DONALD T. LYSLE, PH.D.

Curriculum Vitae

Kenan Distinguished Professor
Behavioral and Integrative Neuroscience Program
Department of Psychology and Neuroscience
University of North Carolina Chapel Hill
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EDUCATION

Ph.D. Biological Psychology, Learning and Development Program, 1986
University of Pittsburgh

M.S. Biological Psychology, Learning and Development Program, 1983
University of Pittsburgh

B.S. Anthropology-Psychology, Magna Cum Laude, Departmental Honors in Anthropology, 1979
University of Pittsburgh

ACADEMIC HISTORY

2007 – Present	Chair, Department of Psychology and Neuroscience University of North Carolina Chapel Hill
2005 – Present	Kenan Distinguished Professor University of North Carolina Chapel Hill
2004 – 2007	Associate Chair, Department of Psychology and Neuroscience University of North Carolina Chapel Hill
2004 – 2005	Reynolds Distinguished Term Professor University of North Carolina Chapel Hill
2001 – 2004	Gillian T. Cell Distinguished Term Professor for Excellence in Undergraduate Teaching University of North Carolina Chapel Hill
1997 – 2001	Professor, Department of Psychology and Neuroscience University of North Carolina Chapel Hill
1995 – 2004	Director, Behavioral and Integrative Neuroscience Doctoral Program University of North Carolina Chapel Hill

1990 – Present	Graduate Faculty, Curriculum in Neuroscience, School of Medicine University of North Carolina Chapel Hill
1993 – 1997	Associate Professor, Department of Psychology and Neuroscience University of North Carolina Chapel Hill
1990 – 1993	Assistant Professor, Department of Psychology and Neuroscience University of North Carolina Chapel Hill
1988 – 1990	Research Assistant Professor, Department of Pathology, School of Medicine Adjunct Assistant Professor, Department of Psychology University of Pittsburgh
1986 – 1987	Postdoctoral Research Associate, Western Psychiatric Institute and Clinic Department of Psychiatry, School of Medicine University of Pittsburgh
1980 – 1986	Teaching Fellow, Department of Psychology University of Pittsburgh
1980 – 1986	Graduate Research Assistant, Department of Psychology University of Pittsburgh

RESEARCH SUPPORT (R01, K02, AND K12)

2020 – 2022	Co-Principal Investigator, National Institute on Alcohol Abuse and Alcoholism Research Grant R21-AA027463 *A Role for IL-1Beta in Ethanol Withdrawal-Induced Increase of PTSD-Like Phenotype* Total Costs: $447,062
2017 – 2022	Principal Investigator, National Institute of General Medicine Sciences Training Grant Renewal of K12-GM00678 *Seeding Postdoctoral Innovators in Research and Education* Total Costs: $5,300,000
2014 - 2021	Principal Investigator, National Institute on Drug Abuse Research Grant R01-DA034721 *Role of IL-1 in Heroin Conditioned Immune and Motivational Effects* Total Costs: $1,875,000
2012 – 2017	Principal Investigator, National Institute of General Medicine Sciences Training Grant K12-GM00678 *Seeding Postdoctoral Innovators in Research and Education* Total Costs: $5,000,000
2009 – 2013	Principal Investigator, National Institute on Drug Abuse Research Grant R01-DA025667

Neural Mechanism of Heroin-Induced Conditioned Immunomodulation
Total Costs: $592,000

2004 – 2009 Principal Investigator, National Institute on Drug Abuse Research Grant
Renewal of R01-DA-13371
Behavioral Factors in Heroin's Effect on Nitric Oxide
Total Costs: $853,763

2002 – 2008 Principal Investigator, National Institute on Drug Abuse Research Scientist Award
Renewal of K02-DA-00334-01
Opioid-Induced Alteration of Immune Status
Total Costs: $570,920

2002 – 2008 Principal Investigator, National Institute on Drug Abuse Research Grant
R01-DA15709
Opioid-Induced Immune Alterations: Sex Differences
Total Costs: $843,614

2000 – 2005 Principal Investigator, National Institute on Drug Abuse Research Grant
Renewal of R01-DA-07481
Behavioral Determinants of Opioid/Immune Interactions
Total Costs: $637,137

2000 – 2004 Principal Investigator, National Institute on Drug Abuse Research Grant
Renewal of R01-DA-13371
Behavioral Factors in Heroin's Effect on Nitric Oxide
Total Costs: $539,593

1997 – 2002 Principal Investigator, National Institute on Drug Abuse Research Scientist Award
K02-DA-00334-01
Opioid-Induced Alteration of Immune Status
Total Costs: $411,859

1996 – 2000 Principal Investigator, National Institute on Drug Abuse Research Grant
R01-DA-10167-01
Opioid-Induced Alteration of Nitric Oxide Production
Total Costs: $534, 873

