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Education

1978-1983 B.S., Zoology, University of Wisconsin-Madison
1985-1991 Ph.D., Neuroscience, University of Virginia, (Mentor: P.C. Brunjes)
1991-1994 Postdoctoral Fellow (NIH), University of Arizona, Arizona Research Laboratories, Division of Neural Systems, Memory and Aging (Mentor: C.A. Barnes)

Positions Held

1983-1985 Predoctoral Research Assistant, Department of Psychobiology, University of California, Irvine (PI: James McGaugh)
1994-1998 Instructor, Department of Psychology, University of Virginia
1994-1998 Research Assistant Professor, Department of Psychology, University of Virginia
1998-1999 Visiting Assistant Professor, Department of Psychology, Washington and Lee University
1999-2000 Assistant Professor, Department of Psychology, Binghamton University, SUNY
2000-2002 Research Assistant Professor, College of Medicine and Department of Psychology, University of Illinois at Urbana-Champaign
2002-2008 Assistant Professor, Department of Psychology and College of Medicine, University of Illinois at Urbana-Champaign
2004-2015 Affiliate, Institute for Genomic Biology, University of Illinois at Urbana-Champaign
2008-2012 Associate Professor, Department of Psychology, University of Illinois at Urbana-Champaign
2008-2012 Coordinator of outreach, Neuroscience Program, University of Illinois
2009-2012 Course Coordinator for Behavioral Sciences for M1, College of Medicine, University of Illinois at Urbana-Champaign
2009-2012 Affiliate, Department of Molecular and Integrative Physiology, University of Illinois at Urbana-Champaign
2012-present Associate Professor, Department of Biology, Syracuse University
2012-present Affiliate, Department of Neuroscience & Physiology, Upstate Medical University
2012-present Affiliate, Aging Studies Institute, Syracuse University
2013-present Posse Foundation Mentor for Syracuse University LA Posse 2 Scholars

Awards, Honors, and Fellowships

1984 NIMH Predoctoral Training Fellowship
1986-1986 Dupont Fellowship
1987-1990 NICHD Predoctoral Training Fellowship in Neural and Behavioral Development
1988 Association for Chemosensory Sciences, Conference Travel Award
1989-1990 University of Virginia Graduate School of Arts and Sciences Dissertation Year Award
1991-1994 NIH National Research Service Award (post-doctoral)
1996 Kellogg *Insert of the Year Award* for scientific review on Breakfast and Performance
2002 University of Illinois, Initiative on Aging incentive research award
2003 Neurobiology of Lipids, Editors' Choice award for noteworthy presentation at Society for Neuroscience annual meeting
2004-2005 Mabel Kirkpatrick Hohenboken Teaching Enhancement Award, University of Illinois, Department of Psychology
2002-2006 Recognized on the students' List of Excellent Teachers, University of Illinois

2008-2011 Recognized on the students' List of Excellent Teachers, University of Illinois
2008 University of Illinois, Provost's Campus Committee on Promotion and Tenure
Outstanding Achievement Award
2009 Top Reviewer for *Hormones and Behavior*, Elsevier Press
2014 James K. Duah-Agyeman Faculty of the Year Award for the Center for Graduate
Preparation and Achievement, Syracuse University

Professional Activities

Editorial Boards

2006-2015 *Hormones and Behavior*, Elsevier
2009-present *Neurobiology of Learning and Memory*, Elsevier
2009-present *Frontiers in Aging Neuroscience*, Frontiers Journal Series
2012-2015 *Conference Papers in Science: Neuroscience*, Hindawi (final issue)

Guest Editor

2010-2011 Special issue of *Neurobiology of Learning and Memory*, titled, "Memory Impairment
and Disease"

Ad-hoc manuscript reviewer

Behavioral and Brain Functions; Behavioral Neuroscience; Behavioural Brain Research; Behavioural
Processes; Biological Psychiatry; Brain Research; eLife; European Journal of Neuroscience;
Experimental Gerontology; Experimental Neurology; Frontiers in Aging Neuroscience;
Hippocampus; Hormones and Behavior; Journal of Neurochemistry; Journal of Neuroendocrinology;
Journal of Neuroscience; Journal of Neuroscience Methods; Journal of Neuroscience Research;
Learning and Memory; Molecular Therapy; Neurobiology of Aging; Neurobiology of Learning and
Memory; NeuroImage; Neuroscience; Neuroscience Letters; Pharmacology, Biochemistry and
Behavior; Physiology and Behavior; Proceedings of the National Academy of Sciences; PLoS One;
Psychoneuroendocrinology; Reproduction; Reviews in the Neurosciences; Stress

Grant Review Boards

2004, 2005 Member, NSF Advisory Panel for IOS, Neural Systems cluster/modulation programs
(declined 2010; 2013; 2015)
2016 Invited Member, NSF Advisory Panel for IOS, Behavioral Systems cluster/Animal
Behavior programs; alternate
2016 Member, Canadian Institutes for Health Research

Ad-hoc grant reviewer

National Science Foundation; Alzheimer's Association; U.S. Veterans Affairs; PPP Foundation (UK),
Medical Research Council (UK); Canadian Institutes for Health Research; Several university and
state research award programs

Membership

American Association for the Advancement of Science; Society for Neuroscience; Society for
Behavioral Neuroendocrinology; Women in Neuroscience; Association of Women in Science

Committee and conference service

Departmental and University

1991-1994 Member, University of Arizona, Committee on Gerontology
1994-1998 Member, University of Virginia Center on Aging
2001-2006 Member, University of Illinois Initiative on Aging (final year, 2006)

2001-2003 Member, University of Illinois, Neuroscience Graduate Program, Admissions Committee

2005-2006 Chair, University of Illinois, Neuroscience Graduate Program, Admissions Committee

2002-2010 Member, Graduate Awards Committee/Graduate Education Committee, Department of Psychology, University of Illinois

2003-2005 University of Illinois, Neuroscience Graduate Program, Executive Committee

2006-2007 University of Illinois, Neuroscience Graduate Program, Executive Committee

2010-2012 University of Illinois, Neuroscience Graduate Program, Executive Committee

2003-2005 University of Illinois, Department of Psychology, Departmental Advisory Committee to Division of Animal Resources

2007-2008 Member, Committee to Evaluate the Teaching Plan, Department of Psychology

2008-2012 Member, Department of Psychology, Academic Disciplinary Committee

2009 Member, Department of Psychology search committee for Psych 100 coordinator

2009-2011 Course coordinator, Behavioral Sciences for Health Professionals, College of Medicine, University of Illinois at Urbana-Champaign

2010 Member, Department of Psychology Undergraduate Distinction Committee

2011 Member, Search Committee for Medical Scholars Program Coordinator

2011 Member, Search Committee for OLLI Director

2011-2012 Member, Independent Program of Study (IPS) Committee, College of LAS, University of Illinois at Urbana-Champaign

2011-2012 Member, Staff and Faculty Awards Committee, Department of Psychology, University of Illinois at Urbana-Champaign

2012 Planning committee for Central NY Neuroscience Website, Upstate Medical University

2012-2013 Governance committee, Neuroscience Initiative, Syracuse University

2012-2013 Curriculum committee, Neuroscience Initiative, Syracuse University

2013-2015 Curriculum committee, Neuroscience Program, Upstate Medical University

2013-2014 Member, Search Committee Biochemistry faculty position, Syracuse University

2014-present Member, Faculty Advisory Board, LSAMP program, Syracuse University

2014-2015 Member, Search Committee Neuroscience faculty position, Syracuse University

2014-present Member, Curriculum Committee, Department of Biology, Syracuse University

2015-2016 Member, Graduate Committee, Department of Biology, Syracuse University

2016-present Member, Mentoring Committee Jessica MacDonald, Department of Biology, Syracuse University

Societies and Conferences

2002 Organizer (and speaker) for Bench to Bedside symposium on Menopause: Making Choices, Medical Scholars Program, School of Medicine, University of Illinois

2003 Invited Organizer and Program Chair for the XXVII Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January 11-14

2003 Chair and speaker in session titled *Systems and cellular pathways of ovarian steroid actions on learning and memory*, at the XXVII Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January 11-14

2003 Chair of Neuroscience Session, UIUC Initiative on Aging, First Annual Summer Conference, June 17-18

2007-2011 Member, Society for Behavioral Neuroendocrinology Education Committee

2009 Invited session chair, *Exercise, Physical Activity and Brain Function*, at the XXXIII Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January 3-6

2012 Invited co-chair, Data Blitz Session, XXXVI Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January 4-7

2014-present Invited mentor, Society for Neuroscience professional development workshop titled, *Career Development Topics: A Networking Event* (November 15, 2014, Washington, D.C.; October 18, 2015, Chicago, IL; November 12, 2016, San Diego, CA)

Public Engagement and Outreach

1991-1992 Med-Start volunteer, University of Arizona
1993-1998 Leader, tutorials and debates on *Animal Rights v. Animal Research*, area schools, Charlottesville, VA
1994-1999 Developer, project-based curricula (HOWS - Hands On With Science) for teaching neuroscience to 7-12 graders, Tandem Friends School, Charlottesville, VA and to 6-8 graders at Village Middle School for girls, Charlottesville, VA
1998-1999 Co-founder of Renaissance School, Charlottesville, VA
1998-2002 Mentor for pre-college science teachers through the Society for Neuroscience
1998-present Outreach Partner, Society for Neuroscience
2001 Developed and implemented GirlZone workshop on Bodacious Brains, Champaign-Urbana, October 20
2001-2002 Co-organizer, Brain Awareness Week event, Neuroscience Program, University of Illinois
2002 Invited presenter, Society for Neuroscience Hands-on Workshops for Educators
2003 Invited keynote speaker and workshop leader for Learning Brain Expo 2003, Brain workshop for educators, Chicago, IL, July 17
2003 Invited speaker at the Continuing Education colloquia: Geriatrics for Non-physicians, University of Illinois, Department of Family Medicine, Kankakee, IL. Presented, "Aging brain and its functional implications", September 26 (2004, declined)
2003-2009 Organizer, Brain Awareness Day, Neuroscience Program, University of Illinois
2005-2006 Invited participant, Freeman Fellows program, UIUC. Facilitated roundtable discussions about academic integrity with Freeman Fellows
2007-2010 Invited participant, annual Illinois Summer Neuroscience Institutes
2008 Invited participant, University of Illinois' Osher Life Long Learning Institute (OLLI)
2008 Co-organizer, exhibits for Chicago Science in the City, December 27-29
2009 Coordinator, OLLI course on Brains in Society
2010-2012 Co-developer of neuroscience curricula and S.T.A.R. program for Don Moyer Boys and Girls club
2010-2012 Member of Senior Project Committee, University Laboratory High School, Urbana, IL
2011 Mentor for University of Illinois – University Laboratory High School iSTEM interns
2011 Mentor for OLLI-NSP Citizen-Scientist program
2011 Coordinator, Special program on Brain and Behavior, Circle Academy, Urbana, IL
2011-2013 Co-developer of F.I.N.D. (Faces in Neuroscience Discovery) series at Orpheum Children's Science Museum
2011-2013 Co-developer of FIND Orphy: Portable science for the public, collaborative museum exhibit with the Orpheum Children's Science Museum, Champaign, IL
2013-2014 Developer, with Mark Morris Dance Group and SU Arts Engage, Dance for Parkinson's workshop titled, *Movement for Healthy Aging*. April 11-12, 2014.
2016 Highlighted scientist, Wrinkled Brain Project
2015-present Co-founder, Movement for Healthy Aging Initiative, dance through exercise and exercise through dance program for underserved communities

Professional Development Contributions

2008-2012 Co-developer and facilitator, Neuroscience Teacher Institutes
2012-present Presenter, LSAMP annual and summer program
2013 Invited speaker, WiSE panel on peer evaluation, October 29, 2013
2014-present Invited participant, SfN Professional Development Workshop
2017 Invited external panelist, Arizona State University Honors Program Thesis committee

Research Interests: Overarching aims are to develop behavioral and neurobiological models of aging and neurodegenerative diseases. My research interests are directed at understanding experience-dependent and experience-expectant brain changes that modulate learning and memory. My work takes a multiple memory systems approach to understand how changes in brain state, e.g. through hormones, prior experience, and age, modulate the neural mechanisms of learning, memory, and forgetting.

- Estrogenic modulation of neural plasticity, bioenergetics, and cell signaling events across the adult lifespan;
- Contributions of astrocytes to brain aging;
- Neural mechanisms of the benefits of physical and mental activity on learning and memory in adult and aged rodents, focusing on the roles of neurometabolism and trophic factor signaling;
- Cognitive, metabolic, and cell biological phenotypes of Parkinson's disease to identify pre-motor changes that provide early diagnostics for prevention and intervention of pathology;
- Age-related shifts in synaptic plasticity as a model of forgetting.

Current Projects

- Shifts in cognition across the lifespan based on hormone status and memory system
- Modulation of learning and memory through estrogen mediated receptor transactivation
- Shifts in brain energy substrates in healthy and pathological aging in males and females
- Mechanisms of estrogenic control over brain energy substrates
- Physical and mental activity facilitate brain and cognitive health in young and old animals
- Role of brain-derived neurotrophic factor (BDNF) signaling in neural plasticity
- Modeling the neurochemical and cognitive consequences of menopause
- Bidirectional shifts in cognition in rodent models of Parkinson's disease

Teaching Interests and Experience: My teaching is student-centered, integrates real-world contexts into academic content, and extends outside the classroom and into my and my colleagues' laboratories. I view the classroom as a safe space for discovery of knowledge and ignorance as much as a forum for the exchange of ideas, where students and instructors are actually both. My teaching interests span a broad range of topics in Neuroscience and across levels of instruction, reflecting the integrative approach I take in my research. I work to keep my classroom practices current by reading science education research and by attending conferences and workshops aimed at undergraduate education. Courses I have developed include Biology of Aging, Neurodegenerative Disease, Neurobiology of Aging, Exercise and Brain Function, Neuroendocrinology, Hormones and Behavior, Brain, Behavior and Gender, Synaptic Plasticity, Menopause and Mind, Physiological Psychology, Behavioral Sciences for M-1, and various laboratories in Behavioral Neuroscience.

