

# Students Visit China

A long-time dream of faculty and Foundation members was realized when 21 Paper Science & Engineering (PSE) students traveled to China in May of 2007. On this 10-day trip, the students visited five modern pulp and paper manufacturing facilities and one major university with programs in paper science and engineering. The students were also heavily immersed in Chinese culture and history.

This trip was the first event in an exciting new program named the Paper International Experience (PIE). The main goal of this program is to send a group of PSE juniors and seniors abroad every two years, to a country with a different culture and a growing paper industry.

"Several of us in the Foundation, as well as several of the NC State faculty, have dreamed for years of an international professional experience for our students," said Lou Boos, a long-time Foundation member and president of Nordic Engineering. "It has always been our belief that exposure to other cultures and to how the industry operates in other countries will make our students better engineers - and better people. With this first PIE experience, our dream has come true." Lou currently sponsors a Foundation scholarship that covers travel costs for students seeking summer internships and co-ops abroad.

The real initiative for the startup of the program came when PSE faculty members Med Byrd and Hasan Jameel went to China in November of 2006, to attend an international research conference in Guangzhou. Both were impressed with the enormous pace of industry growth, the rapid modernization of the cities and universities, and the palpable sense of excitement among university faculty and students. "The lights went on," said Dr. Jameel. "We knew that now was the time to do this. We could not wait." Planning for a May event started immediately upon their return to NCSU.

A fundraising appeal was issued, in order to permit student participation in PIE at a greatly reduced cost. Response to the appeal was swift and strong. Donations were submitted by Foundation members, companies, PSE faculty, and friends of the PSE program. Additional funding was provided by the Department of Wood & Paper Science, the College of Natural Resources, the College of Engineering, the Office of the Provost (International Affairs), and the TAPPI Foundation.

A key factor in the success of this program was due to the tireless efforts of Dr. Hou-min Chang. Dr. Chang used his extensive business and personal contacts in China to give the students maximum opportunities at a greatly-reduced cost. Just as importantly, Dr. Chang was able to get the students access to mills that do not readily permit visitor access.

The itinerary for the trip included the following events:

- Sightseeing in Shanghai
- Gold Huasheng Mill, Suzhou (Asia Pulp & Paper)
- Visit to Nanjing Forestry University
- Gold East Paper Mill, Zhenjiang (Asia Pulp & Paper)
- Tralin Paper Mill, Shangdong
- Huatai Newsprint, Shangdong
- Sightseeing in Beijing

Feedback from the students about this event was overwhelmingly positive. Given the success of this first PIE experience, plans are already underway for the second iteration in 2009 (and possibly sooner). Although there is a good chance that China will again be the destination, other options include Chile, South Africa, and Scandinavia.

—By Dr. Med Byrd



21 PSE Students visited China May 14th-24th, 2007

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### Check it out!

- PSE Students Visit China
- New Endowment from the Class of 2007
- Annual Pulp and Paper Foundation in October
- Two Faculty Join the department
- Dr. Jameel Visits Japan
- Grad Student wins ACS Award
- Diversity Summit hosted this fall

## Message from Department Head

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Exciting Times at NC State,

As you will see throughout this newsletter this is an exciting time for Wood and Paper Science at NC State. Twenty-one junior and seniors went to China (and even better 21 came back) for 10 days; the graduating students are finding good, well-paying jobs in the pulp and paper, and related industries; we have a large incoming class with new freshmen and on-campus transfer students; and we are developing an updated strategic plan that will allow us to build on our strengths in Paper Science and Engineering and look to capitalize on the recent interest in Biomaterials and Bioenergy.

The student trip to China was a real highlight of the year for many reasons. First and foremost it was a great experience for the students and professionals. Many of them had never been out of the country. After a twenty plus hour trip they were halfway around the world meeting and trying to communicate with students from another country. They toured state-of-the-art facilities and gained an appreciation for how rapidly and broadly technology is moving. They had to worry about the details of the schedules and funding the trip. They raised funds from alumni, individual faculty, the Department and the College, and covered some of the costs themselves. To paraphrase comments from of the students "this seemed a lot like a real business trip".