1995 – 2000 Principal Investigator, National Institute on Drug Abuse Research Grant
Renewal of R01-DA-07481
Behavioral Determinants of Opioid/Immune Interactions
Total Costs: $509,761

1992 – 1997 Principal Investigator, National Institute on Mental Health Research Grant
Renewal of R01-MH-46284
Immune Alterations Mediated by Conditioning
Total Costs: $782,910

1992 – 1995 Co-Principal Investigator, National Institute on Drug Abuse Research Grant
R01-DA-07481, Principal Investigator: Linda A. Dykstra, Ph.D.
Behavioral Determinants of Opioid/Immune Interactions
Total Costs: $410,642

1989 – 1992 Principal Investigator, National Institute of Mental Health Research Grant
R01-MH-46284
Immune Alterations Mediated by Conditioning
Total Costs: $452,481

1989 – 1990 Co-Principal Investigator, National Institute of Mental Health Research Grant
R01-MH-24115, Principal Investigator: Harry Fowler, Ph.D.
Signaling and Affective Functions in Conditioning
Total Costs: $475,602

1987 – 1990 Co-Principal Investigator, National Institute of Mental Health Research Grant
R01-MH-43411, Principal Investigator: Bruce S. Rabin, M.D., Ph.D.
Characterization of Stressor-Induced Immune Alteration
Total Costs: $1,090,742

RESEARCH SUPPORT (SPONSORED PRE-DOCTORAL FELLOWSHIPS)

2019 – 2021 Predoctoral Individual National Research Service Award
Jacqueline Paniccia
National Institute on Drug Abuse, F31-DA-047054
Hippocampal-Dependent Neural Immune Interactions Regulate Heroin-Conditioned Immunomodulation
Total Costs: $73,490

2015 – 2019 Graduate Research Fellowship
Christina Lebonville
National Science Foundation, DGE-1144081
Total Costs: $170,000

2006 – 2009 Predoctoral Individual National Research Service Award
Jennifer Szczytkowski-Thomson
National Institute on Drug Abuse, F31-DA-021467
Conditioned Effects of Heroin on Nitric Oxide
Total Costs: $85,932

2006 – 2008 Predoctoral Individual National Research Service Award
Timothy B. Saurer
National Institute on Drug Abuse, F31-DA-019323
Dopaminergic Mechanisms of Opioid Immunomodulation
Total Costs: $54,210

2003 – 2006 Predoctoral Individual National Research Service Award
Jay C. Elliott
National Institute on Drug Abuse, F31-DA-016836
Sex Differences in Opioid-Induced Immunomodulation
Total Costs: $81,316

2003 – 2006 Predoctoral Individual National Research Service Award
Ryan K. Lanier
National Institute on Drug Abuse, F31-DA-017448
Effects of Heroin Self-Administration on Nitric Oxide
Total Costs: $81,316

2001 – 2003 Predoctoral Individual National Research Service Award
Kelly Carrigan
National Institute on Drug Abuse, F31-DA-14466
Effects of Morphine on a Live Bacterial Infection
Total Costs: $74,316

1998 – 2001 Predoctoral Individual National Research Service Award
Christina Nelson
National Institute on Drug Abuse, R01-DA-05892-01
Opioid Regulation of in vivo Immune Responses
Total Costs: $53,250

1993 – 1996 Predoctoral Individual National Research Service Award
Lyn Perez
National Institute of Mental Health, F31-MH-10467
Opioid Receptors in Conditioned Immune Alterations
Total Costs: $35,400

1993 – 1995 Predoctoral Individual National Research Service Award
Karamarie Fecho
National Institute on Drug Abuse, F31-DA-05594
Neural-Endocrine Mechanisms of Opioid-Immune Interaction
Total Costs: $35,400

1992 – 1994 Predoctoral Individual National Research Service Award
Mary E. Coussons
National Institute on Drug Abuse, F31-DA-05522
Conditioning of Opioid-Induced Immune Alterations
Total Costs: $23,600

RESEARCH SUPPORT (OTHER)

1992 – 1996 Co-Investigator and Associate Director, Psychoneuroimmunology Core Laboratory
National Institute of Mental Health Clinical Research Center

MH-33127, Director: Arthur J. Prange, Jr., M.D.
Total Costs: $6,915,679

1988 – 1990 Consultant, Western Pennsylvania Arthritis Foundation Grant
Principal Investigator: Joan E. Cunnick, Ph.D.
Effects of Stress on an Animal Model of Rheumatoid Arthritis
Total Costs: $10,000

ACADEMIC HONORS AND AWARDS

2018-19 Stephenson and Lindquist Award, $20,000 to support research activities
University of North Carolina Chapel Hill