Public Engagement: I am deeply committed to enhancing science literacy in people with limited access to formal scientific exploration and have dedicated many activities throughout my professional career to doing so. To reduce the relatively high attrition rate for female and other under-represented students entering basic science fields, I was co-PI on an NIH-funded Science Education Partnership Award titled *Project NEURON* in which we developed innovative middle and high school neuroscience modules based on cutting-edge research at the University of Illinois. Across the country, these curricula have been adopted for and enacted in classrooms that range from entry-level biology to honors anatomy and physiology. Moreover, as outreach coordinator for the Neuroscience Program at UIUC, I developed and facilitated several programs that brought STEM content focused on neuroscience to the public, including an annual Brain Awareness Day event, after school programs for Don Moyer Boys and Girls clubs, and programs for adult education through the Osher Lifelong Learning Institute. I currently serve on the Faculty Advisory Board for the Louis Stokes Alliance for Minority Participation in STEM at Syracuse University (SU). Currently, my efforts have turned towards older adults who may not have access to lifestyle practices supporting brain health. With support from NY state and private foundations, colleagues in the Aging Studies Institute at SU and I initiated an exercise-through-dance program called *Movement for Healthy Aging* to increase physical, psychological, and social well-being of mature adults, particularly those from urban communities.

Funding

Current:

8/16/12-present

Research support, Office of the Provost, Syracuse University

Role: PI

In review, revision, or preparation:

- Alzheimer's Association: A role for BDNF release in estrogenic protection against Alzheimer's like cognitive decline, *under review*
- NIH R21: Age-related changes in learning and memory mediated by noradrenergic regulation of astrocytes, PI, *under revision*.
- NIH R01: BDNF variant impact on the nigrostriatal system and response to dopaminergic therapy. Co-I (T. Collier (PI), C. Sortwell (Co-I), K. Steece-Collier (Co-I)), *under revision*.
- NIH R01: A unifying molecular biology for cognitive changes with menopause. PI, *in preparation*.

Completed:

9/1/11-8/31/17

NSF IOS 1318490

Contributions of astrocytes to metabolic modulation of memory

Role: Co-I (P. Gold, PI)

9/1/2010-8/31/2017

NIH P50 AT006268 from ODS, NCCIH, and NCI Dietary Supplement Research Centers: Botanicals (W. Helfrich Program PI; subcontract from UIUC)

Botanical Estrogens: Mechanisms, Dose and Target Tissues

Role: Project Co-I (S. Schantz, Project PI)

10/2016-9/2017

NIH R56 *Mechanisms of cognitive impairment in sleep apnea syndrome*

Role: Consultant (I. Topchiy, PI)

8/2016-7/2017

Snow Foundation

Movement for Healthy Aging

Role: Co-I (J. Wilmoth, PI; M. Pagan, Co-I)

7/1/16-6/30/17

New York State Appropriations, New York State Office of Children and Family Services

Movement for Healthy Aging

Role: Co-I (J. Wilmoth, PI, M. Pagan, Co-I)

5/1/16-5/1/17

Health foundation of Western and Central New York

Movement for Healthy Aging

Role: Co-I (J. Wilmoth, PI; M. Pagan, Co-I)

5/1/14-4/30/16

NIH/NINDS 5R21NS085502-02

Exercise recovers cholinergic dysfunction through neurotrophin modulation

Role: consultant (L. Savage, PI)

7/1/13-6/30/15

NIH P30 AG034464, Pilot project for Center for Aging and Policy Studies, Syracuse University
Use it and boost it: Enhancing cognition in elderly with prior mental activity

Role: PI

7/1/13-6/30/15

NIH P30 AG034464, Pilot project for Center for Aging and Policy Studies, Syracuse University
Energizing the aging brain for optimal learning and memory

Role: Co-PI (P. Gold, PI)

2012-2013

Public Engagement grant, University of Illinois

FIND Orphy

Role: Co-PI (Barbara Hug, co-PI)

10/2011-9/2012

Supplement to NIH 1 R25 RR024251-01A2 MAA

Brain CASE (Computer Aided Student Exploration): development of a video game on traumatic brain injury

Role: Co-PI (B. Hug, PI)

3/10/2011-3/09/2012

NSF IOS 118414, Supplement to IOB 0520876

Estrogen, learning strategy, and neural systems: Timing and cellular mechanisms.

Role: PI

11/1/2009-10/31/2015

NIH 1 R25 RR024251-01A2 MAA, SEPA program

Project NEURON: Novel Education for Understanding Research on Neuroscience.

Role: Co-PI (B. Hug, PI)

9/1/2009-8/31/2013

NSF IOS 0843175, ARRA

Neuroendocrine modulation of LTP durability

Role: PI

8/1/2005-7/31/2011

NSF IOB 0520876

Estrogen, learning strategy, and neural systems: Timing and cellular mechanisms.

Role: PI

10/2005-12/2005

Katrina relief award, Society for Neuroscience

Research support for displaced UNO students

Role: Mentor

9/01/04-8/31/10

NIH P01 AG024387-04 (Helferich PI)

Phytoestrogens and Aging: Dose, Timing & Tissue

Role: Co-PI of Project 3: Dietary estrogens and cognitive function during aging (Schantz, PI)

6/20/2003-6/19/2008
UIUC VCR and Initiative on Aging
Incentive funds
Role: Co-PI (of five co-Is)

2002-2012
University of Illinois, Initiative on Aging Incentive Award
Strategy Shifts in Aging Female Rats
Role: PI

9/1/2000-8/31/2004
NSF IBN 0081061
Estrogen modulation of learning strategy: A neural systems approach
Role: PI

1998-1999
Austin Foundation Memorial Fund award
Development of innovative secondary school curriculum for Renaissance High School
Role: Co-PI (G. Kessler and M. Davis, Co-PIs)

1996-1999
Kellogg Company Research award
Breakfast and behavior in the elderly: Regulation by post-prandial glucose
Role: PI

1994-1997
Mars Corporation
Glucose and nutritional effects on cognition in children,
Role: Co-PI (P. Gold, Co-PI)

Extramural Training and Instructional Support

Current

9/1/15-8/31/18 (NCE)
NIH R36
Curcumin Supplementation and Aging Skeletal Muscle
Candace Receno, PhD candidate
Role: Co-mentor (Mentor: K. DeRuisseau)

Completed

7/1/00-6/30/10
NIH 5 T32 ES007326-10
NIEHS: Research Training Program in Environmental Toxicology
PI: S.L. Schantz
Role: Preceptor

8/02-8/12
NIH T32 HD00733
NIHHD: Advances in Sensory and Developmental Neuroscience (ASDN) Training program
(formerly, Developmental Psychobiology and Neurobiology training program).
PI: W.T. Greenough
Role: Preceptor

Publications

Bibliography of peer reviewed journal articles and book chapters can be found at:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/donna.korol.1/bibliography/48131287/public/?sort=date&direction=ascending>

Peer reviewed and solicited chapters

1. Sternberg, D.B., Korol, D., Novack, G.D. and McGaugh, J.L. (1986). Epinephrine-induced memory facilitation: Attenuation by adrenoceptor antagonists. *European Journal of Pharmacology*, 129, 189-193.
2. Steward, O., White, G., Korol, D., and Levy, W.B. (1988). Cellular events underlying long-term potentiation and depression in hippocampal pathways: Temporal and spatial constraints. In: P.W. Landfield and S.A. Deadwyler (Eds), *Long-Term Potentiation: From Biophysics to Behavior*. Alan R. Liss, Inc., New York, pp. 139-166. [Solicited chapter]
3. Brunjes, P.C., Korol, D.L., and Stern, K.G. (1989). Prenatal neurogenesis in the telencephalon of the precocial mouse *Acomys cahirinus*. *Neuroscience Letters*, 107, 114-119.
4. Korol, D.L., and Brunjes, P.C. (1990). Rapid changes in 2-DG uptake and amino acid incorporation following unilateral odor deprivation: A laminar analysis. *Developmental Brain Research*, 52, 75-84.
5. Brunjes, P.C., Caggiano, A.O., Korol, D.L., and Stewart, J.S. (1991). Unilateral olfactory deprivation: Effects on succinate dehydrogenase histochemistry and ³H-leucine incorporation in the olfactory mucosa. *Developmental Brain Research*, 62, 239-244.
6. Korol, D.L., and Brunjes, P.C. (1992). Unilateral naris closure and vascular development in the rat olfactory bulb. *Neuroscience*, 46, 631-641.
7. Korol, D.L., Abel, T.W., Church, L.T., Barnes, C.A. and McNaughton, B.L. (1993). Hippocampal synaptic enhancement and spatial learning in the Morris swim task. *Hippocampus*, 3, 127-132.
8. Barnes, C.A., Jung, M.W., McNaughton, B.L., Korol, D.L., Andreasson, K. and Worley, P.F. (1994). LTP saturation and spatial learning disruption: Effects of task variables and saturation levels. *Journal of Neuroscience*, 14, 5793-5806.
9. Korol, D.L. (1996). Breakfast and Performance. *Journal of American Dietetic Association*, 96, A993-A996.
10. Norris, C.M., Korol, D.L. and Foster, T.C. (1996). Increased susceptibility to induction of long-term depression and long-term potentiation reversal during aging. *Journal of Neuroscience*, 16, 5382-5392.
11. Wilkniss, S.M., Jones, M.G., Korol, D.L., Gold, P.E. and Manning, C.A. (1997). Age-related differences in an ecologically based study of route learning. *Psychology and Aging*, 12, 372-375.
12. Wilkniss, S.M., Jones, M.G., Korol, D.L., and Manning, C.A. (1997). Visuospatial recall in cortical and subcortical dementias. *Brain and Cognition* 35, 356-359.

13. Korol, D.L. and Gold, P.E. (1998). Glucose, memory, and aging. *American Journal of Clinical Nutrition*, 67, 764S-771S.
14. Manning, C.A., Stone, W.S., Korol, D.L. and Gold, P.E. (1998). Glucose enhancement of 24-h memory retrieval in healthy elderly humans. *Behavioural Brain Research*, 93, 71-76.
15. Gold, P.E., McIntyre, C. K., McNay, E., Stefani, M. and Korol, D.L. (2001). Neurochemical referees of dueling memory systems. In: P.E. Gold and W. Greenough (Eds), *Memory Consolidation: Essays in Honor of James L. McGaugh, A Time to Remember*. American Psychological Association Book Publishers, Washington D.C. pp. 219-248. [Conference proceedings]
16. Korol, D.L. and Manning, C.A. (2001). Effects of estrogen on cognition: Implications for menopause. In: M.E. Carroll and J.B. Overmier (Eds), *Animal Research and Human Health: Advancing Human Welfare Through Behavioral Science*. American Psychological Association Book Publishers, Washington D.C., pp. 305-322. [Solicited chapter]
17. Korol, D.L. and Kolo, L.L. (2002). Estrogen-induced changes in place and response learning in young adult female rats. *Behavioral Neuroscience*, 116, 411-420.
18. Korol, D.L. (2002). Enhancing cognitive function across the life span. In: D. Harman (ed) *Increasing the Healthy Life Span: Conventional Measures and Slowing the Innate Aging Process*. Annals of the New York Academy of Sciences, 959, 167-179. [Conference proceedings]
19. Marriott, L.K. and Korol, D.L. (2003). Short-term estrogen treatment in ovariectomized rats augments hippocampal acetylcholine release during place learning. *Neurobiology of Learning and Memory*, 80, 315-322.
20. Allred, C.D., Allred, K.J., Ju, Y.H, Clausen, L.M., Doerge, D.R., Schantz, S.L., Korol, D.L., Wallig, M.W., and Helferich, W.G. (2004). Dietary genistein results in larger MNU-induced, estrogen-dependent mammary tumors following ovariectomy of Sprague-Dawley rats. *Carcinogenesis*, 25, 211-218.
21. Korol, D.L., Malin, E.L., Borden, K.A., Busby, R.A., and Couper-Leo, J.M. (2004). Shifts in preferred learning strategy across the estrous cycle in female rats. *Hormones and Behavior*, 45, 330-338.
22. Conrad, C.D., Jackson, J.L., Wiczorek, L., Baran, S.E., Harman, J., Wright, R.L., and Korol, D.L. (2004). Acute stress impairs spatial memory in male but not female rats: Influence of estrous cycle. *Pharmacology, Biochemistry, and Behavior*, 78, 569-579.
23. Korol, D.L. (2004). Role of estrogen in balancing contributions from multiple memory systems. *Neurobiology of Learning and Memory*, 82, 309-323. [Evaluated by Faculty of 1000:] <http://www.f1000biology.com/article/15464412/evaluation>
24. McElroy, M.W. and Korol, D.L. (2005). Intrahippocampal muscimol shifts learning strategy in gonadally intact young adult female rats. *Learning and Memory*, 12, 150-158. [see commentary by T. Shors, same issue.]
25. Erickson, K.I., Colcombe, S.J., Raz, N., Korol, D.L., Scalf, P., Webb, A., Cohen, N.J., McAuley, E., and Kramer, A.F. (2005). Selective sparing of brain tissue in postmenopausal women receiving hormone replacement therapy. *Neurobiology of Aging*, 26, 1205-1213.

