

University of South Alabama

JagWorks@USA

The Beat Newsletter

Frederick P. Whiddon College of Medicine

10-1999

The Beat Newsletter

College of Medicine

Follow this and additional works at: https://jagworks.southalabama.edu/com_beat



Part of the [Medicine and Health Sciences Commons](#)

The Beat



University of South Alabama
College of Medicine

OCTOBER 1999

A NATURALLY OCCURRING ENDOCRINOPATHY IN NEOTROPICAL PRIMATES PROVIDES UNIQUE INSIGHT INTO MECHANISMS OF GLUCOCORTICOID RESISTANCE

Glucocorticoid resistance is a state of diminished sensitivity to glucocorticoids which is found in a number of clinical conditions including certain cancers, AIDS, asthma, rheumatoid arthritis, and even depression. It may profoundly affect the efficacy of therapeutic intervention with synthetic glucocorticoids. Some rare forms of glucocorticoid resistance are inherited and result from single base mutations leading to functional changes in the amino acid sequence of the receptor. But the molecular basis of the type of glucocorticoid resistance seen in these disease states is largely unknown. One of the challenges has been to find animal or cell models of glucocorticoid resistance to gain insight into factors which affect sensitivity to the hormone. A few years ago, DR. JONATHAN SCAMMELL, Professor of Pharmacology and Comparative Medicine, ventured that an informative animal model might be right under our noses, the squirrel monkey. NIH has supported a Squirrel Monkey Breeding and Research Program at the University of South Alabama under the directorship of Dr. Christian Abee, University Distinguished Professor and Chair of Comparative Medicine, since 1980.

More than a decade before that however, in 1969, Dr. Seymour Reichlin and his colleagues reported at the 52nd Annual FASEB Meeting in Atlantic City that squirrel monkeys have abnormally high circulating levels of free cortisol. It has since been appreciated that this occurs as a normal physiological response to a state of hormone insensitivity or resistance in responsive tissues, including tissues such as the hypothalamus and anterior pituitary gland that mediate the feedback response. As a consequence, hormone levels are high to compensate for end-organ resistance but otherwise squirrel monkeys enjoy a normal pituitary-adrenal physiology albeit at a higher hormonal set-point. However, no one had taken the next step to determine why tissues in squirrel monkeys are unresponsive to cortisol.

In 1995, a graduate student in Dr. Scammell's laboratory, Philip Reynolds, began his Ph.D. dissertation work with the goal of answering this question. First, Dr. Reynolds, who is now a postdoctoral fellow at the University of North Carolina at Chapel Hill, developed his own squirrel monkey cell line which maintained the phenotype of glucocorticoid resistance and provided an unlimited supply of squirrel monkey DNA, RNA and protein. These cells were further characterized with the help of Drs. Allan Tucker, Mohammed Elkhalfa and Kelly Roveda in the Department of Pathology at USA and Dr. Charleen Moore at the University of Texas at San Antonio.

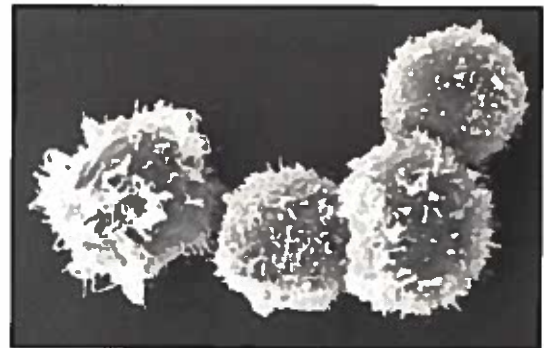


Figure 1. This scanning electron micrograph shows that immortalized squirrel monkey B-lymphoblasts have numerous microvillous projections indicative of B-cell lineage.

