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 Laurence McKinley Gould Professor of the Natural
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Current areas of research:

Evolution of mind/brain, comparative psychology, human and animal learning and memory.

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Monkeys: <https://www.neiworth-primate-lab.com/>

Education (starting with most recent degree)

University of Texas Medical Center, Neurobiology Dept, Sensory Sciences, Houston, TX	Postdoctoral Fellowship (NIH INSRA)	Cognitive and Perceptual Abilities of Avians and Primates, Anthony A. Wright, sponsor	1987-1988
Michigan State University, East Lansing, MI	Ph.D.	Experimental Psychology, Mark Rilling, advisor	June 1987
Michigan State University, East Lansing, MI	M.A.	Experimental Psychology, Mark Rilling, advisor	Jan 1985
Reed College, Portland, OR	B.A.	Psychology, Allen Neuringer, advisor	May 1982

Profession Positions (starting with current position)

Carleton College, Northfield, MN	Laurence McKinley Gould Professor of Natural Sciences and Psychology	Endowed Chair	Sept, 2016 – present.
Carleton College, Northfield, MN	Director	Neuroscience	Sept 2007 – 2010; July 2012 – Sept 2014.
Carleton College, Northfield, MN	Full Professor	Psychology	Sept 2001 - present.
APA, Washington, DC	Consulting Editor	Journal of	July 2008 -

		Comparative Psychology	present.
Carleton College, Northfield, MN	Chair of Dept, two 3-year terms	Psychology	Sept 1995-July 2001
Carleton College, Northfield, MN	Associate Professor	Psychology	Sept 1994 - Aug 2001
Carleton College, Northfield, MN	Assistant Professor	Psychology	Sep 1988 - Aug 1994
International Conference on Comparative Aspects of Cognitive Science, Aix-en-Provence, France	Summer Lecturer and Presenter	Animal Cognition	July, 1992
Harvard University	Visiting Professor, Seminar Participant	Animal Choice	Sept 1991-Dec 1991
University of Texas Medical Center, Neurobiology Dept, Sensory Sciences Area, Houston, TX	Postdoctoral Fellow, NIH INSRA Award (3-year award)	Avian and Primate Cognition	Sept 1987 - Aug 1988

Courses Taught

Psy 110, Principles of Psychology	CGSC 396, Directed Research in Cognitive Studies
Psy 126, Advanced Methods in Data Analyses	Psy 366, Cognitive Neuroscience
Psy 200/201, Methods in Data Analyses	Psy 367, Neuropsychology of Aging
Psy 210/211, Psychology of Learning and Memory; Laboratory in Learning and Memory	Psy 371, Evolutionary and Developmental Trends in Human Cognition
Psy 212, Comparative Cognition	Psy 398, Senior Colloquium
Psy 299, Junior Colloquium	Psy 397, Senior Tutorial
Psy 300, Research Collaborative Seminar	Psy 391/92, Independent Studies
Psy 365, Animal Models of Human Behavior	Neur 395, Neuroscience Capstone Seminar

Recognition and Honors

Endowed Chair: Laurence McKinley Gould Professor of the Natural Sciences and Psychology, Sept, 2016.

Full Member of Psychonomic Society, June, 2013.

APS Fellow status (Association for Psychological Science) for sustained and outstanding distinguished contributions to psychological science, May 2013.

Walter D. Mink Outstanding Teacher Award by the **Minnesota Psychological Association,** April 2010.

APA Fellow in Division 6 (American Psychological Association, Behavioral Neuroscience

and Comparative Psychology), Dec 2009.

Frank A. Beach Comparative Psychology Award for the best paper published in the [*Journal of Comparative Psychology*](#) in 2007. APA (American Psychological Association). **Distinguished Scholar (2004), Minnesota Psychological Association (MPA)**. Recognition of academic faculty for their research contributions to psychology.

Academic Community Building

Institutional Review Board (IRB) member: 2022-2025.

STEM Board member: representative for psychology, 2019-2022.

