

CURRICULUM VITAE

Liza R. Moscovice, PhD

Institute of Behavioural Physiology
Leibniz Institute for Farm Animal Biology
Wilhelm-Stahl-Allee 2
18196, Dummerstorf, Germany

Phone: +49 38208 68-820
E-mail: moscovice@fhn-dummerstorf.de
Webpage: <https://www.fhn-dummerstorf.de/liza-rose-moscovice/>

EDUCATION

1999- 2006 **PhD**, Psychology. University of Wisconsin-Madison

1993- 1997 **BA**, Neuroscience. Oberlin College, Oberlin, Ohio

RESEARCH FOCUS

I use a psychobiological framework to investigate the mechanisms mediating social relationships and prosociality in animal models, ranging from primates to pigs. I study how animals form and maintain social relationships and how relationships provide fitness benefits to individuals. This work has broader implications for understanding the evolution of cooperation and the links between social support and health benefits, in humans and other animals.

RESEARCH EXPERIENCE

2019- **Postdoctoral Research Scientist, Institute of Behavioural Physiology, Leibniz Institute for Farm Animal Biology.** Research on behavioural endocrine mediators of social relationships, prosociality and empathy in farm animals.

2016- 2018 **Postdoctoral Research Fellow, Anthropology Department, Emory University.** Field research on the socioendocrinology of affiliation and cooperation among female bonobos (*Pan paniscus*).

2011- 2016 **Postdoctoral Research Fellow, Department of Primatology, Max Planck Institute for Evolutionary Anthropology.** Captive and field research to develop a behavioral endocrine model of social relationships in bonobos (*Pan paniscus*).

2006- 2009 **Postdoctoral Research Fellow, Biology Department, University of Pennsylvania.** Research on the mechanisms mediating social relationships in chacma baboons (*Papio hamadryas ursinus*).

- 2001- 2006 **Dissertation Research, Psychology Department, University of Wisconsin-Madison.** Thesis title: *Behavioral ecology of chimpanzees (Pan troglodytes) on Rubondo Island: Habitat, diet, grouping and ranging at a release site.* Advisors: Dr. Charles Snowdon and Dr. Michael Huffman.
- 1999- 2001 **Graduate Research, Psychology Department, University of Wisconsin-Madison.** Topic: Influence of social dynamics on social learning in cotton-top tamarins (*Saguinus oedipus*). Advisor: Dr. Charles Snowdon.
- 1997-1999 **Senior Lab Technician, Neurology Department, University of Minnesota.** Topic: Memory deficits in a transgenic mouse model of Alzheimers Disease. Principal Investigator: Dr. Karen Hsiao.

GRANTS AND AWARDS

- 2021 **DFG Grant (EUR 223,885)**
Grant to support research on programming effects of maternal stress in a pig model
- 2020 **Universities Federation for Animal Welfare Research Grant (EUR 28,000)**
Grant in support of research on the behavioral endocrinology of social relationships and cooperation in domestic pigs (*Sus scrofa domesticus*).
- 2016 **L.S.B. Leakey Foundation Research Grant (USD 24,920)**
Grant to support the project: "Explaining patterns of within- and between-group cooperation among LuiKotale bonobos."
- 2011 **VolkswagenStiftung Evolutionary Biology Postdoctorate Fellowship (EUR 122,000)**
Funding to support the project "Social bonds without genetic ties: a behavioral endocrine model in bonobos (*Pan paniscus*)."
- 2011 **Wenner-Gren Foundation Research Grant (USD 20,000)**
Grant to support field research on bonobo socioendocrinology.
- 2010 **L.S.B. Leakey Foundation Research Grant (USD 21,760)**
Grant to support field research on bonobo socioendocrinology.
- 2010 **Evolutionary Studies Program Research Grant (USD 3,500)**
Grant to support research on the behavioral endocrinology of female social bonds in rodents and primates.
- 2010 **Binghamton University Individual Development Award (USD 2,000)**
Award in support of collaborative research with Dr. Nicole Cameron, Psychology Department, to develop a hormone assay lab.

