

Revised 6/2017

CURRICULUM VITAE

Michael J. Decker PhD, RN, RRT, D. ABSM
Associate Professor of Nursing, Physiology & Biophysics, Neuroscience
Frances Payne Bolton School of Nursing
Case Institute for Imaging Research
Fellow: Institute of Scientific Origins
Case Western Reserve University
10900 Euclid Avenue
Cleveland, Ohio, 44106
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EDUCATION

Dates	Degree	Institution	Major
1999	Ph.D	Case Western Reserve University Cleveland, Ohio	School of Medicine:
			Anatomy/Neuroscience
			<i>Dissertation: Wakefulness and Sleep: Intrinsic modulators of the Suprachiasmatic Nucleus.</i> Kingman P. Strohl, Susan Redline, Musa Haxhiu, Joseph Lamanna, Joseph Miller, David B. Rye
1994	BSN	Case Western Reserve University Cleveland, Ohio	Nursing
1984	CRTT	California College of Health Sciences Salt Lake City, Utah	Respiratory Care

CERTIFICATION & LICENSURE

2006- Present Diplomat, American Board of Sleep Medicine, # 3543
1994- Present Registered Nurse, Ohio & Georgia
1990- Present Registered Respiratory Therapist, Ohio & Georgia

HONORS AND AWARDS

2011 Spokesperson. American Academy of Sleep Medicine
1999 American Professional Sleep Societies: Research Excellence Award
1999 Stearns Foundation Award: Excellence in Anatomy
1994 National Science Foundation: Undergraduate Research Stipend
Genetic epidemiology studies at high altitude (Ethiopia)
1993 National Science Foundation: Undergraduate Research Stipend
Genetic epidemiology studies at high altitude (Bolivia)
1991 National Geographic: Undergraduate Research Stipend
Genetic epidemiology studies at high altitude (Tibet)
1991-1993 Bolton Scholarship: Case Western Reserve University

PROFESSIONAL & ACADEMIC APPOINTMENTS

2014-	Associate Professor (Secondary Appt)	Neurosciences School of Medicine Case Western Reserve University Cleveland, Ohio
2014 -	Associate Professor (Secondary Appt)	Physiology and Biophysics School of Medicine Case Western Reserve University Cleveland, Ohio
2013 –	Associate Professor	Bolton School of Nursing Case Western Reserve University Cleveland, Ohio
2010-13	Associate Professor Byrdine F. Lewis Chair in Nursing	Georgia State University Atlanta, Georgia
2008-10	Senior Service Fellow (Team Leader)	Centers for Disease Control Viral Exanthems and Herpesvirus Branch Atlanta, GA
2002-2007	Visiting Scientist (30% annual effort)	Centers for Disease Control Viral Exanthems and Herpesvirus Branch Atlanta, GA
2002-2007	Assistant Professor	Department of Neurology School of Medicine Emory University, Atlanta, GA
2000-2002	Instructor	Department of Neurology School of Medicine Emory University, Atlanta, GA
1999-2000	Instructor	Department of Anatomy School of Medicine Case Western Reserve University Cleveland, Ohio

PUBLICATIONS

Scullin M.K., Failey J.F., Decker, M.J., Bliwise, D.L. The Effects of an Afternoon Nap on Episodic Memory in Young and Older Adults. Accepted: SLEEP, February 2017

Gillombardo C.B, Darrah R, Dick T.E., Moore M., Kong N, **Decker M.J.**, Han F., Yamauchi M, Dutschmann M, Azzam S, Strohl KP. C57BL/6J Mouse Apolipoprotein A2 Gene is Deterministic for Apnea. *Respir Physiol Neurobiol.* 2016 Oct 15. doi: 10.1016/j.resp.2016.10.006. [Epub ahead of print]

Decker, M.J., Muller, K.J., Keating, G.L., Damato, E.G., & Darrah, R. Maternal dietary supplementation with omega-3 polyunsaturated fatty acids confers neuroprotection against hypoxia-induced dopamine dysfunction. *Sleep Science.* 2016 Apr-Jun; 9(2) 94–99. doi:10.1016/j.slsci.2016.05.007

Webel, A. Sattar, A., **Decker, M.**, Voss, J. Physical Activity is Associated with Reduced Fatigue in Adults Living with HIV/AIDS. [Epub ahead of print] *J Adv Nurs.* 2016 Aug 3. doi: 10.1111/jan.13084

Darrah, R., Nelson, R., **Decker, MJ**, Damato, E., Matthews, A., & Hodges, C. Growth deficiency in cystic fibrosis is observable at birth and predictive of early pulmonary function. *Biological Research for Nursing*. [Epub ahead of print] doi: 10.1177/1099800416643585 *Biol Res Nurs* April 13, 2016

Sawyer, N. T., Helvig, A. W., Makinson, C. D., **Decker, M. J.**, Neigh, G. N., Escayg, A. Scn1a dysfunction alters behavior but not the effect of stress on seizure response. *Genes Brain Behav*. [Epub ahead of print], 2016 Mar;15(3):335-47. doi: 10.1111/gbb.12281.

Decker M.J., Yamauchi M. Strohl, K.P. Keep the airway open and let the brain sleep. *American Journal of Respiratory and Critical Care Medicine*. 12/2014; 190(11):1207-9. DOI: 10.1164/rccm.201410-1939ED

Puzerey, P.A, **Decker. M.J.**, Galán R.F. Elevated serotonergic signaling amplifies synaptic noise and facilitates the emergence of epileptiform network oscillations. *Journal of Neurophysiology*, August 2014, PMID: 25122717

Helvig A., **Decker M.J.**, (Review) Omega 3 fatty acids and the brain: implications for nursing practice. *British Journal of Neuroscience Nursing*, 2014 Vol. 10:1 Feb\March pp 267-76

Papale, L.A., Makinson, C.D., Ehlen, J.C., Tufik, S., **Decker, M.J**, Paul, K.N., Escayg, A. Sleep architecture in a mouse model of *SCN1A*-derived genetic epilepsy with febrile seizures plus (GEFS+) Article first published online: 11 JAN 2013, DOI: 10.1111/epi.12060

Lee S.Y., Lee K.A., Aycock D., **Decker M.J.**, Circadian activity rhythms for mothers with an infant in ICU. *Frontiers in Neurology: Sleep and Chronobiology*. 1:155. 2010, PMID: 21212829

Linn J.M., **Decker M.J.**, Brimmer D., Reeves W.C. Validity of Self-Reported Body Mass Index and Sleeping Problems Among Adult Population of Georgia *The Open Obesity Journal*, 2:145-150, 2010.

Decker M.J., Lee S.Y, Rye D.B, Strohl K.P. Paradoxical sleep suppresses immediate early gene expression in the rodent Suprachiasmatic Nuclei. *Frontiers in Neurology: Sleep and Chronobiology*. *Front Neurol*. 2010 Sep 22;1:122 PMID:21173892

Decker M.J. Assessing fatigue in Multiple Sclerosis: Shedding light on the elephant in the dark. **Invited commentary on Braley and Chervin**. *SLEEP* 2010;33:1005-1006.

