

College Celebrates Dedication Of New Research Facility With Agriculture And Life Sciences

Virginia Tech's College of Natural Resources and College of Agriculture and Life Sciences officially opened up their new research facility, September 22, with an open house and dedication ceremony that included remarks by Lt. Governor Bill Bolling and university administrators.



Dean Mike Kelly chats with Lt. Governor Bill Bolling before the Latham Dedication.

In honor of Elizabeth and William Latham, who gave the College of Agriculture and Life Sciences \$5 million to endow its research, the building has been named Latham Hall. "The new 84,000-square-foot, state-of-the-art research facility will play a very important role in the future of Virginia Tech and the expansion of agribusiness and natural resources in Virginia," said Lt. Governor Bolling.



President Charles Steger thanked benefactors Bill and Betty Latham during the dedication of Latham Hall. Stage guest L-R: former Rector of the Board of Visitors John Rocovich, CRN Dean Mike Kelly, Dean Sharon Quisenberry of the College of Agriculture and Life Sciences and her associate dean for research Craig Nessler, and Lt. Governor Bill Bolling.



The \$28.5 million facility, located between Cheatham and Smyth halls, was paid for with bond referendum money voted for by the citizens of Virginia in 2002.

"Latham Hall provides our researchers a home to foster multi-disciplinary collaboration and partnerships that will bridge many sectors of science and help to actively engage our faculty to find research-based solutions to today's problems," said Charles W. Steger, president of Virginia Tech.

The building houses researchers working in the areas of biodesign, bioprocessing, fisheries and wildlife, geography, forestry, water, infectious diseases, plant pathogen-environment interactions, and soils.

"The building will aid in recruitment and retention of world-class faculty and provide faculty and students the opportunity to expand their knowledge and research capabilities to a new level," noted Mike Kelly, dean of the College of Natural Resources, during the dedication ceremonies. "The facility will not only enhance research and education, but will transform the natural resource industry."

Bill Hopkins, the college's first ecotoxicologist, has on loan from the federal government a one-of-a-kind piece of equipment, a velocity raceway that determines sub-lethal effects of common pesticides on small vertebrates, such as salamanders, with data recorded directly into a computer. His research aids in understanding how a changing global environment affects the health of declining wildlife groups.



A complimentary feature of the building is the artwork throughout the halls. On loan from the Hiles and Ruth Horton Collection of The Virginia Tech Foundation, the 16 contemporary pieces by Virginia artists were chosen for their organic themes to tie in with the interdisciplinary research.



Amy Brunner walks visitors through her new lab in Latham Hall.

The new Latham Hall has been named after agriculture benefactors Bill and Betty Latham.

COLLEGE OF NATURAL RESOURCES
 Virginia Polytechnic Institute and State University

CNR Research in Latham

Paul Angermeler – ecology and conservation of stream fishes.

Mike Aust – forest soils and hydrology, ecology of forest wetlands.

Amy Brunner – molecular genetics of tree growth, development, physiology.

Jim Burger – forest soil productivity, land reclamation and restoration of surface mined lands.

Andy Dolloff – stream and fish ecology, watershed management.

Ulrika Egertsdotter – biotechnology in forestry practices, forest molecular biology, clonal propagation.

Tom Fox – forest soils and nutrition.

Bill Hopkins – wildlife physiological ecology and ecotoxicology.

Lisa Kennedy – climate history and future changes.

Brian Murphy – fisheries management and international conservation.

Stephen Schoenholz – contemporary forest management effects on water and soil quality.

John Seller – ecophysiology and carbon sequestration in forests.

Brunner Published In Prestigious Journal



The cover of the September 15 issue of *Science* featured a paper on the poplar genome sequence co-authored by associate professor of molecular genetics Amy Brunner.

"*Science*, the peer-reviewed academic journal of the American Association for the Advancement of Science, is regarded by many as the world's top scientific journal," said forestry department head Harold Burkhart.

Only a couple of scientists in Virginia Tech's history have ever made the cover feature. Brunner's research at the college includes poplar functional and comparative genomics to identify genes and regulatory networks important for tree growth and functional genomics of maturation and flowering in poplar trees.

FROM THE DEAN'S PERSPECTIVE

At the beginning of the fall semester I shared with the faculty and staff of the college my assessment of progress we have made as a college during the past year. I want to share some of that information with you as well. First and foremost, I am happy to note an increase in enrollment in our undergraduate programs. We were at 462 on the official count date, an increase of approximately 50 students over where we stood on that date last fall. This is a very important metric for the college, and it is great to see enrollment on the rise after declining for several years.

Our graduate enrollment also showed an increase with 145 and 65 M.S. and Ph. D. students respectively. During the past year we also came to closure on the re-accreditation process for our forestry and wood science degree programs, as well as completed a very successful Cooperative State Research, Education, and Extension Service comprehensive review of the entire college. The CSREES review team was quick to acknowledge the continuing strength of our undergraduate teaching program even in the face of a growing research portfolio. However, they did challenge us to redouble our efforts to create a more diverse student body and to continue our efforts to further diversify the gender and racial diversity of our faculty and staff.