- 2010 **Cozzarelli Prize for Scientific Excellence**
Award by the National Academy of Sciences in recognition of our publication on contingency-based cooperation among wild female baboons.
- 2003 **L.S.B. Leakey Foundation Research Grant (USD 12,000)**
Grant to support dissertation fieldwork on Rubondo Island, Tanzania.
- 2002 **Ruth Dickie Research Scholarship for Graduate Women in Science (USD 3,000)**
Grant to support dissertation fieldwork on Rubondo Island, Tanzania.
- 2001 **Graduate Research Grant, Animal Behaviour Society (USD 2,000)**
Grant to support a pilot study on Rubondo Island, Tanzania.
- 2000 **APAGS Forest Honaker Scholarship for Masters Research, American Psychological Association.**
Award in recognition of research on social learning in cotton-top tamarins.

TEACHING EXPERIENCE

- 2014- 2015 **Instructor, International Max Planck Research School.**
I designed and taught modules in behavioral research methods to graduate students in a joint program in human evolution through the Max Planck Institute for Evolutionary Anthropology and the University of Leipzig.
- 2009- 2011 **Visiting Assistant Professor, Biology Department, Binghamton University**
I designed and taught undergraduate and graduate courses in evolutionary theory, animal behavior and hormones and behavior.
- 2008- 2009 **Adjunct Faculty, Biology Department, Bard College**
I taught an undergraduate course and lab in Introduction to Animal Behavior to first generation college students from diverse backgrounds.

SELECTED PEER-REVIEWED PUBLICATIONS

Moscovice, L.R., Sueur C. & Aureli, F. (2020). How socio-ecological factors influence the differentiation of social relationships: an integrated conceptual framework. *Biol lett.* 16: 20200384. doi:10.1098/rsbl.2020.0384

Düpjan, S., Krause, A., **Moscovice, L. R.** & Nawroth, C. (2020). Emotional contagion and its implications for animal welfare. *CAB Reviews* 15, No.046. doi: 10.1079/PAVSNR202015046

Düpjan, S., **Moscovice, L. R.** & Puppe, B. (2020). The role of enrichment in optimising pig welfare. In: S. Edwards (Ed). *Understanding the behaviour and improving the welfare of pigs*. Burleigh Dodds Science Publishing.

Moscovice, L. R., Surbeck, M., Jaeggi, A., Hohmann, G., Fruth, B. & Deschner, T. (2019): The cooperative sex: Sexual interactions among female bonobos are linked to increases in oxytocin, proximity and coalitions. *Hormones and Behavior*. DOI: 10.1016/j.yhbeh.2019.104581.

Moscovice, L. R., Douglas, P. H., Martinez-Iñigo L., Surbeck, M., Vigilant, L. & Hohmann, G. (2017): Stable and fluctuating social preferences and implications for cooperation among female bonobos at LuiKotale, Salonga National Park, DRC. *American Journal of Physical Anthropology*. 163, 158-172. DOI: 10.1002/ajpa.23197.

Douglas, H. & **Moscovice, L. R.** (2015): Pointing and pantomime in great apes? Female bonobos use referential gestures to request genito-genital rubbing. *Scientific Reports* 5, 13999, DOI:10.1038/srep13999.

Moscovice, L. R., Deschner, T & Hohmann, G. (2015). Welcome back: Responses of female bonobos (*Pan paniscus*) to fusions. *PLoS One* 10(5): e0127305. DOI: 10.1371/journal.pone.0127305.

Moscovice, L. R. (2013). Getting by with a little help from friends: The importance of social bonds for female primates. In M. L. Fisher, J. Garcia & R. S. Chang (Eds.): *Evolution's Empress: Darwinian Perspectives on the Nature of Women*. Oxford University Press

Moscovice, L. R. & Ziegler, T. E. (2012). Peripheral oxytocin in female baboons relates to estrous state and maintenance of sexual consortships. *Hormones and Behavior* 62, 592-597. DOI: 10.1016/j.yhbeh.2012.08.011.

