

Spring 2012



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Newsletter Designer ▪
Coordinator:
Tracey Sherman

Newsletter Editing:
Kathryn Hollandsworth

Please send information
for future issues to
Tracey@vt.edu

Department of Forest Resources and Environmental Conservation

313 Cheatham Hall, Blacksburg, VA 24061

540/231-5483 • Fax 540/231-3698 • <http://www.frec.vt.edu/>

Environmental Informatics - First-of-its-Kind Undergraduate Major

In the increasingly complex field of forest and natural resource management, we rely on a wide array of quantitative tools and techniques, including geographic information systems, mathematical and statistical modeling, remote sensing, database management, knowledge integration, and decision science. The emerging field of environmental informatics works at the nexus of these analytical disciplines and the multifaceted challenges of environmental and natural resource management.

We have a long-held preeminent position in these fields, with faculty leaders in the fields of biometrics, remote sensing, GIS, forest economics, and harvesting logistics, among others. As the demand for graduates with strong quantitative backgrounds in these fields continues to grow, FREC is developing a first-of-its-kind undergraduate program in environmental informatics.

The environmental informatics major will attract students with quantitative interests and aptitudes, and will combine a foundation in natural resources and environmental management with analytical courses from FREC, Business Information Technology, Statistics, and other departments. Proposed new courses to support the major will include freshman-level “Digital Planet” and “Introduction to Environmental Informatics” and a senior-level capstone course. The courses and the major are making their way through university governance procedures. When successful, the first students in this program may be enrolled by 2013.

FREC Futures Intern Will Promote Undergraduate Programs



Kyle Dingus

In order to promote undergraduate programs across the Commonwealth of Virginia and beyond, the department hired Mr. Kyle Dingus (one of our 2012 Forestry graduates) as a FREC Futures Intern. Starting August 2012, he will visit high schools and community colleges, establish contacts and relationships with guidance counselors, attend forestry and natural resources events, and reach out to alumni and stakeholders to recruit potential students.

Welcome to the spring 2012 issue of “Forestry” from Virginia Tech! I am pleased to inform you that the Department of Forest Resources and Environmental Conservation had another great semester, thanks to our dedicated faculty, staff, students, and supporters. FREC has graduated 43 and post-graduated 14 students in May 2012. Let me highlight a few activities of spring 2012.



Dr. Janaki Alavalapati
Professor and Head
Forest Resources and
Environmental
Conservation

- FREC hired Dr. Quinn Thomas as an Assistant Professor in Forest Dynamics and Ecosystem Modeling. Currently he is at Cornell University and will join us in August 2013.
- In response to the suggestions of Advisory Board, alumni, and friends, we have hired a full-time person to promote our undergraduate programs at high schools and community colleges across the Commonwealth of Virginia and beyond. Starting from August 2012, as a FREC Futures Intern, Mr. Kyle Dingus (a forestry graduate of 2012) will actively work with faculty, staff, promote our programs by visiting as many high schools and community colleges as possible.
- With guidance from Advisory Board and support from Dean Winistorfer, we are developing plans to create an “*Educational Center*” at Virginia Tech’s Fishburn Forest. You may be aware that the Fishburn Forest has been a “living lab” for our education, research, and engagement programs. We hope that this center will enhance the quality of our activities. Any support and help in creating this facility will be appreciated.
- We are quite excited with our new undergraduate major “Environmental Informatics.” It is in the university governance process and we hope to formally launch this program in spring or fall of 2013.

I will take this opportunity to wish you and your families an enjoyable summer!

FREC Advisory Board Holds Annual Meeting



The FREC Advisory Board held its annual meeting on March 29. Items reviewed included updates on the FREC Field Experience course and Forestry Field Studies class, a proposed new major in Environmental Informatics, undergraduate enrollment and marketing efforts, and a proposed “Learning Center” at the Fishburn Forests. Bill Burkman of the US Forest Service also reported on a new center to be based at Virginia Tech which will support the national Forest Inventory and Analysis (FIA) program. During the business session, Paul Revell was elected Vice Chair for 2013. We sincerely thank Brent Keefer for his leadership during 2012 and look forward to having Ed Milhous serve as Chair during 2013.



David Walker

David Walker joined the department in June 2012 as a Research Associate after receiving his M.S. in Forestry from Virginia Tech. He will be working on a project with Dr. Phil Radtke funded by the US Forest Service developing methods for estimating total tree biomass.



