



PHYSIOLOGY IN PERSPECTIVE:
THE WALTER B. CANNON
AWARD LECTURE (SUPPORTED
BY THE GRASS FOUNDATION)

Christine Seidman
Harvard Medical School

*"Human Genetics:
New Clues For Physiology
and Pathology"*

SATURDAY, APRIL 17, 5:45 PM



HENRY PICKERING BOWDITCH
AWARD LECTURE

Robin L. Davisson
Univ. of Iowa

*"Unraveling Cardiovascular
Disease Through
Physiological Genomics"*

SUNDAY, APRIL 18, 5:45 PM

Distinguished Lectureships



CARL W. GOTTSCHALK
DISTINGUISHED LECTURESHIP
OF THE RENAL SECTION

Thomas Jentsch
Hamburg Univ., Germany

*"Chloride Transport in the
Kidney: Insights From
Mouse Models and Human
Disease"*

SUNDAY, APRIL 18, 8:00 AM



JULIUS H. COMROE, JR.
DISTINGUISHED LECTURESHIP
OF THE RESPIRATION SECTION

Jerome Dempsey
Univ. of Wisconsin, Madison

*"Crossing the Apneic
Threshold: Causes and
Consequences"*

SUNDAY, APRIL 18, 10:30 AM



CARL LUDWIG
DISTINGUISHED LECTURESHIP
OF THE NEURAL CONTROL AND
AUTONOMIC REGULATION
SECTION

Cliff Saper
Harvard Medical School

*"A Hypothalamic
Integrator for Circadian
Regulation"*

SUNDAY, APRIL 18, 2:00 PM



CLAUDE BERNARD
DISTINGUISHED LECTURESHIP
OF THE TEACHING OF
PHYSIOLOGY SECTION

Harold Modell
Physiology Education
Research Consortium,
Seattle, WA

*"Evolution of an Educator:
Lessons Learned and
Challenges Ahead"*

SUNDAY, APRIL 18, 3:15 PM



HUGH DAVSON
DISTINGUISHED LECTURESHIP
OF THE CELL AND MOLECULAR
PHYSIOLOGY SECTION

Peter Agre
Johns Hopkins Univ.

*"Aquaporin Water Channels
at the Convergence of
Physiology and Medicine"*

MONDAY, APRIL 19, 8:00 AM

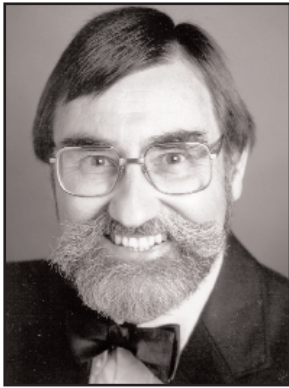


ROBERT M. BERNE
DISTINGUISHED LECTURESHIP
OF THE CARDIOVASCULAR
SECTION

Gary Owens
Univ. of Virginia

*"Molecular Regulation of
Smooth Muscle
Differentiation in
Development and Disease"*

MONDAY, APRIL 19, 10:30 AM



AUGUST KROGH
DISTINGUISHED LECTURESHIP
OF THE COMPARATIVE
PHYSIOLOGY SECTION

William Dantzer
Univ. of Arizona

*"A Vertebrate Renal
Odyssey—Organic Solute
Excretion and Water
Conservation in Reptiles,
Birds and Mammals"*

