H. (2012) Dissociable mechanisms supporting awareness: the P300 and gamma in a linguistic attentional blink task. *Cerebral Cortex*. 22(12):2733-44. doi: 10.1093/cercor/bhr346. PMCID: PMC3491763.

Batterink L.+, Karns C.M., Yamada Y., Neville H. (2010) The role of awareness in semantic and syntactic processing: an ERP attentional blink study. *Journal of Cognitive Neuroscience*. 22(11):2514-29. doi: 10.1162/jocn.2009.21361. PMCID: PMC2888756.

Karns C.M., Knight R.T. (2009) Intermodal auditory, visual, and tactile attention modulates early stages of neural processing. *Journal of Cognitive Neuroscience*. doi: 10.1162/jocn.2009.21037. PMCID: PMC3092632.

Moberget T., Karns C.M., Deouell L.Y., Lindgren M., Knight R.T., Ivry R.B. (2008) Detecting violations of sensory expectancies following cerebellar degeneration: a mismatch negativity study. *Neuropsychologia*. 2008 46(10):2569-79. doi:10.1016/j.neuropsychologia. PMCID: PMC2588490.

Bartholomeusz H.H., Courchesne E., Karns C.M. (2002) Relationship between head circumference and brain volume in healthy normal toddlers, children, and adults. *Neuropediatrics*. PMID: 12536365.

Deouell L.Y., Karns C.M., Harrison T.B., Knight R.T. (2003) Spatial asymmetries of auditory event-synthesis in humans. *Neuroscience Letters*. 335(3):171-4. PMID:12531460.

Courchesne E., Karns C.M., Davis H.R., Ziccardi R., Carper R.A., Tigue Z.D., Chisum H.J., Moses P., Pierce K., Lord C., Lincoln A.J., Pizzo S., Schreibman L., Haas R.H., Akshoomoff N.A., Courchesne R.Y. (2001) Unusual brain growth patterns in early life in patients with autistic disorder: an MRI study. *Neurology*. 2001 Jul 24;57(2):245-54. PubMed PMID: 11468308.

Saitoh O., Karns C.M., Courchesne E. (2001) Development of the hippocampal formation from 2 to 42 years: MRI evidence of smaller area dentata in autism. *Brain*. 124(7):1317-24. PubMed PMID: 11408327.

Professional Presentations

Karns C.M. (Nov 2020) Panelist, Childhood brain injury: Moving research into practice.

Karns C.M. (September 2019) Gratitude and mindset for parents and providers.

Karns C.M. (Feb 2019) Gratitude and altruism. Learning & the Brain Conference. San Francisco, CA.

Karns C.M., Alfano M., Skorburg G. (June 2017) Giving from the heart: The role of the heart and the brain in fluent generosity and integrity. Interdisciplinary Moral Forum. University of Oklahoma. Oklahoma City, OK.

Karns C.M. (April 2017) Gratitude in a changing brain. Learning & the Brain Conference on "Positive, Resilient Minds: The Science of Promoting Student Grit, Gratitude, and School Success" in Arlington, VA.

Karns C.M. (Nov 2016) Morality, Moral Philosophy, and the Humanities in the Age of Neuroscience. Kent State University Morality Conference

Karns C.M. and Skorburg G. (May 2016) Generous fluency in the heart and brain. Notre Dam University Interdisciplinary Moral Forum.

Karns C.M., Alfano M., Skorburg G. (March 2015) Giving from the heart: The role of the heart and the brain in virtuous motivation and integrity. Interdisciplinary Moral Forum. Marquette University. Milwaukee, WI.

Karns C.M. (Feb 2015) A Grateful Mind: Relating Gratitude to Facets of Mindfulness. Second Annual Symposium on Mindfulness in Science and Society. University of Oregon, Eugene OR.

Karns C.M. (June 2014) The Gratitude Effect: Physical, Psychological, and Social Benefits of Gratitude. The Greater Good Gratitude Summit. Berkeley, CA.

