

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Chang, Sulie Lin		POSITION TITLE	
eRA COMMONS USER NAME (credential, e.g., agency login) changsulie		Director, Institute of NeuroImmune Pharmacology/ Professor of Biological Sciences/Neuroscience	
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
National Chengchi University, Taipei, Taiwan	B.A.	1971-1975	Sociology
State University of New York, Albany, NY	M.A.	1977-1980	Social Psychology
The Ohio State University, Columbus, OH	Ph.D.	1980-1984	Biochemistry
National Heart, Lung, Blood Inst., Bethesda, MD	Post-doc	1885-1987	Cell Biology

A. Personal Statement

I am currently the Director of the Institute of NeuroImmune Pharmacology (I-NIP) and Professor of Biological Sciences and Neuroscience at Seton Hall University. I was previously a faculty member at Tulane Medical School and the Louisiana State University Medical Center. I joined Seton Hall University (SHU) in 1994 as an Assistant Professor of Biology rising through the academic ranks to become Professor of Biological Sciences in 2002 and Professor of Neuroscience in 2003. Between 1999 and 2005, I served as the Chairperson of the Department of Biological Sciences. Under my leadership as Department Chairperson, the Ph.D. program of Molecular Bioscience was implemented in 2004. I received my first NIH R01 grant in 1989 and have been funded continuously by NIH since then. I currently have two R01s (PI) and one RC2 awards. I am also a recipient of a K02 Independent Scientist Career Award since 2003. My research has focused on the interactions between the nervous and immune systems in health and disease. Particularly, it has been predominantly in the area of neuroimmune modulation of substances of abuse including morphine (suppressant), cocaine, methamphetamine, nicotine (stimulant) and alcohol (depressant). Currently, my research is to investigate (1) the molecular mechanisms underlying nicotine's modulatory effects on learning behaviors in the presence of HIV-1 viral proteins; and (2) the age-dependent developmental changes in the neurotransmitter systems in the brain and alcohol related behavior disorders in the adolescent; and (3) the feedback interaction between drug abuse and microbial infection, including HIV infection, in the central nervous system.

B. Positions and Honors.**Positions and Employment**

1987-1990	Res. Assistant Professor, Dept. of Anatomy, Grad. Neurosci. Program, Tulane Univ. Med. Sch., New Orleans, LA.
1990-1993	Assistant Professor-Res., Dept. of Physiology, LSU Med. Sch., New Orleans, LA.
1994-1998	Assistant Professor, Dept. of Biological Sciences, Seton Hall Univ., South Orange, NJ.
1998-2002	Associate Professor, Dept. of Biological Sciences, Seton Hall Univ., South Orange, NJ.
1999-2005	Chair, Dept. of Biological Sciences, Seton Hall Univ., South Orange, NJ.
2003-2005	Director, Graduate Studies of Biological Sciences, Seton Hall Univ., South Orange, NJ.
2002-Present	Professor, Dept. of Biological Sciences, Seton Hall Univ., South Orange, NJ.
2003-Present	Professor, Dept. of Neurosci., Sch. of Grad. Med. Edu., Seton Hall Univ., South Orange, NJ.
2007-Present	Director, Inst. of NeuroImmune Pharmacology, Seton Hall Univ., South Orange, NJ

Honors and Awards (selected list)

1993	Invited Speaker, Mini-symp. on Opiates: From Biochemistry to Behavior. Gtr. New Orleans Soc. for Neuroscience.
1996	Seton Hall Univ. Outstanding Scholar Award.
1996, 2000	Sponsor, Robert Wood Johnson Med. Sch. Summer Res. Fellowship Program
1996	Member, Edit. Board, Proc. of 5 th Ann. Symp. on AIDS, Drugs of Abuse, and the Neuroimmune Axis.