Decker M.J., Eyal S., Fuxman Y., Shinar X., Cahan C, Reeves WC, Baharav A, Validation of ECG-derived sleep architecture and ventilation in sleep apnea and chronic fatigue syndrome. *Sleep & Breathing*, DOI 10.1007/s11325-009-0305-z, 2009

Decker. M.J., Tabassum H., Linn, J.M., Reeves, WC. Electroencephalographic correlates of chronic fatigue syndrome. *Behavior and Brain Function*, 5:43, 2009

Baekey D., Feng P.F., **Decker M.J.**, Strohl K.P. Breathing and Sleep: Measurement Methods, Genetic influences, and Developmental Impacts. In "Sleep Disordered Breathing: Translational Medicine: what animal models have taught us about a human disease. *ILAR J*. 2009;50(3):248-61

Decker M.J., Linn J.M, Tabassum H., Reeves WC . Hypersomnolence and Sleep Related Complaints in Metropolitan, Urban, and Rural Georgia. (Published ahead of print and accompanied by CDC press release). *American Journal of Epidemiology* 2009;169(4):435-443

Majer M., Jones J.F., Unger E.R., Youngblood L. S, **Decker M.J.**, Gurbaxani B., Heim C., Reeves W.R., Perception versus polysomnographic assessment of sleep in CFS and non-fatigued controls: results from a population-based study. *BMC Neurol*. 2007 Dec 5;7(1):40

Boneva R.S., **Decker M.J.**, Maloney E.M., Linn J.M., Jones J.F., Helgasson, H., Heim C., Rye D.B., Reeves W.C. Higher Heart rate and reduced heart rate variability persist during sleep in Chronic Fatigue Syndrome in a Population-based Study. *Auton Neurosci*. 2007 Basic and Clinical 137: 94–101

Reeves W.C, Heim C., Maloney E, Youngblood L.S., Unger E.R., **Decker M.J.**, Jones J.F., Rye D.B., Sleep Characteristics of Persons with CFS and Non-Fatigued Controls: Results from a Population-Based Study. *BMC Neurology* 2006, 6:41

Boss V., Sola A. Wen T.C., **Decker M.J.** Mild Intermittent Hypoxia Does Not Induce Stress Responses in the Neonatal Rat Brain. *Biol Neonate* 2005;88:313-320

Decker M.J., Jones K.A., Solomon I.G., Keating G.L., Rye D.B. Reduced Extracellular Dopamine and Increased Responsiveness to Novelty: Neurochemical and Behavioral Sequelae of Intermittent Hypoxia. *SLEEP* 2005, 28(2);169-176. *Accompanying Editorial SLEEP* 28;2 165-167.

Decker M.J., Hue G.E., Caudle W.M., Miller G.W., Keating G.L., Rye D.B. Episodic neonatal hypoxia evokes executive dysfunction and regionally specific alterations in markers of dopamine signaling (*Neurosci*, 2003 117:417-4252).

Beall C.M, **Decker M.J.** Brittenham G.M., Kushner I., Gebremedhin A., Strohl K.P. An Ethiopian pattern of human adaptation to high-altitude hypoxia. *Proc Natl Acad Sci U S A.* 2002 Dec 24;99(26):17215-8.

Decker M.J., Rye D.B. Emerging Research: Neonatal intermittent hypoxia impairs dopamine signaling and executive functioning. *Sleep Breath.* 2002 Dec;6(4):205-10

Rye, D.B., **Decker M.J.** Sleep apnea. In: *EBM Solutions Guidelines for Health Care Providers and Consumers* [online database]. Issue 2. Nashville, Tenn: EBM Solutions, Inc; August, 2002.

Berkeley JL, **Decker M.J.**, and Levey AI. The Role of Muscarinic Acetylcholine Receptor-Mediated Activation of Extracellular Signal-Regulated Kinase 1/2 in Pilocarpine-Induced Seizures. *J Neurochem*, 82; 192-201, 2002.

Papp K.K., Erokwu B., **Decker M.J.**, Strohl K.P. Medical student competence in eliciting a history for "chronic fatigue." *Sleep and Breathing* 5:3;123-129, 2001.

Beall C.M., Almasy L.A., Blangero J., Williams-Blangero S., Brittenham G.M., Strohl K.P., **Decker M.J.**, Vargas E., Villena M., Soria R., Alarcon A.M., Gonzales C. Percent of oxygen saturation of arterial hemoglobin among Bolivian Aymara at 3900-4000m. *Am J Phys Anthro* 108:(1) 41-51, 1999.

Beall C.M., Brittenham G.M., Strohl K.P., Blangero J., Williams-Blangero S., Goldstein M.C., **Decker M.J.**, Vargas E., Villena M., Soria R., Alarcon A.M., Gonzales C. Hemoglobin concentration of high- altitude Tibetans and Bolivian Aymara. *Am J Phys Anthro* 106:385-400, 1998.

Netzer N., Schuschnik M., Matthys H., Miles L., Steinacker J., **Decker M.J.** Lehmann M. Sleep and respiration at an altitude of 6,400 m (Aconcagua, Argentina) *Pneumologie.* 51 Suppl 3:729-35, 1997 Aug.

Beall C.M., Strohl K.P., Blangero J., Williams-Blangero S, Almasy L.A., **Decker M.J.**, Worthman C.M., Goldstein M.C., Vargas E., Villena M., Soria R., Alarcon. A.M., Gonzales C. Ventilation and hypoxic ventilatory response of of Tibetan and Aymara high altitude natives. *Amer. J. Phys. Anthro* 104(4):427-447, 1997.

Beall C.M., Strohl K.P., Blangero J., Williams-Blangero S., **Decker M.J.**, Brittenham G.M., Goldstein M. Quantitative genetic analysis of arterial oxygen saturation in Tibetan Highlanders. *Human Biology* 69(5):597-604, 1997.

Beall C.M., Gebremedhin A., Brittenham G.M., **Decker M.J.**, Shamebo M. Blood pressure variation among Ethiopians on the Simien Plateau. *Annals of Human Biology* 24(4)333-342, 1997

Smith M.L., Niedermaier N.W., Hardy S.M., **Decker M.J.**, Strohl K.P. Role of hypoxemia in sleep

apnea-induced sympathetic excitation. *J Autonomic Nervous System* 56:184-190, 1996

Cahan C., **Decker M.J.**, Arnold J.L., Goldwasser E., Strohl K.P. Erythropoietin levels with treatment of obstructive sleep apnea. *J. Appl. Physiol.* 79(4):1278-1285, 1995

Decker M.J., Smith B.L., Strohl K.P. Center-Based vs Patient-Based diagnosis and therapy of sleep related respiratory disorders and the role of the Respiratory Care Practitioner. *Respiratory Care* 39(4):390-396, 1994.

Stanek E.J., Nara A.R., Strohl K.P., Nair R.N., **Decker M.J.**, Munger M.A. Effect of long-term angiotensin-converting enzyme inhibitor therapy on arterial oxygen saturation in patients with mild to moderate heart failure. *Pharmacotherapy* 14(3):321-329, 1994.

Munger M.A., Stanek E.J., Nara R.N., Strohl K.P., **Decker M.J.**, Nair R.N. Arterial oxygen saturation in chronic congestive heart failure. *Am J Cardiology* 73:180-185, 1994.

Strohl K.P., Boehm K.D., Denko C.W., Novak R.D., **Decker M.J.** Biochemical Morbidity in Sleep Apnea. *Ear Nose & Throat Journal* 72(1):34-41, 1993.

Decker M.J., Haaga J., Arnold J., Atzberger D., Strohl K.P. Functional electrical stimulation and respiration during sleep. *J. Appl. Physiol* 75(3): 1053-1061, 1993.

Cahan C., Gothe B., **Decker M.J.**, Arnold J.L., Leitner J., Strohl K.P. Arterial oxygen saturation over time and sleep studies in quadriplegic patients. *Paraplegia* 31:172-179, 1993.

Strohl K.P., Arnold J.L., **Decker M.J.**, Hoekje P.L., Doershuk C.F., Stern R.C. The nasal response to exercise in patients with cystic fibrosis. *Rhinology* 30(4):241-248, 1992.

Decker M.J., Arnold J.L., Haney D., Masny J., Strohl K.P. Extended- monitoring of oxygen saturation in Chronic Lung Disease. *Chest* 102(4): 1075-1079, 1992.

Cahan C., **Decker M.J.**, Arnold J.L., Washington L.H., Veldhuis J., Goldwasser E., Strohl K.P. Diurnal variations in serum erythropoietin levels in healthy subjects and sleep apnea patients. *J. Appl. Physiol.* 72(6):2112-2117, 1992.

Strohl K.P., Arnold J.L., **Decker M.J.**, Hoekje P.L., Mcfadden E.R. Nasal flow-resistive responses to challenge with cold dry air. *J. Appl. Physiol.* 72(4):1243-1246, 1992.