Karns C.M. (May 2014) Towards an Integrative Science of Gratitude,(Dacher Keltner, organizer) Symposium at 26th APS Annual Convention San Francisco.

Karns C.M. (June 2013) The Grateful Brain. Expanding the Science and Practice of Gratitude Research Workshop, Berkeley, CA.

Karns C.M. (Nov 2013) Prosocial Emotions and Neuroplasticity. University of Oregon Mindfulness Retreat.

Karns C.M. (Nov 2013) Neural organization of auditory cortex in congenitally deaf adults: vision, somatosensation, and altered perception. Minisymposium: Sensory Deprivation and Brain Plasticity: Insights from Behavioral and Neuroimaging Studies of Deaf and Blind Individuals. Society for Neuroscience Meeting.

Karns C.M. (Oct 2013) Prosocial Emotions and Neuroplasticity. Institute of Neuroscience retreat symposium. University of Oregon.

Karns C.M., Dow M., Neville, H.J. Touch and vision in the deaf primary auditory cortex. Cognitive Science Association for Interdisciplinary Learning (CSAIL). July 2012

Karns C.M., Dow M., Neville, H.J. (Nov 2012) Somatosensory and visual cross-modal neuroplasticity in hearing and congenitally deaf adults: and fMRI study. 40th Society for Neuroscience Meeting, Washington, D.C.Nano symposium: Multisensory Processing.

Neville H.J. and Karns C.M. (Aug 2010) Variability and Specificity in Human Neuroplasticity: Flux is Fundamental. *Symposium: Flux: Fundamental or Frivolous?* Proceedings. The Annual Meeting of the Cognitive Science Society. Portland, OR.

Conference Presentations and Posters

Scott,S., Kunze, M., Karns, C.M., McIntyre, L.L. (2024, Sep 17-20) *Tiered Online Training and Support for Parents of Chiildren with IDD.* 2024 Division for Early Childhood of the Council for Exceptional Children. 40th Annual International Conference on Young Children with Disabilities and their Families. New Orelans, LA

Karns C.M., Glang A., Kunze M., McIntyre L.L., Powell L., Riddle I., Wade, S. (2024, Sep 16-19) Family Matters: Research-based approaches to supports for caregivers. 2024 National Association of State Head Injury Administrators, State of the States in Brain Injury Conference, Eugene, OR.

Brown, D.A., Schultz, K.E., Simmons, P, Swann, N.C., & Karns, C.M. (2024, April 10-13). Effects of a brief mindful-attention induction on EEG oscillations with and without naturalistic animations. 2024 Social & Affective Neuroscience Society Conference, Toronto, ON, Canada.

Skorburg J.A., Karns C.M., Alfano M. (June 2017) The electrophysiology of virtue. Society for Philosophy and Psychology. Johns Hopkins University. Baltimore, MD.

Karns, C.M. (2017) It's the thought that counts: The neural interaction of person and valence in everyday social and non-social scenarios that elicit gratitude or distress. Social Affective Neuroscience Society, Los Angeles, CA.

Skorburg J.A., Alfano M., Karns, C.M. (2017) Integrating social neuroscience, moral psychology, and philosophy. Social Affective Neuroscience Society, Los Angeles, CA.

Karns C.M. (2017) Everyday moral reasoning: the role that people play in the neural processing of social and non-social events that elicit gratitude or distress. Cognitive Neuroscience Society, San Francisco, CA.

Giuliano R., Karns C., Bell T., Roos L., Petersen S., Skowron E., Pakulak E. (2017) Autonomic Physiology is Associated with ERP Measures of Selective Attention in Children of Low Socioeconomic Status. *Symposium:* "EEG and Executive Function in the Context of Childhood Adversity." Society for Research in Child Development. Austin, TX.