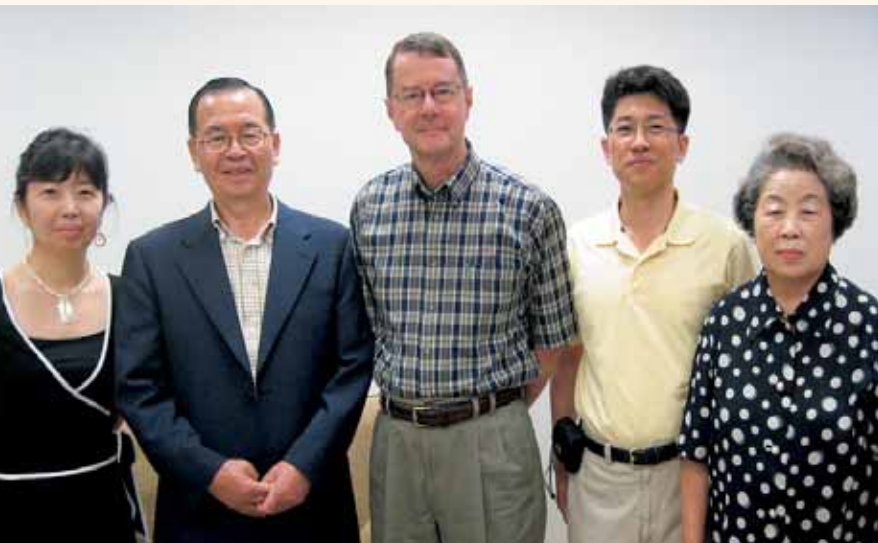
The increase in the number of graduate students is a reflection of an increase in the size of our research portfolio. New grants and contracts for Fiscal 2006 totaled approximately \$15.5 million, an increase of 23 percent over the previous year. In the last two years new awards have increased by a factor slightly larger than two. A comparison with other colleges in the university indicates that the college is second only to the engineering college in terms of research support per faculty FTE (Full Time Equivalent) or per square foot of research space. This is an exceptional accomplishment for a relatively small college that still prides itself on its teaching programs and personal interactions with students. We can take great pride in this accomplishment. The addition of new faculty positions during the past year will help us to sustain the growth of our research program, and the replacement of retiring faculty will help us continue the quality of our teaching efforts.

Our extension and outreach efforts continue to remain strong and reflect a high level of quality. In fact Jim Johnson was recognized nationally for his accomplishments in extension. We have also added a new program designed to train Master Naturalists, and we share support for this effort with several state and private partners. Jeff Kirwan has created quite a stir of activity around the Commonwealth with his sabbatical book project on historical trees of Virginia. We look forward to the publication of Jeff's book.

The past year was also a time of planning for both the college and university. At its summer meeting, the Board of Visitors accepted the updated University Strategic Plan. This brought to a close almost two years of effort to map out our plans for the next six years. The new plan has a much higher degree of focus than previous plans and will help guide new investments and the reprogramming of existing resources.

The college is well positioned to take advantage of the Scholarship areas identified in the university plan especially in the Discovery areas of energy, materials, and environment as well as human nutrition and disease vectors. We are equally prepared to contribute to and benefit from efforts in the Learning and Engagement Scholarship Domains. To be successful in the long term we must continue to meet or exceed university expectations with respect to the key metrics of enrollment, contracts and grants, scholarly output, and diversity. A table summarizing the University Strategic Plan update can be found at http://www.provost.vt.edu/strategic_plan/ or the complete plan can be viewed at http://www.president.vt.edu/strategic_plan/.

J. M. Kelly



Dean Mike Kelly with visiting professor Jungkee Choi of Korea and Choi's family when they visited him in the summer. L-R: his cousin, Yungsang; his uncle, Yongsun; Dean Kelly; Jungkee; his mother, Eunsook.

Dean Kelly with Gary Martel, chief of the fish division in the Virginia Department of Game and Inland Fisheries. Each year the college's Cooperative Research Unit in the fisheries and wildlife sciences department meets with its partners to review the year and go over plans for the next year.



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Dean Named To VFA Board

Dean Mike Kelly has been appointed as an ex-officio member of the Board of Directors of the Virginia Forestry Association (VFA).

As a director, Kelly will help guide the association in its mission to promote stewardship and wise use of forest resources for the economic and environmental benefits of all Virginians.

NEWS NEWS, SEND US YOUR NEWS Please let us know what is happening in your life so we can include the news in our next college newsmagazine. Send your information to Crystal Beach at cbeach@vt.edu; or 324 Cheatham Hall, Blacksburg VA 24061. Thanks. We would love to hear from you. Send it NOW while you are thinking of it!

Projects Coming To Catawba Farm



The Natural Resources Program Leadership Team (L-R: Brian Bond, Jay Sullivan, Matt Yancey, Jennifer Gagnon, and Jim Johnson) met at Catawba Farm to identify educational uses of the land for classroom, research, and demonstration activities. After a year of discussions with university officials, community leaders, the Western Virginia Land Trust, and local officials, the college hopes to use the 375 acres owned by Virginia Tech to demonstrate possible conservation practices for private landowners. The college will look to such partners as Virginia Department of Forestry, Department of Conservation and Recreation, Soil and Water Conservation Districts, and the Land Trust to do a range of projects: riparian restoration, wildlife habitat conservation, invasive species control, timber stand improvement, soil conservation, stream improvement, agroforestry, tree crops, non-timber forest products, and switchgrass growing for ethanol.

Hallerman New Department Head

Dean Mike Kelly has announced that Eric Hallerman is the new head of fisheries and wildlife sciences. Hallerman has been with the college for 17 years and has served on numerous departmental, college, and university committees. During his career he has published three books, 75 papers, and has received \$4.5 million in grant support.



Before becoming department head, Hallerman served as the fisheries section coordinator, interim department head, director of the Horseshoe Crab Research Center, associate department head, and on the University Academic Advisory Committee.

"This has been and remains a leading fisheries and wildlife program, though we face challenges" Hallerman said. Issues dealing with undergraduate and graduate instruction, international instruction, diversity, and replacing retiring faculty members are all concerns that Hallerman will be working on.

"My vision for the college is to continue training young professionals, sharing knowledge, and serving both science and society," Hallerman stressed.

"I see us as a collegial community of young and lifelong scholars, each making his/her own unique contribution towards achieving this shared vision," Hallerman elaborated. "I'll focus on continuing the success of the department and strive to make the program the best in its field."



Schoenholtz Appointed New Director Of Water Center

Stephen Schoenholtz has been named the new director of the Virginia Water Resources Research Center (VWRRC). He was previously a professor of forest hydrology and soils in the College of Forestry at Oregon State University. "We are fortunate to be able to attract such a well qualified person to the position," said dean of the college Mike Kelly.

New Water Center Director Stephen Schoenholtz.