26. Zurkovsky, L., Brown, S.L., and Korol, D.L. (2006). Estrogen modulates place learning through estrogen receptors in the hippocampus. *Neurobiology of Learning and Memory*, 86, 336-343.
27. Zurkovsky, L., Brown, S.L., Boyd, S.E., Fell, J.A., and Korol, D.L. (2007). Estrogen modulates learning in female rats by acting directly at distinct memory systems. *Neuroscience*, 144, 26-37.
28. Korol, D.L. and Gold, P.E. (2007). Modulation of learning and memory by adrenal and ovarian hormones, In: R.P. Kesner and J.L. Martinez (Eds), *Neurobiology of Learning and Memory*, 2nd Edition, Elsevier, New York, NY, 243-268. [Solicited chapter]
29. Erickson, K.I., Colcombe, S.J., Elavsky, S., McAuley, E., Korol, D.L., Scalf, P., Kramer A.F. (2007). Interactive effects of fitness and hormone treatment on brain health in post-menopausal women. *Neurobiology of Aging*, 28, 179-185.
30. Korol, D.L. and Gold, P.E. (2008). Epinephrine converts LTP from transient to durable form in awake rats. *Hippocampus*, 18, 81-91.
31. Wang, V.C., Sable, H.J.K., Ju, Y.H., Allred, C.D., Helferich, H.G., Korol, D.L., and Schantz, S.L. (2008). Effects of chronic estradiol treatment on delayed spatial alternation and differential reinforcement of low rates of responding. *Behavioral Neuroscience*, 122, 794-804.
32. Dohanich, G.P., Korol, D.L., and Shors, T.J. (2009). Steroids and Cognition, In: D. Pfaff, A. Arnold, R. Rubin, S. Fahrback, and A. Etgen (Eds), *Hormones, Brain and Behavior*, 2nd edition, Academic Press, New York, NY, 539-576. [Invited author]
33. Erickson, K.I. and Korol, D.L. (2009). The effects of hormone replacement therapy on the brains of postmenopausal women: A review of human neuroimaging studies. In: W. J. Chodzko-Zajko, A.F. Kramer, and L. Poon (Eds), *Enhancing Cognitive Functioning and Brain Plasticity*, Human Kinetics, Champaign, IL. 133-158. [Solicited chapter; Invited author].
34. Wang, V.C., Neese, S.L., Korol, D.L., and Schantz, S.L. (2009). Chronic estradiol replacement impairs performance on an operant delayed spatial alternation task in young, middle-aged, and old rats. *Hormones and Behavior*, 56, 382-390.
35. McLaughlin, K.J., Wilson, J.O., Harman, J. Wright, R.L., Wiczorek, L.A., Gomez, J., Korol, D.L., and Conrad, C.D. (2010). Chronic 17 β -estradiol or cholesterol prevents stress-induced hippocampal CA3 dendritic retraction in ovariectomized female rats: Possible correspondence between CA1 spine properties and spatial acquisition. *Hippocampus*, 20, 768-786.
36. Neese, S.L., Wang, V.C., Doerge, D.R., Woodling, K.A., Andrade, J.E., Helferich, W.G., Korol, D.L., and Schantz, S.L. (2010). Impact of dietary genistein and aging on executive function in rats. *Neurotoxicology and Teratology*, 32, 200-211.
37. Gold, P.E. and Korol, D.L. (2010). Hormones and Memory. In: G.F. Koob, M. Le Moal, and R. F. Thompson (Eds), *Encyclopedia of Behavioral Neuroscience*, Volume 2, (R. Dantzer, section Ed), pp. 57-64, Oxford: Academic Press. [Solicited chapter, Invited Author]
38. Neese, S.L., Korol, D.L., Katzenellenbogen, J.A., and Schantz, S.L. (2010). Impact of estrogen receptor alpha and beta agonists on delayed alternation in middle-aged rats. *Hormones and Behavior*, 58, 878-890.

39. Wang, V.C., Neese, S.L., Korol, D.L., and Schantz, S.L. (2011). Estradiol impairs response inhibition in young and middle-aged, but not old rats. *Neurotoxicology and Teratology*, 33, 405-414.
40. Zurkovsky, L., Serio, S.J., and Korol, D.L. (2011). Intrastratial estradiol in female rats impairs response learning within two hours of treatment. *Hormones and Behavior*, 60, 470-477.
41. Frick, K.M. and Korol, D.L. (2011). Introduction to the special issue of Neurobiology of Learning and Memory on memory impairment and disease. *Neurobiology of Learning and Memory*, 96, 505-506.
42. Newman, L.A., Korol, D.L., and Gold, P.E. (2011). Lactate produced by glycogenolysis in astrocytes regulates memory processing. *PLoS ONE*, 6(12), e28427.
43. Neese, S.L., Bandara, S.B., Doerge, D.R., Helferich, W.G., Korol, D.L., and Schantz, S.L. (2012). Effects of multiple daily genistein treatments on delayed alternation and a differential reinforcement of low rates of responding task in middle-aged rats. *Neurotoxicology and Teratology*, 34, 187-195.
44. Sepehr, E., Lebl-Rinnova, M., Mann, M.K., Pisani, S.L., Churchwell, M.I., Korol, D.L., Katzenellenbogen, J.A., and Doerge, D.R. (2012). Pharmacokinetics of the estrogen receptor subtype-selective ligands, PPT and DPN: Quantification using UPLC-ES/MS/MS. *Journal of Pharmaceutical and Biomedical Analysis*, 71, 119-126.
45. Wnuk, A., Korol, D.L., and Erickson, K.I. (2012). Estrogens, hormone therapy, and hippocampal volume in postmenopausal women, *Maturitas*, 73, 186-190.
46. Pisani, S.L., Neese, S.L., Doerge, D.R., Helferich, W.G., Schantz, S.L, and Korol, D.L. (2012). Acute genistein treatment mimics the effects of estradiol by enhancing place learning and impairing response learning in young adult female rats. *Hormones and Behavior*, 62, 491-499. [NIHMS 407660]
47. Gold, P.E. and Korol, D.L. (2012). Making memories matter, In: Special issue of Frontiers in Integrative Neuroscience, "Impact of Emotion on Cognition", *Frontiers in Integrative Neuroscience*, 6:116, Dec 18, 2012. doi: 10.3389/fnint.2012.00116
48. Blattner, M., Hug, B, Watson, P, and Korol, D. (2012). The Guppy Game: Understanding the big ideas of natural and sexual selection. *The Science Teacher* 79(5), 32-37.
49. Blattner, M., Hug, B., Ogrodnik, J., & Korol, D. (2013). What color do you see? A color-sorting activity in which students collect data and articulate scientific explanations. *The Science Teacher*, 80(3), 62-65.
50. Gold, P.E., Newman, L.A., Scavuzzo, C.J., and Korol, D.L. (2013). Modulation of multiple memory systems: From neurotransmitters to metabolic substrates. *Hippocampus*, 23, 1053-1065. doi: 10.1002/hipo.22182
51. Korol, D.L., Gold, P.E., and Scavuzzo, C.S (2013). Use it and boost it with physical and mental activity. *Hippocampus*, 23, 1125-1135. doi:10.1002/hipo.22197
52. Neese, S.L., Korol, D.L., and Schantz, S.L. (2013). Voluntary exercise impairs initial delayed spatial alternation performance in estradiol treated ovariectomized middle-aged rats. *Hormones and Behavior*, 64, 579-588.

53. Pollack, A.E. and Korol, D.L. (2013). The use of haiku to convey complex concepts in neuroscience. *Journal of Undergraduate Neuroscience Education (JUNE)*, Fall, 12(1), A42-A48.
54. Neese, S.L., Pisani, S.L., Doerge, D.R., Helferich, W.G., Sepehr, E., Chittiboyina, A.G., Rotte, S.C.K., Smillie, T.J., Khan, I.A., Korol, D.L., and Schantz, S.L. (2014). The effects of dietary treatment with S-equol on learning and memory processes in middle-aged ovariectomized rats. *Neurotoxicology and Teratology*, 41, 80-88. doi: 10.1016/j.ntt.2013.12.004
55. Finy, M.S., Bresin, K., Korol, D.L., and Verona, E. (2014). Impulsivity, risk taking, and cortisol reactivity as a function of psychosocial stress and personality in adolescents. *Development and Psychopathology* 26, 1093-1111, doi: 10.1017/S0954579414000212. *Corrigendum: Developmental and Psychopathology* 26, 1183. doi: 10.1017/S0954579414000595
56. Gold, P.E. and Korol, D.L. (2014). Forgetfulness during aging: An integrated biology. In Special Issue: Stress and the regulation of memory: From basic mechanisms to clinical implications. Eds: D. de Quervain, J.L. McGaugh, *Neurobiology of Learning and Memory*, 112, 130-138.
57. Korol, D.L. and Pisani, S.L. (2015). Estrogens and cognition: Friends or Foes? Special Issue on Estradiol and Cognition. *Hormones and Behavior*, 74, 105-115.
58. Pisani, S.L., Neese, S.L., Katzenellenbogen, J.A., Schantz, S.L., and Korol, D.L. (2016). Estrogen receptor selective agonists modulate learning in female rats in a dose- and task-specific manner. *Endocrinology*, 157, 292-303. DOI: <http://dx.doi.org/10.1210/en.2015-1616>
59. Newman, L.A., Scavuzzo, C.S., Gold, P.E., and Korol, D.L. (2017). Training-induced elevations in extracellular lactate in hippocampus and striatum: dissociations by cognitive strategy and type of reward. *Neurobiology of Learning and Memory*, 137, 142-153. <http://dx.doi.org/10.1016/j.nlm.2016.12.001>
60. Gold, P.E. and Korol, D.L. (2017). Hormones and Memory. Reference Module in Neuroscience and Biobehavioral Psychology, 1-8. Elsevier Ltd, Oxford Academic Press UK. <http://dx.doi.org/10.1016/B978-0-12-809324-5.00336-9>
61. Kim, Y., Men, S.S., Brutsaert, T.D., Korol, D.L., Heffernan, K.S., and DeRuisseau, K.C. (2017) Effects of long-term exposure to low iron and branched-chain amino acid containing diets on aging skeletal muscle of F344BN rats. *Applied Physiology, Nutrition, and Metabolism*, in press. doi: 10.1139/apnm-2017-0272. [Epub ahead of print] PubMed PMID: 29024598.
62. Dash, M.B., Ajayi, S., Folsom, L., Gold, P.E., and Korol, D.L. Spontaneous infraslow fluctuations modulate hippocampal EPSP-PS coupling, *In review*.
63. Korol, D.L. and Wang, W. Viewing the effects of estrogens on cognition through a multiple memory systems lens: implications for human health. *Physiology and Behavior*, special Issue, Sex as a Biological Variable [Solicited for *Physiology & Behavior Special Issue: Sex Differences*]; *in revision*.
64. Scavuzzo, C.J., Newman, L.A., Gold, P.E., and Korol, D.L. Task- and brain area-specific changes in brain glycogen and lactate in rats long after different cognitive experiences. *In revision*.

65. Korol, D.L., Morris, K.A., Gold, P.E., Mitterling, K.L., Rocha-Cabrero, F. Bilateral intrastriatal infusions of 6-OHDA improve spatial working memory in rats: implications for Parkinson's disease. *in revision*.
66. Korol, D.L. Estrogens have their ups and downs: A multiple memory systems approach to the bidirectional effects of estrogens on learning strategy. In: "Estrogens and Memory: Basic Research and Clinical Implications", for Oxford University Press Series in Behavioral Neuroendocrinology (edited by Gregory Ball, Jacques Balthazart, and Randy Nelson), *in review*. [Solicited]

Opinion Pieces

1. Korol, D.L. (1997). Glucose effects on cognition in school children, young adults, and elderly. White paper for Asia Pacific Nutrition Advisory Panel proceedings.
2. Stevens, H., Payton, J., and Korol, D. (2002). Bodacious Brains Workshop for Girls (feature article). *Women in Neuroscience Newsletter*, January, pp. 4, 12-14.

In final preparation

- Scavuzzo, C.J., Erickson, K.I., Epstein, D.E., Grinberg, Y., and Collier, R. and Korol, D.L. Exercise boosts learning through BDNF signaling in rats.
- Scavuzzo, C.J., Gold, P.E., and Korol, D.L. Measurement of BDNF release *in vivo* during learning: Dissociations by task, brain structure, and physical fitness.
- Scavuzzo, C.J., Gold, P.E., and Korol, D.L. Priming with a spatial working memory task enhances place and response learning: a role for BDNF-TRKB signaling.
- Gardner, R.S., Mohler, E.G., Newman, L.A., Gold, P.E., and Korol, D.L. Age-related shifts in learning strategies mirrored by reductions in extracellular glucose in male rats.
- Zurkovsky, L., Serio, S.S., Decker, L.A., Grinberg, Y., Fell, J.A., and Korol, D.L. Task difficulty and age interact with the modulating effects of estradiol on learning strategy.
- Kent, M.H., Zurkovsky, L., Fornelli, D.C., and Korol, D.L. Intrastriatal antiestrogen ICI 182,780 blocks estradiol-induced impairments in response learning in young adult female rats.
- Scavuzzo, C.J. and Korol, D.L. Intrahippocampal infusions of estradiol enhance or impair place learning depending on timing of treatment.
- Newman, L.A., Korol, D.L., and Gold, P.E. Age-related declines in efficacy of drug enhancement of memory in mouse models of Alzheimer's Disease and Down syndrome.
- Mitterling, K.L., and Korol, D.L. CREB signaling following estradiol treatment is confined to specific time points across memory systems.
- Korol, D.L., Pruis, T.A., Exercise and estradiol have opposing effects on learning strategies and synergistic effects on learning speed in middle-aged female rats.
- Korol, D.L. Richards, J., Williams, C.M. Post-training estradiol impairs memory for social transmission of food preference in young adult ovariectomized rats.
- Tunur, T. and Korol, D.L. Estrous cycle modulates pattern separation in young adult rats.
- Gold, P.E., Hamling, B., Newman, L.A., and Korol, D.L. Lactate infusions into hippocampus and striatum enhance memory in young adult and aged rats.

Invited Addresses

Extramural

- Korol, D.L. and Brunjes, P.C. (1990). Experience and the developing olfactory bulb. Presented at the XIV conference on the Neurobiology of Learning and Memory, Park City, Utah.
- Korol, D.L. (1992). Experience and the Brain: The Neurobiology of Memory Function and Dysfunction. Presented at Mount St. Mary's College, Emmitsburg, MD.

- Korol, D.L. (1995). Effects of gonadal steroid fluctuations on learning in the swim task and on hippocampal primed burst potentiation in female rats. Presented at the XIX conference on the Neurobiology of Learning and Memory, Park City, Utah.
- Korol, D.L. (1995). Glucose and memory function across the life span. Presented at the Symposium on School Breakfast and Learning, Napa, California.
- Korol, D.L. (1995). The Aging Brain: Mechanisms for Changes in Learning and Memory. Presented at Mount St. Mary's College, Emmitsburg, Maryland.
- Korol, D.L. (1997). Glucose effects on cognitive performance in school children, young adults and the elderly. Presented at the Kellogg Asia Pacific Nutrition Advisory Panel (KAPNAP) Symposium, Bangkok, Thailand.
- Korol, D.L. (1997). Enhanced LTD in the aged brain: A model for forgetting. Presented at Mahidol University, Bangkok, Thailand.
- Korol, D.L. (1998). Estrogen and learning strategy in rats. Presented at the XXII conference on the Neurobiology of Learning and Memory, Park City, Utah.
- Korol, D.L. (1998). Glucose effects on cognition in young and elderly humans: A question of task difficulty. Presented at the 7th Annual meeting for the International Behavioral Neuroscience Society, Richmond, VA.
- Korol, D.L. (1999). Memory, aging and estrogen: Shifts in neural processing. Presented March 5, 1999 at Psychology Department colloquium series, Binghamton University, Binghamton, NY.
- Korol, D.L. (2000). Memory, estrogen and aging: Shifts in neural processing. Presented April 6, 2000 at the Research Seminar in Biopsychology series, University of Connecticut, Storrs, CT.
- Korol, D.L. (2001). Estrogen-dependent shifts in learning strategy depend on length of hormone deprivation. Presented at the XXV conference on the Neurobiology of Learning and Memory, Park City, Utah.
- Korol, D.L. (2001). Enhancing cognitive functions across the life span. Presented at the 9th Congress of the International Association of Behavioral Gerontology, Vancouver, British Columbia, June 27-30, 2001.
- Korol, D.L. (2003). Sweet Memories: Glucose consumption and cognition in humans. Session: Nutrients, Neurotransmitters, and Mental Performance, Martine Orosco, Organizer. European Winter Conference on Brain Research, March, 2003, Les Arcs, France. UNABLE TO ATTEND.
- Korol, D.L. (2003). Estrogen shifts learning strategy through actions on specific neural systems. Presented at the XXVII Winter Conference on the Neurobiology of Learning and Memory, Park City, Utah, January, 2003.
- Korol, D.L. (2003). Learning and Memory: What's hormones got to do with it? Presentation at the Learning Brain Expo, conference for educators, July 17-19, 2003, Chicago, IL.
- Korol, D.L. (2003). State of the brain in 2003: A synthesis. Presentation and workshop at the Learning Brain Expo, conference for educators, July 17-19, 2003, Chicago, IL.