Giuliano R.J., Karns C.M., Bell T., Roos L.E., Peterson S., Skowron E.A., Pakulak E., (2017) Autonomic Physiology is Associated with ERP Measures of Selective Attention in Children of Low Socioeconomic Status. Cognitive Neuroscience Society, San Francisco, CA.

Pakulak E., Bell T., Giuliano R., Gomsrud M., Karns C., Klein S., Longoria Z., O'Neil L., Neville H. Broader Effects of a Two-Generation Intervention Targeting Attention and Self-Regulation in Families from Lower SES Backgrounds(2017) *Symposium:* "Inequality and Future Directions in Research on the Neuroplasticity of Selective Attention in Children." Society for Research in Child Development.

Pakulak E., Bell T., Giuliano R., Karns C., Neville H. (2017) Intergenerational early adversity: executive function and stress physiology in parents and children from lower socioeconomic status backgrounds. Cognitive Neuroscience Society, San Francisco, CA.

Karns C.M., Moore W.E., Mayr U. (2016) Gratitude, Giving, and Gains: An fMRI study of change with gratitude practice. Emotions pre-conference. Society for Personality and Social Psychology. San Diego, CA.

Karns C.M., Giuliano R.J., Pakulak E., Bell T., Petersen S., Skowron E., Neville H.J. (2015) Autonomic and neural mechanisms supporting inhibitory control in a stop-signal task. Society for Psychological Research, Seattle, WA.

Giuliano R.J., Karns C.M., Pakulak E., Bell T., Petersen S., Skowron E, & Neville H.J. (2015) Parasympathetic and Sympathetic Contributions to ERP Measures of Selective Attention in Children and Adults. Society for Psychological Research, Seattle, WA.

Pakulak E., Leneman K., Karns C.M., Giuliano R.J., Bell T., Petersen S., & Neville H.J. (2015) Interaction between neural mechanisms of selective attention and a behavioral measure of inhibitory control in preschool children. Society for Psychological Research, Seattle, WA.

Karns C.M., (2014). Social agency evaluations and giving in the context of gratitude. Social and Affective Neuroscience Meeting, Denver, CO.

Andersson A., Sanders L.D., Karns C., & Neville H.J. (2014) Effects of age of acquisition (AoA) and proficiency on processing of syntax in 6- to 8-year old monolingual and bilingual children: an ERP study. Cognitive Neuroscience Society Meeting, Boston, MA.

Karns C.M., Dow M., Neville H. (2013) Atypical white matter in congenitally deaf adults: A DTI region of interest and tractography study of superior temporal cortices and Heschl's gyrus. Society for Neuroscience Meeting, San Diego, CA.

Giuliano R.J., Karns C.M., & Neville H.J. (2013). Visual working memory capacity predicts auditory selective attention in multiple contexts. Poster presented at the Cognitive Neuroscience Society annual meeting, San Francisco, CA.

Karns C.M., Dow M., Smith J., Frey S.H., Neville H.J. (2011) Intermodal attention biases multisensory interactions in the visual and tactile periphery, an fMRI study. Cognitive Neuroscience Society Meeting, San Francisco, CA.

Batterink L., Karns C.M., Neville H.J. (2010) Electrophysiological evidence for a postperceptual failure of awareness: An ERP and spectral investigation of a linguistic attentional blink task. 39th Society for Neuroscience Meeting, San Diego, CA.

Karns C.M., Dow M., Smith J., Frey S.H., Neville H.J. (2010) Intermodal attention influences multisensory processing in the visual periphery. 39th Society for Neuroscience Meeting, San Diego, CA.

Neville H.J. Pakulak E., Armstrong T.F., Batterink L., Bell T.A., Currin J., Dow M., Fanning J., Heidenreich L., Holloway K., Karns C., Klein S., Petersen S., Ravich K., Witte J. (2010) Marketing Changing Brains: adventures in the marketing and distribution of a science program for non-scientists. 39th Society for Neuroscience Meeting, San Diego, CA.

