Daniel Bitran, Ph.D
Professor of Psychology

ACADEMIC BACKGROUND

City University of New York, Queens College
Bachelor of Arts, 1981, Psychology

State University of New York at Buffalo
Doctor of Philosophy, 1987, Physiological Psychology
Dissertation: "Dopaminergic regulation of male copulatory behavior: Probable roles of pre– and postsynaptic receptors in the medial preoptic area". February 1987.

University of Connecticut
Postdoctoral Fellow, 1986–1988, Behavioral Neuroendocrinology

EMPLOYMENT HISTORY

1979 – 1981	Research Assistant to Dr. Sarah F. Leibowitz, Rockefeller University, New York, NY
1982 – 1986	Graduate Student, SUNY at Buffalo, Dept. of Psychology, under the supervision of Dr. Elaine M. Hull, Amherst NY.
1986 – 1988	Postdoctoral Fellow, University of Connecticut, Dept. Psychology, in the lab of Dr. Benjamin D. Sachs, Storrs CT.
1987 – 1988	Instructor, Clark University, Dept of Psychology, Worcester, MA.
1988 – 1992	Research Associate – Assistant Professor/part–time, University of Rochester, Department of Psychology, Rochester NY.
1992 – 1999	Assistant Professor, College of the Holy Cross, Department of Psychology, Worcester MA.
1996 – 2005	Adjunct Assistant Professor, University of Massachusetts Medical Center, Department of Psychiatry, Worcester MA.
1999 – 2009	Associate Professor, College of the Holy Cross, Department of Psychology, Worcester, MA.
2009 – present	Professor, College of the Holy Cross, Department of Psychology, Worcester, MA.

TEACHING EXPERIENCE

Biology of Mental Disorders
Biopsychology of Stress
Drugs of Abuse
History, Memory, and the Holocaust (Maymester course)
Hormones and Behavior
Introduction to Neuropsychology
Introduction to Neuroscience
Introduction to Psychology
Laboratory Course in Neurobiology
Laboratory in Behavioral Neuroscience
Laboratory in Research Methods
Madness: Real or Imagined?
Neurochemistry
Physiology and Behavior
Psychoactive properties of herbs and other plants
Psychobiology of Aggression
Psychopharmacology
Research Methods
Science, Medicine, and the Holocaust

ADMINISTRATIVE POSITIONS

2000 – 2005	Chair, Department of Psychology, College of the Holy Cross
2007 – present	College Science Coordinator
2008 – 2010	Director, Biological Psychology Concentration
2012 – 2016	Co-director, Biological Psychology Concentration
Spring 2019	Interim Chair, Institutional Animal Care and Use Committee

Elected Committee

2015 – 2016	Member, Committee on Tenure and Promotion

PROFESSIONAL MEMBERSHIP

Council on Undergraduate Research
Faculty for Undergraduate Neuroscience
Society for Neuroscience

Ad–hoc Journal Article Reviewer

Behavioral Brain Research
Brain Research
Brain Research Bulletin
Endocrinology
Hormones and Behavior
Journal of Neurochemistry
Journal of Neuroscience
Life Sciences
Neurobiology of Aging
Pharmacology Biochemistry and Behavior
Physiology and Behavior
Psychopharmacology

Study Section Reviewer

3/2012 and 10/2012 National Institutes of Health, Veteran's Administration Study Section on Gulf War Veteran Illnesses. Participated in an all-day teleconference reviewing 15 proposals. Served as primary reviewer on one proposal, voted on all proposals considered by the study section.

GRANTS, SCHOLARSHIPS, and AWARDS

7/1982 – 5/1983 Special Merit Predoctoral Assistantship, SUNY/Buffalo

7/1983 – 5/1984 University Presidential Predoctoral Fellowship, SUNY/Buffalo

7/1984 – 5/1986 Graduate Group in Neuroscience Predoctoral Fellow, SUNY/Buffalo

7/1990 – 6/1992 Co–investigator in NIMH grant – "Drug–stress interactions in pregnancy and development", C.K. Kellogg, Pl.

