The University of Texas at Arlington
The Department of Kinesiology

presents
33rd Semi-Annual Lecture
of the

Texas American College of Sports Medicine

With
Barry W. Scheuermann, Ph.D.
Assistant Professor of Exercise & Sport Science
Adjunct Assistant Professor
Dept. of Physiology, Texas Tech University
Lubbock, TX

LECTURE:
“Integrating Metabolic Responses with Muscle Recruitment Patterns During Moderate and Intense Exercise”

Monday, March 31, 2002 – 12:00 Noon
Activities Building                    Lone Star Auditorium

PREVIOUS UTA ACSM LECTURERS

Spring, 1987  Russell R. Pate, Ph.D.  University of South Carolina
             “Physiologic Determinants of Endurance Performance”
Fall, 1987   Eddie F. Coyle, Ph. D.  The University of Texas at Austin, “Adaptations to
Endurance Training Maintained During Periods of Physical Inactivity”
Spring, 1988  Brian J. Whipp, Ph.D., Harbor-UCLA Medical Center
             “Coupling of Ventilation to Metabolism During Exercise”
Fall, 1988   George A. Ordway, Ph.D., The University of Texas Southwestern Medical
School, “Adaptation of the Peripheral Vasculature as a Function of Exercise Training”
Spring, 1989  Charlotte A. Tate, Ph.D., Baylor College of Medicine
             “Adaptation of the Heart to Exercise During Old Age”
Fall, 1989   Robert B. Armstrong, Ph.D., University of Georgia
             “Mechanisms Underlying Exercise-Induced Muscle injury”
Spring, 1990  William J. Gonyea, Ph.D., The University of Texas Southwestern Medical
School, “Skeletal Muscle Adaptation to Heavy Resistance Training”
Fall, 1990   Victor A. Convertino, Ph.D., NASA, Kennedy Space Center
             “Considerations for Use of Exercise as Countermeasures for Space Adaptation”
Spring, 1991  Steven N. Blair, P.E.D., Institute for Aerobics Research
             “Physical Activity, Physical Fitness, and the Public’s Health”
Fall, 1991   Benjamin D. Levine, M.D., The University of Texas Southwestern Medical Center
             “Human Performance Physiology: At the Top of the World and Above”
Spring, 1992  John L. Ivy, Ph.D., The University of Texas
             “Enhancement of Muscle Glycogen Resynthesis Post Exercise”
Fall, 1992   Charles J. Dillman, Ph.D., Steadman Sports Medicine Institute
             “Overview of New U.S. Olympic Program”
Spring, 1993  Jere H. Mitchell, M.D., The University of Texas Southwestern Medical Center
             “Athlete’s Heart”
Fall, 1993   Charles M. Tipton, Ph.D., University of Arizona
             “The Role of Exercise Training in the Management of Hypertension”
Spring, 1994  James A. Pivarnik, Ph.D., Baylor College of Medicine, Houston
             “Exercise Pregnancy: Current Findings vs. Historical Guidelines”
Fall, 1994   James A. Pawelczyk, Ph.D., Presbyterian Hospital of Dallas, Institute for
Exercise and Environmental Medicine, “Neural Control of Circulation During
Exercise”
Spring, 1995  F. Marty Ivey, M.D., The University of Texas Medical Branch at Galveston,
             “Diagnosis and Treatment of Acute Knee Ligament Injuries”
Fall, 1995   Eric Poehlman, Ph.D., University of Maryland at Baltimore,
             “Metabolic Control and Aging”
Spring, 1996  James Stray-Gundersen, M.D., The University of Texas Southwestern Medical
Center, “Living High, Training Low: A Method to Improve Sea Level
Performance”
Fall, 1996   Rod K. Dishman, Ph.D., University of Georgia, “Fighting Sloth: Factors
Related to Adherence to Exercise and Wellness Programs”
Spring, 1997  Suzanne M. Fortney, Ph.D., NASA—Johnson Space Center, “Exercise
Countermeasures for Long Duration Space Flights”
Fall, 1997   W. Larry Kenney, Ph.D., The Pennsylvania State University, “Age, Fitness and
Temperature Regulation”
### PREVIOUS UTA ACSM LECTURERS