Decker M.J., Redline S., Arnold J.L., Masny J., Strohl K.P. Normative values of oxygen saturation over time. *J. Amb. Monitoring* 4(4):297-304, 1991.

Gothe B., Redline S., **Decker M.J.**, Strohl K.P. Equipment failure with nasal continuous positive airway pressure (letter). *Am. Rev. Resp. Dis.* 144(1):239, 1991.

Schwartz H.J, Arnold J.L., **Decker M.J.**, Hoekje P.L, Strohl K.P Posterior rhinometry as a rapid screening test for nasal dysfunction. *Am. J. Rhinology* 4(2):69-73, 1990.

Decker M.J., Dickensheets D., Arnold J.L., Strohl K.P., Cheung P.W. A comparison of a new reflectance oximeter with the Hewlett-Packard ear oximeter. *Biomedical Instrumentation and Technology* 24:122-126, 1990.

Cahan C., Hoekje P.L., Goldwasser E., **Decker M.J.**, Strohl K.P. Assessing the characteristic between length of hypoxic exposure and serum erythropoietin levels. *Am. J. Phys.* 258 (Regulatory, Integrative, and Comparative Physiology. 27) R1016-R1021, 1990

Cahan C., **Decker M.J.**, Arnold J.L., Hoekje P.L., Brown D.P., Cheung P.W., Strohl K.P. Agreement

between noninvasive oximetric values for oxygen saturation. *Chest* 97(4):814-19, 1990.

Decker M.J., Hoekje P.L., Strohl K.P. Ambulatory monitoring of arterial oxygen saturation. *Chest* 95(4):717-22, 1989.

Decker M.J., Conrad K.P., Strohl K.P. Noninvasive oximetry in the rat. *Biomedical Instrumentation and Technology* 23:222-228, 1989.

Strohl K.P, **Decker M.J.**, Olson L.G., Flak T., Hoekje P.L. The nasal response to exercise is similar in healthy and asthmatic subjects. *Thorax* 43:890-95, 1988.

Under review

Decker M.J., Jones K.A., Solomon I.G., Keating G.L., Rye D.B. Postnatal Hypoxia evokes persistent structural and functional changes within the male rat's mesostriatal dopaminergic system. *Neuroscience*

Book Chapters

Decker M.J., Strohl K.P. Book Chapter: *Diagnostic Testing*, in: *Competencies in Sleep Medicine*, Edited by Kingman P. Strohl, 2014, Springer

Decker M.J. Pandi-Perumal S.R., Sinton C.M. Eds Gardenshire D., Book Chapter: **Sleep and Sleep Pharmacology**. In: *Rau's Respiratory Care Pharmacology*, 8th ed., 2012, Mosby, St. Louis, Mo.

Perry J.C., **Decker M.J.** Hypoxia: Introduction of Mechanisms and Consequences. Animal models as ethical tools in biomedical research. Edited by Andersen ML & Tufik S, CLR Baleiro Ltda, Sao Paulo, SP, Brazil, 528p, 2010.

Decker M.J., Strohl K.P. Pulse Oximetry: Considerations and Applications for neonates and infants. Spacelabs Biophysical Measurement Series: Respiration. Spacelabs, Redmond Washington, pp. 48-60. 1995

Strohl K.P., **Decker M.J.**, Redline S. Unattended Monitoring for Respiratory Events. *Monitoring in Respiratory Care*: Edited by Kacmarek R.M., Hess D., Stoller J.K. Mosby, St. Louis, 798-804, 1993.

McCarthy K., **Decker M.J.**, Stoller J., Strohl K.P. Pulse Oximetry. *Monitoring in Respiratory Care*: Edited by Kacmarek R.M., Hess D., Stoller J.K. Mosby, St. Louis, pp. 309-347, 1993.

Decker M.J., Strohl K.P. Pulse Oximetry. Spacelabs Biophysical Measurement Series: Respiration. Spacelabs, Redmond Washington, pp. 78-93, 1992.

Cahan C., **Decker M.J.**, Strohl K.P. Humoral correlates of Sleep Apnea: Erythropoietin and Hypoxemia. *Sleep and Breathing*: Edited by F. Issa, P. Suratt, and J. Remmers. Wiley-Liss Inc, New York. 317-324, 1990

Other Invited Work:

Decker, M.J. Chair of "Shiftwork Sleep Disorder, The role of the nurse." American Nurses Association CE Program. <http://eo2.commpartners.com/users/swsd/> online in Fall of 2012

Decker, M.J., Technical corner: Sleep restriction may promote obesity: Implications for clinical practice. In the AADSM Journal "Dialogue" Summer 2011.

Decker M.J., Durmer J.S., Pharmaceuticals used to treat Narcolepsy. *FOCUS: Journal for Respiratory Care & Sleep Medicine*. 30-31, January, 2008.

Decker M.J., Durmer J.S., Pharmaceuticals used to treat Restless Legs Syndrome. FOCUS: Journal for Respiratory Care & Sleep Medicine, 32-33, March 2008.

Decker M.J., Durmer J.S., Sleep Medicine Pharmaceuticals: The treatment of Parasomnias FOCUS: Journal for Respiratory Care & Sleep Medicine. 33-34, May, 2008.

Decker M.J., Durmer J.S., Pharmaceuticals frequently employed in Sleep Medicine. FOCUS: Journal for Respiratory Care & Sleep Medicine. 26, 27, November, 2007.

Shrake K., Blonshine S., Brown R.A., **Decker M.J.**, Ruppel G.L., Wanger J. AARC Guideline Polysomnography. Respiratory Care, 40(12):1336-1343, 1995.

Shrake K., Blonshine S., Brown R.A., **Decker M.J.**, Ruppel G.L., Wanger J. AARC Guideline: Infant-Toddler Pulmonary Function Tests. Respiratory Care, 40(7):761-768, 1995.

Shrake K., Blonshine S., Brown R.A., **Decker M.J.**, Ruppel G.L., Wanger J. AARC Guideline: Static Lung Volumes. Respiratory Care, 39(8):830-836, 1994.

Shrake K., Blonshine S., Brown R.A., **Decker M.J.**, Ruppel G.L., Wanger J. AARC Guideline: Body Plethysmography. Respiratory Care, 39(12):1184-1190, 1994.

Book Reviews

Handbook of sleep related breathing disorders. By J.R. Stradling. Respiratory Care, 40(2):185, 1995.

ABC of Sleep Disorders: Edited by Colin M Shapiro. Respiratory Care. 39(10):1001-1002, 1994

Obstructive Sleep Apnea Syndrome: Clinical Research and Treatment: Edited by C. Guilleminault, M. Partinen. Respiratory Care, 35(8):850, 1990

Principles and Practices of Sleep Medicine: Edited by M.H. Kryger, T. Roth, W.C. Dement. Respiratory Care, 34(10): 930-31, 1989.

Sleep and Its Disorders in Children: Edited by C. Guilleminault. Respiratory Care, 971-972, 1987.

Active Research Support

DOD – USAF (Decker, PI) 5/17-5/18 17% effort

RSAAC 17-060 Hyperoxia: An Unrecognized Mechanism for Inducing “Hypoxia-Like”

Symptoms

Hypoxia-like” symptoms of “disorientation, dizziness, and fatigue” occur without warning and rapidly induce cognitive dysfunction. When unnoticed during flight, the outcome can be catastrophic; the 2010 Alaskan F-22 crash has been attributed to hypoxia-like symptoms. Our objective is to define specific environmental and physiologic mechanisms contributing to “hypoxia-like” symptoms that have been reported during flight.

Role: PI.

1U18EB021792-01 (Strohl, PI) 7/01/2015-06/30/2017 10% effort

A Tool for Neurotherapeutic Therapy for Sleep Disordered Breathing

The proposal is to develop and verify clinical correlates of obstructive sleep apnea in a rabbit model. We will produce recurrent obstruction during sleep by partial nasopharyngeal obstruction and airway crowding produced to verify the endpoints present in human sleep apnea, including sympathetic excitation and sleep instability. We will characterize site(s) of obstruction and the upstream-pressure-flow behavior of the airway. The model will be tested by unilateral hypoglossal nerve stimulation (HNS), and compared to carotid sinus nerve stimulation (CNS) which has an ability to activate and coordinate bilateral upper airway muscle activation through brainstem mechanisms.

