

MARILOU A. ANDRES, PH.D.

CURRICULUM VITAE

Bekesy Lab of Neurobiology
Pacific Biosciences Research Center, University of Hawaii
1993 East-West Road
Honolulu, HI 96822
USA

Office Phone: (808) 956-8036
Email: marilou@pbrc.hawaii.edu
andres@hawaii.edu

EDUCATION/TRAINING

1991 **B.A. Biochemistry** Mills College, Oakland, California
1998 **Ph.D. Biomedical Sciences** University of Hawaii at Manoa, Honolulu, Hawaii

RESEARCH AND PROFESSIONAL EXPERIENCE

1998-1999 **Jr. Researcher (*Post-doc*)**, Pacific Biomedical Research Center,
University of Hawaii at Manoa
2000-2001* **Adjunct Faculty**, Hawaii Pacific University
2001* **Consultant**, Drug Safety Program, Connectics Corporation, Palo Alto California
2002-2005* **Assistant Specialist** (Program Coordinator, Specialized Neuroscience Research
Program), Pacific Biosciences Research Center, University of Hawaii at Manoa
2005-present **Assistant Researcher**, Pacific Biosciences Research Center,
University of Hawaii at Manoa

* denotes non-research positions

HONORS AND AWARDS

Kaiser Foundation Scholarship (1987)
Mills College Internship Award (1990)
2004 Young Investigator Award (NARSAD) (2004)

CONTINUING EDUCATION

July 16-28, 2007 **Short Course in Medical and Experimental Mammalian Genetics**,
The Jackson Laboratory and co-sponsored by The Johns Hopkins University, Bar
Harbor, Maine
Fall 2008 **R25 Course: Translational Research in NeuroAIDS and Mental Health**,
The Johns Hopkins University School of Medicine

PROFESSIONAL AFFILIATIONS

2005-2007 Representative (**Secretary**), Society for Neuroscience-Hawaii Chapter
2006 **Alternate Member**, Institutional Biosafety Committee (IBC), University of Hawaii
2010-Present **Neuroscience Graduate Faculty**, University of Hawaii

OTHER PROFESSIONAL SERVICE

Reviewer, BMC Neurology

Reviewer, Neurotoxicity Research

PEER-REVIEWED PUBLICATIONS

(Since returning to a scientific research career in 2005)