Huaguo Huang

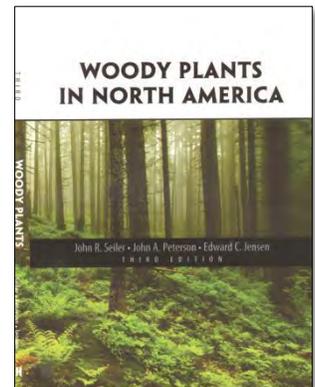
Dr. Huaguo Huang joined the department in March 2012 as a visiting faculty working with Drs. Randy Wynne, Valerie Thomas, and Harold Burkhart. Huaguo is an associate professor of Beijing Forestry University. He is interested in linking forestry and remote sensing. His length of stay at Virginia Tech will be for approximately one year focusing on cooperative research on forestry lidar remote sensing. Dr. Huang received his Master's and Ph.D. from Beijing Forestry University and Chinese Academic of Sciences, respectively.

HIGHLIGHTS Teaching-Research-Extension

Woody Plants in North America Published – Third Edition

Dr. John Seiler, Alumni Distinguished Professor, and John Peterson, Lab Specialist Advanced, have published a new version of “Woody Plants in North America.” It is a complete redo with thousands more photos and lots of new species and features. It is now on a single DVD. They are also getting close to completing an Android app for tree identification on smart phones and have a successful prototype.

“Woody Plants in North America” is used in the Dendrology (FOR 2324) class in both spring and fall semesters.



Showcase of Female Scientists Hosted in Blacksburg

On March 13, Advance VT and the College of Natural Resources and Environment hosted a Showcase of Female Scientists. Women remain a minority in the natural resources profession, and studies have shown that this minority status puts them at a disadvantage during hiring and promotion decisions. Female networks can allow women to overcome gender barriers, and this showcase allowed female graduate students and faculty the opportunity to interact with female role models who have successfully negotiated their own careers. The workshop included a keynote presentation from Laura Furgione, Deputy Director of the National Weather Service, and a scientific seminar by Dr. Valerie Trouet from the University of Arizona on the interactions of fire and climate in the American midwest.

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Showcase of Female Scientists Hosted in Blacksburg *(continued from page 3)*

Dr. Lynn Resler (Department of Geography) and Dr. Jennifer Hodgson (College of Veterinary Medicine) joined Ms. Furgione and Dr. Trouet for a panel discussion of how women scientists have balanced personal and professional life demands. The showcase was organized by Rebecca Kidd (Ph.D. student in FREC), Melissa Shockey (M.S. student in FREC), Peggy Layne (Director of Advance VT), and Dr. Carolyn Copenheaver (Associate Professor in FREC).

Left to right: Laura Furgione, Lynn Resler, Jennifer Hodgson, and Valerie Touet

Graduate Research Symposium Expands to Other Departments and Universities

The Fourth Annual FREC Graduate Research Symposium held on March 27, 2012, showcased graduate research in forest resources and environmental conservation across Virginia Tech and several universities in the region. The event featured six M.S. oral presentations, five Ph.D. oral presentations, and 19 poster presentations by graduate students from the Virginia Tech departments of FREC, BSE, BIOL, GEOG, and ENT, and from the University of Virginia, University of Kentucky, and West Virginia University. This was the first year the department invited other universities to present, and many viewed the expansion as a success.

The symposium was honored to host Dr. Michael Campana, immediate past president of the American Water Resources Association and Professor of Geosciences at Oregon State University, as this year's keynote speaker. Dr. Campana's speech, "Hydrophilanthropy: Quo Vadis?" attracted students and faculty from across the university.

Drs. Karen DePauw, Vice President and Dean for Graduate Education, and Paul Winistorfer, Dean of the College of Natural Resources and Environment, also gave brief presentations. Symposium presenters competed in several categories. Winners of the symposium were: M.S. oral presentation – Katie Trozzo; Ph.D. oral presentation – Stesha Dunker; and poster presentation – 1st Yujuan Chen, 2nd Nina Craig, 3rd Beth Boehme and David Walker (tie).

This year's symposium was such a success thanks to the commitment and hard work of the symposium planning committee: Amy Werner, Beth Stein (co-chair), Patricia Brousseau, Yujuan Chen, Nina Craig, Cody Gillan, Huiquan Jiang, Maura Leveroos, Kevin Minick, and Ying Xu.