Schoenholtz earned his Ph.D. in forest soil science at Virginia Tech, where he was advised by forestry professor Jim

Burger. He received his M.S. from Virginia Tech and B.S. degrees in biology and forest science from Pennsylvania State University.

Schoenholtz's research interests include forest management impacts on water and soil quality, the restoration of degraded ecosystems, and biogeochemistry. "Dr. Schoenholtz brings a wealth of experience to the position and will provide the leadership to build the partnerships needed to realize the full potential of the water center," said Dean Kelly.

Roggenbuck Retires From College, Not From Outdoor Recreation

Forestry professor Joe Roggenbuck recently retired from the college after 29 years with the university. The Virginia Tech Board of Visitors extended him the title of professor emeritus, which is conferred on retired professionals who have given exemplary service to the university and are recommended by university president Charles Steger.

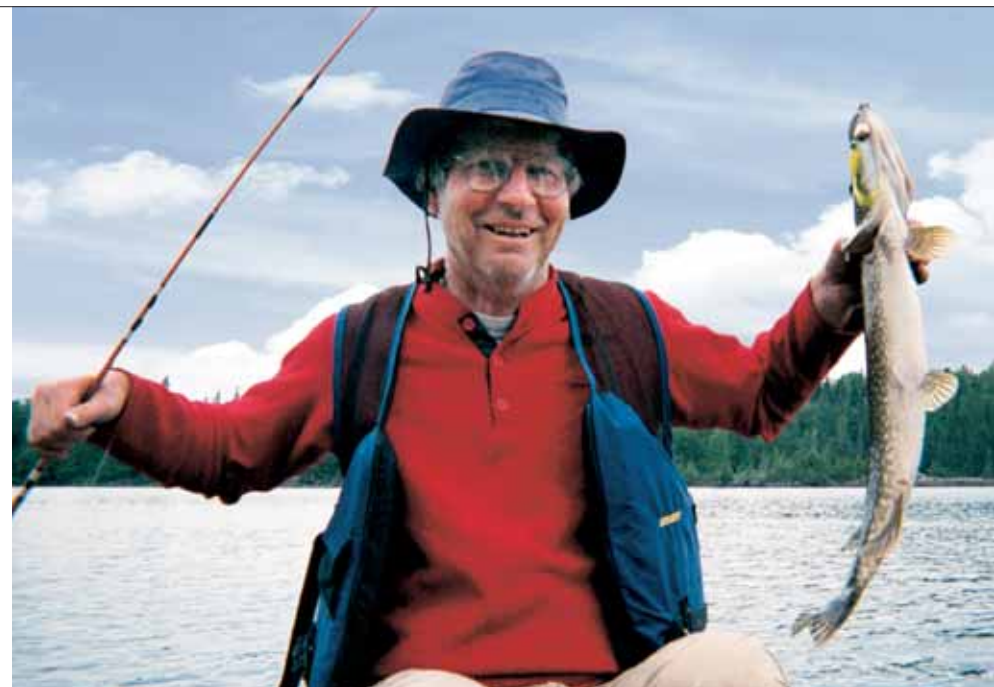
Since 1977, Roggenbuck has made important contributions to the research of the human dimensions of park and wilderness management, particularly the social and psychological benefits of visits to nature places. His research examined the use of education to increase human benefits and reduce environmental impacts. He has also made significant contributions to field experiment methodologies to further research and wrote 83 professional publications and four book chapters.

Over the past 15 years Roggenbuck taught a very popular Outdoor Recreation Field Studies course. This course took students on multi-week learning experiences to such wild places as Cumberland Island National Seashore and Okefenokee Swamp Wilderness in Georgia, Wichita Mountains National

Wildlife Refuge in Oklahoma, Bandelier National Monument and Wheeler Peak Wilderness in New Mexico, Arches National Park in Utah, and Great Sand Dunes National Park and Preserve in Colorado.

Department head Harold Burkhart noted, "For many students these field adventures where they viewed resource management problems and solutions firsthand, talked with park professionals, and camped, cooked, canoed, and hiked with their classmates were the highlight of their academic career."

Roggenbuck also shared his love for his most special place, the one-million-acre Boundary Waters Canoe Area Wilderness (BWCAW) in northern Minnesota, with his students, faculty, and staff. His leadership, humor, and stamina carrying canoes across portages and paddling lakes that flow on to open horizons will not end. He will now spend months, not weeks, in the Boundary Waters. "We wish him well, and trust that we can continue to join him," added Suzie Leslie, the college's academic adviser who has canoed with his Boundary Waters groups.



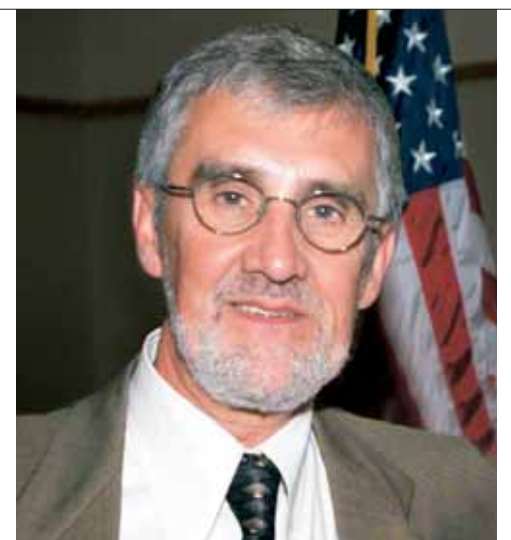
For professor emeritus of forestry Joe Roggenbuck, outdoor recreation has been much more than just a focus of his research.

Brown Chairs SAF's Educational Policy Review Committee

Greg Brown, dean emeritus of the College of Natural Resources, has been appointed to head the Educational Policy Review Committee for the Society of American Foresters (SAF).

SAF has been given the responsibility of developing standards of accreditation for urban forestry curricula without being constrained by the forestry accreditation standards. "To separate out the two is a real accomplishment that has the SAF Council's approval," said Brown.