Second, glucocorticoid resistance in squirrel monkey lymphocytes was shown to be predominantly due to the expression of a low affinity glucocorticoid receptor. Cloning and sequencing of the squirrel monkey glucocorticoid receptor revealed a number of amino acid differences from the high affinity human receptor, but at first analysis none of them appeared to be functionally important. In fact, when

(continued on next page)

INSIDE:

Distinguished Scientist Seminars
Medical Student Research Day

Kreisberg Appointed
New Faculty

(continued from previous page)

squirrel monkey receptors were expressed in a heterologous system (i.e. outside squirrel monkey cells) they exhibited high affinity binding, suggesting that squirrel monkey cells must express a factor which is inhibitory to glucocorticoid receptor binding. In 1998, Dr. Scammell received a four year grant from the NIH to identify this factor and to learn how it changes receptor activity.

During this period Dr. Scammell's laboratory entered into a collaboration with Dr. David Smith at the Mayo Clinic in Scottsdale. Dr. Smith is an expert in the area of steroid receptor heterocomplex assembly, a dynamic process which involves the ordered association/dissociation of a number of different chaperone proteins.

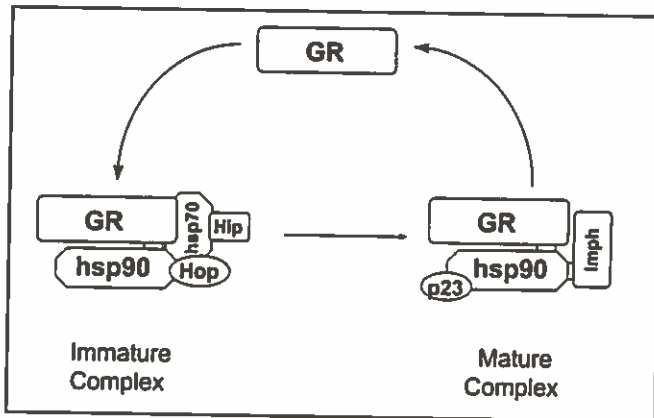


Figure 2. Assembly of the glucocorticoid receptor heterocomplex. Immunophilins (Imph) associated with high affinity glucocorticoid receptors are FKBP52 and phosphatase 5. In squirrel monkeys, FKBP51 is preferentially incorporated into the heterocomplex.

Philip Reynolds surmised that the most likely candidate for an inhibitory protein would be one that interacts with the glucocorticoid receptor heterocomplex. Through the collaboration with Dr. Smith, members of Dr. Scammell's laboratory, including Philip Reynolds, Research Technologist Donna Valentine and graduate student Wesley Denny discovered that the glucocorticoid receptor inhibitory protein is an immunophilin, FKBP51, which is expressed in human or murine cells only at low levels and is not normally found associated with the glucocorticoid receptor. The immunophilins associated with high affinity glucocorticoid receptors are FKBP52 and phosphatase 5 which are not thought to influence binding activity (Figure 2). However, these investigators discovered that in squirrel monkeys not only is FKBP51 overexpressed but also the squirrel monkey form of FKBP51 is preferentially incorporated into the receptor complex and decreases binding affinity. This finding revealed a novel mechanism for regulating sensitivity to glucocorticoids and highlights the potential impact that aberrant expression of altered chaperone proteins may have on steroid receptor function.

The identification of the inhibitory protein early in the grant period has led to the initiation of several projects which less than a year ago were considered only as "future directions." These include learning

what regions of the squirrel monkey FKBP51 protein are responsible for its potent effect on glucocorticoid receptor binding, developing transgenic mice in which tissue-specific glucocorticoid resistance is induced by the targeted expression of the squirrel monkey FKBP51 gene, and isolating the regulatory regions of the FKBP51 gene to uncover the molecular basis for its overexpression in squirrel monkey cells. Thus, an intriguing experiment of nature from South America has provided fuel for studies that are asking basic questions about steroid receptor assembly and responsiveness with their extended implications for human biology.

FACULTY NEWS...

James Downey, Ph.D., *Professor of Physiology*, has been awarded an NIH grant to conduct a series of experiments designed to develop a treatment that will increase the heart's ability to survive a heart attack. "Since the heart muscle is not regenerated, this leaves the patient with a weakened heart for the rest of his life," said Downey.



Lynn Groome, M.D., Ph.D., *Acting Chair and Professor of OB/Gyn*, has published an article, "Spontaneous Motor Activity in the Perinatal Infant before and after Birth: Stability in Individual Differences," in the July edition of the *Journal of Developmental Psychobiology*.



