

CURRICULUM VITAE

Craig F. Ferris

PRESENT ADDRESS

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EDUCATION

- 1980 - 1981 Postdoctoral Training in Neuroendocrinology, Harvard Medical School, Boston, Massachusetts
- 1976 - 1979 Ph.D. – Physiology, New York Medical College, Valhalla, New York
- 1974 - 1976 M.S. - Physiology, New York Medical College, Valhalla, NY
- 1970 - 1974 B.S. - Biology, University of Massachusetts, Amherst, Massachusetts

APPOINTMENTS

- 2007-present Professor of Psychology, Director, Center for Translational NeuroImaging, Northeastern University, Boston Massachusetts
- 1994- 2007 Professor of Psychiatry and Physiology, Director, Center for Comparative Neuroimaging, Department of Psychiatry, University of Massachusetts Medical School, Worcester, Massachusetts.
- 1986 - 1993 Associate Professor, Department of Physiology, University of Massachusetts Medical School, Worcester, Massachusetts
- 1988 - 1998 Adjunct Professor, Department of Psychology, College of the Holy Cross, Worcester, Massachusetts
- 1987 - 1995 Adjunct Professor, Department of Biology, Clark University, Worcester, Massachusetts
- 1982 - 1986 Assistant Professor, Department of Physiology, University of Massachusetts Medical School, Worcester, Massachusetts
- 1980 - 1981 Research Fellow, Laboratory of Human Reproduction and Reproductive Biology, Harvard Medical School, Boston, Massachusetts
- 1978 - 1979 Instructor of Biology, Department of Biology, Westchester Community College, Valhalla, New York

HONORS AND AWARDS:

1979 - National Student Research Forum, Roche Laboratories Award in Neuroscience, First Place, for paper entitled "A Central Mechanism for the Feedback Control of Vasopressin."

1979- National Student Research Forum, Mead Johnson Excellence of Research Award, Second Place, for paper entitled "A Central Mechanism for the Feedback Control of Vasopressin."

1980 - Postdoctoral Fellowship NIH Training Program in Endocrinology, Harvard Medical School, Boston, Massachusetts

1985 - Joseph P. Healey Award given by the University of Massachusetts Board of Trustees

1997 - Elected to the Academy of Behavioral Medicine Research

COMMERCIAL START-UPS

Co-founder and consultant AZEVAN PHARMACEUTICALS, Inc. (AZV), 115 Research Drive, Bethlehem, Pennsylvania. Founded in 1997, AZV's mission is to develop new drugs for treating impulsivity, aggression/violence, and self injurious behavior in the management of autism, Tourette's syndrome, mental retardation, and dementia of the Alzheimer's type.

Co-founder and CEO, INSIGHT NEUROIMAGING SYSTEMS, LLC, (INSL), 11 Canterbury Street, Worcester, Massachusetts. Founded in 1998, INSL provides custom-built radiofrequency coils and small animal restrainers for animal studies and clinical coils for breast imaging.

Co-founder and consultant, EKAM IMAGING, Inc. Founded in 2008, EKAM is a contract-research organization using MRI and SPECT/PET to expedite drug discovery for pharmaceutical and biotechnology companies.

PATENTS

Method and Apparatus for Performing Neuroimaging

issued – 8/14/2001 #6,275,723 USA

issued – 3/23/2004 #6,711,430 USA

issued – 3/29/2005 #6,873,156 USA

issued – 3/11/2008 #7,343,194 USA

issued – 9/23/2008 # 7,343,194 USA

Dual-tuned Microstrip Resonator Volume Coil

issued – 9/23/2008 #7,427,861 USA

Animal Holder for Neuroimaging

issued -12/15/2016 # 13,648,518 USA

MEMBERSHIPS

Society for Neuroscience, International Society for Research on Aggression, Academy of Behavioral Medicine Research, Society for Behavioral Neuroendocrinology, International Society for Magnetic Resonance in Medicine.

