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CURRICULUM VITAE

Hershel Raff PhD

Professor
Department of Medicine
Division of Endocrinology

OFFICE ADDRESS:

St Luke's Medical Center
2900 W Oklahoma Ave
Milwaukee, WI 53215

EDUCATION:

1975 BA, Union College, Schenectady, NY
1981 PhD, Johns Hopkins University, Baltimore, MD

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

1980 - 1983 NRSA Post Doctoral Fellow, Department of Physiology, University of California- San Francisco, San Francisco, CA

FACULTY APPOINTMENTS:

1983 - 1987 Assistant Professor of Medicine, Assistant Professor of Physiology, Medical College of Wisconsin, Milwaukee, WI
1987 - 1991 Associate Professor of Medicine, Associate Professor of Physiology, Medical College of Wisconsin.
1988 - 1991 Adjunct (Visiting) Associate Professor of Physiology, University of Florida College of Medicine, Gainesville, FL
1989 - Present Graduate Faculty of the College, Medical College of Wisconsin
1991 - 1998 Adjunct (Honorary Visiting) Professor of Physiology, University of Florida College of Medicine.
1991 - Present Professor of Medicine (with Tenure), Professor of Physiology, Medical College of Wisconsin
1999 - 2001 Clinical Professor, Department of Health Sciences, School of Allied Health Professionals, University of Wisconsin-Milwaukee, WI.
2000 - Present Adjunct Professor, Department of Biomedical Sciences, Marquette University College of Health Science, Milwaukee, WI
2011 - Present Professor of Surgery, Medical College of Wisconsin
2017 - Present Professor, School of Pharmacy, Medical College of Wisconsin, Milwaukee, WI

HOSPITAL AND CLINICAL ADMINISTRATIVE APPOINTMENTS:

1983 - Present Scientific Director and Clinical Supervisor, CAP #17782-04 CLIA ID# 52D0881919 Maryland Permit #1647, Endocrine Research Laboratory, Aurora St. Luke's Medical Center, Milwaukee, WI

AWARDS AND HONORS:

1975 cum laude with Distinction in the Arts, Union College
1981 Delta Omega Honorary Public Health Society
1990 Society of Teaching Scholars, Medical College of Wisconsin (Inaugural Inductee)
1993 The Harry Beckman Basic Science Teaching Award presented by the Senior Class of the Medical College of Wisconsin
2001 The Harry Beckman Basic Science Teaching Award presented by the Senior Class of the Medical College of Wisconsin
2001 Graduate School of Biomedical Sciences Student Award for Outstanding Teacher, Medical College of Wisconsin

2004 Louis D'Agrosa Memorial Lecture, St. Louis University School of Medicine (October)
2005 Fellow of the American Association for the Advancement of Science, February
2005 Elected to Alpha Omega Alpha (AOA), Medical College of Wisconsin (April)
2006 Outstanding Reviewer Recognition Award, Journal of Clinical Endocrinology and Metabolism
2008 MCW's Outstanding Medical Student Teacher for 2007-2008
2009 MCW's Outstanding Medical Student Teacher for 2008-2009
2010 Collaborative Research Award, Aurora Health Care
2010 MCW's Outstanding Medical Student Teacher for 2009-2010
2011 The Harry Beckman Basic Science Teaching Award presented by the Senior Class of the Medical College of Wisconsin

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

American Physiological Society: Program Advisory Committee (1989-1992)
Alpha Omega Alpha - Honor Medical Society (Elected 2005)
American Physiological Society: Long-Range Planning Committee (1996-1998)
American Physiological Society: Publications Committee (2000-2003)
American Physiological Society: Chair (Task Force on Classic Papers (2002-2006))
American Physiological Society: Chair (Publications Committee (2011-2014))
American Physiological Society: Finance Committee, Nominating Committee (Council (Ex officio))
Endocrine Society: Advisory Panel (Endocrine News (1993))
Endocrine Society: Associate Editor (Endocrine News (1994-1998))
Endocrine Society: Development Committee (2000-2003); Chair - (2001-2003) (Ex officio (2003-2005))
Endocrine Society: Finance Committee (Ex-Officio 2001-2007)
Endocrine Society: ENDO2003 Task Force on Cardiovascular Endocrinology Theme
Endocrine Society: Secretary-Treasurer Elect (2003-2004)
Endocrine Society: Council (Ex-officio 2003-2004; Voting 2004-2007)
Endocrine Society: Executive Committee (2003-2007)
Endocrine Society: Performance and Compensation Steering Committee (2003-2007 (Chair 2004-2007))
Endocrine Society Publications Oversight Committee (Ex-Officio 2004-2007)
Endocrine Society Publications Oversight Committee: New Initiatives Subcommittee (Ex-Officio 2004-2007)
Endocrine Society Publications Oversight Committee: Journals Management Subcommittee (Ex-Officio 2004-2007)
Endocrine Society Publications Oversight Committee: Journals Operations Subcommittee (Ex-Officio 2004-2007)
Endocrine Society Publications Oversight Committee: Publications Strategic Analysis Task Force (2005-2006)
Endocrine Society: Corporate Liaison Board (Ex-Officio 2003-2006)
Endocrine Society: Hormone Foundation Committee (Ex-Officio 2004-2007)
Endocrine Society: Secretary-Treasurer (2004-2007)
Endocrine Society Secretary-Treasurer: Chair (Androgen Assay Working Group (2005-2006))
Endocrine Society: Publications Core Committee (2007-2010)
Endocrine Society Publications Core Committee: Educational Publications Task Force (Chair (2008))
Endocrine Society: Trainee and Career Development Core Committee (2010-2011)
Endocrine Society: ENDO2011 Abstract Reviewer (2011)
Sigma Xi
Council for High Blood Pressure Research (American Heart Association)
American Association for the Advancement of Science, AAAS APS Representative to the Section on Biological Sciences (1999-2001)
American Association for the Advancement of Science, AAAS Fellow in Biological Sciences (2005)
American Association for Laboratory Animal Science (National Silver Member)
American Physiological Society: Steering Committee 1991 Fall Meeting

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorship

1993 - 1995 American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
1994 - 1998 Associate Editor, Endocrine News (a publication of the Endocrine Society)

2004 - Present Faculty of 1000, Physiology, Head of the Endocrinology Section
2005 - 2011 Advances in Physiology Education
2012 - Present Topic Editor, Comprehensive Physiology – Adrenal Gland and Stress

Editorial Board

1986 - 1992 American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
1988 - 1994 American Journal of Physiology: Endocrinology and Metabolism
1993 - 1996 American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology
2005 - 2008 Endocrinology
2007 - 2011 American Journal of Physiology: Regulatory, Integrative and Comparative Physiology
2008 - Present UpToDate Peer Reviewer for Endocrinology
2011 - 2014 Endocrine
2012 - 2015 FASEB Journal
2014 - Present International Editorial Board, IBIMA Publishing - International Journal of Case Reports in Medicine
2015 - 2018 Endocrinolgy

Journal Review

Acta Endocrinologica
Journal of Applied Physiology
Neuroendocrinology
Endocrinology
Peptides
Southern Medical Journal
American Review of Respiratory Disease
Domestic Animal Endocrinology
Prostaglandins
American Journal of Medical Sciences
Life Sciences
Journal of Physiology (London)
Alcoholism: Clinical and Experimental Research
Clinical Chemistry
Clinical Endocrinology
Journal of Clinical Endocrinology and Metabolism
Biology of Reproduction
Central European Journal of Medicine
Medicine and Science in Sports and Exercise
Neuropeptides, Research in Veterinary Science
Proceedings of the Society for Experimental Biology and Medicine Experimental Neurology
Molecular and Cellular Neurosciences
Metabolism, Neuroscience
Neuroscience Letters
Canadian Journal of Physiology and Pharmacology
Molecular and Cellular Endocrinology
Calcified Tissue International
European Journal of Endocrinology
Developmental Brain Research
Journal of Endocrinological Investigation
Methods and Findings in Experimental and Clinical Pharmacology
Hypertension
Clinical Chemistry and Laboratory Medicine
Physiological Genomics
Archives Italiennes de Biologie
International Journal of Endocrinology
Expert Review of Endocrinology and Metabolism
Postgraduate Medical Journal
Chest
Regulatory Peptides
American Heart Journal