2010 Faculty Fellow, Academic Leadership Program, Institute for Arts and Humanities
University of North Carolina Chapel Hill

2005 Kenan Distinguished Professorship
University of North Carolina Chapel Hill

2004 Reynolds Distinguished Term Professorship
University of North Carolina Chapel Hill

2001 Gillian T. Cell Distinguished Term Professorship for Excellence in Undergraduate Teaching, University of North Carolina Chapel Hill

1993 Arts and Sciences Foundation Award for Academic Achievements
University of North Carolina Chapel Hill

1992 Junior Faculty Development Award
University of North Carolina Chapel Hill

1987 Postdoctoral Research Fellowship Award, Clinic Research Center Grant
MH-30915, Western Psychiatric Institute and Clinic
Effects of Stress on Immune Function
University of Pittsburgh

1985 Apple for the Teacher Award for Outstanding Undergraduate Teaching
University of Pittsburgh

SERVICE

Professional Organizations

1986 – 2000 American Psychological Association

1989 – 2005 American Psychological Society

1986 – 1990 Eastern Psychological Association

1989 – 2010	International Society for Neuroimmunomodulation
1992 – Present	Psychoneuroimmunology Research Society
1989 – 2004	Psychonomic Society
1985 – 2000	Sigma Xi: The Scientific Research Society
1988 – Present	Society for Neuroscience
2003 – Present	Society for Neuroimmune Pharmacology

Professional Services

1993 – 2011	Editorial Board Member, *Brain, Behavior, and Immunity*
1995 – 2002	Editorial Board Member, *Behavioral Neuroscience*
Journal Review:	*American Psychologist, Biofeedback and Self-Regulation, Brain Research, Developmental and Comparative Immunology, Experimental Biology and Medicine, International Journal of Behavioral Medicine, Journal of Experimental Psychology: Animal Behavior Processes, Journal of Immunology, Journal of Neuroimmunology, Journal of Pharmacology and Experimental Therapeutics, Life Sciences, Molecular Pharmacology, Neurotoxicity Research, Neuroimmunomodulation, Neuropsychopharmacology, Neuroscience Letters, Psychobiology, Psychophysiology, Psychosomatic Medicine,* and *Regulatory Peptides*
Book Review:	Brooks/Cole Publishing, Gordon & Breach Publishing, John Wiley & Sons Publishing, Sinauer Associates Publishing, and Worth Publishing
Ad hoc Grant Reviewer:	National Institute of Mental Health: Psychobiological, Biological & Neurosciences Subcommittee – AIDS National Science Foundation: Behavioral Neuroscience National Institute on Drug Abuse: Special Emphasis Panel National Institutes of Health: Biobehavioral and Behavioral Processes I Israel Science Foundation
2002 – 2008	Consultant: Leo W. Jenkins Cancer Center, Brody School of Medicine, East Carolina University
2002	Grant Reviewer: Medical Research Council, London
2002	Grant Reviewer: Minneapolis Medical Research Foundation
2000 – 2004	Nominating and Membership Committee: Society on Neuroimmune Pharmacology
1997 – 2000	Grant Reviewer: Center for Scientific Review, Behavioral and Biobehavioral Processes
1997 – 1999	Nominating Committee: Psychoneuroimmunology Research Society
1996 – 2004	Council Member: Psychoneuroimmunology Research Society

1992 – 1996 Scientific Affairs Committee: Psychoneuroimmunology Research Society

Community Service

2002 – 2016 Search Team Member, North Carolina Search and Rescue Dog Association

Selected Administrative and Leadership Service

Department of Psychology and Neuroscience, University of North Carolina Chapel Hill

2007 – Present Chair, Department of Psychology and Neuroscience

- Provides oversight for B.A., B.S., and Ph.D. degree programs, with two undergraduate majors (Psychology – B.A. and B.S., Neuroscience – B.S.) and six doctoral programs (Behavioral & Integrative Neuroscience, Clinical Psychology, Cognitive Psychology, Developmental Psychology, Quantitative Psychology, and Social Psychology Ph.D. Programs)
- Leads a department administration of 13, a full-time administrative team of 17, 56 tenured, tenure-track, teaching, and fixed-term faculty, 17 postdoctoral fellows, 134 doctoral students, and 2,100 undergraduate majors
- Provides leadership on recruitment, retention, admissions, enrollment, academic affairs, program review and assessment, personnel promotion, reappointment, and review, facilities, diversity, salary and merit review, programming, endowment accounts and operational budgets, policies and processes
- Recent major accomplishments as Chair:
    - Expanded teaching faculty in the Department, increasing faculty at this rank from 4 to 11 over a twelve-year period and successfully recruited 17 of the current 43 tenure-track/tenured faculty members
    - Developed a mentoring plan and policy for the department that has been a model for other units across campus, 2013
    - Created Karen M. Gil Internship Program in Psychology and Neuroscience for undergraduate majors, 2014
    - Rebranded Department of Psychology as Psychology and Neuroscience to support neuroscience research and teaching efforts, 2015
    - Renovated state-of-the-art research facilities in Howell Hall, doors opened 2016
    - Created a Director of Diversity Initiatives position, 2016
    - Launched Neuroscience B.S. Major, 2019 and Neuroscience Minor, 2014