This tremendous experience would not have been possible without the leadership of Hou-Min Chang who helped with every aspect of the trip Drs. Hasan Jameel and Med Byrd, and David Ashcraft who helped with funding the trip. Thanks to everyone!

Most of these students came back and did not even have time to catch up on their sleep before starting their new jobs, summer internships or co-op experiences. The graduating seniors have multiple job opportunities, many also collected signing bonuses. The juniors, sophomores and even some freshman have great summer internship and co-op opportunities. This is a sign of the times, but it is also a direct reflection on the quality and maturity of the students.

For the coming year the Department will be welcoming a freshmen class larger than previous years. We will see 36 new freshmen and transfer students entering this fall. The PSE program will have 28 freshmen from 5 different states including North Carolina, Maryland, Virginia, South Carolina, and Florida. With a typical on-campus transfer rate of 10 students during the fall semester. We expect the class of 2011 will graduate almost 40 students. We anticipate that this trend will continue and we expect to have a total of 160 PSE students enrolled.

In many ways the department is a direct reflection of the industry today. There are many opportunities, but there are also many questions about long-term direction and needs. While we do not worry about our long-term survival we have to make sure that we are providing students with hands-on experience, technical skills and decision-making abilities to serve the current industry. We also need to provide these students with the fundamental knowledge, personal skills and ability for life-long learning that will allow them to thrive in the industry of the future. Thus, as part of a strategic planning process required by the University, the College, the Department, and both the Pulp and Paper and Forestry Foundations are looking at the needs for students and our stakeholders over the next five years. We are looking at how the Department can work to better educate and train our students and meet the diverse needs of our stakeholders. I do not anticipate radical change in the College or Department, but we need to continuously improve how we do business as we plan for our future.



**Dr. Steve Kelley,**  
Professor and Department Head

## Graduate Student Wins Award

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The Graduate Student Award for Excellence in Cellulose or Renewable Materials Research from the CELL division of the American Chemical Society, 2006, goes to:

**Lambrini Adamopoulos!**

Lambrini grew up in Montreal, Canada and loves living in Greece. She obtained her bachelor's degree in Chemical Engineering from McGill University in 2003 and received her master's degree in Wood and Paper Science at NC State in 2006.

Her work in the Forest Biomaterials Laboratory deals with "*Stereoselectivity, Kinetics and Chain Length Effects Governing the Formation and Antimicrobial Activity of Sugar Effects of Fatty Acids*". Her research interests include biomass as a feedstock for chemicals, materials and energy, as well producing value added products from lignocellulosics.



## Recruiting Update

Greetings! This past year I hit the highway and airway; traveling the country speaking with some outstanding future students! During the fall of 2006 and into the early spring 2007 semester I visited 10 mill and plant sites in 4 states (VA, SC, NC, & TX) and 12 high schools. I also attended 7 on-campus events as well as other initiatives to recruit students for the Paper Science and Engineering program. Overall, I spoke with over 600 students about a future in Department of Wood and Paper Science.

This past fall, we saw a great number of on-campus transfer students entering our department from other colleges including First Year College and College of Engineering. The Paper Science & Engineering sophomore class doubled in size, adding 15 more students from across campus. With the start of the new semester approaching, we will be welcoming a new freshmen class of 28 outstanding PSE students, seven of them from out-of state.

As we look to 2007-2008 we are very excited. We hope to expand/increase our mill visits to Georgia, Tennessee, and Florida, with the continuation of the Paper Super Scholars full-ride out-of-state scholarship. Thank you to all of you who spoke to potential students about the program, hosted an event, and continued to support the program.