9/1992 – 8/1997 NIMH F.I.R.S.T. Award – "Ovarian hormones and anxiety: behavior and neurochemistry" (R29 MH50450–01) $209,613 direct costs.

9/1995 – 8/1998 NSF Division of Undergraduate Education I.L.I. Award – "Biological Psychology: A Laboratory–Centered Curriculum" (DUE–9551247) $81,784 instrumentation budget.

9/1997 – 8/2000 NSF Research Undergraduate Institution Award – "Neurosteroid potentiation of $GABA_A$ receptor–mediated behavior" (RUI) $174,491 total budget.

6/1999 – 12/2004 Wyeth-Ayerst Women's Health Research Division – "Psychotropic effects of pregnane steroids." Total budget to date: $209,837

- 6/17/1999 1st installment of $11,000
- 8/6/1999 2nd installment of $16,000
- 1/24/2000 3rd installment of $50,562
- 7/7/2000 4th installment of $6,324
- 11/11/2000 5th installment of $84, 250
- 3/5/2002 6th installment of $21, 886
- 3/12/2004 7th installment of $19,815

9/2002 Cypress Bioscience Inc. – "Effects of clavulanic acid on behavior in the novel open field and in the elevated plus-maze." $2,876 in total costs.

2/2001 – 12/2008 Wyeth-Ayerst Research– "Cognitive enhancing effects of estrogenic compounds." Total budget to date $72,799

- 2/15/2001 1st installment of $16,000
- 11/20/2001 2nd installment of $32,500
- 7/01/2003 3rd installment of $9,900
- 2/01/2007 4th installment of $14,399
- 12/01/2008 no cost extension

6/2005 College of the Holy Cross Batchelor Ford Summer Faculty Fellowship, "Effects of selective stimulation of the estrogen receptor subtypes (alpha vs. beta) on reference memory function."

1/2006 College of the Holy Cross Faculty Fellowship, Spring 2006, "Steroids, Behavior, and Brain Function: Not Just Reproductive Physiology, Anymore"

3/2006 College of the Holy Cross Research and Publications Grant, "Synthesis and behavioral effects of diarylpropionitrile (DPN): a selective estrogen receptor beta (ERβ) modulator."$2,000.

11/2006 College of the Holy Cross Research and Publications Grant, "The effects of chronic activation of estrogen receptor (ER) subtypes with propylpyrazole trisphenol (PPT), an ERα-selective ligand, diarylpropionitrile (DPN), an ERβ-selective ligand, or 17β-estradiol on the expression of ERα and ERβ mRNA in prefrontal cortex, hippocampus, and hypothalamus of the ovariectomized mouse: an in situ hybridization study." $975.

9/2007 Recipient of the Arthur J. O'Leary Faculty Recognition Award. Funds ($10,000) were used to increase instrumentation in the measure of acoustic startle responses and related phenomena.

9/2007 Promoting students' early involvement in science research at Holy Cross. A grant to the Sherman-Fairchild Foundation was submitted September 6, 2007. (Application was successful, is for 3 years for a total of $225,000.)

7/2008 Kraft-Hiatt Fund for Judeo-Christian Understanding, Yad Vashem Holocaust Institute Study Grant. "Can neuroscience contribute to our understanding of the Holocaust?" Attended three-week seminar on Holocaust education.

8/2008 *Eight Clare Boothe Luce Undergraduate Scholarships in the Physical Sciences. A grant proposal to the Boothe Luce Foundation*, funded AY 2010-AY 2013, total of $420,532.

9/2008 *Investing in Cancer Research and Nation's Future Cancer Researchers.* A proposal submitted to the Trustees of the Simeon J. Fortin Charitable Foundation. Seeking $100,000 to fund 48 summer research students over a three-year period. Submitted 9/15/2008, not funded.

3/2009 *Beckman Scholars Program,* Arnold and Mabel Beckman Foundation. Four scholarships ($19,300 each) for academic and summer research in the natural sciences from 9/2009 through 4/2012, total of $77,200.