Role: Co-Investigator

1P30 NR015326-01 (Moore PI) 09/01/14-08/31/2019 15% effort

SMART Center II Brain Behavior Connections in Self-Management Science

The aims of the SMART Center are to: (1) advance science related to brain-behavior connections specific to the self-management of health and illness; (2) Expand the number of research projects aimed at improving our scientific understanding of the brain-behavior connections specific to the self-management of health and illness; (3) Increase the number of investigators conducting research targeted at the brain-behavior connections specific to self-management of health and illness; and (4) Promote interdisciplinary collaborations and partnerships to develop and support programs of research regarding the brain-behavior connections specific to the self-management of health and illness

Role: Director of Neuroscience Core

VAMC Research Grant "Spire" (Strohl, PI) 03/16-03/18 5% effort

Neural mechanisms of neurostimulation efficacy to resolve upper airway obstruction.

This project will assess the efficacy of unilateral hypoglossal nerve stimulation against sciatic nerve stimulation and esophageal transmucosal stimulation to reverse upper airway obstruction during sleep.

Role: Co-Investigator

DOD - WPAFB Base, 711th HPW (Decker, PI)
09/01/15-09/01/2016

Respiratory Assessment of F-22 Aircrew Life Support (RAALS) Gear

The aims of this project are to define 1) the extent that aircrew life support gear influence the work of breathing during aeromedical evacuation, high speed acceleration and very high altitude environments; 2) oversee and engage in human performance studies within adverse physical environments.

Role: PI

5T32HL007913-14 Strohl (PI) 09/30/1999-06/30/2016 0% effort
NIH

Sleep Medicine Neurobiology and Epidemiology

This is an institutional training grant application for sleep disorders. There are two graduate and three post-doctoral positions.

Submitted \ reviewed \ pending

GlaxoSmithKline 7/01/2017-7/2018 25% effort

Characterizing cortical signatures associated with autonomic nervous system neurostimulation

The overall Objective is to establish the extent that neurostimulation applied to the peripheral autonomic nervous system influences cortical electroencephalographic (EEG) activity. Such influences may include: 1) consolidation of sleep-wake patterns, 2) changes in spectral power density of cortical EEG activity, 3) changes in daytime vigilance. Other effects that may be encountered include 1) changes in EEG-defined arousals from sleep and/or sleep-state transitions, 2) EEG spike activity (e.g seizure), 3) changes in cortical network activity and coherence.

Role: PI

1R21NR-(pending award – scored impact factor of 16) (Decker, Co-PI) 10% effort

Structure & Function of Dopaminergic Brain Networks following Postnatally-Occurring

Hypoxic Insults

Mild to moderate hypoxic insults, attributed to apnea of prematurity, evoke disorders of minimal brain dysfunction with cognitive impairment. Yet, the underlying neuropathology is ill-defined. Our objective is to characterize dopaminergic structure and function in former preterm children who experienced postnatal hypoxic insults.

(Role: Co-PI)

DOD – USAF (Decker, PI) 5/17-5/18 17% effort

RSAAC 17-061 Neural Effects of Hypobaric Exposure

Widespread changes in cortical integrity, manifest as white matter hyperintensities (WMH) detected during MRI, have been reported in high-altitude pilots and hypobaric chamber operators. Our goal is to define the precise location of neuropathology recently reported in persons exposed to repetitive hypobaric exposures.

Role: PI.

Recently completed

- DOD-WPAFB (Decker, PI) 06/15- 06/2017
Respiratory Assessment of F-22 Aircrew Life Support (RAALS) Gear
- NIH-NINDS Andrew Escayg PI 12/1/04-11/30/09
Sodium channel dysfunction and epilepsy *1R01NS046484*
- NIH- NINDS Andrew Escayg PI 04/01/05-03/30/09
Sodium channel regulation and disease *R01NS051834*
- Organon Michael Decker PI 06/01/07-05/15/2008
176002 A six-week, double-blind, randomized, placebo-controlled, parallel group, efficacy and safety, sleep lab trial with Org 50081 in patients with chronic primary insomnia
- NIH-NHLBI Michael Decker PI 07/01/02-07/30/06
Episodic Neonatal Hypoxia Impairs Sleep and Cognition *R01HL72722*
- Eli-Lilly Michael Decker PI 10/25/05 -06/30/06
H9U-MC-MDBDOversight of Multi-Center acquisition of Polysomnographic Data
- NIH-NINDS David B. Rye (PI) & Michael Decker 04/01/02 - 03/31/06
Functional Circuitry of Midbrain Dopamine in Sleep and Wake *R01NS043374*
- CDC Michael Decker (PI) & David Rye 11/01/02-10/31/05
Polysomnographic Correlates of Chronic Fatigue Syndrome: A population-based study
- Emory Center for Alternative Medicine Research Pilot project:
Michael Decker 4/13/04-4/13/05
Dietary supplementation with fatty acids protects the mesotelencephalic dopamine system against hypoxia-induced impairment and degeneration.
- NIH – CAM Donald Bliwise (PI) & Michael Decker 4/13/04-4/13/05
Polysomnographic Assessment of Alternative Treatment for Sleep Disturbance in PD. *R01AT000611*
- Emory Collaborative Center for Parkinson's Disease
Research Pilot project: Michael Decker 11/30/02-10/31/04
Genetic and developmental influences of environmental toxin induced neurodegeneration.
- NIH-NINDS David B. Rye (PI) & Michael Decker 10/01/99 - 09/30/04
Sleep/Dopamine Phenotypes in Genetically Distinct Mice *R01NS040221*

TEACHING RESPONSIBILITIES

2014	(FPB) NUND 405	Altered Human Functioning (Pathophys)
2014	(FPB) NURS 615	Neurobiology of Sleep-Wake
2014	(FPB) NURS 453	Advanced Pathophysiology
2014	(FPB) NUND 541	Practice-Focused Research II
2013	(FPB) NURS 453	Advanced Pathophysiology
2012- Present	(GSU) NURS 7000	Research methodology for APRN's
2012- Present	(GSU) NURS 8450	Research methodology
2011- Present	(GSU) PH8001	Epidemiology for Health Professionals
2010- Present	(GSU) HHS8050	Course developer & leader - Neurobiology of Sleep and Wake
2003- Present	(Emory) NBB424	Scheduled Speaker – Neurobiology of Sleep Disorders
2004- Present	(Emory) NBB401	Module Leader – Neurobiology and Neuropathology of Disorders of Sleep
2003- Present		Wheeler High Science and Technology Magnet Program, Laboratory Rotation site
1996	(CWRU) Anat 412-413	Teaching Assistant, Histology

GRADUATE STUDENTS

Current

2015	Nursing - PhD Chair – Eric Barbato, The role of ApoA2 in cognitive performance
2015	Nursing - PhD Chair – Sean McCraijken, Neural inflammation corresponds with fatigue
<u>Prior</u> 2012	Nursing - PhD Chair - Ashley Helvig, Seizure and Behavioral Phenotyping of the Scn1a Mouse Model of Genetic Epilepsy with Febrile Seizures Plus (gefs+)
2011	Public Health – Master's Thesis- Amanda Hodges "Objective Quantification of Daytime Sleepiness"
2004	Neuroscience – PhD committee - Thomas Guillot, Role of the vesicular monoamine transporter 2 in protection against methamphetamine neurotoxicity

PROFESSIONAL ACTIVITIES

2003- Present	Sleep Research Society (SRS) Research & Education committee
1993-1996	American Association of Respiratory Care: Cardio-Pulmonary Clinical Guidelines Task Force
1991	Ohio Thoracic Society: Membership committee

1991 Ohio Thoracic Society: Conference planning committee

MANUSCRIPT REVIEWER

2013- Present **Associate Editor**, Sleep and Breathing

2010- Present **Associate Editor**, Frontiers in Neurology: Sleep and Chronobiology

