
Curriculum Vitae

Nicholas Martin Grebe
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EDUCATION

PhD Psychology (Evolution and Development), University of New Mexico, 2016

MS Psychology (Evolution and Development), University of New Mexico, 2015

BA Psychology and Neuroscience, University of Colorado—Boulder, 2009

PROFESSIONAL APPOINTMENTS

2021- Research Fellow, Department of Anthropology, University of Michigan
 2017-2021 Postdoctoral Researcher, Department of Evolutionary Anthropology, Duke University
 2015-2016 Instructor, Department of Psychology, University of New Mexico
 2009-2011 Professional Research Assistant, Institute for Behavioral Genetics, University of Colorado—Boulder

PUBLICATIONS

Manuscripts

2022 ManyPrimates*. The Evolution of Primate Short-Term Memory. Manuscript invited for revision. *Animal Behavior and Cognition*. [*Represents a consortium of authors; see manyprimates.github.io]

2022 **Grebe, N.M.**, Sheikh, A.*, & Drea, C.M. Integrating the Female Masculinization and Challenge Hypotheses: Female dominance, male deference, and seasonal hormone fluctuations in adult blue-eyed black lemurs (*Eulemur flavifrons*). *Hormones and Behavior*. [*Undergraduate trainee co-author]

2021 Bornbusch S.L., Harris R.L., **Grebe N.M.**, Roche K., Dimac-Stohl K., & Drea, C.M. Antibiotics and fecal transfaunation differentially affect microbiota recovery, associations, and antibiotic resistance in lemur guts. *Animal Microbiome*.

2021 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. Oxidative Stress and the Differential Expression of Traits Associated with Mating Effort in Humans. *Evolution and Human Behavior*.

- 2021 **Grebe, N.M.**, Sharma, A.*, Freeman, S.M., Palumbo, M.C., Bales, K.L., Patisaul, H.B., & Drea, C.M. Neural Correlates of Mating System Diversity: Oxytocin and Vasopressin Receptor Distributions in Monogamous and Non-Monogamous *Eulemur*. *Scientific Reports*, 11, 3746. [*Undergraduate trainee co-author]
- 2021 Marcinkowska, U.M., Mijas, M., Koziara, K., **Grebe, N.M.**, & Jasienska, G. Variation in Sociosexuality Across Natural Menstrual cycles: Associations with Ovarian Hormones and Cycle Phase. *Evolution and Human Behavior*, 42(1), 35-42.
- 2020 Bornbusch, S.L., **Grebe, N.M.**, Lunn, S.*, Southworth, C.*, Dimac-Stohl, K., & Drea, C.M. Stable and Transient Structural Variation in Lemur Vaginal, Labial, and Axillary Microbiomes Across the Ovarian Cycle: Patterns by Species, Body Site, Hormone Concentration, and Habitat Use. *FEMS Microbiology Ecology*, 96(6), faa090. [*Undergraduate trainee co-author]
- 2019 ManyPrimates*, Altschul, D., Beran, M.J., Bohn, M., Caspar, K., Fichtel, C., Försterling, M., **Grebe, N.M.**, Hernandez-Aguilar, R.A., Kwok, S.C., Llorente, M., Motes-Rodrigo, A., Proctor, D., Sánchez-Amaro, A., Simpson, E.A., Szabelska, A., Taylor, D., van der Mescht, J., Völter, C.J., & Watzek, J. Collaborative Open Science As a Way to Reproducibility and New Insights in Primate Cognition Research. *Japanese Psychological Review*, 62(3), 205-220. [*Project members who contributed to the paper are listed alphabetically]
- 2019 Gangestad, S.W., Dinh, T., **Grebe, N.M.**, Del Giudice, M., & Emery Thompson, M. Hormone-Associated Psychological Cycle Shifts Redux, Once Again: Response to Stern et al., Roney, Jones et al., and Higham. *Evolution and Human Behavior*, 40(6), 537-542.
- 2019 Gangestad, S.W., Dinh, T., **Grebe, N.M.**, Del Giudice, M., & Emery Thompson, M. Hormone-Associated Psychological Cycle Shifts Redux: Revisiting a Preregistered Study Examining Preferences for Muscularity. *Evolution and Human Behavior*, 40(6), 501-516.
- 2019 **Grebe, N.M.**, Fitzpatrick, C.L., Sharrock, K., Starling A., & Drea, C.M. Organizational and Activational Androgens, Lemur Social Play, and the Ontogeny of Female Dominance. *Hormones and Behavior*, 115, 104554.
- 2019 **Grebe, N.M.**, Del Giudice, M., Emery Thompson, M., Nickels, N., Ponzi, D., Zilioli, S., Maestripieri, D., & Gangestad, S.W. Testosterone, Cortisol, and Status-Striving Personality Features: A Review and Empirical Evaluation of the Dual Hormone Hypothesis. *Hormones and Behavior*, 109, 25-37.
- 2019 **Grebe, N.M.**, Sarafin, R., Strenth, C.R., & Zilioli, S. Pair Bonding, Fatherhood, and the Role of Testosterone: A Meta-Analytic Review. *Neuroscience and Biobehavioral Reviews*, 91, 221-233.
- 2018 Dimac-Stohl, K.*, Davies, C.S.*, **Grebe, N.M.***, Stonehill, A., Greene, L.K., Mitchell, J., Clutton-Brock, T., & Drea, C.M. Incidence and Biomarkers of Pregnancy, Spontaneous Abortion, and Neonatal Loss during an Environmental