Annals of Internal Medicine
New England Journal of Medicine
Journal of Clinical Investigation
Lancet
American Journal of Physiology
Circulation Research

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

1989 - 1993 American Heart Association Wisconsin Affiliate Research Peer Review Committee
1990 - 2000 Vince Lombardi Cancer Center Education/Control Committee
Founder, Milwaukee Neuroendocrine Group (merged with Milwaukee Neuroscience Group)
Badger State Science and Engineering Fair Judge, 2007
Milwaukee Neuroscience Group
Milwaukee Alumni Representative, Union College
Badger State Science and Engineering Fair Judge, 2008

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

02/1992 National Institutes of Health, Endocrinology Study Section Special Reviewer
02/1992 Louisiana Education Quality Support Fund Research Competitiveness Subprogram Out of state Expert
03/1992 American Institute of Biological Sciences (AIBS) Space Physiology and Countermeasures Peer Review to NASA
1993 - 1997 Member, International and Cooperative Projects (ICP) Study Section, National Institutes of Health
1995 National Science Foundation, Reviewer, Integrative Animal Biology Grant
02/1998 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
07/1998 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
10/1998 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
10/1999 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
1999 - 2001 American Heart Association Great America 3B Affiliate Study Group
06/2002 National Institutes of Health, National Institute of Child Health and Human Development, Extramural Reviewer
08/2002 National Institutes of Health, Global Health Research Initiative Program (GRIP) Special Emphasis Panel
10/2002 National Institutes of Health, Human Embryology and Development 1 (HED1) Study Section, Special Reviewer
02/2003 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
04/2003 National Institutes of Health, Experimental Therapeutics Study Section (ET-2) Special Emphasis Panel on Hypoxia
12/2003 - Present Health Research Council of New Zealand, Referee
02/2004 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Special Reviewer
08/2004 National Institutes of Health, National Institute of Child Health and Human Development, Extramural Reviewer
11/2004 National Institutes of Health, Endocrinology, Metabolism, Nutrition, and Reproductive Sciences Integrated Review Group, Special Emphasis Panel, ZRG1 EMNR-F 02
12/2004 National Institutes of Health, Global Health Research Initiative Program (GRIP) Special Emphasis Panel ZRG1 ICP-2
2004 - Present Head of the Endocrinology Section, Faculty of 1000, Physiology
07/2005 National Institutes of Health, International and Cooperative Projects (ICP) Study Section - Mail Reviewer
11/2005 National Institutes of Health, Endocrinology, Metabolism, Nutrition and Reproductive Sciences

Integrated Review Group, Ad Hoc Study Section, ZRG1 EMNR F(02)
07/2008 National Institutes of Health, Global Health Research Initiative Program (GRIP) Special Emphasis Panel ZRG1 ICP-2
07/2008 Cancer Research UK - Translational Research in Clinical Trials Committee, Ad Hoc Reviewer
09/2008 American Institute of Biological Sciences, Investigator-Initiated Research Awards PRMRP, Reviewer - Integrated Tissue Hypoxia Research Panel
07/2011 Ad hoc reviewer of report, National Research Council Committee on Guidelines for Scientific Publications Involving Animal Studies, Institute for Laboratory Animal Research, ILAR
2013 Elected Member, Partnership for the Accurate Testing of Hormones (PATH)
04/2016 Ad hoc reviewer, University of Michigan Geriatrics Center Pilot Grants Program, Claude Pepper Older Americans Independence Center
04/2016 Ad hoc reviewer, Research Grants Council (RGC) of Hong Kong
09/2016 Grant Reviewer, National Science Center, Poland
11/2016 Barts Charity Clinical Research Training Fellowship
12/2016 Clinical and Translational Institute (CTSI) of Southeastern Wisconsin Pilot Scientific Review Committee
Veterans Administration Merit Review ad hoc reviewer

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Prior

Non-Peer Review

Title:	N.I.H. Predoctoral Fellow, Johns Hopkins Pulmonary Training Grant
Source:	HL07199
Dates:	1976 - 1980
Title:	"Neuroendocrine Reflexes During Hypoxemia"
Source:	AM06419, National Research Service Award Individual Postdoctoral Fellowship in Neuroendocrinology
Role:	100% Effort; Principal Investigator
Dates:	1980 - 1983
Direct Funds:	$55,000
Title:	"The Renin Angiotensin Aldosterone System during Hypoxia"
Source:	85 GA 44
Role:	30% effort PI
Dates:	1984 - 1985
Direct Funds:	$15,140
Title:	"Pituitary Adrenal Control in Neurohypophysectomized Dogs
Source:	RR05434
Dates:	1984 - 1985
Direct Funds:	$5,000
Title:	"Human Endocrine Control in Cardiopulmonary Disease"
Source:	SLF, Siebert Lutheran Foundation, St. Luke's Hospital, Milwaukee, WI
Dates:	1984 - 1986
Direct Funds:	$150,000
Title:	"The Renin Angiotensin Aldosterone

	System during Hypoxia"
Source:	85 GA 44
Role:	30% Effort; Principal Investigator
Dates:	1986
Direct Funds:	$12,518 (Total Funds 1986)
Title:	"Vasopressin CRF ACTH Interactions"
Source:	HL36681
PI:	50% Effort; Principal Investigator
Dates:	1986 - 1987
Direct Funds:	$35,120
Title:	"Fetal Chemoreceptor Control of Renin Secretion"
Source:	HL36289, University of Florida College of Medicine
PI:	20% Effort; Co Investigator
Dates:	1987 - 1990
Direct Funds:	$186,906 (1987 1990)
Title:	"Vasopressin CRF ACTH Interactions"
Source:	HL39103
Role:	55% Effort; Principal Investigator
Dates:	1987 - 1996
Direct Funds:	$65,611 (over 1987-1996)
Title:	"Dynamic Studies of Pituitary Adrenal Function with the Use of a New Nichols Institute ACTH IRMA Assay"
Source:	Nichols
Dates:	1989
Direct Funds:	$5,000
Title:	"Adrenocortical Control in Patients with HIV Infection"
Source:	DK41015
Role:	5% Effort; Co Principal Investigator and Study Coordinator
Dates:	1989 - 1991
Direct Funds:	$110,687
Title:	"Role of Oxygen in Aldosteronogenesis"
Source:	DK43577
PI:	25% Effort; Principal Investigator
Dates:	1990 - 1993
Direct Funds:	$173,783
Title:	"Perinatal Hypoxia: Adrenocortical-Metabolic Adaptations"
Source:	DK54685-1
Role:	35% Effort; Principal Investigator
Dates:	1999 - 2002
Direct Funds:	$578,552 (Direct Funds 1999-2002)
Title:	“Nitric Oxide Regulation of Adrenal Steroidogenesis”
Source:	DK58145

Role:	5% Effort; Collaborating Investigator, (WB Campbell, PI)
Dates:	2001 - 2005
Direct Funds:	$596,050 (Direct Funds 2001-2005)
Title:	"Perinatal Hypoxia: Adrenocortical-Metabolic Adaptations".
Source:	DK54685-5
Role:	35% Effort; Principal Investigator
Dates:	2003 - 2007
Direct Funds:	$704,000 (Direct Funds 2003-2007)
Title:	“Effect of a Pain Protocol on Discomfort in Dementia”
Source:	NR07765-01
Role:	Consultant.
PI:	C. Kovach
Dates:	2007 - 2010
Direct Funds:	$2,009,093 (Direct Funds 2007-2010)
Title:	"Bone mineral density in MS: Endogenous and exogenous factors"
Source:	PP1509, National Multiple Sclerosis Society
Role:	Consultant (A. Ng, PI)
Dates:	2008 - 2010
Direct Funds:	$40,000 (Direct Funds 2008-2010)
Title:	“Aldosterone: dual role in radiation nephropathy”
Source:	AI067734-04, NIH/NIAID
Role:	Co-Investigator
PI:	E. Cohen, PI; J Moulder, U19 PI
Dates:	2008 - 2010
Direct Funds:	$196,805 (Direct Funds 2008-2010)
Title:	“The Effect of Low Oxygen on Lipid Profiles in the Immature and Mature Heart”
Source:	Rao Fund
Role:	Principal Investigator
Dates:	2008
Direct Funds:	$10,000 (Direct Funds 2008)
Title:	“Fetal Cardiovascular and Endocrine Reflex Responses”
Source:	HD033053-15, NIH/NICHHD
Role:	Consultant
PI:	CE Wood
Dates:	2012 - 2014
Direct Funds:	$1,037,500 (2012-2016)
Title:	“Serum Endocannabinoid Concentration and Salivary Cortisol in Patients with Cyclic Vomiting Syndrome”
Source:	RR031973, NIH UL1/Clinical and Translational Science Institute of