1. Bellinger FP, Fox BK, Chan WY, Davis LK, **Andres MA**, Hirano T, Grau EG, Cooke IM. Ionotropic glutamate receptor activation increases intracellular calcium in prolactin-releasing cells of the adenohypophysis. *Am J Physiol Endocrinol Metab.* 2006 Dec;291(6):E1188-96. doi: 10.1152/ajpendo.00207.2005. Epub 2006 Jul 5. PubMed PMID: 16822959.
2. Christopher DA, Borsics T, Yuen CY, Ullmer W, Andème-Ondzighi C, **Andres MA**, Kang BH, Staehelin LA. The cyclic nucleotide gated cation channel AtCNGC10 traffics from the ER via Golgi vesicles to the plasma membrane of Arabidopsis root and leaf cells. *BMC Plant Biol.* 2007 Sep 19;7:48. doi: 10.1186/1471-2229-7-48. PubMed PMID: 17877833; PubMed Central PMCID: PMC2031891.
3. **Andres MA**, Baptista NC, Eford JT, Ogata KK, Bellinger FP, Zeyda T. Depletion of SK1 channel subunits leads to constitutive insulin secretion. *FEBS Lett.* 2009 Jan 22;583(2):369-76. doi: 10.1016/j.febslet.2008.12.024. Epub 2008 Dec 25. PubMed PMID: 19101546.
4. **Andres MA**, Feger U, Nath A, Munsaka S, Jiang CS, Chang L. APOE ϵ 4 allele and CSF APOE on cognition in HIV-infected subjects. *J Neuroimmune Pharmacol.* 2011 Sep;6(3):389-98. doi: 10.1007/s11481-010-9254-3. Epub 2010 Dec 24. PubMed PMID: 21184197; PubMed Central PMCID: PMC4899041.
5. Chang L, **Andres M**, Sadino J, Jiang CS, Nakama H, Miller E, Ernst T. Impact of apolipoprotein E ϵ 4 and HIV on cognition and brain atrophy: antagonistic pleiotropy and premature brain aging. *Neuroimage.* 2011 Oct 15;58(4):1017-27. doi: 10.1016/j.neuroimage.2011.07.010. Epub 2011 Jul 21. PubMed PMID: 21803164; PubMed Central PMCID: PMC3171637.
6. Bellinger FP, Raman AV, Rueli RH, Bellinger MT, Dewing AS, Seale LA, **Andres MA**, Uyehara-Lock JH, White LR, Ross GW, Berry MJ. Changes in selenoprotein P in substantia nigra and putamen in Parkinson's disease. *J Parkinsons Dis.* 2012;2(2):115-26. doi: 10.3233/JPD-2012-11052. PubMed PMID: 23268326; PubMed Central PMCID: PMC3527083.
7. **Andres MA**. Glucose-sensitivity of the afterhyperpolarization potential: role of SK1 channel in insulin-secreting cells. *Gen Comp Endocrinol.* 2012 Sep 15;178(3):459-62. doi: 10.1016/j.ygcen.2012.07.005. Epub 2012 Jul 15. PubMed PMID: 22809667.
8. Barayuga SM, Pang X, **Andres MA**, Panee J, Bellinger FP. Methamphetamine decreases levels of glutathione peroxidases 1 and 4 in SH-SY5Y neuronal cells: protective effects of selenium. *Neurotoxicology.* 2013 Jul;37:240-6. doi: 10.1016/j.neuro.2013.05.009. Epub 2013 May 27. PubMed PMID: 23721877; PubMed Central PMCID: PMC3717519.
9. Chang L, Jiang C, Cunningham E, Buchthal S, Douet V, **Andres M**, Ernst T. Effects of APOE ϵ 4, age, and HIV on glial metabolites and cognitive deficits. *Neurology.* 2014 Jun 17;82(24):2213-22. doi: 10.1212/WNL.0000000000000526. Epub 2014 May 21. PubMed PMID: 24850492; PubMed Central PMCID: PMC4113464.
10. **Andres MA**, Cooke IM, Bellinger FP, Berry MJ, Zaportezza MM, Rueli RH, Barayuga SM, Chang L. Methamphetamine acutely inhibits voltage-gated calcium channels but chronically up-regulates L-type channels. *J Neurochem.* 2015 Jul;134(1):56-65. doi: 10.1111/jnc.13104. Epub 2015 Apr 30. PubMed PMID: 25807982; PubMed Central PMCID: PMC4472572.
11. Yorgason JT, Hedges DM, Obray JD, Jang EY, Bills KB, Woodbury M, Williams B, Parsons MJ, **Andres MA**, Steffensen SC. Methamphetamine increases dopamine release in the nucleus accumbens

- through calcium-dependent processes. *Psychopharmacology (Berl)*. 2020 May;237(5):1317-1330. doi: 10.1007/s00213-020-05459-2. Epub 2020 Jan 21. PubMed PMID: 31965252; PubMed Central PMCID: PMC7196509.
12. Torres, DJ, Yorgason, JT, **Andres, MA**, Kurokawa, S, Steffensen, SC, Bellinger, FP. Selenoprotein P Modulates Methamphetamine Enhancement of Vesicular Dopamine Release via Dopamine D2 Receptors. *Cell Mol Neurobiol*. 2021 Jun 17. doi: 10.1007/s10571-021-01120-4. Online ahead of print. PMID: 34138411
 13. Torres DJ, Yorgason JT, **Andres MA**, Bellinger FP. Methamphetamine Exposure During Development Causes Lasting Changes to Mesolimbic Dopamine Signaling in Mice. *Cell Mol Neurobiol*. 2021 Jun 17; doi: 10.1007/s10571-021-01120-4. [Epub ahead of print] PubMed PMID: 34138411.
 14. **Andres, MA**, Karratti-Abordo, S, Bryan, C, Shoji, A, Zaporteza, M, Castelfranco, A. 2020 L-type calcium channels link oxidative stress to calcium signaling pathway and membrane excitability: Insights from computational modeling of dopaminergic neurons. *In revision*.