- 1997 Who's Who Among American Teachers.
2000 Student Choice Award, AED Premed. Student Org., Seton Hall Univ.
2001 Invited speaker, NeuroImmune Symp., 31st Ann. Mtg. of INRC, Helsinki, Finland.
2003 Sponsor, Cornell Med. Sch. Summer Res. Fellowship Program.
2006 Invited speaker, 37th Ann. Meet. of Internatl. Narcotics Res. Conf., St. Paul, MN.
2006 Invited speaker, Internatl. Symp. on HIV AIDS & Recreational Drugs, Kovalam, Kerala, India.
2006 Invited speaker, 1st USA – Caribbean Conf. on HIV/AIDS and Drug Abuse, San Juan, PR.
2006 Keynote speaker, 2006 Ann. Meet. of Pharmacy Soc., Taiwan.
2007 Invited panelist, Career Symposium, NY Acad. of Sciences.
2008 Keynote speaker, NeuroAIDS at BIT's 1st Annual World Summit of Antivirals, Kuming, China.
2006, 2009 College of Arts and Sciences Researcher of the Year, Seton Hall Univ.
2009 The First Award of University Researcher of the Year, Seton Hall Univ.
2010 Invited speaker, Symposium on "Transdisciplinary Approach to Alcohol and Drug Abuse Interactions with HIV/AIDS" at 2010 National Hispanic Science Network on Drug Abuse Annual Scientific Meeting, New Orleans, LA
2010 Invited speaker, National Defense University School of Medicine, Taipei, Taiwan
1994-2011 Annual Outstanding Faculty Res. Recognition, Seton Hall Univ.
2000-Present Charter member, Soc. on Neuroimmune Pharmacol. (SNIP).
2007-Present Member, Asian American Pacific Islander (AAPI) Workgroup, Natl. Inst. on Drug Abuse.
2007-Present Member, Editorial Board of the J. of Neuroimmune Pharmacol.
2010-Present Member, Editorial Board of the J. of NeuroVirol.

2011-present Chair, Meetings Committee of Society on Neuroimmune Pharmacology (SNIP)
NIH Grant Reviews: NIH-NIDA AIDS Biochem./Clin. Res.- Ad Hoc-96 (month information is not available); NIH NIDA-K (F, K and T grants) Review Committee-(3/98-6/02); NIDA Special Emphasis Panel (SEP) for R-grants-7/08; NIDA Special Emphasis Panels (SEP) for P-grants – 10/97, 2/07, 11/07, 7/08, 6/09, 2/10, 2/11; Neuro-AIDS, End organ diseases, Drug Abuse and Comorbidity factors (NEDC)-AARR5 Ad Hoc 3/03, Neuro-AIDS and End Organ Diseases (NAED) Review Committee (7/03-10/07); NAED-Ad Hoc --07/11; NAED-SEP-7/03, 3/04, 3/08; Innate Immunity and Inflammation (III) Study Section- Ad Hoc-2/06, 11/06, 10.09, 02/10, 06/10; Standing Member- 10/10-present. CEBRA Study Section-Ad Hoc, 7/07, 11/11; NIAAA Special Emphasis Panels (SEP)- 07/07, 04/08, 03/09, 07/09, 07/09, 08/09 (P60), 07/10, 07/10, 04/11, 11/11; NIH RC1 mail in review, 6/09; NIDA-K Special Emphasis Panel (SEP)-04/05, 07/09. **Total: participated in 65 study section reviews (updated in December 2011).**

C. Selected Peer-Reviewed Publications (selected from 85 publications) relevant to the seminar presentation entitled "Behavioral and Molecular Evidence for a Feedback Interaction between Addictive Substances and HIV Viral Proteins" at the University of Hong Kong.

1. Chang, Sulie L., Kay O. Broschat, and George S. Serif. 1985. An assay for GDP-D-mannose-4,6-dehydratase. *Analytical Biochem.*, 144: 253-257.
2. Bramblett, Gregory T., Sulie L. Chang, and Martin Flavin. 1987. Periodic cross-linking of microtubules by cytoplasmic microtubule-associated and microtubule-corset proteins from a *Trypanosomatid*. *Proc. Natl. Acad. Sci. USA*, 84(10): 3259-3263.
3. Chang, Sulie L., Barbara Duerr, and George S. Serif. 1988. An epimerase-reductase in L-fucose synthesis. *J. Biol. Chem.*, 263(4): 1693-1697.
4. Chang, Sulie L., James E. Zadina, and Tao Ren. 1993. Interleukin-1 activates *c-fos* proto-oncogene in rat brain. *NIDA Research Monograph*, 132: 294.
5. Zadina, James E., Sulie L. Chang, L-J. Ge, and Abba J. Kastin. 1993. Mu opiate receptor downregulation by morphine and upregulation by naloxone in SH-SY5Y human neuroblastoma cells. *J. Pharmacol. Exp. Ther.*, 617: 123-130.
6. Chang, Sulie L., Tao Ren, and James E. Zadina. 1993. Interleukin-1 activation of FOS proto-oncogene in the rat hypothalamus. *Brain Res.*, 617: 123-130.
7. Zadina, James E., L.M. Harrison, L-J. Ge, Abba J. Kastin, and Sulie L. Chang. 1994. Differential regulation of mu and delta opiate receptors by morphine, selective agonists and antagonists and differentiating agents in SH-SY5Y human neuroblastoma cells. *J. Pharmacol. Exp. Ther.*, 270: 1086-1096.

