

2012

Food and
Agricultural Sciences
Excellence
in College and
University
Awards Program

A COMMUNITY
of SCHOLARS
HONORING
EXCELLENCE

INTRODUCTION

By all measures, 1862 may be considered a pivotal year in America's history. Despite the raging Civil War, President Abraham Lincoln signed into law several seminal acts, including the Emancipation Proclamation—which would soon free the slaves—the Pacific Railroad Act, the Homestead Act, and last, but not least, creation of the United States Department of Agriculture and the land-grant colleges.

The uniquely American land-grant university system, construed as a partnership between the federal, state, and local governments across our nation, has helped solve problems of importance to food and agriculture for 150 years, and has contributed to America's global competitiveness.

As we scan across the horizon into the next 20 to 40 years, the increasing population—expected to surpass 9 billion by the year 2050—and diminishing land and water resources, combined with climate change, will require smarter, more efficient, and sustainable approaches to meet the food, fuel, shelter, and health needs of society. Our nation and the world look to the land-grant universities for solutions to these challenges.

The exceptional community of teachers, researchers, and

extension specialists and educators at our nation's system of land-grant universities are all part of the collective effort that ensures a well-educated workforce and scientific cadre for our nation and makes discoveries that are translated into innovations and solutions to address the challenges of the burgeoning population. Service for the greater public good is a hallmark of our unique partnership. Coordination among academia, government, and community-based organizations allows us to respond with a network of exceptionally committed individuals.

For more than 20 years, the National Institute of Food and Agriculture and the Association of Public and Land-Grant Universities have partnered to recognize the extraordinary efforts of educators, researchers, and extension specialists at this national awards ceremony.

The Excellence in College and University Teaching Awards recognize university faculty for engaging and preparing students for the future. The Excellence in Extension Award recognizes individuals committed to programs in lifelong learning and contributions to improving communities. The National Extension Diversity Award acknowledges outstanding efforts and accomplishments



Sonny Ramaswamy
SONNY RAMASWAMY

Director, National Institute of Food and Agriculture

within the Cooperative Extension Service to enable and sustain diverse cultures and abilities. Finally, the Multistate Research Award recognizes the collaborative efforts of state Agricultural Experiment Stations working together to address critical, regional needs.

These awards honor a group of outstanding recipients who are dedicated to their fields and have made outstanding scholarly contributions. Additionally, these awards recognize the educational, extension, and research system that has long been—and will continue to be—critical to the success of our great nation.

On behalf of the National Institute of Food and Agriculture, my congratulations to the award winners being recognized today.



MURIEL HOWARD

President, AASCU

PETER MCPHERSON

President, A·P·L·U

PRESIDENTS' LETTER

At its best—the ideal we must relentlessly pursue—higher education must be a seamless web uniting learning, discovery, and the extension and application of knowledge to serve and enhance society. This ideal depends on the superb dedication of remarkable individuals in our institutions who promote the development and sustainability of learning communities, which flows from them both on and off campus. It is, after all, the creativity of these individuals who care about America and our world that sustains us all and ensures a vibrant future tomorrow.

The women and men we honor in these programs have been selected as the best from the hundreds of thousands they represent in our colleges and universities. They have engaged themselves as participants and leaders

in the learning processes and are distinguished by their successes. They will be remembered not only for the honor that we bestow upon them, but especially for the impact they have made on the thousands of individuals who have benefited from their devotion.

As the presidents of the two associations dedicated to public four-year higher education, we congratulate the recipients of the 2012 Food and Agriculture Excellence Awards. They personify excellence! Their efforts in sound scholarship, highlighted by exemplary pedagogy and personal dedication, represent enduring examples of the ways institutions of higher education must respond to the challenges before us. We warmly congratulate these outstanding individuals and extend our appreciation for their unwavering commitment to excellence.

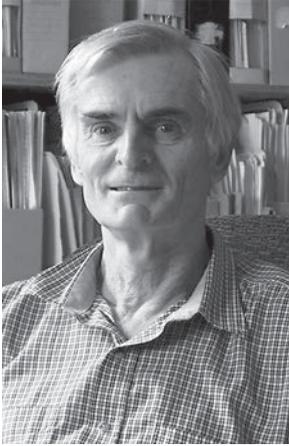
The beginning
of knowledge
is the
discovery of
something
we do not
understand.

FRANK HERBERT



NATIONAL
TEACHING
AWARDS

2012



JOHN L. CROMPTON

Distinguished Professor
Recreation, Park and Tourism Sciences
Texas A&M University

A University Distinguished Professor, Regents Professor, and a Presidential Professor for Teaching Excellence at Texas A&M University, Dr. John L. Crompton teaches exclusively in the Department of Recreation, Park and Tourism Sciences. His primary interests are in the areas of marketing and financing public leisure and tourism services. He is author or co-author of 16 books and a substantial number of articles that have been published in the recreation, tourism, sport and marketing fields; and he is the most published scholar in the history of both the parks and recreation and tourism fields.

Crompton received the National Park Foundation's Cornelius Amory Pugsley Award; National Recreation and Park Association's Distinguished Professional Award, National Literary Award, and Roosevelt Award; the Society of Park and Recreation Educators' Distinguished Colleague and Distinguished Teaching awards; and the Travel and Tourism Research Association's Travel Research Award.

He is TAMU's Cintron University Professor for Excellence in Undergraduate Teaching and Piper Professor for Scholarly Excellence. He also received the Bush Excellence Award for Public Service; the Vice Chancellor's Award for Excellence in Graduate Teaching; the Texas Agricultural Experiment Station's Faculty Fellow and Senior Faculty Fellow Awards for exceptional research contributions; the University Distinguished Achievement Award for Research; and the University Distinguished Achievement Award for Teaching.

Crompton earned a D.L.C. from Loughborough College, an M.S. from the University of Illinois in 1968, a second M.S. degree from Loughborough University of Technology, and a Ph.D. from TAMU.

CANDICE ANN SHOEMAKER

Professor
Horticulture, Forestry and Recreation Resources
Kansas State University



Since joining Kansas State University's Department of Horticulture, Forestry, and Recreation Resources in 2001, Dr. Candice A. Shoemaker has taught a variety of undergraduate and graduate courses in horticulture and horticultural therapy. She currently teaches on-campus classes in urban agriculture and on-line classes in horticultural therapy. Dr. Shoemaker's teaching philosophy is based on the premises to aim high, love learning, and be innovative.