FaCE Initiative to Develop Aging, Dying, and Death Curriculum (2018, 2019)

Neiworth was a co-leader on 2 summer workshops in 2018 and 2019 supported by FaCE (Faculty Career Enhancement, by Associated Colleges of the Midwest (ACM)) with Jessica Petok, St Olaf, that involved faculty from the region (St Olaf, economics, social work, nursing; Carleton, sociology/anthropology, philosophy, history) and established a shared resources area from which we could teach courses on aging, death, and dying. Petok and Neiworth developed a Neuropsychology of Aging course that we teach at both institutions. We have also involved faculty who teach courses on death and dying and have sponsored Death Over Dinner social events for students to become more comfortable discussing aging and dementia, as well as death.

MidBrains: A Midwestern Neuroscience consortium (2006-present)

Neiworth co-founded a Midwestern consortium of neuroscientists, called MidBrains, in 2006 together with Eric Wiertelak, Macalester College, which resulted in an annual undergraduate neuroscience conference from 2006 to present, encouraging students from 20 different liberal arts colleges and public universities in the region to present their neuroscience research.

Broadening the Bridge Mellon Grant Initiatives (2013, 2016, 2018)

Neiworth has led three Broadening the Bridge initiatives with St Olaf College and Carleton, one to write an NIH grant to foster the sharing of labs, classes and faculty in the neurosciences, one to encourage women faculty in STEM fields to network and work on writing together, and one to develop a collaborative course with St Olaf on the neuropsychology of aging (Jessica Petok, collaborator, 2018).

External Funding Applications and Awards

NIH AREA 2R15AG051940-02 (current fund)	\$438,067	Feb 2021 – Jan 2025	Longitudinal Cognitive-Behavioral Testing and Immunohistochemical Assessment of Alzheimer's Disease Markers, Immune Response, Neurogenesis, and Cell Loss in a Natural Aging Primate Model
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NIH AREA 1R15AG051940-01A1	\$430,391	March, 2017- Feb 2021	Longitudinal Cognitive-Behavioral Testing and Immunohistochemical Assessment of Beta Amyloid Plaques in a Model of Alzheimer's Disease
NIH-AREA 1R15HD072571 - 01	\$344,204	July 2012-Oct 2016	Revisiting challenged findings in social and cognitive abilities in tamarins
NIH AREA 1R15MH071232- 01A2	\$207,059	March 2006- Feb 2010	Examining a model of local-driven attention in tamarins
NIH AREA 1R15MH62434-01A1	\$118,438	April 2002- August 2004	Judgment of objects: Orientation, movement, and membership
NSF ILI #9751519	\$96,500	Sept 1997- Aug 1999	Enhancing scientific reasoning through research training in a general psych lab
NSF ILI #9550783	\$72,384	July 1995 – June 1997	Restructuring the learning laboratory for animal learning and cognition
NIMH INSRA 1F32MH09610-01	\$67,000	August 1987 – August 1988	Postdoctoral study of cognitive and perceptual abilities of primates and avians, AA Wright, sponsor, U-Texas Medical Ctr

Psychology Dept and Colleague Reviews and Dept Consultations

Consultant for the hiring process and selection of tenure-track comparative/neuroscientist, Reed College, 2022-2023.

External reviewer for promotion of faculty, Emory University, 2022.

Mt Holyoke College Psychology Department – Feb, 2016 (together with Beverly Greene, St Johns University, and Michael Baumburg, Clark University)

Reed College Psychology Department – March 2016 (together with Nancy Eisenberg, Arizona State University, and Frank Durgin, Swarthmore)

Franklin and Marshall Psychology Department – Feb 2012 (together with Andrew Ward, Swarthmore, and Rebecca Compton, Haverford College)

Research Products in Print

* indicates Carleton student or Carleton graduate author.