MONDAY APRIL 19, 2:00 PM



SOLOMON A. BERSON
DISTINGUISHED LECTURESHIP
OF THE ENDOCRINOLOGY AND
METABOLISM SECTION

Bert O'Malley
Baylor College of Medicine

*"Signalling Through the
Steroid Receptor
Coactivators"*

MONDAY, APRIL 19, 2:00 PM

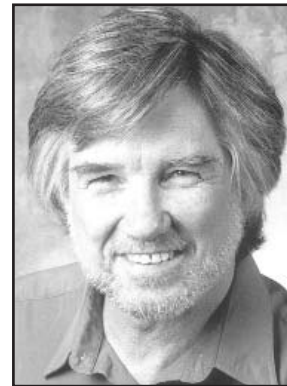


HORACE W. DAVENPORT
DISTINGUISHED LECTURESHIP
OF THE GASTROINTESTINAL
SECTION

John Forte
Univ. of California, Berkeley

*"The Gastric Hydrogen Ion
Cycle"*

MONDAY, APRIL 19, 3:15 PM



EDWARD F. ADOLPH
DISTINGUISHED LECTURESHIP OF
THE ENVIRONMENTAL
AND EXERCISE PHYSIOLOGY
SECTION

Reggie Edgerton
Univ. of California, Los Angeles

*"Learning and Memory in
the Spinal Cord"*

TUESDAY, APRIL 20, 8:00 AM



JOSEPH ERLANGER
DISTINGUISHED LECTURESHIP
OF THE CENTRAL NERVOUS
SYSTEM SECTION

Paul Greengard
Rockefeller Univ., NY

*"Signal Integration in the
Central Nervous System"*

TUESDAY, APRIL 20, 10:30 AM



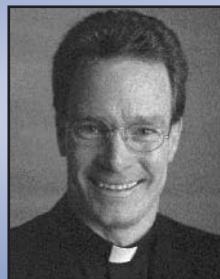
ERNEST H. STARLING
DISTINGUISHED LECTURESHIP
OF THE WATER AND
ELECTROLYTE HOMEOSTASIS
SECTION

Christopher Wilcox
Georgetown Univ.

*"Oxidative Stress and
Functional NO Deficiency in
the Kidney: A Critical Link
to Hypertension?"*

TUESDAY, APRIL 20, 2:00 PM

Sixth Annual Walter C. Randall Lecture in Biomedical



Kevin Fitzgerald, SJ, PhD

*"Crossing Species Boundaries:
Promethean, Pandoran or
Just Plain Science?"*

Tuesday, April 20, 2:00 PM

Saturday April 17, 2004

Ballroom B	5:45-6:45 PM Physiology in Perspective—The Walter B. Cannon Memorial Award Lecture Seideman		
Room146 A	12:00-3:00 PM Workshop: Microarrays, Proteomics and Mass Spectrometry Old	3:15-5:15 PM Workshop: The Promised Land or Fatal Attraction? A Practical Overview of the Present and Future of Genetically Engineered Mice Kohan	
Room146 C	8:00 AM-12:00 NOON Refresher Course: Cellular Homeostasis Romero and Freeman	3:15-5:15 PM MCS President's Symposium: Molecular Genetics Approaches to Microvascular Research Schmid-Schonbein	5:30-7:00 PM MCS Business Meeting
Room146 B	11:00 am - 3:00 pm IACUC 101 for Scientists Stallone		
Room140 A	2:00-5:00 PM Communications Committee: Making Science News: A Journalist's Roundtable Gwosdow		

APS Undergraduate Research Poster Session

You're invited...

Come and see the research that tomorrow's
graduate students are doing today!

NEW APS Undergraduate Research Poster Session

Washington Convention Center
Level 3, Lobby
Sunday, April 18, 2004
4:30-6:00 PM

The David S. Bruce Awards for Excellence in
Undergraduate Research will be presented at this
session.

(sponsored by the APS Education Committee)

