

JAMES W. GRAU

- Addresses:** Department of Psychology
Texas A & M University
College Station, TX 77843
- (979) 845-2584 (Office)
j-grau@tamu.edu
- Current Status:** Professor
Department of Psychology and
Texas A&M Institute for Neuroscience
Texas A&M University
- Education:** B.A. University of Colorado, Psychology and Molecular,
Cellular and Developmental Biology, 1981
M.A. University of Pennsylvania, Psychology, 1982
Ph.D. University of Pennsylvania, Psychology, 1985
- Honors:** Phi Beta Kappa (1981)
Fellow, American Psychological Association (Divisions 3, 6 & 28)
President of Division 6, American Psychological Assn. (2004-2005)
University Faculty Fellow Award (2000-2005; \$100,000)
University Research Award (2001)
Mary Tucker Currie Professor of Liberal Arts (2005-present)
Fellow, American Psychological Society (2009)
Texas A&M Institute for Neuroscience Service Award, 2013
Jerry Johnston Andrew Spinal Research Award (2014, \$10,000)
- Professional Experience:**
- Research Assistant Department of Psychology, University of Colorado, 1978-1981,
under Dr. S. F. Maier
- Research Assistant Department of Psychology, University of Pennsylvania, 1982,
under Dr. R. A. Rescorla
- Instructor (Learning) Department of Psychology, University of Pennsylvania,
1984-1985
- Vis. Asst. Professor Department of Psychology, University of North Carolina at Chapel
Hill, 1985-1987
- Assistant Professor Department of Psychology, Texas A&M University, 1987-1992
- Visiting Scholar Department of Psychology, University of Texas at Austin, 1993-
1994
- Associate Professor Department of Psychology and Faculty of Neuroscience, Texas
A&M University, 1992-1998
- Visiting Scholar Psychology Department, University of Texas-Austin, Spring, 1998
- Professor Department of Psychology and Faculty of Neuroscience, Texas
A&M University, 1998-present
- Chair Faculty of Neuroscience, Texas A&M University, 2007-2010
- Chair Texas A&M Institute for Neuroscience, 2010-2011
- Graduate Faculty Texas A&M Health Science Center, 2011-present

Instruction of Courses at the University of North Carolina:

- PSYC 22 Learning: Fall, 1985; Spring, 1986; Fall, 1986
PSYC 104 Cognitive Psychology (Current Topics in Psychology): Spring, 1987
PSYC 201 Experimental Methods: Conditioning and Learning: Fall, 1986 (Guest Lecturer)
PSYC 202 Biological Psychology: Spring, 1987 (Guest Lecturer)
PSYC 301 Seminar on Animal Learning and Memory: Spring, 1986 (with D. Eckerman)
PSYC 333 Research Seminar in Experimental Psychology: Fall, 1985; Fall, 1986 (Organized with M. Picker)
PSYC 334 Research Seminar in Experimental Psychology: Spring, 1986, 1987 (Organized with M. Picker)

Instruction of Courses at Texas A & M University:

- PSYC 107 Introduction to Psychology: Fall 1987; Spring, 1988
PSYC 107H Introduction to Psychology, Honors: Fall, 1989; Spring, 1989
PSYC 320 Sensation-Perception: Spring, 1989, 1990, 1991, 1992, 1993, 1996, 2001; Fall, 1999; Summer, 1995
PSYC 320H Sensation-Perception, Honors: Fall, 1991
PSYC/NRSC 340 Psychology of Learning: Fall, 1987, 1988, 1989, 1990, 1991, 1992, 1994, 1996, 1998, 2000, 2001, 2010, 2014, 2015, 2016; Spring, 1990, 2006, 2007, 2008, 2012, 2013, 2014, 2015
PSYC 340H Psychology of Learning, Honors: Fall, 1990; Spring, 1992, 2000, Fall, 1995, 1997, 2001, 2003
PSYC 345H Human Cognitive Processes, Honors: Spring, 1988
NRSC 602 Principles of Neuroscience II (part 2): Spring, 2011, 2012, 2013, 2014, 2015
PSYC/NRSC 606 Learning (Graduate): Fall, 1988, 1990, 1992, 1994, 1996, 1998, 2000, 2002, 2004, 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2016
PSYC 615 Perceptual Processes: Spring, 1997; Fall, 1999
PSYC 649 Seminar in Behavioral Neuroscience (Mechanisms of Learning): Spring, 1995, 1999
PSYC 689 Special Topics in Behavioral Neuroscience (Pain Modulation): Spring, 1990