[Neiworth, J.J., *Thall, M.E., *Liu, S., *Leon-Moffly, E., *Rankin, M., *LoRusso, M.A., *Thandi, S., *Garay-Hernandez, J. \(2023\). A recognition test in monkeys to differentiate recollection from familiarity memory. *Nature, Scientific Reports*, **13**, 17579. <https://doi.org/10.1038/s41598-023-44804-1>.](#)

[Neiworth, J. J., *Knighten, A. D., & *Leppink-Shands, C. \(2023\). Is inferential reasoning a distinctly human cognitive feature? Testing reasoning in cotton-top tamarins \(*Saguinus oedipus*\). *Journal of Comparative Psychology*. Advance online publication. <https://doi.org/10.1037/com0000356>](#)

[Neiworth, J. J., Balaban, M. T., *Wagner, K., *Carlsen, A., *Min, S., *Kwon, Y. I. C., & *Rieth, I. \(2022\).](#) A Modified Version of the Dimensional Change Card Sort 5 Task Tests Cognitive Flexibility in Children (*Homo sapiens*) and Cotton-Top Tamarins (*Saguinus oedipus*). *Journal of Comparative Psychology*, 136 (3), 155-171.
<https://doi.org/10.1037/com0000312>.

[Neiworth, J. J., London, J. M., Flynn, M. J., *Rupert, D. D., *Alldritt, O., & *Hyde, C. \(2017\).](#) Artificial grammar learning in tamarins (*Saguinus oedipus*) in varying stimulus contexts. *Journal of comparative psychology (Washington, D.C. : 1983)*, 131(2), 128–138.
<https://doi.org/10.1037/com0000066>

[Neiworth, J. J., *Whillock, K. M., *Kim, S. H., *Greenberg, J. R., *Jones, K. B., *Patel, A. R., *Steeffel-Moore, D. L., *Shaw, A. J., *Rupert, D. D., *Gauer, J. L., & *Kudura, A. G. \(2014\).](#) Gestalt principle use in college students, children with autism, toddlers (*Homo sapiens*), and cotton top tamarins (*Saguinus oedipus*). *Journal of comparative psychology (Washington, D.C. : 1983)*, 128(2), 188–198.
<https://doi.org/10.1037/a0034840>

[Neiworth J. J. \(2013\).](#) Chasing sounds. *Behavioural processes*, 93, 111–115.
<https://doi.org/10.1016/j.beproc.2012.11.009>

[Neiworth, J. J. \(2009\).](#) Thinking About Me: How social awareness evolved. *Current Directions in Psychological Science*, 18(3), 143–147.
<https://doi.org/10.1111/j.14678721.2009.01625.x>

[Neiworth, J. J., *Johnson, E. T., *Whillock, K., *Greenberg, J., & *Brown, V. \(2009\).](#) Is a sense of inequity an ancestral primate trait? Testing social inequity in cotton top tamarins (*Saguinus oedipus*). *Journal of comparative psychology (Washington, D.C. : 1983)*, 123(1), 10–17. <https://doi.org/10.1037/a0012662>

[Neiworth, J. J., *Hassett, J. M., & *Sylvester, C. J. \(2007\).](#) Face processing in humans and new world monkeys: the influence of experiential and ecological factors. *Animal cognition*, 10(2), 125–134. <https://doi.org/10.1007/s10071-006-0045-4>

[Neiworth, J. J., *Gleichman, A. J., *Olinick, A. S., & *Lamp, K. E. \(2006\).](#) Global and local processing in adult humans (*Homo sapiens*), 5-year-old children (*Homo sapiens*), and adult cotton-top tamarins (*Saguinus oedipus*). *Journal of comparative psychology (Washington, D.C. : 1983)*, 120(4), 323–330.
<https://doi.org/10.1037/07357036.120.4.323>

[Neiworth, J. J., *Parsons, R. R., & *Hassett, J. M. \(2004\).](#) A test of the generality of perceptually based categories found in infants: attentional differences toward natural kinds by New World monkeys. *Developmental science*, 7(2), 185–193.
<https://doi.org/10.1111/j.1467-7687.2004.00337.x>

[Neiworth, J. J., *Steinmark, E., *Basile, B. M., *Wonders, R., *Steely, F., & *DeHart, C. \(2003\).](#) A test of object permanence in a new-world monkey species, cotton top tamarins (*Saguinus oedipus*). *Animal cognition*, 6(1), 27–37. <https://doi.org/10.1007/s10071-003-0162-2>