8. Chang, Sulie L., Nilesh A. Patel, and Alejandro A. Romero. 1995. Activation and desensitization of Fos immunoreactivity in the rat brain following ethanol administration. *Brain Res.*, 679: 89-98.
9. Patel, Nilesh A., Alejandro A. Romero, James E. Zadina, and Sulie L. Chang. 1996. Chronic exposure to morphine attenuates the expression of interleukin-1 β in the rat hippocampus. *Brain Res.*, 712: 340-344.
10. Chang, Sulie L., Nilesh A. Patel, Alejandro A. Romero, James Thompson, and James E. Zadina. 1996. FOS expression induced by interelukin-1 or acute morphine treatment in the rat hypothalamus is attenuated by chronic exposure to morphine. *Brain Res.*, 736: 227-236.
11. Chang, Sulie L., Roberta L. Moldow, Steven D. House, and James E. Zadina. 1996. Chronic exposure to morphine modulates interleukin-1 β -mediated actions. *J. Neuroimmunol.*, 69: 31-32.
12. Graf, Jennifer A., Jitesh A. Patel, and Sulie L. Chang. 1997. Chronic exposure to morphine, not ethanol, attenuates the expression of interleukin-1 β converting enzyme in rat spleen. *Immunol. Lett.*, 58: 153-157.
13. Vidal, Erich L., Nilesh A. Patel, Gao-de Wu, Milan Fiala, and Sulie L. Chang. 1998. Interleukin-1 induces the expression of mu opioid receptors in endothelial cells. *Immunopharmacol.*, 38: 261-266.
14. Patel, Nilesh A., Jitesh A. Patel, Monique F. Stins, Kwang S. Kim, and Sulie L. Chang. 2001. Dexamethasone affects cytokine-mediated adhesion of HL-60 human promyelocytic leukemia cells to cultured dermal microvascular endothelial cells. *Clin. Immunol.*, 99: 387-394.
15. House, Steven D., Xin Mao, Gao-de Wu, Dino Espinelli, Wen Xin Li, and Sulie L. Chang. 2001. Chronic morphine potentiates the inflammatory response by disrupting interleukin-1 β modulation of the hypothalamic-pituitary-adrenal axis. *J. Neuroimmunol.*, 118(2): 277-285.
16. Yu, Xin, Allan D. Blake, Xin Mao, Wen-Xin Li, and Sulie L. Chang. 2003. Differential effects of morphine and endomorphins on mu opioid receptor regulation in SHSY-5Y human neuroblastoma cells. *J. Pharmacol. Exp. Ther.*, 306(2): 1-8.
17. Ocasio, Frank, Yuhei Jiang, Steven D. House, and Sulie L. Chang. 2004. Chronic morphine accelerates the progression of lipopolysaccharide-induced sepsis to septic shock. *J. Neuroimmunol.*, 149: 90-100.
18. Chen, Ru, Heping Zhou, Jose A. Beltran, Lorenc Malellari, and Sulie L. Chang. 2005. Differential expression of cytokines in the brain and serum during endotoxin tolerance. *J. Neuroimmunol.*, 163: 53-72.
19. Chang, Sulie L. and Michael Vigorito. 2006. Role of HIV-1 infection in addictive behavior: A study of an HIV-1 transgenic rat model. *Am. J. Infect. Diseases*, 2(2): 98-106.
20. Chang, Sulie L., Jose Beltran, and Shilpa Swarup. 2007. Expression of the mu opioid receptor in an HIV-1 transgenic rat model. *J. Virol.* 81(6): 8406-8411.
21. Chang, Sulie L., Frank Ocasio and Jose Beltran. 2007. Immunodeficient parameters in the HIV-1 transgenic rat model. *Am. J. Infect. Diseases*. 3(4): 202-207, 2007.
22. Staikos, Linda, Lorenc Malellari, and Sulie L. Chang. 2008. Lipopolysaccharide-induced pro-inflammatory cytokines in the brain of rats in the morphine tolerant state. *J. NeuroImmune Pharmacol.* 3:236-240.
23. LaShomb, Abigail, Michael Vigorito, and Sulie L. Chang. 2009. Further characterization of the spatial learning deficit in the human immunodeficiency virus-1 transgenic rat. *J. NeuroVirology*, 15(1): 14-24.
24. Liu, Xiangqian, Linda Chang, Michael Vigorito, Marley Kass, He Li and Sulie L. Chang. 2009. Methamphetamine-Induced Behavioral Sensitization Is Enhanced in the HIV-1 Transgenic Rat. *J. NeuroImmune Pharmacol.* 4(3): 309-316.
25. Peng J, Michael Vigorito, Xiang Liu, Deng Zhou, X. Wu and Sulie L. Chang. 2010. The HIV-1 transgenic rat as a model for HIV-1 infected individuals on HAART. *Journal of Neuroimmunol.* 218(1-2): 94-101.
26. Chang, Sulie L. and Marley Kass. 2010. Transgenic rodent models. *The Neurology of AIDS*. Howard E. Gendelman, Igor Grant, Ian Paul Overall, Stuart A. Lipton and Susan Swindells (Eds.) Oxford University Press Inc., New York (in press).
27. Langsdorf, Erik F. and Sulie L. Chang. 2011. Methamphetamine's modulation of mu-opioid receptor expression in the SH-SY5Y neuroblastoma cell line. *Synapse* (first published on line: March 28, 2011, DOI: 10.1002/syn.20913).
28. Langsdorf, Erik F., Xin Mao and Sulie L. Chang. 2011. A role for reactive oxygen species in endotoxin-induced elevation of MOR expression in the nervous and immune systems. *Journal of Neuroimmunology* (In press).