Joining Brown on the committee is an extensive list of accomplished professionals. Among those is Alan Jones, a vice president for Bartlett Trees in Virginia, who helped get the urban forestry program started at Virginia Tech. "This should be a good group with which to work, and we are getting underway!" said Brown.



Grad Student Works With Trees



Jenny Otey gathers information on a tree at the Tinker Air Force Base in Oklahoma.

Graduate student Jenny Otey conducted research with the college's Conservation Management Institute (CMI) on urban tree inventory this summer at the Tinker Air Force Base in Oklahoma. For this research, an urban tree was defined as any tree that was "mowed around."

Her work consisted of pre-identifying, tagging, and gathering information, ranging from diameter breast height to overall condition, on about 5,200 trees.

Otey stated, "I enjoyed working with the people in the environmental department at Tinker, and learning new tree species that I was unfamiliar with. However, I would not have gotten very far without the help of my supervisor at CMI, Jessican Dorr, and my urban forestry professor, Eric Wiseman. Their help was invaluable."

The CMI will be compiling a report of the research about the status and trend of Tinker's urban forest following an inventory that will be completed this winter.

FACULTY BRIEFS

Neves And Orth Recognized For Landmark Conservation Efforts

Fisheries and wildlife professor Dick Neves and fisheries and wildlife professor and former department head Don Orth were recently co-awarded the U.S. Fish and Wildlife Service (FWS) Northeast Regional Director's conservation award.



Orth, Mayne, and Neves.

As department head Orth facilitated numerous faculty and student research efforts in the area of freshwater mussel recovery. Along with the establishment of a FWS restoration biologist position in the college, Orth added administrative staff to support the Virginia Cooperative Fish and Wildlife Research Unit, also known as the

Virginia Cooperative Unit. In 2004 Orth coordinated the acquisition of a campus site for the Freshwater Mollusk Conservation Center, which is run by Neves – project leader with the Virginia Cooperative Unit.

Neves, who has been working with the Virginia Cooperative Unit for the past 28 years, has conducted and coordinated numerous research projects related to the recovery of freshwater mussels across Virginia and the United States. "His pioneering efforts in the field of freshwater mussel propagation and his research into the life histories of many mussel species have inspired and guided many," noted Karen Mayne, supervisor of the FWS' Virginia Field Office.

Among his many projects and professional activities, Neves and associate fisheries and wildlife professor and Virginia Cooperative Unit assistant unit leader Paul Angermeier have been contributing mussel and fish survey data to the Virginia Department of Conservation and Recreation's Natural Heritage Program for conservation of the state's biological resources. This past summer NatureServe, a non-profit conservation organization providing scientific information and tools to help guide effective conservation, named Virginia's Natural Heritage Program the best of 75 similar programs worldwide.



Woeste Receives Partnership Award

At a Board of Supervisors' meeting, officials of Fairfax County, Va., announced their selection of Frank Woeste, professor emeritus of the university and adjunct professor of wood science and forest products, as the recipient of its Building Safety Community Partnership Award. The presentation noted Woeste's extensive research work on traditional construction practices for residential decks and balconies. Woeste has made significant and lasting contributions toward improving safety in the construction industry not only in Fairfax County, but also all over the country.

Frank Woeste

Wood Products On The Run

So students could have hands-on experience, Dan Cumbo took a wood class to the production floor at Coffman Stairs in Marion, Va.. Students gathered data related to thin lumber defects at various machine centers in the plant and received firsthand exposure to the value stream effects of thin lumber.

They presented their findings to the plant manager, and the company will use the summary report to justify the cost of obtaining lumber thickness scanning equipment that could save the company several hundred thousand dollars a year in rejected products and rework.

To further his research in lean manufacturing with the college's Sloan Forest Industries Center, Cumbo visited the PIT Training and Consulting in Mooresville, N.C., to view the professional race pit crew training. PIT's approach is based upon the concepts of lean manufacturing, six sigma, and continuous improvement.

The pit crew analogy is also applied to training life flight crews who respond to severe trauma cases. Cumbo attended with a group of production and maintenance personnel from Coffman Stairs and David Bailey of Pallet One in Hickory, N.C.. Bailey is both an undergraduate and graduate alum of the wood science and forest products department.

Cumbo recently left Virginia Tech to work with Coffman Stairs, but will continue to work on some projects with the wood science department.

A student working on the production floor at Coffman Stairs.

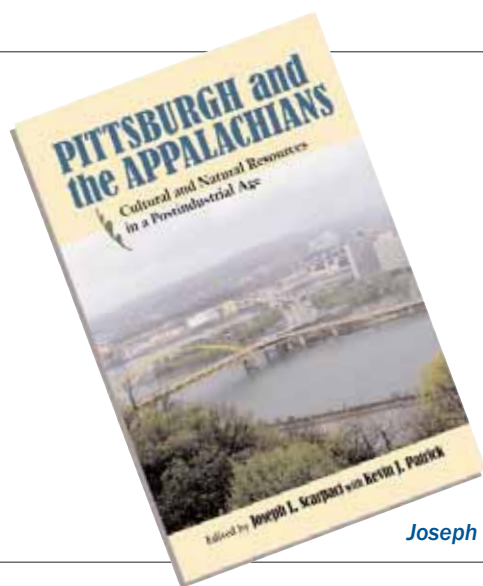


Christen Skaar

IN MEMORIAM

Eighty-six-year old Christen Skaar, professor emeritus of the college, died August 1, 2006, at Montgomery Regional Hospital near Blacksburg. After teaching at Syracuse University for 30 years, Skaar came to Virginia Tech in 1976 and retired in 1989.

Wood science and forest products department head Paul Winistorfer noted, "He was a giant in wood physics and world renowned in our discipline. He graduated over 30 Ph.D. students during his career, was elected Fellow in the International Academy of Wood Sciences, held the Thomas M. Brooks professorship for over a dozen years, and brought much acclaim to our program."