JOURNAL REVIEW

Brain Research, Brain Research Bulletin, Life Science, Physiology and Behavior, Critical Reviews in Neurobiology, American Journal of Physiology, Science, Neuroscience and Behavioral Reviews, Journal of Cellular Biochemistry, Journal of Neuroendocrinology, FESB, Hormones and Behavior, Biological Psychiatry, Journal of Neurobiology, Behavioral Neuroscience, Journal of Neuroscience

GRANT REVIEW

Harry Frank Guggenheim Foundation, National Science Foundation, National Institutes of Health, Whitehall Foundation, Phillip Morris

RESEARCH SUPPORTNeurotensin and the Central Regulation of LH Release

National Institute of Child Health and Human Development – R01 HD18022

Principal Investigator: Craig F. Ferris, Project Period: 4/1/83 -3/31/86, Total Costs: \$425,000

Alcohol Stimulated Release of Neurotensin

Scientific Advisory Council to Distilled Spirits Council of the United States

Principal Investigator: Craig F. Ferris, Project Period: 6/1/84 - 5/31/85, Total Costs: \$17,500

Substance P Regulation of Catecholamine Release from the Adrenal Medulla

Biomedical Research Support Grant

Principal Investigator: Craig F. Ferris, Project Period: 4/1/84 - 3/31/85, Total Cost: \$5,623

Ethanol Stimulated Release of Neurotensin from Human Small Intestine

Healy Endowment Grant

Principal Investigator: Craig F. Ferris, Project Period: 1/1/85 - 1/1/86, Total Cost: \$5,000

Vasopressin and Flank Marking Behavior

National Institute of Neurological and Communicative Disorders and Stroke – R01 NS23557

Principal Investigator: Craig F. Ferris, Project Period: 08/01/86-07/31/90, Total Costs: \$576,000

Role of Vasopressin in Ethanol-Mediated Aggression

Harry Frank Guggenheim Foundation

Principal Investigator: Craig F. Ferris, Project Period: 8/1/90 - 7/31/91, Total Costs: \$32,000

Neural Development of Communicative Behavior

National Science Foundation - BNS 9121097

Principal Investigator: Craig F. Ferris, Project Period: 1/1/92 - 12/31/94, Total Costs: \$323,000

Vasopressin/Oxytocin and the Control of ACTH Release

National Institute of Neurologic and Communicative Disorders – R01 NS30199

Principal Investigator: Craig F. Ferris, Project Period: 7/1/92 - 6/30/95, Total Costs: \$452,000

Vasopressin and Aggression: Testing Orally Active V1-Receptor Antagonists for Antiaggressive and Serenic Activities

Lilly Research Laboratories, Indianapolis, Indiana

Principal Investigator: Craig F. Ferris, Project Period: 05/01/92 - 12/31/95, Total Costs: \$68,000

Imaging Synaptic Connectivity with Wide-Field Digital Microscopy

National Science Foundation - IBN9419100

Principal Investigator: Craig F. Ferris, Project Period: 9/1/94 - 8/31/96, Total Costs: \$175,000

Neural Biology of Active Approach and Retreat

National Institute of Mental Health – R01 MH52280

Principal Investigator: Craig F. Ferris, Project Period: 1/1/96 - 12/31/99, Total Costs: \$861,000

Adolescent Stress and Neural Plasticity

National Institute of Mental Health – R01 MH52280-05

Principal Investigator: Craig F. Ferris, Period: 1/1/00 - 12/31/05, Total Costs: \$1,144,566

Noninvasive Devices for fMRI Studies in Mental Illness

National Institute of Mental Health - R42 MH59501

Principal Investigator: Craig F. Ferris, Project Period: 1/1/99 - 12/31/01, Total Costs: \$599,980

Imaging Brain Activity During Sexual Motivation

National Institute of Mental Health – R01 MH58700

Principal Investigator: Craig F. Ferris, Project Period 1/1/00 - 12/31/03, Total Costs: \$1,262,039

MRI of Brain Function and Receptors in Cocaine Addiction

National Institute on Drug Abuse - R01 DA133517

Principal Investigator: Craig F. Ferris, Project Period 8/1/01 – 7/31/06, Total Costs: \$1,609,560

Noninvasive Devices for fMRI Studies in Cocaine Abuse

National Institute on Drug Abuse – R41 DA013867 Phase I

Principal Investigator: Craig F. Ferris, Project Period: 1/1/01 – 12/31/02, Total Costs: \$100,000

Gradient Coil to Enhance MRI Research in Mental Illness

National Institute of Mental Health – R41 MH064970 Phase I

Principal Investigator: Craig Ferris, Project Period: 1/3/02 – 3/12/02, Total Cost \$100,000

Noninvasive Devices for fMRI Studies in Rhesus Monkeys

National Institute on Drug Abuse – R42 DA013867 Phase II

Principal Investigator: Craig F. Ferris, Project Period: 11/1/02 – 10/31/04, Total Costs: \$600,000