2007 – Present Chair, Distinguished Professorship Committee

2004 – 2006 Associate Chair, Department of Psychology and Neuroscience

2004 – 2007 Chair, Departmental Space Committee

2004-2006 Member, Departmental Space and Hiring Task Force

2004 – Present Chair, Awards Nomination Committee

1995 – 2004	Program Director, Behavioral and Integrative Neuroscience
1995 – 2004	Member, Graduate Education Committee
1993 – 2007	Member, Chair's Advisory Committee
1992 – 2007	Member, Animal Care and Use Committee
1991 – 1993	Member, Computer Usage Committee

Department of Psychology, University of Pittsburgh

1988 – 1990	Member, Animal Care and Use Committee
1980 – 1983	Member, Undergraduate Curriculum Committee

University of North Carolina Chapel Hill

2017 – 2018	Member, Science Complex Working Group for the Institute of Convergent Science
2011	Member, Distinguished Professor Selection Committee
2011	Member, University Teaching Awards Committee
2008 – 2015	Member, College of Arts and Sciences Dean's Advisory Committee
2008	Chair, Faculty Committee on Fixed-Term Faculty
2005 – Present	Investigator-Member, Center for AIDS Research
1999 – 2004	Member, Michael Polyani Visiting Lectureship Committee
1998 – 2012	Member, Advisory Committee for the Department of Laboratory Animal Medicine
1998 – 2003	Member, University Teaching Awards Committee
1996 – 2015	Investigator-Member, Center for Inflammation and Inflammatory Disorders
1995 – 2004	Member, Executive Committee for the Curriculum in Neuroscience
1995 – 1999	Member, Faculty Committee on Research – Advisory to Chancellor Michael Hooker
1995 – 1999	Member, Research Advisory Committee – Advisory to Vice Chancellor Research and Graduate Studies Thomas Meyer

TEACHING

Undergraduate Teaching Experience

University of Pittsburgh, Main Campus

Instructor for: Introduction to Psychology (6 terms)
Learning and Motivation (9 terms)
Comparative Psychology (5 terms)

Laboratory and Recitation Instructor for: Experimental Psychology (18 terms)

Coordinator of Laboratory Instructors for: Experimental Psychology (5 terms)

University of Pittsburgh, External Programs

Part-time Instructor, Western Pennsylvania State Correctional Institute

University of North Carolina Chapel Hill

Instructor for: Learning (4 semesters)
Comparative Animal Behavior (6 semesters)

Graduate Teaching & Mentoring Experience

University of North Carolina Chapel Hill

Instructor for: Seminar in Experimental Health Research (2 semesters)
Seminar in Psychoneuroimmunology (2 semesters)
Behavior and Biological Bases I (team taught – 3 semesters)
Applications of Experimental Psychology to Health Research (team taught – 3 semesters)
Research Seminar in Experimental Psychology (14 semesters)
Seminar in Neuroimmunology (2 semesters)

Graduate Masters/Doctoral Committees, University of North Carolina Chapel Hill

Gillian Barkell – Chair of Committee
Andrew Barrett – Committee Member
Mark Baxter – Committee Member, Curriculum in Neuroscience
Kimberly Brownley – Committee Member
Sherry Broadwell – Committee Member
Dave Bucci – Committee Member, Curriculum in Neuroscience
Nathan Burnham – Committee Member
Rebecca Burwell – Committee Member
Kelly Carrigan – Chair of Committee
Christy Carter – Committee Member
Jon Casachahua – Co-Chair of Committee
Charlie Cook – Committee Member
Mary Crenshaw – Committee Member
Mary Coussons-Read – Chair of Committee