Joseph Scarpaci's book.

Scarpaci's Second Book Published

Professor of geography Joseph L. Scarpaci has co-edited a book titled *Pittsburgh and the Appalachians: Cultural and Natural Resources in a Postindustrial Age*, which presents a collection of 18 essays about Pittsburgh and its surrounding region. The essays focus on the new global economy from the perspectives of technology, natural resources, workforce, and geography.

Once a titan of the industrial age, Pittsburgh flourished from the benefits of its waterways, central location, and natural resources. Today, Pittsburgh has made the transition to a service-based economy and has made steps to transform its industrial processes through redevelopment, green space acquisition, air and water quality improvement, cultural revival, and public-private partnerships.

Scarpaci is also the author of *Barrios and Plazas: Heritage Tourism and Globalization in the Spanish American Centro Histórico* and this past spring received the AI Sturm Award for Excellence in Faculty Research.

Bear Expert Vaughan Saves Orphan Bear

Wildlife professor Mike Vaughan, world-renowned for his black bear studies, worked with his bear center's partner, the Virginia Department of Game and Inland Fisheries, to give Maymont Park in Richmond, Va. a 15-month-old male bear for its wildlife viewing area.

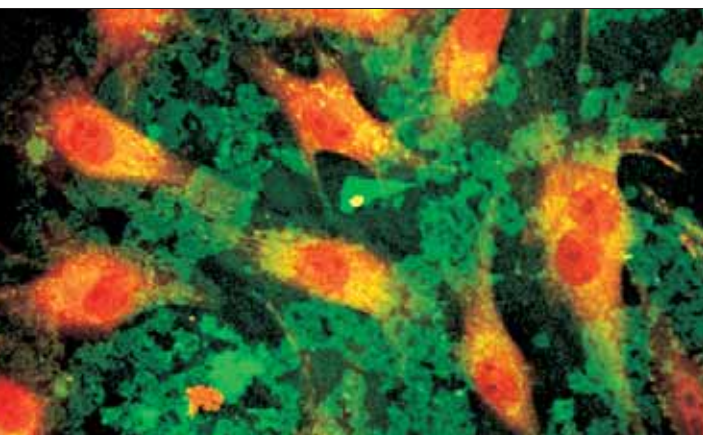


The orphaned bear Vaughn saved.

The bear came to the university bear center after becoming separated from its mother and wandering onto a median on I-581 near Roanoke. "A bear that age should have weighed close to 40 pounds, but the orphan bear came to the center weighing only 18 pounds with little chance of surviving on its own in the wild," said Vaughan. After spending many months at the center, the bear weighed 60 pounds and was given to Maymont Park after the park's earlier loss of two adult bears. <http://www.maymont.org/bears/newbear.asp>

Addition To Summer Newsmagazine

In the last issue of the newsmagazine, the caption for the top right image on page 1 was incomplete. The caption should have read:



Porcine aortic endothelial cells (red) and fluorescently labeled cellulose nanocrystals (green). This study is a collaboration between Virginia Tech (Drs. Maren Roman and Ulrika Egertsdotter) and Georgia Institute of Technology (Dr. Cyrus Aidun). Photo © 2006 Georgia Institute of Technology

Parkhurst Assists With State Wildlife Programs

The U.S. Department of Agriculture Animal Plant and Health Inspection Service and Wildlife Services recently released approximately 300,000 Oral Rabies Vaccination (ORV) baits from low-flying aircrafts and by car in Buchanan, Dickenson, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise counties in southwestern Virginia.

Jim Parkhurst, state wildlife extension specialist and fisheries and wildlife science associate professor, who assisted with the bait drop said, "The ORV program in Virginia is part of a larger project that spans 14 other states." He also noted, "Raccoon rabies is the most prominent strain of rabies in Virginia."

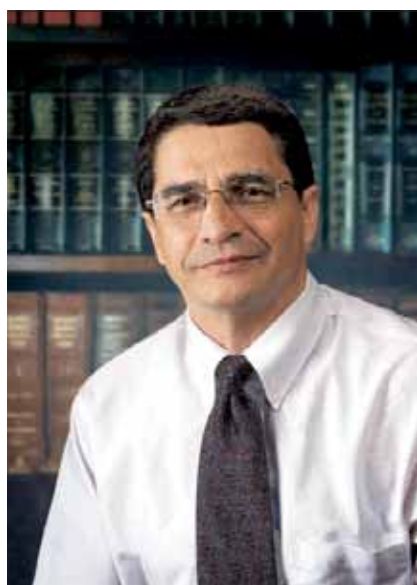
Once the raccoons consume the ORV baits, they will be vaccinated against rabies. The ORV program is designed to vaccinate raccoons living in the transition zone between areas known to have raccoon rabies and areas that currently do not.

In addition, Parkhurst was one of the reviewers of the proposed 2006 to 2015 Virginia Deer Management Plan prepared by the Virginia Department of Game and Inland Fisheries (VDGIF).

Virginia first adopted a deer management plan in 1999 in an effort to balance ecological considerations with public concerns, such as highway safety and the impact of deer on farm crops. The plan specifies general guidelines for effective management of deer populations, habitat, and deer-related recreational activities such as hunting.



Jim Parkhurst



Tamim Younos

Younos Appointed To Water Council

Tamim Younos, associate director of the Virginia Water Resource Center based at the college, was nominated by the Board of Directors of the National Institute for Water Resources to represent academia on the National Water Quality Monitoring Council.

Council's Younos has been involved with developing the inventory of water quality monitoring programs across the U.S., and is also working with the council's Water Information Strategies Workgroup (WIS). WIS's goal is to define and promote goal-oriented monitoring by proposing strategies for program development and network design, data management, transfer, and access, as well as data analysis, interpretation, and reporting in support of evolving information needs of water quality management.

Younos recently received the Water Drop Award presented by the Southeast Rural Community Assistance Project for his research and technical assistance projects that focus on the development of sustainable small drinking water systems across Virginia. He and the water center have been involved with various projects to improve drinking water supplies for remote and isolated communities of coalfield counties in southwestern Virginia.