Instruction of Courses at University of Texas

- PSYC 394 Contemporary Learning Theory: Spring, 1994 (with M. Domjan)
PSYC 394 Neurobehavioral Studies of Learning: Spring, 1998 (with M. Domjan and Paco Gonzalez-Lima)

Postdoctoral Trainees

Michelle Hook (2002-2005; current: asst. prof. TAMHS)
Adam Ferguson (2003-2004; current: asst. prof. UCSF)
Luis Carcoba (co-Advisor with Mary Meagher; 2005-2008)
Kyle Baumbauer (2005-2011; current: asst. prof. U. Conn.)
Sandra Garraway (2008-2013; current: asst. prof. U. Emory)
Kevin Hoy (2011-2012; current: post doc CWRU/Metrohealth Med. Ctr.)
Milly Lee (2013-2014; current: post doc U. Pitt.)
Kie Huang (2015-present; current: post doc TAMU)

Ph.D. Committee Service (Chair):

Paul Illich (1990-1993; current: President Southeast Comm. College [Lincoln])
Tamara King (1994-1997; current: assoc. prof. U. New England)
Robin L. Joynes (1995-1998; current: assoc. prof. Kent State)
Eric Crown (2000-2002; asst. dir. global medical publishing AbbVie)
Adam Ferguson (2000-2003; current: asst. prof. UCSF)
Stephanie Washburn (2005-2007; current: dir. clinical research InThera Medical)
Russell Huie (2007-2010; current: post doc UCSF)
Denise Puga (2007-2011; current: program coordinator TAMU-VPR)
Kevin Hoy (2008-2011; current: post doc CWRU/Metrohealth Med. Ctr.)
Milly Lee (2008-2013; current: post doc U. Pitt.)
Kie Huang (2010-2015; current: post doc TAMU)
Joel Turtle (2013-2016; current: completing M.D. component of his degree)
Misty Strain (2012-present)
Gizelle Leal (Chair, 2016-present)
Jacob Davis (Chair, 2016-present)

Ph.D. Committee Service (Member):

Eddie Vela (Smith, 1988-1989)
Cathy Grover (Nation, 1989-1991)
Margaret Hale (Seaman, 1992-1993)
D. Hodgson (Bond [Marquarie Univ.], 1993)
Stephen Balfour (Smith, 1995-1997)
Robert T. Burkey (Nation, 1993-1995)
Lance R. McMahon (Wellman, 1994-1998)
Jamie Rhudy (Meagher, 1998-2000)
Woojin Lee (Batchelor (Environmental Engineering), 1998-2001)
Robin Johnson (Meagher, 2003-2006)
Jeff Grimes (Meagher, 2003-2006)
Suzannah Creech (Meagher, 2004-2007)
Nick Simon (Setlow, 2008-2010)
Yishi Liu (Garcia [Biol.], 2005-2010)
Jedediah Tressler (Smotherman [Biol.], 2006-2010)
Ian Mendez (Setlow, 2008-2010)
Elisabeth Vichaya (Meagher, 2007-2010)
Candi LaSarge (Bizon, 2010-2011)
Kevin Hoy (Chair, 2008-2011)
Eric Strickland (co-Chair w/R. Miranda [NExT], 2009-2013)
Jason Boyle (Shea, 2011-2013)
Christopher Hansen (Basso [Ohio State Univ.], 2012-2014)
Sioui Maldonado (Hook, 2011-2014)