Karns C.M., Dow M., Smith J., Frey S.H., Neville H.J. Visual-tactile unimodal and multisensory processing in the visual periphery, an fMRI study. (2010) Cognitive Neuroscience Society Meeting, Montreal, Canada.

Neville H.J., Pakulak E., Bell T.A., Dow M., Hale L., Karns C.M., Paulsen D., Sanders L., Stevens C., Wible B., Yamada Y. (2009) Changing Brains: A video program for parents, educators, policy-makers: anyone who cares for children. 38th Society for Neuroscience Meeting, Chicago, IL, USA Oct 17-21.

Karns C.M., Cakir E., Petersen S.J., Neville H.J.(2009) Spectral dynamics of selective auditory attention in children and adults. 38th Society for Neuroscience Meeting, Chicago, IL, USA Oct 17-21.

Karns C.M., Petersen S.J., Cakir E., Neville, H.J.(2009) Spectral dynamics of selective auditory attention in children and adults. Developmental Cognitive Neuroscience Meeting, Berkeley, CA, USA July 12-14.

Batterink L., Karns C.M., Yamada Y., Pakulak E., Neville H.J.(2009) The role of awareness in semantic and syntactic processing: An ERP attentional blink study. Cognitive Neuroscience Society Meeting. San Francisco, CA, USA, March 21-24. In: CNS Annual Meeting Program. p.195.

Karns C.M., Knight R.T. (2008) Intermodal attention modulates early and late stages of multisensory processing. 9th International Multisensory Research Forum. Universität Hamburg. Hamburg, Germany, July 16-19.

Karns C.M., Knight RT. (2007) Electrophysiological evidence that intermodal auditory, visual, and tactile attention modulates early stages of neural processing. 36th Society for Neuroscience Meeting, San Diego, CA, USANov 3-7.

Karns C.M., Knight R.T. (2006) Intermodal auditory, visual, and tactile attention operates early in sensory and multisensory processing. 35th Society for Neuroscience Meeting, Atlanta, GA, USA. Oct 14-19.

Moberget T., Karns C.M., Deouell L.Y., Ivry R.B., Knight, R.T. (2006) Cerebellar damage selectively affects the latency of the mismatch negativity response to temporal deviants. 4th Conference on Mismatch Negativity (MMN) and its Clinical and Scientific Applications. Cambridge, UK, April 2006. In: MMN 2006 Abstracts.

Moberget T., Karns C.M., Deouell L.Y., Ivry R.B., Knight R.T. (2006) Cerebellar damage selectively affects the latency of the mismatch negativity response to temporal deviants. 12th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA, USA April.

Karns C.M., Giorgi G., Horton D.M., Knight R.T. (2005) Auditory, visual, and tactile timing cues in visual search. 11th Annual Cognitive Neuroscience Meeting, New York, NY, USA April.

Karns C.M., Horton D.M., Giorgi G., Knight R.T. (2004) Auditory, visual, and vibrotactile timing cues in visual attention: Sensory modality and spatial coregistration matter. 33rd Society for Neuroscience Meeting, San Diego, CA, USA Oct. 23-27.

Karns C.M., Deouell L.Y., Knight R.T. Society for Neuroscience (2002) Automatic detection versus attention orienting to acoustic deviation. 32nd Society for Neuroscience Meeting, Orlando, Florida, USA November 2-7.

Deouell L.Y., Karns C.M., Harrison T.B., Ashbaugh L.P., Knight R.T. (2002) Electrical Brain Responses to Rapid Successive Changes in the Auditory Environment – Does Source Side Matter? 9th Annual Cognitive Neuroscience Society Meeting. San Francisco, CA, USA April 14-16. In: CNS Annual Meeting Program. p.92.

Pineda J.A., Karns C., Vankov A. (1999) Dysphoria and decision-making: Does mood affect making advantageous choices? 29th Society for Neuroscience Meeting. Miami Beach, Florida, USA Oct. 23-28. In: SFN Abstracts. 25 (1-2): 1139.