John Oakes, Ph.D., *Professor of Microbiology and Immunology*, has received a five-year grant from the National Eye Institute to support research directed towards gaining new information on how to control inflammatory events in inflamed corneal tissue. This study is expected to provide new insights into possible ways to control the severity of corneal inflammation, thereby minimizing tissue damage during inflammatory processes.



Mary Townsley, Ph.D., *Professor of Physiology*, has received an NIH grant to learn how the physiologic and biochemical mechanisms that take place during heart failure prompt the lung endothelium to become resistant to injury. "Our hope is that an understanding of this protective adaptation with chronic pulmonary hypertension and heart failure may lead to development of new treatments for acute lung injury," said Townsley. The four-year grant award is funded by the National Heart Lung and Blood Institute.

MEDICAL STUDENTS PRESENT AT ANNUAL RESEARCH DAY

The 26th Annual Medical Student Research Day was held on Friday, August 13, 1999. Nineteen first and second year medical students participated with basic science and clinical faculty in summer research projects. The summer program concluded with Annual Medical Student Research Day in which twelve students gave oral presentations and seven students presented in poster format.

Dr. Franklyn Prendergast, Director of the Mayo Clinic Cancer Center in Rochester, Minnesota was this year's keynote speaker. His lecture was entitled "Forecasting the Future of Cancer Therapy".

Jason Martin, sponsored by Dr. Joseph Benoit, Department of Physiology and Dr. David Dean, Department of Microbiology/Immunology and Jamie Hixon, sponsored by Dr. David Gremse, Department of Pediatrics, were the recipients of the Clyde G. Huggins Medical Student Research Award, given in special recognition of summer research. Following Medical Student Research Day, a luncheon was held to announce the recipients for the student research awards. The awardees are listed below :

Best oral presentation:



From left to right: Drs. David Dean and Joseph Benoit (sponsors); Jason Martin, sophomore medical student (recipient); Clyde G. Huggins, Ph.D.; Samuel J. Strada, Ph.D. (Senior Associate Dean)

Best poster presentation:



From left to right: Dr. David Gremse (sponsor); Jamie Hixon, freshman medical student (recipient); Clyde G. Huggins, Ph.D.; Samuel J. Strada, Ph.D. (Senior Associate Dean)

NEWS RELEASE...

OB/Gyn Under Twenty Care Clinic Receives National Pregnancy Prevention Award:

The Association of Women's Health, Obstetric and Neonatal Nurses recently honored the Under Twenty Care Clinic with a national award for Innovations in Teen Pregnancy Prevention. The award recognized the USA'S OB/Gyn's program which has helped decrease the number of births to Mobile County teen moms. The program was designed to take care of low-risk pregnant teens, improve teen health, reduce teen pregnancy and reduce repeat teen pregnancy rates.

Susan Campbell, Certified Nurse Midwife; Patsy Kennedy, Nurse Practitioner for Women's Health; and Gina Hilton, MSN,RNC, all of whom work in the Department of Obstetrics and Gynecology, have been collaborating with a community-wide coalition to strengthen the program and accomplish its goals.

Reproductive Endocrinology Laboratory Earns Accreditation

The Reproductive Endocrinology Laboratory in the Department of Obstetrics and Gynecology, has been awarded a two-year accreditation by the Commission on Laboratory Accreditation of the College of American Pathologists (CAP), based on the results of a recent on-site inspection." It is an honor for the Reproductive Endocrinology Laboratory to be awarded accreditation by CAP," said the laboratory's director, Dr. Botros Rizk.