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<tr>
<th>Term</th>
<th>Lecturer</th>
<th>Institution</th>
<th>Topic</th>
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<tr>
<td>Spring 1998</td>
<td>John M. Johnson, Ph.D., Ph.D., UT Health Science Center at San Antonio</td>
<td>“Regulation of Cutaneous Circulation in Humans”</td>
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<tr>
<td>Fall, 1998</td>
<td>Michael J. Joyner, M.D., Mayo Foundation, Rochester, MN</td>
<td>“Regulation of Muscle Blood Flow and Implications for Aging and the Limits of Human Performance”</td>
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<td>Spring, 1999</td>
<td>Peter B. Raven, Ph.D., University of North Texas Health Science Center, University of North Texas Health Science Center, University of Texas at San Antonio</td>
<td>“Baroreflex Control of Blood Pressure During Exercise”</td>
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<td>Fall, 1999</td>
<td>George A. Brooks, Ph.D., University of California, Berkeley</td>
<td>“Pathways to Carbohydrate Utilization During Exercise: Intracellular and Cell-Cell Lactate Shuttles”</td>
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<tr>
<td>Spring, 2000</td>
<td>Benjamin D. Levine, M.D., University of Texas Southwestern Medical Center, University of Texas Southwestern Medical Center</td>
<td>“Critical Appraisals of Modern Approach to Altitude Training”</td>
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<td>Fall, 2000</td>
<td>James M. Hagberg, Ph.D., University of Maryland</td>
<td>“Exercise Training and Aging”</td>
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<td>Spring, 2001</td>
<td>Michael D. Delp, Ph.D., Texas A &amp; M University</td>
<td>“Space Exploration: Expanding Our Understanding of the Human Body on Earth”</td>
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<tr>
<td>Fall, 2001</td>
<td>M. Harold Laughlin, Ph.D., Professor and Chair, Department of Veterinary Biomedical Science, University of Missouri</td>
<td>“Ethics and Cheating in Research: Is Science Dispassionate Pursuit of Truth?”</td>
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<td>Spring, 2002</td>
<td>Jon W. Williamson, Ph.D., Assistant Dean for Research at The University of Texas Southwestern Medical Center, Allied Health Sciences School</td>
<td>“Brain Activation During Exercise In Humans”</td>
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<tr>
<td>Fall, 2002</td>
<td>Michael N. Sawka, Ph.D., Chief, Thermal &amp; Mountain Medicine Division, US Army Research Institute of Environmental Medicine, Natick, MA</td>
<td>“Human Adaptations to Heat Stress”</td>
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### KEY TERMS

### KEY CONCEPTS/POINTS

### IMPLICATIONS/DIRECTIONS

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### BARRY W. SCHEUERMANN, Ph.D.

Dr. Barry W. Scheuermann is an Assistant Professor of Exercise and Sport Sciences and an Adjunct Assistant Professor in the Department of Physiology in the School of Medicine at Texas Tech University. Prior to his current position, Dr. Scheuermann was a Research Assistant Professor (1999-2001), a Lecturer (1999-2000), and a Postdoctoral Research Fellow (1997-1999) at Kansas State University. He received his Ph.D. in the School of Kinesiology from the University of Western Ontario, as well as, a Bachelor of Art degree in Physical Education. He was the recipient of a Natural Sciences and Engineering Research Council Doctoral Fellowship at the University of Western Ontario. Dr. Scheuermann received a Research Career Enhancement Award from the American Physiological Society in 2002.

Dr. Scheuermann actively conducts research in the area of pulmonary physiology. He lists 16 refereed journal articles on his resume including publications in the Journal of Applied Physiology, Respiration Physiology, Canadian Journal of Physiology and Pharmacology, Canadian Journal of Applied Physiology, Experimental Physiology, Journal of Physiology and Medicine and Science in Sports and Exercise. Dr. Scheuermann has 49 refereed published abstracts and presentations at national professional conferences including the American College of Sports Medicine and the American Physiological Society Intersociety Meeting. He has one published book chapter, *Modeling and Control of Ventilation*, by Plenum Publishing Company of New York, NY. Dr. Scheuermann has received four grants totaling $329,000. He currently has research support from me Alan K. Pierce Research Award, American Lung Association, Texas Affiliate pertaining to *Physiological significance of carbonic anhydrase in pulmonary function.*

*There will be a brief question and answer period at the end of the presentation. Please welcome Dr. Scheuermann to UTA and give him your attention until the end of the question and answer session. Thank you!*  

*Thank you.*