Stressor: Implications for Female Reproductive Suppression in the Cooperatively Breeding Meerkat. *Physiology and Behavior*, 193, 90-100. [*co-first authors]

- 2017 **Grebe, N.M.**, Falcon, R.G., & Gangestad, S.W. *p*-Curve and Selection Methods as Meta-Analytic Supplements for Biologists: A Demonstration of Effect Size Estimation in Studies of Human Fluctuating Asymmetry. *Symmetry*, 9(7), 98.
- 2017 **Grebe, N.M.**, Kristoffersen, A.A., Grøntvedt, T.V., Emery Thompson, M., Kennair, L.E.O., & Gangestad, S.W. Oxytocin and Vulnerable Romantic Relationships. *Hormones and Behavior*, 90, 64-74.
- 2017 Gangestad, S.W. & **Grebe, N.M.** Hormonal Systems, Human Social Bonding, and Affiliation. *Hormones and Behavior*, 91, 122-135.
- 2017 Grøntvedt, T.V., **Grebe, N.M.**, Kennair, L.E.O., & Gangestad, S.W. Estrogenic and Progestogenic Effects of Hormonal Contraceptives in Relation to Sexual Behavior: Insights into Extended Sexuality. *Evolution and Human Behavior*, 38(3), 283-292.
- 2016 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. Hormonal Predictors of Women's Extra-Pair vs. In-Pair Sexual Attraction in Natural Cycles: Implications for Extended Sexuality. *Hormones and Behavior*, 78, 211-219.
- 2015 Gangestad, S.W., & **Grebe, N.M.** Are Within-Cycle Variations in Women's Sexual Interests Mere By-Products? A Comment on Havlicek et al. *Behavioral Ecology*, 26(5), 1262-1263.
- 2014 Gangestad, S.W., & **Grebe, N.M.** Pathogen Avoidance within An Integrated Immune System: Multiple Components with Distinct Costs and Benefits. *Evolutionary Behavioral Sciences*, 8(4), 226-234.
- 2014 Mitchem, D.G., Purkey, A.M., **Grebe, N.M.**, Carey, G., Garver-Apgar, C.E., Bates, T.C., Arden, R., Hewitt, J.K., Medland, S.E., Martin, N.G., Zietsch, B.P., & Keller, M.C. Estimating the Sex-Specific Effects of Genes on Facial Attractiveness and Sexual Dimorphism. *Behavior Genetics*, 44(3), 270-281.
- 2013 **Grebe, N.M.**, Gangestad, S.W., Garver-Apgar, C.E., & Thornhill, R. Women's Luteal-phase Sexual Proceptivity and the Functions of Extended Sexuality. *Psychological Science*, 24(10), 2106-2110.