NIH'S PUBMED CENTRAL WILL MAKE JANUARY DEBUT

NIH will establish PubMed Central, an electronic repository for research results in the life sciences. PubMed Central will begin receiving, storing, and distributing content-including peer-reviewed articles, preprints, and other screened reports from existing journals, new journals, and reputable scientific organizations by January. The site will be integrated with the existing PubMed site at <http://www.ncbi.nih.gov/PubMed/>

NIH ANNOUNCES EFFORTS TO REDUCE REGULATORY BURDENS TO RESEARCH

NIH has announced a number of activities to begin implementation of the recommendations presented in the report "NIH Initiative to Reduce Regulatory Burden." The report which was requested by Congress deals with human subjects protection, animal welfare, conflicts of interest, hazardous waste disposal, research integrity, and the creation of an NIH Advisory Working Group on Regulatory Burden. The 3-month implementation plan can be viewed at http://grants.nih.gov/grants/policy/regulatoryburden/regburd3monthplan_09_1999.htm

NEW DEPARTMENTAL CHAIR APPOINTMENTS

LYNN GROOME, M.D., Ph.D., has been appointed Acting Chair of the Department of Obstetrics and Gynecology. Dr. Groome received his M.D. degree from LSU School of Medicine in Shreveport. He then completed OB/Gyn residency training at Tulane University followed by a maternal-fetal medicine fellowship at the University of Alabama at Birmingham. Dr. Groome has served as professor and Director of Maternal-Fetal Medicine in the Department of Obstetrics and Gynecology at USA. Dr. Groome is currently doing research examining autonomic nervous system functioning in the human fetus, which is supported by a grant from the National Institutes of Health.

WILLIAM HAMILTON, D.O., has been appointed Chair of the Department of Neurology. Dr. Hamilton attended medical school at the College of Osteopathic Medicine and Surgery in Des Moines, Iowa. His post graduate training included a rotating medical internship at St. Mary's Hospital and a neurology residency at the Medical College of Georgia. In addition he received training in neurogeriatrics at the University of Glasgow in Scotland. Dr. Hamilton previously served at Vice-Chair of the department of neurology. Dr. Hamilton's subspecialty interests include neurogeriatrics and abnormal involuntary movement disorders, particularly Parkinson's disease.

E. LEE TAYLOR, M.D., has been appointed Acting Chair of the Department of Family Practice. Dr. Taylor received a B.S. in chemistry from the University of North Alabama and a M.D. degree from the University of Alabama at Birmingham. Dr. Taylor previously served as Chair of the Department of Family Practice at the University of Alabama at Birmingham and as regional dean and professor of family practice at Texas Tech University Health Sciences Center.

KREISBERG APPOINTED AS ASSOCIATE VICE-PRESIDENT FOR CLINICAL AFFAIRS



Robert A. Kreisberg, M.D., has been appointed Associate Vice-President for Clinical Affairs. He will also serve as Chief Medical Officer for USA Health Services Foundation and Chief of Staff for USA Hospitals. Dr. Kreisberg received the Doctor of Medicine degree from Northwestern University. He then completed an internship at Passavant

Mermorial Hospital and residency training in internal medicine at Veterans Research Hospital in Chicago and Chicago Wesley Memorial Hospital. He also completed endocrine/metabolic fellowships at Northwestern University and Harvard Medical School.

Dr. Kreisberg's academic career began at University of Alabama in Birmingham as Assistant Professor of Medicine. In 1973, Dr. Kreisberg was appointed Professor and Chairman of Medicine at USA and in 1976 served as Dean for the College of Medicine for a four year period. Before his appointment as Associate Vice-President for Clinical Affairs, Dr. Kreisberg served as Clinical Professor of Medicine at Baptist Health Systems and Director of the Internal Medicine Residency Program at University of Alabama in Birmingham. Dr. Kreisberg's interests include the broad field of endocrinology with emphasis on lipid/lipoprotein disorders, treatment and prevention of coronary heart disease and diabetes mellitus. He is a member of numerous organizations including the American Diabetes Association, Sigma Xi, American College of Physicians, American Society for Clinical Investigation and Alpha Omega Alpha. He has served on the Editorial Board for Annals of Internal Medicine, the American Journal of the Medical Sciences and the Journal of Clinical Endocrinology and Metabolism and is currently an Associate Editor of the Journal of Clinical Endocrinology and Metabolism. His goals include developing strong primary care at USA Knollwood Hospital, improving the ability of the USA Health System to provide timely, efficient and pleasant medical care, coordinating the development of facilities and services at USA Hospitals, improving the efficiency of USA Health Services Foundation and creating a long range planning process for the Health System.