In 2008, she guided the development of KSU's award-winning Graduate Certificate in Horticultural Therapy, a distance-education program designed to enhance the credentials and professional stature of working professionals in their current positions, and the first online program offered through her department. In 2010, she led the creation of the first specialization within KSU's horticulture master's program, Urban Food Systems.

Dr. Shoemaker's research focuses on the health benefits of gardening, particularly for youth and older adults. Her considerable number of national and international presentations and publications is a result of successfully establishing interdisciplinary and multi-institutional research teams and obtaining more than \$1.5 million in grants and awards.

Shoemaker has been recognized as a leader for her dedication to and excellence in teaching and student learning through numerous awards, including the American Horticultural Society's Horticultural Therapy Award "for significant contributions to the field of horticultural therapy" in 2011 and a Teaching Excellence Award for the M.S. Urban Food Systems specialization from the KSU's Provost's Office in 2010.

Shoemaker earned B.S. and Ph.D. degrees from Michigan State University and a M.S. degree from Kansas State University.

*D*iscovery
consists of
seeing what
everybody
has seen
and thinking
what nobody
has thought.

ALBERT SZENT-GYORGYI



REGIONAL
TEACHING
AWARDS

2012

KENNETH P. BLEMINGS

Professor, Animal and Nutritional Sciences
Assistant Division Director, Academic Programs
West Virginia University

Dr. Ken Blemings, a professor in West Virginia University's Division of Animal and Nutritional Sciences since 1999, teaches undergraduate and graduate courses in biochemistry. In the classroom, he is known



for his ability to learn his student's names, even in particularly large classes. His interest in his students, as well as his enthusiasm for biochemistry, generates a positive learning environment in a subject many initially fear.

Dr. Blemings has been an important contributor to the growth of the undergraduate biochemistry program at WVU. In addition to teaching in the program, he assumed the duties of the division's assistant director position in 2010. In this role, his responsibilities include acting as the graduate program coordinator, undergraduate advising coordinator, and assisting the faculty with curriculum matters.

Blemings' research focuses on understanding the degradation of the amino acid lysine and how that degradation is regulated. Decreasing the degradation of lysine will increase the efficiency of lysine use for protein synthesis and decrease costs of many diets commonly fed to livestock species.

He has been recognized as an outstanding advisor at the college level. Additionally, Blemings was named the outstanding Honors advisor for the university. His teaching abilities have been recognized at the division, college, and university-wide levels.

He earned a B.S. from Virginia Tech and M.S. and Ph.D. degrees from the University of Wisconsin–Madison, where he also had post-doctoral training.

MOLLY ESPEY

Professor, Economics
Clemson University

Dr. Molly Espey, a member of Clemson University's economics faculty, has taught a variety of undergraduate and graduate level courses, including introductory microeconomic theory, natural resource



economics, environmental economics, and a graduate seminar on teaching. She facilitates classroom learning through the use of team-based learning, creating an environment in which students are actively engaged in learning, discussing concepts, and solving real world problems in cooperation with others.

Espey serves on numerous committees addressing teaching, advising, curriculum, assessment, and undergraduate student research. She has organized workshops and symposia for professional meetings and is also a regular presenter at these meetings.

She advises undergraduate students in three different majors while maintaining an active research program spanning several different areas within resource and environmental economics, including environmental valuation, public land management, and demand analysis. In addition, she has published articles analyzing the effectiveness of teaching innovations and a chapter in *Team-Based Learning in the Social Sciences and Humanities*.

Espey has received many teaching awards, including Clemson's College of Agriculture, Forestry, and Life Sciences' Award for Teaching Excellence and the North American College Teachers of Agriculture Teaching Award of Merit. She has been honored by Who's Who Among America's Teachers twice.

She earned B.S., M.S., and Ph.D. degrees from the University of California, Davis.

THOMAS R. FAMULA

Professor, Animal Science
University of California, Davis

Dr. Thomas R. Famula began his academic career as an assistant professor of animal science at the University of California, Davis, in 1981 and has remained there ever since. Over this 30-year span, he has worked with cattle, sheep, horses, mice, aquatic animals, and a host of other species, now including service dogs.



Throughout his early teaching career, Professor Famula taught graduate and undergraduate courses in animal breeding and quantitative animal biology. In 1990, he began teaching Domestic Animals and People, a general education course directed at first quarter freshmen that currently enrolls more than 400 students from across the Davis campus. Known for its hands-on work with livestock, the class has helped hundreds of urban and suburban students appreciate the livestock industry and the critical role domestic animals play in our economy and culture. Now a professor, his research centers on the statistical elements of animal improvement.

Famula has been recognized for his skill in the classroom, with awards from his campus colleagues (Academic Senate's Distinguished Teaching Award), the students of the Davis campus (Associated Students of the University of California, Davis' Excellence in Undergraduate Education Award) and his professional colleagues (American Society of Animal Science's Distinguished Teacher Award). Most recently, he has been listed by *The Princeton Review* as one of "The Best 300 Professors."

He received a B.S. degree from the University of Delaware and M.S. and Ph.D. degrees from Cornell University.

STANLEY F. KELLEY

Professor and Chair, Agricultural and
Industrial Sciences
Sam Houston State University

Dr. Stanley F. Kelley, a professor and chair in Sam Houston State University's Department of Agricultural and Industrial Sciences, teaches animal science and serves as graduate coordinator. His courses have included animal nutrition, beef cattle production, livestock selection and evaluation, animal reproduction, meat science, and statistics. His research focuses on semen quality, exit velocity and conception rates, the Texas Department of Agriculture GO TEXAN program, characteristics and management of Texas feeder cattle, and academic success of animal science students.



Committed to professional excellence, Kelley has organized and hosted seminars for local producers on current and economical management practices for livestock, as well as youth programs on leadership and managing and raising beef projects for show. He coordinates the SHSU Livestock Judging Team, Ag Ambassadors, and ExL in Ag Program, a freshman retention program. Dr. Kelley maintains an active role in youth programs throughout the state, serving as coordinator, assistant superintendent, and judge for area livestock shows and judging contests.

He was awarded the 1997 SHSU Excellence in Teaching Award, the 2004 Sammy Award for Outstanding Faculty Member, the 2006 Teacher of Teachers Bronze Award, and was recognized in 2008 by the SHSU Faculty Senate for outstanding leadership in academics. He also received the 1999 AASCARR Teacher Award and was named a 2001 NACTA Teacher Fellow.