Book Chapters

- 2021 Drea, C.M. & **Grebe, N.M.** Interspecific Aggression and Social Dominance. In T. Freeberg, P. d'Ettorre, & A. Ridley (Eds.), *The Routledge International Handbook of Comparative Psychology*. New York, NY: Taylor & Francis Group.
- 2019 **Grebe, N.M.** & Gangestad, S.W. Oxytocin: An Evolutionary Framework. In L.M. Welling & T.K. Shackelford (Eds.), *The Oxford Handbook on Evolutionary Psychology and Behavioral Endocrinology*. Oxford, UK: Oxford University Press.

- 2018 **Grebe, N.M.** & Gangestad, S.W. Social Endocrinology in Evolutionary Perspective: Function and Phylogeny. In O.C. Schultheiss & P.H. Mehta (Eds.), *The International Handbook of Social Neuroendocrinology*. New York, NY: Taylor & Francis Group.
- 2018 **Grebe, N.M.** & Drea, C.M. Human Sexuality. In T.K. Shackelford & V.A. Weekes-Shackelford (Eds.), *Encyclopedia of Evolutionary Psychological Science*. New York, NY: Springer Publishing.
- 2015 Gangestad, S.W., & **Grebe, N.M.** Mating Systems. In M. P. Muehlenbein (Ed.), *Basics in Human Evolution* (pp. 467-478). Waltham, MA: Academic Press.

PREPRINTS AND MANUSCRIPTS UNDER REVIEW

- Submitted **Grebe, N.M.**, Hirwa, J.P., Stoinski, T.S., Vigilant, L., & Rosenbaum, S. Neither kin selection nor familiarity explain affiliative biases towards maternal siblings in wild mountain gorillas. Manuscript submitted for publication.
<https://www.biorxiv.org/content/10.1101/2022.06.14.496042v1>
- Submitted Arslan, R. C., Blake, K., Botzet, L., Bürkner, P. C., DeBruine, L., Fiers, T., **Grebe, N.M.***, Hahn, A., Jones, B.C., Marcinkowska, U.M., Mumford, S.L., Penke, L., Roney, J., Schisterman, E. & Stern, J. (2022). Not within spitting distance: salivary immunoassays of estradiol have subpar validity for cycle phase. Manuscript submitted for publication. <https://psyarxiv.com/5r8mg> [*Authors who contributed to the paper are listed alphabetically]
- In Prep **Grebe N.M.**, Bornbusch S.L., Greenwald, L.*, Dimac-Stohl K., Boulet, M., & Drea, C.M. Hormonal Contraception and its Consequences for Complex, Condition-Dependent Signals in Two Species of Lemurs. Manuscript in preparation.
[*Undergraduate trainee co-author]

FUNDED GRANTS

Extramural

- 2020 “Physiological mechanisms of lemur life history trade-offs.” Co-PI with Elaine Guevara, Christine Drea, & Virginia Kraus. Triangle Center for Evolutionary Medicine Seed Grant (\$8,759)
- 2018-2021 “*Eulemur* as a Primate Model for Oxytocin System Evolution and Function.” PI, National Science Foundation SBE Postdoctoral Research Fellowship (SBE-1808803; \$165,000)
- 2013-2015 “Oxytocin, social bonding, and life-history strategies among Norwegians.” National Science Foundation Graduate Research Opportunities Worldwide (\$17,100)
- 2012-2015 “Romantic Relationships and Oxidative Stress: A Mediating Role for Oxytocin.” National Science Foundation Graduate Research Fellowship Program (DGE-1418062; \$128,500)