6/2009 Danuta Bukatko (Project Director), Beverly Bell (co-PI), Daniel Bitran, Cathryn Roberts, Janine Shertzer, and Chick Weiss (consultants). *Enhancing STEM Teacher Education in a Liberal Arts Setting: A Noyce Phase 1 Proposal*. Program will provide scholarships and tutoring positions to students who are majoring in the natural sciences and are in the Teacher Education Program. $900,000 total, June 1, 2009 – May 31, 2014.

7/2009	Yad Vashem Holocaust Institute Graduate Seminar on Holocaust Education, Jerusalem, Israel. The 10-day seminar was funded by Yad Vashem, the travel cost was paid by the President's office ($500), the Dean's office ($500), and Research and Publications Committee ($500).
8/2009	*A Summer Workshop: Should the Biological Psychology Concentration Be Administered by the Center for Interdisciplinary and Special Studies?* Hewlett-Mellon Grant provided $1,350 to fund the participation of 10 faculty in this one-day workshop.
6/2010	*Summer Research Fellowships for Fifteen Outstanding Holy Cross Biology, Chemistry, and Physics Students.* BD Corporation grant proposal, five scholarships per summer for 2011-2013, total of $99,000.
9/2011	*Beckman Scholars Program*, Arnold and Mabel Beckman Foundation. Four scholarships ($19,300 each) for academic and summer research in the natural sciences from 9/2012 to 4/2015. Made first cut to 30 programs, not included in final 11 funded programs.
2/2012	*"Science, Medicine, and the Holocaust: A seminar for undergraduates interested in the sciences and health professions."* Center for Teaching grant to present a talk at the 8th International Conference on Holocaust Education, Yad Vashem, Jerusalem, Israel, total of $3,300.
9/2012	*Beckman Scholars Program*, Arnold and Mabel Beckman Foundation. Four scholarships ($19,300 each) for academic and summer research in the natural sciences from 9/2013 to 4/2016. Not funded.
10/2012	Simon J. Fortin Charitable Foundation. "Investing in cancer research and in the nation's future cancer researchers." - $109,350 to fund 18 students in research during the summers of 2013, 2014, and 2015. Not funded.
3/2013	"Using the iPad to enrich teaching across all levels of the psychology major's curriculum." Successful application, will lead to development workshops to be held in summer 2013.
10/2015	Award for Undergraduate Research Accomplishments (AURA) application to the Council on Undergraduate Research, with Daniel Klinghard. Received honorable mention.
6/2018	Year Three: *Six Clare Boothe Luce Undergraduate Scholarships in the Physical Sciences. A grant proposal to the Boothe Luce Foundation*, funded AY 2016-AY 2018, total of $218,722.
10/2018	United States Holocaust Memorial and Museum 2019 Jack and Anita Hess Faculty Seminar on "Disability, Eugenics, and Genocide: Nazi Germany, Its Antecedents and Legacy." Was not selected to participate.
1/2019	Applied for a paid Research Associate to work on a translation of "Les Médecins de l'Impossible," an award winning book by Christian Bernadac that describes experiments conducted by the Nazis on concentration camp prisoners. Hired Emma Flanagan '21 to do this work.

3/2019	Invited to apply for the 2019 Summer Research Fellow at the United States Holocaust Memorial and Museum. Was not selected.
6/2019	Batchelor Ford Summer Fellowship: Translation, annotation, and evaluation of "Les Médecins de l'Impossible." Funded
1/2020	HHMI Inclusive Excellence Preproposal. Alo Basu, PI; with Denise Bell, Daniel Bitran, Andrew Hwang, Andre Isaacs, Patricia Kramer, Michelle Mondoux, Tomohiko Narita, Kelly Saintelus, Madeline Vargas, and Kevin Walsh; leadership team.
10/2020	Update on HHMI Inclusive Excellence Three (IE3) preproposal: Of the 354 pre-proposals received, we were selected as one of 108 institutions "most ready to contribute effectively to the HHMI IE3 learning community (IE3LC)."
1/2021	Received a $30K "learning grant" to support participation in the IE3LC. Have designed a four-day workshop planned for July 2021, for self-study, and to address issues of deficit models of education; inclusive pedagogy; and examine these from student-centered perspective.
2/2021	NSF Capacity Building Project. Alo Basu, PI; Denise Bell, Daniel Bitran, Kelly Saintelus, and Madeline Vargas, co-PIs. "Building capacity for integrative STEM pedagogy to transform deficit frameworks in institutional culture." Three-year grant proposal total cost $298,866. Submitted February 1, 2021.