NEW FACULTY MEMBERS



Marion Berg, M.D., *Assistant Professor of Emergency Medicine*, received a B.A. in geology from Colorado College and a M.D. degree from the University of South Alabama. He completed residency training in emergency medicine at Carolinas Medical Center, North Carolina.



Jane Boggs, M.D., *Associate Professor of Neurology*, received a B.S. in biology from College of William and Mary and a M.D. degree from Medical College of Virginia. She completed a internal medicine internship and residency training in neurology at Medical College of Virginia.



LaDonna Crews, M.D., *Assistant Professor of Pediatrics*, received a B.S. in biology from Jacksonville State University and a M.D. degree from the University of South Alabama. She completed a pediatric internship and residency training at the USA Medical Center.



Cameron Leuck, M.D., *Assistant Professor of Emergency Medicine*, received a B.S. in biology from the University of West Florida and a M.D. degree from the University of Florida. He completed residency training in emergency medicine at the University of Maryland Medical Center and R. Adams Cowley-Shock Trauma Center, Baltimore, Maryland.



Margaret O'Brien, M.D., *Assistant Professor of Pathology*, received a B.A. in economics from Williams College, J.D. degree from Vanderbilt University and a M.D. degree from the University of South Alabama. She completed residency training in pathology at the University of South Alabama Medical Center. Dr. O'Brein previously served as instructor of pathology at USA.



Paul Jansen, M.D., *Assistant Professor of Pediatrics*, received a B.A. in chemistry from Southern College and a M.D. degree from Loma Linda University. He completed a pediatric internship and residency at Loma Linda University, California.



Jack Painter, M.D., *Assistant Professor of Medicine*, received a B.S. in biology from the College of William and Mary and a M.D. degree from the Medical College of Virginia. He completed a internal medical internship and residency training at the Medical College of Virginia. Dr. Painter previously served as Director, Cardiac Catheterization Laboratory at Salem Veterans Administration Medical Center.



Lori Russell, MD., *Assistant Professor of Medicine*, received a B.A. in zoology from Miami University and a M.D. degree from the University of Cincinnati. She completed residency training in internal medicine at The Christ Hospital in Cincinnati, Ohio.

Photo not available

Steven Schepens, M.D., *Assistant Professor of Family Practice*, received a B.S. in biomedical science and a M.D. degree from the University of South Alabama. He completed residency training in family practice at USA.

If you would like to submit an article for publication, please forward it to:

Dusty Layton
University of South Alabama
College of Medicine
CSAB 170

or

FAX (334) 460-6073

Visit "The Bear" at

<http://southmed.usouthal.edu/com/thebear.htm>

AMERICAN HEART ASSOCIATION AWARDS RESEARCH GRANTS

The Southeastern Affiliate and the National Office of the American Heart Association have awarded the following research grants and postdoctoral fellowships:

Grant-In-Aid Awards:

Stuart Critz, Ph.D., assistant professor of structural and cellular biology, project entitled "Mitochondrial KATP Channels and Ischemic Preconditioning".

T. Michael Fan, M.D., Ph.D., assistant professor of medicine and pharmacology, project entitled "Suppression of Myocyte Apoptosis by Ischemic/Hypoxic Preconditioning - Role of BCl-2 Phosphorylation".

Jane Funkhouser, Ph.D., professor of biochemistry and molecular biology, project entitled "Alveolar Epithelial Cell Ectopeptidases: A Possible Role in Regulating the Cytokine Cascade".

Stephen Schaffer, Ph.D., professor of pharmacology, project entitled "Glucose-Induced Protection Against Hypoxia-Induced Apoptosis".

Richard Whitehurst, M.D., professor of pediatrics, project entitled "The Effect of Dexamethasone on Neonatal Cardiac Myocyte Ca^{2+} Channels and its Association with Ventricular Hypertrophy".

Institutional Fellowship Award:

Joseph Benoit, Ph.D., professor of physiology, project entitled "Advanced Cardiovascular Research for Medical Students".

