

## The Dandy Scroll

Volume XLV No. 3 • Fall 2002

### 50 Years Later the First UMaine Pulp & Paper Foundation Scholarship Recipients Return to Speak of Honor, Integrity and Accomplishment

The second Thursday of each September is the meeting date of the Foundation's Scholarship Committee which is followed by our annual Scholarship Reception to disperse tuition checks to current scholarship recipients. Traditionally, each scholarship reception features an industry guest speaker addressing a topic of interest to our students.

This year our reception was the 50-year anniversary of the first class to receive Pulp and Paper Foundation Scholarships. Five of the original nine *FIRST* scholarship recipients returned to campus for dinner and a lively panel discussion.

Master of Ceremonies for the evening and panel session was Donald Beaumont, Executive Vice President, Metso Paper Biddeford, ME. Peter Hoff, President, University of Maine, brought greetings on behalf of the University. Our distinguished guests were Jim Ayer, '51, (and alphabetically the first scholarship recipient); Frank Butler, '52; Bob Perry, '52; Roy Webber, III, '52; and Robert Zabe, '52.

After introductions, Don Beaumont asked each panel member to tell the audience about their career paths. Students were told of both paper and non-paper industry careers. It was obvious to the audience of how proud each of our guests were to be University of Maine Engineering graduates and how their UMaine education helped them to realize their dreams. Our guests told our students they cannot think of any industry that will offer more challenge. The opportunity to grow and seek your full potential will be tremendous. There is a new era and growth being offered by global competition.

*Distinguished Guests - continued*



Returning to Campus to Celebrate the 50th Anniversary as the first students to receive University of Maine Pulp & Paper Foundation Scholarships were (left to right): Robert Zabe, Jim Ayer, Frank Butler, Roy Webber, III, and Robert Perry.

### Pride in the Past and Faith in the Future ... A Message from Executive Director, Peter Duncan

Every day this summer we experienced another event, i.e., the ability to experience easily accessible parking spaces. Some of us had actually forgotten the difficulty with parking during the fall and spring semesters, but September 3<sup>rd</sup> resulted in a wakeup call. In this case the words are literal as early arrivals get parking spaces. All others are doomed to circle various lots in search of a place to park on campus.

Each fall starts off with a significant call on student's time with numerous meetings scheduled. As an example, the first Chinn Management Seminar was scheduled to meet on September 3<sup>rd</sup>, the 1<sup>st</sup> day back. And a key event for us, The Scholarship Committee Meeting and Banquet, was scheduled to meet on September 12<sup>th</sup>. We anticipate good attendance for this meeting as it is the day the Committee issues tuition checks to those students who qualify.

Normally we have a guest speaker from the paper industry but this year we had another event to celebrate. It was the 50<sup>th</sup> anniversary of the 1<sup>st</sup> students to receive scholarships, and it was an excellent fit with events surrounding the Scholarship Committee Meeting. We were able to encourage 5 of the original nine men that received a scholarship 50 years ago to attend our scholarship banquet. It turned out to be a memorable program.

Don Beaumont, Vice President of Metso Paper Biddeford and a member of our Executive Committee, led a panel discussion with our five guests, Jim Ayer, Frank Butler, Bob Perry, Roy Webber, and Bob Zabe. Each had an impressive career and each had interesting experience to relate and sage wisdom to offer. President Hoff gave an excellent welcome and reminded all of us that the joy of giving could only be matched by the joy of receiving. Dean Matthews inducted each of our guests into the Francis Crowe Society. The session closed with the 1<sup>st</sup> recipients giving full tuition scholarships to 89 students.

Later many students commented on the experience with more than one noting that they had a view of where their education could lead.

The University of Maine celebrated its 100<sup>th</sup> anniversary in 1965. There was a contest to create a slogan for that Event and the slogan chosen was *Pride in the Past and Faith in the Future*. On this occasion our pride and our faith joined together and it was a wonderful event.



*Continued - Distinguished Guests*

When asked what advice they would give to our students, the panel quickly responded with stories from their career experience. The panel told the audience of how grateful they were to be scholarship recipients. They also told our students to never lose sight of honor, integrity and accomplishment.