"Drinking water availability or lack of it and drinking water contamination are major problems in rural and small communities of Virginia and across the United States," emphasized Younos.

The Water Drop Award recognizes individuals, groups, or agencies who make professional contributions toward securing safe drinking water for rural communities.



Where In The World Is CNR?

Our college gnome, Charles Nedley Richards (nick named CNR), traveled with the geography department's World Landscapes course over the summer and posed in front of various historical sites in Atlantic Canada.

Use clues in the photograph and the hint to decide where CNR is! Email guesses to Bill Carstensen (carstens@vt.edu), the head of the geography department, by December 15, 2006. Be sure to include place name and a specific latitude/longitude (degrees, minutes, and seconds). Closest guess wins!

Hint: CNR is posing in front of the main garrison at a fortress that was fought over twice in the 18th century.

Wood Science Faculty Analyzes Life Cycle Of Building Materials

Department head Paul Winistorfer along with professor Earl Kline, both of the college's wood science and forest products department, teamed up with wood experts throughout the country to analyze the life cycle of wood products used as building materials.



Lippke (left) and Winistorfer

The project was coordinated by the Consortium for Research on Renewable Industrial Materials (CORRIM), which was originally formed to update and expand a 1976 National Academy of Science's report on the effects of energy consumption from the use of renewable building materials. Today CORRIM is represented by a number of faculty and scientists from universities and research institutes throughout the U.S. and Canada. CORRIM's recent study has systematically identified factors affecting energy and material use in a wood product's life cycle – from the tree growth stage to wood products manufacturing. "The project's goal has been to identify an environmental footprint of different building materials, essentially developing a scientific analysis of the broad, holistic, cradle-to-grave environmental impact of a building material," noted Winistorfer. Although the full study involves a comprehensive look at comparisons within different means of building systems, Winistorfer and Kline's contribution deals with the overall and environmental benefits of wood.

The project's findings were published in a December 2005 special issue of the Journal of the Society of Wood Science and Technology titled, "CORRIM Reports on Environmental Performance of Wood Building Materials." The college also hosted a forum in April led by CORRIM president Bruce Lippke, professor in the College of Forest Resources at the University of Washington.

Amacher Evaluates Policies In Forest Bioenergy Research

In response to the diminishing supply of energy resources and the skyrocketing price of energy in the United States, associate professor of forest economics Greg Amacher has partnered with an accomplished team of researchers in search of ways to promote the potential of forest biomass as a viable energy resource. Biomass, or "wood bioenergy" as Amacher calls it, currently is not a major consideration of landowners in terms of profitable ways of managing forest land.

Amacher's research is part of a project funded by the U.S. Department of Agriculture (USDA). "The federal government and the USDA are very interested in finding alternative energy sources," noted Amacher.

The project consists of researchers studying an array of aspects related to bioenergy resources. Wayne Smith, interim dean of the College of Agricultural and Life Sciences at the University of Florida, is conducting biochemical research on the extraction of energy from wood. Sayeed Memood, assistant professor of forest economics and policy at the University of Arkansas at Monticello, leads an effort to gather forest landowner surveys to determine how land could be used for forest fuel production.

Amacher's role in the biomass research is to determine how economic and forest management policies can promote a viable bioenergy market while maintaining sustainable forests. As Amacher pointed out, "landowners must have incentives to consider using their land and its resources as a source of energy."

Project leader Janaki Alavalapati, a resource economics and policy associate professor at the University of Florida,

rounds out the team by studying the overall economy-wide effects of the team's recommended policies.

Over 650 biomass proposals were submitted to the USDA, of which only 11 were selected. "When the success rate is under two percent nationally and Virginia Tech is part of a selected project, that's impressive," remarked forestry department head Harold Burkhart. This project is the only one selected that deals with forests.

Leaf Awarded Competitive Sea Grant Fellowship

Doctoral student Robert Leaf has recently been chosen as one of only two students in the U.S. to receive a grant in marine population dynamics from the National Marine Fisheries Service (NMFS)-Sea Grant Fellowship Program under the National Oceanic and Atmospheric Administration.



Robert Leaf

Leaf's research deals with the effects of fishing on genetic diversity and alterations in life history characteristics. Leaf is studying how the fishing practice of selecting the largest members of the population might impact the population dynamics and fishery management of stocks.

Each year the NMFS-Sea Grant Fellowship Program awards select Ph.D. students with grants to pursue research in the field of marine population dynamics. This year had the largest pool of applicants ever. "The award is a great accomplishment for Robert," said Don Orth, who is stepping down as head of fisheries and wildlife department to concentrate on his research.

EXTENSION AND OUTREACH

4-H Forestry Judging Team Finishes Second In U.S.

A team of four Virginia high-school youths placed second in the 27th Annual National 4-H Forestry Invitational held at West Virginia University's Jackson's Mill State 4-H Camp and Conference Center. Forestry professor and extension specialist Jeff Kirwan along with associate professor of forestry Phil Radtke helped coach the 4-H team, along with alumni Susan Wilder and Christine Hodges.

The students competed for overall team and individual awards in several categories including a forestry written exam, tree identification, tree measurement, compass orienteering, insect and disease identification, topographic map use, a forestry bowl, and forest evaluation. "Our team did extremely well, particularly in forest measurements," noted Kirwan, "thanks to Phil Radtke's help."



The Virginia 4-H team (L to R): Coaches Susan Wilder (Dickenson County) and Christine Hodges (Bath County), team members Hannah Shaw (Nelson County), Blake Hill (Dickenson County), Meghan Mullins (Dickenson County), and Bobby Wright (Bath County).

Water Wizard Van Program Creator Receives College's Flagship Award

Since 1999, Barry Fox has provided some pizzazz to Virginia's natural resource education efforts, and this past May he was honored for his Water Wizard Van Program.