Postdoctoral Fellowships:

Songwei Wu, Ph.D., laboratory of Dr. Ming Li in the department of pharmacology. The project is entitled "Regulation of T-Type Ca^{2+} Channel by Glucose-Induced Protection Against Hypoxia-Induced Apoptosis".

Min Zhang, Ph.D., laboratory of Dr. Troy Stevens in the department of pharmacology. The project is entitled "Control of Lung Endothelial Cell Membrane Potential by Cyclic Nucleotide Gated Like Channel: Response to Inflammation".

RECENT PH.D. GRADUATES IN BASIC MEDICAL SCIENCES

ARIN BHATTACHARJEE

Sponsored by Ming Li, Ph.D., Department of Pharmacology. Arin's dissertation was entitled "*Functional Characterization of T-Type Ca^{2+} Channels in Pancreatic β -Cells*".

EMILY BURKE

Sponsored by Sailen Barik, Ph.D., Department of Biochemistry and Molecular Biology. Emily's dissertation was entitled "*The Role of Host Cell Factors in Respiratory Syncytial Virus Transcription*".

CHRISTOPHER CUBITT

Sponsored by John Oakes, Ph.D., Department of Microbiology and Immunology. Christopher's dissertation was entitled "*Characterization of the Differential Responsiveness of Human Corneal Epithelial Cells and Keratocytes to the Pro-Inflammatory Cytokine Interleukin-1*".

MAU TRAN

Sponsored by John Oakes, Ph.D., Department of Microbiology and Immunology. Mau's dissertation was entitled "*The Role of Neuropeptides in Induction of Chemokine Synthesis in Human Corneal Epithelial Cells*".

PROFESSIONALISM NEEDS CURRICULAR BOOST

The teaching of professionalism in U.S. medical schools needs to be improved, according to a study conducted by AAMC researchers. The study appeared in the September 1st issue of the Journal of the American Medical Association (JAMA). The principal author of the study, AAMC scholar-in-residence Herbert M. Swick, M.D., stated that most medical schools address professionalism in some fashion, but that the educational strategies used may not be adequate.

DISTINGUISHED SCIENTIST SEMINAR SERIES 1999-2000

On a rotating basis, basic science departments invite distinguished scientists from a wide array of institutions to present their latest research findings. The seminars are presented on Thursday afternoons at 4:00 PM in the first floor auditorium in the Medical Sciences Building. Interested faculty, staff and students are encouraged to attend. The 1999-2000 series includes many outstanding scientists.