Career and Professional Development Training Acquired

University of Oregon Teaching Triangle Program (Spring 2024, peer mentorship program)
Summer Institute for Teaching, Diversity, Inclusion and Accessibility, 2019
Online Course Design and Teaching – Online Master's program in Psychology, 2019
Mindfulness in Teaching, Active teaching for Summer Academy to Inspire Learning, 2017
Undergrad Teaching Seminar at the Society for Personality and Social Psychology, 2016
Developing Online Teaching Portfolio, Strategies for Large Discussions, Using Classroom Tech, 2015
Workshop, Communicating Science to the Public, by Denise Graveline, 2012
Society for Neuroscience – Career development workshop, 2007
UC Berkeley -- Institute for Preparing Future Faculty, 2005

Teaching

Instructor:

Psy 410: Brain Biosensing Emotion and Cognition
Psychology 410 (Wi 25*, Sp25*)
Enrollment 20-50, University of Oregon

Developmental Cognitive Neuroscience
Psychology 475 (Sp 25*)
Enrollment 50, University of Oregon

Translational Neuroscience in Early Childhood
Online Master's in Psychology, Psy 607/630 (Wi21, Fa21, Fa22, Fa23, Fa24)
Enrollment: 19, University of Oregon

Neuroscience to Neighborhoods, Neuroscience Perspectives on Drug Policy
Clark Honors College, CHC 241 (Sp21, Fa21, Fa22, Wi23, Wi24, Wi25*)
Enrollment: 19, University of Oregon

Neuroscience Perspectives on Drug Policy
Clark Honors College, CHC 441 (Sp18, Fa19)
Enrollment: 19, University of Oregon

Psychology Research Methods, Scientific Thinking
Psychology 301 (Sp18, Sp19, Sp21, Wi22, Sp22, Fa22, Wi23)
Enrollment: 150-170, University of Oregon

Developmental Psychology
Psychology 308 (Fa17, Fa18, Fa19, Sp23, Wi24, Sp24, Fa24)
Enrollment: 150, University of Oregon

Human Neuropsychology
Psychology 449/549 (Fa17)
Enrollment: 50, Univ of Oregon

Philosophy, Psychology, Neuroscience of Morality
Clark Honors College, CHC 441 (Sp17)
Enrollment: 20, University of Oregon

Psychoactive Drugs*,*
Psychology 383 (Fa2014, Wi16, Fa16, Wi18, Wi19, Wi20, Fa23)
Enrollment: 160, University of Oregon

Music and the Brain,
Psychology 348 (Sp15, Sp20, Fa20, Sp25*)
Enrollment: 140, University of Oregon

**Planned teaching*

*Guest Lecturer***:**
Oscillations, Multisensory integration (2008-2011)
Advanced Cognitive Neuroscience, Psych 610
Instructors: Ed Awh, Helen Neville, Cliff Kentros. University of Oregon

Gratitude*,* Positive Psychology (2015)
Instructor: Jennifer Farrar, University of Oregon

Neuroplasticity, Mind and Brain, Psychology 201 (2013)
Instructor: Shannon Peake, University of Oregon

Permutation Statistics, Psychology Research Methods (2013)
Instructor: Will Schumacher, University of Oregon

*Graduate Student Instructor***:**
Human Brain Dysfunction Psychology 117 (2004)
Instructor: Mark D'Esposito, University of California, Berkeley

Drugs & Brain, Literature & Sciences 19 (2002)
Instructor: David Presti, University of California, Berkeley

Undergraduate Instructional Assistant:
Cognitive Science 14, Design & Analysis of Experiments, Statistical Methods (1997)
Received Undergraduate Teaching Assistant Award.
Instructor: Javier Movellan, Ph.D., UC San Diego

Advising

Doctoral dissertation committee member:

Brown, Daniel (expected 2028) EEG Correlates of Self Transcendent Emotion. Human Physiology/ION, University of Oregon