	Southeast Wisconsin (CTSI)
Role:	Co-Investigator
PI:	T. Venkatesan
Dates:	2012 - 2014
Direct Funds:	$50,000 (Direct Funds 2012-2014)
Title:	“Physician-Directed, Goal-Oriented Exercise Designed to Improve Quality of Life and Modulate Inflammation after Breast Cancer Treatment”. Aurora Cancer Care Research Award
Source:	ACCRA
Role:	Co-Investigator
PI:	J Tjoe
Dates:	2013 - 2015
Direct Funds:	$25,000 (2013-2015)
Title:	“Inflammatory biomarkers, pain and functioning: disentangling the contribution of weight in youth with co-occurring chronic pain and obesity”. Children’s Research Institute Pilot Innovative Research Awards
Source:	CRIPIRA
Role:	Co-Investigator
PI:	K. Hainsworth
Dates:	2015
Direct Funds:	$48,745

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

Local

University of Wisconsin Medical School Milwaukee Clinical Campus, Medical Research Seminar. "Role of Oxygen in Adrenal Steroidogenesis", 09/1992

Update on Clinical Endocrinology. Speaker, "How Hormones Work: What Primary Care Physicians Should Know", Hyatt Regency, Milwaukee, 10/1992

Wisconsin Association for Biomedical Research, Milwaukee, WI. "Discovery of Ovine CRH", 11/1993

Wisconsin Psychiatric Association, Milwaukee, WI. "Update on the Differential Diagnosis of Cushing's Disease.", 1993

Midwest Neurobiologists 18th Annual Meeting, Presenter, UWM, 04/1995

Pediatric Update Pre-teleconference, The Female Athlete Triad, "Physiology of Calcium and Bone Metabolism - The Calciotropic Hormones, Children's Hospital of Wisconsin, Milwaukee, WI, 06/1996

Speaker, Midwest Physiological Society, Milwaukee, WI, 06/1996

Update on Clinical Endocrinology, Milwaukee, WI. "Effects of inhaled corticosteroids on the pituitary-adrenal axis and the skeleton", 10/1998

Integrated Neuroscience Research Center Seminar, "Hypothalamic-Pituitary-Adrenal Adaptation to Neonatal Hypoxia", Marquette University, 02/2005

Milwaukee ENT Society. Update on Thyroid Physiology, 02/2008

Pediatric Critical Care Research Conference, Children's Hospital of Wisconsin, "Use of Salivary Cortisol in Clinical Medicine and Stress Research", Milwaukee, 02/2010

2010 Marquette Stress Symposium, Integrative Neuroscience Research Center, "The Hypothalamic-Pituitary-Adrenal Adaptation to Acute Neonatal Hypoxia", Milwaukee, 03/2010

Departments of Clinical Laboratory Science and Exercise Science, Marquette University, "Vitamin D", Milwaukee, 04/2010

“Publishing 101: Dos and Don’ts of Publishing in APS Journals. Chair and Speaker, “Preparing Your Work for Publication in APS Journals”, Experimental Biology 2011, 04/2011

“Hypothalamic-Pituitary Adrenal Axis Assessment: The Stress Response in Human Subjects”, Marquette

University College of Health Sciences, 02/2012

Chair and Speaker, “Preparing Your Work for Publication in APS Journals: Choosing a Journal, Authorship, and Peer Review”, Experimental Biology 2012“Publishing 101: How to Get Your Work Published in APS Journals and Avoid Minefields Along the Way”, 04/2012

“Vitamin D”, Wisconsin Seminar Day, ACL Labs, 10/2012

Chair and Speaker, “Preparing Your Work for Publication in APS Journals: Choosing a Journal, Authorship, and Peer Review”, Experimental Biology 2013. “Publishing 101: How to Get Your Work Published in APS Journals and Avoid Minefields Along the Way”, 04/2013

“Vitamin D”, Wisconsin (ASCLS-WI) State Convention, American Society for Clinical Laboratory Science-Wisconsin, 04/2014

Chair and Speaker, “Choosing a journal authorship and peer review.”, Experimental Biology 2014. “Publishing 101: How to Get Your Work Published and Avoid Ethical Minefields”., 04/2014

“Hypogonadotrophic Hypogonadism in Diabesity”, MCW Seventh Annual Diabetes Symposium of Wisconsin, Milwaukee, WI, 05/2014

Regional

Northwestern University Medical School, Department of Physiology. Chicago, IL, 1986

University of Wisconsin Medical School. Gas Club, Madison, WI, 1990

Chicago Chapter, Society for Neuroscience, 1991 Fall Scientific Meeting. Speaker, Neuroendocrine/Neuropeptide Workshop, "Role of glucocorticoids in the secretion of vasopressin", University of Illinois at Chicago, 12/1991

University of Wisconsin School of Medicine, Endocrine Section, Endocrine Grand Rounds, "Use of petrosal sinus sampling and the new ACTH IRMA in the differential diagnosis of Cushing's syndrome". Madison, WI, 05/1992

Chicago Medical School, Department of Physiology, "Interactions between the Neurohypophysis and the Hypothalamic pituitary adrenal axis", 11/1992

Middleton Veterans Administration Hospital, Madison, Wisconsin. "Role of Oxygen in Adrenal Steroidogenesis", 07/1993

Cincinnati Allergy and Asthma Society, Cincinnati, OH. "Systemic effects and HPA axis suppression with inhaled corticosteroids.", 04/1997

Burns Clinic/North Michigan Hospital, Petoskey, MI. "Systemic effects and HPA axis suppression with inhaled corticosteroids.", 05/1997

23rd International Aldosterone Conference, Minneapolis, MN. "Aldosterone synthase (P450c11AS) activity and mRNA expression in adrenal cells from neonatal rats exposed to hypoxia from birth.", 06/1997

Co-Chair, Clinical: Adrenal Session: Endo '97 (79th Annual Endocrine Society Meeting), Minneapolis, MN., 06/1997

Endocrinology and Metabolism Section, Department of Medicine, Indiana University School of Medicine, "Effect of Hypoxia on the Adrenal Cortex", 07/1997

Gundersen Clinic, LaCrosse, WI. "Systemic effects and HPA axis suppression with inhaled corticosteroids.", 08/1997

Division of Endocrinology, Mayo Clinic, Rochester, MI. "Systemic effects and HPA axis suppression with inhaled corticosteroids", 10/1997

1997 Division of Allergy and Clinical Immunology, Mayo Clinic, Rochester, MI. "Systemic effects and HPA axis suppression with inhaled corticosteroids"., 10/1997

Physician's Grand Rounds, Marquette General Hospital, Marquette, MI. "Systemic effects and HPA axis suppression with inhaled corticosteroids", 01/1998

Pulmonary Conference OH, Cleveland Clinic Foundation, Cleveland OH, "Systemic effects and HPA axis suppression with inhaled corticosteroids", 01/1998

Endocrinology and Metabolism Section, Department of Medicine, Indiana University School of Medicine, "Update on the Diagnosis of Cushing's Syndrome", 03/1998

Medical Grand Rounds, Methodist Hospital, Indianapolis, IN, "Systemic effects and HPA axis suppression with inhaled corticosteroids"., 03/1998

Department of Physiology and Biophysics, University of Illinois at Chicago, "Neonatal hypoxia: metabolic-adrenal adaptations", 10/1999

Seminars in Endocrinology, Metabolism, and Molecular Medicine, Feinberg School of Medicine, Northwestern University, "The Diagnosis and Differential Diagnosis of Cushing's Syndrome", 09/2004

