

1997 BEST STUDENT PAPER AWARDS

AERONAUTICAL AND AEROSPACE SCIENCES:

Mohamed A. Elseifi

Dept. of Aerospace and Ocean Engineering, Virginia Tech  
Optimum Design of Stiffened Composite Panels with Realistic Imperfections

AGRICULTURE, FORESTRY, AND AQUACULTURE:

Carla E. Hegeman

Dept. of Plant Pathology, Physiology, and Weed Science, Virginia Tech  
Purification and Characterization of Soybean Phytase

ASTRONOMY, MATHEMATICS AND PHYSICS:

Amanda McDaniel

Dept. of Physics, University of Virginia  
Near-Field Scanning Optical Microscopy Studies of Cu(In,Ga)Se<sub>2</sub> Solar Cells

BIOLOGY:

I. E. Burbulis

Dept. of Biology, Virginia Tech  
Analysis of Flavonoid Biosynthesis in Arabidopsis

BOTANY:

Rhonda Edwards

Dept. of Biology, Virginia Tech  
The Reproductive Biology of Addison's Leatherflower

CHEMISTRY:

V. Tersol

Dept. of Chemistry and Biochemistry, Old Dominion University  
Use of Solid Phase Microextraction Techniques in the Detection of Contraband  
Drugs

COMPUTER SCIENCE:

Daniel Werner

Dept. of Computer Science, Randolph-Macon College  
Empirical Results from a Sonar Transducer Hardware Interface

EDUCATION:

Brenda Brand

Dept. of Teaching and Learning, Virginia Tech  
Pre-Service Science Teachers' Beliefs About Diversity

## ENVIRONMENTAL SCIENCE:

Matt A. Patterson

Depts. of Biology and Fisheries and Wildlife, Virginia Tech

Use of Glycogen Levels to Assess the General Health of Unionids from the Zebra Mussel Infested Ohio River and from Quarantine

## GEOLOGY:

Ginger Vaughn

Dept. of Geological Sciences, Virginia Tech

Orientations and Magnitudes of Paleostress Recorded in Lower Paleozoic Carbonates from the Appalachian Valley and Ridge Province, Northern Virginia

## MATERIALS SCIENCE:

Christopher Robertson

Dept. of Chemical Engineering, Virginia Tech

Segmental Cooperativity in Glass-Forming Miscible Polymer Blends and the Influence on Structural Relaxation

## MEDICAL SCIENCES:

Kim Gerecke

Dept. of Psychology, University of Richmond

Are Some of the Sexual, Behavioral and Physiological Effects of Prenatal Stress Due to Alterations of Neuronal Morphology in Medial Preoptic Area (mPOA) Neurons?

## MICROBIOLOGY AND MOLECULAR BIOLOGY:

M. V. Thorsteinsson

Dept. of Biochemistry, Virginia Tech

Ligand Binding Studies of the Cytoplasmic Hemoglobin of *Nostoc commune*, UTEX 584 (Cyanobacteria)

## NATURAL HISTORY AND BIODIVERSITY:

Stephen Sumithran

Dept. of Fisheries and Wildlife Sciences, Virginia Tech

Status of Conservation of the Nilgiri Tahr, *Hemitragus hylocrius*, in the Mukurthi National Park, South India (Bovidae)

## PSYCHOLOGY:

Emily L. Fergus

Dept. of Psychology, James Madison University

Touch During Mother-Infant Interactions: The Effects of Parenting Stress, Depression and Anxiety

## STATISTICS (VAS Chapter, American Statistical Association):

Kiho Kim

Dept. of Statistics, Virginia Tech  
Linear Trend-Free Factorial Designs

## HONORABLE MENTION

## AERONAUTICAL AND AEROSPACE SCIENCES:

Christian Wenger

Dept. of Aerospace and Ocean Engineering, Virginia Tech  
Wave Number Frequency Spectra of Turbulent Flows

## AGRICULTURE, FORESTRY, AND AQUACULTURE:

Doug N. Harpole

Dept. of Fisheries and Wildlife Sciences, Virginia Tech  
Effects of 7 Silvicultural Treatments on Terrestrial Salamanders in a Southern  
Appalachian Hardwood Forest

G. Tasissa

Dept. of Forestry, Virginia Tech  
Modeling Thinning Effects on Ring Specific Gravity of Loblolly Pine (*Pinus taeda*  
L.)