Giuliano, Ryan (2017) Where the Heart Meets the Mind's Eye: Associations Between Cardiac Measures of Autonomic Activity and Selective Attention in Children and Adults. Psychology, University of Oregon

Undergraduate Theses - Primary Research Advisor:

Izzi Kahn (expected 2025) *Analyzing HIV/AIDS treatment in vulnerable populations*. Clark Honors College, University of Oregon

Welburn, Aubrey (expected 2025) *Neurodiversity and Health Care.* Clark Honors College, University of Oregon

Holmes, Ava (2024) *Attention Deficit Disorder and Personality.* Clark Honors College, University of Oregon

DePriest, Grace (2022) *Systematic Review and Meta-Analysis of the Role of Gratitude in Parenting Relationships.* Clark Honors College, University of Oregon

Fuller, Patrick (2021) *Standardized Reading Performance and Objective Eye Movement Efficiency in Children – A Quantitative Correlational Study Design*. Clark Honors College, University of Oregon

Ramirez, Meghan (2020) *Does the Heart Care? A Meta-Analysis on Arousing and Relaxing Sounds with Heart-Rate Variability Measures*. Psychology Honors Program and McNair Scholar Thesis, University of Oregon

Howlett, Emily (2018) *Heart-brain Interactions: Individual Differences in the Relationship Between the Autonomic Nervous System and Ongoing Brain Oscillations*. Clark Honors College, University of Oregon

Davis, Macey (2015) *The Influence of Mindfulness and Impulsivity on Future Planning and Alcohol Use in University Students*. Psychology Honors Program, University of Oregon

Bitgood, Geo (2013) *Gratitude.* McNair Scholar Thesis, University of Oregon

Schorr, Emily (2012). *White Matter Neuroplasticity in the Auditory Cortex of Deaf Individuals*. Clark Honors College, University of Oregon

Master's Theses – Co-Advisor:

Lydia Robb (Classics, 2024) *Disability and Ableism in Classics: A State of the Field Study*, University of Oregon

Lisa Wasikowski (Online Master's Program in Psychology, University of Oregon, 2024)

Anjuli Hernandez-Kapila (Online Master's Program in Psychology, University of Oregon, 2024)

Natalie Peterson (Online Master's Program in Psychology, University of Oregon, 2024)

Jake Dale (Online Master's Program in Psychology, University of Oregon, 2024)

Misty Jones (Online Master's Program in Psychology, University of Oregon, 2024)

Davila, Rob (Online Master's Program in Psychology, University of Oregon, 2023) *Experiences of Providers that Treat, Review, and Delegate Services to Veterans with Traumatic Brain Injury (TBI) and/or Post-Traumatic Stress Disorder (PTSD)*

Levy, Amber (Online Master's Program in Psychology, University of Oregon, 2023) *Community Strengths & Needs Assessment for a Peer Support Recovery Program Recovery Elevator – Café RE*

Garcia, Leticia (Online Master's Program in Psychology, University of Oregon, 2022) *Surviving Racism from Womb to Cradle: Assessing BIParentOC satisfaction of NICU Care Status Report*

Cardenas, Sophia (Online Master's Program in Psychology, University of Oregon, 2022) *Mental Health Barriers Faced by Adults with Autism Spectrum Disorder*

Miller, Nick (Online Master's Program in Psychology, University of Oregon, 2022) *Facilitators and Barriers of Parent-Teacher Partnerships for Preschool Children with Intellectual Disability*

Fisher, Shanley (Online Master's Program in Psy, University of Oregon, 2022) Supervisor/Mentor.

Peterson, Seth (Psychology, University of Oregon, Class of 2011) *Age and gender related changes in ongoing brain oscillations as measured by EEG*.