D. Research Support: Sulie L. Chang, Ph.D.

Ongoing and Pending Research Support

K02 DA016149 (PI: Sulie L. Chang), NIH/National Institute on Drug Abuse, 02/01/2008-01/31/2013

Independent scientist Award

This salary grant allows Dr. Chang to devote at least 85% time and efforts to research and mentoring. Dr. Chang also has institutional support for studies involving various drugs of abuse, including alcohol, cocaine, methamphetamine, and marijuana, to compare and contrast the effects on the neuroimmune axis of a depressant, such as morphine, with other drugs, such as alcohol, and methamphetamine.

Role: PI.

R01 DA007058 (PI: Sulie L. Chang), NIH/National Institute on Drug Abuse, 05/01/2007-01/31/2012

Morphine actions on the immune system

Using the HIV transgenic rat (HIV Tg rat) and human cell culture models, this project investigates (1) the effects of chronic morphine exposure on LPS-induced leukocyte-endothelial interaction, cytokine production, and intravascular coagulation; (2) the effects of morphine and LPS, alone and in combination, on MOR expression; and (3) the cross-effects of morphine, LPS, and gp120 on MOR expression, cytokine secretion, and the involvement of the NFκB, AP-1, and STAT3 transcriptional factors in TPA-differentiated HL-60 cells.

Role: PI.

R01 DA026356 (PIs: Sulie L. Chang and Ming D. Li), NIH/National Institute on Drug Abuse, 04/01/2009-03/31/2014

Mechanisms of nicotine's behavioral effects on the HIM-1 transgenic rats

Using the non-infectious HIV-1Tg rats, this project is to determine the effects of nicotine on the learning and memory deficits resulted from the persistent presence of HIV-1 viral proteins and to define the biological pathways and gene markers associated with those effects in hope to correlate the molecular markers with behavioral measures.

Role: contact-PI.

RC2 AA019415-01 (PI: Sulie L. Chang), NIH/National Institute on Alcohol Abuse and Alcoholism, 09/30/2009- 08/31/2013

Alcohol's effects on the adolescent: Correlation between the dopaminergic system and behavior

Using a rodent model, this project is to investigate, at both the molecular and behavioral levels, the increased vulnerability of adolescents to alcohol abuse that appears to result from age-dependent developmental changes in the dopaminergic system in the brain. These studies are to correlate alcohol-induced behavioral sensitization with alcohol's effects on various components of the dopaminergic system.

Role: PI.

R13 DA023184-09 (PI: Sulie L. Chang), NIH/National Institute on Drug Abuse, 04/01/2012- 03/31/2017

18th-22nd Conferences of Society on Neuroimmune Pharmacology: Drug Abuse, Immune Modulation and AIDS

Scientific Review Group action on November 1, 2011: the Overall Impact Score of 20 on the scale of 10, best, to 90, worst)

Role: PI

Completed Research Support in Last Three Years

R21 DA019836 (PI: Sulie L. Chang), NIH/National Institute on Drug Abuse, 05/01/2006-04/30/2009

Opiate's effects on inflammation and cytotoxicity in the HIV-1 Transgenic rat

This was an exploratory grant to study the effects of morphine and HIV-1 viral proteins in deregulating the expression of cytokines and chemokines using a HIV transgenic rat model.

Role: PI

K02 DA016149 (PI: Sulie L. Chang), NIH/National Institute on Drug Abuse, 02/01/2003-01/31/2008

Independent Scientist Award

This salary grant allows Dr. Chang to devote at least 85% time and effort to research and mentoring.

Role: PI

R03 DA022169 (PIs: David Volsky and Sulie L. Chang), NIH/National Institute on Drug Abuse, 09/01/2006-08/31/2009

Effect of morphine on HIV-1 neuroinvasion and brain changes in mice

This grant utilizes a mouse model containing a chimeric HIV-1 with an ecotropic MLV envelope to investigate the possible functional relationship between morphine and EcoHIV infection in mice.

Role: Co-PI