Jay Elliott – Chair of Committee
Karamarie Fecho – Co-Chair of Committee, Curriculum in Neuroscience
Jon Fee – Committee Member
Bradford Fisher – Committee Member
Gregory Fox – Committee Member
Paul Gendreau – Committee Member
Susan Girdler – Committee Member
Michael Giordano – Committee Member
Jane Gross – Committee Member, Oral Biology Program
Rachel Haake – Committee Member
Tammy Hatfield – Committee Member
Dayna Hayes – Committee Member
Katie Healy – Committee Member
Douglas Hermes – Committee Member
Steve Heymen – Committee Member
Jon Hollander – Committee Member
Lee Hutson – Chair of Committee
Meghan Jones – Chair of Committee
Ron Kim – Committee Member
Rebecca Klatzkin – Committee Member
Jeannie Koo – Committee Member
Christina Lebonville – Chair of Committee
Yuh-Yih Lin – Committee Member, Oral Biology Program
Ryan Lanier – Chair of Committee
Lisa Lomas – Committee Member
Emily Lowery-Gionta – Committee Member
Debbie Lubin – Committee Member
Sondra Mattox – Committee Member
Laurence Miller, Committee Member
Drake Morgan – Committee Member
Christina Nelson – Chair of Committee
Jaqueline Paniccia – Chair of Committee
Shveta Parekh – Chair of Committee
Lynn Perez – Chair of Committee, Curriculum in Neuroscience
Dani Smith – Committee Member
Mark Smith – Committee Member
Angela Sparrow – Committee Member
Dennis Sparta – Committee Member
Jennifer Szczytkowski-Thompson – Chair of Committee, Curriculum in Neuroscience
Loreli Taylor – Committee Member, Curriculum in Neuroscience
Jolan Terner – Committee Member
Alison Wagner – Chair of Committee
Paige West – Chair of Committee

Emily Witt – Committee Member
Cassidy Zammit – Chair of Committee

RESEARCH PUBLICATIONS

Published Papers

Jones, M.E., Paniccia, J.E., Lebonville, C.L., Reissner, K.J., & Lysle, D.T. (2018). Chemogenetic manipulation of dorsal hippocampal astrocytes protects against the development of stress-enhanced fear learning. *Neuroscience*, 388, 45-56.

Jones, M.E., Lebonville, C.L., Paniccia, J.E., Balentine, M.E., Reissner, K.J., & Lysle, D.T. (2018). Hippocampal interleukin-1 mediates stress-enhanced fear learning: A potential role for astrocyte-derived interleukin-1β. *Brain, Behavior, & Immunity*, 67, 355-363.

Paniccia, J.E., Lebonville, C.L., Jones, M.E., Parekh, S.V., Fuchs, R.A, & Lysle, D.T. (2018). Dorsal hippocampus neuroimmune signaling regulates heroin-conditioned immunomodulation but heroin- conditioned place preference. *Brain, Behavior, & Immunity*, 73, 698-707.

Hutson, L.W., Lebonville, C.L., Jones, M.E., Fuchs, R.A, & Lysle, D.T. (2017). Interleukin-1 signaling in the basolateral amygdala is necessary for heroin-conditioned immunosuppression. *Brain, Behavior, & Immunity*, *62*, 171-179.

Marshall, S.A., Mcknight, K.H., Blose, A.K., Lysle, D.T., & Thiele, T.E. (2017). Modulation of Binge-like ethanol consumption by IL-10 signaling in the basolateral amygdala. *Journal of Neuroimmune Pharmacology*, 12, 249-259.

Lebonville, C.L, Jones, M.E., Hutson, L.W., Cooper, L.B., Lysle, D.T. (2016). Acquisition of heroin conditioned immunosuppression requires IL-1 signaling in the dorsal hippocampus, *Brain Behavior, & Immunity*, *56*, 325-334.

Marshall, S.A., Casachahua, J.D., Rinker, J.A., Blose, A.K., Lysle, D.T., & Thiele, T.E. (2016). IL-1 receptor signaling in the basolateral amygdala modulates binge-like ethanol consumption in male C57BL/6J mice. *Brain Behavior, & Immunity*, 51, 258-267.

Jones, M.E., Lebonville, C.L, Barrus, D., Lysle, D.T. (2015). The role of brain interleukin-1 in stress enhanced fear learning. *Neuropsychopharmacology*. 40, 1289-1296.

Hutson, L.W., Szczytkowski-Thomson, J.L., Saurer, T.B., Lebonville, C.L., Fuchs, R.A., & Lysle, D.T. (2014). Region-specific contribution of the ventral tegmental area to heroin-induced conditioned immunomodulation. *Brain Behavior, & Immunity*, *38*, 118-124.

Szczytkowski, J.L, Lebonville, C.L., Hutson, L., Fuchs, R.A. & Lysle, D.T. (2014). Heroin-induced conditioned immunomodulation requires expression of IL-1β in the dorsal hippocampus. *Brain, Behavior, & Immunity*, *30*, 95-102.

Szczytkowski-Thomson, J.L, Lebonville, C.L., & Lysle, D.T. (2013). Morphine prevents the development of stress-enhanced fear learning. *Pharmacology, Biochemistry & Behavior*, 103, 672-677.

Szczytkowski, J.L, Fuchs, R.A., & Lysle, D.T. (2011). Ventral tegmental area-basolateral amygdala-nucleus accumbens shell neurocircuitry controls the expression of heroin-conditioned immunomodulation. *J Neuroimmunology, 237*, 47-56.