If you're interested in more information, or what to host an event please contact me at 919.515.7709 or [carrie\\_hanayik@ncsu.edu](mailto:carrie_hanayik@ncsu.edu)



Class of 2010 students pulp-sculpting



The KapStone Recruiting Event this Spring

### CONGRATULATIONS TO DR. MED BYRD!

Dr. Med Byrd, undergraduate coordinator & PSE alum received the NCSU 2007 Alumni Outstanding Teacher Award

Along with a \$1,000 cash award, Dr. Byrd is now a member of the Academy of Outstanding Teachers for as long as he remains at NC State. Recognition was given at commencement, the Honors Baccalaureate, Celebration of Academic Excellence, and the Celebration of Teaching and Learning.

## Student Corner

Hello! My name is Richard Pridgen and I am a 2nd year Paper Science and Chemical Engineering double major. I am also active within the Boy Scouts, Order of the Arrow, the University Honors Program, and a Caldwell Fellow. In my spare time I like to play volleyball, hike, camp, and fish! This summer I have been working at Green Bay Packaging in Morrilton Arkansas. I am working on a new stockline system for an online Freeness tester. I have really enjoyed my time here and can't wait to return to NC State to learn more and apply what I have learned in the field to my studies.



### Pinetum Available Online!

The Pinetum, the Journal for the College of Natural Resources is now available online! Please visit <http://natural-resources.ncsu.edu/documents/2006-2007pinetumwebversion.pdf> to check out the latest version. See more information about the department, and all the events that went on throughout the year.

## From the CNR Development Office

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### Changes in the Development Office

After six years as Program Manager, Mr. Mike Ellis has accepted a position with First Year College. Mrs. Jennifer Viets Catalano has assumed some of Mike's responsibilities while others have been distributed outside the CNR Development Office.

### Class of 2007 Endowment

Great news! The Paper Science & Engineering class of 2007 has announced plans to fund an \$25,000 endowment – most likely to support travel expenses for work or travel abroad. You can read more about the study abroad experiences of several members of the Class of 2007 on their recent visit to China at <http://blogs.lib.ncsu.edu/page/pei2007>

### New Emphasis

Be on the look - out for information about a new, multi-year emphasis throughout the entire College of Natural Resources – *Grow with Us!*. *Grow with Us!* will be all inclusive; there will be an opportunity for each alumnus and friend of the program to participate. *Grow with Us!* will demonstrate the confidence of friends and alumni in the future of the paper industry and in the capability of PSE at NC State to provide a leadership role.

**Interested in starting  
your own class  
scholarship? Contact  
David Ashcraft!**

***Grow with Us!***

**New Scholarship  
sponsored by the class of  
2007!**

## New Faculty Join Department

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The Department of Wood and Paper Science is excited to welcome two new faculty members to the family.

**Dr. Daniel Saloni** is an assistant professor in the Department of Wood and Paper Science at North Carolina State University. Before applying to a faculty position at NCSU, he was a laboratory manager and research assistant in the Wood Machining and Tooling Research Program at North Carolina State University. Prior to joining NCSU, he was an assistant professor in the Department of Industrial Engineering and Junior Consultant in UCAB Consulting for five years at Andres Bello Catholic University in Caracas, Venezuela. Dr. Saloni received his Ph.D. in Wood Science from the Department of Wood and Paper Science and a Master's degree in Integrated Manufacturing System Engineering at North Carolina State University. He also obtained a bachelor's degree in Industrial Engineering and a Master's degree in Project Management at Andres Bello Catholic University. He has published various papers and participated in several conferences on abrasive machining processes, surface quality, process monitoring, housing, lean manufacturing and process improvement, which are his major research areas. Dr. Saloni is currently a chair of a Milling and Machining group of the Forest Products Society.

Email: [daniel\\_saloni@ncsu.edu](mailto:daniel_saloni@ncsu.edu) Phone: 919.513.0989 Office: Biltmore Hall - 1022-F

**Dr. Sudipta Dasmohapatra**, joined the department as an assistant professor this past spring. She holds a Masters degree in Forest Management from India and a PhD in Forest Products Marketing from The Pennsylvania State University. After graduating from Penn State, she worked in the industry as a Senior Market Analyst for 3 years before joining NC State. Her research interests are in the area of perceived value and value addition, strategy, environmental marketing, and supply chain management. She will be teaching undergraduate and graduate business courses (including distance) applicable to the forest products industry starting Fall 2007. Sudipta has shown a keen interest in meeting with and hearing from our students, friends and alumni.

