

Updated: July, 2016

ADELE MARY HANDLEY SEELKE

IDENTIFICATION DATA:

Home Address: 1624 Colusa Ave
Davis, CA 95616
Phone: (319) 400-3882

Work Address: Department of Psychology
268F Young Hall
University California - Davis
Davis, CA 95616
e-mail: amseelke@ucdavis.edu

EDUCATION:

The University of Iowa, 2001-2007, Psychology, Ph.D., Dec, 2007
Doctoral Dissertation: *The developmental emergence of state-dependent neocortical activity in infant rats*
The University of Iowa, 2001-2003, Psychology, M.A., Dec, 2003
The Missouri University of Science and Technology, 1997-2001, Psychology, B.S., May, 2001

PROFESSIONAL EXPERIENCE:

Assistant Project Scientist, The University of California, Davis, 2015 – present.
Lecturer, The University of California, Davis, 2014 – present.
Staff Research Associate II, The University of California, Davis, 2014 – 2015.
Postdoctoral Fellow, The University of California, Davis, 2007 – 2014.
Research Assistant, The University of Iowa, 2001 – 2007.
Research Assistant, The Missouri University of Science and Technology, Spring 2001.
Research Assistant, The Missouri University of Science and Technology, Fall 1997 – Summer 1998.

COURSES TAUGHT:

Developmental Psychobiology, Instructor, University of California – Davis Department of Psychology, Winter 2016, Summer Session 1, 2016
Physiological Psychology, Instructor, University of California – Davis Department of Psychology, Spring 2015, Fall 2015, Spring 2016
General Psychology, Instructor, University of California – Davis Department of Psychology, Fall 2014, Winter 2015
Introduction to Brain and Behavior, Teaching Assistant, University of Iowa Department of Psychology, Spring 2002, Spring 2004

GRANT SUPPORT:

Communication Training Grant – T32 DC008072 – 7/1/09-6/30/10
Vision Training Grant – T32 EY015387 – 12/1/07-11/30/08
NRSA – “The development of topographic maps and connectivity in M1 and S1 of rats.”
– F32 NS064792-01A2 – 7/1/2010-6/30/2011

PUBLICATIONS:

Journal Articles:

Seelke, A. M. H., Grunewald, R., Perkeybile, A., Bales, K., and Krubitzer, L. A. (in preparation). The relationship between social behavior and subcortical connections in prairie voles (*Microtus ochrogaster*).

Seelke, A. M. H., Yuan, S.-M., Perkeybile, A. M., Krubitzer, L. A., and Bales, K.L. (in preparation). Early experiences can alter cortical architectonic boundaries in prairie voles (*Microtus ochrogaster*).

Seelke, A. M. H., Grunewald, R., Bales, K., and Krubitzer, L. A. (2016). Individual differences in cortical connections of somatosensory cortex are associated with parental rearing style. *Journal of Comparative Neurology*. 524(3):564-577.

Dooley J. C., Franca J, Seelke A. M. H., Cooke D. F., and Krubitzer L. A. (2015). Evolution of mammalian sensorimotor cortex: Thalamic projections to parietal cortical areas in *Monodelphis domestica*. *Frontiers in Neuroanatomy*. 8: 163. doi: 10.3389/fnana.2014.00163

Seelke, A. M. H., Dooley, J. C., and Krubitzer, L. A. (2014). The cellular composition of the marsupial neocortex. *Journal of Comparative Neurology*. 522 (10): 2286-98.

Seelke, A. M. H., Dooley, J. C., and Krubitzer, L. A. (2014). The photic preference of short-tailed opossums (*Monodelphis domestica*). *Neuroscience*. 269, 273-280.

Dooley J. C., Franca J, Seelke A. M. H., Cooke D. F., and Krubitzer L. A. (2013). A connection to the past: *Monodelphis domestica* provides insight into the organization and connectivity of the brains of early mammals. *Journal of Comparative Neurology*. 521 (17), 3877-3897.

Seelke, A. M. H., Dooley, J. C., and Krubitzer, L. A. (2013). Differential changes in the cellular composition of the developing marsupial brain. *Journal of Comparative Neurology*. 521 (11), 2602-2620.

Dooley, J. C., Nguyen, H., Seelke, A. M. H., and Krubitzer, L. (2012). Visual acuity in the short-tailed opossum (*Monodelphis domestica*). *Neuroscience*. 223, 124-130.