**Francis Crowe Society Induction**

The evening wrap-up was presented by Dr. Larryl Matthews, Dean of the College of Engineering who surprised each of our honored guests and Foundation Director, Peter Duncan, with induction into the Francis Crowe Society.

The purpose of the Francis Crowe Society is to bring closure to the undergraduate engineering education experience by holding ceremonies that instill the bond between students and faculty. The Society recognizes "Distinguished Engineer Members" each year. The award and ceremony focus on excellence in engineering. New members read the Engineers Creed and the Code of Ethics of the National Society for Professional Engineers. As a symbol of their membership, our inductees received a medal and certificate from Dean Matthews.

In the days following the Scholarship Banquet, students dropped by the office, and sent email to thank us and to suggest we do this again next year with another 50 year reunion class. One student summed it up perfectly, she said, "This was by far the most educational and entertaining event I have attended as a scholarship recipient. I hope my career in the paper industry will be as fun, fulfilling and as rewarding".



Frank Butler, ChE, '51 is inducted into The Francis Crowe Society by Dr. Larryl Matthews, Dean, College of Engineering at the September 12th Scholarship Banquet.

**Fall Scholarships to 89 Upper Class Students 18 First Year Students Expect to Receive Spring Scholarships**

The Foundation's Scholarship Committee has awarded full tuition scholarships, valued at more than \$190,000 to 89 students for the Fall semester. Additional awards amounting to \$18,000 have been extended to 18 first year students providing they meet scholarship grade criteria.

In announcing the scholarship awards, Foundation Scholarship Committee Chair, Jack MacBrayne III, of International Paper (retired), said "As is always the case, we are pleased with the caliber of students represented by Foundation scholarships. Each student receiving their scholarship check has had paper industry related experience either through internships or co-op employment. Our students are the people we will want to hire when they complete their college degrees. For twelve consecutive years all our scholarship recipients have found industry jobs, or have continued their education after graduating from the University of Maine. We are supporting the students the industry wants to hire."

Eighty-seven students are from Maine, one student is from Maryland, and one is from Virginia. By class there are 26 seniors, 30 juniors, and 33 sophomores. Students are currently studying Chemical Engineering (39), Mechanical Engineering (16), Electrical Engineering (11), Mechanical & Electrical Engineering Technology (12), Civil and Environmental Engineering (7), Computer Engineering (2), and Forestry (2).

At its meeting preceding the scholarship banquet, the committee agreed to offer scholarships to up to 30 incoming first year students in the Fall 2003. The committee also recommended continued Foundation support for up to 100 upperclass scholarships in 2003. All scholarship awards are based on merit and the student's demonstrated interest in considering a paper related technical career upon graduation from The University of Maine.



Robert Perry, ChE, '52, presents Chemical Engineering student, Danielle Harvey her fall 2002 scholarship check at September's banquet.

## UMaine Engineering Students to Compete in 2003 National Energy Challenge

For the fifth consecutive year, 13 students from the University of Maine College of Engineering, under the leadership of Professor John Hwalek of the Department of Chemical Engineering, will compete in the 2003 Energy Challenge. The Energy Challenge is an outgrowth of partnership created between the American Forest and Paper Association, The U.S. Department of Energy Office of Industrial Technologies and The Institute of Paper Science and Technology.

This year's competition is to build a Paper Hang Glider. The sail construction material must consist of a minimum (weight basis) of 80% natural wood cellulose fiber that is evenly distributed throughout the sail. Layered or extruded construction is not allowed. Sails containing more than 80% natural wood cellulose will be more favorably scored. Functional coatings are allowed on the surfaces of the sail. Sail battens are allowed, however, they must also conform to the 80% natural wood cellulose fiber requirement. Competing teams will receive a template for the sail from the Energy Challenge 2003 staff.

Teams will design, construct, and fly their hang glider and are reminded this will be a gliding, not a soaring event and as a result need to design their hang glider accordingly. Competing teams will receive a template for the sail from the Energy Challenge 2003 staff. The hang glider sail will be scored on the factors of weight (including battens), conformance to the required sail area of 191 square feet, sail tear strength, sail tensile strength, sail moisture resistance, sail recycle content and sail aesthetics and novelty as judged by a United States Hang Gliding Association (USHGA) certified instructor-pilot. The glider framing will be provided by the Energy Challenge 2003 staff. Points will also be awarded for novelty and creative design. This competition is being held in concert with the First Flight Centennial Programs scheduled around the United States in 2003 to commemorate the Wright brother's first flight in 1903.