[Neiworth, J. J., *Burman, M. A., *Basile, B. M., & *Lickteig, M. T. \(2002\).](#) Use of experimenter-given cues in visual co-orienting and in an object-choice task by a new world monkey species, cotton top tamarins (*Saguinus oedipus*). *Journal of comparative psychology* (Washington, D.C. : 1983), 116(1), 3–11. <https://doi.org/10.1037/07357036.116.1.3>

[Neiworth, J. J., *Anders, S. L., & *Parsons, R. R. \(2001\).](#) Tracking responses related to self-recognition: a frequency comparison of responses to mirrors, photographs, and videotapes by cotton top tamarins (*Saguinus oedipus*). *Journal of comparative psychology* (Washington, D.C. : 1983), 115(4), 432–438.

[Wright, A. A., Rivera, J. J., Hulse, S. H., Shyan, M., & Neiworth, J. J. \(2000\).](#) Music perception and octave generalization in rhesus monkeys. *Journal of experimental psychology. General*, 129(3), 291–307. <https://doi.org/10.1037//0096-3445.129.3.291>

[Neiworth, J.J. \(1995\).](#) The integration of content with context: Spatiotemporal encoding and episodic memories in people and animals. In H.L. Roitblat & J. Meyer Arcady (Eds), *Comparative Approaches to Cognitive Science*, MIT Press.

[Neiworth, J. J., & Wright, A. A. \(1994\).](#) Monkeys (*Macaca mulatta*) learn category matching in a nonidentical same-different task. *Journal of experimental psychology. Animal behavior processes*, 20(4), 429–435.

[Neiworth, J.J. \(1992\).](#) Cognitive aspects of movement estimation: A study of imagery in animals. In W. K. Honig and J.G. Fetterman (Eds.), *Cognitive aspects of stimulus control*, Hillsdale, NJ: Lawrence Erlbaum Associates.

[Rilling, M. E., & Neiworth, J. J. \(1991\).](#) How animals use images. *Science progress*, 75(298 Pt 3-4), 439–452.

[Wright, A. A., Cook, R. G., Rivera, J. J., Shyan, M. R., Neiworth, J. J., & Jitsumori, M. \(1990\).](#) Naming, rehearsal, and interstimulus interval effects in memory processing. *Journal of experimental psychology. Learning, memory, and cognition*, 16(6), 1043–1059. <https://doi.org/10.1037//0278-7393.16.6.1043>

Wright, A.A., Cook, R.G., Shyan, M.R., Neiworth, J.J., Emmerton, J., Sands, S., Rivera, J.J., & Delius, J. (1988). Concept learning by pigeons and monkeys. *Bulletin of the Psychonomic Society*, 26, 6, 505.

[Neiworth, J. J., & Rilling, M. E. \(1987\)](#). A method for studying imagery in animals. *Journal of Experimental Psychology: Animal Behavior Processes*, 13(3), 203– 214.
<https://doi.org/10.1037/0097-7403.13.3.203>

[Rilling, M. E., & Neiworth, J. J. \(1987\)](#). Theoretical and methodological considerations for the study of imagery in animals. *Learning and Motivation*, 18(1), 57– 79.
[https://doi.org/10.1016/0023-9690\(87\)90023-3](https://doi.org/10.1016/0023-9690(87)90023-3)

Neiworth, J.J. (1987). Investigating an Imagery Process in Pigeons. A dissertation received September, 1987, in the department of Psychology, Michigan State University.

Neiworth, J.J., & Rilling, M.E. (1986). Toward a method for studying imagery in pigeons. *Bulletin of the Psychonomic Society*, 24, 5, 347.

[Rilling, M. E., & Neiworth, J. J. \(1986\)](#). Comparative cognition: A general processes approach. In D. F. Kendrick, M. E. Rilling, & M. R. Denny (Eds.), *Comparative cognition and neuroscience. Theories of animal memory* (p. 19–33). Lawrence Erlbaum Associates, Inc.