Left to right: Chelsea Curtis presenting her poster; Jeff Atkins answering questions after his Ph.D. oral presentation; poster presentations; Yujuan Chen with her poster.

National and Regional Awards Presented to Extension Faculty Members

FREC Extension faculty received three gold-level achievement awards and one silver-level achievement award from the Association of Natural Resource Extension Professionals at its national conference in Hendersonville, N.C. in May. The ANREP includes extension professionals in the areas of environmental education, fisheries, forestry, wood science, range, recreation, water management, water, and wildlife.

- Scott Barrett, Extension Associate, Virginia SHARP Logger Program, received the **Individual Program Leadership Gold Award**.
- Jennifer Gagnon, Extension Associate, Virginia Forest Landowner Update, received the **Newsletter/Series of Articles Gold Award**.
- Adam Downing, Senior Extension Agent (with James Finley of Penn State Extension and alumnus Jonathan Kays of University of Maryland Extension, who earned a master's degree from Virginia Tech in 1985), received the **Video/DVD/CD Gold Award** for: "Four Minutes to a Better Backyard."
- Jennifer Gagnon received the **Individual Program Leadership Award, Silver** for Real Forestry for Real Estate.

Six Awards for Excellence were received from the Southern Regional Extension Forestry program this spring. This program assists natural resource educators and technology transfer specialist in 13 states to facilitate more efficient programming. The awards were:

- **Extension Publication Gold Award:** Guide to Threatened and Endangered Species on Private Lands in Virginia; Extension Associates Jennifer Gagnon and Scott Barrett and Associate Professor and Extension Specialist James Parkhurst.
- **Journal Publication Gold Award:** Virginia SHARP Logger Survey: Characteristics of Virginia's Logging Businesses; Extension Associate Scott Barrett, Assistant Professor M. Chad Bolding, and Assistant Professor and Extension Specialist John Munsell.
- **Journal Publication Gold Award:** An Analysis of the Feasibility for Increasing Woody Biomass Production from Pine Plantations in the Southern United States; Assistant Professor and Extension Specialist John Munsell (with Virginia Tech Professor Thomas Fox).
- **Computer Software and/or Website Silver Award:** A Search Indeed: How to Conduct a Property Deed Search; Extension Associates Matthew Brinckman and Scott Barrett.
- **Extension Newsletter Silver Award:** Virginia Forest Landowner Update; Extension Associate Jennifer Gagnon.
- **National/International Project Silver Award:** Wood Bioenergy Assessments in Support of the Department of Energy's Federal Energy Management Program; Assistant Professor and Extension Specialist John Munsell, Assistant Professor M. Chad Bolding, and John Ignosh, Extension Specialist in the College of Agriculture and Life Sciences at Virginia Tech.

Real Forestry for Real Estate: A Unique Extension Program



Adam Downing, teaches with real estate professionals how to use a dichotomous key to identify common Virginia tree species.

The Virginia Forest Landowner Education Program received an Education Grant from the American Tree Farm System to develop Real Forestry for Real Estate (RFRE), a program which puts sustainable forest management information in the hands of new forest landowners. RFRE accomplishes this through a partnership with real estate professionals – providing them with forestry-themed continuing education classes and new landowner packets. The packets contain a wealth of sustainable forest management information, and can be distributed to land-buying clients. To date, 14 classes have been offered to 454 real estate professionals, and over 1500 new landowner packets have been distributed. For more information, please contact Jennifer Gagnon, jgagnon@vt.edu, 540/231-6391.

Biomass Harvesting Workshops

Utilization of woody biomass for energy is increasing rapidly in Virginia. Six new renewable electricity facilities are either under construction or in the process of conversion to use woody biomass. Many Virginia logging businesses are evaluating whether they can feasibly adapt their operations to utilize logging residues for energy. The Virginia SHARP logger program (www.SHARPllogger.vt.edu) recently partnered with MWV (www.meadwestvaco.com) to offer two biomass harvesting workshops with demonstrations of chippers and grinders from five different manufacturers. The first workshop and demo was held near Chatham on May 4 with 166 participants. The second workshop and demo was held near New Castle on May 12 with 115 participants. Both events were a great success and many participants seemed very interested in the opportunity to adapt their operations to harvest biomass for energy.