Gradient Coil to Enhance MRI Research in Mental Illness

National Institute of Mental Health – R42 MH064970 Phase II

Principal Investigator: Craig Ferris, Project Period: 6/1/04 – 5/30/06, Total Cost \$600,000

Neurobehavioral Effects of MDMA in Adolescent Monkeys

National Institute on Drug Abuse - 1R01 DA19158-01

Principal Investigator: Craig F. Ferris, Project Period: 12/01/04 – 11/30/09, Total Costs: \$3,200,000

Estrogenic Regulation of Cocaine Sensitization

NIH/Specialized Neuroscience Research Programs (PI, Garcia-Ararras)

NIH/5 U54 NS39405

Principal Investigator Annabell Segarra; Mentor Craig F. Ferris

Project periods 01/01/05 – 12/31/09 Total Directs – \$500,000

NCI Center Grant

U54CA151881-01

Principle Investigator Vladimir Torchilin

Imaging Core PI Craig Ferris

Project Period 10/1/2010 – 9/31/2015 Total Cost - \$737,280

Drug Discovery for the Treatment of Autism

Research Agreement (Ferris) \$800,000 11/01/2010 – 10/30/2012

Pfizer

Drug Discovery for the Treatment of Schizophrenia

Research Agreement (Ferris) \$350,000 01/07/2011- 12/30/2012
Sunovium

Screening New Therapeutics for the Treatment of PTSD

R41MH093049-01 (Simon) \$78,000 06/01/2011 – 05/31/2012
NIH/NIMH (Subaward – Ferris)

Drug Discovery for Treatment of Pain

Research Agreement (Ferris) \$80,000 08/01/2011 – 07/30/2013
Vertex Pharmaceuticals

Drug Discovery for Treatment of Huntington's Disease

Research Agreement (Ferris) \$75,000 05/01/2013 – 09/30/2013
CHDI Foundation

Sex Steroids and Cognition: The Marmoset as a New Primate Model

R21MH091492-01 (Lacreuse) \$72,000 04/07/2011 – 03/31/2013
NIH/NIMH (Subaward – Ferris)

Drug Discovery for the Treatment of Pain

Research Agreement (Ferris) \$48,000 12/01/2012 – 09/31/2013
Cubist Pharmaceuticals

Drug Discovery for the Treatment of Alzheimer's

Research Agreement (Ferris) \$120,000 07/1/2013 - 03/30/2015
Lundbeck Pharmaceuticals

Developmental Consequences of Birth Interventions

1P01HD075750-1 (Carter) Total: \$1,065,000 04/01/2014 - 03/31/2019
NICHD Project # 2 and Core 2 - Imaging

NIH Blueprint Program for Enhancing Neuroscience Diversity through Undergraduate Research Experiences (PI Kamangar), Virtual Imaging (Subaward - Ferris)

Proposal Period 11/1/14 - 0/30/2019 Total Cost \$1,097,876

Tier 3 Award, Provost's Office, Advanced Biosensors in Social/Affective Neuroscience (Ferris)

Proposal Period 3/27/2015 – 2/31/2016 Total Cost \$150,000

Drug Discovery for the Orphan Diseases

Research Agreement (Ferris)
Alexion Pharmaceuticals - Project Period 07/01/2015 – 12/30/2015 Total Cost \$60,000

Cutting-Edge Basic Research Awards

(CEBRA) NIDA (R21) (PIs Sridhar, Ferris)
Proposal Period 09/01/2016 – 08/31/2018 Total Cost \$386,250

Preclinical Efficacy And Safety Evaluation Of Graphene Nanoparticle-based Magnetic Resonance Imaging Contrast Agent for Diagnosis of Renal Failure.