Krubitzer, L. A. and Seelke, A. M. H. (2012). Cortical evolution in mammals: The bane and beauty of phenotypic variability. *Proceedings of the National Academy of Sciences*. 109, 10647-10654.

- Seelke, A. M. H., Dooley, J. C., and Krubitzer, L.A. (2012). The emergence of somatotopic maps of the body in S1 in rats: The correspondence between functional and anatomical organization. *PLOS One*. 7(2): e32322.
- Seelke, A., Padberg, J., Disbrow, E., Purnell, S., Recanzone, G., and Krubitzer, L. (2011). Topographic maps within Brodmann's area 5 of macaque monkeys. *Cerebral Cortex*. 22, 1834-1850.
- Seelke, A. M. H. and Blumberg, M. S. (2010). Developmental appearance and disappearance of cortical events and oscillations in infant rats. *Brain Research*. 1324, 34-42.
- Seelke, A. M. H. and Blumberg, M. S. (2008). The microstructure of active and quiet sleep as cortical delta activity emerges in infant rats. *Sleep* 31 (5), 691-699.
- Blumberg, M. S., Karlsson, K. Æ. and Seelke, A. M. H. (2007). Sleep, development, and human health. *Sleep*. 30 (5), 547-548.
- Blumberg, M. S., Seelke, A. M. H., Lowen, S. B. and Karlsson, K. Æ. (2005). Dynamics of sleep-wake cyclicity in developing rats. *Proceedings of the National Academy of Sciences*. 102, 14860-14864.
- Seelke, A. M. H., Karlsson, K. Æ., Gall, A. J. and Blumberg, M. S. (2005). Extraocular muscle activity, rapid eye movements, and the development of active and quiet sleep. *European Journal of Neuroscience*. 22, 911-920.
- Karlsson, K. Æ., Gall, A. J., Mohns, E. J., Seelke, A. M. H. and Blumberg, M. S. (2005). The neural substrates of infant sleep. *PLOS Biology*, 3, 891-901.
- Seelke, A. M. H. & Blumberg, M. S. (2005). Thermal and nutritional modulation of sleep in infant rats. *Behavioral Neuroscience*, 119, 603-611.
- Blumberg, M. S., Karlsson, K. Æ., Seelke, A. M. H., & Mohns, E. (2005). The ontogeny of mammalian sleep: A response to Frank and Heller (2003). *Journal of Sleep Research*, 14, 91-101.
- Seelke, A. M. H. & Blumberg, M. S. (2004). Sniffing in infant rats in sleep and wakefulness. *Behavioral Neuroscience*, 118, 267-273.
- Chapters:*
- Krubitzer, L. A. and Seelke, A. M. H. (2012). Cortical evolution in mammals: The bane and beauty of phenotypic variability. In the Light of Evolution. Streidter, G. F., Avise, J. C., and Ayala, F. J., eds. National Academies Press. Chapter 6, 91-111.
- Blumberg, M. S. and Seelke, A. M. H. (2010). The form and function of infant sleep: From muscle to neocortex. The Oxford Handbook of Developmental and

Comparative Neuroscience. Blumberg, M. S., Freeman, J. H., and Robinson, S. R., eds. Oxford University Press, 391-423.

Seelke, A. M. H. (2004). "The blood-brain barrier." The Encyclopedia of Health Psychology. Editors: Christensen, A., Martin, R., and Smythe, J. Kluwer Publishing, New York.

PRESENTATIONS:

Oral Presentations:

Invited and Departmental Colloquia

Departmental Colloquium, "How early experience shapes the formation of somatotopic maps." Department of Psychology, University of California, Davis, November, 2012.

Neurolunch, "Building an opossum brain: How cellular composition changes across development." Center for Neuroscience, University of California, Davis, May, 2012.

Departmental Colloquium, "The developmental emergence of state-dependent neocortical activity in infant rats." Department of Psychology, University of California, Davis, April, 2008.

Open Dissertation Defense, "The developmental emergence of state-dependent neocortical activity in infant rats." Department of Psychology, University of Iowa, October, 2007.

Invited Colloquium, "The development of state-dependent neocortical activity in infant rats." Center for Neuroscience. University of California – Davis, May, 2007.