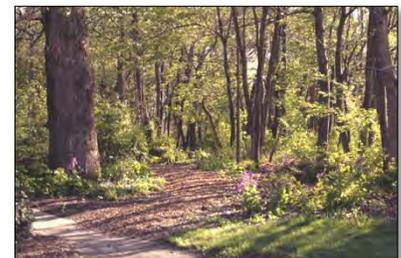


Recent demonstrations gave the opportunity to watch chippers and grinders producing biomass.

Future of Stadium Woods Hangs in Balance

For the past six months an intense debate over the fate of an old growth forest behind Lane Stadium known as Stadium Woods has been brewing. Ever since the VT Athletic Department announced plans to construct an indoor practice facility in the woods, a citizens group known as Friends of Stadium Woods has worked to increase awareness of the forest's importance to campus teaching, research and local ecology.

With the help of Professors John Seiler and Jeff Kirwan from the Department of FREC, and many others, the forest's history and ecological significance has been documented. For example, we now believe that the woods may be the best example of an old-growth white oak forest in an urban area left in the eastern US. There are 56 trees, mostly white oak, over three feet in diameter. Many of these trees are over 200 years old and some trees have been found in excess of 300 years. Other larger trees not possible to date may be older. A special committee appointed by University President Charles Steger in January 2012 has completed its work. The committee has recommended the facility not be built in the woods and has called for preservation of the forest. The fate of the woods now hinges on a final decision by the president. If you would like to become involved in this decision, please visit www.savestadiumwoods.com.



Spring time in the 11 acre, old growth white oak forest on the campus of Virginia Tech known as Stadium Woods. Many Forest Resources and Environmental Conservation alumni have spent time measuring and identifying trees in these woods.

Promotions and Tenures Granted



Dr. John Munsell

Dr. John Munsell has been promoted and granted tenure at the rank of Associate Professor and Extension Specialist. Dr. Munsell's interest areas include private forestland stewardship, agroforestry and whole farm planning, bioenergy and family forest sustainability, collaborative conservation, and integrated natural resources problem solving.

Dr. Chad Bolding has been promoted and granted tenure at the rank of Associate Professor. Dr. Bolding's interest areas include forest operations, harvesting, wood supply chain efficiency, and biomass utilization.



Dr. Chad Bolding

Congratulations!

Stern named Scholar of the Clemson University Institute for Parks

Dr. Marc Stern was recently selected by his peers as a Scholar of the Clemson University Institute for Parks. Scholars selected are individuals with national and international recognition who have distinguished themselves as scientists, practitioners, or policy-makers invested in the management and protection of parks and protected areas.

As part of the recognition, Marc will be provided a personal profile page on their website, opportunities to participate in Institute for Parks initiatives, and an invitation to the annual meeting and awards ceremony.



Dr. Marc Stern

Teacher of the Week



Dr. Susan Day

Congratulations to Dr. Susan Day for being recognized by the Center for Instructional Development and Educational Research (CIDER) as Teacher of the Week. Her recognition is a result of engaging all of her students by getting them out of their chairs and working on problems and activities together. Her teaching style helps students practically apply what they learn in her courses.

Students have this to say about Susan's classes: "I loved being able to use the knowledge gained in class and videos in lab. The tree training exercises were the best!" "We had hands on activities in class. We were also able to actually do the things that we were being taught." "Really enjoyed this class – everything about it. I wish all horticulture classes were as engaging and refreshing as this one."

Susan teaches undergraduate and graduate level classes in the Department of Forest Resources and Environmental Conservation as well as the Department of Horticulture.

Natural Resources Conservation Junior Investigates Visitor Use of Stadium Woods



Isaac Paschal

During three weeks of the spring semester, Michael Sorice's Outdoor Recreation Management class investigated visitor use of Stadium Woods. Junior Natural Resources Conservation major, Isaac Paschal, presented the results at a local community forum in April. The class encountered about 23 users for every hour spent collecting data. Although the majority of users (60%) intercepted were commuting to and from campus, the primary recreation uses included walking (20%) and exercising (9%).

Memorial Scholarship Received

Nina Craig, M.S. student working with Dr. Brian Strahm, has received the 2012 MS-Level American Society of Mining and Reclamation Memorial Scholarship. The award includes a plaque, one-year ASMR student membership, complimentary 2012 national meeting registration, meeting awards luncheon ticket and a check for \$1000. Congratulations Nina!