Kelley holds B.S., M.S. and Ph.D. degrees from Texas A&M University.

DANIEL U. THOMSON

Professor, Veterinary Medicine
Kansas State University

Recognized internationally as a leader in animal welfare, beef cattle production, and cattle health management, Dr. Daniel U. Thomson is currently the Jones Professor of Production Medicine and director of the Beef Cattle Institute in Kansas State University's College of Veterinary Medicine. He teaches courses in feedlot production medicine, welfare, and nutrition.



Thomson has published 53 peer-reviewed papers, four book chapters, 186 abstracts and 69 proceedings, and delivered 465 invited talks internationally on the interactions between production management, environment, and nutrition on beef cattle health and well-being. His research program has been granted more than \$33 million, \$13.7 million of those funds coming with him as the primary investigator.

Dr. Thomson chaired the World Organization for Animal Health's Beef Cattle Production and Animal Welfare Committee, and he acts as an animal welfare advisor for McDonald's and the Food Marketing Institute. He has also served in many capacities for the National Cattlemen's Beef Association, American Farm Bureau, American Association of Bovine Practitioners, and the Academy of Veterinary Consultants.

Thomson received the Kansas State Novartis Excellence in Teaching Award in 2005 and 2009. He was also named the teacher of the semester in Texas Tech University's College of Agriculture in 2000.

He received B.S. and D.V.M. degrees from Iowa State University, an M.S. from South Dakota State University, and a Ph.D. from Texas Tech University.

KAREN C. WILLIAMS

Professor, Human Development and
Family Sciences
Director, Bachelor of Applied Science Program
University of Wyoming

Dr. Karen Cachevki Williams' career as an educator has spanned 40 years teaching infants, toddlers, preschoolers, junior high, high school, and college students. A professor in the University of Wyoming's Department



of Family and Consumer Sciences, she believes every student should be supported, respected, challenged, and taken out of their comfort zone in a way that allows them to move forward and grow in their skills and abilities. She instructs both undergraduate and graduate students, and her classes include child development, multicultural influences on children and families, early childhood education, and an introductory course for those students in the Bachelor of Applied Science program.

Dr. Williams' research focuses on perceptions of marginalized learners and the pedagogy of online teaching. She has published more than 50 articles, book chapters, abstracts, and papers in proceedings and was awarded the E.B. Knight Journal Award from the North American Colleges and Teachers of Agriculture. She also presents regularly at state, regional, national, and international conferences.

Williams received her college's Outstanding Adviser Award and Outstanding Educator Award, has been recognized for her teaching by the UW Ellbogen Center for Teaching and Learning, completed a Millgate Endowment Fellowship Award in Administrative Leadership, and was the inaugural Technology Instructional Enhancement Faculty Fellow for 2011.

She earned a B.A. from the University of Illinois, M.A. from Pacific Oaks College, and a B.S. and Ph.D. from the University of Wyoming.



NEW
TEACHER
AWARDS

2012

MARIA NAVARRO

Associate Professor, Agricultural Leadership,
Education and Communication
The University of Georgia

Dr. Maria Navarro is an associate professor in the University of Georgia's Department of Agricultural Leadership, Education, and Communication, where she has developed and taught courses—on



campus, at a distance, and abroad—in international agriculture, poverty and hunger issues, technology change, and program development.

Dr. Navarro is passionate about quality teaching and mentoring of undergraduate and graduate students. Her work to expand the interdisciplinary, socially conscious, and global nature of the university's curriculum reaches beyond her own courses and programs. She has given more than 75 guest lectures in other UGA courses and works with several student organizations to expand their service and professional development endeavors.

Before coming to the United States in 1997, Navarro worked for six years in the International Centre for Advanced Mediterranean Agronomic Studies, organizing and managing international cooperation programs with a major focus on training and development of professionals in agriculture and the coordination of research networks. She has also participated in international projects with the Carter Center Peace Programs, United States Agency for International Development, United States Department of Agriculture Foreign Agricultural Services, and several U.S. universities. Additionally, she has worked in the United States, Europe, Central and South America, Africa, the Middle East, and Western Asia.

Dr. Navarro received an undergraduate degree from the Universitat Politècnica de Catalunya in Spain and a Ph.D. from Texas A&M University.

MICHAEL S. RETALICK

Assistant Professor, Agricultural Education
& Studies
Iowa State University

Since joining the Iowa State University faculty in 2006, Associate Professor Michael S. Retallick has taught both face-to-face and online undergraduate and graduate courses associated with agricultural education



and experiential learning. His courses include orientation, science with practice, foundations of agricultural education, adult teaching methods, and early field experiences and student teaching practica.

Retallick advises approximately 50 undergraduate and 12 graduate students each semester and has served as faculty advisor of the Agricultural Communicators of Tomorrow club. He directs a college-wide program, Science with Practice, which is a semester-long experiential learning and academic program linking learning opportunities and on-campus work experiences.

Dr. Retallick researches experiential learning as it relates to formal education at both the secondary and higher education levels. His areas of study include early field experiences, internships, teaching and learning in the classroom and via distance education, Science with Practice, and learning communities. He has been awarded the North American Colleges and Teachers of Agriculture's Teaching Award of Merit and Teacher Fellow, ISU's Award for Early Achievement in Teaching, and his college's Outstanding Advisor and Early Achievement in Teaching Awards. He was also an inaugural member of the college's Louis M. Thompson Academic Advising Academy.

Retallick earned a B.S. from the University of Wisconsin-Platteville, an M.A.B. from Kansas State University, and a Ph.D. from Iowa State University.