Deanna Kennedy (Shea, 2011-2015)
Sophia You (Meagher, 2010-2016)
Miriam Aceves (Hook, 2011-present)
Brent Furl (Meagher, 2010-present)
Travis Goode (Maren, 2013-present)
Thomas Giustino (Maren, 2014-present)
Gillian Acca (Nagaya, 2014-present)
Jingji Jin (Maren, 2014-present)
Kiralyn Brakel (Hook, 2016-present)

M.A. Committee Sevice:

Paul Illich (Chair, 1988-1990)
Mandy Biles (Chair, 1989-1990)
Tamara King (Chair, 1992-1994)
Charles Kalina (Chair, 1992-1994)
Robin L. Joynes (Chair, 1993-1995)
Lance L. McMahon (Wellman, 1992-1994)
Clay Splawn (McCann, 1995-1996)
Jamie Rhudy (Meagher, 1996-1998)
Simon Dembitzer (Allen, 1997-1998)
Magy Seif El-nasr (Computer Science, 1997-1999)
Amy Sieve (Chair, 1997-2000)
Eric Crown (Chair, 1997-2000)
Brian Partridge (Schenk, 1997-2000)
Jose Reynoso (Cepeda, 1997-2001)
Adam Ferguson (Chair, 1998-2001)
Erik Jackiw (Allen (Philosophy), 1998-2001)
Robin Johnson (Meagher, 2000-2003)
Jeff Grimes (Meagher, 2001-2003)
Suzannah Creech (Meagher, 2001-2004)
Stephanie Washburn (Chair, 2002-2005)
Anne Bopp (Chair, 2002-2005)
Steve Campbell (Varner [Philosophy], 2005-2006)
Elisabeth Good (Meagher, 2004-2007)
Denise Puga (Chair, 2004-2007)
Russell Huie (Chair, 2005-2007)
Jerrell Smith (Meagher, 2005-2008)
Kevin Hoy (Chair, 2005-2008)
Sarah Woller (Hook, 2007-2010)
Ross Colebrook (Varner, 2009-2011)
Inchoh Park (Buchanan, 2013-2014)

Honors Thesis Committee Service:

Andrea L. Brown (Hollins, 1986)
John A. Pelkey (Hollins, 1987)
Dawn Dekle (Chair, 1988-1989)
Keven Chen (Chair, 1990-1991)
Kyle Burks (Chair, 1991-1992)
Jesse McKenney (Chair, 1992-1993)
Kamran Janjua (Chair, 1994-1995)
Heath Penland (Chair, 1996-1997)
Sherilyn McLemore (Chair, 1997-1998)
Brianna Patton (Chair, 2000-2001)
Grace Liu (Chair, 2001-2002)
Christine Petrich (Chair, 2005-2006)
Kara Hudson (Chair, 2006-2007)

Undergraduate Research Thesis

Abbey Hughes (co-Chair with Kyle Baumbauer, 2008-2009)
Keri Callegari (2012-2013)
Ashley Niemerski (2013-2014)
Melissa Brumley (2015-2016)
Josh Reynolds (2015-2016)

Independent Study Students:

James Bichsel (1986)	Leslie Schwandt (1987)
Chana Baum (1988)	Georgetta Brown (1988)
Mandy Morrison (1988-1989)	Juan Salinas (1988-1990)
Dan O'Keefe (1989)	Wendy Roe (1989)
Keven Chen (1989-1990)	Julie Barter (1990-1992)
Pamela Sellers (1990-1991)	Kyle Burks (1991)
Bryan Rumsey (1991)	Charles Parker (1991-1992)
Rebecca Perez (1991-1992)	Margaret Payne (1993)
Jennifer Surber (1992-1993)	Kamran Janjua (1993)
Douglas Barstow (1992-1993)	Heath Penland (1996)
Darren Minke (1997-1998)	Sherilyn McLemore (1997-1998)
Mark Naftanel (1999)	Grace Lui (1997-2002)
Brie Patton (1999-2002)	Shivali Dhruv (2000-2002)
Stephanie Washburn (2000-2002)	Jill Olson (2001)
David Kiehnhoff (2002)	Christine George (2002-2003)
Russell Huie (2002-2005)	Marissa Maultsby (2004-2006)
Christine Petrich (2004-2006)	Cynthia Lin (2004-2005)
Kara Hudson (2005-2006)	Robyn Baldyn (2005-2007)
Ananth Arjunan (2005-2007)	Varun Chowdhary (2006-2007)
Georgina Moreno (2007-2009)	Abbey Hughes (2007-2009)
Jeremy Wurbs (2009-2010)	Joel Turtle (2010)
Elena Lischau (2010)	Kathryn Hanan (2010)
Jamal Malik (2010)	Evy Munro (2012)
Jacob Horton (2012)	Keri Callegari (2012-2013)
Austin Wang (2012-2013)	Ashley Niemerski (2012-2013)

Madeline Matthews (2013)
Callierae Stump (2013-2014)
Ashley Kozicz (2014-2015)
Derek Lehtonen (2014-2015)
Pablo Gonzalez (2015)
Paige Stobaugh (2015)
ChunChen (Jason) Lu (2016-2017)
Clarence Lim (2016-2017))
Rachel Baine (2017)
Paris Bean (2017)

Brandon Pesek (2013)
Lauren Murphy (2013-2016)
Melissa Brumley (2014-2016)
Josh Reynolds (2014-2016)
Allison Morris (2015)
Deleon, Ashley (2016)
Julia Forsberg (2016)
Travis Johnston (2016-2017)
Ashton Norris (2017)

Department Committee Service:

Advisory Committee (1996-2005)
Animal Care (1987-1993; Chair, 1987-2000)
Area Head, Behavioral Neuroscience (2000-2005)
Behavioral Neuroscience Search Committee (2002,
Spring & Fall, Fall 2004, Fall 2007-Spring 2011, 2013, Chair [2002-2011])
Cognitive Neuroscience Search Committee (1989)
Developmental Search Committee (2000)
Department Operations Review (2000-2003)
Director of Graduate Studies (1996-1999)
Doctoral Program Review (2000-2002)
Evaluation Committee (2003-2005, 2009-2011 [elected])
fMIR Search committee (2014)
Graduate Admissions (1988-1992, 1998-1999, 2002; Chair, 1989-1991, 1995-1997,
1999-2001; 2012-2013)
Graduate Program Poster (Chair, 1987-1991, 1996)
Graduate Studies (1994-1995, 1999-2001; Chair, 1996-1999; 2012-2014; 2016-2017)
Head Search Committee (2002, 2006, 2012-2013 [elected])
Library (Department Representative, 1987-1989; 1989-1990)
Program Structure (1988-1989)
Undergraduate Studies (2014-2016)
Special Events (1994-1995)
Web Advisory (1995-1996; 2000-2001)

College Committee Service:

Graduate Instruction Committee (1995-1998)
Endowed Chairs Advisory Committee (2007-2010)

University Committee Service:

CMP Director Search (2009-2010)
Council of Built Environment (2015-2017)
Council of Chairs (2007-2010)
Council of Principal Investigators (2005-2011, 2014-present, elected)
Council of Principal Investigators Executive Committee (2014-2015)
Faculty of Neuroscience Travel Awards (1995-1997)
Faculty of Neuroscience Membership Committee (1999-2003)
Interdisciplinary Life Sciences Bldg (ILSB) Executive Committee (2010-present)
Life Science Advisory Committee (2004-2009)
Life Science Building Committee (2001-2009)
Life Science Task Force (2002-2004; co-Chair, 2004)
Neuroscience & Experimental Therapeutics Search Committee (2013)
TAMIN-Graduate Recruiting Committee (2012-2016)
TAMIN-Finance Committee (2012-2017)
TAMIN-Undergraduate Program Committee (Chair, 2013-2017)
TIRR Faculty Search Committee (Chair, 2015-2016)
University Lab Animal Care Committee (2001-2002)
VPR Advisory Committee (2008-2009)