## ASTRONOMY, MATHEMATICS AND PHYSICS:

Justin Voshell

Dept. of Physics, James Madison University  
Development of a Remote Computer Control Calibration System for Photomulti-  
pliers in the Hall B CLAS Detector at the Jefferson National Laboratory

## BIOLOGY:

C. M. Wilson

Dept. of Biology, Hampden-Sydney College  
and Dept. of Biology, Virginia Tech  
Thyroid Hormones in Avian Eggs: Presence, Manipulation, and Influence on  
Embryonic Development

M. B. Lovern

Dept. of Biology, Virginia Tech  
A Behavioral Profile of Free-Ranging Juvenile Male and Female Green Anoles,  
*Anolis carolinensis*

## CHEMISTRY:

R. C. Watson

Dept. of Chemistry, Virginia Tech

Time of Flight Mass Spectrometry of Inorganic Complexes

## EDUCATION:

Starlin D. Weaver

Dept. of Teaching and Learning, Virginia Tech

Using Portfolios to Assess Learning in Chemistry: One School's Story of Evolving Assessment Practices

## ENVIRONMENTAL SCIENCE:

Kimberly S. Barnes

Dept. of Biology, George Mason University

Phenotypic Characterization of an Extremely Halophilic Archaeobacterium

M. J. Cyterski

Dept. of Fisheries and Wildlife Sciences, Virginia Tech

Factors Affecting the Utilization of Gizzard Shad by Sportfishes in Two Virginia Reservoirs

## GEOLOGY:

Rachael C. Davis

Dept. of Geology and Environmental Studies, James Madison University

Textural Analysis of a Periglacial (?) Surficial Deposit at Graves Mill, Madison County, Virginia

Andrew M. Bush

Dept. of Geological Sciences, Virginia Tech

A Test of Evolutionary Stasis in Time-Averaged Assemblages of *Mercenaria* Clams

## MATERIALS SCIENCE:

Karen S. Lewis

Dept. of Material Science and Engineering, University of Virginia

Determination of the Corrosive Solution Formed Within Aircraft Lap-Splice Joints

C. A. Mahieux

Dept. of Material Science and Engineering, Virginia Tech

Microbuckling in Unidirectional Fiber Reinforced Polymer Composites in End-loaded Bending

## MEDICAL SCIENCES:

David W. Mullins

Dept. of Biology, Microbiology and Immunology Section, Virginia Tech  
Taxol Administration Modulates Nitric Oxide but Enhances Interleukin 12 Production by Tumor Distal Macrophages *In Vivo*

Asimah Rafi

Dept. of Biology, Virginia Tech  
CD44-Hyaluronic Acid Interactions Can Induce Murine B Cell Activation

## NATURAL HISTORY AND BIODIVERSITY:

James Berkelman

Dept. of Fisheries and Wildlife Sciences, Virginia Tech  
Foraging Ecology of the Madagascar Fish-Eagle, *Haliaeetus vociferoides*

Sean L. Carter

Dept. of Fisheries and Wildlife Sciences, Virginia Tech  
Movement and Activity Patterns of Bog Turtles, *Clemmys muhlenbergii*, in Southwest Virginia

## PSYCHOLOGY:

Julie M. Stark

Dept. of Psychology, Old Dominion University  
Attachment Style and its Relationship to Stress, Anxiety, Coping and Relationship Satisfaction as a Function of Sexual Orientation

Janice E. Halecki

Dept. of Psychology, Old Dominion University  
Dysphoria and the Emotional Stroop Task: An Investigation of the Significance of Errors