ABSTRACTS

1. Murthy, S.R., **M. Andres**, J. Spiess, and T. Blank. Interaction network map of proteins involved in learning and memory under non-stressed and stressed conditions. *Society for Neuroscience*, Washington, DC, Nov 12-16, 2005
2. **Andres, M. A.**, F. Bellinger, W. Chan, N. Baptista, and I. Cooke. The SK-Type of calcium-activated potassium channels mediate glutamate signaling in prolactin-releasing cells. *FASEB Experimental Biology 2006*. San Francisco, CA, April –15, 2006
3. Chang, L., **M. Andres**, J. Sadino, C. Jiang, H. Nakama, U. Feger, and T. Ernst. 2010. The Effects of ApoE4 Allele and Age on Subcortical Brain Atrophy in HIV Positive Subjects. *2010 Annual Meeting ISMRM-ESMRM*. Stockholm, Sweden
4. **Andres, M.**, U. Feger, H. Nakama, S. Munsaka, L. Chang. Lower CSF ApoE in HIV-infected individuals without ApoE4 allele. *Society on NeuroImmune Pharmacology 16th Scientific Conference*, Manhattan Beach, CA, April 13-17, 2010
5. **Andres, M.**, U. Feger, H. Nakama, S. Munsaka, L. Chang. High CSF ApoE levels are associated with cognitive impairment in HIV-infected individuals with the ApoE4 allele. *2010 NIDA Asian American & Pacific Islander Workgroup Conference*, Alexandria, VA, June 2-3, 2010
6. Munsaka, S., U. Feger, **M. Andres**, L. Chang. Characterization of Cannabinoid Receptor Expression on Peripheral Blood Mononuclear Cells by Flow Cytometry. *Society on NeuroImmune Pharmacology 17th Scientific Conference*, Clearwater Beach, Florida, April 6-9, 2011
7. Sadino, J., L. Chang, **M.A. Andres**, T.M. Ernst, A. Dale. Impact of HIV, Apolipoprotein ϵ 4, and Time on Cortical Gray Matter. *Biomedical Sciences Symposium*, John A. Burns School of Medicine, University of Hawai'i, April 17-18, 2012
8. Barayuga, S.M., A.V. Raman, R.H. Rueli, **M.A. Andres**, J. Panee, M.J. Berry, F.P. Bellinger. Methamphetamine Reduces Glutathione Peroxidase Levels. *Society on NeuroImmune Pharmacology 18th Scientific Conference*, Honolulu, Hawaii
9. Barayuga, S.M., X. Pang, R.H. Rueli, A.C. Parubrur, E.D. Nguyen-Wu, **M.A. Andres**, J. Panee, F.P. Bellinger. Methamphetamine decreases levels of glutathione peroxidases 1 and 4 in SH-SY5Y neuronal cells. *Society for Neuroscience*, San Diego, CA, Nov 9-13, 2013
10. D.J. Torres, S. M. Barayuga, R. H. L. H. Rueli, D.M. Hedges, N.D. Schilaty, J.T. Yorgason, **M.A. Andres**, S.C. Steffensen, F.P. Bellinger. Selenium deficiency alters dopamine transmission and response to methamphetamine in the mouse nucleus accumbens. *Society for Neuroscience*, Chicago, IL, Oct 17-21, 2015

11. D. Torres, C. Chao, J. T. Yorgason, S. Korukawa, **M. Andres**, S. C. Steffensen, F. P. Bellinger, A. Hagiwara. Role of Selenoprotein P in dopaminergic transmission and modulation by methamphetamine. *Society for Neuroscience*, Washington, DC, Nov 11-15, 2017
12. J. T. Yorgason, D. M. Hedges, M. C. Woodbury, B. Williams, S. Stapley, N. Lewis, J. J. Nelson, F. P. Bellinger, **M. Andres**, S. C. Steffensen. Methamphetamine triggers dopamine release through calcium dependent processes. *Society for Neuroscience*, San Diego, CA, Nov 3-7, 2018