Endocrine Grand Rounds, University of Wisconsin, Madison, WI. "The Diagnosis and Differential Diagnosis

of Cushing's Syndrome", 11/2004
Dept. of Internal Medicine Seminar, University of Kentucky: "The Diagnosis and Differential Diagnosis of Cushing's Syndrome", 05/2007
Department of Physiology Seminary, University of Kentucky, The Hypothalamic-Pituitary Adrenal Adaptation to Neonatal Hypoxia", 05/2007
Medical Scientist Training Program (MSTP) Annual Retreat (MCW), "Research in a Clinical Setting", Sheboygan, WI, 10/2009
Visiting Professor, Carthage College. "Use of Salivary Cortisol in Clinical Medicine and Stress Research", Kenosha, 04/2010
Ohio State University Division of Diabetes and Endocrinology. "A Physiology Approach to the Diagnosis of Cushing's Syndrome", Columbus, 05/2010
Ohio State University College of Nursing. "Use of Salivary Cortisol in Clinical Medicine and Stress Research, Columbus, 05/2010
American Society for Clinical Laboratory Science-Wisconsin (ASCLS-WI) State Convention. "Vitamin D", 04/2011
“Intermittent, Acute, and Chronic Neonatal Hypoxia: Endocrine and Metabolic Responses”, University of Chicago Institution for Integrative Physiology and Center for Systems Biology, 10/2011
“Short and Long-Term Effects of Neonatal Hypoxia”, Indiana University School of Medicine (IUPUI) Department of Physiology, 01/2013
“A Physiological Approach to the Diagnosis of Cushing’s Syndrome and Evaluation of Adrenal Incidentalomas”, Indiana University School of Medicine (IUPUI) Endocrine Grand Rounds, 01/2013
“Publishing Ethics 101: The Good, The Bad, and The Ugly”, Indiana University School of Medicine (IUPUI) IUSM Graduate Division, 01/2013
“HPA Axis Dynamics in Humans During Chronic (and Critical) Illness”, Adrenal 2014: The XVIth Conference on the Adrenal Cortex, Chicago, 06/2014
“A Physiological Approach to the Diagnosis and Differential Diagnosis of Cushing’s Syndrome”, Northwestern University Feinberg School of Medicine, Division of Endocrinology, Metabolism, and Molecular Medicine, 01/2016
Speaker “Use of Salivary Cortisol as a Screening Tool for Cushing’s Syndrome”, Summer Clinical Symposium – Neurology, Centegra Health System, Crystal Like, IL, 07/2016

National

Johns Hopkins Medical Institutions, School of Hygiene and Public Health, Department of Environmental Health Sciences, Baltimore, MD, 1982
University of San Francisco, Department of Biology, San Francisco, CA, 1983
Loma Linda University, Department of Physiology, Division of Perinatal Biology, Loma Linda, CA, 1983
Johns Hopkins Hospital, Department of Anesthesiology, Baltimore, MD, 1984
UMDNJ Robert Wood Johnson Medical School (Rutgers), Department of Medicine, Pulmonary Division, New Brunswick, NJ, 1984
University of Tennessee, School of Medicine, Department of Physiology and Biophysics, Memphis, TN, 1985
University of California, Davis. Department of Animal Physiology. Davis, CA, 1986
Second International Vasopressin Conference. "Interaction of the Vasopressin and CRF ACTH adrenocortical Control Systems". Vermont, 1987
FASEB Symposium Organizer American Physiological Society Centential Symposium: Cardiopulmonary Neuroendocrine Interactions and Speaker "Neuroendocrine Responses to Hypoxia and Hypercapnia", Washington, D.C., 1987
State University of New York, Buffalo. School of Medicine and Dentistry, Department of Physiology, Buffalo, NY, 1987
American Thoracic Society Annual Meeting. Clinical Topics In Pulmonary Medicine: Fluid Balance in Acute and Chronic Lung Disease. "The pituitary adrenal response to hypoxemia and hypercapnic acidosis", Las Vegas, NV., 1988
Co chairman, Vasopressin Session. FASEB Annual Meeting (American Physiological Society Section), Las Vegas, NV., 1988
University of Florida, College of Medicine. Department of Physiology. Gainesville, FL., 1988
University of Florida, College of Medicine. Department of Medicine Division of Nephrology. Gainesville, FL., 1988
Third Conference on the Adrenal Cortex. "The effect of hypoxia (low PO2) on aldosterone secretion in vitro."

New Orleans, LA, 1989

University of Florida, College of Medicine. Department of Physiology. Gainesville, FL., 1989

University of Florida, College of Medicine. Department of Medicine Division of Nephrology. Gainesville, FL., 1989

FASEB/APS Meeting Session Chairman (Aldosterone). Washington, D.C., 1990

University of Florida, College of Medicine. Department of Physiology. Gainesville, FL., 1990

University of Florida, College of Pharmacy. Department of Pharmacodynamics. Gainesville, FL, 1990

Boston University Department of Biology, Boston, MA, 1990

University of Tennessee College of Medicine, Department of Physiology Biophysics, Memphis, TN, 01/1991

FASEB '91 Meeting Session Chairman (Hypoxia, Altitude, Gravitational Biology I), Atlanta, Georgia, 04/1991

FASEB '91 Symposium Organizer: Endocrine Adaptation to Hypoxia; and Speaker: "Effect of hypoxia on the renin angiotensin aldosterone system". Atlanta, Georgia, 04/1991

Johns Hopkins Medical Institutions, Department of Anesthesia and Critical Care Medicine, Baltimore, MD, 06/1991

APS Specialty Meeting: Interactions of the Endocrine and Cardiovascular Systems in Health and Disease; Steering Committee and Symposia Organizer: Mechanisms of Endocrine Hypertension; and Methods of Hormone Measurement, San Antonio, TX, 09/1991 - 10/1991

FASEB/APS Workshop on Careers in Physiology. Speaker, "Career opportunities in a Department of Medicine, and as a director of a Clinical Laboratory". Anaheim, CA, 04/1992

New York Academy of Science Conference: The Neurohypophysis: A Window on Brain Function. Speaker: "Interactions between Neurohypophyseal Hormones and the ACTH adrenocortical Axis. Dartmouth College, 07/1992

Chairman, Vasopressin Session, Experimental Biology 1994, Anaheim, CA., 1994

Midwest Neurobiologists 18th Annual Meeting, Presenter, UWM, 04/1995

Chairman, Vasopressin Session, Experimental Biology 1995, Atlanta, GA., 1995

Department of Physiology and Pharmacology, Oregon Health Sciences University, Portland, "Regulation of adrenal steroidogenic enzyme function and expression during hypoxia". September., 09/1996

Division of Endocrinology, Diabetes, and Clinical Nutrition. Oregon Health Sciences University, Portland, OR. "Use of immunometric assays in the diagnosis and treatment of Cushing's syndrome and hyperparathyroidism", 09/1996

Dupont Merck Pharmaceutical Company, Stine-Haskell Research Center, Newark DE. "Interactions between vasopressin and the CRH-ACTH-adrenocortical control system, 03/1997

Kansas City Allergy and Asthma Association, Kansas City, MO. "Systemic effects and HPA axis suppression with inhaled corticosteroids", 04/1997

Pediatric Endocrine Conference, Massachusetts General Hospital, Boston, MA. "Neonatal hypoxia: endocrine metabolic interactions", 06/1999

Pediatric Grand Rounds and Endocrine Grand Rounds, Massachusetts General Hospital, Boston, MA. "Systemic effects of inhaled corticosteroids", 06/1999

Next Steps in Pediatric Asthma. A CME Satellite Symposium of the American Academy of Pediatrics, "Evaluating Systemic Effects and HPA Axis Suppression with Inhaled Corticosteroids, A Pediatric Focus.", 10/2000

Clinical Endocrine Conference, Albany Medical College, Albany, NY. "A Physiological Approach to the Diagnosis of Cushing's Syndrome.", 04/2003

Endocrine Grand Rounds, Beth Israel Medical Center, New York, NY. "The Diagnosis of Cushing's Syndrome: Is Salivary Cortisol the Answer?", 09/2003

Louis D'Agrosa Memorial Lecture. St. Louis University School of Medicine. "The Endocrinology of Stress in the Neonate", 10/2004

Department of Physiology and Functional Genomics Seminar Series, University of Florida, "Hypothalamic-Pituitary-Adrenal Adaptation to Neonatal Hypoxia", 11/2004

Alachua County Endocrine Society Meeting, Gainesville, FL. "The Diagnosis and Differential Diagnosis of Cushing's Syndrome", 11/2004