Sunday April 18, 2004

	8:00-10:00 AM	10:30 AM - 12:30 PM	3:15-5:15 PM
Ballroom B	Symp: Use of Mouse Models to Understand the Pathophysiology of Diabetes: Implications for Preventing Complications LeRoith & Kahn	Physiology InFocus: Large Scale Systems Biology: High Through-put Genomics: Cosponsored by <i>Physiological Genomics</i> Journal Cowley & Nickerson	Symp: A Bioninformatics How-to-for the Wet-Lab Physiologist Jacob
Room146 A	BMES Symp: Mechanical Cell Signaling Explored at the Nanoscale Vogal & Helmke	AFMR Symp: Strategies for the Prevention of Alcohol-mediated Tissue Injury Hart and Guidot	5:45-6:45 PM Henry Pickering Bowditch Award Davisson FT: Wigger's Award Featured Topic Cooper
Room146 C	FT: Rho and Rho Associate Kinase Pathways Paul	10:30-11:30 AM MCS Landis Award Lecture McCuskey Education Refresher Course: Cellular Homeostasis Romero and Freedman	Symp: Mechanisms of Hyperglycemia in Diabetes II Radzuik and Rizza
Room146 B	8:00-9:00 AM Carl W. Gottschalk Distinguished Lectureship Jentsch	Julius H. Comroe, Jr. Distinguished Lectureship Dempsey	2:00-3:00 PM Carl Ludwig Distinguished Lectureship Saper Symp: Neural Control of Venous Capacitance Function in Health and Disease Fink and Galligan
Room145 A	FT: Action of Steroids on Neuroprotection and neuroendocrine regulation Brann	Symp: Signaling Mechanisms Regulating Metabolism in Skeletal Muscle Goodyear & Nosek	Symp: Intracellular Trafficking of Membrane Proteins in Renal Epithelia Welling and Caplan
Room145 B	FT: Global Gene Expression to Function Verbalis	FT: Capacitative Calcium Entry Bounelis and Marchase	FT: Spectrum of Ion Channels in Alveolar Epithelial Cells: Implications in Alveolar Fluid Balance and Cell Volume Regulation Kim and Kemp
Room147 A	Symp: A. Clifford Barger Symposium: Control of Blood Flow in the 21st Century-More Questions Than Answers Chilian & Gutterman	FT: Stress, Mood and Autonomic Function Johnson and Grippo	FT: Control of Muscle Blood Flow During Exercise Joyner and Sinoway
Room147 B	FT: Hypertensive Mechanisms: Insights from Genetic Models Roman	Symp: "Physiological Cross-Talk"-Non-hemostatic Physiological Effects of Hemostasis-related Components Schwartz	1:00-2:30 PM Symp: The New CSR Review Process: An NIH Review R. Dowell 3:15-4:15 PM Claude Bernard Distinguished Lectureship Modell
Room140 A	FT: Writing Higher Level Cognitive Questions in Physiology Seeley	Symp: Collaboration: The Cornerstone of Science, Learning and Change Schlegel	Symp: Do Baroreflexes Play a Role in Long-Term Control of Arterial Pressure? Lohmeier and Brooks
Room140 B	FT: Oxygen Sensing by Neural Tissues Dean	FT: Regulation of Intestinal Transporters During Development Rao	FT: Molecular Physiology of Oxygen Homeostasis: Oxygen-Dependent Hydroxylation Lahiri

Monday April 19, 2004

	8:00-10:00 AM	10:30 AM - 12:30 PM	3:15-5:15 PM
Ballroom B	8:00-9:00 AM Hugh Davson Distinguished Lectureship Agre	Physiol InFocus: Large Scale Systems Biology: Next Generation Technologies for Proteomics Ping and Greene	
Room146 A	Symp: Stem Cells and Progenitors Cells: Biology, Physiology, and Therapeutic Applications March	10:30-11:30 AM Robert M. Berne Distinguished Lectureship Owens	2:00-3:00 PM Solomon A. Berson Distinguished Lectureship O'Malley Workshop: High Content Biology: Multiplexing in Cell Physiology Montrose-Refizadeh
Room146 C	Symp: Sympathetic-Adrenergic and Baroreflex Function with Aging Seals and Hasser	Symp: Redox Control of Skeletal Muscle Adaptation to Exercise and Inactivity Powers and Reid 2:00-3:00 PM August Krogh Distinguished Lectureship Dantzer	3:15-4:15 PM Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal Section Forte 5:30-7:30 PM Poster Session: Graduate Student Highlights in Respiration Physiology Bhattacharya, Fegosi and Stevens
Room146 B	Symp: Integrated Control of Lung Fluid Balance Mehta and Malik	Symp: Biological Applications of Nanotechnology Bhattacharya	FT: AstraZeneca Young Investigator Session: Renal Hemodynamics Imig
Room145 A	Symp: Assembly of Tissues: Coordinating Cell Interactions in Large, Multicellular Systems Skalak and Tranquillo	Symp: Nutrient Sensing and the Metabolic Syndrome of Aging Barzilai	Symp: Remodeling of Adult Tissues: Beneficial Adaptation, Disease and the Engineering of Reparative Medicine Peirce and Lauffenburger 5:45-7:45 PM Symp: Planning a Successful Postdoctoral Experience: A Proactive Approach Scheuer
Room145 B	Symp: Polycystic Kidney Disease: From Bench to bedside Chapman and Zhou	Symp: Non-Invasive Body Composition Analysis in Small Animals Nagy and Speakman	FT: Dysautonomics: Clinical Disorders of the Autonomic Nervous System Goldstein
Room147 A	FT: Nitric Oxide: Oxygen Radicals and Lipid Mediators in the Control of Arterial Pressure Wilcox	Symp: The TRP Superfamily of Cation Channels: Emerging Roles in Epithelial Physiology Smith	FT: Mechanisms of Vascular Dysfunction in Insulin Resistance Busija
Room147 B	Symp: Mediators of Liver Inflammation Lentsch	Symp: The Maternal-Fetal Dialogue Soares	Symp: Functional Connections Among Ponto-medullary Respi- ratory Neurons Duffin
Room140 A	FT: Comparative Regulation of Renal and Intestinal Phospho- rus processing and Transport: From Molecules to Environment Sugiura and Ferraris	Symp: Peer-Review, Ethics, and New Features of APS Publications Benos	FT: Membrane Traffic in Epithelial Cells Kirk
Room140 B	FT: Young Investigator Session: Microvascular Function and Disease Welsh	FT: Non-traditional Arachidonic Acid Signaling in Arteries Bryan	FT: Muscle Fatigue Renaud