Email: [sdasmoh@ncsu.edu](mailto:sdasmoh@ncsu.edu) Phone: 919.515.5728 Office: Biltmore Hall – 1022-E

## What is BioSUCCEED and BioResources?

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**BioSUCCEED** is a USDA-grant-supported project initiated by professors Lucia, Hubbe, & Kelley that continues the tradition of excellence in our department's paper science and engineering training, but extends it into the relatively new forum of bio-products education. It combines the talents of three universities, namely NC State University, NCA&T, and University of Tennessee to develop an educational product that is principally directed to masters degree students, but is available to anyone seeking to improve their fluency in biomass, bio-energy, and biomaterials. It will be offered primarily in a distance education format via boilerplate PowerPoint slides accessible on our website ([www.ncsu.edu/biosucceed](http://www.ncsu.edu/biosucceed)) which is currently under construction. Initially, six courses will be offered: biomass fundamentals, biomass characterization, composites, enzyme conversion, thermo-chemical conversion, and life cycle analysis; the content and delivery will be borne equally among the participating universities.

We envision that this sequence of courses will eventually be maintained and taught at each respective university as part of a brick & mortar degree program, but it may also become incorporated into distance education (DE) thesis-only M.Sc. programs with the addition of appropriate electives. If anyone has any questions about the program, specific objectives, or has any ideas to assist us in the development of the coursework, please don't hesitate to send us an e-mail at [biosucceed@ncsu.edu](mailto:biosucceed@ncsu.edu). We look forward to this exciting new chapter in our history and your participation!

**BioResources** is an exciting new chapter in the history of our Department and our University. This on-line scholarly journal publishes original, peer-reviewed research in the area of advanced applications of lignocellulosics. No subscription is required, and readers can download PDF copies of articles at the website, <http://ncsu.edu/bioresources>. The journal recently completed its first year of publication, having been initiated back in February of 2006. The mission of BioResources is to highlight current trends in the uses of lignocellulosic-based biomass. The quarterly journal was founded and is edited by Drs. Hubbe & Lucia of the Department. We are committed to publishing research articles and scholarly review articles describing new developments in biomass, bio-energy, bio-chemicals, bio-materials, and papermaking science. All of these product areas are based on the most abundant polymers on the planet - cellulose, hemicellulose, and lignin.

**"We believe that this journal can become part of a trend to revolutionize the way scientists and engineers conduct their business"**

Please go to <http://ncsu.edu/bioresources> to see the wide variety and eclectic nature of the material that we publish! We are privileged to have articles ranging from traditional lignin analysis research to work on advancements in forest products nanotechnology. We currently have a partnership in place with South China University of Technology in Guangzhou to publish a limited number of hard bound editions that will be sent to selected university libraries around the world.

We believe that this journal can become part of a trend to revolutionize the way scientists and engineers conduct their business of reporting our original research work. There is accelerating interest in "green" chemistry & engineering which makes our journal even more timely. We encourage you to peruse the journal's contents on the website listed above and to consider sending to us either your original research or contribute a review of your special area of research interest. Otherwise, please consider supporting our mission by letting us know if you are able to review others' research work or simply let others know of us. Thank you and happy reading!

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### Mark your Calendar for the Annual Pulp and Paper Foundation Fall Meeting October 23-25, 2007

This year's annual meeting of the Pulp and Paper Foundation may be the best ever. The theme of this year's meeting is, *Paper Forward!* A technical session on Tuesday, October 23, will kick-off the meeting. The second annual Paper Foundation Golf Tournament on Wednesday will provide excellent networking opportunities. The closing session on Thursday, October 24, will feature presentations by executives from four companies that are making change. We anticipate that many of the 57 pulp and paper mills in the Southeast will be represented at the meeting. Make your plans now to attend.