Invited Speaker: "Endocrine and metabolic adaptations to neonatal hypoxia". Symposium on Oxygen sensing and hypoxia: development, adaptation and disease. XXXV International Congress of Physiological Sciences. San Diego, 04/2005

Perinatal Biology Research Seminar, Loma Linda University School of Medicine, "Metabolic Adaptations During Neonatal Hypoxia", 05/2005

Obstetrics and Gynecology Grand Rounds, Loma Linda University School of Medicine, "The Diagnosis and Differential Diagnosis of Cushing's Syndrome", 05/2005

Biomedical Sciences Seminar, Loma Linda University School of Medicine, "Hypothalamic-Pituitary-Adrenal Adaptation to Neonatal Hypoxia", 05/2005

Chair, Oral Session - "Clinical Glucocorticoids" ENDO05, 06/2005

The Endocrine Society's 89th Annual Meeting. Workshop Speaker: "Standardization of Testosterone Assays for Clinical Practice: What's the Problem?", 06/2007

The Endocrine Society 90th Annual Meeting, Symposium Organizer and Chair. "Stress & the Central Programming of Behavior", 2008

Seattle Pituitary Symposium. Advances in Cushing's Syndrome (Session for Physicians) and A Patient's Road Map to the World of Cushing's Syndrome (Session for Patients). "A Physiological Approach to the Diagnosis and Differential Diagnosis of Cushing's Syndrome, 05/2009

Endocrine Days, "A Physiological Approach to the Diagnosis of Cushing's Syndrome and Evaluation of Adrenal Incidentalomas", Seattle, WA, 01/2010

Experimental Biology 2011. "Publishing 101: Dos and Don'ts of Publishing in APS Journals. Chair and Speaker, "Preparing Your Work for Publication in APS Journals", 04/2011

12th International Pituitary Congress. "Salivary Cortisol Assays, Boston, 06/2011

“Cushing’s Syndrome: A Physiological Approach to Diagnosis and Surveillance”, University of Nebraska Medical Center, Division of Endocrinology, 12/2011

“Intermittent, Acute, and Chronic Neonatal Hypoxia: Endocrine and Metabolic Responses”, University of Nebraska Medical Center, Department of Physiology, 12/2011

“Diagnosing Diabetes: Benefits and Drawbacks of Glucose vs Hemoglobin A1C", Endocrine Society’s 95th Annual Meeting – ENDO2013 – Symposium Chair, San Francisco, 06/2013

“Cushing’s Diagnosis – New Options (Meet the Professor)”, 3th International Pituitary Congress, San Francisco, 06/2013

Publishing Ethics 101: The Good, The Bad, and The Ugly, Louisiana State University Health Sciences Center, Department of Physiology, 11/2013

Gregory J. Bagby Post-Doctoral Fellows Distinguished Lecturer. Short and Long-Term Effects of Neonatal Hypoxia, Louisiana State University Health Sciences Center, Department of Physiology, 2013

“Publishing Ethics 101: The Good, the Bad, and the Ugly”, Georgia Regents University/Medical College of Georgia College of Graduate Studies, 06/2014

“A Physiological Approach to the Diagnosis of Cushing’s Syndrome”, Georgia Regents University/Medical College of Georgia, Department of Medicine, 06/2014

Symposium Organizer and Chair, “Diagnosing Thyroid Disease: Evaluation of TSH Measurements”, 16th International Congress of Endocrinology/Endocrine Society’s 96th Annual Meeting, Chicago, IL, 06/2014

ymposium Organizer and Moderator, “Diagnosing Thyroid Disease: Evaluation of TSH Measurements”, AACC 2014 Annual Meeting and Clinical Lab Expo, Chicago, IL, 07/2014

“The Short and Long-Term Effects of Neonatal Hypoxia”, University of Minnesota Department of Integrative Biology and Physiology, 09/2014

“Publishing Ethics 101: The Good, the Bad, and the Ugly”, University of Minnesota Department of Integrative Biology and Physiology, 09/2014

Symposium Organizer and Chair, “AACC Joint Session: Urine Free Cortisol: Pros and Cons”, Endocrine Society’s 97th Annual Meeting & Expo, San Diego, San Diego, CA, 03/2015

Symposium Organizer & Chair, “Free Hormone Measurements in Blood: What Clinicians Should Know”,, ENDO2016: Endocrine Society’s 98th Annual Meeting & Expo, Boston, MA, 03/2016

ymposium, Speaker, “Laboratory Diagnosis of Cushing Disease: Advances and Pitfalls”, ENDO2016: Endocrine Society’s 98th Annual Meeting & Expo, Boston, MA, 03/2016

Symposium Organizer & Chair, “Clinical Assay Issues: What Clinicians Should Know”, ENDO2017: Endocrine Society’s 99th Annual Meeting & Expo, Orlando, FL, 04/2017

International

Sixth International Hypoxia Symposium. Poster Symposium: "Adrenal glomerulosa cells are oxygen sensitive: low PO2 inhibits aldosteronogenesis in vitro." Lake Louise, Canada, 1989

Seventh International Hypoxia Symposium Organizer: Hormonal Control of Fluid and Electrolyte Balance in Hypoxic States, and Speaker: "The renin angiotensin aldosterone system: is the adrenal an oxygen sensor? Lake Louise, Canada, 02/1991

COMMITTEE SERVICE:

Medical College of Wisconsin

1987 - 1993 Animal Care Committee
1987 - 1989 Admissions Interviewer
1987 - 1992 Animal Care Committee Chairman
1989 - 1992 Faculty Senate
1989 - 1992 Animal Care Committee Budget Subcommittee
1989 - 1992 Laboratory Safety Committee
1990 - Present Society of Teaching Scholars (Inaugural Inductee)
1990 - 1994 The Ad Hoc Committee on Problem Based Learning
1993 - 1999 Nominating Committee
1994 - 1996 LCME Self-Study Task Force Subcommittee on Governance/Administration
1994 - 1996 LCME Self-Study Task Force
1996 Orientation to Medical Education for New Faculty Members
1996 M1-M2 Curriculum Retreat, Lake Geneva, Wisconsin
1997 - 2002 Continuing Medical Education Committee
1997 - 2001 Digestive Diseases Research Center Research Committee
1999 - 2001 Graduate School of Biomedical Sciences Faculty Credentials Committee
2002 LCME Task Force
2003 - 2005 Search Committee, Chief of the Division of Endocrinology, Dept of Medicine
2004 M1/M2 Curriculum Retreat, Wauwatosa, Wisconsin
2005 - 2008 Rank and Tenure Committee
2006 - 2008 Advancing a Healthier Wisconsin Initiative Grant Review Committee
2008 - 2009 Vice-President, Faculty Council
2009 - 2010 Senior Vice President (President-Elect), Faculty Council
2010 - 2011 LCME Accreditation Institutional Self-Study Subcommittee
2010 - 2011 LCME Accreditation Self-Study Task Force
2010 - 2011 President, Faculty Council
2011 Search Committee-President's Chief of Staff, Faculty Council
2011 - Present Honors in Research Committee
2011 - 2012 Module Director, M2 Endocrinology, Pilot Integrated Curriculum, M2 Endocrinology, Pilot Integrated Curriculum
2012 - 2015 Community Medical Education Program Steering Committee
2012 - Present Faculty Advisor, Student Assembly (Elected)
2012 - Present Unit Director, Discovery M2 Endocrinology/Reproduction Curriculum
2017 - Present Nominating Committee (Elected)

Hospital

1984 - 1994 Institutional Review Board (Human Research Review Committee), St. Luke's Medical Center/Aurora Health Care
1986 - 1988 Allied Health Committee, St. Luke's Medical Center/Aurora Health Care
1990 - 1999 Vince Lombardi Cancer Education/Control Committee, St. Luke's Medical Center/Aurora Health Care
1996 - Present Continuing Medical Education (CME) Subcommittee, St. Luke's Medical Center/Aurora Health Care
1999 - 2000 Research and Development Committee - Aurora Consolidated Laboratories, St. Luke's Medical Center/Aurora Health Care
2000 - Present Chairman of IACUC, St. Luke's Medical Center/Aurora Health Care
2000 - Present Institutional Animal Care and Use Committee (IACUC)St. Luke's Medical Center/Aurora Health Care
2001 - Present Radiation Safety Committee, St. Luke's Medical Center/Aurora Health Care
2003 - 2006 Cardiac Research Fund Award Committee, St. Luke's Medical Center/Aurora Health Care
2003 - Present Schroeder Fellows Program Committee, St. Luke's Medical Center/Aurora Health Care