PUBLICATIONS (*undergraduate student authorship)

1. Hull, E.M., Nishita, J. K., **Bitran**, D., and Dalterio, S. Perinatal dopamine-related drugs demasculinize rats. *Science,* **224***:* 1011-1013, 1984.
2. McCabe, J.T., **Bitran**, D., and Leibowitz, S.F. Amphetamine-induced anorexia: analysis with hypothalamic lesions and knifecuts. *Pharmacology Biochemistry and Behavior,* **24**: 1047-1056, 1986.
3. Hull, E.M., **Bitran**, D., Pehek, E.A., Warner, R.K., Band, L.C., and Holmes*, G.M. Dopaminergic control of male sex behavior in rats: effects of an intracerebrally-infused agonist. *Brain Research,* **370:** 73-81, 1986.
4. **Bitran**, D. and Hull, E.M. Pharmacological analysis of male rat sexual behavior. *Neuroscience and Biobehavioral Reviews,* **11**: 365-389, 1987.
5. **Bitran**, D., Hull, E.M., Holmes*, G.M., and Lookingland, K.J. Regulation of male rat copulatory behavior by preoptic incertohypothalamic dopamine neurons. *Brain Research Bulletin,* **20**: 323-331, 1988.
6. Pehek, E.A., Warner, R.K., Bazzett, T.J., **Bitran**, D., Band, L.C., Eaton, R.C., and Hull, E.M. Microinjection of cis-flupenthixol, a dopamine antagonist, into the medial preoptic area impairs sexual behavior of male rats. *Brain Research,* **443**: 70-76, 1988.