Energy Challenge teams have until April to build their hang glider. At this time they will travel to the national competition to be held on Saturday, April 5, 2003 at Kill Devil Hills, North Carolina. The winning team will receive a \$15,000 prize, with second place receiving \$10,000 and third place receiving \$5,000. The University of Maine Energy Challenge team has done well in previous competitions winning first place in 1999, second place in 1998 and 2001, and third place in 2002. In past years the money won, as a result of the competition, has been used to purchase computers and computer software for the student computer lab in Jenness Hall.

The University of Maine team meets weekly and welcomes industry sponsorship and support. If you or your company would like to provide materials or other financial support, please contact Dr. John Hwalek at (207) 581-2302. More information about Energy Challenge 2003 can be found on IPST's website at [www.ipst.edu/energy\\_challenge/main.html](http://www.ipst.edu/energy_challenge/main.html).



Students pictured above are part of the 2003 National Energy Challenge design team. This year's competition is to build a hang glider made out of at least 80% natural wood cellulose fiber.

## New Foundation Company Members

It has become increasingly difficult to maintain a relationship with existing members due to industry consolidation and economic conditions. However, with a much strengthened Membership Committee, under the leadership of John Wolanski, US Filter Corporation, we are pleased to announce the following companies have learned of the value of membership and joined our Foundation in 2002:

### Scholarship Underwriters

- Bercen Incorporated
- Honeywell Incorporated
- Precision Rollgrinders Incorporated
- Safe Handling Incorporated

### Company Members

- Paradigm Incorporated
- Procter & Gamble Incorporated
- Specialty Minerals Processing Inc.

These Companies are very much aware of the tremendous potential of being a part of the UMaine Pulp & Paper Foundation. We welcome these new members to our team and we look forward to their participation in various committee activities, co-op program and at the Board level. Most of all, Company members get a first call on our product, namely, a steady stream of quality engineers dedicated to work with paper and paper related companies.

For more information on becoming a Pulp & Paper Foundation Company Member contact, Peter Duncan, Executive Director, at 207/581-2298 or email Peter at: [duncan@maine.edu](mailto:duncan@maine.edu).

## Help a Capable Scholarship Recipient Find Summer Employment in the Industry

Pulp and Paper Foundation Scholarship Recipients must meet two criteria to maintain their scholarships. The first, academic performance, is easy to evaluate. The second, a demonstrated interest in our industry, is determined by attendance at Chinn Engineering Management Seminars and the student's ability to find summer employment within the industry.

Do you have a technical job needing staffing so the project can be started or continued? Consider hiring a Pulp and Paper Foundation scholarship recipient who has an interest in our industry and is doing well in school. Contact Faye Woodcock-Murray at the Foundation office to request resumes of students available to accept summer employment. Students without 2003 summer jobs may lose their Foundation scholarship. Call Faye at 207/581-2297 or by email: [woodcock@maine.edu](mailto:woodcock@maine.edu).



## Foundation Membership Committee Reconnects with Alumni, Members & Mills

The UMaine Pulp & Paper Foundation Membership Committee began holding their quarterly meetings at paper mill sites throughout the state to reconnect with alumni, company members and the local paper industry. This gives mill management and alumni a chance to hear first hand about Foundation benefits and activities. According to the Membership Committee Chairman, John Wolanski, "The mills represent the heart of the paper industry and meeting at the mill keeps us focused on the current issues facing both our papermaking and supplier company members. This also gives us a chance to share UMaine news with the alumni and ask for their help in supporting the Foundation."

Recently at International Paper in Bucksport, more than 30 UMaine engineering alumni from the mill attended the UMaine alumni luncheon that was sponsored by the mill manager, Fred Oettinger. Fred generously hosted the luncheon and allowed the Committee to meet in the new Employee Development Center at the mill. "This is a good opportunity for IP Bucksport to get reacquainted with the Foundation and we are happy to support them," he said.