Moscovice, L. R., Mbago, F., Snowdon, C. T. & Huffman, M. A. (2010). Ecological features and ranging patterns at a chimpanzee release site on Rubondo Island, Tanzania. *Biological Conservation* 143, 2711-2721. DOI: 10.1016/j.biocon.2010.07.018.

Silk, J. B., Beehner, J. C., Bergman, J. T., Crockford, C., Engh, A. L., **Moscovice, L. R.**, Wittig, R. W., Seyfarth, R. M. & Cheney, D. L. (2010). Strong and consistent social bonds enhance the longevity of female baboons. *Current Biology* 20(15), 1359-1361. DOI: 10.1016/j.cub.2010.05.067.

Cheney, D. L., **Moscovice, L. R.**, Heesen, M. & Seyfarth, R. M. (2010). Contingent cooperation between wild female baboons. *Proceedings of the National Academy of Sciences* 107(21), 9562-9566. Recipient of the Cozzarelli Prize for scientific excellence. DOI: 10.1073/pnas.1001862107.

Moscovice, L. R., Di Fiore, A., Crockford, C., Kitchen, D., Wittig, R. W., Seyfarth, R. M. & Cheney, D. L. (2010). Hedging their bets? Chacma baboons form friendships based on likelihood of paternity. *Animal Behaviour* 79(5),1007-1015. DOI: 10.1016/j.anbehav.2010.01.013.

Silk, J. B., Beehner, J. C., Bergman, J. T., Crockford, C., Engh, A. L., **Moscovice, L. R.**, Wittig, R. W., Seyfarth, R. M. & Cheney, D. L. (2010). Female chacma baboons form strong, equitable and enduring social bonds. *Behavioral Ecology and Sociobiology*, 64, 1733-1747

Moscovice, L. R., Hessen, M., Di Fiore, A., Seyfarth, R. M. & Cheney, D. L. (2009). Paternity alone does not predict long-term investment in juveniles by male baboons. *Behavioral Ecology and Sociobiology*. 63 (10), 1471–1482. DOI: 10.1007/s00265-009-0781-y.

Silk, J. B., Beehner, J. C., Bergman, J. T., Crockford, C., Engh, A. L., **Moscovice, L. R.**, Wittig, R. W., Seyfarth, R. M. & Cheney, D. L. (2009). The Benefits of Social Capital: Close Social Bonds among Female Baboons Enhance Offspring Survival. *Proceedings of the Royal Society B*. 276 (1670), 3099-3104

Moscovice, L. R., Issa, M. H., Petrzalkova, K. J., Keuler, N. S., Snowdon, C.T. & Huffman, M. A. (2007). Fruit availability, chimpanzee diet and grouping patterns on Rubondo Island, Tanzania. *American Journal of Primatology*, 69(5), 487-502

Moscovice, L. R. & Snowdon, C. T. (2006). The role of social context and individual experience in novel task acquisition in cotton-top tamarins (*Saguinus oedipus*). *Animal Behaviour*, 71(4), 933-943

SELECTED INVITED TALKS AND CONFERENCE PRESENTATIONS

Moscovice, L. R., Sobczak, B., Gimsa, U. & Kanitz, E. (2021). Salivary oxytocin co-varies with maternal investment in domestic pigs (*Sus scrofa domestica*): an assay validation with welfare implications. Invited short talk at the UFAW Animal Welfare Conference. June 29-30th, United Kingdom.

Moscovice, L. R., Hohmann, G., Fruth, B., & Jaeggi A. (2020). Beyond the dyad: Social network structure helps to explain cooperation outside of kinship in bonobos. Invited symposium presentation at the conference: “Content Meets Structure - Integrating Different Perspectives on Social Networks” September 28-30, Heidelberg, Germany.

Moscovice, L. R., Jaeggi, A. Hohmann, G. & Fruth, B. (2018). Conflict and cooperation: Responses to prolonged inter-group encounters in bonobos (*Pan paniscus*). Invited symposium presentation at the International Primatological Society Meeting, Aug 19-25, Nairobi, Kenya.