7. Hull, E.M., **Bitran**, D., Pehek, E.A., Holmes, G.M., Warner, R.K., Band, L.C., and Clemens, L.G. Brain localization of cholinergic influence on male sex behavior in rats: agonists. *Pharmacology Biochemistry and Behavior,* **31:** 169-174, 1988.
8. Hull, E.M., Pehek, E.A., **Bitran**, D., Holmes, G.M., Warner, R.K., Band, L.C., Bazzett, T.J., and Clemens, L.G. Brain localization of cholinergic influence on male sex behavior in rats: antagonists. *Pharmacology Biochemistry and Behavior,* **31**: 175-178, 1988.
9. Sachs, B.D., Clark, J.T., Molloy, A.G., **Bitran**, D., and Holmes, G.M. Relation of grooming to sexual behavior in male rats. *Physiology and Behavior,* **43:** 637-643, 1988.
10. **Bitran**, D., Miller, S.A., McQuade, D.B., Leipheimer, R.E., and Sachs, B.D. Inhibition of sexual reflexes by lumbosacral injection of a $GABA_B$ agonist in the male rat. *Pharmacology Biochemistry and Behavior,* **31**: 657-666, 1988.
11. **Bitran**, D. and Sachs, B.D. Penile desensitization does not affect postcopulatory genital autogrooming in rats: Evidence for central motor patterning. *Physiology and Behavior,* **45:** 1001-1006, 1989.
12. **Bitran**, D., Thompson, J.T., Hull, E.M., and Sachs, B.D. Quinelorane (LY163502), a D2 dopamine receptor agonist, facilitates seminal emission but inhibits penile erection in the rat. *Pharmacology Biochemistry and Behavior,* **34**: 453-458, 1989.
13. Sachs, B.D. and **Bitran**, D. Spinal block reveals roles for brain and spinal cord in the mediation of reflexive penile erections in rats. *Brain Research,* **528**: 99-108, 1990.
14. Kellogg, C.K., Primus, R.J., and **Bitran**, D. Sexually dimorphic influence of prenatal exposure to diazepam on behavioral responses to challenge and on GABA-stimulated chloride uptake in the brain. *Journal of Pharmacology and Experimental Therapeutics,* **256**: 259-265, 1991.
15. **Bitran,** D., Primus, R.J., and Kellogg, C.K. Gestational exposure to diazepam increases sensitivity to convulsants that act at the GABA/benzodiazepine receptor complex. *European Journal of Pharmacology,* **196**: 223-231, 1991.
16. Kellogg, C.K., Sullivan, A.T., **Bitran,** D. and Ison, J.R. Modulation of noise-potentiated acoustic startle via the benzodiazepine/GABA receptor complex. *Behavioral Neuroscience,* **105**: 638-644, 1991.
17. **Bitran,** D., Hilvers*, R.J., and Kellogg, C.K. Ovarian endocrine status modulates the anxiolytic potency of diazepam and the efficacy of GABA/benzodiazepine receptor-mediated chloride ion transport. *Behavioral Neuroscience,* **105**: 651-660, 1991.
18. **Bitran,** D., Hilvers*, R.J., and Kellogg, C.K. Anxiolytic effects of 3α-hydroxy-5α[β]-pregnan-20-one, endogenous metabolites of progesterone active at the $GABA_A$ receptor. *Brain Research,* **561**: 157-161, 1991.
19. Bazzett, T., Lumley, L., **Bitran,** D., Markowski, V., Warner, R., and Hull, E.M. Male rat copulation following 6-OHDA lesions of the medial preoptic area: resistance to repeated administration and rapid behavioral recovery. *Brain Research*, **580**: 164-171, 1992.
20. Inglefield, J.R., **Bitran**, D., Olschowka, J.A., and Kellogg, C.K. Selective effects on CRF neurons and catecholamine terminals in two stress-responsive regions of adult rat brain after prenatal exposure to diazepam. *Brain Research Bulletin*, **31**: 353-359, 1993.