During the luncheon, Foundation Executive Director, Peter Duncan, thanked the mill for their interest and support. He said, "Despite the paper industry challenges we face today, brought about by consolidation and global competition, the UMaine Pulp & Paper Foundation continues to thrive and produce a steady stream of high quality engineers who plan to have a career in the paper industry. This is evidenced by the fact that we have achieved 100% job placement for our

class of 2002. We need the continued support and contributions of our alumni and company members to continue this success".

The next Membership Committee meeting and alumni luncheon will be held on December 2<sup>nd</sup> at the MeadWestvaco mill in Rumford, ME. For more information about becoming a member of the Foundation, please contact John Wolanski at 207-799-5200 or wolansjt@usfilter.com.



UMaine Pulp & Paper Foundation Membership Committee and International Paper's Bucksport alumni at the September 27<sup>th</sup> alumni luncheon hosted by IP Mill Manager, Fred Oettinger.

## A Student Says 'Thank You' for His Pulp & Paper Foundation Scholarship

*Each year Pulp & Paper Foundation scholarship recipients write to the sponsor of the endowed scholarship which supports their financial award. The students express appreciation and report on recent work experience and future plans.*

*Andrew Sirois has received his Foundation scholarship since his first year at UMaine. Now a senior, he is getting ready to graduate and to join other alumni in the paper industry. Andrew writes:*

Mr. Donald P. Aiken  
Dear Mr. Aiken,

It was my great honor to learn that I have been chosen as the recipient of the scholarship you have graciously donated to The Pulp and Paper Foundation. Because of your generosity, my tuition is paid for the following year enabling me to complete my dream of getting a college degree. This is my fourth and final year here at The University of Maine. I am obtaining my bachelor degree in Chemical Engineering.

This past spring semester, I worked at Fraser Papers, Inc., in Madawaska, ME. This was my second co-op term at Fraser. I also worked at Fraser after my first year of college as a Process Lab Technician. This past spring I worked mainly with the freshwater systems of the paper machines I traced water lines and conducted material balances around the water tanks to determine how much water was being used in various parts of the mill. I worked with the engineers to minimize the water flow to the machines. We also optimized the water flow to the dryer exhaust heat recovery coils. This co-op term has helped me develop engineering skills as well as the communication and organizational skills that I will need later in my career and in life as I take on larger, more extensive challenges.

It is a privilege to be awarded the scholarship honoring Evelyn & Paul Aiken. Thank you for donating this scholarship in their memory. I will continue to work hard in my remaining year of college and in the years following to uphold the honor of being a Pulp & Paper Scholarship recipient.

Sincerely yours,  
Andrew D. Sirois

## Foundation Newsletter Sports *NEW* Name

Since it's first edition, the University of Maine's Pulp and Paper Foundation's Newsletter has simply been called "Newsletter."

The "Name the Newsletter" contest announced in the Summer 2002 edition of this newsletter was successful in soliciting more than a dozen submissions for consideration.

The following titles were presented for consideration:

- The Dandy Scroll
- The Pine Needler
- The UMaine News Reel
- UMaine Reel News
- UMaine Paper News
- UMaine Paper Crier
- The UMaine Fan Pump Gazette
- The UMaine Fan Pump Express
- The UMaine Paper Tail
- The UMaine Paper Trail

After reviewing entries, a team of "distinguished but biased" judges choose "The Dandy Scroll" which is proudly displayed starting with this newsletter. Our winner was notified of the honor and although pleased, wishes to remain anonymous.

We would like to take this opportunity to thank all who participated in our contest.

## Alumni Personals

**Edwin D. Healy**, '58, has been appointed Vice President of Kadant, Inc., Middletown, OH. He will also continue to serve as President of Kadant Black Clawson, Inc.

**Mark E. Hutchinson**, '76, has joined Hollingsworth & Vose Co., Ltd., in Cheltenham Glos, England as Director of Operations - Europe.