Intramural

2021	“Sex differences in steroid concentrations in the blue-eyed black lemur: Implications for aggressive maintenance of female dominance.” PI, Director’s Fund, Duke Lemur Center (\$6,435)
2020	“Mechanisms underlying variation in primate physiological reserve.” Co-PI with Elaine Guevara & Christine Drea. Duke Center for Aging and Human Development Pepper Pilot Award (\$40,000)
2019	“Lemur Molecular Maintenance and Life History.” Co-PI with Elaine Guevara & Christine Drea. Director’s Fund, Duke Lemur Center (\$4,070)
2018	“ <i>Eulemur</i> as a Primate Model for Oxytocin System Evolution and Function.” Duke Institute for Brain Sciences Germinator Award (\$25,000)
2017-2018	“The oxytocin system in <i>Eulemur</i> : insights into mating systems and social behavior.” Director’s Fund, Duke Lemur Center (\$10,000)
2017-2018	“The oxytocin system in <i>Eulemur</i> : insights into the evolution of human mating bonds.” Josiah Charles Trent Memorial Foundation Endowment Fund, Duke University (\$3500)
2017	“The oxytocin system in <i>Eulemur</i> : insights into the evolution of human mating bonds.” Arts & Sciences Council Committee on Faculty Research, Duke University (\$5000)
2016	“Oxytocin, social bonding, and life-history strategies among Norwegians.” Benjamin Franklin Haught Memorial Scholarship, University of New Mexico (\$3000)

AWARDS AND HONORS

2020	<i>Nonapeptide receptor neuroanatomy in monogamous and promiscuous Eulemur</i> . Travel Award, Society for Behavioral Neuroendocrinology (\$500)
2017-2018	Fellow, Preparing Future Faculty Program, Duke University
2017	New Investigator Award, Human Behavior and Evolution Society
2016	<i>Oxytocin, social bonding, and life-history strategies among Norwegians</i> . American Psychological Association Dissertation Research Award (\$1000)
2016	<i>Oxidative Stress and Facultative Adjustment of Energy Allocation</i> . Travel Award, International Society for Evolution, Medicine, & Public Health (\$750)
2015	<i>Women’s Extended Sexuality: Non-conceptive Sex in an Evolutionary Framework</i> . Travel Award, Society for Personality and Social Psychology (\$500)
2010	Phi Beta Kappa, University of Colorado—Boulder

TEACHING EXPERIENCE

Duke University, Instructor of Record

Sociobiology and Behavioral Ecology (summer 2020)

University of New Mexico, Instructor of Record

Psychological Research Techniques (fall 2015, spring 2016)

University of New Mexico, Teaching Assistant

General Psychology (fall 2011, spring 2012)

SCIENTIFIC OUTREACH

Dian Fossey Gorilla Fund

Hormones and Socioecology: Harnessing Non-Invasive Biological Samples to Understand & Protect Gorillas (2022)

Triangle Center for Evolutionary Medicine

Darwin Day Roadshow (2020 – 2021)

Duke Lemur Center

Wild Workshops (2019 – Present), *DLC Summer Camps* (2019 – Present), “Exploring by the Seat of Your Pants” *workshops* (2020 – 2021), *Mission Madagascar Gala* (2019)

Duke University Postdoctoral Association

“Postdocumentaries” *program* (2017 – 2019)

North Carolina Museum of Natural Sciences

Brain Awareness Night (2018)

National Center for Science Education

“Scientist in the Classroom” *program* (2016 – 2017)

INVITED TALKS

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| 2022 | Grebe, N.M. , & Rosenbaum, S. (June). Hormones and Socioecology. Dian Fossey Gorilla Fund, Kinigi, RW. |
| 2022 | Grebe, N.M. (February). Behavioral Endocrinology for (Evolutionary) Social Scientists: Promise and Pitfalls. Society for Personality and Social Psychology Evolutionary Psychology Pre-Conference, San Francisco, CA. |
| 2021 | Grebe, N.M. (November). Lemur Love and the Biology of Social Bonding. Evolution and Human Adaptation Program Seminar Series, University of Michigan. |
| 2019 | Grebe, N.M. (August). Evolutionary Considerations for the Therapeutic Use of Oxytocin: Implications from Life-History Theory. International Society for Evolution, Medicine, & Public Health, Zurich, CH. |
| 2019 | Grebe, N.M. (May). <i>Eulemur</i> as a Primate Model for Oxytocin System Evolution and Function. California National Primate Research Center, University of California—Davis. |

- 2018 **Grebe, N.M.** (December). Social Endocrinology in Primates: Selected Work from Humans and Malagasy Lemurs. Department of Biological Sciences, North Carolina State University.
- 2018 **Grebe, N.M.** (March). The Role of Oxytocin in Primate Mating Systems. Brain Awareness Night, North Carolina Museum of Natural Sciences.
- 2017 **Grebe, N.M.** (September). Reconceiving the “Love Hormone”: Human Evolutionary Biology and the Oxytocin System. Department of Biology, University of North Carolina—Chapel Hill.