Date	Department	Host	Speaker/Affiliation
09/02/1999	Microbiology	Robert Lausch	Linda Hazlett, Ph.D., Professor & Chair, Anatomy & Cell Biology, Wayne State Univ.
09/09/1999	Cancer Biology	Susan LeDoux	Nita Maihle, Ph.D., Mayo Clinic, Rochester, MN
09/16/1999	Structural & Cellular Biology	Steven Goodman	Richard Marchese, Ph.D., Professor & Chair, Dept. of Cell Biology, UAB
09/23/1999	Pharmacology	Troy Stevens	Bill Parks, Ph.D., Washington Univ., St. Louis, MO
09/30/1999	Physiology	Jim Parker	Paul M. Quinton, Ph.D., Dept. of Pediatrics, UCSD School of Medicine, LaJolla, CA.
10/07/1999	Biochemistry	Madhavan Nair	Rajendra K. Sharma, Ph.D., Dept. Path. University of Saskatchewan
10/14/1999	Microbiology	David Dean	Eric Alton, Ph.D., Imperial College of Science Technology & Med. UK
10/21/1999	Structural & Cellular Biology	Stephen Kayes	Gary Hunninghake, COM, Univ. Iowa
10/28/1999	Pharmacology	Troy Stevens	Bruce Freeman, Ph.D., UAB, Department of Anesthesiology
11/04/1999	Biochemistry	Julio Turrens	Roberto Docampo, Ph.D., Univ. Illinois-Urbana
11/11/1999	Physiology	Jim Parker	Garrett J. Gross, Ph.D., Dept. of Pharmacology, Univ. of Wisconsin, Milwaukee, WI
11/18/1999	Microbiology	Joe Coggin	Elizabeth Jaffee, M.D., Dept. Oncology, Johns Hopkins Univ.
12/02/1999	Structural & Cellular Biology	Gan Wang	Peter Glazer, M.D., Ph.D., Associate Professor, Dept. of Genetics, Yale University College of Medicine.
12/09/1999	Pharmacology	Troy Stevens	Rick Gabor, Ph.D., Northwestern Univ.
12/16/1999	Physiology	Jim Parker	Arthur S. Slutsky, M.D., Dept. of Medicine, Univ. of Toronto, Toronto, Ont., Canada
01/06/2000	Biochemistry	Nathan Aronson	Mark Olson, Ph.D., Dept. Biochemistry, Univ. Mississippi Medical Center
01/13/2000	Microbiology	John Oakes	Ety Benveniste, Ph.D., UAB
01/20/2000	Structural & Cellular Biology	Glenn Wilson	Priscilla K. Cooper, Ph.D., Senior Scientist, Lawrence Berkeley National Lab, Life Sci. Division.
01/27/2000	Pharmacology	Troy Stevens	Piero Anversa, Ph.D., NY Medical College
02/03/2000	Physiology	Jim Parker	Stephen L. Pelech, Ph.D., Dept. of Medicine, Univ. of British Columbia, Vancouver, B.C., Canada
02/10/2000	Comparative Medicine	Chris Abee	Paul Brown, Ph.D., N.I.H.
02/17/2000	Pathology	William Gardner	Clifford Toren Annual Lecture
02/24/2000	Biochemistry	Sailen Barik	Asis Das, Ph.D., Univ. Conn. Health Science Center
03/02/2000	Microbiology	John Foster	Bonnie Bassler, Ph.D., Princeton Univ.
03/09/2000	Cancer Biology	Susan LeDoux	Harold Moses, M.D., Vanderbilt Cancer Center
03/16/2000	Physiology	Jim Parker	Michael A. Matthay, M.D., Depts. Of Medicine & Anesthesiology, Cardiovascular Research Institute, UCSF, San Francisco, CA
03/23/2000	Pharmacology	Troy Stevens	Marlene Rabinovitch, Ph.D., Univ. of Toronto
03/30/2000	Biochemistry	Nathan Aronson	Ross Hardison, Ph.D., Penn. State Univ.
04/06/2000	Microbiology	David Wood	Susan Wallace, Ph.D., Dept. Micro., Univ. Vermont Medical School
04/13/2000	Structural & Cellular Biology	Susan LeDoux	Samuel H. Wilson, M.D., Deputy Director, National Institute of Environmental Health Sciences
04/27/2000	Pharmacology	Dana Zimmer	Francesco DeMayo, Ph.D., Baylor College of Medicine
05/04/2000	Physiology	Jim Parker	Kristine E. Kamm, Ph.D., Dept. of Physiology, Univ. of Texas Health Sciences Center, Dallas, TX
05/11/2000	Biochemistry	Jim Gaubatz	Joe McCord, Ph.D., Univ. of Colorado, Health Sciences Center
05/18/2000	Structural & Cellular Biology	Tony Gard	Diane Pennica, Ph.D., Dept. Molecular Oncology Genetics

FULL-TEXT ASSESSMENT & EVALUATION LIBRARY ONLINE

The ERIC Clearinghouse on Assessment and Evaluation (ERIC/AE) announced the opening of its Full Text Internet Library containing links to more than 250 of the best books, reports, journal articles, newsletter articles, and papers that address education measurement, evaluation, and learning theory. The collection currently includes titles from nine online journals and 29 organizations. The library is at <http://ericae.net/ftlib.htm>
ERIC/AE seeks to provide balanced information concerning educational assessment and resources to encourage responsible test use.

Dr. Hattie Myles
Academic & Student Affairs
1005 MSB

Non-Profit
U.S. Postage
PAID
Permit No. 506
Mobile, AL

University of South Alabama
College of Medicine
CSAB 170
Mobile, AL 36688-0002