UNIVERSITIES OF EXCELLENCE

As recognized by the Excellence in College and University Teaching Awards

Kansas State University (13)	Utah State University (3)
University of Florida (12)	Washington State University (3)
University of Illinois (11)	California State University, Fresno (2)
Texas A&M University (10)	Clemson University (2)
Cornell University (9)	Delaware State University (2)
Iowa State University (8)	Langston University (2)
The Ohio State University (7)	South Dakota State University (2)
University of Connecticut (7)	University of Vermont (2)
North Carolina State University (6)	Auburn University (1)
Purdue University (6)	California State Polytechnic University, Pomona (1)
The University of Georgia (6)	California State University, Chico (1)
New Mexico State University (5)	Florida State University (1)
Oklahoma State University (5)	Illinois State University (1)
University of Missouri–Columbia (5)	Michigan State University (1)
Colorado State University (4)	Montclair State University (1)
Rutgers, The State University of New York (4)	North Carolina Agricultural and Technical State University (1)
The Pennsylvania State University (4)	Sam Houston State University (1)
University of Arizona (4)	Southern University and A&M College (1)
University of Arkansas at Fayetteville (4)	Southwest Missouri State University (1)
University of Nebraska (4)	Tarleton State University (1)
University of Rhode Island (4)	Texas Tech University (1)
University of Wyoming (4)	University of Delaware (1)
Virginia Polytechnic Institute and State University (4)	University of Hawaii (1)
Louisiana State University (3)	University of Maryland, College Park (1)
Oregon State University (3)	University of Michigan (1)
University of California, Davis (3)	University of Nevada, Reno (1)
University of Idaho (3)	University of North Carolina, Greensboro (1)
University of Kentucky (3)	University of Wisconsin–River Falls (1)
University of Massachusetts (3)	West Virginia University (1)
University of Minnesota (3)	
University of Wisconsin–Madison (3)	

() denotes number of recipients

TEACHING AWARDS SELECTION PANEL

Janet Anderson

College of Agriculture
Utah State University

Laurie Kramer

College of Agriculture, Consumer, &
Environmental Sciences
University of Illinois at Urbana–Champaign

Linda Okiror

School of Agriculture, Fisheries &
Human Sciences
University of Arkansas, Pine Bluff

Mark Robson

School of Environmental and Biological Sciences
Rutgers, The State University of New Jersey

John Stier

College of Agricultural Sciences &
Natural Resources
University of Tennessee

Todd Winters

College of Agriculture
Southern Illinois University, Carbondale

ROLL OF RECIPIENTS

Excellence in College and University Teaching Awards (2002–2012 only)