Undergraduate Theses – Committee member or Co-Advisor:

Committee Member for Sproul, Connor (2021) *Explaining the Criminalization of Psychedelic Drugs.* Clark Honors College, University of Oregon

Co-advisor for Haw, Gabriel (2018) *The Role of Mindfulness and Cardiovascular Reactivity in Economic Risk Taking Behavior.* Clark Honors College, University of Oregon.

Committee Member for Dawson, Matt (2020) *A Pilot Screen to Identify Neurons Necessary for Zebrafish Social Behavior.* McNair Scholar and Psychology Honors Thesis. University of Oregon

Committee Member for Rochester, Eleanor (2019) *"I Don't Have Deaths on my Conscience" -- Impacts of a Peer-Delivered Nalaxone Program on a Community of Intravenous Drug Users in Eugene, Oregon.* Clark Honors College, University of Oregon.

Committee Member for Quintin, Dawson (2020). *"A Comprehensive Analysis of Subsidies for Professional Sports Stadiums in the United States Using the MODA Center."* Clark Honors College, University of Oregon.

Undergraduate Research Advising

Gael Granados – Independent Studies Winter 2024, *Childhood recollections of individuals with developmental delay or disability*.

Olivia Nielson, Ivy Smith, Viviann Nguyen, and Mica Presley (2024) *The Effects of Educational Architecture on Childhood Development*

Tommy Monkarsh – Hui Fellowship recipient $15K Spring 2024 – present
Jackson Mohr – Summer CURE research fellowship recipient, Spring 2024 – present

Panelist for Psychology undergraduate research advising, 2022
Research mentorship of 40+ undergraduate research assistants since 2003
Abstract reviews for Undergrad Research Symposium, University of Oregon, 2016
Undergraduate Research Symposium Psychology awards committee, 2024, 2025

Ad Hoc Reviews

Nature Neuroscience, Journal of Neuroscience, Cerebral Cortex, Journal of Cognitive Neuroscience, Developmental Science, Neuroimage, Psychophysiology, Hearing Research, Journal of Clinical Neurophysiology, Consciousness and Cognition, Brain, Journal of Positive Psychology, Frontiers in Psychology, Emotion, Pediatric Neuro Rehab, Heliyon, Rehabilitation Psychology

Community Lectures & Outreach

2024: Neurodiversity Alliance Science Night, Student Group, Eugene OR.

2024: 4J School District, Alternative Education Staff Meeting, Eugene OR. *Neurodiversity.*

2024: 4J School District, Neurodiversity Parent Group, Eugene OR. *Neurodiversity.*

2021: Academy for Lifelong Learning*,* Corvallis OR*, Emotions Generosity and Your Brain.*

2017, 2018, 2019: Summer Academy to Inspire Learning, University of Oregon, Eugene OR. *Gratitude*.

2018: Oregon Country Fair, Science Slam – *Gratitude and Sustainability*

2016-17: Duckling day at Science Factory, *Neuroscience outreach for families*, Eugene OR

2015: Sleep health at Ridgeline Montessori, Grades 4-6, Eugene, OR, *Snoozing and your brain*

2008 - 2013: "Meet a Scientist" Outreach at the Science Factory, Eugene, OR

2012: Girls Rule! An event for girls ages 9-14 and parents –*What do you mean my brain is plastic* 2012: Real Brains: Brain Anatomy for the Community, Brain Awareness Week, Eugene OR

2010: Outreach for "Changing Brains" DVD program at OMSI brain awareness, Cozmic Pizza DVD community release, Territorial Elementary School, Yachats and Newport, OR.

2008 - 2009*:* Participation in project development, script writing, illustrations/animations, and filming of "Changing Brains" an educational DVD program for everyday parents and educators focused on brain development, available at changingbrains.org

2008: Lecture assistant for Summer Academy to Inspire Learning (SAIL), University of Oregon, a program to encourage middle school students to attend college.

2007: "Girls Go Tech", an event sponsored by the Girl Scouts of America to inspire girls to pursue their interests in science and engineering. Presentation on brain anatomy and visual illusions.