Administration

- Chair, Texas A&M Institute for Neuroscience (2007-2011; elected)
- Ph.D. program review (Fall, 2008)
- Approval of the Ph.D. program in Neuroscience (Spring, 2009)
- Selected as one of 8 interdisciplinary programs (out of 111) for funding under the Initial University Multidisciplinary Research Initiatives (IUMRIs; 2009)
- Awarded 10 Heep Fellowships for graduate training (Spring, 2010)
- Allocated funds to recruit 3 senior scientists (Spring, 2010)
- Texas A&M Institute for Neuroscience (TAMIN) approved by Regents (Spring, 2010)
- Spinal Cord Hiring Initiative (2014-2017)
 - Orchestrating a University-wide initiative to hire 4 assistant professors in the area of spinal cord injury, supported by a \$1.5 million dollar gift from the TIRR Foundation

State

- Advisory Faculty, Texas Consortium in Behavioral Neuroscience (T32)

National Service:

- APA:** Membership & Growth Committee, Division 6 (1997-2000)
- Secretary / Treasurer, Division 6 (1999-2003)
- Elected President, Division 6 (2003-2006)
- Committee on Scientific Awards (2014-present; Chair, 2016)

Consulting Editor: *Behavioral Neuroscience* (1998-present)

National Institute of Child Health & Human Development: NICHD's Scientific Vision: The Next Decade, workshop on plasticity, January, 2011.

Spinal Cord Injury Preclinical Data Workshop: NINDS, October, 2016

Society for Neuroscience: Committee on Neuroscience Departments and Programs (2007-2011)

Journal Review:

Acta Biomaterialia, Adaptive Behavior, Animal Behaviour, Animal Learning and Behavior, Aviation, Space, and Environmental Medicine, Behavioral Neuroscience, Behavioural Brain Research, BMC Neurology, Brain, Behavior, and Immunity, Brain Research, European Journal of Neuroscience, Experimental Neurology, Frontiers in Integrative Physiology, Frontiers in Neural Circuits, Frontiers in Neuropharmacology, Frontiers in Neuroscience, Frontiers in Pharmacology, Frontiers in Psychology, Frontiers in Systems Neuroscience, Journal of Behavioral and Neuroscience Research, Journal of Experimental Psychology: Animal Behavior Processes, Journal of Neurophysiology, Journal of Neuroscience, Journal of Neuroscience Methods, Journal of Neuroscience Research, Journal of Neurotrauma, Journal of Pain, Journal of Visualized Experiments, Learning and Memory, Learning and Motivation, Memory and Cognition, Neurobiology of Learning and Memory, Neuroscience, Neuroscience Methods, Neurosignals, Neurorehabilitation and Neural Repair, NeuroReport, Pain, Pharmacology, Biochemistry & Behavior, Psyche,

Physiological Psychology, Physiology & Behavior, Progress in Neurobiology, Psychobiology, Psychological Review, Psychopharmacology, Teaching of Psychology, Journal of Spinal Cord Medicine

Grant Review:

Ad hoc reviewer for NSF
Department of Defense Congressionally Directed Medical Research
Programs (CDMRP; 2010, 2011, 2012, 2013)
Neilsen Foundation (external: 2007, 2008, 2009);
ad hoc panel member (2015-2016)
Panel member (2017-2022)
NINDS Program Projects (1999)
Ad hoc reviewer for Wings for Life (2015-2016)
Paralyzed Veterans of America (PVA; 2016)
NIH: Clinical neuroplasticity and neurotransmitters (CNNT; 2017)

International Service:

Symposium on Spinal Cord Plasticity, UCLA, November (1998)
Australian Research Council Panel of Assessors (2004-present)

Dissertation: "The central representation of an aversive event maintains
the opioid and nonopioid forms of analgesia"

Current Research Interests:

Spinal plasticity / learning / metaplasticity
Recovery of function after spinal cord injury
Cell death
Encoding of temporal relations

Professional Organizations:

American Association for the Advancement of Science
American Psychological Association (Fellow)
American Psychological Society (Fellow)
International Pain Society
Neurotrauma
Society for Neuroscience

Invited Presentations:

American Psychological Association (4)
American Society for Neurochemistry
Brown University-Psychology
Columbia University
Dartmouth University-Psychology
Drexel University College of Medicine
Duke University-Biopsychology (2)
Eastern Psychological Association
Emory University
ICORD (Vancouver, BC)
International Symposium on Neural Regeneration
Kentucky Spinal Cord Injury Research Center (2)
Kentucky Spinal Cord Injury Research Center Symposium
Mission Connect (2), Houston, TX
Nanotech., Biotech., Information Tech. and Cognitive Science (UCLA)
Neural Restoration Workshop, Sandia National Laboratories
OSU-Neuroscience
Pavlovian Society (2)
Southwestern University-Neuroscience
Southwestern Comparative Psychological Association (Keynote)
Texas A&M-Neuroscience (2)
UCLA-Biopsychology
UCLA-Neuroscience
UCLA-Symposium on Spinal Cord Plasticity
University of California-San Francisco
University of Colorado
University of Indiana (2)
University of Iowa (2)
University of Kentucky
University of Michigan
University of North Carolina-Biopsychology (2)
University of Pennsylvania
University of Texas-Biopsychology (4)
University of Texas Health Science Center (2)
University of Washington
Yale University-Biopsychology

External Grant Support (PI):

- NIDA Grant, "The role of the central nucleus of the amygdala in pain", 1/87-6/88, \$21,289.
- Texas Advanced Research Program, "Opioid sensitization: Determinants and neural mechanisms", 11/89-8/92, \$62,536.
- NIDA Grant, "Activation of the hormonal form of opioid analgesia", 5/89-4/90, \$33,134.
- NSF Grant, "Conditioned changes in pain reactivity: The variables which determine the direction and the form of the conditioned response", 3/89-2/91, \$74,651.
- NIMH Grant, "Spinal plasticity and pain: Mechanisms and function", 5/92-4/96, \$233,491.
- NIMH Grant, "Sensitization: Behavioral properties & neural mechanisms", 12/96-11/00, \$335,591 (1.3 percentile).
- NIMH Grant, "Spinal cord plasticity: Behavioral and neural mechanisms", 4/1/00-3/31/04, \$646,416.
- NINDS Grant, "Learning within the spinal cord: Clinical implications", 12/1/01-2/14/07, 1,820,265 (1.3 percentile).
- NINDS ARRA Grant, "Learning within the spinal cord: Clinical implications", 9/30/09-8/31/11, \$105,194.
- NINDS Grant, "Learning within the spinal cord: Clinical implications", 2/1/07-1/31/13, \$1,461,899 (5.1 percentile, first submission).
- NICHHD Grant, "Influence of environmental stimulation and learning on recovery after injury", 9/28/07-7/31/13, \$1,214,400 (10.1 percentile, first submission).
- Mission Connect, "Neurotrophin Delivery Using Injectable Hydrogels for Increased Plasticity after Spinal Cord Injury", 10/1/12-9/30/14, \$50,000.
- Mission Connect, "Probenecid: "A potential treatment to reduce cell death, and chronic pain, after spinal cord injury". Mission Connect Research Priority Award, 9/1/14-11/30/15, \$19,886.
- Craig H. Neilsen Foundation, "How and when does peripheral input affect recovery after SCI?", Spinal Cord Injury Research on the Translational Spectrum (SCIRTS) Award, 12/31/14-12/30/17, \$553,435.
- NINDS, "Effect of inflammation on recovery and pain after spinal cord injury", 2/1/16-1/31/18, \$402,205 (5th percentile).