**Register Now at Go online [www.ncsu.edu/feop/PulpPaperAnnualMeeting.html](http://www.ncsu.edu/feop/PulpPaperAnnualMeeting.html)**

## Golf Tournament this Fall

Do you own highly appreciated stock or real estate?

Worried about capital gain taxes if you sell?

Want to increase your income from these investments?

**Consider donating these assets to the Pulp and Paper Foundation! By doing so you will :**

- Save on your income tax through a charitable income tax deduction
- Make a significant gift to the #1 paper program in the country
- Avoid all upfront capital gain taxes on asset appreciation



For more information please contact David Ashcraft at 919.515.5723 or visit

<http://pff.ncsu.edu/>

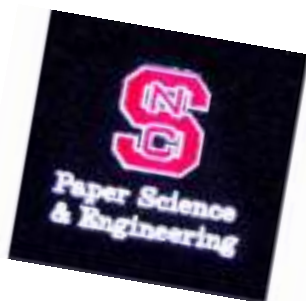
Greetings Foundation & Wolfpack Golfers

As many of you will fondly recall we began a new tradition for the Pulp and Paper Foundation Fall Meeting in 2006 with our First Annual Golf Tournament. Last year's inaugural event netted almost \$7,000 and the Golf Committee has been busy with preparations to insure that the 2<sup>nd</sup> Annual Tournament will be bigger, better, and even more successful. This year's goal of \$20,000 is certainly ambitious but with the corporate and individual support from our University and Foundation friends we are confident we can meet or exceed our plan. To aid in this endeavor we currently have a prominent member of the 1974 NCAA National Championship Team scheduled to play in this event and a silent auction to include some very nice Wolfpack memorabilia, as well as a few other new twists.

Remember, all proceeds go directly to the students in the form of scholarships, international travel assistance, or any other program that directly benefits the students. We need your support with sponsorships but are also encouraging as many individuals to sign up as possible. So mark the date for the tournament (Oct. 24<sup>th</sup>) on your calendar and plan to attend the entire fall meeting if you can. More details will follow in the fall Foundation Meeting general announcement. Look forward to seeing you on the links!

Respectfully,

Phil Strader; Golf Committee Chairman



Want to show your NCSU and Paper Science Sprit?

Purchase a NCSU PSE polo style shirt from the NC State TAPPI Chapter.

Sizes include Small to XXL.

Colors include Red, White, and Black

Contact a Student TAPPI Officer today!

## Graduate Program

### Looking to continue your own education?

NC State invites you to take graduate level Paper Science & Engineering courses without leaving your home!!! The distance-learning Master of Wood and Paper Science degree is designed for wood products and papermaking professionals with a Bachelor's degree and industry experience.

### Distance Learning Paper Science Course

NC State University's distance Masters courses are designed for college graduates with science or engineering backgrounds, currently employed in paper manufacturing and allied industries. Our courses are offered using CDs, DVDs, and/or web delivery of actual classroom lectures given at NC State University. Students interact with the instructors in NC State University's Department of Wood and Paper Science via email and web forums, and also interact with other students in class.

**Full financial support** is available for several promising US citizens / permanent residents to obtain a Doctoral Degree in the area of Advanced Forest Biomaterial Products. This premier support package is funded by the USDA and NCSU and includes a \$25,000 stipend per year, all tuition fees, and health insurance for four years. Travel expenses for a travel abroad research experience is also included.