Tuesday April 20, 2004

	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Ballroom B		Physiol InFocus: Large Scale Systems Biology: New Approaches to Large Scales Systems Biology Williams and Samuelson	APS Special Session: Arthur C. Guyton: The Man and His Science Granger and Granger 5:45 PM APS Business Meeting
Room 146 A	Symp: The Role of Integrins in Vascular Cell Signaling and Regulation of Vascular Function Davis and Meininger	Joseph Erlanger Distinguished Lectureship Greengard	2-3:00 PM: Ernest H. Starling Distinguished Lectureship Wilcox FT: Links Between Nitric Oxide and other Transmitters in Central Cardiovascular Control Talman
Room 146 C	One hour only: Edward F. Adolph Distinguished Lectureship Edgerton	Symp: Development of Arterial Oxygen Chemoreception in Mammals: Bench to Bedside Carroll	Symp: Physical Activity: A Drive for Central Neural Plasticity Kramer and Waldrop
Room 146 B	Symp: The Mechanisms and Impact of Fetal Physiological Programming Schwartz	Symp: Stem Cells of the Developing and Adult Lung Borok and Stripp	Symp: New Genomic Technologies for Systems Biology Kwittek
Room 145 A	Symp: Life after the PhD: Finding a Postdoctoral Fellowship Liedtke, Berecek, and Lakoski	Symp: Neuroendocrine Modulation and Adaptive Responses to Stress Guevara-Guzman and Antunes-Rodriguez	Symp: Cardiac Fibrosis-Good, Bad or Dead Tyagi and Lucchesi
Room 145 B	Symp: Biophysical Studies of Membrane Trafficking Zenisek	Symp: Store-Operated Calcium Channels and Control of Muscle Contraction Ma and Putney	FT: Hormone and Autocoids Mulroney
Room 147 A	Symp: Breathing and Walking Following Spinal Injury Fuller and Golder	Symp: Interaction of Physiological Mechanisms in Control of Muscle Glucose Uptake Wasserman and Charron	2:00-3:00 PM Walter C. Randall Lecture on Biomedical Ethics Fitzgerald FT: Molecular and Cellular Mechanisms of Cerebral Ischemia and Neuroprotection Wyss and Traystman
Room 147 B	FT: Vacuolar Type H ⁺ - ATPases: Structure and Cellular Function in Mammalian Cells Martinez-Zaguilan and Sennoune	FT: Berne Lecture Featured Topic Owens	FT: Intestinal, Renal and New Model Systems for the Study of Oligopeptide Transporters Leibach
Room 140 A	FT: Vascular Communication and Coordinated Blood Distribution Rivers	Symp: Effects of Aging on Vascular Function-Human to Cell Muller-Delp and Wilson	FT: Insect Models of Epithelial Tissue Transport Karnaky
Room 140 B	FT: Epithelial Na and K Channels O'Grady and Stockand	FT: Renal Epithelial Transport Vallon and Garvin 12:45-1:45 PM: Historical Lecture: Commemorating Pavlov and the 1904 Nobel Prize Tipton	FT: Novel Concepts in the Local Regulation of Vascular Tone Hein and Heaps