Invited Colloquium, "The development of state-dependent neocortical activity in infant rats." Biology Department, University of California – San Diego, May, 2007.

Invited participant, Consensus meeting on the development of neocortical rhythms, University of Helsinki, Helsinki, Finland, November 10-11, 2006.

Departmental Colloquium, "The development of sleep in infant rats." Department of Psychology, University of Iowa, March, 2006.

Departmental Colloquium, "Sniffing and arousal in infant Rats." Department of Psychology, University of Iowa, December, 2003.

Conference Presentations

Seelke, A. M. H. and Krubitzer, L. A. Developmental changes in somatosensory cortical organization. Center for Neuroscience Retreat. September, 2009.

- Seelke, A. M. H. and Blumberg, M. S. The developmental emergence of state-dependent neocortical activity in infant rats. International Society for Developmental Psychobiology. November, 2008.
- Seelke, A. M. H. and Blumberg, M. S. The infant rat neocortex exhibits multiple forms of state-dependent activity before the emergence of delta waves. International Society for Developmental Psychobiology. November, 2007.
- Seelke, A. M. H. and Blumberg, M. S. Three novel waveforms exhibit state-dependent activity before the developmental emergence of delta waves in the infant rat cortex. SLEEP, June, 2007.
- Seelke, A. M. H. and Blumberg, M. S. State-dependent neocortical activity is present before the onset of delta waves in infant rats. International Society for Developmental Psychobiology. October, 2006.
- Seelke, A. M. H. and Blumberg, M. S. The development of state-dependent neocortical activity in infant rats. SLEEP, June, 2006.
- Seelke, A. M. H., Freeman, J. and Blumberg, M. S. State dependent thalamic activity and its developmental relationships with slow wave neocortical activity. Neuroscience of Sleep and Circadian Biology Data Blitz, November, 2005.
- Seelke, A. M. H., Karlsson, K., Gall, A. & Blumberg, M. The ontogeny of sleep-related phasic activity in the infant rat, International Society for Developmental Psychobiology. November, 2005.

Poster Presentations:

- Seelke, A. M. H., Duchemin, A., Simmons, T. C., Freeman, S. M., and Bales, K. L. Oxytocin receptor distribution in the prairie vole (*Microtus ochrogaster*) neocortex. Society for Neuroscience, November, 2016.
- Seelke, A. M. H., Yuan, S. M., Perkeybile, A. M., Krubitzer, L. A., and Bales, K. L. Borders of primary sensory areas reflect natural variation in parenting received, and exogenous exposure to oxytocin, in prairie voles. Winter Animal Behavior Conference, January, 2016.
- Seelke, A. M. H., Perkeybile, A., Bales, K. L., and Krubitzer, L. A. Early experience is associated with individual difference in brain organization and thalamic connectivity in prairie voles (*Microtus ochrogaster*). Society for Neuroscience, October, 2015.
- Seelke, A. M. H., Perkeybile, A., Grunewald, R., Bales, K. L., and Krubitzer, L. A. Early social experiences can alter the connections of primary sensory areas in the mammalian neocortex. Collaborative Biomedical Research Conference on the Vole Animal Model, July, 2014.