Neuringer, A.J., Balaban, M.T., Neiworth, J.J., & Rhodes, D. (1982). Punishment: Why it works and why not. *Behavior Analysis Letters*, 2,(5), 286-287.

Press Coverage

Click here for [featured article and short essay](#) by Editor of Journal of Comparative Psychology, for Online First publication of 2022 article by Neiworth et al., 2022.

Click here for 2021 [Carletonian article about the primate cognition lab](#).

Click here for 2012 USA Today article on [Neiworth's re-testing of Hauser's work](#).

Click here for 2012 [NPR interview](#) with Neiworth about self-awareness in monkeys.

"[Monkeys may tune into basic melodies](#)", *Science News*, Week of Sept. 16, 2000; Vol. 158, No. 12. Authors: Wright, A.A., Rivera, J.J., Hulse, S., Shyan, M. & Neiworth, J.J.

Presentations

* indicates Carleton student or Carleton graduate author.

[J.J. Neiworth \(2022\)](#). Cognitive savings and decline with age in cotton top tamarins (*Saguinus oedipus*). Presented in the Symposium "Cotton-top Tamarins: Integration of captive and field research with conservation" led by C. Snowdon, at the *International Primatological Society Meeting*, Jan 14, 2022, Quito, Ecuador (abstract ID 13654).

J. J. Neiworth, *A. Knighten, *C. Leppink-Shands (2021). Abstract reasoning in tamarins: Proof of disjunctive logic by exclusion. Presented at the Annual Meeting of the Psychonomic Society, November 19-22, 2021, New Orleans LA (presented virtually).

J.J. Neiworth, *C. Leppink-Shands, *C. Liphart, *C. Kwon, *A. Knighten, *A. Hruby, * K. Hannigan (2019). Case study of an aging monkey pre- and post mortem: Cognitive decline, Alzheimer's disease markers, immunological response, and neurogenesis. Program No. 209.10 Session: Brain Wellness and Aging: Systematic Factors and Brain Function. Neuroscience Meeting Planner. Chicago, IL: *Society for Neuroscience*, 2019, online.

J. J. Neiworth,* C. Kwon (2018). An histological analyses of Alzheimer's disease (AD) markers and immunological response in a primate model of aging and AD. Program No. 744.08. 2018 Neuroscience Meeting Planner. San Diego, CA: *Society for Neuroscience*, 2018. Online.

J.J. Neiworth, * Cathy (Sijin) Chen (2017). Can nonhuman primates consider cooperation and competition? A test of tactical deception in cotton top tamarins (*Saguinus oedipus*). Presented at the *Annual Psychonomic Society Conference*, Nov 11, 2017, Vancouver, CANADA.

J.J. Neiworth, *K. Wagner, *A. Carlsen, *S. Min, M. Balaban. (2017). Category sorting using a choice task: Children, monkeys, and adults. Presented at the *Association for Psychological Science (APS) meeting*, May 2017, Boston, MA.

Neiworth, J.J. & *Henderson, L. Reciprocity in tamarins and humans. *Psychonomic Society*, November, 2016, Boston, MA.

Lewis, R., Neiworth, J.J., Ward, A. Discussion of Teaching Introductory Psychology at Liberal Arts Colleges (Moderators: Richard Lewis, Pomona College, Julie Neiworth, Carleton College and Andrew Ward, Swarthmore). *APS National Conference*, May 2016, Boston, MA.

Neiworth, J.J. What can tamarins tell us about the uniqueness of us? An invited talk as part of the *Cannon Callosum series*, St Olaf College, March 30, 2016.

Neiworth, J.J. Reconsidering cognitive and social processes in cotton top tamarins. Invited address, *Midwestern Psychological Association*, Chicago, IL May 2015.

Neiworth, J.J. Re-examining Phoneme Pattern Processing and Other Provocative Findings of Marc Hauser. *University of MN* presentation Minneapolis, MN. Sept 2013.

Neiworth, J.J. Examining a model of autism. *St Olaf Neuroscience Club*, Sept 2012.