The college, in cooperation with the Virginia Cooperative Extension, awarded to Fox the 2006 Natural Resources and Environmental Management (NREM) Flagship Award. Fox is an extension specialist in environmental education at Virginia State University.

The Water Wizard Van Program is an interactive learning experience housed in a stand-alone vehicle that serves as a rolling educational tool. The van has appeared at numerous public events and gatherings in the Commonwealth in its six-year existence and educates thousands of children each year about water resources with hands-on activities and multi-media presentations. <http://www.ext.vt.edu/resources/4h/wizard>

Extension Faculty Garner Honors

Adam Downing, Dan Goerlich, and Regina Prunty, extension faculty for the college, were

recently selected as the national finalists for the 2006 Bayer Advanced – National Association of County Agriculture Agents (NACAA) Communication Awards Program for their submissions in the categories of radio, feature story, and published photo and caption. As national finalists, they were honored at an awards luncheon and received \$250 at the NACAA meeting in Cincinnati, Ohio.

In addition, the Virginia Division of the Society of American Foresters also selected Downing for its Young Forester Leadership Award.

Doyle Achieves Ecobroker Certification

College alumnus and former outstanding senior award recipient, Aaron Doyle of Blacksburg, Va., has become one of three realtors in Virginia and one of about 80 people in the nation to achieve the ecobroker certification. She completed a program that focuses on energy and environment-related issues that affect real estate transactions. "My clients are able to explore opportunities to save money by improving energy efficiency, understanding the impact of their real estate decisions on their personal health, and having a positive impact on the environment," Doyle explained.



Aaron Doyle

She graduated from Virginia Tech in 1998 with a B.S. in forestry and wildlife and went on to earn a master's degree in 2001 in hospitality and tourism management. Deviating from her original career plans to manage her family's 300-acre Augusta County, Va., resort, she decided to make a name for herself in real estate. Doyle affirmed, "I chose to pursue the ecobroker training because I see it as a tremendous opportunity to align my business strategies with my personal health and environmental ethics."

Her passion for environmental issues is reflected by her membership in organizations such as the Association of Energy and Environmental Real Estate Professionals, the New River Land Trust, and Habitat for Humanity of the New River Valley.



Alumni Open New Plant

Timber Truss Housing Systems, Inc., continues to recruit many of the college's wood products and forest products students and recently hosted a grand opening of their new plant in Orange, Va. Alumni Mitch Ferguson, Ryan Lovett, Adam Bliss, Josh Evans, and Garrett Norman will all be working at this new facility.

Jenkins Awarded For Outstanding Leadership

Dylan Jenkins, '96 M.S. in forestry, was awarded the Young Forester Leadership Award by the Society of American Foresters (SAF). This prestigious award recognizes those younger than 40 years of age for their exceptional leadership in the development and promotion of an individual program or project, or for a sustained leadership role benefiting the practice of forestry and SAF.

When he directed the Virginia Forest Landowner Education Program at Virginia Tech, he provided educational opportunities for Virginia's 400,000 non-industrial private forest landowners. Jenkins helped develop the Virginia Forest Landowner Short Course Series, which is designed to allow forest landowners to meet their management objectives within the context of sustainable forest management practices. Jenkins also established the Forest Landowner Education Committees, the Virginia Forest Landowner Update, and the Sustainable Forestry Database.

Jenkins is now the director of the mid-Atlantic Division Forest Conservation Program for The Nature Conservancy, where he brought together conflicting stakeholders in Pennsylvania to address forest management issues surrounding white-tailed deer.

He also works on an old-growth initiative, serves on SAF's Committee on Forest Policy, and serves on SAF's Certification Review Board.

Wildbird Bingo First Time Hit

What is Wildbird Bingo? It is a fundraising event for Virginia Tech's College of Natural Resources (CNR) Alumni Board to generate student scholarships. Members of the Alumni Board sold the tickets and judging took place a half hour after the football game with Cincinnati on September 23, in an area behind Cheatham Hall.

Four hundred (400) tickets were sold for \$5 per ticket. Each ticket represented a randomly distributed grid number on a 400-entry grid of size 20 by 20 foot. An impartial judging panel of a CNR faculty member, a staff member, a graduate student and an undergraduate student was selected. Prior to the judging, bird seed was distributed on the grid. The winning grid is the one on which a landing first occurs. The winner did not have to be present to win, and onlookers were encouraged to observe the judging.

While rain plagued the judging area early in the day, the sun broke through for a beautiful day, Virginia Tech beat Cincinnati, and Wildbird Bingo began. About sixteen minutes into the judging phase, a landing occurred on grid number 317. The judges conferred and called 317 as the winning grid number.

Lisa Schabenberger, a CNR Alumni Board member, was the holder of grid number 317. She generously plans to donate the prize money back to the Alumni Board Scholarship Fund. Another board member, Travis Hardy, raised an additional \$200 toward the scholarship fund.

The CNR Alumni Board will meet in November 2006 to determine the amount and number of scholarships that will be awarded to students during the 2007/2008 school years as a result of Wildbird Bingo. Any alumni and friends wishing to donate to this scholarship fund should make the donation payable to the College of Natural Resources Alumni Board with Scholarship Fund in the FOR/MEMO area.

Donations should be sent to:

CNR Alumni Board Scholarship Fund
c/o Patricia Bartos Foutz, Director of Alumni Relations
Virginia Tech
College of Natural Resources (0324)
315B Cheatham Hall
Blacksburg, VA 24061

INTERNATIONAL CROSSINGS

Caribbean Center

The college continues to expand course offerings at the university's new research, education, and outreach center in the Caribbean in partnership with Punta Cana Ecological Foundation and the Punta Cana Resort and Club. The Caribbean Center for Education and Research in Punta Cana, on the eastern tip of the Dominican Republic, will allow university faculty to



The Biodiversity Center in Punta Cana.

conduct research and instruct students on issues pertaining to the college including biodiversity, environmental sustainability, and global issues in natural resources.