21. **Bitran,** D., Purdy, R.H., and Kellogg, C.K. Anxiolytic effect of progesterone is associated with increases in cortical allopregnanolone and $GABA_A$ receptor function. *Pharmacology Biochemistry and Behavior*, **45**: 423-428, 1993.
22. **Bitran,** D., Kellogg, C.K., and Hilvers*, R.J. Treatment with an anabolic-androgenic steroid affects anxiety-related behavior and alters the sensitivity of cortical $GABA_A$ receptors in the rat. *Hormones and Behavior*, **27**: 568-583, 1993.
23. **Bitran**, D., Shiekh*, M., and McLeod*, M. Anxiolytic effect of progesterone is mediated by the neurosteroid allopregnanolone at brain $GABA_A$ receptors. *Journal of Neuroendocrinology*, **7**: 171-177, 1995.
24. **Bitran**, D., Hilvers*, R.J., Frye, C.A., Erskine, M.S. Chronic anabolic-androgenic steroid treatment affects $GABA_A$ receptor-gated chloride ion transport. *Life Sciences*, **58**: 573-583, 1996.
25. **Bitran**, D., and Dowd*, J.A. Ovarian steroids modify the behavioral and neurochemical responses of the central benzodiazepine receptor. *Psychopharmacology*, **125**: 65-73, 1996.
26. Hull, E.M., Lorrain, D.S., Du, J., Matuszewich, L., **Bitran**, D., Nishita, J.K., and Scaletta, L. Organizational and activational effects of dopamine on male sexual behavior. In: *Neurological Manifestations of Perinatal Sexual Differentiation.* Lee Ellis & Linda Ebertz (eds). Connecticut: Greenwood Publishing, Chapter 5, pp 79-96, 1998.
27. Smith, S.S., Gong, Q.H., Li, X., Moran, M.H., **Bitran**, D., Frye, C.A., and Hsu, F.-C. Withdrawal from 3α-OH-5α-pregnan-20-one using a pseudopregnancy model alters the kinetics of hippocampal $GABA_A$-gated current and increases the $GABA_A$ receptor α4 subunit in association with increased anxiety. *Journal of Neuroscience*, **18**: 5275-5284, 1998.
28. **Bitran**, D., Shiekh*, M., Dowd*, J.A., Dugan*, M.M., and Renda*, P. Corticosterone is permissive to the anxiolytic effect that results from the blockade of hippocampal mineralocorticoid receptors. *Pharmacology Biochemistry and Behavior*, **60:** 879-887, 1998.
29. **Bitran**, D., Carlson*, D., and Gavish, M. Ovarian hormone injection and stress interact to produce site-specific changes in peripheral benzodiazepine receptor binding. *European Journal of Pharmacology*, **361:** 235-242, 1998.
30. **Bitran**, D., Dugan*, M., Renda*, P., Ellis*, R., and Foley*, M. Anxiolytic effects of the neuroactive steroid pregnanolone (3α-OH-5β-pregnan-20-one) after microinjection in the dorsal hippocampus and lateral septum. *Brain Research*, **850:** 217-224, 1999.
31. **Bitran**, D., Klibansky*, D. A., and Martin*, G. A. The neurosteroid pregnanolone prevents the anxiogenic effect of inescapable shock. *Psychopharmacology*, **151:** 31-37, 2000.
32. **Bitran**, D., Foley*, M., Audette*, D., Leslie*, N., and Frye, C. A. Activation of peripheral mitochondrial benzodiazepine receptors in the hippocampus stimulates allopregnanolone synthesis and produces anxiolytic effects. *Psychopharmacology*, **151:** 64-71, 2000.
33. Markowski*, M., Ungerheuer*, M., **Bitran**, D., and Locurto, C. Memory-enhancing effects of DHEAS in aged mice on a win-shift water escape task. *Physiology and Behavior*, **72:** 521-525, 2001.

34. Winneker, R. C., **Bitran**, D., and Zhang, Z. The preclinical biology of a new potent and selective progestin: trimegestone. *Steroids*, **68**: 915-920, 2003.
35. Skorowronski-Lutz*, E. M. and **Bitran**, D. FGIN-1-X – A series of novel specific and efficacious ligands for the peripheral benzodiapine receptor. In: Smith, S. S. (Ed.): *Neurosteroid Effects in the Central Nervous System: The Role of the $GABA_A$ Receptor*, CRC Press, Boca Raton: FL, pp 197-218, 2004.
36. **Bitran**, D. and Smith, S. S. Termination of pseudopregnancy in the rat produces an anxiogenic-like response that is associated with an increase in benzodiazepine receptor number and a decrease in GABA-stimulated chloride influx in the hippocampus. *Brain Research Bulletin*. **64**: 511-518, 2005.
37. **Bitran**, D. and Solano*, S. M. Termination of pseudopregnancy in the rat alters the response to progesterone, chlordiazepoxide, and MK-801 in the elevated plus-maze. *Psychopharmacology*, **180**: 447-454, 2005.
38. Liu, F., Day, M., Muniz, L. C., **Bitran**, D., Arias, R., Revilla-Sanches, R., Grauer, S., Zhang, G., Kelley, C., Pulito, V., Sung, A., Mervis, R. F., Navarra, R., Hirst, W. D., Reinhart, P. H., Marquis, K. L., Moss, S. J., Pangalos, M. N., and Brandon, N. J. Activation of estrogen receptor-β regulates hippocampal synaptic plasticity and improves memory. *Nature Neuroscience*, **11**: 334-343, 2008.
39. **Bitran**, D. Why tourists go to sites associated with death and suffering. *The Conversation*, August 17, 2017. https://theconversation.com/why-tourists-go-to-sites-associated-with-death-and-suffering-81015