CONFERENCE PRESENTATIONS AND POSTERS

Papers

- 2022 **Grebe, N.M.**, Hirwa, J.P., Stoinski, T.S., Vigilant, L., & Rosenbaum, S. Neither kin selection nor familiarity explain affiliative biases towards maternal siblings in wild mountain gorillas. American Association of Biological Anthropologists, Denver, CO.
- 2020 - 2021 **Grebe, N.M.**, Sharma, A.*, Freeman, S.M., Bales, K.L., & Drea, C.M. (April). Nonapeptide receptor neuroanatomy in monogamous and promiscuous *Eulemur*. American Association of Physical Anthropologists, Los Angeles, CA / Virtual. [Conference cancelled in 2020; re-invited to present at 2021 meeting] [*Undergraduate trainee co-author]
- 2020 Sharma, A.*, **Grebe, N.M.**, Freeman, S.M., Bales, K.L., Patisaul, H.B., & Drea, C.M. (August). Comparative Oxytocin and Vasopressin Neurocircuitry in Relation to Mating System in *Eulemur*. Animal Behavior Society Annual Meeting, Knoxville, TN. [Virtual] [*Undergraduate trainee co-author]
- 2020 Bornbusch, S.L., **Grebe, N.M.**, Lunn, S., Southworth, C., Dimac-Stohl, K., Drea, C.M. (April). The microbiomes of female lemurs vary structurally by species, body site, and ovarian hormone cycles. American Association of Physical Anthropologists, Los Angeles, CA. [Conference cancelled in 2020]
- 2019 **Grebe, N.M.**, Kristoffersen, A.A., Grøntvedt, T.V., Emery Thompson, M., Kennair, L.E.O., & Gangestad, S.W. (June). Sociality and the adaptive design of the oxytocin system. Human Behavior and Evolution Society, Boston, MA.
- 2018 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. (July). Oxidative Stress and Facultative Adjustment of Energy Allocation. Human Behavior and Evolution Society, Amsterdam, NL.
- 2018 **Grebe, N.M.**, & Drea, C.M. (April). Ontogeny of Female Dominance in Ring-Tailed Lemurs: Behavioral and Hormonal Evidence. American Association of Physical Anthropologists, Austin, TX.

- 2017 **Grebe, N.M.**, Kristoffersen, A.A., Grøntvedt, T.V., Emery Thompson, M., Kennair, L.E.O., & Gangestad, S.W. (June). Oxytocin and Vulnerable Romantic Relationships. Human Behavior and Evolution Society, Boise, ID.
- 2016 **Grebe, N.M.**, Gangestad, S.W., & Emery Thompson, M. (June). Men's Testosterone and Oxytocin Levels in Response to Romantic Partner's Hormone Levels and Relationship Features. Human Behavior and Evolution Society, Vancouver, CA.
- 2016 Strenth, C.R., Sarafin, R.E., **Grebe, N.M.** (June). Pair-bonding, Fatherhood, and the Role of Testosterone: A Meta-analytic Review. Human Behavior and Evolution Society, Vancouver, CA.
- 2016 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. (June). Oxidative Stress and Facultative Adjustment of Energy Allocation. International Society for Evolution Medicine, and Public Health, Durham, NC.
- 2016 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. (January). Oxytocin and Romantic Relationships: The "Identify and Invest" Hypothesis. Society for Personality and Social Psychology, San Diego, CA.
- 2015 Gangestad, S.W., **Grebe, N.M.**, & Emery Thompson, M. (May). Men's Oxytocin and Testosterone Responses to Thinking about Their Romantic Relationships: Associations with Own and Partner Relationship Involvement. Human Behavior and Evolution Society, Columbia, MO.
- 2015 **Grebe, N.M.**, Grøntvedt, T.V., Kennair, L.E.O., & Gangestad, S.W. (May). Effects of Progesterone and Estradiol Concentrations in Hormonal Contraception on Sexual Behavior: Insights into Extended Sexuality. Human Behavior and Evolution Society, Columbia, MO.
- 2015 Haselton, M.G., Gangestad, S.W., Gildersleeve, K., & **Grebe, N.M.** (May). Are Ovulation Cycle Shifts in Humans Robust? Evidence from P-Curves. Human Behavior and Evolution Society, Columbia, MO.
- 2015 **Grebe, N.M.** (April). Evolutionary Psychology and Feminism: A Rapprochement. UNM Shared Knowledge Conference, Albuquerque, NM.
- 2015 **Grebe, N.M.**, & Gangestad, S.W. (February). Women's Extended Sexuality: Non-conceptive Sex in an Evolutionary Framework. Society for Personality and Social Psychology, Long Beach, CA.
- 2014 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. (August). Changes in Women's Oxytocin Levels as a Function of Thinking about a Romantic Partner: I Lust Him, He Lusts Me Not. Human Behavior and Evolution Society, Natal, Brazil.