**Michael R. Webber**, '76, has been promoted to Project Engineer at Madison Paper's mill in Alsip, IL.

**Lori Tuttle**, '83, has joined Madison Paper Industries as Manager of Product Development in Alsip, IL.

**Peter W. Hart**, '84, is now Senior Research Engineer, with MeadWestvaco in Silsbee, TX.

**Stephanie M. Picard**, '86, has joined Georgia-Pacific in Zachary, LA, as Technical Superintendent.

**Scott A. Belisle**, '82, has been named Manager of Marketing & Production at Curtis Fine Papers in Richmond, VA.

**Joel A. Miles**, '90, has joined Paradigm Chemical & Consulting in Charlotte, NC, as a Director.

**Barry Cunningham**, '92, has joined Solvay Paperboard, in Syracuse, NY as Business Unit Specialist, #1 PM.

**Heather Murphy DuBois**, '96, has been promoted to Account Manager with ONDEO Nalco in Matthews, NC.

**Marcia Gagne Powers**, '96, has been promoted to Product Performance Manager at International Paper, Jay, ME.

**Peter Fogg**, '97, has been promoted to Pulp Mill Supervisor at International Paper in Bucksport, ME.

**Carrie Hurd Enos**, '99, has been promoted to B5 Team Coordinator at International Paper's Bucksport, ME mill.

**Elisha McVay**, '99, has joined Georgia-Pacific's Old Town, ME mill as Environmental Engineer.



Peter Duncan, Executive Director, is pleased to announce Deborah Seekins has joined the Foundation staff as Administrative Assistant.

For the past twelve years Deb has been employed as Secretary to the Director of The Maine Center for the Arts. Deborah joined the Foundation staff in November and is quickly settling into her new position.

Deb's duties will be to help Peter and Faye by assuming many of the routine day-to-day office procedures. Deborah is looking forward to putting many names and faces together at our Annual Open House in April.

## Year-End is an Ideal Time to Establish an Endowment Fund

The end of the year is quickly approaching. Now is an excellent time to consider making a lasting gift in appreciation for your career opportunities or to honor someone who was instrumental to your success.

There is no other school in America that has more alumni working in paper-related technical jobs than the University of Maine. Over the years the Pulp & Paper Foundation has helped more than 2500 deserving undergraduate students with scholarship assistance.

While many scholarships are created through a one-time gift, it is also possible to create a fully endowed scholarship fund by making donations over a period of years. If your company has a matching gift program, your gift can be multiplied, sometimes with a 2 for 1 match.

All endowment gifts are invested with the expectation of having earned income and capital appreciation. Endowment funds are not used to make scholarship awards until they reach a balance of at least \$10,000.

Each named scholarship is awarded to a student who in turn writes a letter of appreciation to the donor describing the impact the scholarship has had on their education and career development.

For more information about ways of making an endowment gift to The Pulp & Paper Foundation, contact the Foundation's Executive Director, Peter Duncan at 207/581-2298 or by Email at [duncan@maine.edu](mailto:duncan@maine.edu).

If you have an item for  
**Alumni Personals**  
please contact  
**Deborah Seekins**  
at the Foundation Office  
207/581-2296



THE UNIVERSITY OF MAINE  
CLASS OF 2003



Candidates for Placement in  
**PULP & PAPER**  
and Allied Industries

**Class of 2003 Offers  
Work Experience and  
Strong Academic  
Performance**

Twenty-six members of the University of Maine's Class of 2003 are introduced in our annual *Candidates for Placement* brochure which has been distributed to Foundation Corporate members. The brochure provides a photograph and abbreviated resume showing how each of our students have a background and work experience the industry will find attractive.

The students represent six engineering disciplines: chemical, mechanical, electrical, civil & environmental, computer and mechanical engineering technology, and include 9 women. Students have interests in many areas from the expected process and project engineering to preventative maintenance, quality improvement, safety and environmental engineering. Every student featured in the brochure is a scholarship recipient and has experience and significant exposure to the industry through co-op jobs or internships. Nearly all students have worked in a paper mill, some with several paper mills if they have had summer jobs with suppliers.

To learn more about graduating students, and their technical capabilities, or to request copies of the *Candidates for Placement* brochure, contact Faye Woodcock-Murray at 207/581-2297 or by Email at woodcock@maine.edu.

**First Year Scholarship  
Applications Available**

The Scholarship Committee has announced it will offer \$1,000 first year scholarships to up to 25 students entering the University in the Fall 2003.