Wednesday April 21, 2004

	8:00-10:00 AM	10:30 AM - 12:30 PM	2:45-4:45 PM
Ballroom B	Symp: The Heme-Heme Oxygenase-Carbon Monoxide System and the Control of Cardiovascular and Renal Function Nasjletti and Abraham	Physiol InFocus: Large Scale Systems Biology: Applications of Systems Biology to Function and Disease Kwitek and Donowitz	
Room 146 A		FT: Inflammatory Mediators and Cardio-Renal Pathophysiology Pollock and Pollock	
Room 146 C	Symp: The State of the Progenitor: A Comprehensive Stem Cell Research Update Hawkins and Crook	Symp: Cold Ischemic Injury of Organs for Transplantation: Devastation, Mechanisms and Prevention Salahudeen and Storey	
Room 146 B	Symp: Mitochondrial Function in Aging and Disease Conley & Harper	FT: The Respiratory-Sympathetic Dance: Who Leads and Who Follows Mifflin	FT: Controversies in Cardia Preconditioning Busija
Room 145 A	Symp: Claudin Expression and Function in the Kidney Harris	Symp: Metalloprotenase and Diabetes Tyagi and Joshua	
Room 145 B	FT: Adaptation to Exercise Stresses: Mechanisms of Protection Koh	FT: Cell-Cell Contacts in Regulating Lung Function Koval	FT: Urinary Concentrating Mechanisms Neilsen and Sands
Room 147 A	FT: New Insights into Osmoregulation by the Brain Sladek and Schreihofner	FT: Protein & Amino Acid Metabolism Jefferson	
Room 147 B	FT: Gastro-Intestinal Pathophysiology Appleyard	FT: Cardiovascular and Respiratory Constraints on Exercise Munns	
Room 140 A	FT: Beneficial and Deleterious Effects of Estrogen on the Cardiovascular System Stallone and White	FT: Excitation-Contraction Coupling in Health and Disease Williams	2:45-4:45 PM: FT: Hot Topics in Lung Endothelial Biology Bhattacharya
Room 140 B	Symp: Physiology of the Intrinsic Lymph Pump Zawieja and Gashev	Symp: The SAGA of Fever Blatteis	FT: Heme Oxygenase/Vascular Control Leffler and Drummond

“IACUC 101 for Scientists” at EB 2004

A half-day workshop on the Institutional Animal Care and Use Committees (IACUCs) will be offered at Experimental Biology 2004. “IACUC 101 for Scientists: Dealing with Problem Areas” will be presented from 11 am - 3 pm on Saturday, April 17, 2004 in Room 146B of the Washington Convention Center. There is no separate fee for this session, but you register for EB 2004 to participate, and seating is limited so you are also encouraged to contact the APS Public Affairs Office to reserve a spot. (See <http://www.the-aps.org/pa/IACUC/eb04.htm> for more information.)

“IACUC 101 for Scientists” has been adapted from the popular “IACUC 101” training series created by the Applied Research Ethics National Association (ARENA). This workshop will provide information useful both to IACUC members and to researchers whose protocols require IACUC review. The EB 2004 workshop will move beyond IACUC basics to address areas that require special attention from IACUCs. Topics will include the role of the IACUC as a facilitator of research; the semi-annual review; designated member vs. full committee reviews; comparing grants

to protocols; post-approval monitoring of protocols; institutional responsibilities; and creating a culture of compliance. Time is allotted within the program for participants to raise questions with representatives of USDA, OLAW, and AAALAC.

Participation of women, racial/ethnic minorities and persons with disabilities, and others who have been traditionally underrepresented in science is encouraged. If you have questions or need additional assistance, please contact Alice Ra’anan at (301) 634-7105 or araan@the-aps.org. ❖