2007- Present **Editorial Board**: Sleep Diagnosis and Therapy

2000- Present Manuscript reviewer, Sleep & Breathing

2000- Present Manuscript Reviewer, Sleep

2000- Present Manuscript Reviewer, Brain Research

2000- Present Manuscript Reviewer, Neuroscience

1987-1993 Manuscript Reviewer. Journal American Association of Respiratory Care

NATIONAL/INTERNATIONAL SCIENTIFIC REVIEW

2015-16 *National Institutes of Health, Ad-Hoc Reviewer- Nursing and Related Clinical Sciences*

2014 *National Institutes of Health, Primary Reviewer- Developmental Brain Disorders (DBD)*

2012 *Center for Disease Control and Prevention. Panel Chair - Special Interest Projects (SIP) 10-037 "Epilepsy"*

2010 *Ministry of Science and Technological Development of the Republic of Serbia. Primary reviewer, Neuroscience*

2010 *Canadian Institute of Health Research. Primary reviewer - Team Grants: Sleep and Circadian Rhythms*

2010 *National Institutes' of Health - Heart,Lung & Blood. Primary reviewer- Scientific Review Group: ZHL1 CSR-N S1*

2010 *Center for Disease Control and Prevention. Panel Chair - Special Interest Projects (SIP) 10-037 "Examining the Impact of Cognitive Impairment on Co-occurring Chronic Conditions" & SIP 10-039"Epidemiologic Follow-up Study of Newly Diagnosed Epilepsy.*

2008- Present National Science Foundation, Primary reviewer - Neuroscience cluster

2004 National Institute of Health, ad-hoc reviewer GCRC site visit

NATIONAL/INTERNATIONAL CONSULTATION

2006 Viasys, California

2006 Invacare, Cleveland, Oh

2000-2005 deCODE genetics, Iceland

2003-2005	Medcare/Flaga Iceland
1986	SiMed Medical, Seattle, Wa
1991	Medtronics - Minneapolis, Mn
1991-1995	Respironics - Murrysville, Pa

PRESENTATIONS

Presentations at International Conferences

2016 Guest Speaker	Neuroimaging in self-management. Pre conference workshop Midwest Nursing Research Society. Milwaukee, WI
2016 Guest Speaker	Republican National Convention – Auxiliary Program – Science Slam. Life at 70,000 feet and beyond
2016 Guest Speaker	The Basic Science of Sleep, Wakefulness and Upper Airway Tone. American Academy of Dental Sleep Medicine, Denver, CO
2015 Guest Speaker	The impact of poor sleep on well-being in people with dermatological conditions. The 23RD World Congress of Dermatology, Vancouver, Canada.
2014 Guest Speaker	Use of computational medicine to advance understanding of psoriasis and comorbidities that promote inflammation and CVD, International Workshop of Dermatology, CWRU
2014 Guest Speaker	Establishing Chronic Fatigue Syndrome Phenotypes with Unique Molecular and Electrophysiological Markers – Symposia Chair – Council for the Advancement of Nursing Science. Washington, DC
2012 Guest Speaker	A Future Role for Pharyngeal Stimulation Therapy for Mild and More Severe OSA. American College of Chest Physicians, 2012
2012 Guest Speaker	State-of-the-Art: Hypoglossal Nerve Stimulation in Obstructive Sleep Apnea. American Academy of Dental Sleep Medicine, Boston, MA.
2010 Guest Speaker	“Does poor sleep make us fat?” American Academy of Dental Sleep Medicine, Las Vegas, NV
2009 Guest Speaker	Translating Preclinical Research to the Public Health Agenda: Sleep Complaints as Biomarkers of CNS dysfunction. Battelle Eastern Science & Technology Center, Aberdeen, MD
2009 Guest Speaker	Prevalent Sleepiness: A Population-based study. NHLBI, NIH, Bethesda, MD
2007 Guest Speaker	The utility of electroencephalography in safety pharmacology. Am College Clinical Toxicology, NC, USA
2006 Guest Speaker	The role of electroencephalography in safety pharmacology, Am College Safety Pharmacology, San Diego, USA
2005 Guest Speaker	Sleep apnea associated cognitive decline, Curitiba, Brazil
2005 Guest Speaker	Sexual dysfunction in sleep apnea, Curitiba, Brazil

- 2005 Guest Speaker Methods for diagnosing excessive daytime sleepiness, Sao Paulo, Brazil
- 2005 Guest Speaker Neurochemical outcomes of sleep apnea, Tokyo, Japan
- 2005 Guest Speaker Electroencephalography in safety pharmacology, Tokyo, Japan
- 2005 Guest Speaker Preventing sudden infant deaths, Atlanta, Georgia
- 2005 Co-Chair Convention of Sleep and Disorders of Sleep, Bombay, India
- 2005 Guest Speaker Long Term Neurochemical and Behavioral Outcomes of Intermittent Hypoxic Insults During Early Brain Development. Institute de Sono, Sao Paulo, Brazil
- 2004 Guest Speaker Forgetful and unable to stay focused? You may be hypoxic while asleep....” National meeting of the Association of Polysomnographic Technicians, Philadelphia, PA
- 2003 Guest Speaker “Neurochemical and Behavioral Correlates of Neonatal Intermittent Hypoxia” Laboratory Animal Science Meeting, Tokyo, Japan
- 2002 Symposia Chair “Intermittent Hypoxia Across the Lifespan: Neuropathologic Underpinnings of Executive Dysfunction” Association of Professional Sleep Societies. Seattle, WA
- 1993 Workshop “Controversial Issues in Home Diagnostic Studies for Sleep Related Respiratory Disorders” The American Association of Respiratory Care, Respiratory Care Journal Conference, St. Petersburg Fla

National, State and Local Presentations

- 2015 Guest Speaker Establishing Fatigue Phenotypes with Unique Molecular and Electrophysiological Markers. Health and Human Performance Research Summit. Dayton, Ohio
- 2/11/2014 CWRU – President Snyder – Faculty Spotlight “A Hard Day’s Night”
- 07/02/2014 Representative Marcy Kaptur and 711th Human Performance Wing leadership - Biomarkers of Fatigue and Cognition
- 07/24/2014 Cognitive Dysfunction and Sleep Apnea – Cleveland Clinic Grand Rounds - Sleep
- 08/05/2014 Hypoxia-induced Brain Dysfunction - Cleveland Clinic Grand Rounds - Sleep
- 8/20/2014 Metro Hospital Nursing Grand Rounds – Disorders of Sleep
- 09/12/2014 Establishing Chronic Fatigue Syndrome Phenotypes with Unique Molecular and Electrophysiological Markers – Symposia Chair – Council for the Advancement of Nursing Science
- 10/27/2014 Use of computational medicine to advance understanding of psoriasis and comorbidities that promote inflammation and CVD, International Workshop hosted by Department of Dermatology, CWRU
- 2013 Guest Speaker **UCLA-NIH** Lake Arrowhead Neuroscience and Sleep Workshop
 “ REM sleep behavior disorder as a predictor of neurodegenerative disease”
 “ Establishing Sleep Disorder & Chronic Inflammation Phenotypes in CFS”