NATIONAL

George Acquah
Langston University, 2007

Teresa C. Balsler
University of Wisconsin, 2009

Michael J. Boehm
The Ohio State University, 2010

Donna Marie Brown
University of Wyoming, 2004

Daniel L. Civco
University of Connecticut, 2007

John L. Crompton
Texas A&M University, 2012

Michael J. Ellerbrock
Virginia Polytechnic Institute
and State University, 2002

Ronald J. Hanson
University of Nebraska–Lincoln, 2003

Kerry K. Litzenberg
Texas A&M University, 2011

Prasanta K. Kalita
University of Illinois, 2005

M. Douglas Kenealy
Iowa State University, 2009

Lyle G. McNeal
Utah State University, 2003

Joshua J. Millspaugh
University of Missouri, 2008

Robert A. Milvae
University of Connecticut, 2011

Gail Romberger Nonnecke
Iowa State University, 2006

Michael A. Reiter
Delaware State University, 2005

Rick D. Rudd
University of Florida, 2006

Shelly J. Schmidt
University of Illinois, 2002

Candice Ann Shoemaker
Kansas State University, 2012

Ricky W. Telg
University of Florida, 2010

R. Elaine Turner
University of Florida, 2004

M. Susie Whittington
The Ohio State University, 2008

NORTH CENTRAL REGION

Jay T. Akridge
Purdue University, 2003

Michael Boland
Kansas State University, 2008

C. Lee Burras
Iowa State University, 2011

Ann D. Christy
The Ohio State University, 2005

Joseph F. Donnermeyer
The Ohio State University, 2010

Allen M. Featherstone
Kansas State University, 2011

Richard W. Hartel
University of Wisconsin–Madison, 2011

Tiffany Marie Heng-Moss
University of Nebraska–Lincoln, 2006

Keith M. Irvin
The Ohio State University, 2003

Sara J. Kadolph
Iowa State University, 2002

Darrel J. Kesler
University of Illinois, 2002

James B. Kliebenstein
Iowa State University, 2006

Laurie F. Kramer
University of Illinois, 2004

Donald Jiann-Tyng Liu
University of Minnesota, 2007

Excellence in College and University Teaching Awards, continued

Christian Y. Oseto
Purdue University, 2008

Richard C. Schultz
Iowa State University, 2008

Michael F. Smith
University of Missouri, 2010

Janice C. Swanson
Kansas State University, 2004

Daniel U. Thomson
Kansas State University, 2012

Michel A. Wattiaux
University of Wisconsin–Madison, 2009

Kimberly A. Williams
Kansas State University, 2009

NORTHEAST REGION

Louis DeMont Albright
Cornell University, 2005

Kenneth P. Blemings
West Virginia University, 2012

Ashim K. Datta
Cornell University, 2011

David M. Galton
Cornell University, 2003

Karl Guillard
University of Connecticut, 2002

Paul Heinz Heinemann
The Pennsylvania State University, 2004

Thomas P. Husband
University of Rhode Island, 2007

Barbara A. Knuth
Cornell University, 2002

Roger Arthur LeBrun
University of Rhode Island, 2006

David A. Levitsky
Cornell University, 2009

Rama B. Radhakrishna
The Pennsylvania State University, 2010

Karen M. Schaich
Rutgers, The State University of
New Jersey, 2003

Robert S. Tyzbir
University of Vermont, 2004

SOUTHERN REGION

George Acquaaah
Langston University, 2002

Antoine J. Alston
North Carolina A&T State University, 2010

Sarah Liberman Ash
North Carolina State University, 2007

David S. Buchanan
Oklahoma State University, 2006

Dale A. Coleman
Auburn University, 2011

W. Stephen Damron
Oklahoma State University, 2007

Kim E. Dooley
Texas A&M University, 2005

Jason Lee Emmert
University of Arkansas at Fayetteville, 2004

Molly Espey
Clemson University, 2012

William Lucas Flowers
North Carolina State University, 2005

Jeffory A. Hattey
Oklahoma State University, 2008

Donald Mack Johnson
University of Arkansas at Fayetteville, 2004

Michael E. Kane
University of Florida, 2009

Stanley F. Kelley
Sam Houston State University, 2012

James W. Knight
Virginia Polytechnic Institute and
State University, 2002

Grace Wasike Namwamba
Southern University and
A&M College, 2003

Douglas C. Needham
Oklahoma State University, 2006

Sue E. Nokes
University of Kentucky, 2003

Excellence in College and University Teaching Awards, continued

Lawrence R. ‘Dick’ Oliver
University of Arkansas, 2009

Carol Elliot O’Neil
Louisiana State University, 2005

Robert L. Shewfelt
The University of Georgia, 2008

George W. Wardlow
University of Arkansas at Fayetteville, 2008

Elizabeth B. Wilson
North Carolina State University, 2010

WESTERN REGION

Amin Ahmadzadeh
University of Idaho, 2007

Janet B. Anderson
Utah State University, 2006

Kenneth Arthur Barbarick
Colorado State University, 2004

Joseph J. Cech, Jr.
University of California, Davis, 2003

Stephen Devadoss
University of Idaho, 2010

William D. “Dan” Edge
Oregon State University, 2002

John F. “Jack” Elliot
University of Arizona, 2002

Thomas R. Famula
University of California, Davis, 2012

Wanda H. Howell
University of Arizona, 2003

James A. Knight
University of Arizona, 2007

Judith L. Li
Oregon State University, 2005

Dennis T. Ray
University of Arizona, 2009

Karen C. Williams
University of Wyoming, 2012

Richard Stanley Zack
Washington State University, 2004

NEW TEACHER

Miriam Ferzli
North Carolina State University, 2011

Jason Hans
University of Kentucky, 2009

Jennifer L. Hardesty
University of Illinois, 2008

Julie Fawn Harlin
Texas A&M University, 2005

Amy Leigh Kaleita
Iowa State University, 2007

Tracy Kitchel
University of Missouri, 2011

Neil A. Knobloch
University of Illinois at
Urbana-Champaign, 2007

Roel R. Lopez
Texas A&M University, 2006

Kyle W. McGregor
Tarleton State University, 2006

Brian E. Myers
University of Florida, 2008

Maria Navarro
The University of Georgia, 2012

Franklin Bailey Norwood
Oklahoma State University, 2005

Michael S. Retallick
Iowa State University, 2012

T. Grady Roberts
University of Florida, 2010

Lori Unruh Snyder
Purdue University, 2009

Amanda D. Weaver
South Dakota State University, 2010



NATIONAL AWARD
FOR EXCELLENCE
IN EXTENSION

2012



ELIZABETH L. ANDRESS

Professor and Extension Food Safety Specialist, Cooperative Extension, University of Georgia

Dr. Elizabeth L. Andress, an extension food safety specialist with the University of Georgia's College of Family and Consumer Sciences, is thoroughly committed to Cooperative Extension work and its educational role in our society and is recognized nationally and internationally as an expert in home food preservation. Her coupling of research-based evidence with educational programs and resources has served the Cooperative Extension System well in maintaining its long history as being the top source for science and methods in home food preservation.

Andress is co-author of the USDA *Complete Guide to Home Canning* and serves as project director for the National Center for Home Food Processing and Preservation. She is an editor of the last two editions of *So Easy to Preserve* from the University of Georgia, as well as co-producer of a video series of the same name.

Dr. Andress coordinates statewide extension delivery of the ServSafe® foodhandler manager certification and staff programs and supports diverse extension consumer food safety educational programs and 4-H project work. She has a classroom teaching assignment and mentors graduate students in food preservation and safety. She is often sought after by other states to provide in-service training for their extension educators.

Andress has obtained more than \$5 million in external funding to support her own extension programs and research. She has previously worked as a county extension educator and extension graduate assistant in Pennsylvania; a state specialist in Georgia and Florida; and the national program leader for food science with Extension Service, USDA, where she chaired the Food Safety and Quality Initiative.

Andress earned an A.B. from Albright College, an M.S. from Virginia Polytechnic Institute and State College, and a Ph.D. in Food Science from The Pennsylvania State University.



REGIONAL AWARDS
FOR EXCELLENCE
IN EXTENSION

2012

1890 REGION

KEVIN H. CRENSHAW

Extension Legal Family Educator
Alabama Cooperative Extension System
Alabama A&M University

Kevin Crenshaw joined the Alabama Cooperative Extension Services' (ACES) Urban Affairs and New Nontraditional Programs Unit at Alabama A&M University as a legal consultant in 2000.

A legal educator for ACES, Crenshaw coordinates LegalEASE, a legal education program. In 2002, he launched the Successful Aging Initiative (SAI), which represents a partnership between ACES and Alabama's Bureau of Geriatric Psychiatry and serves to educate and provide resources to Alabama citizens on current issues relevant to aging, dementia and associated health, financial, and legal education. The program targets limited resource older adults, their families, and caregivers in the state's underserved urban and rural communities.

Crenshaw utilizes a wellness curriculum and an ACES-numbered publication he developed, *Estate Planning Basics—A Guide to Life Organization*, to carry out the initiative objectives. SAI annually averages 9,000 face-to-face contacts and more than 215,297 non face-to-face contacts. In 2011, more than 2,400 Alabamians directly participated in a statewide conference; 62 program participants saved more than \$5,700 by scheduling an appointment with their local Area Agency on Aging to develop an estate plan; and more than 900 attendees participated in blood glucose, bone density, memory test, and other health screenings that averaged \$150-\$200 a screening, a \$135,000 total savings.

A native of Huntsville, Ala., Crenshaw earned a bachelor's degree from Morehouse College and a J.D. from Cumberland Law School. He is certified to practice law in the State of Alabama and Washington, D.C.



NORTH CENTRAL REGION

FRED WHITFORD

Pesticide Extension Specialist
Cooperative Extension Service
Purdue University

The coordinator and pesticide extension specialist for the Purdue Cooperative Extension Service, Dr. Fred Whitford transformed a regulatory-based pesticide program into a dynamic extension education program

that helps farmers and commercial applicators understand the wide variety of risks they face and how they can mitigate those risks to successfully manage their business. The Purdue Pesticide Programs changes the way people think about and use pesticides and encourages practices to improve safety, use pesticides more effectively, better protect the environment, and improve business management practices.

Whitford listens to his audience to ascertain what their problems are, identifies and recruits academic and industry specialists to address those problems, and develops highly effective instructional materials. His approach helps audiences to better understand the problems they face and adopt key management practices that allow them, their families, and their employees to use technology more safely and effectively.

His work with diverse collaborators, including campus and county-based extension professionals and industry professionals, enables him to distill knowledge from many science-based disciplines. Over the years, he has collaborated with more than 200 co-authors, published 80 extension publications, and given more than 4,000 extension presentations covering multidisciplinary topics that are in high demand, not only in Indiana, but around the nation.

Whitford earned a B.S. from Louisiana Tech, and an M.S. and Ph.D. in Entomology from Iowa State University.