Neiworth, J.J., Olivares, A.*, Yang, Mai Kao*, Greenberg, J. *. Cooperation and altruism in cotton top tamarins. At the 50th *Annual Meeting of the Psychonomic Society*, Boston, MA, November 17, 2009.

Neiworth, J.J. Tamarin Cognition. *Gustavus Adolphus Distinguished Scholar* presentation, St Peter, MN. Sept 2008.

E. P. WIERTELAK^{1,2}, J. NEIWORTH³, G. COUSENS^{1,2}, S. DICKINSON⁴, G. MUIR⁴, C. OHNESORGE³, M. FERRAGAMO⁵, J. R. PRICHARD⁷, B. CURCHACK⁹, D. NELSON⁸, P. COSTELLO⁶, B. SHERMAN⁴, L. WICHLINSKI³, J. WOTTON⁶; ¹Dept. of Psychology, ²Cognitive and Neurosci. Studies Program, Macalester Col., Saint Paul, MN; ³Psychology, Carleton Col., Northfield, MN; ⁴Psychology, St. Olaf Col., Northfield, MN; ⁵Biol., ⁶Psychology, Gustavus Adolphus Col., St. Peter, MN; ⁷Psychology, ⁸Biol., Univ. of St. Thomas, Saint Paul, MN; ⁹Psychology, Augsburg Col., Minneapolis, MN. **Midbrains 2007: The inaugural year of the Midwest's undergraduate neuroscience conference.** Presented Nov 3, **2007**, *Society for Neuroscience*, San Diego, CA.

Neiworth, J.J., Whillock, K.* , Greenberg, J. * , Weaver, J.* , Kudura, A.* and Gray, E.* . Tamarins exhibit perceptual constraints similar to autistic humans. At the *Association for Psychological Science and Psychonomic Society* Joint Meeting, July 4 - 7, **2007**, Edinburgh, Scotland.

Neiworth, J.J., Johnson, E.* , Whillock, K.* , Brown, V* , and Greenberg, J.* A test of inequity aversion in cotton top tamarins (*Saguinus oedipus*). At the 47th Annual Meeting of the *Psychonomic Society*, Houston, TX, Nov 17, **2006**.

Presenter with students at Fall *MidBrains*, neuroscience undergraduate conference of the MidWest, every year since 2006.

Neiworth, J.J., Sonstegard, M.* Lewis, A.* and Whillock, K.* Assessment of numerosity by tamarins. At the 46th Annual Meeting of the *Psychonomic Society*, Toronto, CANADA, November 11, **2005**.

Neiworth, J.J., Lewis, A.* and Sonstegard, M.* Assessment of Number by Tamarins. At the 12th Annual *Comparative Cognition Society Meeting* ,CO3-2005, Melbourne Beach, Florida, March 16-19, **2005**.

Neiworth, J.J., Gleichman, A.* , Olinick, A.* , Lamp, K.* Hierarchical Processing of Stimuli by Adults, 5-year-olds, and Monkeys. 45th Annual Meeting of the *Psychonomic Society*, Minneapolis, MN, November 18-21, **2004**.

Neiworth, J.J., and Ballard, R.H.* Influence of geometric and nongeometric cues in foraging by tamarins. Presented at the 44th Annual Meeting of the *Psychonomic Society*, Vancouver, CANADA, Nov 6, **2003**.

Neiworth, J.J., Sylvester, C.J.* , Hassett, J.M.* , and Basile, B.M.* Is socially-mediated sharing ape-specific? The effects of cooperation and of a food prime on food sharing in

cotton top tamarins (*Saguinus oedipus*). Presented at the 75th Annual *Midwestern Psychological Association Meeting*, Chicago, IL, May 9, **2003**.

Neiworth, J.J., Hassett, J.M.*, and Sylvester, C.J.* Face processing by tamarins and humans: Evidence of conspecific and experiential effects. Presented at the 75th Annual *Midwestern Psychological Association Meeting*, Chicago, IL, May 9, **2003**.