- Korol, D.L. (2003). Aging brain and its functional implications. Presentation at Continuing Education colloquia: Geriatrics for Non-physicians, University of Illinois, Department of Family Medicine, September 26, Kankakee, IL.
- Korol, D.L. (2003). Ovarian steroids orchestrate learning strategy through modulation of memory systems. Satellite symposium titled, *Independence and Interaction among Multiple Memory Systems*, 33rd Annual Meeting for the Society for Neuroscience, November 7, 2003.
- Korol, D.L. (2004). Independent actions of estrogen on memory systems. Presented at the XXVIII conference on the Neurobiology of Learning and Memory, Park City, Utah, January, 8-11, 2004.
- Korol, D.L. (2004). Making sense out of mixed results: Estradiol enhances and impairs cognitive function depending upon the neural system tapped by the task. Presented at Behavioral Neuroscience weekly seminar series, Department of Psychology, Arizona State University, February 25, 2004.
- Korol, D.L. (2005). Making sense out of mixed results: Deciphering the cognitive effects of estradiol through a memory systems approach. Presented at the Department of Zoology seminar series, Miami University, Oxford, OH, March 3, 2005.
- Korol, D.L. (2005). Estrogen and memory: A neural systems approach. Presented at the Program in Neuroscience seminar series, Marquette University, December 12, 2005.
- Korol, D.L. (2006). Estrogen modulates learning and memory through estrogen receptors in hippocampus and dorsal striatum. Presented at the XXX anniversary conference on the Neurobiology of Learning and Memory, Park City, Utah, January 5-8, 2006.
- Korol, D.L. (2006). Deciphering the cognitive effects of estradiol through a memory systems approach. Presented in the session, Estrogen effects on the hippocampus across the life span, Winter Conference on Neural Plasticity, Barbados, February 19-25, 2006.
- Korol, D.L. (2007). Effects of ovarian steroids on learning and memory: Deciphering mixed results. Presented at the University of Massachusetts-Amherst Neuroscience and Behavior colloquium series, April 11, 2007.
- Korol, D.L. (2007). Viewing the cognitive effects of estradiol through a memory systems lens. Presented at the Neuroscience Program Colloquium Series, Tulane University, New Orleans, LA, September 28, 2007.
- Korol, D.L. (2008). Estradiol and exercise interact to modulate BDNF. Data blitz presented at the XXXII conference on the Neurobiology of Learning and Memory, Park City, Utah, January 3-6, 2008.
- Korol, D.L. (2008). Colloquium: Viewing the cognitive effects of estradiol through a memory systems lens. Seminar: Jog your memory, stretch your brain: Aging, exercise, and estradiol effects on learning and memory. Presented at the Center for Studies in Behavioral Neurobiology, Concordia University, Montreal, Canada, April 4-5, 2008.
- Korol, D.L. and Scavuzzo, C. (2009). Effects of exercise on response learning and brain BDNF levels. Data blitz presented at the XXXIII conference on the Neurobiology of Learning and Memory, Park City, Utah, January 3-6.

- Korol, D.L. (2009). Spinning science into sound-bites: Exercise and learning and memory – what do hormones got to do with it? Two presentations to discuss brain function for scientists and science writers. Science writers' workshop, Wesleyan University, Middletown, Connecticut, November 17.
- Korol, D.L. (2010). Viewing the cognitive effects of estrogens through a memory systems lens. In the symposium: Sugar, Sex, and Stress: Hormone Modulation of Memory Processes. American Psychological Association annual meeting, August 12, 2010 San Diego, CA.
- Korol, D.L. (2011). Women are from Venus except when they are from Mars: Effects of estrogens on brain function. University of Wisconsin Neuroscience Program seminar series, April 21.
- Korol, D.L. (2011). Jog your memory, stretch your brain. Keynote speaker, University of Wisconsin undergraduate neuroscience annual Neuro Night, April 21.
- Korol, D.L. (2011). Women are from Venus except when they are from Mars: Effects of estrogens on brain function. Syracuse University, Departments of Biology and Psychology, June 3.
- Korol, D.L. (2011). Jog your memory, stretch your brain. 4th Annual Christopher Comer Undergraduate Neuroscience Seminar, UIC Laboratory of Integrative Neuroscience, Sept 28.
- Korol, D.L. (2011). Metamodulation: Neural mechanisms of learning, memory, and plasticity. Syracuse University, Biology Department, Oct. 31.
- Korol, D.L. (2012). Jog your memory: How physical and mental activity modulate subsequent cognition. SIU chapter of SfN, Southern Illinois University, Feb.13, 2012.
- Korol, D.L. (2012). Jog Your (multiple) Memory (systems). Satellite Symposium at Society for Neuroscience: Independence and Interaction of Multiple Memory Systems, October 12, 2012.
- Korol, D.L. (2012). Jog Your Memory: Implications for Parkinson's Disease. Neuroscience Program Seminar, Upstate Medical University, November 13, 2012.
- Korol, D.L. (2013). Jog Your Memory: Metamodulation through physical and mental activity, Binghamton University, Departments of Biology and Psychology, May 30, 2013.
- Korol, D.L. (2014). Use it and Boost it with Cognitive and Physical activity. Hamilton College, April 10, 2014.
- Korol, D.L. (2015). Use it and Boost it with Mental and Physical Activity: A role for BDNF. University of Pittsburgh Medical Center, Basic Biology of Aging work group, March 9, 2015.
- Korol, D.L. (2015). Jog your memory with physical and mental activity. University of Connecticut, Department of Psychology seminar series, October 7, 2015.
- Korol, D.L. (2015). Aging and Saging. St. Camillus Brain Health Workshop, November 4, 2015.
- Korol, D.L. (2016). Aging and Saging. Manlius Senior Center, Fall speaker series, October 5, 2016. *Talk available at:* <https://www.youtube.com/watch?v=gjBelaiop0Q&t=44s>
- Korol, D.L. (2017). Aging, Saging, and Science. MPowerU at Menorah Park, hosted speaker series, March 27, 2017.

Korol, D.L. (2017). Hormones have their ups and downs: Bidirectional effects of estrogens on learning and memory. Middlebury College, Department of Biology Seminar, presented April 7, 2017.

Korol, D.L. (2017). The road to estrogens and aging: a personal journey. Behavioral Neuroscience group, Arizona State University, April 14, 2017

Korol, D.L. (2017). Making sense out of mixed results: Viewing the effects of estrogens on cognition through a multiple memory systems lens. American University Symposium on *Sex differences: From Neuroscience to the Clinic and Beyond*, April 20-21, 2017.

Intramural

Korol, D.L. (2000). Shifts in neural plasticity as a model for age-related changes in forgetting. Presented September 26, 2000 at the Neuroscience Program Seminar series, University of Illinois, Urbana-Champaign.

Korol, D.L. (2000). Ovarian control of the mind: Steroidal selector of learning strategy. Developmental division Brown Bag seminar series, Department of Psychology, University of Illinois, Urbana-Champaign, October 13, 2000.

Korol, D.L. (2002). Strategy shifts with estrogen. University of Illinois Medical Scholars program Bench to Bedside symposium, Menopause: Making choices, January 28, 2002.

Korol, D.L. (2002). Forgetting to Remember: Synaptic Mechanisms of Age-Related Memory Changes. University of Illinois, Initiative on Aging, Spring Seminar Series, April 22, 2002.

Korol, D.L. (2002). Estrogen and Memory: Friend or Foe? VCHP divisional Brown Bag Seminar series, Department of Psychology, UIUC, December 4, 2002.

Korol, D.L. (2003). Ovarian steroids orchestrate learning strategy through modulation of memory systems. Cognitive Division Brown Bag Seminar Series, Department of Psychology, UIUC, November, 21, 2003.

Korol, D.L. (2004). Making room for memories: A synaptic approach. Presented at Brain and Cognition division weekly Brown Bag series, Department of Psychology, UIUC, February 9, 2004.

Korol, D.L. (2007). Viewing shifts in learning strategy through a neural systems lens: Estradiol, exercise, and elderly rats. To be presented at the Advances in Sensory and Developmental Neuroscience Training Program weekly seminar series, March 9.

Korol, D.L. (2007). Learning and memory: What's hormones got to do with it? Keynote address at the inaugural annual Illinois Summer Neuroscience Institute, May 20, 2007.

Korol, D.L. (2008). Women are from Venus – except when they are from Mars. Keynote dinner address, annual Neuroscience Program open house, February 8, 2008.

Korol, D.L. (2008). You and Your Brain on Steroids. UIUC NSP sponsored course, Your Brain and You, Osher Life Long Learning Institute, February 11.

Korol, D.L. (2008). Jog Your Memory, Stretch Your Brain: Building a Model of Menopause. Keynote address, 2nd Annual Illinois Summer Neuroscience Institute, May 18, 2008.

- Korol, D.L. (2008). Women are from Venus – except when they are from Mars: Lessons from rats. Reproductive Biology Seminar series, September 17.
- Korol, D.L. (2008). Women are from Venus – except when they are from Mars: Lessons learned from rats. VCHP brown bag lunch series, Dept of Psychology, September 24.
- Korol, D.L. (2009). Estrogens Dictate Cognitive Strategy: A Tale of Two (Neural) Systems. Molecular and Integrative Physiology seminar series, February 26.
- Korol, D.L. (2009). Jog your Memory. Advances in Sensory and Developmental Neuroscience Training Program weekly seminar series, April 3.
- Korol, D.L. (2010). Neural mechanisms of learning, memory, and forgetting. Presented at “From models to molecules”, Illinois Summer Neuroscience Institute, May 20, 2010.
- Korol, D.L. (2013). Shifting systems with age: Implications for Parkinson’s disease. Aging Studies Institute, Inclusive Design Challenge. February 1, 2013.
- Korol, D.L. (2013). Your Brain on Hormones. Visiting LSAMP students from University of Texas-Permian Basin, March 13, 2013.
- Korol, D.L. (2013). Research and professional development presentation to summer LSAMP fellows, June 14, 2013.
- Korol, D.L. (2014). Preparing the Perfect Poster Presentation. Summer Research UG, Department of Biology.
- Korol, D.L. (2015). Writing the research report: Create your own narrative. Presentation to Spring LSAMP scholars, February 20, 2015.
- Korol, D.L., Pagan, M., and Wilmoth, J.M. (2015). Movement for Healthy Aging – a revolutionary idea. Presentation in ASI brownbag, November 13, 2015.
- Korol, D.L. (2015). Biotechnology and Aging: From simple to sophisticated. Presentation in Aging and Society, Sociology 364/664, M. Silverstein instructor, November 19, 2015.
- Korol, D.L. (2017). Science writing with a plot in mind: Create your own narrative. Presentation to Spring LSAMP scholars, July 7, 2017.

Presentations at Professional Societies and Conferences

- Lipton, P. and Korol, D. (1981). Evidence that decreases in intracellular pH rapidly inhibit transmission in the guinea-pig hippocampal slice. 11th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 7:440.
- Korol, D.L. and Steward, O. (1986). An evaluation of whether LTP undergoes time-dependent consolidation. 16th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 12:505.
- Korol, D.L. and Brunjes, P.C. (1987). Unilateral odor deprivation: Rapid effects on glucose metabolism. *International Society for Developmental Psychobiology*, New Orleans, LA.
- Korol, D.L. and Brunjes, P.C. (1988). Unilateral odor deprivation: Rapid effects on cellular regulatory events. Talk presented at *Association for Chemoreception Sciences*, 10th Annual Meeting.
- Korol, D.L. and Brunjes, P.C. (1988). Unilateral odor deprivation: Rapid effects on protein synthesis. *Society for Neuroscience Abstracts* 14:423.