Szczytkowski, J.L. & Lysle, D.T. (2010). Dopamine D_1 receptors within the basolateral amygdala mediate heroin-induced conditioned immunomodulation. *J Neuroimmunology*, *226*, 38-47.

Saurer, T.B., Ijames, S.G., Lysle, D.T. (2009). Evidence for the nucleus accumbens as a neural substrate of heroin-induced immune alterations. *Journal of Pharmacology and Experimental Therapeutics, 329,* 1040-1047.

Szczytkowski, J.L. & Lysle, D.T. (2008). Conditioned effects of heroin on proinflammatory mediators require the basolateral amygdala. *Eur J Neuroscience, 28,* 1867-1876.

Saurer, T.B., Ijames, S.G., Carrigan, K.A., & Lysle, D.T. (2008). Neuroimmune mechanisms of opioid-mediated conditioned immunomodulation. *Brain, Behavior, & Immunity., 22*, 89-97.

Ahmed, F.E., Vos, P.W., Ijames, S, Lysle, D.T., Flake, G., Sinar, D.R., Naziri, W., Marcuard, S.P. (2007). Standardization for transcriptomic molecular markers to screen human colon cancer. *Cancer Genomics Proteomics, 4*, 419-432.

Ahmed, F.E., Vos, P.W., Ijames, S, Lysle, D.T., Allison, R.R., Flake, G., Sinar, D.R., Naziri, W., Marcuard, S.P., Pennington, R. (2007). Transcriptomic molecular markers for screening human colon cancer in stool and tissue. *Cancer Genomics Proteomics, 4*, 1-20.

Lomas, L.M., Barrett, A.C., Terner, J.M., Lysle, D.T., Picker, M.J. (2007). Sex differences in the potency of kappa opioids and mixed-action opioids administered systemically and at the site of inflammation against capsaicin-induced hyperalgesia in rats. *Psychopharmacology*, *191*, 273-285.

Szczytkowski, J.L. & Lysle, D.T. (2007). Conditioned effects of heroin on the expression of inducible nitric oxide synthase are susceptible to extinction and latent inhibition. *Psychopharmacology*, 191, 879-889.

Saurer, T.B., Carrigan, K.A., Ijames, S.G., & Lysle, D.T. (2006). Suppression of natural killer cell activity by morphine is mediated by the nucleus accumbens shell. *Journal of Neuroimmunology*, *173*, 3-11.

Elliott, J.C., Wagner, A.F., & Lysle, D.T. (2006). Neurokinin 1 receptor signaling mediates sex differences in mu and kappa opioid-induced enhancement of contact hypersensitivity. *Journal of Neuroimmunology, 181,* 100-105.

Elliott, J.C., Picker, M.J., Sparrow, A.J., & Lysle, D.T. (2006). Dissociation between sex differences in the immunological, behavioral, and physiological effects of kappa- and delta-opioids in Fischer rats. *Psychopharmacology*, *185*, 66-75.

Ahmed, F.E., Ijames, S., Lysle, D.T., Dobbs, L.J., Jr, Johnke, R.M., Flake, G., Stockton, P., Sinar, D.R., Naziri, W., Evans, M.J., Kovacs, C.J., & Allison, R.R. (2004). Improved methods for extracting RNA from exfoliated human colonocytes in stool and RT-PCR analysis. *Digestive Diseases and Sciences*.,*49*, 1889-1898.

Ahmed, F.E., Dobbs, L.J., Johnke, R.M., Ijames, S., Lysle, D.T., Sinar, D.R., Naziri, W., Evans, M.J., Kovacs, C.J., Daly, B.M., & Allison, R.R. (2004). Isolation of circulating colon carcinoma cells for reverse transcriptase polymerase chain reaction. *Analytical Biochemistry*, *332*, 394-397.

Carrigan, K.A., Saurer, T.B., Ijames, S.G., Lysle, D.T (2004). Buprenorphine produces naltrexone reversible alterations of immune status. *International Immunopharmacology*, *4*, 419-428.

Saurer, T.B., Carrigan, K.A., Ijames, S.G., Lysle, D.T. (2004). Morphine-induced alterations of immune status are blocked by the dopamine D2-like receptor agonist 7-OH-DPAT. *Journal of Neuroimmunology*, *148*, 54-62.

Elliott, J.C., Picker, M.J., Nelson, C.J., Carrigan, K.A., & Lysle, D.T. (2003). Sex differences in opioid-induced enhancement of contact hypersensitivity: Involvement of gonadal hormones. *Journal of Investigative Dermatology*, *121*, 1053-1059.

Elliott, J.C., Ijames, S.G., & Lysle, D.T. (2003). Cocaine increases inducible nitric oxide synthase in rats: Effects of acute and binge administration. *International Immunopharmacology*, *3*, 1011-1018.