SOUTHERN REGION

TOM A. VESTAL

Regent's Fellow, Professor, and Extension Specialist
Director, Homeland Security and Emergency Management
Texas A&M AgriLife Extension Service
The Texas A&M University System

Dr. Tom A. Vestal, a professor and extension specialist, also directs Homeland Security and Emergency Management for Texas A&M AgriLife Extension Service. Additionally, he serves on the graduate faculties at Texas A&M University and Texas Tech University.



In 2008, Vestal spent 42 days at the State Operations Center, coordinating “Operation No Fences.” Designed to save the 15,000 cattle and horses wandering a 40 by 80 mile stretch along the Texas Gulf Coast during the time when four hurricanes hit Texas, this program provided fresh water and feed within 72 hours to protect the animals from saline toxicity and certain death.

In 2011, he helped activate a Drought/Wildfire Joint Information Center, partnering with 11 state and federal agencies. Following the wildfires that caused more than \$217 million in agricultural losses, Vestal’s work established “livestock supply points” that allowed for critical feed resources to be distributed in the impacted areas.

Vestal manages extension programs for the National Center for Foreign Animal and Zoonotic Disease Defense sponsored by the Department of Homeland Security and is an active member of the Institute of Food Technologists. He was recognized in 2009 by the Texas A&M System Board of Regents as a “Regent’s Fellow.”

He has received more than \$3 million in grants, gifts, and contracts. His works include more than 20 peer-reviewed journal articles and 40 abstracts and proceedings, hundreds of extension educational publications, 230 articles in popular press, and appearances in more than 450 radio and television broadcasts.

Vestal received a B.S. from Tarleton State University; an M.Ed from Texas Tech; and a Ph.D. in Agricultural Education from Texas A&M University.

*A sense
of curiosity
is nature’s
original
school of
education.*

DR. SMILEY BLANTON

Education's
purpose is
to replace
an empty mind
with
an open one.

MALCOLM FORBES

WESTERN REGION

MARY E. BURROWS

Extension Plant Pathologist, Plant Sciences and
Plant Pathology
Montana State University

Dr. Mary Burrows,
Montana State
University's extension
plant pathologist,
supervises the Schutter
Diagnostic Laboratory
and is very active in
the National Plant
Diagnostic Network.
She is the author
of 24 refereed journal articles, 14 extension
publications, 35 fact sheets, 102 popular press
articles, and 153 AgAlerts.



Burrows has achieved notoriety in Montana for her AgAlerts. Clients appreciate the personal touch as well as the straightforward language, pictures, and research-based information that helps them make appropriate, critical management decisions.

She combines her research and extension activities to provide growers with research-based information on plant disease control, and she has obtained \$7.2 million dollars in grant support. During the 2011 stripe rust epidemic in Montana, her detection, early communication, and outreach efforts helped wheat growers realize a \$100 million economic benefit by using fungicides for disease control and not spraying resistant varieties.

Burrows is currently measuring the economic impact of the National Plant Diagnostic Network and has found the economic value of recommendations from diagnostic laboratories in seven states in 2011 was \$19 million, a 1:69 return on investment. Additionally, her visionary leadership of the Great Plains wheat virus survey has resulted in publications, invited speaking engagements in the United States and Canada, a degree day model to predict symptom onset in wheat, and has been leveraged for grants at multiple institutions.

Burrows received a B.A. from Minnesota State University, Morehead, Ph.D. from University of Wisconsin-Madison.



NATIONAL
EXTENSION
DIVERSITY
AWARD

2012



MICHAEL P. VOGEL

TEAM LEADER

Extension Tribal Housing and Environmental Health Program
Montana State University



The Montana State University Extension Tribal Housing and Environmental Health Program provides state and national leadership for numerous sustainable, broad-based, American Indian-focused programs in health, housing, and the environment. It has a nationally established, successful, and sustained track record of programming and assistance to Native American communities.



National efforts designed to engage native families and their communities include the National Tribal Pollution Prevention Working Group; the Native Asthma Intervention and Reduction (AIR) Program; and the National Tribal Healthy Homes Training Center. These programs represent numerous culturally appropriate programs created through the engagement with, input from, and support of the tribes and native groups and organizations and are offered to all 562 federally-recognized tribes.



The impacts of the programs reach diverse industries and audiences nationwide, on reservations, and in neighboring communities through online peer interactions, curriculum distribution, non-native programs expanded by the Environmental Protection Agency, the U.S. Department of Housing and Urban Development (and other organizations and agencies), and regional trainings. Since 1985, when MSU Extension established the Native American Housing Technical Assistance Institute, development and implementation of many American Indian-focused programs has resulted in successful outcomes. Positive behavior change is measured in follow-up surveys and testimony from participants in all programs.



Changes often impact whole households and communities, which provide support to sustain changes. The programs acknowledge sensitivity to customs, learning styles, values and partnerships, while working with national native leaders and organizations. Curriculum and materials are created with important solutions and models for American Indian issues, relying on long-established communication styles of peer-to-peer and mentor-to-peer interactions.



The MSU Extension team is led by Dr. Michael Vogel, professor and housing and environmental health specialist, and includes Myla Kelly, Barbara Allen, and Deborah Albin, program coordinators; Glenda Barnes, tribal healthy homes practitioner; and Mary Schaad, web/media specialist.

AWARD FOR EXCELLENCE IN EXTENSION

NATIONAL

Elizabeth L. Andress
The University of Georgia, 2012

G. A. 'Art' Barnaby, Jr.
Kansas State University, 2009

Barbara Chamberlin
New Mexico State University, 2011

Ronald J. Hustedde
University of Kentucky, 2007

Edwin G. Smith
University of Nevada Cooperative
Extension, 2006

Marilyn J. Smith
University of Nevada, 2008

Alison Van Eenennaam
University of California, Davis, 2010

1890 REGION

Fitzroy 'Roy' D. Bullock
Tennessee State University, 2009

Kevin Crenshaw
Alabama A&M University, 2012

David Heikes
University of Arkansas at Pine Bluff, 2010

Irene K. Lee
University of Arkansas at Pine Bluff, 2006

Thelma Sanders-Hunter
Tennessee State University, 2007

Claudette L. Smith
North Carolina Agricultural and
Technical State University, 2011