See our website:

[www.cnr.ncsu.edu/wps](http://www.cnr.ncsu.edu/wps) or call  
919.515.6185 (Dr.Venditti)

## Dr. Jameel Visits Japan

I am spending the summer of 2007 as a visiting professor at the University of Tokyo and so far I have been here about three weeks. I am not sure what my exact responsibilities are but I have already given a few lectures in their classes on new pulping and bleaching technologies. I spend the rest of my time interacting with their graduate students on their projects. Projects that are of particular interest to me include:

- Pyrolysis products from biomass
- Improvements to soda/AQ pulping
- Use of electrolytically generated polysulfide in kraft pulping
- Oxygen consumption in oxygen delignification
- Reactions of lignin in supercritical water



In addition, they have quite a few projects on novel utilization of biomass in other Departments in the College of Agriculture. I am hoping to learn more about these projects in the next few weeks. I have also been observing some of the undergraduate lab experiments and have picked up some new ideas to torture our students in the future. Professor Matsumoto has also scheduled quite a few seminars for me in their department, at other universities and institutes across Japan and some paper companies. I am also to go on their laboratory vacation trip in late July. It seems that the whole laboratory group of Professor Matsumoto goes on vacation together for about three days to a different resort every year – interesting concept.

Professor Matsumoto and his co-workers have been extremely hospitable to me on this trip, making sure that all arrangements have been properly taken care of – there are quite a few rules that you have to follow. I am impressed by how late every one stays at the lab. Very few people leave before 8-9pm. Not knowing the language has been tough especially if I go out by myself and try to work through sign language and an English to Japanese dictionary. Mari and the kids finally joined me in this week and will spend about five weeks here. If you want to follow their impressions of Japan you can visit [firozjapan.blogspot.com](http://firozjapan.blogspot.com).

## Short Course Space Available

**Hands-on Workshop for Pulp and Paper Basics** Co-sponsored by NCSU and TAPPI

**Offerings in 2007:** October 8-12

This hands-on laboratory based workshop will provide a broad overview of Pulping, Bleaching, Chemical Recovery, Recycling, Papermaking and Converting. The 5-day course will consist of presentations in the morning and hands-on laboratory and pilot-plant exercises in the afternoon. Workshop material discussed in the morning will be re-emphasized in lab and pilot plant exercises covering pulping, bleaching, deinking, and refining for increased understanding and retention. This introductory-level workshop is appropriate for technical and non-technical individuals with a desire for a laboratory focused course to understand and appreciate the basics of pulping, bleaching, recovery, recycling, papermaking and converting operations. The course registration fee is \$1695. For answers to questions related to course content, please contact Dr. Richard Venditti 919.515.6185 or [richard\\_venditti@ncsu.edu](mailto:richard_venditti@ncsu.edu).



**NCSU/TAPPI Short Course**  
**October 8th-12, 2007**

For questions related to registration and payment, please contact Pat Hill 919.515.2888 or [pat\\_hill@ncsu.edu](mailto:pat_hill@ncsu.edu). The contents of this brochure can also be found at the Dept. of Wood and Paper Science web-site:  
<http://cnr.ncsu.edu/wps/short.htm>

# Diversity Summit

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## Who should attend?

Anyone interested in exploring the challenges and opportunities of successfully aligning student interests and academic programs with the needs of industry and communities to better serve a diverse world.

## Why you should attend:

To encourage the creation of a diverse natural resources community that successfully meets the challenges facing our global population. Take advantage of this opportunity to connect with future scholars and leaders at the NC State Minority Career Fair, and enjoy a range of research presentations, training sessions, and roundtable discussions.

We will have a training session on creating an LGBTQ inclusive campus and workplace. We will also have sessions on promoting diversity through recruiting and retention, as well as a focus on diversity through networking, among many others. For more information, to register, or to learn about sponsorship opportunities contact Thomas Easley at

thomas\_easley@ncsu.edu 919.513.0534. Or checkout the website at:  
<http://cnr.ncsu.edu/diversity/3rdDiversitySummit07.htm>

*Cultivating a Professional Community To  
Address the Growing Importance of Natural  
Resources and the Environment For A  
Diverse Population*

**October 18 and 19, 2007 at  
North Carolina State University**

Call 919-828-0811 for hotel reservations at the Brownstone Holliday Inn – reference NCSU College of Natural Resources for group rate.