MEDICAL COLLEGE TEACHING ACTIVITIES:

Community/Lay Public

1997 - 2007 Apprenticeship in Medicine (AIM) Program for Minority High School Students. "Understanding Diabetes","Normal Female Reproduction"

Medical Student Education

1984 - Present Medical Physiology – M1 Students Endocrinology Lectures/Clinical Case Conferences
1989 - 2007 Otolaryngology Basic Science Course, Review of Pituitary, Thyroid, and Parathyroid Physiology (biannually)
1989 - 1991 Division of Pulmonary and Critical Care Medicine, Department of Medicine Lecture Series on Pulmonary Physiology and Pathophysiology, "Pathogenesis of Hypoxia"
1989 - 1992 National Board Part I Review Course,Endocrinology Review
1991 - 2000 Physiology 271, Graduate Course in Endocrinology and Metabolism
1992 Department of Biostatistics and Clinical Epidemiology and the Center for the Study of Bioethics and Health Policy, Concepts and Clinical Practice in Medicine, Lectures in Endocrinology
1993 Neurobehavioral Science, Department of Neurology "Hypothalamus/Neuroendocrinology"
1994 Preceptor, Minority Summer Research Training Program
1995 Neurobehavioral Science, Department of Neurology "Hypothalamus/Neuroendocrinology"
1996 - 2007 Integrated Neuroscience Course, Hypothalamus/Neuroendocrinology Lectures (annually)
1997 Mini-Medical School ,"Diabetes"
1999 Mini-Medical School ,"Diabetes"
2001 - 2007 Advanced Systems Physiology, Endocrine Physiology and Pathophysiology Blocks. (annually)
2004 - Present Medical Pharmacology – M2 Students, Hypothalamic and Pituitary Hormones (annually)
2007 - Present Bioethics 10444A – Research Ethics Discussion Series
2008 - Present Physiology 08210 – Endocrine Regulation (Course Director – 2009)
2011 - Present Module Director, M2 Endocrinology
2012 - Present M2 Endocrinology-Reproduction Unit Director Lecturer, M1 Physiology – Endocrinology (10 lecture hours, annually) M2 Symptoms Unit (Fatigue)
2013 - 2015 Instructor - Diabetic ketoacidosis Foundations of Clinical Medicine (M1 Curriculum)
2014 - Present Instructor, The Art of Medicine Through the Humanities – Course #520-M4150 (M4 Clerkship)

Graduate Student Education

1993 Physiology 275, Graduate Course in Statistical Problems in Physiology

EXTRAMURAL TEACHING:

Medical Student Education

1995 - 1997 Marquette University , Program in Physical Therapy, Pathophysiology, Acute Care in Medicine and Surgery "Physiology of Metabolic Bone Disease and Osteoporosis"
1995 - 1998 Marquette University , Program in Physical Therapy, Pathophysiology, Acute Care in Medicine and Surgery
1996 University of Wisconsin - Milwaukee, Biological Sciences 630 (Endocrinology), "Adrenal Cortex"
08/27/1997 - 08/28/1997 National Medical School Review, Endocrine Physiology, Newport Beach, CA, Supplemental Basic Science Review
1998 Marquette University, Program in Physical Therapy, Pathophysiology, Acute Care in Medicine and Surgery "Physiology of Diabetes Mellitus"
2003 University of Wisconsin - Milwaukee, Biological Sciences 630 (Endocrinology), "Adrenal Cortex"
12/2011 University of Nebraska Medical Center, Department of Physiology, Scientific Writing Course, “Publishing Ethics 101: The Good, The Bad, and The Ugly”
2011 - Present Marquette University College of Health Science “Calcium-Phosphate; Glucose Regulation; HPA Axis lectures”, CTRH 6001 – Applied and Rehabilitative Systems Physiology

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Medical Students

Timothy P. Roarty, Research Trainee, MCW
Maryam Ivanoff, Research Trainee, MCW
Steven C. Griffen, Research Trainee, MCW
Saeid Kohandarvish, Research Trainee, MCW
Mark H. Rossing, Research Trainee, MCW
Sandra K. Doepker, Research Trainee, MCW
Pedro Lucero, Research Trainee, MCW
Anne Nagler, Research Trainee, MCW
Jody VanHoof, Research Trainee, MCW
Karl Johnson, Research Trainee, MCW

Graduate Students

PhD Committees

Daniel Brown, MCW
Christopher Roberts, MCW
Suzanne Greenberg, MCW
Ogugua Anene-Maidoh, MCW
Craig Hanke, MCW
Melissa Morse, MCW
Domagoj Mladinov, MCW
Russell Wilke, MCW
Mary Pat Kunert, MCW

MS Committees

Andrew Piering, MCW
Sribidya Kidambi, MCW
Eric D. Bruder, MCW
Kristin Anne Koch, MCW

Postdoctoral Students

Paula. E. Papanek, Ph.D., MCW, Research Fellow

Clinical/Research Fellows

Santo J. Diaz, M.D., MCW
Pennapa Chan, MD, MCW
Scott Brock, MD, MCW
Sandra L. Ettema M.D., Ph.D, MCW
Victor O. Waters, M.D., MCW
Robert C. Brickner, M.D., MCW
Manoj H. Majmudar, M.D., MCW
Thomas P. Segerson, M.D, MCW
Vidya Kidambi, MD, MCW
Ty Carroll, MD, MCW
Jay Mepani, MD, MCW
Michael Einstein, MD, MCW
Giovanna Caprirolo, MD, MCW
Mohamed Tahsin Jouhari, MD, MCW

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

High School Students

Garrett Werner, University School of Milwaukee, Science Fair Student

Undergraduate Students

Christopher Wean, Renssalaer Polytechnic Institute, Summer Trainee
Edward Stauber (1997 Endocrine Society Student Research Fellow), University of Wisconsin, Summer Trainee

Judson Werner, University of Wisconsin, Summer Trainee
Jonathan Klinger, Marquette University, Summer Trainee
John P. Tucker, University of Wisconsin, Summer Trainee
Seth Auger, University of Dayton, Summer Trainee
Jennifer Taylor, Northwestern University, Summer Trainee
Michael Nord, University of Minnesota, Summer Trainee
Kimberli Kamer, University of Wisconsin, Summer Trainee
Michael Patrick Kehoe, University of Wisconsin, Summer Trainee
A. Joseph Tector, III, Indiana University, Summer Trainee
Genevieve Schmitt, College of the Holy Cross, Summer Trainee
Mitchell Guenther, Lawrence University, Summer Trainee

Graduate Students

MS

Eric D. Bruder, University of Wisconsin, Milwaukee

COMMUNITY SERVICE ACTIVITIES:

1989 - 1993 American Heart Association Wisconsin Affiliate Research Peer Review Committee
1990 - 2000 Vince Lombardi Cancer Center Education/Control Committee
2007 Badger State Science and Engineering Fair Judge
2008 Badger State Science and Engineering Fair Judge
Milwaukee Alumni Representative, Union College
Milwaukee Neuroscience Group
Founder, Milwaukee Neuroendocrine Group (merged with Milwaukee Neuroscience Group)