Moscovice, L. R., B. Fruth, G. Hohmann & A. Jaeggi (2018). Beyond the dyad: Using social network analyses to explain female bonobo cooperation. Invited symposium presentation at the International Primatological Society Meeting, Aug 19-25, Nairobi, Kenya.

Moscovice, L. R., Surbeck, M., Fruth, B., Hohmann, G. & Deschner, T. (2018). The Sex that Binds: Genito-genital rubbing is associated with increases in urinary oxytocin among wild female bonobos. Presented at the American Association of Physical Anthropology Annual Meeting, Apr 11-14, Texas, USA

Moscovice, L.R., Douglas, P. H., Martinez-Iñigo, L., Surbeck, M., Vigilant, L. & Hohmann, G. (2016) Selective or opportunistic? Novel indices of social relationships among wild female bonobos at LuiKotale, DRC. Invited symposium presentation. Joint meeting of the International Primatological Society and the American Society of Primatologists, Aug 21-27, Illinois, USA.

Moscovice, L. R. & Hohmann, G. (2015). Social bonds without genetic ties? A new framework for characterizing social relationships among female bonobos. Invited symposium presentation. American Association of Physical Anthropology Annual Meeting, Mar 25-29, Missouri, USA.

Moscovice, L. R., Deschner, T. & Hohmann, G. (2014). Welcome back: Responses of female bonobos to fusions. Presented at the International Primate Society Meeting, Aug 11-17, Hanoi, Vietnam.

Moscovice, L. R. (2013). Developing a behavioural endocrine model of affiliation during fusion events in bonobos (*Pan paniscus*). Invited Speaker, Göttingen Regional Primate Center, April 4, Göttingen, Germany.

Moscovice, L. R. & Ziegler, T. E. (2012). Peripheral oxytocin in female baboons relates to estrus and maintenance of consortships. Presented at the Non-invasive Monitoring of Hormones annual conference, Sept 23-26, Vienna, Austria.

Moscovice, L. R., Ziegler, T. E., Cheney, D. L. & Seyfarth, R. M. (2010). Behavioral endocrine correlates of social support in wild chacma baboons (*Papio hamadryas ursinus*). Presented at the Society for Behavioral Neuroendocrinology annual meeting, July 18-21, Toronto, Canada.

Moscovice, L. R., Hessen, M., Di Fiore A., Seyfarth, R. M. & Cheney, D. L. (2009). Use of behavioral rules about probability of paternity can explain long-term investment in juveniles by male chacma baboons. Presented at the American Society of Primatologists 32nd Annual Meeting, Sept. 18-21, San Diego, CA.

Moscovice, L. R., Heesen, M., Di Fiore, A., Seyfarth, R. M. & Cheney, D. L. (2008): Evidence for male caretaker roles in chacma baboons and the relationship to paternity. Presented at the International Primatological Society 22nd Annual Meeting, August 3-8, Edinburgh, UK.

SELECTED MEDIA ATTENTION

Oct 23, 2019. El País. "Bonobos sex helps them keep males at bay."
<https://spainsnews.com/bonobas-sex-helps-them-keep-males-at-bay-science/>

Sept 10, 2016. *New York Times*, "In the bonobo world, female camaraderie prevails."
http://www.nytimes.com/2016/09/13/science/bonobos-apes-matriarchy.html?_r=0

Sept 11, 2015. *United Press International*, "Bonobos use pointing hand gestures to communicate."

June 6, 2014. *GEO*, "Die Geheimnisvollen". Interviewed for a feature article.

March 23, 2012. *Science News*, "Furry Friends Forever".
http://www.sciencenews.org/view/feature/id/339326/title/Furry_Friends_Forever

June 3, 2011. *Proceedings of the National Academy of Sciences* Podcast.
<http://www.pnas.org/site/misc/lizaMoscovicePodcast.mp3>

PROFESSIONAL AFFILIATIONS

Animal Behavior Society
German Society for Primatology
Society for Behavioral Neuroendocrinology
Psychoneuroimmunology Research Network