Lysle, D.T. & Ijames, S. (2002). Heroin-associated environmental stimuli modulate the expression of inducible nitric oxide synthase in the rat. *Psychopharmacology.164*, 416-422.

Fecho, K. & Lysle, D.T. (2002). Morphine-induced enhancement in the granuloctye response to thioglycollate administration in the rat. *Inflammation*, *26*, 259-271.

Lanier, R.K., Ijames, S.G., Carrigan, K.A., Carelli, R.M., & Lysle, D.T. (2002). Self-administration of heroin produces alterations in the expression of inducible nitric oxide synthase. *Drug and Alcohol Dependence*, *66*, 225-233.

Nelson, C.J., & Lysle, D.T. (2001). Morphine modulation of the contact hypersensitivity response: Characterization of immunological changes. *Clinical Immunology*, *98*, 370-377.

Nelson, C.J., & Lysle, D.T. (2001). Involvement of substance P and central opioid receptors in morphine modulation of the CHS response. *Journal of Neuroimmunology*, *115*, 101-110.

Lysle, D.T., & Carrigan, K.A. (2001). Morphine-6β-glucuronide modulates the expression of inducible nitric oxide synthase. *Inflammation*, *25*, 267-275.

Carrigan, K.A., & Lysle, D.T. (2001). Morphine-6β-glucuronide induces potent immunomodulation. *International Immunopharmacology*, *1*, 821-831.

Nelson, C.J., Schneider, G.M., & Lysle, D.T. (2000). Involvement of central μ but not δ- or κ- opioid receptors in immunomodulation. *Brain, Behavior, and Immunity*, *14*, 170-184.

Nelson, C.J., Carrigan, K.A., & Lysle, D.T. (2000). Naltrexone administration attenuates surgery-induced immune alterations in rats. *Journal of Surgical Research*, *94*, 172-177.

Lysle, D.T., & How, T. (2000). Heroin-induced modulation of inducible nitric oxide synthase. *Immunopharmacology*, *46*, 181-192.

Fecho, K., Nelson, C.J., & Lysle, D.T. (2000). Phenotypic and functional assessments of immune status in the rat spleen following acute heroin treatment. *Immunopharmacology*, *46*, 193-207.

Fecho, K., & Lysle, D.T. (2000). Heroin-induced alterations in leukocyte numbers and apoptosis in the rat spleen. *Cellular Immunology*, *202*, 113-123.

Carrigan, K.A., Nelson, C.J., & Lysle, D.T. (2000). Endomorphin-1 induces antinociception without immunomodulatory effects in the rat. *Psychopharmacology*, *151*, 299-305.

West, J.P., Dykstra, L.A., Lysle, D.T. (1999). Immunomodulatory effects of morphine withdrawal are time-dependent and reversible by clonidine. *Psychopharmacology*, *146*, 320-327.

Petitto, J.M., Gariepy, J-L., Gendreau, P.L., Rodriguez, R.M., Lewis, M.H., & Lysle, D.T. (1999). Differences in NK cell function in mice bred for high and low aggression; Genetic linkage between complex behavioral and immunological traits. *Brain, Behavior, and Immunity*, *13*, 175-186.

Nelson, C.J., How, T. & Lysle, D.T. (1999). Enhancement of the contact hypersensitivity reaction by acute morphine administration at the elicitation phase. *Clinical Immunology*, *93*, 176-183.

Lysle, D.T. & How, T. (1999). Endogenous opioids regulate the expression of inducible nitric oxide synthase by splenocytes. *Journal of Pharmacology and Experimental Therapeutics*, *288*, 502-508.

Fecho, K., & Lysle, D.T. (1999). Phenotypic analysis of splenocyte subsets following acute morphine treatment in the rat. *Cellular Immunology*, *195*, 137-146.

West, J.P., Dykstra, L.A., & Lysle, D.T. (1998). Differential tolerance to morphine's immunomodulatory effects following continuous administration. *Drug and Alcohol Dependence*, *53*, 31-38.

Schneider, G.M., & Lysle, D.T. (1998). Role of central mu-opioid receptors in the modulation of nitric oxide production by splenocytes. *Journal of Neuroimmunology*, *89*, 150-159.

Nelson, C.J. & Lysle, D.T. (1998). Severity, Time and β-adrenergic receptor involvement in surgery-induced immune alterations. *Journal of Surgical Research*, *80*, 115-122.

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Invited Presentations

"Morphine-induced suppression of natural killer cell activity is blocked by the dopamine D1 antagonist SCH23390," (with T.B. Saurer) CPDD, June 2003, Bal Harbour, Florida.