SELECTED INVITED TALKS

17th Conference (2011) of The Society on NeuroImmune Pharmacology

Hilton Clearwater Beach Resort - Clearwater Beach, FL

M Andres

"Effects of APOE-ε4 Allele on Brain Function and Structure in HIV Patients"

18th Conference (2012) of The Society on NeuroImmune Pharmacology

Hawaii Prince Hotel Waikiki - Honolulu, Hawaii

M Andres

"Methamphetamine Inhibits L-type Calcium Channels in SH-SY5Y Cells"

STUDENTS AND POSTDOCS SUPERVISED

2009	Nicholas Baptista, M.D. (Postdoc)
2010	Kaitlin Ayer (Washington University in St. Louis undergraduate student)
2010	Allie Galati (University of Pennsylvania undergraduate student)
2011-2012	Naomi Tanizaki (University of Hawaii Post-baccalaureate student)
2010-2013	Sody Munsaka (PhD Candidate; served in S. Munsaka's PhD Thesis Committee)
2013-2015	Maribel Zaporteza, Ph.D. (Postdoc)
2014	Mike Garcia (University of Texas at Austin undergraduate student, Summer Research with NIDA Program)
2014-Present	Sadie Karrati-Abordo (University of Hawaii, MARC U*STAR Program and Honors program undergraduate scholar)
2015-2017	Chena Bryan (Ph.D. graduate student, Department of Molecular Biosciences & Bioengineering, University of Hawaii-Manoa)
2016-2018	Alyson Shoji (University of Hawaii undergraduate student, Presidential Scholar and INBRE Intern)
2018-2019	Marianne Chen (University of Hawaii undergraduate student, INBRE Program Intern)

TEACHING

2000	Hawaii Pacific University (Introductory Chemistry)
2001	Hawaii Pacific University (General Chemistry Lab)
2016	University of Hawaii Leeward Community College (General Chemistry)

CONFERENCE ORGANIZED

3rd Annual Conference of Specialized Centers in Neuroscience

May 27-29, 2003

Waikiki Beach Marriott Resort

Honolulu, Hawaii

RESEARCH AWARDS

- National Alliance for Research on Schizophrenia and Depression
(NARSAD) (M. Andres, PI) 7/1/04 – 10/15/08
Title: Functional Role of Expanded CAG Repeats in Calcium-Activated Potassium SK3 Channel in Schizophrenia
- Hawaii Community Foundation (M. Andres, PI) 12/1/04 – 10/20/06
Medical Research Fund
Title: Role of SK3-1C Variant in Glucose-induced Insulin Secretion in Pancreatic Beta Cells
- Hawaii Community Foundation (M. Andres, PI) 11/08/06 - 05/08/08
Medical Research Fund
(Victoria S. and Bradley L. Geist Foundation)
Title: Mechanism of oleanolic acid in pancreatic beta cell exocytosis
- Hawaii Community Foundation (M. Andres, PI) 11/1/07 - 10/30/09
Medical Research Fund
Title: Down regulation of SK channel expression: a strategy for enhancing hormone secretion
- 5R25MH080661-02 (A. Nath, PI; M. Andres, Pilot PI) 08/01/09-6/30/11
NIH/NINDS
Title: Diversity related Neuro-AIDS and Mental Health Research
Project Title: ApoE expression in the CSF of Patients with HIV
- 1R24 DA027318-01 (L. Chang, PI; M. Andres, Pilot Project Director) 4/1/10 – 3/31/16
NIH/NIDA
Diversity-promoting Institutions Drug Abuse Research Program (DIDARP)
Grant Title: Factors for enhanced neurotoxicity in methamphetamine abuse in HIV infection
Project Title: ApoE-mediated neurotoxicity in methamphetamine and HIV
- 1 R03 DA033904-01 (M. Andres, PI) 1/1/2013-12/31/15
NIDA/NIH
Grant Title: Interaction of HIV-Tat and Methamphetamine: Role of Ion Channels and Epigenetics
- Cades Foundation (D. Hartline, PI; A. Castelfranco and M.Andres, Pilot PIs) 4/1/15 – 12/31/21
Title: Bekesy Lab Research Cades
Pilot Project Title: Pilot data to create computational research tool for identifying dopaminergic neurons from a population of primary neurons isolated from mouse brain.