Recent course offerings at Punta Cana have included Geography of Middle America, Physical Geography, Tropical Ornithology, and Global Issues in Natural Resources.

College Outreach Award Goes To Fox

The university's vice provost of outreach and international affairs has given Tom Fox the college's 2006 Outreach Award. Fox is an associate professor of forestry as well as co-director of the Forest Nutrition Cooperative (FNC), a research and technology transfer program supported by the forest industry, landowners, and land management officials in the U.S. and South America. The FNC focuses on increasing the growth rates, financial returns, and the environmental sustainability of forest plantations across two continents.

"Tom's outreach work with the cooperative is admirable both in its scope and impact," commented associate dean Jim Johnson. "The cooperative is clearly making a difference in improving the management of plantation forests across the southern U.S. and South America."



Forestry associate professor Tom Fox works with foresters from International Paper Company at a Forest Nutrition Cooperative research study site.

Governor Kaine Announces First Company In U.S. To Produce Marine Fish At Inland Freshwater Facility



Tank of cobia: Steven Craig, head of the VTAC Fish Nutrition Unit explained, "Responding quickly to needs has garnered us an international reputation for cobia research and culminated in various businesses actively seeking our expertise. We are excited about the potential of Saltville as a source of raw materials for MariCal products."

"These research findings are revolutionary due to their potential impact on aquaculture and the future of organic aquaculture production," Craig added.



Ewen McLean, director of the Virginia Tech Aquaculture Center (VTAC) with fellow researcher Steven Craig, noted that "our recognition that cobia represented a species that might radically change the face of U.S. aquaculture in late 2001, led to a major decision to commit all our energies and resources into researching this species. We have worked ceaselessly, marrying expertise of the Blacksburg facility and Hampton Virginia Seafood Agriculture Research and Extension Center to increase larval survival and enhance the performance of juvenile fish."

Governor Timothy M. Kaine announced late October that Virginia Cobia Farms LLC, a joint venture between MariCal Inc., a privately-held aquatic life science biotechnology company, and Blue Ridge Aquaculture, Inc., will invest \$30.33 million to develop a new technology and method of farming cobia fish in Saltville, Va. The project will create 60 new jobs.

Saltville's unique inland location and mineral wealth together with MariCal's proprietary technology and Blue Ridge Aquaculture's wealth of commercial experience in recirculating aquaculture production to grow high-quality marine fish for inland markets throughout the United States."

This endeavor would not have been possible without the research work of Ewen McLean, fisheries professor at the College of Natural Resources and director of the Virginia Tech Aquaculture Center, and his colleague, Steven Craig, associate professor in the Virginia-Maryland School of Veterinary Medicine.

"Our technology at Virginia Cobia Farms is going to revolutionize the way the aquaculture industry produces fish," William Martin, president of Blue Ridge Aquaculture said, "With Virginia Tech's help we are solving the seafood industry's food safety problems with a clean, secure, traceable U.S. protein food supply that has absolutely zero environmental impact. The global aquaculture industry has recognized the potential of cobia, but until now production has been mainly limited to warm water marine production outside of the United States. With our indoor fish farming technology, Virginia Cobia Farms will make cobia the new 'Chicken of the Sea'. It is our objective to make Virginia the number one seafood producer in the United States."

Blue Ridge Aquaculture is the largest indoor tilapia farm in the United States, and MariCal will supply the technology for this innovative method of fish farming, which uses a combined water treatment and specialty feed process in the commercial rearing of cobia, a marine fish, in inland areas of the U.S.

"Virginia is the first state in the United States to introduce this high-tech method of fish farming," said Governor Kaine. "We are pleased that MariCal and Blue Ridge Aquaculture have selected Saltville as the site of this cutting-edge aquaculture technology."

Virginia Tech's aquaculture center is providing the research to make all this happen. McLean said, "The marriage between Blue Ridge Aquaculture and MariCal is an excellent example of how we have transformed our scientific innovations and understanding of the aquaculture business into viable job creation within the Commonwealth. We were delighted to be able to work as the conduit that brought the two companies together." However, he cautioned, "Inevitably all pioneering businesses experience teething problems and Virginia Cobia Farms will likely be no different. They can rest assured that our college faculty and larval specialist Michael Schwartz in Hampton will continue to provide pioneering assistance."

Blue Ridge Aquaculture, Inc., headquartered in Martinsville, has been in operation since 1995 and has always worked closely with Virginia Tech's aquaculture center. The company raises nearly four million pounds of tilapia each year at its 80,000-square-foot facility.



Juvenile cobia (approximately 70 g) at the Virginia Tech Aquaculture Center.

"MariCal was attracted to Virginia Tech's leadership in cobia research and seafood processing technology," said MariCal co-founder and CEO William Harris. "By locating Virginia Cobia Farms in Saltville, we intend to combine

Over the years, feed has been one of the weak links in aquacultured fish. Research by Craig and McLean on fish-meal and fish oil replacement in aquafeeds for high-level marine carnivores and marine shrimp shows that yeast could yield a positive alternative for protein sources in aquafeeds.

Results indicate that by replacing expensive fish meal with more cost-effective and sustainable plant protein and lipid sources, the cost of aquafeeds to commercial producers, which currently represents 50 percent of variable costs in aquaculture facilities, can be drastically reduced.

Upcoming Alumni And Friends Receptions And Special Events


January 25, 2007, 5 - 6:30 p.m.
Appalachian Society of American Foresters Conference
Pinehurst Resort, Pinehurst Village, NC
Room Location TBA

February 8 - 11, 2007
Reception Date & Time: TBA, Location TBA
AFS Southern Division Conference
Memphis, TN

March 20 - 24, 2007
Conference, Reception Date & Time: TBA, Location TBA
North American Wildlife & Natural Resources
Portland, OR

March 28, 2007, Time 6:30PM
Location: German Club
CNR Student Awards Banquet,
Blacksburg, VA

March/April, 2007
23rd Annual Mudbass Tournament at the Duck Pond
American Fisheries Society Student Chapter
Blacksburg, VA

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