"Sex differences in opioid-induced enhancement of contact hypersensitivity." (with J.C. Elliott). Psychoneuroimmunology Research Society, June 2002, Madison, Wisconsin.

"Self-administration of heroin induces alterations of inducible nitric oxide synthase." (with R. K. Lanier). Psychoneuroimmunology Research Society. May 2001, Utrecht, The Netherlands.

"Heroin-induced alterations of inducible nitric oxide synthase". (with L.M. Zweig). Experimental Biology Abstracts, April 2001, Orlando, FL.

"Central opioid receptors modulate the morphine-induced enhancement of the contact hypersensitivity response". (with Nelson, C.J). Experimental Biology Abstracts, April 2001, Orlando, FL.

"An experimental model of bacterial infection for the study of opioid-immune interactions". (with K.A. Carrigan). Psychoneuroimmunology Research Society, May 2001, Utrecht, The Netherlands.

"Substance P modulates the morphine-induced enhancement of the contact hypersensitivity response". (with C.J. Nelson & K.A. Carrigan). Society for Neuroscience, November 2000, New Orleans, LA.

"Opioid-induced alterations of inducible nitric oxide synthase". (with K.A. Carrigan, T. How). Psychoneuroimmunology Research Society, May 2000, Wilmington, NC.

"Morphine-induced increase in he neutrophil response to thioglycolate". (with K. Fecho, T. How) Society for Neuroscience, November 2000, New Orleans, LA.

"Morphine-6-Glucuronide (M6G) induces potent antinociception and immunomodulation". (with K.A. Carrigan). Psychoneuroimmunology Research Society, May 2000, Wilmington, NC.

"Heroin regulates the expression of inducible nitric oxide synthase", presented at the meeting of the Psychoneuroimmunology Research Society, May 2000.

"Central opioid receptors modulate the morphine-induced enhancement of the contact hypersensitivity response". (with C.J. Nelson, & K.A. Carrigan). Psychoneuroimmunology Research Society. May 2000, Wilmington, NC.

“The immunomodulatory effects of morphine-6-glucuronide". (with K.A. Carrigan) International Society of Neuroimmunomodulation, September 1999.

"Opioid-induced immunomodulation: Evidence for the role of nitric oxide", presented at the meeting of the College on Problems of Drug Dependence, June 1997.

"Endogenous opioids regulate the expression of inducible nitric oxide synthase by splenocytes", presented at the meeting of the Psychoneuroimmunology Research Society, June 1997.

"Effects of selective opioid agonists on nitric oxide production", presented at Third Annual Symposium on The Brain-Immune Axis and Substance Abuse, San Juan, Puerto Rico, June 1996.

"Effects of selective opioid agonists on nitric oxide production", presented at Third Annual Symposium on The Brain-Immune Axis and Substance Abuse, November 1995.

"Evidence for the involvement of macrophage-derived nitric oxide in stressor-induced modulation of proliferative response to microbial superantigen", presented at the meeting of the Psychoneuroimmunology Research Society, November 1994.

"Nitric oxide and stress", presented at Second Annual Symposium on The Brain-Immune Axis and Substance Abuse, June 1994.

"Conditioned immune alterations in animal models". presented at the Eleventh ORNL Life Sciences Symposium: Indoor air and human health revisited, sponsored by the United States Environmental Protection Agency, March 1994.

"Conditioned alterations of immune status: Evidence for the involvement of endogenous opioid activity and the ß-adrenergic system". presented at the Annual Symposium on the Brain-Immune Axis and Substance Abuse, Committee on Problems of Drug Dependency and Drug Abuse, June 1993.

"Stressor-induced alterations of immune status", presented at the Environmental Protection Agency, Human Division, July 1993.

"Stressor-induced immune alterations: Evidence for the involvement of endogenous opioid activity and the ß-adrenergic system", presented at the Environmental Protection Agency, May 1993.

"Conditioned alterations of immune status: Evidence for the involvement of endogenous opioid activity and the ß-adrenergic system". presented at Research Perspectives in Psychoneuroimmunology IV, April 1993.

"Stressor-induced alterations of immune status", presented at the Curriculum in Neurobiology, University of North Carolina Chapel Hill, March 1993.

"Pavlovian conditioned alterations of immune status: Evidence for the involvement of opioid and ß-adrenergic receptors", presented at the University of Georgia, Athens, Georgia; May 1992.

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"Pavlovian conditioned alterations of immune function", presented at the Department of Psychology, Iowa State University, Ames, Iowa, March 1990.

"Rodents in Psychoneuroimmunology: Methodological problems", presented at a National Institute of Mental Health sponsored meeting entitled "Mechanisms of Neuroimmune Interaction", Pittsburgh, PA; September 1989.

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"Conditioned stressor induced immune alterations", presented at the Department of Psychology, Dartmouth College, Hanover, NH, March 1989.

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