- 2013 **Grebe, N.M.**, Eaton, M.A., & Gangestad, S.W. (July). On the Modulatory Effects of Cortisol on Associations of Testosterone with Male Attractiveness, Dominance, Masculinity, and Health. Human Behavior and Evolution Society, Miami, FL.
- 2013 Mitchem, D.G., Purkey, A.M., **Grebe, N.M.**, Carey, G., Garver-Apgar, C.E., Bates, T.C., Arden, R., Hewitt, J.K., Medland, S.E., Martin, N.G., Zietsch, B.P., & Keller, M.C. (June). Estimating the sex-specific effects of genes on facial attractiveness and sexual dimorphism. Behavior Genetics Association, Marseille, France.
- 2012 **Grebe, N.M.**, Gangestad, S.W., Garver-Apgar, C.E., & Thornhill, R. (June). Women's Sexual Proceptivity During Luteal Phases: Evidence for Functions of Extended Sexuality. Human Behavior and Evolution Society, Albuquerque, NM.
- Posters**
- 2021 Guevara, E.E., Crowley, A., **Grebe, N.M.**, Drea, C.M., Huebner, J.L., & Kraus, V.B. Mechanisms underlying variation in primate physiological reserve. (April). Claude D. Pepper Older Americans Independence Conference, Durham, NC.
- 2019 **Grebe, N.M.**, Fitzpatrick, C.L., Sharrock, K., Starling A., & Drea, C.M. (April). Organizational and Activational Androgens, Lemur Social Play, and the Ontogeny of Female Dominance. Insights from Long-Term research: From Individuals to Ecosystems, Duke University.
- 2018 Sharma, A., **Grebe, N.M.**, & Drea, C.M. (April). Investigation of the Oxytocin System in Monogamous and Promiscuous *Eulemur* using Receptor Autoradiography. Visible Thinking, Duke University.
- 2015 **Grebe, N.M.**, Emery Thompson, M., & Gangestad, S.W. (June). Oxytocin and Romantic Relationships: The “Identify and Invest” Hypothesis. International School of Ethology. Adapted Mind, Adapted Body: The Evolution of Human Behavior and its Neuroendocrine Regulation, Erice, Italy.

OTHER RESEARCH EXPERIENCE

- 2009-2011 Lead Research Assistant, Institute for Behavioral Genetics, University of Colorado—Boulder
- 2009 Research Assistant, Cognitive ERP Laboratory, University of Colorado—Boulder

PROFESSIONAL SERVICE

Grant Proposal Review

National Science Foundation (Division of Behavioral and Cognitive Sciences)

Journal Peer Review

Adaptive Human Behavior and Physiology, American Journal of Primatology, Clinical Psychology Review, Ethology, Evolution and Human Behavior, General and Comparative Endocrinology, Hormones and Behavior, Human

Nature, International Journal of Psychophysiology, Journal of Research in Personality, Journal of Social and Personal Relationships, Psychological Science, Psychoneuroendocrinology, Psychophysiology, Stress

PROFESSIONAL AFFILIATIONS

Society for Behavioral Neuroendocrinology, Society for the Improvement of Psychological Science, American Association of Biological Anthropologists, International Society for Evolution, Medicine, and Public Health, Human Behavior and Evolution Society