- 2012 Guest Speaker Sleep Disorders in Chronic Fatigue Syndrome: Cause, Consequence, or Red Herring. Sleep epidemiology program. Harvard Brigham Young
- 2012 Panel Chair Biomarkers of Sleep – Post Traumatic Stress Disorder – Lake Arrowhead NIH sponsored Sleep Workshop, UCLA, CA
- 2012 Guest Speaker Neuroprotective strategies to mitigate neurochemical sequelae attributed to perinatally occurring hypoxic insults. Dekalb Medical Center, Atlanta GA
- 2011 Guest Speaker Long term behavioral and neurochemical sequelae outcomes attributed to perinatally occurring hypoxic insults. Dekalb Medical Center, Atlanta GA.
- 2010 Guest Speaker “Obesity, OSA and the Airway - Implications for oral appliance therapy and the impact of weight loss?” American Academy of Dental Sleep Medicine, Las Vegas, NV
- 2009 Grand Rounds Translating public health research into improved patient outcomes: Improving recognition & intervention of sleep disorders. Good Samaritan Hosp, PA.
- 2008 Panel Sleep pathology contributing to hypersomnolence in Georgia. Future of Clinical Sleep Medicine, Boston, Ma
- 2008 Guest Speaker Hypersomnolence and Sleep Related Complaints in Metropolitan, Urban, and Rural Georgia. Lake Arrowhead NIH sponsored Sleep Workshop, UCLA, CA
- 2008 Guest Speaker Persistent fatigue in Chronic Fatigue Syndrome: A manifestation of cortical hypoarousal? Lake Arrowhead NIH sponsored Sleep Workshop, UCLA, CA
- 2008 Guest Speaker Electroencephalography in safety pharmacology. Charles Rivers “MASS PHYSIO” Boston, MASS
- 2008 Guest Speaker Owning & operating a sleep disorders center. American Academy of Sleep Medicine management series, Florida
- 2008 Guest Speaker Performing clinical research in a sleep disorders center. American Academy of Sleep Medicine management series, Florida
- 2007 Guest Speaker Apnea induced executive dysfunction: Is dopamine the culprit or unwitting scapegoat? University of Illinois, Chicago
- 2006 Guest Speaker Applications of Chaos Theory in heart rate and respiratory algorithms Cleveland Clinic, Ohio
- 2006 Guest Speaker Pathophysiology & interventions of obstructive & central sleep apnea Georgia Dental Sleep Society, GA. USA
- 2006 Guest Speaker The biological basis of ADHD, Amelia Island, Fla, USA
- 2004 Guest Speaker Neonatal intermittent hypoxia impairs dopamine signaling and executive functioning” Stanford Research Institute, San Francisco, CA
- 2004 Guest Speaker Neurochemical and executive dysfunction following neonatal intermittent hypoxia” Case Western Reserve University, Cleveland, Ohio
- 2002 Guest Speaker Neurophysiological Substrates of Wakefulness and Sleep Sleepless in Georgia conference (2000) Atlanta, GA

- 1999 Guest Speaker The Effects of Wakefulness and Sleep upon the Circadian Pacemaker
Pediatric Neurology Grand Rounds: University Hospitals of Cleveland, Ohio
- 1999 Guest Speaker The Influence of Environmental Illumination and Sleep upon Circadian Rhythms.
Neurology Grand Rounds: University Hospitals of Cleveland, Ohio
- 1994 Guest Speaker Noninvasive Ventilation: Frances Payne Bolton Symposia on Critical Care
Techniques: University Hospitals of Cleveland, Ohio

UNIVERSITY AND COMMUNITY SERVICE

Georgia State

2011-2013 Faculty Senate: Research committee, Campus planning & Development

Emory University

- 2004-2006 Director of Information Technology, Department of Neurology
- 2004-2006 Committee chair, Information Technology Group, Department of Neurology
- 2004-2006 Liaison, Emory University Department of Neurology Information Technology
Group & Emory Healthcare IT
- 2003-Present IT support for the Emory/deCODE genetics (Reykjavik, Iceland) initiative.

Community Service

- 1989 Founder of Cleveland A.W.A.K.E. a sleep apnea support group
- 1995 Sorting/packaging/shipping supplies to the Ethiopian relief effort
- 2006 Founder of John's Creek GA A.W.A.K.E. a sleep apnea support group

Research Abstracts and Proceedings

Damato, E.G., Sattar, A., Darrah, R.J., & **Decker, M.J.** (2014, September). *Sleep & Circadian Mechanisms as Mediators of Reward System Responsiveness to Amphetamine*. Council for the Advancement of Nursing Science: 2014 State of the Science Conference, Washington, D.C.

Decker, M.J., Damato, E.G., Darrah, R.J., & Strohl, K.P. (2014, September). *Establishing Chronic Fatigue Syndrome Phenotypes with Unique Molecular and Electrophysiological Markers*. Council for the Advancement of Nursing Science: 2014 State of the Science Conference, Washington, D.C.

Givens, S.E., Damato, E.G., Litman, P., & **Decker, M.J.** (2014, September). *Electrochemiluminescence Detection and Multiplexing Technology Facilitates Reconstitution and Measurement of Cytokines from Dried Blood Samples*. Council for the Advancement of Nursing Science: 2014 State of the Science Conference, Washington, D.C.

Damato, E.G, Burant, C., Strohl, K.P., Brubaker, J., & **Decker, M.J.** (2014, June). *Sleep Pattern Gender Differences and Fragmentation in Postpartum Parents of Twins*. SLEEP 2014: Associated Professional Sleep Societies

Decker M.J., Sattar A., DaMato E.G, Strohl K.P., Sleep Disorders Mask Peripheral Markers of Inflammation and Immune System Activity in Chronic Fatigue Syndrome.Sleep, 2014 Associated Professional Sleep Societies

Pruden Y.M., MD, Pruden P.M., **Decker M.J.**, Strohl K.P., Baseline Oxygen Saturation in EEG Determined Wakefulness in Relation to Sleep Position and Its Correlation to Hypoxic Stress during Sleep in OSA. Sleep, 2014 Associated Professional Sleep Societies

Scullin M.K., **Decker M.J.**, Bliwise D.L. Napping and Memory Consolidation in Younger and Older Adults. Sleep, 2014 Associated Professional Sleep Societies

Helvig A, Decker MJ, Sawyer N, Escayg A Seizure and Behavioral Phenotyping of the Scn1a Mouse Model of Genetic Epilepsy with Febrile Seizures Plus", Southern Nursing Research Society annual conference. 2013

Helvig A, Decker MJ, Protecting the newborn's brain with Omega 3 fatty acids. Georgia Public Health Association conference

Helvig A, Decker MJ, Maternal dietary supplementation with Omega 3 confers neuroprotection to the newborn against hypoxia-induced neurochemical morbidity. Arrowhead Sleep Workshop, Lake Arrowhead, CA 2010

Baharav A, Decker M.J., Eyal S., Fuxman Y., Cahan C, Reeves WC, Validation of a Novel Sleep Diagnostic System Based on ECG and Oxygen Saturation. (ATS 2009)

Linn, J.M., Decker M.J, Tabassum H., Reeves, WC. Daytime Hypersomnolence and Night Time Sleeplessness in Metropolitan, Urban, and Rural Georgia. BRFSS, 2009

Decker M.J., Keating G.L. Tabssum H. Reeves W.C., Persistent fatigue and unrefreshing sleep in Chronic Fatigue Syndrome: A manifestation of cortical hypoarousal? Sleep, 31: Suppl, 2008, A292

Decker M.J., Shinar Z., Eyal S., Durmer J.S., Reeves W.C., Cahan C. Validation of an ECG based sleep diagnostic system. Sleep, 31: Suppl, 2008, A329

Baharav A, Decker M.J., Cahan C, Durmer J.S., Reeves W.C., Akselrod S., Autonomic correlates of daytime sleepiness. Sleep, 31: Suppl, 2008, A216

Shinar Z, Shuli Eyal S. Decker M.J., Reeves W.C., Baharav A., ECG derived respiration as a valid respiratory signal for detection of apnea/hypopnea events. Sleep, 31: Suppl, 2008, A330

Baharav A., Decker M.J., Shinar Z, Shuli Eyal S., Cahan C, Boneva R.S, Reeves W.C., Autonomic Nervous System Dysfunction in CFS: a population based study. Sleep, 31: Suppl, 2008, A297

Glenda Keating G.L, Karlsson K., Saevarsson G., Hilmarsson O., Decker M.J., Validation of a Commercial Rodent Polysomnographic Scoring Algorithm. Sleep, 31: Suppl, 2008, A346

Baharav A., Decker M.J., Shinar Z, Boneva R.S, Reeves W.C., Autonomic Nervous System Dysfunction in CFS: a population based study. Israeli Sleep Society, 2007

Decker M.J., Stevens R., Messenger R. Use of CPAP Exhalation Comfort Features Results in Improved Sleep Related Quality of Life Scores. Sleep, 30: Suppl. 2007, A178

Katz S., Decker M.J., Durmer J.S., Wellman J., Strong P. Evaluation of a new Intra-Oral Mouth Closing Device with CPAP Use. Am Dental Sleep Society, 2007

Papale, L., Martin, M., Andersen, M., Perry, J., Keating, G., Decker, M., Tufik, S., and Escayg, A. (2007) Altered sleep pattern in a mouse model of GEFS+. Sleep, 30: Suppl., 2007 A26.