SBIR R44 DK100205-02 (PI Sitharaman)

Subaward: (Ferris)

Proposal Period 06/1/2016 – 5/31/2017

Total Cost \$50,000

Drug Discovery for the Alzheimer's

Research Agreement (Ferris)

Ironwood Pharmaceuticals - Project Period 07/01/2016 – 12/30/2016

Total Cost \$40,000

Dietary Fat Ratio's Influence on Adolescent Depression - A Nonhuman Primate Model,

R01 NIMH/NICHD, (PI Ziegler)

Subaward (Ferris)

Proposal Period 08/01/2016- 07/31/2022

Total Cost \$92,553

Developmental and Sex-Dependent Targets for Prevention after Early Life Stress

NIMH/NIH R01 PI Heather Brenhouse

Co-investigator (Ferris, Year 1)

Proposed Period 7/1/16 – 6/31/2017

Total Cost \$85,000

PUBLICATIONS

RESEARCH PAPERS

1. Passo, S.S., J.R. Thornborough and **C.F. Ferris**. Functional analysis of dopaminergic innervation of the neurohypophysis. American Journal of Physiology 241: E186-E190 (1981).
2. **Ferris, C.F.**, R.H.Hammer and S.E. Leeman. Elevation of plasma neurotensin during lipid perfusion of rat small intestine. Peptides 2: 263-266 (1981).
3. Aronin, N., R.E. Carraway, **C.F. Ferris**, R.A. Hammer and S.E. Leeman. The stability and metabolism of intravenously administered neurotensin in the rat. Peptides 3: 637-642 (1982).
4. **Ferris, C.F.**, J.X. Pan, E.A. Singer, N.D. Boyd and S.E. Leeman. Evaluation of neurotensin in the central regulation of luteinizing hormone release. In: Neurotensin, A Brain and Gastrointestinal Peptide. (Nemeroff, C.B., Prange, A.J., eds.) New York 400: 379-380 (1982).
5. **Ferris, C.F.**, R.E. Carraway and S.E. Leeman. Lipid stimulation of neurotensin release from rat small intestine. In: Neurotensin, A Brain and Gastrointestinal Peptide. (Nemeroff, C.B., Prange, A.J. Jr., eds) New York 400: 433-435 (1982).
6. Carraway, R.E. and **C.F. Ferris**. Isolation, biological and chemical characterization and synthesis of a neurotensin-related hexapeptide from chicken intestine. Journal of Biological Chemistry 258: 2475-2479 (1983).
7. **Ferris, C.F.**, J.X. Pan, E.A. Singer, N.D. Boyd, R.E. Carraway and S.E. Leeman. Stimulation of LH release after stereotaxic microinjection of neurotensin in the medial preoptic area of rats. Neuroendocrinology 38: 145-151 (1984).
8. Albers, H.E., **C.F. Ferris**, S.E. Leeman and B.D. Goldman. Avian pancreatic polypeptide phase-shifts hamster circadian rhythms when microinjected into the suprachiasmatic region. Science 223: 833-835 (1984).

9. **Ferris, C.F.**, H.E. Albers, S.M. Weslowski, B.D. Goldman and S.E. Leeman. Microinjection of vasopressin into a discrete hypothalamic site triggers a complex stereotypic behavior in golden hamsters. Science 224: 521-523 (1984).
10. Albers, H.E. and **C.F. Ferris**. Neuropeptide Y: role in light-dark cycle entrainment of hamster circadian rhythms. Neuroscience Letters 50: 163-168 (1984).
11. **Ferris, C.F.**, M.J. Armstrong, J.K. George, C.A. Stevens, R.E. Carraway and S.E. Leeman. Alcohol and fatty acid stimulation of neurotensin release from rat small intestine. Endocrinology 116: 1133-1138 (1985).
12. **Ferris C.F.**, J. Pollock, H.E. Albers, and S.E. Leeman. Inhibition of flank-marking behavior in golden hamsters by microinjection of a vasopressin antagonist into the hypothalamus. Neuroscience Letters 55: 239-243 (1985).
13. **Ferris, C.F.**, R.E. Carraway, R.A. Hammer and S.E. Leeman. Release and degradation of neurotensin during perfusion of rat small intestine with lipid. Regulatory Peptides 12: 101-111 (1985).
14. Carraway, R.E., E.A. Singer, **C.F. Ferris** and S.P. Mitra. Generation of immunoreactive neurotensin(s) and enkephalin(s) by pepsin-treatment of plasma. Proceedings of the International Kinin Symposium, (1985).
15. Armstrong, M.J., **C.F. Ferris** and S.E. Leeman. Neurotensin increases the translocation of ³H-oleic acid from the intestinal lumen into lymph of rats. In: Regulatory Peptides, Mode of Action on Digestive, Nervous and Endocrine Systems, INSERM Symposium, vol 25. Edited by S. Bonfils, Elsevier Science Publishers, The Netherlands, pp 291-298 (1985).
16. Albers, H.E. and **C.F. Ferris**. Behavioral effects of vasopressin and oxytocin within the medial preoptic area of the golden hamster. Regulatory Peptides 12: 257-260 (1985).
17. **Ferris, C.F.** S. Parker, M.J. Armstrong and S.E. Leeman. Inhibition of neurotensin release by a cyclic hexapeptide analog of somatostatin. Peptides 6: 945-948 (1985).
18. **Ferris, C.F.**, R.E. Carraway, K. Brandt and S.E. Leeman. Chromatographic and immunochemical characterization of neurotensin in cat adrenal gland and its release during splanchnic nerve stimulation. Neuroendocrinology 43: 352-358 (1986).
19. Albers, H.E., J. Pollock, W.H. Simmons and **C.F. Ferris**. A V1-like receptor mediates vasopressin induced flank marking behavior within the hamster hypothalamus. Journal of Neuroscience 6: 2085-2089 (1986).
20. Carraway, R.E., S.P. Mitra and **C.F. Ferris**. Pepsin treatment of mammalian plasma generates immunoreactive and biologically active neurotensin-related peptides in micromolar concentrations. Endocrinology 119: 1519-1526 (1986).
21. **Ferris, C.F.**, D.M. Meenan and H.E. Albers. Microinjection of kainic acid into the hypothalamus of golden hamsters prevents vasopressin-dependent flank marking behavior. Neuroendocrinology 44: 112-116 (1986).