2004: Brain anatomy for 5th graders, Polk Elementary School, Special Education, Albuquerque NM

Science Writing for the Public

McCart M., Karns C.M., Ramirez M., Dawson M., Glang A. Returning to School After a Concussion. *Frontiers for Young Minds.* February 28, 2020. https://kids.frontiersin.org/article/10.3389/frym.2020.00020

Karns C., (2020) The surprising neural link between giving and gratitude. In D. Keltner, J. Marsh, J Adam Smith, K. M. Newman (Eds.) *The Gratitude Project: How the Science of Thankfulness Can Rewire Our Brains for Resilience, Optimism, and the Greater Good.* United States: New Harbinger Publications.

Karns C.M., When you're grateful, your brain becomes more charitable. November 21, 2018. The Conversation. http://theconversation.com/when-youre-grateful-your-brain-becomes-more-charitable-105606. Republished in the Washington Post Dec 23, 2018.

Karns C.M., Why a Grateful Brain is a Giving One. December 19, 2017. Greater Good Magazine. https://greatergood.berkeley.edu/article/item/why_a_grateful_brain_is_a_giving_one

Karns C.M., The Pliable Brain: Altered touch perception in deaf people may reveal individual differences in brain plasticity. Thought Experiment. The Scientist. September 2012. http://www.the-scientist.com/?articles.view/articleNo/32537/title/The-Pliable-Brain/

Karns C.M. Memory Gets Its Wings. Read Shorts, Stories to Move Your Muse. January, 2011.

Selected Press Interviews

The Breakfast Show – VoI Radio 4/24/24 – The Science of Gratitude

Stop telling your kids to be grateful. Show them how instead. By Amy Novotney. Nov 2023

Gratitude Episode. What's Health Got to Do with It. Nov 2022. Dr. Joe Sirven. NPR Florida.

Dankbar sein - Ein gesundes Gefühl [Being grateful - A healthy feeling] Sep 21 2022. Beate Krol. National German Broadcast ARD, SWR2 Wissen, and podcast.

Saying Thanks. Nov 2021 Sharlene Breakey, Real Simple Magazine, Vol. 22(11), p 67-68.

How Gratitude Benefits Your Brain. March 8 2018. Guest on The Science of Happiness Podcast, Public Radio International.

The Science of Gratitude: As we age, our brains may get better at feeling thankful. Oct 11 2015. Wency Leung The Globe and Mail

Science Reveals Your Brain on Thanksgiving vs. Black Friday. Nov 26 2014. Theresa Fisher, Science.Mic

Scientific Insights from the Greater Good Gratitude Summit. Jun 17 2014. Jeremy Adam Smith, The Greater Good Science Center

How the Deaf Brain Rewires Itself to 'Hear' Touch and Sight. Jul 11 2012. Nadja Popovich, The Atlantic

Deaf People's Brains Use Audio Cortex For Other Senses. July 10 2012. Guest on Oregon Public Radio with Rob Manning

Deaf people 'feel touch' with hearing part of brain. Jeanna Bryner, July 11 2012. FoxNews.com CBSNews.com

Deaf People Hear Touch? July 12 2012. SourceFed http://www.youtube.com/user/SourceFed

Neuroplasticity. Guest on Science Fantastic with Professor Michiu Kaku. Aired July 28 2012. Talk Radio Network.

Public and University Service Positions

2023 – present	State of Oregon: Higher Education Coordinating Commission (HECC), - Common Course Numbering Committee for Psychology (CCN) - Major Transfer Map Committee for Psychology (MTM)
2019 - 2022	Board of Directors, Officer, Co-Op Family Center (Non-profit Organization, Eugene, OR)
2017 - 2020	Co-Founder, 4J Pro-Parents, grassroots advocacy, parent support, and advisory group for parents of children with disabilities who attend 4J. http://4Jproparents.org. SPED parent advisory board for the 4J School District. 2019-2020.