Bliwise D., Saunders D., Wood-Siverio C., Greer S., Pour Ansari F., Rye D.B., Hitchcock S., Decker M. Double Blind Placebo (PLO) – Controlled polysomnographic randomized clinical trial (RCT) of Valerian

(VAL) for sleep in Parkinson's Disease (PD). *Sleep*, 30: Suppl., 2007, A41

Hue, G.E., Keating, G.L., Miller, R.D., Rye, D.B., and Decker, M.J. Neonatal intermittent hypoxia in rats induces sex-specific increases in dopamine levels in the nucleus accumbens. *Sleep*, 29: Suppl., A26. 2006

Saunders DD, Hitchcock SE, Greer SA, Pour Ansari F, Wood-Siverio C, Decker MJ, Rye DB, Bliwise DL . Nightly Variability In Perceived Sleep Quality Of Parkinson Disease (PD) Patients Is Reflected In Polysomnography. *SLEEP*, Volume 28, Abstract Supplement, 2005 A286

Hitchcock SE, Greer SA, Pour Ansari F, Wood-Siverio C, Decker MJ, Rye DB, Bliwise DL. Sleep Disordered Breathing (SDB) In Parkinsons Disease (PD) *SLEEP*, Volume 28, Abstract Supplement, 2005 A286

Jones, K.A., Solomon, I.G., Keating, G.L., Mak, R., Chitembeya, L., Miller, R.D., Rye, D.B., and Decker, M.J. (2004) Reduced extracellular dopamine in the striatum of juvenile rats exposed to intermittent hypoxia as neonates. *Sleep*, 27: Suppl., A6-7.

Keating G.L, Thurmond M., Jones K.A., Solomon I.G., Rye D.B., Decker M.J. Enhanced Responsivity to Novelty and Increased total tissue content of Dopamine in the Striata of adult rats exposed to intermittent hypoxia as neonates. Abstract Viewer/Itinerary Planner. Society for Neuroscience Program No. 359.5 (2004)

Jones K.A., Carter S., Shoemaker J.T., Solomon I.G., Lah J., Levey A., Decker M.J. Intermittent Hypoxic Insults Occurring During a Period of Critical Brain Development Reduce the Expression of Insoluble Beta Amyloid Within the Hippocampus. (9th International Conference on Alzheimer's Disease, July 17-22, 2004).

Saevarsson G., Chitembeya L., Feroah T., Krinstjansson S., Thoroddssen S., Solomon I., Rye D., Decker M.J. Validation of a Commercially available Rodent Polysomnographic Scoring System. *Sleep*, 27: Suppl., A794, 2004

Greer S., Saunders D., Wood-Siverio C., Hitchcock S., Decker M.J., Rye D., Bliwise D. Nightly Variability in PLMS in Parkinsons Disease. *Sleep*, 27: Suppl., A314, 2004

Jones K.A., Solomon I.G., Keating G.L., Rye D.B., Decker M.J. Amphetamine Mediated Release of Dopamine is Markedly Enhanced in Juveniles Exposed to Intermittent Hypoxia as Neonates. *Sleep*, 27: Suppl., A20, 2004

Jones K.A., Solomon I.G., Keating G.L., Mak R., Chitembeya L., Miller D.R. Rye D.B., Decker M.J. Reduced Extracellular Dopamine in the Striatum of Juvenile Rats Exposed to Intermittent Hypoxia as Neonates," selected for an oral presentation at the APSS 18th Annual Meeting, *Sleep*, 27: Suppl., A6, 2004

Hue G., Decker M.J., Solomon I.G., Rye D.B., Increased wakefulness and hyper-responsivity to novel environments in mice lacking functional dopamine D3 receptors. Program Number 616.16, 2003 Abstract Viewer/Itinerary Planner Washington DC: Society for Neuroscience

Boss V., Strohl K.P., O'Donnell W.T., Hue G., Decker M.J., Intermittent Hypoxia Alters Gene Expression in the Neonatal Rat Brain. Program Number 324.8, 2003 Abstract Viewer/Itinerary Planner Washington DC: Society for Neuroscience.

Decker M.J., Farzaneh P.A., Straight L.M., Bliwise D.L. Elderly males with mild nocturnal oxygen desaturation exhibit reduced cognitive performance. *SLEEP*, 26:A164, Abstract Supplement, 2003

Decker M.J., Keating G.L., Hue G.E., Freeman A.A., Rye D.B. Mesolimbic dopamines's modulation of REM sleep. *J Sleep Res Suppl*; pg 51, #99, 2002.

Decker M.J., Caudle W.M., Hue G.E., Miller G.W., Rye D.B. Neonatal Intermittent Hypoxia Induces

Hypodopaminergic Activity in the Striatum, Decreased Wakefulness, Hyperactivity, and Working Memory Impairment. (SLEEP; 25:486J, Abstract Supplement, 2002).

Keating G.L., Decker M.J., Rye D.B. Validation of a Commercially Available Rodent Polysomnographic Scoring Algorithm. (SLEEP; 25:724R, Abstract Supplement, 2002).

Decker M.J., Hue G.E., Rye D.B. Persistence of Impaired Sleep-Wake homeostasis, cognition and hyperlocomotion after intermittent neonatal hypoxia. Society of Movement Disorders, 2001

Decker M.J., Hue G.E., Feng P.F., Rye D.B. Diminished Wakefulness and Locomotor Hyperactivity in Juvenile Rats Exposed to Intermittent Hypoxia as Neonates. Society for Neuroscience Vol 27, Program Number 845.7 2001

Hue G.E., Decker M.J., Rye D.B. Learning and Memory is Impaired in Juvenile Rats Exposed to Intermittent Hypoxia as Neonates. Society for Neuroscience Vol 27, Program Number 315.16 2001

Decker M.J., Keating G.L., Freeman A., Rye D.B. Parkinsonian-like sleep-wake architecture in rats with bilateral striatal 6-OHDA lesions. Society for Neuroscience 26(2):1514, 2000.

Decker M.J., Keating G.L., Freeman A., Rye D.B. Focal depletion of dopamine in the sensorimotor striatum of the rat recapitulates Parkinsonian-like sleep-wake disturbances. Sleep 23:A132, Suppl 2000

Beall C.M., Decker M.J., Strohl K.P., Kushner I., Almasy L.A., Blangero J., Gebremedhin A. Hemoglobin concentration of Ethiopians at 3530m. (Am. Assoc. Phys. Anth. 1999)

Filon M.E., Freeman B., Decker M.J., Strohl K.P. Strain-dependent neuronal activation within the supraoptic nucleus. Sleep 22:S32, Suppl, 1999.

Decker M.J., Rye D.B., Chavez J.C., Pichiule P., Bergmann B.M., Strohl K.P. Functional differences in the retinorecipient area of the albino and pigmented rat Suprachiasmatic Nucleus. Society for Neuroscience. 1998; Vol 24(2)663.2.

Smith M.L., Niedermaier O.N.W., Decker M.J., Strohl K.P. Treatment of sleep apnea reverses abnormal chemoreflex control of sympathetic activity. Circulation Suppl, 98:(17) 2478, 1998.

Beall C.M., Gebremedhin A., Decker M.J., Brittenham G.M., Shamebo M. Hemoglobin concentration of Amhara at 3530m on the Simian Plateau. J. Ethiopian Medical Association 1997.