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## TAPPI/PIMA News

### 2007-2008 Student TAPPI Officers

President: Andy Ciblis  
Co-President: Amber Nettles  
Vice President: Susan Short  
Secretary: Curtis Powell  
Treasurer: Mandy Bedard  
Programs Chair: Genevieve Pike & Richard Pridgen  
Activities Chair: Seth Carter  
Service Chair: Sam Lipes  
Publicity Chair: Jannov Rusli  
E-Council Rep: Andrew Reep

### 2007 TAPPI Scholarship Winners

#### William L. Cullison Scholarship

Dane Grimes and Catherine Currence

**Find out what's going on at the local  
NCSU TAPPI/PIMA Chapter by visiting  
their website at:**

**[http://www.ncsu.edu/stud\\_orgs/tappi/](http://www.ncsu.edu/stud_orgs/tappi/)**

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## Placement News

### Summer Internships, Co-ops, and Permanent Jobs

This year was a booming year for the summer internships, co-ops, and permanent hires. Over 60% of PSE students were working in the field this summer, for 29 different companies. We have seen a great increase in recruitment over the past year, and thank all the companies for their support. If you're interested in hiring a PSE student for a summer internship, co-op, or permanently please contact Pat Hill at 919.515.2888 or [pat\\_hill@ncsu.edu](mailto:pat_hill@ncsu.edu).

The Spring 2008 Engineering Career Fair is February 7. Register early! Registration begins February 8, 2008 for the 2008 October Engineering Career fair. Register early — the fall fair usually is full by May!

### Paper Testing & Thermal Analysis Technical Services

The Paper Testing & Thermal Analysis Technical Services (PT & TATS) at NCSU offers the following tests and analyses for paper and related materials, including the thermal analysis of pulp, wood, and polymer composites. Other specialized or non-standard tests may be considered, but only after some prior consultation with our PT&TATS managing staff. We put emphasis on the quality of service, especially on the accuracy of testing equipment, careful measurement techniques and methods, and prompt turnover of results.

Contact Dr. Joel Pawlak (919) 513-0511 or Dr. Audimar Bangi (919) 515-8151 for more information!

# Alumni News

## Paper Science Alumni

**1941**, Ray Smith, former executive secretary of the Pulp and Paper Foundation, died Oct. 4th, 2006 at the age of 87. A native of New Jersey, Smith graduated from NCSU with a bachelor's degree in agriculture in 1941. After graduating from NCSU he served in the U.S. Army. Smith spent 20 years as the executive secretary of the Pulp and Paper Foundation, and retired in 1984.

**1971**, Carroll (C.T.) Thomas Hazelwood, a Virginia native, died of complications from cancer in May. CT started his career with the Chesapeake Corporation in West Point, Virginia, and later served on the TAPPI board, before joining Northwood Pulp and Timber Limited as the President and CEO. A 1994 College of Forest Resources Distinguished Alumnus Award winner, CT retired from Canfor Corporation in 2002 as Executive Vice-President of Operations.

**1976**, Carson Carmichael, is a partner in the Raleigh Law Firm - Bailey & Dixon, LLP. He concentrates his practice in administrative and regulatory law. He was named recently to "Best Lawyers in America" in the field of Administrative Law.

**1994**, Mr. Lawrence G. Offill III is Vice President of Engineering with Martin Environmental which is located in Lexington, SC

**1996**, Robert Yang is an Attorney for Stites & Harbison, LLC in Louisville, KY. He got married in March and just started practicing as a patent attorney in Louisville after passing the Kentucky Bar in September and graduating from University of Louisville's Brandeis School of Law in May.

**Don't Forget Homecoming is Sat., Oct. 27th, 2007**

Looking to join a local alumni club? Check out the alumni website for a listing near you:

<http://www.alumni.ncsu.edu/clubs/>

**Alumni? Have some exciting news to share? Let us know!**

**2000**, Keith Donaldson passed away in March. Keith joined Gaylord after graduation, and was working with MeadWestvaco in Evadale, TX at the time.