- Korol, D.L. and Brunjes, P.C. (1989). Angiogenesis in the olfactory bulbs of normal and unilaterally odor deprived rats. *Association for Chemoreception Sciences*, 11th Annual Meeting.
- Brunjes, P.C., Korol, D.L. and Stern, K.G. (1989). Prenatal neurogenesis in the telencephalon of the precocial mouse *Acomys cahirinus*. 19th Annual Meeting for the Society for Neuroscience *Society for Neuroscience Abstracts* 15:589.
- Korol, D.L. and Brunjes, P.C. (1989). Angiogenesis in normal and deprived olfactory bulbs. 19th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 15:589.
- Korol, D.L., Rao, A., Steward, O. and Brunjes, P.C. (1990). Unilateral naris closure and protein synthesis in olfactory bulbs. 20th Annual Meeting for the Society for Neuroscience *Society for Neuroscience Abstracts* 16:830.
- Stewart, J.S., Korol, D.L. and Brunjes, P.C. (1990). Unilateral naris closure and protein synthesis in olfactory mucosa. 20th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 16:830.
- Korol, D.L., Leonard, B.W., McNaughton, B.L. and Barnes, C.A. (1991). Effects of dorsal neocortical stimulation on perforant path evoked field potentials in the dentate gyrus of the rat. 21st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 17:1394.
- Korol, D.L., Abel, T.W., Church, L.T., Barnes, C.A. and McNaughton, B.L. (1992). Does saturation of long-term enhancement of perforant path synapses impair spatial learning in the Morris water task? A failure to replicate. 22nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 18:1217.
- Erickson, C.A., Korol, D.L., Barnes, C.A. and McNaughton, B.L. (1992). Exploration-induced changes in synaptic strength in hippocampus can predict spatial memory in the Morris water task. 22nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 18:1217.
- Korol, D.L., Jung, M.W., Barnes, C.A. and McNaughton, B.L. (1993). How widespread is LTE "saturation" at perforant path-granule cell synapses? 23rd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 19:794.
- Stevenson, G.D., Korol, D.L., Galganski, M., Abel, T., McNaughton, B.L. and Barnes, C.A. (1993). "Saturation" of perforant path granule cell LTE/LTP does disrupt some spatial tasks. 23rd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 19:794.
- Korol, D.L., Unick, K., Goosens, K., Crane, C., Gold, P.E. and Foster, T.C. (1994). Estrogen effects on spatial performance and hippocampal physiology in female rats. 24th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 20:1436.
- Korol, D.L., Lexcen, F.J., Parent, M., Ragozzino, M.E., Manning, C.A. and Gold, P.E. (1995). Effects of glucose on cognitive performance in college students. 25th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 21:2085.
- Wilkniss, S.M., Manning, C.A., Jones, M.G. and Korol, D.L. (1996). Aging effects on contextual spatial memory. Presented at the 24th Annual meeting for the International Neuropsychological Society, Chicago, IL.
- Korol, D.L., Couper, J.M., McIntyre, C.K. and Gold, P.E. (1996). Learning strategies across the estrous cycle in female rats. 26th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 22:1386.
- Lichtenvoort, J.M., Korol, D.L., and Gold, P.E. (1997). Peripherally injected epinephrine retards LTP decay in freely moving rats. 27th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 23:224.
- Korol, D.L., Clark, L.L. and Gold, P.E. (1998). Shifts in preferred learning strategies used by female rats with and without estrogen. 28th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 24:682.
- Willingham, D.B., Peterson, M.E. and Korol, D.L. (1998). Facilitation of cognition by glucose and cereal in healthy elderly humans: Dependence on task difficulty? 28th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 24:2117.

[PRESS BOOK REQUEST]

- Malin, E.L., Borden, K.A., and Korol, D.L. (1999). Estrous cycle and selection of learning strategy in female rats: Dueling neural systems. Paper presented at the 77th Annual Meeting of the Virginia Academy of Sciences, May 26-28.
- Coulthurst, D.L., Titus, J.A. and Korol, D.L. (1999). The effects of ovariectomy and estrogen replacement on spatial vs non-spatial performance. Paper presented at the 77th Annual Meeting of the Virginia Academy of Sciences, May 26-28.
- Marriott, L.K., Gold, P.E. and Korol, D.L. (1999). Estradiol effects on acetylcholine output in the hippocampus during spatial learning in female rats. 29th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 25, 863.1.
- Korol, D.L. (2000). Duration of ovariectomy interacts with estrogen effects on learning strategy in young adult female rats. 30th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 26, 651.11. **[PRESS BOOK REQUEST]**
- McElroy, M.W., Thomas, D.L., and Korol, D.L. (2001). Glial changes in the hippocampus and striatum during chronic estrogen deprivation and replacement in the female rat. 31st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 27, 534.1.
- Thomas, D.L., McElroy, M.W. and Korol, D.L. (2001). Learning strategy in the female rat shifts with chronic estradiol deprivation and replacement. 31st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 27, 534.2.
- McElroy, M.W., Thomas, D.L., and Korol, D.L. (2001). Glial changes in the hippocampus and striatum during chronic estrogen deprivation and replacement in the female rat. *7th Conference on the Neurobiology of Learning and Memory*, November 7-9, CNLM, UC-Irvine, Irvine, CA.
- Thomas, D.L., McElroy, M.W. and Korol, D.L. (2001). Learning strategy in the female rat shifts with chronic estradiol deprivation and replacement. *7th Conference on the Neurobiology of Learning and Memory*, November 7-9, CNLM, UC-Irvine, Irvine, CA.
- Thomas, D.L., McElroy, M.W. and Korol, D.L. (2002). Chronic estradiol replacement in ovariectomized female rats shifts learning strategy in a time-dependent manner. *6th Annual Meeting of the Society for Behavioral Neuroendocrinology*, June 26-30, 2002, Amherst, Massachusetts.
- Zorn, T., Gold, P.E. and Korol, D.L. (2002). Peripheral epinephrine given post-tetanus prevents LTP decay. 32nd Annual meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 28, 80.8.
- McElroy, M.W. and Korol, D.L. (2002). Intrahippocampal muscimol shifts learning strategy in intact adult female rats. 32nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 28, 375.6.
- Zurkovsky, L. and Korol, D.L. (2002). Intrahippocampal estrogen enhances place learning in ovariectomized female rats. 32nd Annual Meeting for the Society for Neuroscience *Society for Neuroscience Abstracts*, 28, 375.7.
- Korol, M.S., Korol, R.L., and Korol, D.L. (2002). Attack on America: Initial Reactions, Memory, and PTSD symptoms. 18th Annual Meeting of the *International Society for Traumatic Stress Studies*, (ISTSS), November 7-10, 2002, Baltimore, Maryland.
- Wieczorek, L.A., Zurkovsky, L., McElroy, M.W., and Korol, D.L. (2002). The relationship of dopamine and estrogen on cognition in adult female rats. *Annual summer Howard Hughes Undergraduate Research Fellowship research symposium*, Urbana-Champaign, Illinois.
- Wang, V., Ju, Y., Allred, C. Korol, D., Helfereich, W., and Schantz, S. (2003). Effects of chronic estrogen replacement on cognitive flexibility, spatial working memory and response inhibition. *Environmental Council Expo*, April 14, 2003, University of Illinois, Urbana-Champaign.
- McElroy, M.W. and Korol, D.L. (2003). Emergence of learning strategy bias during training: effects of estrous cycle in young adult rats. 33rd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 29, 115.5.
- Wang, V., Ju, Y., Allred, C. Korol, D., Helfereich, W., and Schantz, S. (2003). Effects of chronic estrogen replacement on cognitive flexibility, spatial learning and memory and response inhibition. 33rd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 29, 115.14 [NOTABLE ABSTRACT FROM Neurobiology of Lipids]

- Erickson, K.I., Colcombe, S.J., Korol, D.L., Scalf, P., Raz, N., Cohen, N.J., Webb, A., and Kramer, A.F. (2003). Hormone replacement therapy spares brain tissue in postmenopausal women. Biannual Cognitive Aging Conference, Atlanta, GA.
- Wieczorek, L. A., Korol, D.L., and Conrad, C.D. (2004). The effect of acute and chronic stress and ovarian hormone levels on cognition. 11th Annual Undergraduate Research Poster Symposium, ASU.
- Baran, S.E., Jackson, J.L., Harman, J.S., Wright, R.L., Lightner, E.N., McLaughlin, K.J., Korol, D.L., and Conrad, C.D. (2004). Spatial memory is impaired in male, but not female, rats following acute stress: influence of estrous cycle. 34th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 30, 193.1
- Wieczorek, L.A., Korol, D.L., Kim, J., Kleen, J.K., McLaughlin, K.J., and Conrad, C.D. (2004). The effects of chronic stress and the estrous cycle on cognition in female rats. 34th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 30, 193.10.
- Zurkovsky, L., Brown, S.L., and Korol, D.L. (2004). Intrahippocampal antiestrogen ICI 182,780 blocks enhancement of place learning by systemic estradiol in young adult ovariectomized rats. 34th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 30, 770.4.
- Korol, D.L. and Pruis, T.A. (2004). Estrogen and exercise modulate learning strategy in middle-aged female rats. 34th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 30, 770.7. [PRESS BOOK REQUEST]
- Erickson, K.I., Colcombe, S.J., Elavsky, S., Korol, D.L., Scalf, P., McAuley, E., Kramer, A.F. Mind your body, spare your brain: interactive effects of fitness and estrogen treatment on brain and cognitive health. Presented at the Cognitive Neuroscience Society, April, 2005, New York, NY.
- Kent, M.H., Zurkovsky, L., Fornelli, D.C., Fell, J.A., and Korol, D.L. (2005). Intra-striatal antiestrogen ICI 182,780 attenuates the impairing effects of peripheral estradiol treatment on response learning in young adult ovariectomized rats. 35th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 31, 883.3.
- McElroy, M.W., Harney, A.N., and Korol, D.L. (2005). Effects of scopolamine on learning in young adult female rats: Estrous cycle interactions. 35th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 31, 887.17.
- McLaughlin, K.J., Wieczorek, L.A., Kleen, J.A., Korol, D.L. and Conrad, C.D. (2005). Chronic stress and estrous cycle effects on hippocampal morphology in the female rat. 35th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 31, 889.2.
- Zurkovsky, L., Fell, J.A., and Korol, D.L. (2005). Age-dependent patterns of estrogen effects on place and response learning in 12- and 24-month-old female rats. 35th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 31, 417.13.
- Kent, M.H., Fornelli, D.C., and Korol, D.L. (2006). Intra-striatal antiestrogen ICI 182,780 attenuates the impairing effects of peripheral estradiol treatment on response learning in young adult ovariectomized rats. 10th Annual Meeting for the Society for Behavioral Neuroendocrinology.
- Zurkovsky, L., Fell, J.A., and Korol, D.L. (2006). Age-dependent patterns of estrogen effects on place and response learning in 12- and 24-month-old female rats. 10th Annual Meeting for the Society for Behavioral Neuroendocrinology.
- Erickson, K.I., Pruis, T.A., Debrey, S.M., Bohacek, J., and Korol, D.L. (2006). Estrogen and exercise interact to up-regulate BDNF levels in the hippocampus but not striatum of middle-aged female Brown-Norway rats. 36th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 32, 266.17. [PRESS BOOK REQUEST]
- Zurkovsky, L. and Korol, D.L. (2006). Slow vs. rapid effects of intra-striatal estrogen on response learning. 36th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 32, 266.18.
- Zurkovsky, L. and Korol, D.L. (2007). Slow vs. rapid effects of intra-striatal estradiol on response learning. 11th Annual Meeting for the Society for Behavioral Neuroendocrinology.

- Kent, M.H., Scavuzzo, C.A., and Korol, D.L. (2007). Effects of systemic treatment with selective estrogen receptor modulators on response learning in young adult ovariectomized rats. 11th Annual Meeting for the Society for Behavioral Neuroendocrinology.
- Korol, D.L., Zurkovsky, L., Serio, S.J., Decker, L.A., and Gold, P.E. (2007). Effects of age and task difficulty on estradiol enhancement of place learning. 37th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 33, 95.20
- Kent, M.H., Scavuzzo, C., and Korol, D.L. (2007). Peripheral treatment with estrogen receptor α agonist impairs response learning in young adult ovariectomized rats. 37th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 33, 309.7
- Zurkovsky, L. and Korol, D.L. (2007). Short duration intrastratial estradiol treatment impairs response learning. 37th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 33, 309.8.
- Erickson, K.I., Epstein, D.E., Malkowski, E.J., Warraich, Z. and Korol, D.L. (2007). Voluntary exercise enhances place learning in young adult male rats. 37th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 33, 528.10. [PRESS BOOK REQUEST]
- Kent, M.H., Scavuzzo, C.J., Katzenellenbogen, J.A., and Korol, D.L. (2008). Effects of selective estrogen receptor agonists on place learning in young adult ovariectomized rats. 38th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 34, 794.18.
- Neese, S.L., Wang, V.C., Katzenellenbogen, J.A., Korol, D.L., and Schantz, S.L. (2008). Specific estrogen receptor α and β agonists impair delayed spatial alternation in Long-Evans rats. 38th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 34, 794.16.
- Wang, V.C., Neese, S.L., Helferich, W.G., Doerge, D., Korol, D.L., and Schantz, S.L. (2008). Cognitive effects of dietary phytoestrogen genistein in rodents using an operant battery. 38th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 34, 593.8.
- Pisani, S.L., Ginsberg, A.D., and Korol, D.L. (2009). Estrogen effects on brain mechanisms of learning. Presented at the University of Illinois College of Medicine Student Research Symposium, April 23, 2009.
- Neese, S.L., Bandara, S.B., Helferich, W.G., Doerge, D.R., Korol, D.L., and Schantz, S.L. (2009). Impaired executive function in rodents consuming multiple daily genistein doses. 39th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 35, 579.5.
- Pisani, S.L., Ginsberg, A.D., Helferich, W.G., Neese, S.L., Schantz, S.L. and Korol, D.L. (2009). Low doses of estradiol enhance place learning and impair response learning in Long-Evans rats in the absence of dietary phytoestrogens. 39th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 35, 774.7.
- Richards, J. R. and Korol, D.L. (2009). Rapidly metabolized estradiol impaired long-term memory of a socially transmitted food preference in young adult female rats. 39th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 35, 774.8.
- Scavuzzo, C.J., Mitterling, K.A., and Korol, D.L. (2009). Voluntary exercise enhances response learning in young adult male Sprague-Dawley rats: A role for BDNF. 39th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 35, 97.16.
- Pisani, S.L., Doerge, D.R., Helferich, W.G., Neese, S.L., Schantz, S.L., and Korol, D.L. (2010). Acute treatment with the phytoestrogen genistein mimics estradiol-induced shifts in place and response learning. 14th Annual Meeting for the *Society for Behavioral Neuroendocrinology*, Toronto, Canada, P1.44.
- Mitterling, K.L., Komperda, L. and Korol, D.L. (2010). Effects of different estradiol injection protocols on CREB phosphorylation in the dorsal hippocampus. 14th Annual Meeting for the *Society for Behavioral Neuroendocrinology*, Toronto, Canada, P2.10.
- Scavuzzo, C.J., Collier, R.L., and Korol, D.L. (2010). Intrahippocampal estradiol enhances or impairs place learning depending on timing of infusions. 14th Annual Meeting for the *Society for Behavioral Neuroendocrinology*, Toronto, Canada, P3.25.