22. Armstrong, M.J., M.C. Parker, **C.F. Ferris** and S.E. Leeman. Neurotensin stimulates [³H]oleic acid translocation across rat small intestine. American Journal of Physiology 251: G823-G829 (1986).
23. **Ferris, C.F.**, D.M. Meenan, J.F. Axelson, and H.E. Albers. A vasopressin antagonist can reverse dominant/subordinate behavior in hamsters. Physiology and Behavior 38: 135-138 (1986).
24. **Ferris, C.F.**, J. George, and H.E. Albers. Circadian rhythm in neurotensin levels in rat small intestine. Regulatory Peptides 15: 285-292 (1986).
25. Albers, H.E. and **C.F. Ferris**. Role of the flank gland in vasopressin induce scent marking behavior in the hamster. Brain Research Bulletin 17: 387-389 (1986).
26. George, J., H.E. Albers, R.E. Carraway and **C.F. Ferris**. Neurotensin levels in the hepatic-portal circulation are inversely related to the circadian feeding cycle in rats. Endocrinology 121: 7-13 (1987).
27. Marshak, D.W., R.E. Carraway and **C.F. Ferris**. Characterization of immunoreactive substance P and neurotensin in the goldfish retina. Experimental Eye Research 44: 839-848 (1987).
28. **Ferris, C.F.**, J.F. Axelson, L. Shinto, and H.E. Albers. Scent marking and the maintenance of dominant/subordinate status in male golden hamster. Physiology and Behavior 40: 661-664 (1987).
29. Albers, H.E., N. Minamitani, E. Stopa, and **C.F. Ferris**. Light selectively alters vasoactive intestinal peptide- and peptide histidine isoleucine- immunoreactivity within the rat suprachiasmatic nucleus. Brain Research 437: 189-192 (1987).
30. Albers, H.E., S.Y. Liou, and **C.F. Ferris**. Testosterone alters the behavioral sensitivity to arginine vasopressin within the medial preoptic-anterior hypothalamus of the hamster. Brain Research 456: 382-386 (1988).
31. **Ferris, C.F.**, E. Singer, D.M. Meenan and H.E. Albers. Inhibition of vasopressin-stimulated flank marking behavior by V1-receptor antagonists. European Journal of Pharmacology 154: 153-159 (1988).
32. **Ferris, C.F.** and M. Potegal Vasopressin receptor blockade in the anterior hypothalamus suppresses intraspecific aggression in male golden hamsters. Physiology and Behavior 44: 235-239 (1988).
33. **Ferris, C.F.**, J.F. Axelson, A.M. Martin, and L. Roberge. Vasopressin immunoreactivity in the anterior hypothalamus is altered by aggressive interactions between hamsters. Neuroscience 29(3):675-683, (1989).
34. Alexander, M.J., P.D. Mahoney, **C.F. Ferris**, R.E. Carraway and S.E. Leeman. Evidence that neurotensin participates in the central regulation of the preovulatory surge of luteinizing hormone in the rat. Endocrinology 124: 783-788 (1989).
35. Potegal, M. and **C.F. Ferris**. Intraspecific aggression in male hamsters is inhibited by vasopressin receptor antagonists. Aggressive Behavior 15:311-320, (1990).