Nina Craig

Spring Awards Presented

Several prestigious awards to our departmental faculty, students, and alumni were announced at the CNRE spring awards banquet. They are listed below by category:

Faculty Awards:

- Dr. Marc Stern was awarded the Certificate of Teaching Excellence.
- Dr. Jay Sullivan received the Outstanding Faculty Award.

Graduate Students:

- Beth Stein was awarded FREC's Outstanding Master's Student and the CNRE Outstanding Master's Student Award.
- Scott Barrett was awarded FREC's Outstanding Doctoral Student Award and the A.B. Massey Award.
- Kim Cowgill was recognized as FREC's Outstanding Teaching Assistant.

Undergraduate Students:

- Kyle Dingus was presented with FREC's Alumni Award for Outstanding Senior, David Wm. Smith Leadership Award.

Alumni:

- Dr. Guillermo Trincado received the Recent Alumnus Award recognizing his early career accomplishments.
- Doug Domenech, Virginia's Secretary of Natural Resources and a 1978 Forestry graduate, received the Alumni Award for Achievement.

Congratulations to everyone recognized for their hard work and achievements!

Student Presents Research at ACC Meeting

Bethany Gregory was chosen to represent the College of Natural Resources and Environment as one of two undergraduates at the 7th Annual ACC Meeting of the Minds Conference held March 30 – April 1 at the Inn at Virginia Tech.

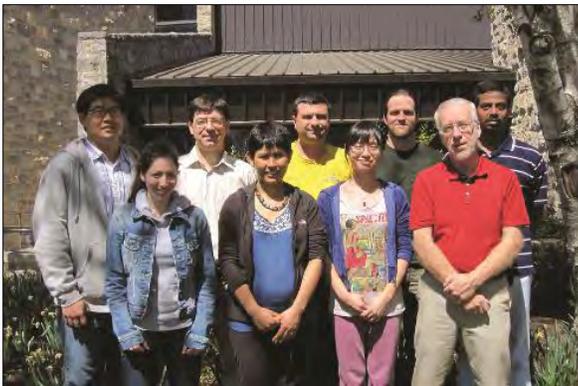
Bethany presented her research on: The influence of the bacterial endophyte *Burkholderia phytofirmans* (strain PsJN) on growth, leaf gas exchange and drought tolerance of switchgrass Alamo. (B.L. Gregory, J.R. Seiler, J. A. Peterson, and C.Mej).

Dr. John Seiler served as Bethany’s research advisor. Her undergraduate research revealed some of the physiological mechanisms that result in improved growth when switchgrass is infected by bacterial endophytes.



Bethany Gregory (left) discusses her research results on the drought tolerance of switch grass with an ACC Meeting of the Minds conference participant.

Hokies for Wetlands Team Takes First Place



Front row (left to right): Beth Stein; Nilam Kayastha; Baojuan Zheng; and Jim Campbell, faculty advisor. Back row (left to right): Won Hoi Hwang, Kemal Gökkaya, Ioannis Kokkinidis, Taylor Seigler, and Ranjith Gopalakrishnan.

The Virginia Tech Hokies for Wetlands Team competed in and took first place in the American Society for Photogrammetry and Remote Sensing (ASPRS) 2012 GeoLeague Challenge. The goal of this national university competition was to develop a cost- and time-efficient method to update the National Wetlands Inventory.

The team, composed of eight Master's and Ph.D. students in the departments of FREC and Geography, developed a proposal for a pilot study to remotely map coastal wetlands. Their strategy was an innovative and scientifically supported approach that incorporates multiple sensors and data sources, while balancing cost, processing complexity, and classification accuracy.

The project was presented at a brief presentation and proposal in Sacramento, CA, on March 27, 2012. The team members were FREC students Beth Stein, Nilam Kayasha, Kemal Gökkaya, Ranjith Gopalakrishnan, and Won Hwang, and Geography students Baojuan Zheng, Ioannis Kokkinidis, and Taylor Seigler. All student participants are members of their professional society, the Virginia Tech ASPRS student chapter, with the club advisor being Dr. Jim Campbell.

Drs. Valerie Thomas and Randy Wynne from the FREC department, Dr. Jim Campbell from the Geography department, and Dr. John Galbraith from the Crop and Soil Environmental Sciences department assisted with the team’s efforts.