External Grant Support (coPI/coI/Consultant):

- NINDS Grant (R03), "Pavlovian conditioning in injured spinal cord systems", 9/1/05-8/30/07, \$144,000, PI: Dr. M. Hook.
- NIDA Grant (B-Start), "The effects of morphine on sensory and motor functions after a spinal cord injury", 1/1/06-12/31/08, \$71,512, PI: Dr. M. Hook.
- NIH T32 Training Grant, "Texas Consortium in Behavioral Neuroscience", 2002-2007, supporting 2 grads. and 1 post doc. trainee at A&M, coPI (PI: P. Gonzalez-Lima).
- NINDS Grant, "Metaplasticity and recovery after spinal cord injury: Cellular mechanisms", 4/10-3/14, \$1,136,357 (\$75,000 direct/yr. to J. Grau), coPI (PI: A. Ferguson) (5 percentile, first submission).
- Mission Connect, "The effects of morphine on recovery of function after SCI", 5/1/09-4/30/12, \$120,000 (PI: M. Hook)
- NIDA Grant (R01), "Morphine undermines recovery of function after SCI: Neurobiological mechanisms", 3/1/2011-2/28/2016, coI (PI: M. Hook), \$1,172,000.
- NINDS Grant (R21), "Cellular mechanisms underlying pain following spinal cord injury", coI (PI: S. Garraway), \$396,000, 7/1/2013-6/30/2016.
- NIDA Grant (R44), "Service and software solution for the rigorous design of animal studies", consultant (PI: K. Drake), \$2,018,262, 3/1/2016-2/28/2019.

Other Support:

- TAMU Minigrant: "Activation of the analgesic systems at the level of the brainstem", 1/1/88-7/31/88, \$750.
- Biomedical Research Support Grant: "A behavioral technique to assess the role of neural systems and peptides in pain, and their contribution to behavioral plasticity", 4/1/88-3/31/89, \$5,000.
- TAMU Minigrant, "Sensitization of the opioid system by food deprivation", 5/89-12/89, \$800.
- TAMU Minigrant: "Pain modulation in the spinal cord", 7/90-12/90, \$1,000.
- Biomedical Research Support Grant: "Conditioned hyperalgesia: When does it occur and how does it affect pain reactivity?", 4/91-3/92, \$5,500.
- TAMU Minigrant: "The impact of food deprivation on morphine's reinforcing effects", 6/93-12/93, \$900.
- TAMU Minigrant: "Role of the THC receptor in learned helplessness", 5/94-10/94, \$1,448.
- TAMU Program to Enhance Scholarly and Creative Activities: "Unconditioned hyperalgesia: A preliminary analysis of the underlying neural mechanisms", 5/96-4/97, \$7,466.

Refereed Publications:

1. Maier, S. F., Coon, D. J., McDaniel, M. A., Jackson, R. L., and Grau, J. W. (1979). The time course of learned helplessness, inactivity, and nociceptive deficits in rats. *Learning and Motivation, 10*, 467-487.
2. Maier, S. F., Davies, S., Grau, J. W., Jackson, R. R., Morrison, D. H., Moye, T., Madden, J., and Barchas, J. D. (1980). Opiate antagonists and the long-term analgesic reaction induced by inescapable shock in rats. *Journal of Comparative and Physiological Psychology, 94*, 1172-1183.
3. Drugan, R. C., Grau, J. W., Maier, S. F., Madden, J., and Barchas, J. D. (1981). Cross tolerance between morphine and the long-term analgesic reaction to inescapable shock. *Pharmacology, Biochemistry and Behavior, 14*, 677-682.
4. Grau, J. W., Hyson, R. L., Maier, S. F., Madden, J., and Barchas, J. D. (1981). Long-term stress-induced analgesia and activation of the opiate system. *Science, 213*, 1409-1411.
5. Moye, T. B., Coon, D. J., Grau, J. W., and Maier, S. F. (1981). Therapy and immunization of long-term analgesia in rats. *Learning and Motivation, 12*, 133-148.
6. Hyson, R. L., Ashcraft, L. H., Drugan, R. C., Grau, J. W., and Maier, S. F. (1982). Extent and control of shock affects naltrexone sensitivity of stress-induced analgesia and reactivity to morphine. *Pharmacology, Biochemistry and Behavior, 17*, 1019-1025.
7. Maier, S. F., Drugan, R. C., and Grau, J. W. (1982). Controllability, coping behavior, and stress-induced analgesia in the rat. *Pain, 12*, 47-56.
8. Moye, T. B., Hyson, R. L., Grau, J. W. and Maier, S. F. (1983). Immunization of opioid analgesia: Effects of prior escapable shock on subsequent shock-induced and morphine-induced antinociception. *Learning and Motivation, 14*, 238-251.
9. Grau, J. W. and Rescorla, R. A. (1984). Role of context in autoshaping. *Journal of Experimental Psychology: Animal Behavior Processes, 10*, 324-332.
10. Grau, J. W. (1984). Influence of naloxone on shock-induced freezing and analgesia. *Behavioral Neuroscience, 98*, 278-292.
11. Rescorla, R. A., Grau, J. W. and Durlach, P. J. (1985). Analysis of the unique cue in configural conditioning. *Journal of Experimental Psychology: Animal Behavior Processes, 11*, 356-366.
12. Grau, J. W. (1987). The central representation of an aversive event maintains the opioid and nonopioid forms of analgesia. *Behavioral Neuroscience, 101*, 272-288.
13. Grau, J. W. (1987). The variables which control the activation of analgesic systems: Evidence for a memory hypothesis and against the coulometric hypothesis. *Journal of Experimental Psychology: Animal Behavior Processes, 13*, 215-225.

14. Grau, J. W., & Kemler-Nelson, D. G. (1988). The distinction between integral and separable dimensions: Evidence for integrality of pitch and loudness. *Journal of Experimental Psychology: General*, 117, 347-370.
15. Meagher, M. W. and Grau, J. W., & King, R. A. . (1989). Prefrontal cortex lesions block the opioid and nonopioid hypoalgesia elicited by brief shocks, but not long shock-induced hypoalgesia. *Behavioral Neuroscience*, 103, 1366-1371.
16. Meagher, M. W., Grau, J. W., & King, R. A. (1990). The role of supraspinal systems in analgesia: The impact of spinalization and decerebration on the analgesia observed after very brief versus long shocks. *Behavioral Neuroscience*, 104, 328-338.
17. Grau, J. W., Salinas, J. A., Illich, P. A., & Meagher, M. W. (1990). Associative learning and memory for an antinociceptive response in the spinalized rat. *Behavioral Neuroscience*, 104, 489-494.
18. Illich, P. A., & Grau, J. W. (1990). The impact of shock on reactivity to a tactile stimulus. *Learning and Motivation*, 21, 287-298.
19. Grau, J. W., Illich, P. A., Chen, P., & Meagher, M. W. (1991). The role of cholinergic systems in pain modulation I: The impact of scopolamine on shock-induced hypoalgesia. *Behavioral Neuroscience*, 105, 105-124.
20. Grau, J. W., Biles, M. K., & Illich, P. A. (1991). The impact of naltrexone and morphine tolerance on mild shock-induced analgesia. *Psychobiology*, 19, 85-90.
21. Illich, P.A., Salinas, J.A., & Grau, J.W. (1991). Conditioned changes in pain reactivity II: In search of the elusive phenomenon of conditioned hyperalgesia. *Behavioral Neuroscience*, 105, 478-481.
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7. The role of dopamine in addiction and reward
8. Hippocampal function and long-term potentiation
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