- Mitterling, K.L. and Korol, D.L. (2010). Acute exposure to estradiol in vivo enhances CREB activation in the hippocampus. 40th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 36, 296.14.
- Pisani, S.L., Ginsberg, A.D., Zhang, J., Doerge, D.R., Helferich, W.G., Neese, S.L., Schantz, S.L., and Korol, D.L. (2010). Acute treatment with the phytoestrogen genistein enhances place and impairs response learning in female rats. 40th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 36, 296.13.
- Korol, D.L., Scavuzzo, C.J., and Collier, R.L. (2010). Intrahippocampal infusions of estradiol can enhance or impair place learning depending on timing of treatment. 40th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 36, 296.12.
- Scavuzzo, C.J., Park, S.L., Collier, R.L., and Korol, D.L. (2010). Blockade of TrkB receptor signaling impairs learning in physically active but not sedentary male rats. 40th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 36, 202.11.
- Gold, P.E., Korol, D.L., and Scavuzzo, C.J. (2010). Physical and cognitive activity induce changes in brain and liver glycogen levels in young adult male Sprague-Dawley rats. 40th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 36, 407.16.
- Pisani, S.L., Huffman, J.C., Katzenellenbogen, J.A., Neese, S.L., Schantz, S.L., and Korol, D.L. (2011). Acute administration of ER α - and ER β -selective agonists impairs response learning in ovariectomized young adult rats. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 282.06.
- Gold, P.E., Scavuzzo, C.S., Korol, D.L., and Newman, L.A. (2011). Hippocampal extracellular lactate increases during learning: a role for astrocytes in learning and memory. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 823.14.
- Scavuzzo, C.J., Korol, D.L., and Gold, P.E. (2011). Training-induced changes in brain glycogen levels are task- and brain region-specific. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 823.16.
- Pisani, S.L., Katzenellenbogen, J.A., and Korol, D.L. (2012). Effects of acute administration of ER-selective agonists on place and response learning in ovariectomized young adult rats. 16th Annual Meeting for the Society for Behavioral Neuroendocrinology, Madison, WI.
- Tunur, T., Zendeli, L., and Korol, D.L. (2012). Effects of ovarian hormones on pattern separation in female rats. 16th Annual Meeting for the Society for Behavioral Neuroendocrinology.
- Tunur, T., Zendeli, L., and Korol, D.L. (2012). Nuances of pattern separation determine modulation by estradiol. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 92.08.
- Morris, K.A., Mitterling, K.L., Rocha-Cabrero, F., Gold, P.E., and Korol, D.L. (2012). Bilateral injection of 6-OHDA into the dorsolateral striatum improves spatial working memory in rats: implications for Parkinson's Disease. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 756.03.
- Korol, D.L., Gold, P.E., and Scavuzzo, C.J. (2012). Extracellular levels of BDNF in the hippocampus measured with microdialysis change differentially during and after place and response learning. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 916.15.
- Scavuzzo, C.J., Korol, D.L., and Gold, P.E. (2012). Engagement in a spatial working memory task enhances subsequent place and response learning through BDNF signaling. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 916.16.
- Mitterling, K.L., Anderson, K., and Korol, D.L. (2012). The effects of exercise on learning and hippocampal succinate dehydrogenase histochemistry: Sex differences and the interaction of estradiol. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 916.17.
- Gold, P.E., Newman, L.A., Scavuzzo, C.J., and Korol, D.L. (2012). A role for astrocytes in metamodelation of memory: Working memory and hippocampal extracellular lactate levels vary based on prior training. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 916.18.

- Pisani, S.L., Jung, V.E., and Korol, D.L. (2012). Site- and task-specific ERK activation following genistein treatment corresponds to temporal aspects of learning. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 38, 916.19.
- Pisani, S.L., Neese, S.L., Schantz, S.L., and Korol, D.L. (2013). Estradiol but not equol enhances place learning in middle-aged female rats: Relationship to site-specific ERK activation. 17th Annual Meeting for the Society for Behavioral Neuroendocrinology.
- Pisani, S.L., Neese, S.L., Schantz, S.L., and Korol, D.L. (2013). Activation of the membrane estrogen receptor GPER regulates place and response learning in ovariectomized young adult rats according to dose and timing. Annual conference on Rapid Responses to Steroid Hormones.
- Korol, D.L. and Gold, P.E. (2014). To eat, to drink, perchance to think: Bioenergetics of hippocampus and striatum dissociate by cognitive strategy and reward type. Presented at the 11th International Conference on Brain Energy Metabolism, *How energy metabolism shapes brain function*". Copenhagen, Denmark.
- Gold, P.E. and Korol, D.L. (2014). Use it and boost it: Learning induces long-term adaptations in brain glycogen and lactate concentrations. Presented at the 11th International Conference on Brain Energy Metabolism, *How energy metabolism shapes brain function*". Copenhagen, Denmark. May 11-14, 2014.
- Dash, M.B., Ajayi, S. Folsom, L., Gold, P.E., and Korol, D.L. (2014). Hippocampal evoked response variability associated with spontaneous infraslow fluctuations in EEG activity. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 303.18.
- Pisani, S.L. and Korol, D.L. (2014). The ER α agonist PPT enhances place learning but impairs response learning in ovariectomized young adult rats: Viewing the role of ERK activation through a multiple memory systems lens. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 451.07.
- Wang, W., Yuhan, B., Korol, D.L., and Gold, P.E. Bioenergetics and memory: Regulation by estradiol. 44th Annual Meeting for the Society for Neuroscience *Society for Neuroscience Abstracts* 40, 451.09.
- Scavuzzo, C.J., Gold, P.E., and Korol, D.L. (2014). GSK3 β inhibition in the hippocampus and striatum is task-specific. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 464.07.
- Korol, D.L., Newman, L.A., and Gold, P.E. (2014). Senile or sage? Improved memory and sensitivity to cognitive priming accompany aging in male rats. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 653.09.
- Newman, L.A., Korol, D.L., and Gold, P.E. (2014). Memory deficits in Alzheimer's disease model mice coincide with appearance of amyloid plaques and are preceded by insensitivity to glucose enhancement of memory. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 690.16.
- Tunur, T., Castelan, L., Hawley, W.R., Gold, P.E., and Korol, D.L. (2014). A tale of two memory systems: Differential involvement in two pattern separation tasks. 44th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 40, 749.05.
- Castro, S.L., Jaumotte, J.D., Smeyne, R.J., Korol, D.L., Ambrosio, F., DeVallejo, A.N., Cameron, J.L., Newman, L.A., Cole, K., Barry, K., and Zigmond, M.J. (2015). Does housing in an enriched environment promote healthy aging detectable by peripheral biomarkers? Studies in older laboratory animals. 9th Annual Aging Institute Research Day, University of Pittsburgh Medical Center, March 30, 2015.
- Wang, W., Gold, P.E., and Korol, D.L. (2015). Estradiol increases extracellular glucose concentration in hippocampus of young adult female rats. 19th Annual Meeting of the Society for Behavioral Neuroendocrinology.
- Newman, L.A., Gardner, R.S., Hamling, B.V., Korol, D.L., and Gold, P.E. (2015). Aging in rats leads to task-dependent impairments and improvements in learning that are accompanied by changes in markers of brain energetics. 45th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 41, 179.21.

- Zigmond, M.J., Ambrosio, R., Castro, S.L., Jaumotte, J.D., Korol, D.L., Newman, L.A., Sanders, L.H., Smeyne, R.J., and Vallejo, A.D. (2015). An enriched environment modulates factors associated with healthy brain aging in rats. 45th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 41, 205.26.
- Wang, W., Gold, P.E., and Korol, D.L. (2015). Estradiol increases extracellular glucose concentration in the hippocampus of young adult female rats. 45th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 41, 614.03.
- Kundu, P., Tunur, T., Korol, D., Bandara, S., Monaikul, S., Helferich, W.G., and Schantz, S. (2015). The effects of the botanical estrogen isoliquiritigenin on cognition in young adult female rats. 45th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 41, 614.05.
- Kundu, P., T. Tunur, D. Korol, S. Bandara, S. Monaikul, W.G Helferich, S. Schantz (2015). The effects of Licorice Root Components on Cognition. Presented at Journey Through Science Day, New York Academy of Sciences. Dec 14. New York city, New York.
- Kundu, P., T. Tunur, D. Korol, S. Bandara, S. Monaikul, W.G Helferich, S. Schantz (2016). The effects of estrogenic components of licorice root on cognition. Presented at the International Conference on the Science of Botanicals 2016. April 11-14th. Oxford, Mississippi.
- Ondera, C.E., P. Kundu, W.G Helferich, D. Korol, I. Khan, S. Schantz (2016). Licorice root: a phytoestrogen supplement with neuroprotective effects on cognition. Presented at the Merial Veterinary Scholars Symposium, Ohio State University College of Veterinary Medicine.
- Kundu, P., Tunur, T., Korol, D., Bandara, S., Monaikul, S., Helferich, W.G., and Schantz, S. (2016). The effects of estrogenic components of licorice root on cognition. Meeting of 16th annual International Conference on Botanicals (ICSB) and 5th Interim American Society of Pharmacognosy (ASP). *Planta Medica*, 82, PC40 DOI:10.1055/s-0036-1578742.
- Wang, W., D'Amico, E.C., and Korol, D.L. (2016). Estradiol regulates bioenergetics in hippocampus and striatum of young adult female rats. 46th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 42, 179.02
- Kundu, P, Korol, D.L., Bandara, S., Monaikul, S., Helferish, W.G., and Schantz, S. L. (2016). The effects of estrogenic components of licorice root on cognition. 46th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 42, 174.01
- Hamling, B., Newman, L. A., Korol, D.L., and Gold, P.E. (2016). Age-related impairments in memory in rats are accompanied by decreased lactate production by astrocytes in the hippocampus and are rescued by intrahippocampal lactate infusions. 46th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 42, 182.19.
- Gardner, R.S., Newman, L.A., Gold, P.E, and Korol, D.L. (2016). A multiple memory systems approach to age-related changes in cognition: Differential modulation of BDNF in hippocampus and striatum in rats. 46th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 42, 182.22
- Receno, C.N., Liang, C., Korol, D.L., and DeRuisseau, K.C. (2017). Curcumin supplementation effects on aging skeletal muscle. Experimental Biology Annual Meeting, Chicago, IL, FASEB Journal 31, 1 Supplement:1021.22
- Mercado, N.M., Korol, D.L., Gardner, R.S., Sortwell, C.E., Collier, T. J., Steece-Collier, K. (2017). Does dysfunctional BDNF limit remodeling of the aged Parkinsonian striatum? American Society for Neural Therapy and Repair, 2017 Annual Conference, Cell Transplantation, 26, 717-718.
- Korol, D.L., Wang, W., D'Amico, E.C., and Gold, P.E. (2017). Estradiol regulates metabolic substrates in hippocampus and striatum of young adult female rats. 21st Annual Meeting of the Society for Behavioral Neuroendocrinology.
- Gold, P.E., Wang, W., White, C.G., Castelan, L., and Korol, D.L. (2017). Shifts in learning abilities with age and estrogen status in Fischer-344 rats. 21st Annual Meeting of the Society for Behavioral Neuroendocrinology.
- Wang, W. and Korol, D.L. (2017). Estradiol regulation of energy substrates and memory modulation. 47th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 43, 159.1.

- Korol, D.L., Wang, W., White, C.G., Castelan, L.A., and Gold, P.E. (2017). Estradiol interacts with age-related changes in response and place learning in female 344 rats. *Society for Neuroscience Abstracts* 43, 159.11.
- Kundu, P., Korol, D.L., Helferich, W.G., Ondera, C.E., and Schantz, S.L. (2017). The effects of components of licorice root on a novel object task in rats. 47th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 43, 159.12.
- Gardner, R.S., Korol, D.L., and Gold, P.E. (2017). Long-term effects of prior cocaine and morphine exposure on hippocampal-dependent and striatal-dependent learning in rats. 47th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 43, 794.19.

Science Education and Outreach Presentations

- Whalen, C. J., Nelson, M. E., Korol, D. L., and Beshers, S. N. (2006). Brain Awareness Day at the University of Illinois Urbana-Champaign: Promoting neuroscience in the community. 36th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 32, 23.13.
- Shah, S.M., Blattner, M., Beshers, S., Hug, B., and Korol, D.L. (2008). Brain power: Branching out, forming connections, and building networks through community outreach at the University of Illinois. 38th Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 34, 227.16.
- Brown, J.W., Blattner, M.S., Mitterling, K.L., Morrisette, S., Ogrodnik, J.M., Watson, P.D.K., Zengin Bolatkale, H., Reese, G.C., Korol, D.L., Hug, B. (2011). The cutting edge: integrating contemporary neuroscience and molecular biology to teach about regeneration and the nervous system. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 22.06SU.
- Blattner, M.S., Allen, J.R., Allen, A., Brown, J., Lauren, H., Mitterling, K.L., Ogrodnik, J. Planey, J., Zengin Bolatkale, H., Korol, D.L., and Hug, B. (2011). From the classroom to the community: taking neuroscience into diverse community settings. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 22.10SU.
- Mitterling, K.L., Allen, A., Allen, J., Blattner, M.S., Brown, J.W., Lauren, H., Morrisette, S., Ogrodnik, J.M., Planey, J., Wathson, P.D.K., Zangin Bolatkale, H., Korol, D.L., and Hug, B. (2011). Do you see what I see? A novel secondary school curriculum for guiding explorations on the evolution of visual perception. 41st Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts* 37, 22.12SU.
- Lutz, C.C., Blattner, M., Jasti, C., Lauren, H., Mazur, K., Naeger, N., Planey, J., Prathap, S., Stengele, A., Talbot, K., Wolfe, T., Korol, D.L., and Hug, B. (2012). Changing student minds: neuroscience as a bridge between science and society. 42nd Annual Meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 28, 27.18SA
- Hug, B., Jarosewich, T., and Korol, D. (2012). Educative curriculum materials that allow for learned adaptations: Ensuring quality of implementation. Paper presented at NARST, Indianapolis, IN.
- Talbot, K., Jasti, C., Hug, B., & Korol, D. (2013). *Using a Project Based Science Unit, What changes our minds? to Link Next Generation Science Standards, Common Core Standards and Student Engagement*, NSTA Teacher workshop, San Antonio, TX.
- Wallon, R., Planey, J., Talbot, K., Jasti, C., Hug, B., & Korol, D. (2013). Using a project-based science unit, *What changes our minds?*, to link Next Generation Science Standards, common core standards and student engagement. Teacher workshop at the NSTA National Conference on Science Education, San Antonio, TX.
- Scavuzzo, C.J., Lutz, C., Wallon, R., Patterson, S., Hug, B., & Korol, D. (2014). Using real scientific research to develop students' ability to analyze and interpret data: Making connections to the scientific practices. Workshop at the NSTA National Conference on Science Education, Boston, MA.

Trainees (+ identifies with underrepresented group)

Post-doctoral

Current

Robert Gardner, Ph.D. Feb 2015-present. (Co-mentor with Paul Gold, Ph.D.)