Student and Student Club Information

Student Chapter of the Society of American Foresters Organizes and Leads Symposium

The Virginia Tech student chapter of the Society of American Foresters organized and led a Symposium on Undergraduate Research on April 2. The event was open to all CNRE students and faculty. Dean Paul Winistorfer gave opening remarks, which were followed with a presentation by Dr. Tomalei Vess, Director of the Office for Undergraduate Research at Virginia Tech, on the services and support for undergraduate research provided throughout the university. Faculty representatives from the four departments of CNRE gave brief overviews of the importance of and opportunities for undergraduate research experience in their respective areas. Poster displays featuring individual faculty research programs augmented and extended the overview presentations. Special thanks to the student leaders, Kyle Dingus, Turner Crawford, Dan Wilson, and Drew Cockram, for organizing the symposium. The symposium provided an effective forum for linking student and faculty interests, and plans have been made to hold a similar event during fall semester 2012.



Students, faculty, and administrators gathered in Cheatham Hall to hear about and discuss undergraduate research benefits and opportunities. The event was organized by Virginia Tech's Student Chapter of the Society of American Foresters and included opening remarks by Dean Winistorfer and testimonials and perspectives from faculty and undergraduate research coordinators.



SOS and Water Watchers Training

Student Chapter Receives Honorable Mention

The Virginia Tech student chapter of the American Water Resources Association received Honorable Mention in a national competition for Outstanding Student Chapter. The AWRA student chapter had a very successful year. The group organized events for World Water Day, participated in a Duck Pond clean-up program, received water quality training using state protocols, participated in Kids Tech, fundraised for Amman Imman (a group dedicated to improving and saving lives of people in the Azawak of West Africa by supplying permanent sources of water), hosted a “water

movie night,” participated in an in-service teacher training, and trained two AP high school environmental science classes in stream assessment. Student chapter members come from FREC, CNRE, and four other colleges on campus. Rebecca Stewart (Biology) was the president of the chapter last academic year and Dr. Kevin McGuire serves as the faculty advisor. For more information about the group, please see <http://vtawra.blogspot.com/>.

Congratulations Spring 2012 Graduates!

- Chad Campbell M.S.
- Adam Christie M.F.
- Jeffrey Feldhaus M.F.
- Shannon Fowler M.S.
- Katherine Hoover Ph.D.
- Caysie Martin M.S.
- Mason Patterson M.S.
- Courtney Reijo M.F.
- Beth Stein M.S.
- Katie Trozzo M.S.
- David Walker M.S.
- Laura Wear M.S.
- John Wilburn M.S.
- Ying Xu M.S.

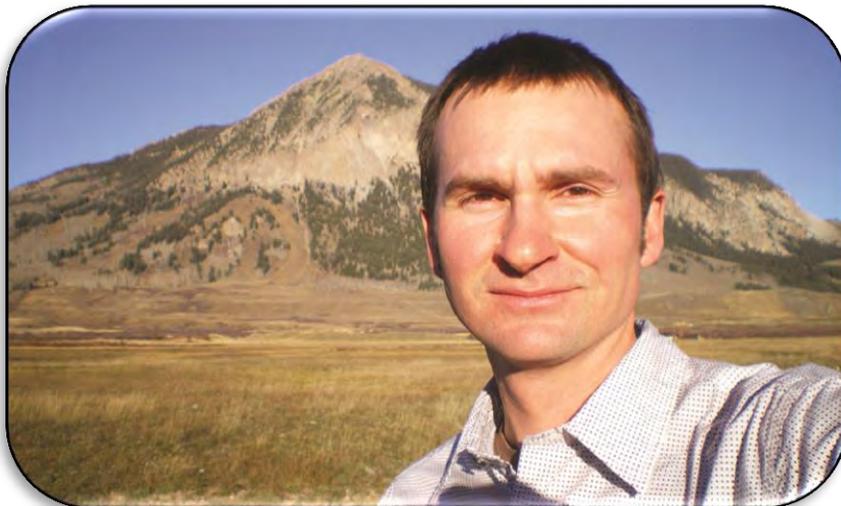
Welcome New Graduate Students!

- Damion Drover Ph.D.
- Paul Emerson M.S.
- A.J. Lang M.S.
- Percy Montecinos M.F.
- David Passauer M.F.
- Paxton Ramsdell M.S.
- Jay Raymond Ph.D.
- Trevor Saville M.F.
- Beth Stein Ph.D.
- Bradley Stephens M.S.