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Raff H, Tzankoff SP, and Fitzgerald RS. ACTH and cortisol responses to hypoxia in dogs. J. Appl. Physiol. (Respirat. Environ. Exercise Physiol.) 51:1257 1260, 1981
2. Raff H, Tzankoff SP, and Fitzgerald RS. Chemoreceptor involvement in cortisol responses to hypoxia in ventilated dogs. J. Appl. Physiol. (Respirat. Environ. Exercise Physiol.) 52:1092 1096, 1982
3. Raff H, Shinsako J, and Dallman MF. Surgery potentiates adrenocortical responses to hypoxia. Proc. Soc. Exp. Biol. Med. 172:400 406, 1983.
4. Raff H, Shinsako J, Keil LC, and Dallman MF. Vasopressin, ACTH, and corticosteroids during hypercapnia and graded hypoxia in dogs. Am. J. Physiol. (Endocrinol. Metab.) 244:E453 E458, 1983
5. Fitzgerald RS, Garger P, Hauer MC, Raff H, and Fechter L. The effect of hypoxia and hypercapnea on catecholamine content in the cat carotid body. J. Appl. Physiol. (Respirat. Environ. Exercise Physiol.) 54:1408 1413, 1983
6. Raff H, Shinsako J, Keil LC, and Dallman MF. Vasopressin, ACTH and blood pressure during hypoxia induced at different rates. Am. J. Physiol. (Endocrinol. Metab.) 245:E489 E493, 1983
7. Raff H, Shinsako J, Keil LC, and Dallman MF. Feedback inhibition of ACTH and vasopressin responses to hypoxia by physiological increases in endogenous plasma corticosteroids in dogs. Endocrinology 114:1245 1249, 1984
8. Raff H and Fagin KD. Measurement of hormones and blood gases during hypoxia in conscious, cannulated rats. J. Appl. Physiol. (Respirat. Environ. Exercise Physiol.) 56:1426 1430, 1984
9. Raff H, Shinsako J, and Dallman MF. Renin and ACTH responses to hypercapnia and hypoxia after chronic carotid denervation. Am. J Physiol. (Regulatory, Integrative Comp. Physiol.) 247:R412 R417, 1984
10. Fitzgerald RS, Hauer MC, Bierkamper GG, and Raff H. Responses of the in vitro rat diaphragm to changes in acid base balance. J. Appl. Physiol. (Respirat. Environ. Exercise Physiol.) 57:1202 1210, 1984.
11. Raff H, Maselli J, and Reid IA. Correlation of plasma angiotensin II concentration and plasma renin activity during acute hypoxia in dogs. Clin. Exper. Pharmacol. Physiol. 12:91 94, 1985
12. Licko V and Raff H. Rate sensitivity of blood pressure to hypoxia. J. Theoretical Biol. 112:839 845, 1985.
13. Raff H, Goldmann RW, and Kindwall EP. Adrenocortical sensitivity after acute carbon monoxide exposure in humans. Arch. Environ. Health 40:88 90, 1985.

14. Raff H, Merrill D, Skelton M, Cowley, AW Jr. Control of ACTH and vasopressin in neurohypophysectomized conscious dogs. Am. J. Physiol. (Regulatory, Integrative Compar. Physiol.) 249:R281 R285, 1985.
15. Raff H, Shinsako J, Wade CE, Keil LC and Dallman MF. Acute volume expansion decreases adrenocortical sensitivity to ACTH and angiotensin II. Am. J. Physiol. (Regulatory, Integrative. Compar. Physiol.) 249:R611 R616, 1985.
16. Raff H, Sandri RB, and Segerson TP. Renin, ACTH, and adrenocortical function during hypoxia and hemorrhage in conscious rats. Am. J. Physiol. (Regulatory, Integrative. Compar. Physiol.) 250:R240 244, 1986
17. Raff H and Levy SA. Renin angiotensin aldosterone and ACTH cortisol control during acute hypoxemia and exercise in patients with chronic obstructive lung disease. Am. Rev. Respir. Dis. 133:396 399, 1986
18. Findling JW, Buggy BP, Segerson TP, and Raff H. Pneumocystis carinii complicating intermittent Cushing's syndrome. Wisc. Med. J. 85:23 25, 1986
19. Cogswell TL, Bernath GA, Raff H, Hoffmann RG, Klopfenstein HS. Total peripheral resistance during cardiac tamponade: adrenergic and angiotensin roles. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 251:R916 R922, 1986
20. Raff H, Skelton M, Merrill D, and Cowley AW Jr. Vasopressin responses to corticotropin releasing factor and hyperosmolality in conscious dogs. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 251:R1235 R1239, 1986.
21. Raff H, and Chadwick CJ. Aldosterone responses to ACTH during hypoxia in conscious rats. Clin. Exper. Pharmacol. Physiol. 13:827 830, 1986
22. Findling JW, Korducki JM, Lahiri PK, Miller DD, and Raff H. Bilateral adrenal hemorrhage associated with heparin induced thrombocytopenia. Wisc. Med. J. 86:27 29, 1987.
23. Findling JW, Waters VO, and Raff H. The dissociation of renin and aldosterone during critical illness. J. Clin. Endocrinol. Metab. 64:592 595. 1987
24. Findling JW, Adams AH, and Raff H. Selective hypoaldosteronism due to an endogenous impairment in angiotensin II production. New Engl. J. Med. 316:1632 1635, 1987
25. Raff H, Norton AJ, Flemma RJ, and Findling JW. Inhibition of the ACTH response to surgery in humans: interaction between dexamethasone and fentanyl. J. Clin. Endocrinol. Metab. 65:295 298, 1987.
26. Raff H and Roarty H. Renin, ACTH, and aldosterone during acute hypercapnia and hypoxia in conscious rats. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 254:R431 R435, 1988.
27. Raff H, Merrill DC, Skelton MM, Brownfield MS, and Cowley AW Jr. Control of adrenocorticotropin secretion and adrenocortical sensitivity in neurohypophysectomized, conscious dogs: effect of acute and chronic vasopressin replacement. Endocrinology 122:1410 1418, 1988.
28. Roarty H and Raff H. Renin response to graded hemorrhage in conscious rats. Clin. Exper. Pharmacol. Physiol. 15:373 378, 1988
29. Raff H. Evaluation of a blood sample/transfusion protocol in rats: blood gases, renin and ACTH. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 255:R851 R854, 1988
30. Raff H, Flemma RJ, and Findling JW. Fast cortisol induced inhibition of the adrenocorticotropin (ACTH) response to surgery in humans. J. Clin. Endocrinol. Metab. 67:1146 1148, 1988
31. Nishijima MK, Breslow MJ, Raff H, and Traystman RJ. Regional adrenal blood flow during hypoxia. Am. J. Physiol. (Heart Circ. Physiol) 256:H94 H100, 1989.
32. Raff H, Ball DL, Goodfriend TL. Low oxygen selectively inhibits aldosterone secretion from bovine adrenocortical cells in vitro. Am. J. Physiol. (Endocrinol. Metab.) 256:E640 E644, 1989
33. Raff H and Findling JW. Evaluation of a new immunoradiometric (IRMA) assay for ACTH in normal subjects and patients with Cushing's syndrome. Clin. Chem. 35:596 600, 1989.
34. Raff H, Skelton MM, and Cowley AW Jr. Feedback control of vasopressin and corticotrophin secretion in conscious dogs: effect of hypertonic saline. J. Endocrinol. (Jubilee Edition) 122:41 48, 1989.
35. Lewin RF, Raff H, Findling JW, Skelton MM, Cowley AW Jr, King JF, and Dorros G. Stimulation of atrial natriuretic peptide and vasopressin during percutaneous transluminal aortic valvuloplasty. Am. Heart J. 118:292 298, 1989
36. Breslow MJ, Ball TD, Miller CF, Raff H, and Traystman RJ. Adrenal blood flow and secretory relationships during hypoxia in anesthetized dogs. Am. J. Physiol. (Heart Circ. Physiol.) 257:H1458 H1465, 1989.
37. Raff H, Findling JW, and Wong J. Short loop adrenocorticotropin feedback after ACTH 1 24 injection in man is an artifact of the immunoradiometric assay. J. Clin. Endocrinol. Metab. 69:678 680, 1989.
38. Raff, H, Skelton MM, Cowley AW Jr. Cortisol inhibition of vasopressin and ACTH responses to arterial hypotension in conscious dogs. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 258:R64