**2001**, Rich Harley works for Process Sensors Corporation, which is located in Raleigh, NC.

**2002**, Charlie Daw accepted a job as the Utilities Group Manager for Anheuser-Busch at Williamsburg, VA.

**2005**, Colin Hayes accepted a job as a chemical engineer with Eastern Research Group, Inc. in Morrisville.

# Congratulations Seniors!

## Congratulations to our May 2007 Graduates

### Bachelor of Science in Paper Science & Engineering

Name	Hometown	Employed By
David Abrecht	Hickory, NC	Graduate School: Cal Tech
Jeremy Haddock	Chocowinity, NC	Campus Crusade for Christ
Jeffrey Harke	Raleigh, NC	Domtar
Jason Harman	Jackson Springs, NC	Hercules Chemical Company
Joel Love	Wichita, KS	Graduate School: NCSU
Hunter Morris	Eden, NC	International Paper
Niral Patel	Chesterfield, VA	Smurfit-Stone
Kelley Spence	Roanoke Rapids, NC	Graduate School: NCSU
Carey Strickland	Raleigh, NC	MeadWestvaco
Jarrod Tucker	Amherst, VA	Procter & Gamble
Kyle Watts	Whiteville, NC	Nan Ya Plastics



2007 Graduates at the Senior Banquet

### Doctor of Philosophy in Wood and Paper Science

Qirong Fu — Dissertation: Studies on the Pyrolysis of Chromated Copper Arsenate-Treated Wood: Analytical Methodology and Optimization.

Mathias Lindstrom — Dissertation: Integrating Black Liquor Gasification with Pulping-Process Simulation, Economics and Potential Benefits

Daniel Saloni — Dissertation: Process Monitoring and Control System Design, Evaluation and Implementation of Abrasive Machining Processes

## Department of Wood and Paper Science

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Paper Science @ NCSU Newsletter

Summer-Fall, 2007

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Editor: Carrie Hanayik

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Hanayik, Pat Hill, Dr. Hasan Jameel, Dr.  
Martin Hubbe, Dr. Steve Kelley, Dr. Lucian  
Lucia, Celeste Richie, Dr. Richard Venditti

## Dr. Chiang receives \$700,000 Grant

Dr. Vincent Chiang & Tracey Peake News Services, Oct. 24, 2006

A scientist at North Carolina State University has received a \$700,000 grant funded jointly by the U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) to develop woody biomass "feedstock" that can be easily converted into ethanol.

Dr. Vincent Chiang, professor of forest biotechnology in NC State's College of Natural Resources, hopes that the grant will enable him and his team to discover the genes that control wood production in trees, leading the way to producing trees with greater amounts of cellulose and hemicelluloses that can be extracted more efficiently.

Cellulose and hemicelluloses are sugar polymers that can be converted into simple sugars, such as glucose, and then fermented to become ethanol. Collectively, cellulose and hemicelluloses are called polysaccharides. Wood is a great source of these polysaccharides – the substances comprise approximately 70 percent of wood's weight.

Extracting polysaccharides from wood or from any plant biomass is difficult because they are contained within lignin, a polymer that "glues" polysaccharides together to form wood. The lignin needs to be broken down with the use of acids or other environmentally harmful substances, which makes extracting the polysaccharides challenging.

"We have engineered trees with less lignin, and as a result we know that those trees are very useful for ethanol production," Chiang says. "Now we're interested in looking not just at genes that control lignin production, but at the genes that regulate how polysaccharides are made in wood."

To do that, Chiang is working with the eastern cottonwood, the only tree species with a sequenced genome. He wants to isolate the genes that regulate the manufacture of the three major components of wood: lignin, cellulose, and hemicelluloses.

"We want to understand at the genome level what controls the synthesis of the three major components of wood," Chiang says. "If we can find the regulators that tell a tree to make more of one component and less of another, then we can engineer trees that are enriched with polysaccharides – a perfect feedstock for ethanol"



Dr. Vincent Chiang