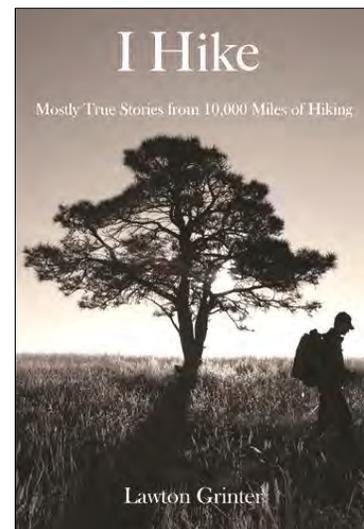
Lawton Grinter (M.S. 2002) Publishes First Book

Lawton Grinter (M.S. 2002) has published his first book, "I Hike: Mostly True Stories from 10,000 Miles of Hiking." Lawton hiked the Appalachian Trail between his B.S. in forestry from Clemson University and his M.S. in forestry from Virginia Tech. He later went on to hike the Pacific Crest Trail (twice), the Continental Divide Trail, the John Muir Trail, the Colorado Trail, and the Tahoe Rim Trail. His first book, published by Grand Mesa Press, relates some of the experiences he encountered along all of these trails. Lawton currently works for the Colorado Forest Service in the Golden District.

Additional information on the book can be found at <http://ihikethebook.com/>.



Lawton Grinter





For more information about the Department of Forest Resources and Environmental Conservation please contact:
Ms. Sue Snow
313 Cheatham Hall
Mail Code 0324
Blacksburg, VA 24061
540-231-5483
suesnow@vt.edu
<http://www.frec.vt.edu/>

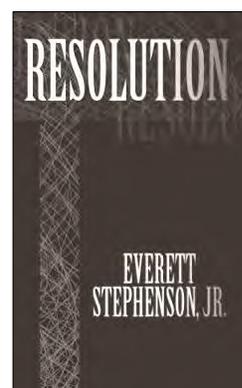
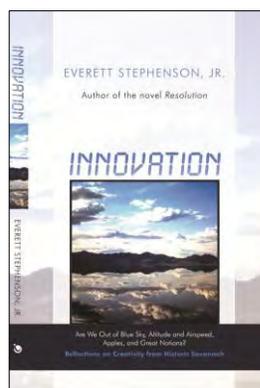
Dr. Everett H. Stephenson, Jr. (M.S. 1977) Publishes Books

Everett H. Stephenson, Jr., graduated in 1977 with an M.S. from the department's Industrial Forestry Operations program. His career has produced many publications, presentations, and patents. His extensive employment experience includes Forest Engineering, Forest Operations Specialist, Equipment Supervisor, and Consulting Forester. At the peak of his career he was often introduced as the "most prolific industrial forestry innovator in the United States," having a big impact on several areas; among them mechanical felling saws, on-board truck scales, development of a tree length/log length rail car, a computer model of hauling forest product by heavy trucks, and a mechanized system for collecting and processing pine cuttings for clonal reproduction.

In October 2011, Stephenson published a 152-page collection of short stories entitled "*Innovation*." In his stories, he attempts to communicate to the reader knowledge that he has gained through research and experience. It is his goal for the reader to know more about a subject after finishing a story. Stephenson's stories include detailed pieces of information on a wide variety of topics, especially subjects of a high-tech nature.

In November 2008, Stephenson also published a 248-page novel entitled "*Resolution*." This novel is packed with powerful characters, intriguing situations, and poignant lessons. Readers will come away with knowledge they did not have before reading the book.

"*Innovation*" and "*Resolution*" are both available in paperback, Kindle, and e-book.



Gifts from our clients and friends have a direct impact on the quality of learning, discovery, and engagement programs that the Department of Forest Resources and Environmental Conservation offers. We invite you to become part of our team! To make a tax-deductible contribution, send your check, payable to the Virginia Tech Foundation, Inc., to: Department of Forest Resources and Environmental Conservation, 313 Cheatham Hall (0324), Virginia Tech, Blacksburg, VA 24061

For further information on memorial giving, endowed professorships, gifts of securities, planned or deferred giving opportunities or other contributions, please contact Mr. Bob Mollenhauer, Development Officer, at 540-231-8859 or send an e-mail to bobm5@vt.edu.