Neiworth, J.J., Parsons, R.R.*, and Hassett, J.M.* Attentional Differences Toward Natural Kinds Categories by Cotton Top Tamarins (*Saguinus oedipus*): An Examination of Preferential Looking at Different Levels of Category Inclusiveness. At the *14th Biennial International Conference on Infant Studies*, Toronto, ONT Canada, April 18-21, **2002**.

Neiworth, J.J., Steinmark, E.*, DeHart, C.*, and Steely, F.* A test of object permanence in a new world monkey species, cotton top tamarins (*Saguinus oedipus*). At the *42nd Annual meeting of the Psychonomic Society*, Orlando, FL, Nov 15 -17, **2001**.

Neiworth, J.J., Burman, M.*, Basile, B.*, & Lickteig, M.* Use of experimenter-given cues in co-orienting and choice tasks in cotton top tamarins. (#34), Human Cognition, Comparative Psychology and Psychobiology Session, *73rd Annual Midwestern Psychological Association Meeting*, Chicago, ILL, May 5, **2001**.

Wright, A.A., Rivera, J.J., Hulse, S.H., Shyan, M., and Neiworth, J.J. Octave generalization of tonal musical passages. Presented at the *39th Annual Meeting of the Psychonomic Society*, Nov 21st, **1998**, Dallas, TX.

Neiworth, J.J. Internal models of space, time, and movement in animals. Presented at the *Comparative Aspects of Cognitive Science Conference*, Aix-en-Provence, France, July 6-17, **1992**, sponsored by Ecole Normale Superieure, Paris, France & Ecole d'Art, Aix-en-Provence & NRC, France.

Neiworth, J.J. Accuracies and inaccuracies in movement representation. Presented at the Dalhousie Conference, *Cognitive Aspects of Stimulus Control*, sponsored by NSERC, Halifax, Nova Scotia, June 12, **1989**.

Wright, A.A., Cook, R.B., Shyan, M.R., Neiworth, J.J., Jitsumori, M., Emmerton, J., Sands, S.F., Rivera, J.J. & Delius, J.D. Concept learning by pigeons and monkeys. Presented at the *Annual meeting of the Psychonomic Society* in Chicago, IL, November, **1988**.

Neiworth, J.J. & Rilling, M.E.. Towards a method for studying imagery in animals. Presented at the Annual meeting of the *Psychonomic Society* in New Orleans, LO, November, **1986**.

Neiworth, J.J. Investigating the form of pigeon memory. Presented at the *Conference on Animal Learning* in Toronto, Ontario, CA, June, **1986**.

Rilling, M.E. & Neiworth, J.J. Movement extrapolation in pigeons. Presented at the *Midwestern Psychological Association* in Chicago, IL, May, **1986**.

Neiworth, J.J., & Rilling, M.E. Imagery in pigeons. Presented at the *Annual meeting of the Psychonomic Society*, Boston, MA, November, **1985**.

Neuringer, A.J., Balaban, M.T., Neiworth, J.J., & Rhodes, D. Punishment: Why it works and why not. *Presented at the Association for Behavioral Analyses (ABA) convention in Milwaukee, WI, May, 1982*.

External Reviewer for:

NSF, NIH human complex mental function, biobehavioral processes, cognition and perception study sections, *Journal of Comparative Psychology*, *Cognition*, *Journal of Experimental Psychology: Animal Learning and Cognition*, *Animal Cognition*, *Behavioural Processes*, *Primates*, *Developmental Science*, *PLOS ONE*.

Consulting Editor:

Journal of Comparative Psychology

Memberships in Societies

APA, APS, Psychonomic Society, Comparative Cognition Society (CCS), International Primatological Society, Society for Neuroscience (SfN), American Association for Laboratory Animal Sciences (AALAS)

References can be obtained on request.

Larry Wichlinski, Professor of Psychology and Director of Neuroscience Minor Program, Carleton College, Northfield MN (lwichlin@carleton.edu)

Julia Strand, Chair of Psychology Department, Carleton College, Northfield, MN (jstrand@carleton.edu)

Gisel Flores-Montoya, Assistant Professor of Psychology, member of Neuroscience Program, Carleton College, Northfield, MN (gflores@carleton.edu)