R69, 1990
39. Raff H. Renin response to hemorrhage in conscious rats: effect of acute reductions in hematocrit. Am. J. Physiol. (Regulatory, Integrative, Compar. Physiol.) 258:R487 R491, 1990.
40. Griffen SC, Raff H. Vasopressin responses to hypoxia in conscious rats: interaction with water restriction. J. Endocrinol. 125:61 66, 1990.
41. Raff H, Kohandarvish S. The effect of oxygen on aldosterone release from bovine adrenocortical cells in vitro: PO2 vs steroidogenesis. Endocrinology 127:682 687, 1990.
42. Breslow MJ, Robin JR, Mandress TD, Racusen LC, Raff H, and Traystman RJ. Changes in adrenal O2 consumption during catecholamine secretion in anesthetized dogs. Am. J. Physiol. (Heart Circ. Physiol.) 259:H681 H688, 1990
43. Raff H, Findling JW. Aldosterone control in critically ill patients: ACTH, metoclopramide, and atrial natriuretic peptide. Crit. Care Med. 18:915 920, 1990.
44. Wood CE, Kane C, Raff H. Peripheral chemoreceptor control of fetal renin responses to hypoxia and hypercapnia. Circ. Res. 67:722 732, 1990
45. Lewin RF, Raff H, Findling JW, Dorros G. Stimulation of atrial natriuretic peptide and vasopressin during retrograde mitral valvuloplasty. Am. Heart J. 120:1305 1310, 1990
46. Breslow MJ, Tobin JR, Kubos KL, Raff H, Traystman RJ. Effect of adrenal hypotension on elicited secretory activity in anesthetized dogs. Am. J. Physiol. (Heart Circ. Physiol.) 260:H 21 26, 1991.
47. Raff H, Papanek PE, Cowley AW Jr. ACTH and vasopressin responses to insulin induced hypoglycemia in intact and neurohypophysectomized conscious dogs. Neuroendocrinology 53:85 90, 1991.
48. Brickner RC and Raff H. Oxygen sensitivity of potassium and angiotensin II stimulated aldosteronogenesis. J. Endocrinol 129:43 48, 1991.
49. Blaney J, Sothmann M, Raff H, Hart B, Horn T. Impact of exercise training on plasma adrenocorticotropin hormone response to a well learned vigilance task. Psychoneuroendocrinology 15:453 462, 1991.
50. Raff H, Kane CA, Wood CE. Arginine vasopressin responses to hypoxia and hypercapnia in late gestation fetal sheep. Am. J. Physiol. (Regul. Integr. Comp. Physiol) 260:R1077 R1081, 1991.
51. Mattson DL, Raff H, Roman RJ. Influence of angiotensin II on pressure natriuresis and renal hemodynamics in volume expanded rats. Am. J. Physiol. (Regul. Integr. Comp. Physiol) 260:R1200 R1209, 1991.
52. Findling JW, Kehoe ME, Shaker JL, Raff H. Routine inferior petrosal sinus sampling in the differential diagnosis of ACTH dependent Cushing's syndrome: early recognition of the occult ectopic ACTH syndrome. J. Clin. Endocrinol. Metab. 73:408 413, 1991.
53. Sakima NT, Breslow MJ, Raff H, Traystman RJ. Lack of coupling between adrenal cortical metabolic activity and blood flow in anesthetized dogs. Am. J. Physiol. (Heart Circ. Physiol.) 261:H410 H415, 1991
54. Raff H, Rossing MH, Doepker SK, Griffen SC. Vasopressin response to hemorrhage in the rat: effect of hypoxia and water restriction. Clin. Exp. Pharmacol. Physiol. 18:725 729, 1991.
55. Brickner RC, Jankowski B, Raff H. The conversion of corticosterone to aldosterone is the site of the oxygen sensitivity of the bovine adrenal zona glomerulosa. Endocrinology 130:88 92, 1992
56. Raff H, Papanek PE, Cowley AW Jr. Effect of hypotension and hyperosmolality on vasopressin and ACTH responses to hypoglycemia in conscious dogs. Am. J. Physiol. (Regul Integr Comp. Physiol.) 263:R382 R388, 1992
57. Raff H and CE Wood. Effect of age and blood pressure on the heart rate, vasopressin and renin responses to hypoxia in fetal sheep. Am. J. Physiol. (Regul Integr Comp Physiol.) 263:R880 R884, 1992
58. Goodfriend TL, Ball DL, Elliott ME, Chabhi A, Duong T, Raff H, Schneider EG, Brown RD, and Weinberger MH. Fatty acids may regulate aldosterone secretion and mediate some of insulin's effects on blood pressure. Prostaglandins, Leukotrienes, and Essential Fatty Acids 48:43 50, 1993.
59. Raff H and Jankowski B. Effect of CO2/pH on the aldosterone response to hypoxia in bovine adrenal cells in vitro. Am. J. Physiol. (Regul. Integr. Comp. Physiol.) 265: R820-R825, 1993.
60. Breslow MJ, Parker SD, Frank SM, Norris EJ, Yates H, Raff H, Rock P, Christopherson R, Rosenfeld BA, Beattie C, and the PIRAT Study Group. Determinants of catecholamine and cortisol responses to lower extremity revascularization and correlation with outcome variables. Anesthesiology 79:1202-1209, 1993.
61. Ligier B, MJ Breslow, H Raff, and RJ Traystman. Adrenal blood flow and secretory effects of adrenergic receptor stimulation. Am. J. Physiol. (Heart and Circ. Physiol) 266:H220-H227, 1994
62. Raff H and Jankowski B. Inhibition of aldosterone release by hypoxia in vitro: interaction with carbon monoxide. J. Appl. Physiol. 76:689-693, 1994
63. Schwartz J, Ash P, Ford V, Raff H, Crosby S, and White A Secretion of adrenocorticotropin (ACTH) and

ACTH precursors: actions of corticotropin releasing factor, arginine vasopressin and glucocorticoids. J. Endocrinol. 140:189-195, 1994.
64. Papanek PE and Raff H. Physiological increases in cortisol inhibit basal vasopressin release in conscious dogs. Am. J. Physiol. (Regul. Integr. Comp. Physiol.) 266:R1744-R1751, 1994.
65. Raff H, Shaker JL, Nelson DK, and Findling JW. Rapid measurement of corticotropin (ACTH) using a modified immunochemiluminescent assay. Clinical Chemistry 40:1344, 1994.
66. Raff H, Papanek PE, Liard J-F, and Cowley, AW Jr. The effect of intracarotid vasopressin infusion on ACTH release in neurohypophysectomized, conscious dogs. Am. J. Physiol. (Regul. Integr Comp. Physiol.) 267:R653-R658, 1994
67. Papanek PE and Raff H. Chronic physiological increases in cortisol inhibit the vasopressin response to hypertonic saline in conscious dogs. Am. J. Physiol. (Regul. Integr Comp. Physiol) 267:R1342-R1349, 1994.
68. Kay J, Findling JW, and Raff H. Epidural triamcinolone suppresses the pituitary adrenal axis in human subjects. Anesthesia and Analgesia 79:501-505, 1994.
69. Findling JW, Buggy BP, Gilson IH, Brummitt CF, Bernstein BM, and Raff H. Longitudinal evaluation of adrenocortical function in patients with the human immunodeficiency virus. J. Clin. Endocrinol. Metab. 79:1091-1096, 1994.
70. Heimler I, Rawlins RG, Binor Z, Aiman J, Raff H, and Hutz RJ. Elevated follicular fluid angiotensin II and pregnancy outcome. Fertility and Sterility 63: 528-534, 1995.
71. Frank SM, Higgins MS, Breslow MJ, Fleisher LA, Gorman RB, Sitzmann JV, Raff H, and Beattie C. The catecholamine, cortisol, and hemodynamic responses to mild perioperative hypothermia. Anesthesiology 82:83-93, 1995
72. Raff H, Shaker JL, Seifert PE, Werner PH, Hazelrigg SR, and Findling JW. Intraoperative measurement of adrenocorticotropin (ACTH) during removal of ACTH-secreting bronchial carcinoid tumors. J. Clin. Endocrinol. Metab. 80:1036-1039, 1995.
73. Raff H and Jankowski B. Oxygen dependence of pregnenolone and aldosterone synthesis in mitochondria isolated from bovine zona glomerulosa cells. J. Appl. Physiol. 78:1625-1628, 1995.
74. Parker SD, Breslow MJ, Frank SM, Rosenfeld BA, Norris EJ, Christoperson R, Rock P, Gottlieb S, Raff H, et al. and the PIRAT Study Group. Catecholamine and cortisol responses to lower extremity revascularization: correlation with outcome variables. Critical Care Medicine 23:1954-1961, 1995
75. Shaker JL, Brickner RC, Divgi AB, Raff H, and Findling JW. Case report: renal phosphate wasting, syndrome of inappropriate antidiuretic hormone, and ectopic corticotropin production in small cell carcinoma. Am. J. Med. Sci. 310:38-41, 1995.
76. O'Shaughnessy IM, Raff H, Findling JW. Factitious Cushing's syndrome: discovery with the use of a sensitive immunoradiometric assay for ACTH. Endocrine Practice 1:327-329, 1995.
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