Former

Kirk Erickson, Ph.D. May 2005-May 2008. Currently Associate Professor, Department of Psychology, University of Pittsburgh, Pittsburgh, PA

Ramkumar Kuruba, Ph.D. November 2009-August 2010. Currently Research Associate, Texas A & M University, Health Science Center, College Station, TX

Steven Neese, Ph.D. (Co-mentor; PI Susan Schantz, Ph.D.) 2007-2013. Currently Assistant Professor at Cornell College, Mount Vernon, Iowa

Wayne Hawley, Ph.D. June 2013-May 2014. Currently Assistant Professor at Edinboro University, Edinboro, PA

Michael Dash, Ph.D. January 2012-August 2014 (Co-mentor with Paul Gold, Ph.D.). Currently Assistant Professor at Middlebury College. Middlebury, VT

Tumay Tunur, Ph.D. July 2011-August 2015. Currently post-doctoral instructor, Exercise Science, Syracuse University. Syracuse, NY

Lori Newman, Ph.D. 2009-2017. (Co-mentor with Paul Gold, Ph.D.). Currently Assistant Professor, Psychology, Vassar College, Poughkeepsie, NY

Graduate Students

Current

Wei Wang, Department of Biology, Syracuse University, PhD program, Fall 2013-present, co-mentor with Paul Gold

+Stephen Ajayi, Department of Biology, Syracuse University, MS program, Fall 2016-present

Former

Molly McElroy, Ph.D., Neuroscience Graduate Program, University of Illinois: September, 2000 to March, 2007. Dissertation title: *Ovarian Hormone Modulation of Learning Strategy Preferences: A Role for Hippocampal Disinhibition*. Currently science writer, Press Office at University of Washington, Seattle, WA.

+Cynthia Colon-Rivera, Neuroscience Graduate Program, University of Illinois, Minority Fellow: 2004-2006 (co-mentor); Currently RN in US.

Timothy Zorn, MS. Neuroscience Graduate Program, University of Illinois: 2001 to 2004, Master's in Biology, August, 2004; Currently high school biology teacher, Champaign, IL.

Lilia Zurkovsky, Ph.D., Neuroscience Graduate Program, University of Illinois: August, 2001 to April, 2008. Dissertation title: *Estradiol has distinct effects on the hippocampal and striatal memory systems*. Currently Medical Science Liaison, Teva Pharmaceuticals. Indianapolis, IN.

Claire Scavuzzo, Ph.D., Neuroscience Graduate Program, University of Illinois: August, 2009 to June 2014, co-mentor. Dissertation title: *Use it and Boost it with Physical and Cognitive Activity*. Currently post-doctoral researcher (PI Clayton Dickson) and lecturer at University of Alberta.

Samantha Pisani, Ph.D., Medical Scholars Program, Neuroscience Program, University of Illinois: August, 2008 to September, 2014. Dissertation title: *Estrogenic modulation of place and response learning via specific receptor-mediated mechanisms*. Currently M4 student, Medical Scholars Program, UIUC.

Katherine Mitterling, MS. Department of Biology, Syracuse University: August 2008 to August, 2015. Currently Research Technician, University of Rochester, Rochester, NY.

Rotation and Visiting Students

Johannes Bohacek, visiting student from University of New Orleans, Neuroscience Graduate Program, September 2005-December, 2005

+Luis Aguerrevere, visiting student from University of New Orleans, Neuroscience Graduate Program, September 2005-December, 2005
 Jennifer Kim, Neuroscience Graduate Program, University of Illinois; completed rotation May 2003 to September 2003
 +Maritza Alvarado, Medical Scholars Program, Neuroscience Graduate Program, University of Illinois, completed rotation January, 2003 to October, 2003
 Robert Hoffman, medical student, UIUC College of Medicine, summer research assistant, 2007
 Steven Beckoff, medical student, UIUC College of Medicine, summer research assistant, 2010
 +Franklyn Rocha Cabrero, Medical Scholars Program, Neuroscience Graduate Program, University of Illinois, completed rotation January 2011 to January 2012
 Livia Andrzejczuk, Department of Biology, Syracuse University, March – July, 2013
 +Nycole Maza, Neuroscience, Upstate University, March – June, 2013
 Megan Gribble, Neuroscience, Upstate University, March – June, 2013
 +Deion Burks, Department of Biology, Syracuse University, October – January, 2013
 Spandita Dutta, Department of Biology, Syracuse University, Spring, 2014
 Jeremy Sloane, Department of Biology, Syracuse University, Spring, 2014
 Geoffrey Eill, Neuroscience, Upstate University, Spring-Summer, 2014
 William Haws, Department of Biology, Syracuse University, Fall, 2014
 Rachel Sager, Neuroscience, Upstate University, Fall, 2014
 Natosha Mercado, Neuroscience, Michigan State University, Spring 2017
 Roxanne Crouch, Department of Biology, Syracuse University, PhD program, 2015-2017.

Undergraduate Honors and Distinction Students

University of Virginia

+Ki Goosens, PhD: Howard Hughes Fellow, Department of Biology (1995), University of Virginia
 Katherine Ragozzino, MS, Distinguished Majors Thesis (1995), Department of Psychology, University of Virginia; Recipient of the Frank Finger Award for Excellence in Research
 Lacy Kolo, PhD, JD: Distinguished Majors Thesis (1998), Interdisciplinary Studies in Neuroscience, University of Virginia
 Lisa Marriott, PhD: Distinguished Majors Thesis (1999), Interdisciplinary Studies, University of Virginia

Washington and Lee University

John Boothby, Senior Thesis (1999), Department of Psychology

University of Illinois

Diana Thomas (2000-2002), Distinguished major, Honors program, Department of Biology
 Kelly Gallagher (2001-2002), Distinguished major, Department of Biology and Psychology
 Stephanie Brown (May 2002-Aug 2004), Department of Psychology Honors Program
 Lindsay Wiczorek (summer 2002, 2003), UIUC Howard Hughes Fellow, Recipient of Ernest Lindholm Outstanding Undergraduate Student in Behavioral Neuroscience Award, Department of Biology, Honors program, Arizona State University
 Trisha Pruis (2002-2005), Distinguished major, Department of Biology and Psychology Honors Program
 Laura Pignotti (2003-2004), Distinguished major, Department of Biology
 Jenny Fell (May 2004-2006), Department of Psychology Honors Program
 Sarah Debrey (2004-2005), IPS-Neuroscience, Department of Psychology Distinguished thesis
 Steve Serio (2004-2007), Department of Psychology, Honors Program
 Yelena Grinberg (2005-2008), Molecular and Cell Biology and Psychology
 Deanne Fornelli (2005-2006), Department of Psychology, Distinguished Major
 Dawn Epstein (2006-2007), Department of Psychology, Distinguished honors thesis

Lauren (Thurlwell) Decker (2006-2008), Distinguished major, Molecular and Cell Biology, Psychology, Chemistry
Claire Scavuzzo (2006-2008), Molecular and Cell Biology, Psychology Distinguished Major
Sarah Stone (2007-2009), Molecular and Cell Biology, Distinguished Honors thesis
Stephany Park (Fall 2009-Spring 2011). Molecular and Cellular Biology
Jessie Zhang (summer 2009-Spring 2011). Molecular and Cellular Biology
Katherine Anderson (Fall 2010-Spring 2012). Psychology Honors Program
Carolyn Draus (Fall 2011-Spring 2013). Biochemistry

Syracuse University

Georgia Bascaglia (Fall 2012-May 2014), ILM Neuroscience, Biology, Renee Crown Honors, WiSE Honors
+Luis Castelan (Fall 2012-Spring 2015), Distinction in Biology, Philosophy, LSAMP scholar, Renee Crown Honors
Sam Lauffer (Fall 2012-Spring 2015). Distinction in Biology, Renee Crown Honors
Brooke Hamling (Fall 2012-Spring 2016). Renee Crown Honors, Distinction in Biology
Margaret Blasi (Fall 2013-Spring 2015). Distinction in Biology
Ella D'Amico (Fall 2013-Spring 2016), Biology, Coronat Scholar, Renee Crown Honors, Distinction in Biology
Luke Loftus (Summer 2014-Spring 2016). Biochemistry/Neuroscience ILM, Renee Crown Honors
+Amber Barrow (Fall 2014-Spring 2017), Biology/Neuroscience ILM and Chinese studies; LSAMP scholar, Renee Crown Honors, Remembrance Scholar
Elizabeth Reynolds (Fall 2014-Spring 2016), Biology/Neuroscience ILM, Renee Crown Honors
Caitlin White (Spring 2015-present), Biology, Neuroscience, Renee Crown Honors
+Giovanni Pacheco (Fall 2015-Spring 2017), Biology/Biotech/Neuroscience ILM, LSAMP Scholar
+Chizobam Nwagwu (Fall 2015-Spring 2017), Biology, Renee Crown Honors, LSAMP Scholar
+Jonathan Cotto (Fall 2015-Spring 2017), Biology, Distinction program
Rebekah Schwartz (Fall 2017-present), Biology, Renee Crown Honors
Matthew Ambalavanar (Fall 2017-present), Biology, Renee Crown Honors

Undergraduate Research Assistants

University of Virginia

Paul Grinwald: Department of Psychology (1994), University of Virginia
Rachel Smith (Busby), Cognitive Studies (1997), University of Virginia
Whitney Wallace, Department of Psychology (1998), University of Virginia

Washington and Lee University

Emily Malin, PhD (1999), Department of Psychology; Recipient of the first annual Oliver Award for Intellectual Curiosity in Psychology, 1999
Kristine Borden (1999), Department of Psychology
+Dawn Coulthurst (1999), Department of Biology

Binghamton University

Jodi-Ann Gravina (2000), Department of Psychology
Carrie Joseph (2000), Department of Psychology

University of Illinois

Meghann Hennelly (2001-2002), Department of Psychology and Biology
Krista Anderson (2001-2003), Department of Psychology, James Scholar
Ila Englof (2002), Department of Biology
Niamh Condon (May 2002-May 2004), Department of Psychology
Sara Boyd (summer 2002), Department of Psychology

Kathy Hagman (2002-2003), Department of Psychology
Bengi Altinbilek (2003), exchange student from Bogazici University, Istanbul, Turkey
Diana Greyz (2003), Department of Psychology
Christopher Hanson (2003-2004), Departments of Biochemistry and Psychology
Michael Boyd (2003-2004), Department of Psychology
John Kenny (2003-2004), Departments of Psychology and AeroEngineering
Abigail Galle (2003-2004), Department of Psychology
Bobby Oestreicher (Jan 2004-Jan 2005), Department of Psychology
Astha Agarwal (2004-2005), Department of Psychology
Soumya Venkiteswaran (2004-2005), Department of Psychology
Adrien Harney (2004-2006), Department of Psychology
Arpit Agarwal (2005) undeclared major
Michael Moenk (2005), Department of Psychology
Bryan Kolberg (2005-2006), Department of Psychology
*Tobi Adelaja (2006), UIUC Howard Hughes Fellow, Integrative Biology
Blake Spindler (2006-2007), Molecular and Cell Biology
*Zuha Warraich (2006-2007), Molecular and Cell Biology
Shruti Gupta (2006-2007), Psychology and Spanish
*Edward Malkowski (2006-2007), Psychology
Sarah Dalton (2007-2008), Psychology
*Lauren Lilly (summer 2007), SROP fellow, Reproductive Biology Training Program
Elizabeth Katta (2007-2009), Molecular and Cellular Biology
*Raquel Collier (2008-2009), Molecular and Cellular Biology
Robin Smith (2008-2009), Molecular and Cellular Biology
Gianna Gross (summer 2008). Political Science (University of Wisconsin-Madison)
Ashley Ginsberg (2008-2010). Psychology
Jeremy Schlake (2008-2010). Molecular and Cellular Biology, and Psychology
Leigh Komperda (2009-Spring 2010). Molecular and Cellular Biology
Hilarie Carhill (2009-Spring 2010). Psychology
Charles O'Connor (Fall 2009-Spring 2010). Molecular and Cellular Biology
Colin Therriault (summer 2009-Spring 2011). Molecular and Cellular Biology
Martina Gabra (Spring 2010-Summer 2010). Molecular and Cellular Biology
Jack Huffman (Summer 2010-Fall 2011). Psychology
Daniel Wickland (Fall 2010-Spring 2011). Independent Program of Study, Neuroscience
Vivian Jung (Fall 2010-Spring 2012). Molecular and Cellular Biology
Timothy Weng (Spring 2011). Psychology
Stephen Burbick (Fall 2011). Molecular and Cellular Biology
Ishwer Patel (Fall 2011-2012). Molecular and Cellular Biology
Liridon Zendeli (Fall 2011-2012). Molecular and Cellular Biology
Erin Gunderson (Fall 2011-2012). Molecular and Cellular Biology
Parth Patel (Spring 2012). Molecular and Cellular Biology
Anna Jones (Spring 2012). Molecular and Cellular Biology
David Lee (Spring 2012). Molecular and Cellular Biology
Andrew Sheriff (Spring 2012). Psychology and Molecular and Cellular Biology

Syracuse University

Frances Batarse (Fall 2012-Spring 2013). Psychology, ILM Neuroscience
Madison Davis (Fall 2012-Spring 2014). Biology, Anthropology minor
Sydney Zaggar (Fall 2012-Spring 2014). Biology, ILM Neuroscience
Dean Phillips (Fall 2012-Fall 2013). Biology
Lynde Folsom (Fall 2012-Spring 2014). Philosophy and Biology
Brian Yuhan (Fall 2012-Spring 2014). Biology
Dan Guerra (Fall 2012-Spring 2013). Biology

Amanda Audesse (Spring 2013-Spring 2014). Psychology, ILM Neuroscience
 *Alejandro Mercado Capote (Spring 2013). Psychology, ILM Neuroscience
 *Rosa Leon (Spring 2013). Biology
 *Stephen Ajayi (Spring 2013-Spring 2015). Biochemistry
 Katelyn Edell (Fall 2012-Spring 2014). Linguistics, ILM Neuroscience
 Umar Mahmood (Spring 2014-Spring 2015), Biochemistry
 Bilal Milak (Spring 2014-Fall 2015), Biology
 Shirley Gao (Spring 2014-Spring 2016), Biology
 Nicholas Frangella (Spring 2014-Spring 2016), Biology
 Ashley Sterpka (Summer 2014-Summer 2015), Biology
 Kathryn Lanza (Summer 2014-Spring 2015), Psychology, ILM Neuroscience,
 *Raychel Lewis (Fall 2014-Spring 2016), Biology
 Erin Dickey (Fall 2014-Spring 2016), Biochemistry
 Ian Liebling (Summer 2015-Spring 2017), Biology,
 *Stephanie Morales (Fall 2015), Biology
 *Kennedy Ukelegharanya (Fall 2015-Spring 2017), Biology
 *Christina Ly (Fall 2016-Spring 2017), Biology
 Marc Kurek (Fall 2016-Spring 2017), Biology
 Riley Williams (Fall 2016-present), Biology
 Angelique Ruggiero (Fall 2016-present), ILM Neuroscience, Psychology
 *Naara Ramirez-Estevez (Fall 2016-present), Biology
 Jillian Gavin (Fall 2016-present), Biology
 Emily Green (Summer 2017), University of Miami, Miami, FL
 Nick Tuta (Summer 2017), Middlebury College, Middlebury, VT
 John Cote (Summer 2017), Wesleyan University, Middletown, CT.
 Amer Nasser Amer (Fall 2017-present)
 Ally Stanton (Fall 2017-present)
 Eric Velizhinskiy (Fall 2017-present)
 Ryan Blake (Fall 2017-present)