Scholarship applications are available now for students who are considering attending the University of Maine to study engineering in preparation for working in the paper or a paper related industry.

Successful scholarship applicants have traditionally been in the top 10% of their graduating class with SAT scores in the top 10% of all test takers.

First year scholarships are for \$1,000 and require the recipient to earn a 3.0 grade point average while completing at least 14 credit hours of Fall courses. First year scholarships are renewable for full Maine resident tuition for each of the upperclass years at The University of Maine provided the recipients show a continuous interest in the opportunities available in the paper and supplier industry.

Scholarship applications have been mailed to most Maine High School Guidance Directors. Applications are also available by calling the Foundation office at 207/581-2296 or by visiting our website at [www.mainepulpaper.org](http://www.mainepulpaper.org).

**Mark Your Calendars  
Plan to Attend  
The University of Maine  
Pulp & Paper Foundation  
OPEN HOUSE  
April 3 & 4, 2003**

**2003  
Consider Engineering  
4-Day Summer Program  
for High School Students  
Completing Their Junior Year**

**Two Sessions Offered  
July 13-16 and July 20-23  
For an Application  
Call the Foundation Office  
207/581-2297**



The University of Maine  
Pulp & Paper  
Summer Institute  
June 10-12, 2003

- Gain a broader understanding of the underlying principles of pulp & paper manufacturing processes
- Learn the latest technology from front-line experts
- Meet people who can help solve your technical problems and improve process efficiency
- Take home the latest text information for future reference

**PRESENTED BY 16  
INDUSTRY PROFESSIONALS**

The Summer Institute is designed to help you learn the breadth of the industry's processes while inviting you to probe, as deeply as you wish, into any particular area of personal interest. You will be taught by people at the forefront of knowledge in areas including pulping, papermaking, and machinery development. Lecturers are all experienced professionals selected on the basis of their knowledge, experience and proven teaching ability. They will be available to answer your individual questions before or after each presentation. As an optional supplement to classes, you will have an opportunity, at no additional cost, to tour one of Maine's modern mills.

**FOR MORE INFORMATION  
OR TO REGISTER**

For additional information concerning any aspect of the Pulp and Paper Summer Institute program, including requests for copies of the 2003 brochure, please contact: Faye M. Woodcock-Murray, Registrar, Pulp & Paper Summer Institute, 5737 Jenness Hall, University of Maine, Orono, ME 04469. Telephone (207) 581-2297 or email Faye at woodcock@maine.edu.

## Chinn Management Seminars Well Attended by Students

Each semester the Jack E. Chinn Management Seminar Series is set up to offer timely topics of interest to engineering students. Four presentations were scheduled for the fall semester. Three seminars are currently being scheduled for the spring semester.

The seminars give students the opportunity to meet industry managers in an informal setting. Topics cover people and business subjects not traditionally offered in an engineering curriculum. Students are encouraged to bring guests who might also be interested.

On their first day back to campus in September, scholarship recipients learned how to write a "Resume to Remember" presented by retired Foundation Executive Director, Stan Marshall. In his presentation students learned what the purpose of a resume is; what readers are looking for when they read a resume; how important it is to have your resume stand out from all others; and what it takes to make a resume memorable.

Two weeks after our first presentation the Human Resources team from International Paper was the company host for the second seminar of the year titled "Interviewing Skills". In their presentation students learned about prework; resumes; campus interviews; second interviews; and the importance of writing interview thank you letters.

Larry Hutchinson from ONDEO Nalco was our third guest speaker of the semester with his presentation titled, "Your Future in Paper". Larry spoke to the students about opportunities in the industry both in and out of the country.

The last presentation of the semester was a joint venture with Dr. Marquita Hill's Environment Seminar Series. David Peaks spoke to the students on "Pollution Prevention: How It Is Done & How Can You Use It".

Each seminar was followed by a light dinner sponsored as part of the Series. The dinner offers students an opportunity to talk with speakers and ask questions.

If any reader would like to present a Chinn Engineering Management Seminar on a timely topic of interest please contact Peter Duncan at 207/581-2297 or by email at woodcock@maine.edu.