36. **Ferris, C.F.**, R.W. Irvin, M. Potegal and J.F. Axelson. Kainic acid lesion of vasopressinergic neurons in the hypothalamus disrupts flank marking behavior in golden hamsters. Journal of Neuroendocrinology 2:123-129, (1990).
37. **Ferris, C.F.** K. Muraki, R.E. Carraway. Exocrine secretion and processing of pro-xenopsin in rat gastric lumen. American Journal of Physiology 258:G419-G425 (1990).
38. **Ferris, C.F.**, L. Gold, G.J. DeVries and M. Potegal. Evidence for a functional anatomical relationship between the lateral septum and the hypothalamus in the control of vasopressin dependent flank marking behavior in golden hamsters. Journal of Comparative Neurology 293:476-485 (1990).
39. Mahoney, P.D., E.T. Koh, R.W. Irvin and **C.F. Ferris**. Computer-aided mapping of vasopressin neurons in the hypothalamus of the male golden hamster: Evidence of magnocellular neurons that do not project to the neurohypophysis. Journal of Neuroendocrinology 2:113-122 (1990).
40. Szot, P., **C.F. Ferris**, and D.M. Dorsa. Localization of ³H-arginine-vasopressin binding sites in the CNS of the golden hamster. Neuroscience Letters 119:215-218 (1990).
41. Irvin, R.W., P. Szot, D.M. Dorsa, M. Potegal, and **C.F. Ferris**. Vasopressin in the septal area of the golden hamster controls scent marking and grooming. Physiology and Behavior 48:693-699 (1990).
42. Albers, H.E., C.M. Rowland and **C.F. Ferris**. Arginine-vasopressin immunoreactivity is not altered by photoperiod or gonadal hormones in the Syrian hamster (Mesocricetus auratus). Brain Research 539:137-142 (1990).
43. **Ferris, C.F.**, J.K. George, G. Eastwood, M. Potegal and R.E. Carraway. Plasma levels of human neurotensin: methodological and physiological considerations. Peptides 12:215-220 (1991).
44. Huhman, K.L., T.O. Moore, **C.F. Ferris**, E.W. Mougey and J.L. Meyerhoff. Acute and repeated exposure to social conflict in male golden hamsters: Increases in plasma POMC-peptides and cortisol and decreases in plasma testosterone. Hormones and Behavior 25:206-216 (1991).
45. Hayden-Hixson, D.M., and **C.F. Ferris**. Cortisol exerts site-, context-, and dose-specific effects on the agonistic behaviors of male golden hamsters. Journal of Neuroendocrinology 3:613-622 (1991).
46. Hayden-Hixson, D.M., and **C.F. Ferris**. Steroid-specific regulation of agonistic behavior in the anterior hypothalamus of male golden hamsters Physiology and Behavior 50:793-799 (1991).
47. **Ferris, C.F.** K.B. Foote, H.M. Meltser, M.G. Plenby, K.L. Smith, and T. Insel. Oxytocin in the amygdala increases maternal aggression In: Oxytocin in Maternal, Sexual and Social Behavior, Eds C.A. Pederson, J. Caldwell, New York Academy of Sciences 652:468-469 (1992).
48. Delville, Y. and **C.F. Ferris**. Existence of sexual dimorphism in vasopressin binding in the area of the ventromedial nucleus of the hypothalamus in hamsters. In: Oxytocin in Maternal, Sexual and Social Behavior, Eds C.A. Pederson, J. Caldwell, New York Academy of Sciences 652: 470-471 (1992).
49. **Ferris, C.F.**, C.G. Pilapil, D. Hayden-Hixson, R.G. Wiley and E.T. Koh. Evidence for functionally and anatomically distinct populations of vasopressinergic magnocellular neurons in the golden hamster. Journal of Neuroendocrinology 4:193-205 (1992).