Nathan M. Stone
University of Arkansas at Pine Bluff, 2008

NORTH CENTRAL REGION

William J. Angell
University of Minnesota, 2009

Frederick P. Baxendale
University of Nebraska–Lincoln, 2007

John DeFrain
University of Nebraska–Lincoln, 2010

Richard K. Koelsch
University of Nebraska–Lincoln, 2006

Kathleen A. Lodl
University of Nebraska–Lincoln, 2011

Richard J. Rasby
University of Nebraska–Lincoln, 2008

Fred Whitford
Purdue University, 2012

NORTHEAST REGION

Chester Arnold
University of Connecticut, 2009

Jerome L. Frecon
Rutgers, The State University of
New Jersey, 2008

Elizabeth "Betsy" Greene
University of Vermont, 2011

Walter E. Kee, Jr.
University of Delaware, 2007

Barbara M. O'Neill
Rutgers, The State University of
New Jersey, 2006

Chad Ripberger
Rutgers, The State University of
New Jersey, 2010

SOUTHERN REGION

Clark D. Garland
University of Tennessee, 2010

Robert C. Hochmuth
University of Florida, 2006

Garry D. Lacefield
University of Kentucky, 2008

Mark L. McFarland
Texas A&M University, 2009

Nancy M. Porter
Clemson University, 2007

Tom A. Vestal
The Texas A&M University System, 2012

Lisa Whittlesey
Texas A&M University, 2011

Award for Excellence in Extension, continued

WESTERN REGION

Michael Bondi
Oregon State University, 2010

Mary E. Burrows
Montana State University, 2012

Susan Donaldson
University of Nevada, 2006

Daniel L. Fagerlie
Washington State University, 2009

Donald B. Meehan
Washington State University, 2008

Marcia R. Ostrom
Washington State University, 2007

Michael P. Vogel
Montana State University, 2011

NATIONAL EXTENSION DIVERSITY AWARD

Kathy Castania
Cornell University, 2003

Marilyn Corbin
The Pennsylvania State University, 2005

Curtis Gear
University of Wisconsin, 1996

Jeff G. Hart
University of Nebraska–Lincoln, 2007

Patreese Ingram
The Pennsylvania State University, 2000

Clint Jacks
Oregon State University, 1993

Hector Mendiola
Utah State University, 2009

Michigan State University, 1999

Juan Moreno
University of Minnesota, 2004

James Oliver, University of Illinois
Cooperative Extension Service
University of California
Cooperative Extension Service
University of Maine Cooperative Extension
Service Task Force on Diversity, 1991

Raygene Paige
Mississippi State University, 1997

Hiram Palmertree
Mississippi State University, 1995

People of the Land
University of Nevada, 2011

Francis Price
Utah State University, 1998

Rural Agricultural Improvement and
Public Relations Project
New Mexico State University Cooperative
Extension Service, 2008

Ann Schaubert
Oregon State University, 2006

Tuyet Seethaler, Utah State University
Los Angeles County Cooperative
Extension Service Staff Team
Michigan State University Cooperative
Extension Service, 1992

Texas Cooperative Extension, 2002

The University of California Small Farm
Program, 2010

University of Missouri–Lincoln University
Cooperative Extension Task Force, 1994

Michael P. Vogel
Extension Tribal Housing & Health Program
Montana State University, 2012

UNIVERSITIES OF EXCELLENCE

As recognized by the Award for Excellence in Extension

University of Nebraska–Lincoln (5)	New Mexico State University (1)
Rutgers, The State University of New York (3)	North Carolina A&T State University (1)
Texas A&M University (3)	Oregon State University (1)
University of Arkansas at Pine Bluff (3)	Purdue University (1)
University of Nevada, Reno (3)	University of California, Davis (1)
Washington State University (3)	University of Connecticut (1)
Montana State University (2)	University of Delaware (1)
Tennessee State University (2)	University of Florida (1)
University of Kentucky (2)	University of Georgia (1)
Alabama A&M University (1)	University of Minnesota (1)
Clemson University (1)	University of Tennessee (1)
Kansas State University (1)	University of Vermont (1)

UNIVERSITIES OF EXCELLENCE

As recognized by the National Extension Diversity Award

Utah State University (3)	New Mexico State University (1)
Michigan State University (2)	Texas A&M University (1)
Mississippi State University (2)	University of Illinois at Urbana–Champaign (1)
Oregon State University (2)	University of Maine (1)
Pennsylvania State University (2)	University of Minnesota (1)
University of California (2)	University of Missouri (1)
Cornell University (1)	University of Nebraska (1)
Lincoln University (1)	University of Nevada (1)
Montana State University (1)	University of Wisconsin (1)

() denotes number of recipients

*L*earning is
not attained by
chance, it must
be sought for
with ardor and
attended to
with diligence.

ABIGAIL ADAMS



NATIONAL
EXCELLENCE IN
MULTISTATE
RESEARCH AWARD

2012

NCERA-208

Response to Emerging Threat: Soybean Rust

Soybean rust, caused by the fungus *Phakopsora pachyrhizi*, was first discovered in the United States in November 2004. This finding caused great concern and alarm in the soybean industry due to the documented yield losses attributed to this disease in Africa, Argentina, and Paraguay, but especially because of yield losses of almost 80 percent seen in Brazil.

While other soybean diseases may be equally damaging in the absence of resistant cultivars, soybean rust is unique because commercially available resistant cultivars remain under development. Further, the durability of single gene resistance has been fleeting, with five years being the longest any genes have held up. The absence of host resistance left the industry vulnerable and completely dependent upon fungicides as the only means of disease control. While fungicide evaluations had been conducted in Africa and South America, and effective products were identified, none of these were registered for use in the United States or Canada, nor had specific management protocols been established for the different soybean growing regions. However, valiant efforts by a precursor project to NCERA-208 resulted in Section 18 approvals of selected fungicides, which were subsequently made available to the soybean industry beginning in 2005.

Following the initial detections, the disease spread throughout the Gulf South in 2005, and it increased in incidence and severity each year until 2009, by which time symptoms had been found as far north as Ontario, Canada. By 2009 the southern states, including Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, and Tennessee had detected the disease annually, and some states experienced severe disease in localized areas. Without the wide use of fungicides, potentially devastating epidemics could have resulted. Major soybean producing states, including Illinois, Iowa, and others in the Ohio Valley and the Midwest, had experienced limited occurrences of soybean rust.

Information dissemination and soybean rust prevention education have been the key foci of NCERA-208. Work by NCERA-208 members and USDA-APHIS-PPQ helped facilitate the creation and maintenance of the Integrated Pest Management Pest Information Platform for Extension and Education (ipmPIPE) website. The real-time information from weekly surveys delivered through ipmPIPE has provided producers with current disease risk assessments for soybean rust, greatly reducing the amount of fungicide used by growers when disease is not



threatening and ensuring the correct chemistries are used when the disease threat is real, thus saving the soybean millions of dollars by minimizing loss and uncertainty.