Decker M.J., Flak T.A., Strohl K.P. Computer-assisted analysis of long-term monitoring of oxygen saturation. Sleep Research 25:a228, 1996.

Decker M.J., Beall C.M., Schork N., St. Jean P., Soria R., Villena M., Alarcon A., Gonzales C., Vargas E., Strohl K.P. Hypoxic ventilatory response in high altitude Bolivians. Respiratory and Critical Care Med 153(4):A120, 1996

Schork N., St. Jean P., Decker M.J., Davidson A.O., Lee W.K., Dominiczak A.F. Tighter coupling of blood pressure with activity levels after salt challenge in hybrid rats. Hypertension, June 1996.

Decker M.J., Beall C.M., Vargas E., Villena M., Soria R., Alarcon A., Gonzales C., Schork N., St. Jean P., Strohl K.P. Hypoxic Ventilatory Response of Bolivian Aymara at 4000m. Respiratory and Critical Care Medicine 153 (4): A120, 1996.

Strohl K.P., Beall C.M., Decker M.J., Brittenham G., Blangero J., Williams-Blangero S. Quantitative Genetic Analysis of Hypoxic Ventilatory Response at 4000M. Respiratory and Critical Care Med 151(4):A634, 1995

Blangero J., Williams-Blangero S., Decker M.J., Strohl K.P., Brittenham G., Beall C.M. Genetic analysis of hypoxic ventilatory response in a high altitude Tibetan population. J Phys Anthro 1994

Strohl K.P., Arnold J., Cahan C., Decker M.J. Erythropoietin profiles before and after short-term NCPAP therapy for OSAS. *Am Rev of Resp Dis* 149(4):A808, 1994

Smith M.L., Decker M.J., Strohl K.P. Peripheral and central chemoreflexes operate significantly below the threshold for activation in healthy humans. *Physiologist* 36:238, 1992.

Stanek E.J., Nara A.R., Strohl K.P., Decker M.J., Nair R.N., Munger M.A. The effect of chronic ACE inhibition on arterial oxygenation in Heart Failure. *Clinical Pharmacology and Therapeutics. Clin Pharmacol Ther.* 51(2):150, 1992.

Strohl K.P., Decker M.J., Atzberger D., Haaga J., Mortimer T. Functional Electrical Stimulation for Tongue Protrusion and Sleep Apnea. Association of Professional Sleep Societies VI ann. meeting. pg. 44 abs #087, 1992.

Munger M.A., Stanek E.J., Strohl K.P., Nair R.N., Nara A.R., Decker M.J. Flaharty K.K. Circadian variation in oxygen saturation profiles in chronic mild-moderate heart failure. *American College of Clinical Pharmacology*, 1992.

Smith M.L., Decker M.J., Strohl K.P., Thames M.D. Sympathetic response to hypercapnia is augmented in patients with obstructive sleep apnea. *Circulation* 86(1):636, 1992.

Smith M.L., Decker M.J., Strohl K.P., Thames M.D. Augmented peripheral chemoreflex gain in patients with obstructive sleep apnea syndrome. *Circulation* 86(1):636, 1992.

Cahan C., Arafah B., Decker M.J., Arnold J.L., Strohl K.P. Adrenal steroids in sleep apnea before and after Ncpap treatment. *Am Rev Resp Disease* 143(4):A382, 1991.

Stanek E.J., Nara A.R., Strohl K.P., Decker M.J., Ravi R.N., Munger M.A. Abnormal arterial oxygen saturation in CHF patients. *Circulation Supp II*, 84(4):56, 1991.

Cahan C., Arafah B., Decker M.J., Arnold J.L., Strohl K.P. Alterations in Hypothalamic- Pituitary-Adrenal and gonadal functions in patients with obstructive sleep apnea: Effect of treatment. *Symposium on Sleep and Respiration in Aging Adults*. March 1991.

Ernsberger P., Damon T.H., Wendorff L.A., Decker M.J., Strohl K.P. Muscarinic acetylcholine receptor binding sites in the upper airway: Characterization and autoradiographic visualization. *Clinical Research* 39(3):706A, 1991.

Berridge M.S., Adler L.P., Nelson A.D., Cassidy E.H., Bednarczyk E., Decker M.J. Cerebral blood flow measured by [0-15]-Butanol and PET in human subjects. *Journal of Nuclear Medicine*, 31(5):884, 1990.

Cahan C., Washington L.H., Decker M.J., Ingami T., Xie M., Douglas J., Strohl K.P. Isolation of Rat Renal Cortical Tubular Epithelial Cells: Characterization and Evidence of Renin Production. *The FASEB Journal* 4(4):A954, 1990.

Smith B.L., Decker M.J., Caruso F.J., Braun B., Deal E.C., Strohl K.P. Nasal CPAP as a respiratory care procedure. *Respiratory Care* 35(11):1104, 1990.

Montenegro H., Decker M.J., Smith B., Caruso F., Deal C., Strohl K.P. The effects of anemia and hypothermia on pulse oximetry monitoring in the Intensive Care Units. *Chest* 88(2):118, 1990.

Cahan C., Denko C., Arnold J., Decker M.J., Haake L., Strohl K.P. Insulin levels in sleep apnea syndrome. *Chest* 88(2):122, 1990.

Schwartz H.J, Arnold J.L., Decker M.J., Hoekje P.L, Strohl K.P. Posterior rhinometry as an objective, rapid screening test for nasal obstruction or disease. *VIII International Symposium on Infection and Allergy of the*

Nose: International Rhinology Conference. 225, 1989.

Cahan C., Gothe B., Decker M.J., Arnold J.L., Leitner J., Strohl K.P. Continuous arterial oxygen saturation and sleep studies in quadriplegic patients and healthy subjects. *Am Rev Resp Dis.* 139(4):A113, 1989.

Cahan C., Decker M.J., Rabinowitz G., Washington L., Arnold J.L., Strohl K.P. Hormonal and biochemical markers associated with sleep apnea. *Am Rev Resp Dis.* 139(4):A81, 1989.

Yuen D.M., Cooper C., Strohl K.P., Leonard M.L., Stucky R.M., Decker M.J., Rich E.A. Increase in surfactant release and lung size induced by chronic hypobaric hypoxia in rats. *Am Rev Resp Dis.* 139(4):A403, 1989.

Strohl K.P., Decker M.J., Flak T., Gothe B., Arnold J.L., Cahan C., Kessler B.S. Normative values for oxygen saturation with long-term ambulatory monitoring. *Chest* 96(2):230, 1989.

Adler L.P., Berridge M.S., Decker M.J., Bednarczyk E.M., Strohl K.P., Nelson D.A., Leisure G.P., Muswick G.J., Miraldi F. Cerebral blood flow measurements in humans with 0-15 Butanol by using PET (Positron Emission Photography). *J. Radiology* 1989.

Cahan C., Decker M.J., Arnold J.L., Hoekje P.L., Brown D.P., Cheung P.W., Strohl K.P. Agreement between non-invasive oximetry values for oxygen saturation. *Am Rev Resp Dis.* 137(4):451, 1988.

Cahan C., Hoekje P.L., Goldwasser E., Decker M.J., Strohl K.P. Modeling the characteristic between serum erythropoietin levels and hypoxic exposure. *Clinical Research* 36(3):503A, 1988.

Decker M.J., Hoekje P.L., Strohl K.P. Ambulatory monitoring of arterial oxygen saturation. *Respiratory Care* 33(10):919, 1988.

Strohl K.P., Decker M.J., Flak T., Olson L.G., Hoekje P.L. The nasal response to exercise is similar in healthy and asthmatic subjects. *Clinical Research*, 35:540A, 1987.

Decker M.J., Conrad K.P., Strohl K.P. Non-invasive oximetry in the rat. *The Physiologist*, 30(4):15, 1987.

Brown D.P., Cheung P.W., Kenney M.A., Shoene R.B., Strohl K.P., Decker M.J. Theoretical models and experimental studies of pulse oximetry. *IEEE Proceedings IX Congress*, 435-437, 1987.