50. Delville, Yvon, C. Stires, and **C.F. Ferris**. Distribution of corticotropin-releasing hormone immunoreactivity in golden hamster brain. Brain Research Bulletin 29:681-684 (1992).
51. **Ferris, C.F.**, Y. Delville, Z. Gronka, J. Luber-Narod and T.R. Insel. An iodinated vasopressin antagonist blocks flank marking and selectively labels neural binding sites in golden hamsters. Physiology and Behavior 54:737-747 (1993).
52. **Ferris, C.F.**, Y. Delville, R.W. Irvin, and M. Potegal. Septo-hypothalamic organization of stereotypic behavior controlled by vasopressin in golden hamsters. Physiology and Behavior 55:755-759 (1994).
53. Delville, Y., E.T. Koh, and **C.F. Ferris**. Sexual differences in the magnocellular vasopressinergic system in golden hamsters. Brain Research Bulletin 33:535-540 (1994).
54. Wang, Z-X, **C.F. Ferris**, and G.J. De Vries. The role of septal vasopressin innervation in paternal behavior in prairie voles (*Mecrotus ochrogaster*). Proceedings of the National Academy of Sciences (USA) 91:400-404 (1994).
55. **Ferris, C.F.** and Y. Delville. Vasopressin and serotonin interactions in the control of agonistic behavior. Psychoneuroendocrinology 19:593-601 (1994).
56. Delville, Y., Mansour, K.M., Yules, B. Quan E.W., and **C.F. Ferris**. Postnatal development of the vasopressinergic system in golden hamsters. Developmental Brain Research, 81: 230-239(1994).
57. Insel, T.R., Wang, Z.X., and **C.F. Ferris**. Brain vasopressin receptor distribution in monogamous and polygynous voles. Journal of Neuroscience, 14(9): 5381-5392 (1994).
58. **Ferris, C.F.**, Y. Delville, M.A. Miller, D.M. Dorsa, G.J. DeVries. Distribution of small vasopressinergic neurons in golden hamsters. Journal of Comparative Neurology, 360:589-598 (1995).
59. Delville, Y. and **C. F. Ferris**. Sexual differences in vasopressin receptor binding within the ventrolateral hypothalamus in golden hamsters. Brain Research 681:91-96 (1995)
60. Delville, Y., L.S. Conklin, and **C.F. Ferris**. Differential expression of vasopressin receptor binding in the hypothalamus during lactation in golden hamsters. Brain Research 689:147-150 (1995).
61. Delville, Y., K.M. Mansour, and **C.F. Ferris**. Serotonin blocks vasopressin-facilitated offensive aggression: interactions within the ventrolateral hypothalamus of golden hamsters. Physiology and Behavior 59:813-816 (1995).
62. Delville, Y., K.M. Mansour, and **C.F. Ferris**. Testosterone facilitates aggression by modulating vasopressin receptors in the hypothalamus. Physiology and Behavior, 60:25-29 (1996).
63. **Ferris, C.F.**, Y. Delville, J. A. Brewer, B. Yules, K.M. Mansour, C.F. Ferris. Vasopressin and the developmental onset of flank marking in golden hamsters. Journal of Neurobiology 30:192-204 (1996).
64. Potegal, M, **C.F. Ferris**, M. Hebert, J. Meyerhoff, L. Skaredoff. Attack priming in female Syrian

golden hamsters is mediated by a *c-fos* coupled process within the corticomedial amygdala. Neuroscience 75:869-880 (1996).

65. **Ferris, C.F.** Serotonin inhibits vasopressin facilitated aggression in the Syrian hamster. In: *Understanding Aggressive Behavior in Children* (C.F. Ferris and T. Grisso, eds) New York Academy of Sciences, New York, N.Y. 794:98-103 (1996).
66. **Ferris, C.F.** and J. Brewer. Adolescent stress alters ethanol ingestion and agonistic behavior in male golden hamsters. In: *Understanding Aggressive Behavior in Children* (C.F. Ferris and T. Grisso, eds) New York Academy of Sciences, New York, N.Y. 794:348-351 (1996).
67. Melloni, Jr. R.H. and **Ferris, C.F.** Adolescent anabolic steroid use and aggressive behavior. In *Understanding Aggressive Behavior in Children*, (C.F. Ferris and T. Grisso, eds.) New York Academy of Sciences, New York, N.Y. 794:372-375 (1996).
68. Melloni, R.H. Jr., D. F. Connor, P. T. Xuan Hang, R. J. Harrison, and **C.F. Ferris**. Anabolic-androgenic steroid exposure during adolescence facilitates aggressive behavior in golden hamsters. Physiology and Behavior 61:359-364 (1997).
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