- Seelke, A. M. H., Dooley, J. C., and Krubitzer, L. A. Differential distribution of neurons within the neocortex of short-tailed opossums (*Monodelphis domestica*). Society for Neuroscience, October, 2012.
- Dooley, J. C., Nguyen, H. M., Seelke, A. M. H., and Krubitzer, L. A. Visual response characteristics of primary visual cortex in short-tailed opossums (*Monodelphis domestica*). Society for Neuroscience, October, 2012.
- Grunewald, R., Seelke, A. M. H., Perkeybile, A., Cooke, D. F., Bales, K. L., and Krubitzer, L. A. Effects of early parenting experience on cortical connections in prairie voles (*Microtus ochrogaster*). Society for Neuroscience, October, 2012.
- Seelke, A. M. H. and Krubitzer, L. A. The cellular composition of cortical areas in the short tailed opossum (*monodelphis domestica*) determined using isotropic fractionation. Society for Neuroscience, November, 2011.
- Seelke, A. M. H., Cooke, D. F., and Krubitzer, L.A. Development of functional and anatomical maps of the body in the somatosensory cortex of infant rats. Society for Neuroscience, November, 2010.
- Perkeybile, A. M., Griffin, L., Seelke, A. M. H., Krubitzer, L. and Bales, K. Social behavior and S1 representation in prairie voles are altered by variation in early parental care. Society for Neuroscience, November, 2010.
- Perkeybile, A., Griffin, L., Seelke, A. M. H., Krubitzer, L. and Bales, K. Variation in early prenatal care alters adult social behavior and S1 representation in the prairie vole (*microtus ochrogaster*). Society for Behavioral Neuroendocrinology, July, 2010.
- Seelke, A. M. H. and Krubitzer, L. A. Developmental organization of somatosensory cortex in infant rats. Society for Neuroscience, October, 2009.
- Seelke, A. M. H. and Krubitzer, L. A. Establishing a Quantitative Method of Receptive Field Determination in Developing Mammals. Bay Area Vision Research Day, September, 2008.
- Seelke, A. M. H., Marcano-Reik, A. J., and Blumberg, M. S. The infant rat neocortex exhibits multiple forms of state-dependent activity before the emergence of delta waves. Society for Neuroscience, November, 2007.
- Marcano-Reik, A. J, Todd, W. D., Seelke, A. M. H., and Blumberg, M. S. Development, state-dependence, and somatotopic organization of neocortical activity during the early postnatal period in rats. International Society for Developmental Psychobiology. November, 2007.

Seelke, A. M. H. and Blumberg, M. S. State-dependent neocortical activity is present before the onset of delta waves in infant rats. Society for Neuroscience, October, 2006.

Seelke, A. M. H. and Blumberg, M. S. State-dependent neocortical activity is present before the onset of delta waves in infant rats. International Society for Developmental Psychobiology. October, 2006.

Seelke, A. M. H., Freeman, J. and Blumberg, M. S. State dependent thalamic activity and its developmental relationships with slow wave neocortical activity. Society for Neuroscience, November, 2005.

Seelke, A. M. H. & Blumberg, M. S. Ontogeny of sleep-related phasic activity during early infancy. Associated Professional Sleep Societies, June, 2005.

Seelke, A. M. H. & Blumberg, M. S. Ontogeny of sleep-related phasic activity during early infancy. Society for Neuroscience, October, 2004.

Seelke, A. M. H. & Blumberg, M. S. Double dissociation between sniffing and arousal in infant rats. Associated Professional Sleep Societies, June, 2004.

Seelke, A. M. H. & Blumberg, M. S. Double dissociation between sniffing and arousal in infant rats. International Society for Developmental Psychobiology. November, 2003.

Seelke, A. M. H. & Blumberg, M. S. Double dissociation between sniffing and arousal in infant rats. Society for Neuroscience. November, 2003.

PROFESSIONAL ORGANIZATIONS:

Society for Neuroscience,
Society for Behavioral Neuroendocrinology

DEPARTMENTAL SERVICE:

Graduate Student Advisory Committee (2003-2004)

PROFESSIONAL SERVICE:

Ad Hoc reviewer for:
NeuroImage
Frontiers in Zoology
Biological Psychiatry
The Journal of Neuroscience
Brain, Behavior, and Evolution

AWARDS, HONORS, AND SPECIAL RECOGNITION

Professional Development Award, UC Davis, Spring 2016

International Society for Developmental Psychobiology Dissertation Award, Fall 2008

International Society for Developmental Psychobiology Travel Award, Fall 2007
The Lewis Dissertation Award, Department of Psychology, University of Iowa, Spring
2007
Graduate Student Senate Travel Funds Award, Fall 2006
University of Iowa Student Government Scholarly Presentation Travel Funds Award,
Fall 2006
Department of Psychology Travel Funds Award, Fall 2006
International Society for Developmental Psychobiology Sandra Wiener Travel Award,
Fall 2006
International Society for Developmental Psychobiology Travel Award, Fall 2006
Sleep Research Society Honorable Mention Abstract Award, Summer 2006
Gormezano Research Award, Spring 2006
International Society for Developmental Psychobiology Travel Award, Fall 2005
Sleep Research Society First Time Trainee Travel Award, Summer 2004
Honorable Mention, Jacobson Graduate Forum, March 2004
International Society for Developmental Psychobiology Travel Award, Fall 2003
Graduated Cum Laude (MST), Spring 2001
Lois K. Highfill Award (MST), Spring 2000
Dean's List (MST), Fall 1999 – Spring 2001