## Fall Engineering Career Exploration Seminars Conducted in Maine and Massachusetts

High school students from Maine and Massachusetts were invited to participate in Engineering Career Exploration Seminars conducted by The Pulp and Paper Foundation this fall. Foundation Member Companies hosted and sponsored the events which took place in locations in and outside Maine. Students learn first-hand about engineering disciplines and what an engineering career may be like.

Foundation Executive Director, Peter Duncan conducted seminars held in Maine while Dill Paiste, of FiberMark, Inc., (retired), conducted seminars held in Massachusetts.

The day-long programs give high school students, their teachers and guidance counselors an opportunity to learn more about engineering and engineering career opportunities.

The program begins with information about the the differences between technical occupations including skilled worker, technologist, engineer and scientist. Each occupation is described relating to the programs of study available in college and the kinds and amounts of communication skills needed. Students explore the many kinds of engineering available and how each engineering discipline is unique and different. Students also have the opportunity to complete a self assessment exercise to identify what they want to find in a career as well as learn about their own strength and interests. Following the morning classroom style activities the students spend a hour or two with engineers on tours of hosting facilities. Students have lunch with their engineer hosts and the program is concluded with a panel session where engineers answer questions posed by the students.

The program, over the years, has helped several thousand prospective engineering students learn first-hand what an engineering career may be like. Typically more than 25% of all the students who participate in the Engineering Career Exploration Seminars later decide to study engineering at The University of Maine. The seminars give high school sophomores, juniors and seniors a unique opportunity for career exploration which in many cases proves to be the deciding factor in making their college and career choice.

Starting in January, Foundation Executive Director, Peter Duncan will continue the Career Exploration seminars in Maine and in March will also conduct a day-long seminar at Glatfelter Company in PA and at MeadWestvaco in MD. The Foundation is currently exploring ways to recruit more out of state students and is willing to take the program to your location if there is student interest. If your company would like to host a seminar at your location, please call Peter at 207/581-2298 or send him Email at duncan@maine.edu.



High School students are working to solve an engineering problem with engineers at Metso Paper in Biddeford, ME, as part of a day long Engineering Career Exploration Seminar.

## Return Service Requested

### Determining Pulp Yield by the University of Maine Method

For most paper companies, the cost of wood is a major factor in the overall cost of producing paper. Therefore, improved pulp yield can lead to significant savings and increased competitiveness in the market. Pulp yield has traditionally been estimated based on wood usage and pulp sales data over time, but these measures are not useful to pulp mill operators working under dynamic operating conditions. To optimize pulp yield by changing operating conditions, the pulp mill operator must be able to monitor changes in yield. At the present, there is no accurate “real-time” means to do this. Determination of the yield directly from the wood and pulp mass flow rates lacks the required precision.

Recently, scientists at the University of Maine have developed and validated a new, indirect method for determining pulp yield. It is an improved version of the  $Y_{Cell}$  method which also takes into account cellulose losses brought about by reactions that take place in the strong caustic solution used in the wood pulping process. The University of Maine method relates the cellulose yield to cellulose

degradation (*measured as pulp viscosity*), and then calculates the pulp yield from the cellulose yield and mass fraction of the pulp.

Here is how the service works. Mill personnel select duplicate samples of chips and of washed brown stock pulp that are representative of the collected chips. The cooking conditions of the mill operation are recorded and the samples are sent to the University laboratories where duplicate cooks are performed in the rocking digester at the mill-specified conditions. The mill and the laboratory pulps are then analyzed for their content of cellulose and hemicellulose (*by Ion Chromatography*), lignin content (*by kappa number*), and cellulose degree of polymerization (*by intrinsic viscosity*). The information obtained permits a calculation of the total yield for the mill operation using a “calibration curve”. Results are reported to the mill in about two weeks. The University has developed a data bank for estimating pulp yield using this technique for a variety of wood species and validated the method. This data bank can be used to estimate the yield

of a variety of pulps provided the wood furnish composition is known.

If you would like to find out more about this service and how it could help your mill optimize its yield, please feel free to call Dr. Adriaan van Heiningen at 207-581-2278. All inquiries and research projects are strictly confidential.



UMaine presents a pulp yield method based on fundamental chemistry that related alkaline pulping yield to mass fraction and degree of polymerization.

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