High School Students

Sarah Pfander (Summer 2004; 2005), University High Laboratory School, Urbana, IL
 Arielle Gross (summer 2006, 2007), Central High School, Champaign, IL
 Emily Rosengren (summer 2007, 2008), University High Laboratory School, Urbana, IL
 Emma Anselin (summer 2007), University High Laboratory School, Urbana, IL
 *Claire Williams (2008-2010), Urbana High School, Urbana, IL
 Jasper Maniates-Selvin (summer 2009- 2010), University High Laboratory School, Urbana, IL
 John Vaughn (Fall 2009-Dec 2010), University High Laboratory School, Urbana, IL
 Fiona Weingartner (Summer 2010-Spring 2011), University High Laboratory School, Urbana, IL
 Sydney Muchnik, (Summer 2010-present), University High Laboratory School, Urbana, IL
 Heather Lin (Summer 2010-present), University High Laboratory School, Urbana, IL
 *Kenneth Ballom (Summer 2010), Centennial High School, Champaign, IL.
 Marie Lilly (Summer 2011), University High Laboratory School, Urbana, IL.
 Hoda Sayegh (Summer 2011), University High Laboratory School, Urbana, IL.
 Joseph Song (Summer 2011), University High Laboratory School, Urbana, IL.
 *Tahar Bowen-Pinto (Summer 2011), University High Laboratory School, Urbana, IL.
 Sunjay Koshy (Summer 2011), University High Laboratory School, Urbana, IL.
 Shruti Vaidya (Summer 2012), University High Laboratory School, Urbana, IL
 Sarah Vaughn (Summer 2012), University High Laboratory School, Urbana, IL
 Vickie Chang (Summer 2012). University High Laboratory School, Urbana, IL
 Dan Frank (Summer 2015, 2016). Jamesville-Dewitt High School, Dewitt, NY
 Fares Awa (Spring 2016-Fall 2017). Manlius Pebble Hill High School, Jamesville, NY
 Abel Ratanaphan (Summer 2016). Jamesville-Dewitt High School, Dewitt, NY

Dhruv Thota (Summer 2016). Jamesville-Dewitt High School, Dewitt, NY
Rachel Elman (Summer 2016-present). Manlius Pebble Hill High School, Jamesville, NY

Awards and Honors Won by Trainees

Graduate Students

Molly McElroy:

AAAS Mass Media Science and Engineering Fellows program, 2006

Lilia Zurkovsky:

Society for Neuroscience travel award, 2006

UIUC Initiative on Aging conference travel award for graduate students, 2005

NICHD Developmental Psychobiology & Neurobiology Training Grant (HD 00733) Predoctoral award, 2004-2006

Claire Scavuzzo:

Society for Behavioral Neuroendocrinology travel award, 2010.

Samantha Pisani:

UIUC College of Medicine Buetow Memorial Travel award, 2010, 2013

UIUC College of Medicine Hazel I. Craig Summer Research Assistanceship, University of Illinois College of Medicine, 2011.

NIH Office of Dietary Supplements Research Practicum and Travel Stipend, June 2012

UIUC Graduate College Travel award, 2012

Wei Wang:

Selection for WiSE Future Professional Program (FPP), September 2016 – May 2017

Conference Travel award 2016: Neuroscience program, Syracuse University

Undergraduates

Emily Malin: First annual Oliver Award for Intellectual Curiosity in Psychology, Washington and Lee University, 1999.

Claire Scavuzzo: Honorable mention (tied for 4th place) for undergraduate poster competition, Chicago chapter, Society for Neuroscience, 2008

Trisha Pruis: University of Illinois, undergraduate travel award, 2004

*Luis Castelan: Ruth Meyer summer research fellowship, 2013 (declined); Louis Stokes Alliance for Minority Participation fellowship, summer 2013; SU College of Arts and Science Honors Travel award; SU Department of Biology Senior Award for Research, May 2015;

*Stephen Ajayi: Ruth Meyer summer research fellowship, 2013; Department of Biology Research Achievement Award, May 2015

Amanda Audesse: Ruth Meyer summer research fellowship, 2013

Brian Yuhan: Ruth Meyer summer research fellowship, 2013; Research Achievement Award, May 2014

Georgia Buscaglia: Ruth Meyer summer research fellowship, 2013

Lynde Folsom: Ruth Meyer summer research fellowship, 2013

Brian Yuhan: Department of Biology Academic and Research Achievement Award, May, 2014.

Margaret Blasi: Ruth Meyer summer research fellowship (2014, declined) and Department of Biology Award for Research and Scholarship, May, 2015.

Sam Lauffer: Department of Biology Award for Research and Scholarship, May, 2015.

Ella D'Amico: Coronat Scholarship for summer research, Summer, 2015; Department of Biology Academic and Research Achievement award, May 2016

Amber Barrow: LSAMP summer (2015) and academic year fellow, 2015-2016; Remembrance Scholar, 2016-2017; Neuroscience summer research fellowship, 2016. Renee Crown Honors Stipend (\$4000) Department of Biology Research Achievement Award, May 2017

Elizabeth Reynolds: Ruth Meyer summer research fellowship, 2015; Department of Biology Research Achievement Award, May 2016

Brooke Hamling: Ruth Meyer summer research fellowship, 2013; Donald Lundgren Award for Outstanding Achievement in Biology, May 2016

Luke Loftus: Department of Biology Research Achievement Award, May 2016
Caitlin White: Syracuse University summer research fellowship, 2016, 2017
Giovanni Pacheco: Hispanic honors summer research fellowship, 2016
Ian Liebling: Department of Biology Research Achievement Award, May 2017
Jonathan Cotto: Department of Biology Research Achievement Award, May 2017
Giovanni Pacheco: Department of Biology Research Achievement Award, May 2017

Masters and PhD Thesis Committee Member (program, role)

In Progress

Candace Receno (PhD Exercise Science, SU; co-mentor)
Jeremy Sloane (PhD Biology, SU; member)
Joshua Burton (PhD Biology, SU; member)

Completed

Lisa Henry, MS (Binghamton University, external member)
Jennifer Tropp, PhD (U. Conn. external member)
Julie Markham PhD (Psych, UIUC)
Kirk Erickson PhD (Psych, UIUC)
Clint Canal PhD (NSP, UIUC)
Jason Pych PhD (Psych, UIUC)
Victor Wang PhD (NSP, UIUC)
Carol Curtis PhD (MIP, UIUC)
Darien Hall PhD (NSP, UIUC)
Georgina Aldridge PhD (MSP/NSP, UIUC)
Maggie Blattner PhD (MSP/NSP, UIUC)
Ken Morris PhD (MSP, Neuroscience, UIUC)
Claudia Lutz PhD (NSP, UIUC)
Jennifer Provyn PhD (Psychology, SU; Chair)
Melissa Morales PhD (Psychology, Binghamton University, outside examiner)
Corinne Ostock PhD (Behavioral Neuroscience, Binghamton University, outside examiner)
Amanda Hoffman PhD (Chemistry, SU; Chair)
Luis Flores PhD (Psychology, UIUC, Member)
Yu Ho Kim PhD (Exercise Science, SU; member)
Deion Burks (MS Biology, SU; Chair)

Diagnostic / Qualifying Exam Committee Member

Diana Thomas (NSP, UIUC)
Patty Kandalepas (NSP, UIUC)
Jonathon House (NSP, UIUC)
Jenny Kim (NSP, UIUC)
Margaret Ferris (MSP/NSP, UIUC)
Cynthia Colon-Rivera (NSP, UIUC)
Carrie Brumback (Psych, UIUC)
Gloria Chapa (NSP, UIUC)
Darien Hall (NSP, UIUC)
Jessica Stanis (NSP, UIUC)
Claudia Lutz (NSP, UIUC)
Ken Morris (NSP, UIUC)
Zhenghan Qi (NSP, UIUC)
Renee Haag (NSP, UIUC)
Suren Bandara (NSP, UIUC)
Maggie Blattner (NSP, UIUC)
Laura Chaddock (Psych, UIUC)

Martina Mustroph (NSP, UIUC)
Paven Aujli (NSP, UIUC)
Franklyn Rocha Cabrero (NSP/MSP, UIUC)
Dawn Lammert (Neuroscience, Upstate Medical University)
Geoffrey Eill (Neuroscience, Upstate Medical University)
Eric Zajiceke (Neuroscience, Upstate Medical University)

Scientific and Popular Press

2015 – present

Research Highlights

The Wrinkled Brain Project, Gedanken: The Science of Aging
<http://wrinkledbrainproject.org/gedanken-the-science-of-aging/>

Public lecture, Manlius Senior Center: Aging and Saging
<https://www.youtube.com/watch?v=gjBelaiop0Q&t=44s>

Brief highlight of ASI-sponsored research
<http://info.maxwell.syr.edu/asi/AgingMatters2017/#4>

Outreach Highlights

SU Magazine, Fall/Winter 2015 Feature, Explorations in Aging:
<http://sumagazine.syr.edu/2015fall-winter/features/agingstudies.html>

SU Magazine, Spring 2015 Orange Matters:
<http://sumagazine.syr.edu/2015spring/orangematters/movementforhealthyaging.html>

2010-2014

Research Highlights

Hussain et al., 2014. Estrogen and Memory System Bias in Females Across the Lifespan. *Translational Neuroscience*, 5, 35-50. <http://link.springer.com/article/10.2478%2Fs13380-014-0209-7#page-1>

Team to study health effects of botanical estrogens
http://news.illinois.edu/news/10/0907botanicals_helferich.html

Outreach Highlights

Science museum event launches neuroscience education program
http://news.illinois.edu/news/12/0307orphy_BarbaraHug_DonnaKorol.html

Project NEURON receives funding for new computer game
<http://illinois.edu/lb/article/32/55367>

At Brain Awareness Day, Project NEURON Challenges Children's Color Perception
<http://education.illinois.edu/news/2010/brain-awareness-day>

Educator resources are meant to give access to information and teaching tools about the nervous system and related health issues.
<http://www.brainfacts.org/Educators/Educator-Resources/Educator-Resources/Project-NEURON>

Project NEURON highlighted in the Neuroscience For Kids Newsletter as the site of the month, September, 2013

<http://faculty.washington.edu/chudler/sites.html>

WCNY TV Cycle of Health piece:

<http://www.wcny.org/television/cycleofhealth/>

<http://video.wcny.org/video/2365489181/>

Coverage of workshop, Movement for Healthy Aging, April 11-12, 2014

<http://www.localsyr.com/bridge-street/video/d/video/dance-and-parkinsons-bridge-street-4814/5034000>

http://www.syracuse.com/news/index.ssf/2014/03/syracuse_university_and_mark_morris_dance_group_to_offer_parkinsons_disease_move.html

<https://www.facebook.com/thecollegesu/posts/628481957233692>

<http://news.syr.edu/community-workshop-about-dance-and-parkinsons-planned-36888/>

http://asnews.syr.edu/newsevents_2014/releases/parkinsons_dance.html

2005-2009

Research highlights

T. Shors, 2005, *Learning and Memory* 12, 84-85, Estrogen and learning: Strategy over parsimony, commentary on "McElroy, M.W. and Korol, D.L. (2005). Intrahippocampal muscimol shifts learning strategy in gonadally intact young adult female rats. *Learning and Memory*, 12, 150-158".

Cahill, 2006. Why sex matters for neuroscience. *Nature Reviews Neuroscience*, 7, 477-484.

Good Memories <http://www.las.illinois.edu/alumni/magazine/articles/2008/memories/>

Fitness counteracts cognitive decline from hormone-replacement therapy

<http://news.illinois.edu/news/06/0124estrogen.html>

Conference Press Requests

Erickson, K.I., Pruis, T.A., Debrey, S.M., Bohacek, J., and Korol, D.L. (2006). Estrogen and exercise interact to up-regulate BDNF levels in the hippocampus but not striatum of middle-aged female Brown-Norway rats. 36th Annual meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 32, 266.17.

Erickson, K.I., Epstein, D.E., Malkowski, E.J., Warraich, Z. and Korol, D.L. (2007). Voluntary exercise enhances place learning in young adult male rats. 37th Annual meeting for the Society for Neuroscience, *Society for Neuroscience Abstracts*, 33, 528.10

Faculty Profiles

<http://www.las.illinois.edu/news/2008/jrfaculty/>

<http://news.illinois.edu/ii/08/0207/facultyfriendly.html>

2000-2004

Research Highlights

Spektrum der Wissenschaft's publication on psychology and brain research, described as a "German sister magazine to *Scientific American*"; *Gehirn & Geist* (Vol. 1);

Estrogen may dictate what problem-solving strategy brain uses

<http://news.illinois.edu/ii/02/0620/0620.pdf>

Flashbulb Memories of 9/11

<http://www.las.illinois.edu/alumni/magazine/articles/2004/flashbulb/>

Faculty of 1000 must read: <http://www.f1000biology.com/article/15464412/evaluation>

Korol, D.L. (2004). *Neurobiology of Learning and Memory*, 82, 309-323.

Conference Press Requests

Korol, D.L. (2000). Duration of ovariectomy interacts with estrogen effects on learning strategy in young adult female rats. *Society for Neuroscience Abstracts*, 26, 651.11

Korol, D.L. and Pruis, T.A. (2004). Estrogen and exercise modulate learning strategy in middle-aged female rats. 34th Annual meeting for the Society for Neuroscience

1995-1999

Conference Press Requests

Willingham, D.B., Peterson, M.E. and Korol, D.L. (1998). Facilitation of cognition by glucose and cereal in healthy elderly humans: Dependence on task difficulty? *Society for Neuroscience Abstracts*, 24:2117.