Regional trials of fungicides helped provide data for well documented and highly refined protocols for disease management and prevention of yield loss by the disease under different environmental conditions and disease pressure. The what, when, and how of fungicide use was made readily available to the industry in a full-color manual underwritten by the USDA and several land grant universities in 2005—*Using Foliar Fungicides to Manage Soybean Rust*, last updated in 2007-08. This document continues to be available from The Ohio State University both in print and on their website. In addition, screening for disease resistance by USDA-ARS plant pathologists has resulted in substantial progress toward the development of disease resistant cultivars.

Finally, NCERA-208 members have led in the development of an array of educational materials such as mounted, acrylic embedded leaves infected with *P. pachyrhizi*, before the introduction of the soybean rust; weekly teleconferences to provide decision support across the country; scouting videos; a fungicide tactics document that has been revised annually and widely adopted by participant states; and field ID cards.

PARTICIPATING INSTITUTIONS

Arkansas Cooperative Extension	Purdue University
Auburn University	South Dakota Cooperative Extension
Colorado State University	South Dakota State University
Cornell University	Tennessee Cooperative Extension
Delaware Cooperative Extension	Texas AgriLife Research
Iowa Cooperative Extension	United Soybean Board
Iowa Soybean Association	University of Arkansas
Iowa State University	University of Florida
Kansas State University	University of Illinois
Kentucky Cooperative Extension	University of Kentucky
Louisiana State University	University of Minnesota
Michigan State University	University of Missouri
Mississippi State University	University of Nebraska
North Carolina State University	University of Wisconsin
North Dakota State University	USDA/ARS
The Ohio State University	Virginia Polytechnic Institute and State University
Ontario Ministry of Agriculture, Food and Rural Affairs	West Virginia Department of Agriculture

EXCELLENCE IN MULTISTATE RESEARCH AWARD

Response to Emerging Threat: Soybean Rust (NCERA-208), 2012

Improving the Sustainability of Livestock and Poultry Production in the United States (S-1032), 2011

Biological Improvement of Chestnut through Technologies that Address Management of the Species, its Pathogens, and Pests (NE-1033), 2010

Porcine Reproductive and Regulatory Disease: Methods for Integrated Control, Prevention, and Elimination of PRRS in United States Swine Herds (NC-229), 2009



FOOD SYSTEMS
LEADERSHIP
INSTITUTE

2012

FOOD SYSTEMS LEADERSHIP INSTITUTE

The Food Systems Leadership Institute (FSLI) is dedicated to developing individual and institutional leadership for a twenty-first century food system. The program curriculum focuses on a series of core leadership competencies and three complementary threads: individual leadership; leading change within organizations; and understanding and influencing complex, diverse food systems. This curriculum lays the groundwork for leaders who will transition food systems research, education, and outreach to broader, more holistic approaches.

FSLI is a program of the Association of Public Land-grant Universities with support from the W.K. Kellogg Foundation. North Carolina State University is the primary host institution, responsible for program implementation and hosting FSLI scholars during one of their three onsite residential sessions. The Ohio State University and University of Vermont are also partners in the FSLI, providing their expertise in leadership and food systems to the FSLI curriculum and hosting onsite residential sessions for FSLI participants.

The FSLI is committed to developing additional partnerships with individuals and organizations dedicated to leadership development and food systems.

FOOD SYSTEMS LEADERSHIP INSTITUTE COHORT 6 FELLOWS

John Arthington
Center Director and Professor
Institute of Food and Agricultural Sciences
Range Cattle Research and Education Center
University of Florida

Jean A. Bertrand
Assistant Dean for Academic Affairs
College of Agricultural &
Environmental Sciences
The University of Georgia

Caula A. Beryl
Dean
College of Agricultural Sciences and
Natural Resources
University of Tennessee

Michael J. Boehm
Vice Provost for Academic Planning and
Professor of Plant Pathology
Office of Academic Affairs
The Ohio State University

Douglas F. Britton
Manager of the Agricultural Technology
Research Program
Georgia Tech Research Institute, Food
Processing Technology Division
Georgia Institute of Technology

William F. Brown
Dean for Research & Director
Tennessee Agricultural Experiment Station
University of Tennessee

Shirley Hyman-Parker
Associate Dean for Research
School of Agriculture & Environmental Sciences
North Carolina A&T State University

David S. Jackson
Associate Dean & Associate Director/Professor,
Agricultural Research Division/
Nebraska Agricultural Experiment Station
University of Nebraska–Lincoln

Food Systems Leadership Institute Cohort 5 Fellows, continued

Rodney W. Johnson
Professor of Animal Sciences and Director
Division of Nutritional Sciences
College of Agriculture, Consumer and
Environmental Sciences
University of Illinois, Urbana

Matthew J. Kuchan
Section Manager, Pediatric Nutrition
Strategic Research
Abbott Nutrition Research and Development
Abbott Nutrition

Stacy Livisay
Manager Taste Applications
Hill's Pet Nutrition

Dirk E. Maier
Professor & Head, Department of Grain Science
& Industry, College of Agriculture
Director, International Grains Program,
College of Agriculture
Kansas State University

It is only
the ignorant
who despise
education.

PUBLILIUS SYRUS

J. Ernest Minton
Associate Director, Research and
Technology Transfer
Kansas Agricultural Experiment Station
Kansas State University

Brian E. Myers
Associate Chair
Department of Agricultural Education
and Communication
University of Florida

S. Suzanne Nielsen
Department Head
Food Science
Purdue University

Oghenekome Onokpise
Professor and Associate Dean
College of Engineering Sciences, Technology
and Agriculture
Florida A&M University

Chandra Reddy
Dean, Director of Research/Administrator
of Extension
College of Agriculture, Human and
Natural Sciences
Tennessee State University

Cynthia M. Smith
Professor/Chair, Family and Consumer Sciences
College of Agricultural, Life and Natural Sciences
Alabama A&M University

Marshall Stewart, Jr.
Associate Director, NC Cooperative Extension
Service Head, and State Program Leader
Department of 4-H Youth Development and
Family and Consumer Sciences
College of Agriculture and Life Sciences
North Carolina State University

Jon M. Wraith
Dean, College of Life Sciences and Agriculture
Director, New Hampshire Agricultural
Experiment Station
University of New Hampshire