Your Innovative Ideas and Packaging Solutions Resource

Innovative ideas and creative solutions bring your products into focus.

People • Customers • Trust

Packaging Corporation of America offers a wide range of packaging solutions and services that meet your particular needs, no matter how complex, with value built in from start to finish.

For help with your packaging and design needs, please contact us at 800-456-4725.

Packaging Corporation of America
1955 West Field Court
Lake Forest, IL 60045
(800) 456-4725

www.packagingcorp.com

PCA is Proud to Support North Carolina State University’s Paper Science and Engineering Program.
Preface
-Patrick Leasure & Scott Strednak-

On May 13, 2013, twenty juniors and seniors embarked on an adventure called the Paper International Experience, also known as PIE. On this twelve-day adventure, students and faculty visited Shanghai, Suzhou, Nanjing, Jinan, Beijing, three paper mills, two universities, one research institute and a fabrication facility. Along with exploring the international side of the paper industry, students were able to engage in a new culture, interact with students in other paper programs, eat a bizarre range of foods, and do tough bargaining in the marketplace. This was a once-in-a-lifetime opportunity to gain a better understanding of the paper industry as a whole and further the student’s professional development.

This year was the fourth edition of the PIE trip and the second time students have visited China. In China, the paper industry has rapidly grown over the past few decades and continues to be on the rise. One contributing factor to the growth is the availability of new technology for recently constructed mills. It is not likely that within these students’ professional careers will they see a mill be constructed in the United States, whereas China is building continuously. The PIE trip has allowed each of these students to see growing part of the industry as well as make comparisons to the mature industry in the United States.

Along with the two trips to China, students have also visited Brazil and Chile. The overall goals of PIE, as stated in the 2007 PIE report, are to give students a significant international experience at a reduced cost, expose students to a significantly different culture, visit manufacturing facilities with modern technology, and start students thinking about how the mature US industry can compete more effectively with the rapidly-growing industry in other countries. Although these goals seem quite ambitious, it was evident that the students, through this PIE 2013 trip to China, met and exceeded each goal.

A special thanks is extended to everyone that helped make this trip achievable for the students. Contributions from industry, foundations, and past PIE alumni helped the students raise approximately $45,000. Another special thanks goes out to Dr. Hou-min Chang for all of his help in planning the trip and coordinating with the facilities and universities that the students visited. Without all of this support, this amazing educational and developmental experience would not have been achievable for these fortunate twenty students and future young professionals.

We hope you enjoy the remainder of this report written entirely by the students.
Day 1 & 2
-Ashley Austin & Kim Phillips-

We arrived at the Raleigh-Durham Airport around 4 am for our 6:10 am departure to Toronto. We landed in Toronto around 9am and for some, it was the first time out of the country. Most of us were finally waking up and playing games to pass the time. At 1 pm Monday we left for Shanghai, and 3 meals and 14 hours later we reached our first destination. We left the airport by bus at 4:50 pm where we met Sunjin, the tour operator from the travel agency. While in Shanghai, we stayed at the Riverview Hotel. This hotel is located next to the Bund, a large river that runs through Shanghai with a lot of nightlife along the banks. Students checked in to their rooms, changed clothes and headed to their first real Chinese meal. A theme of large meals with new food became evident very quickly. After dinner, the group went downtown to experience some of the nightlife. There were huge buildings covered in lights and advertisement videos all along the river, boats that cruised along as floating bars, and thousands of people just walking along to see the sights. It was a beautiful night as we walked along the river for about 2 hours until we headed back into the hotel for some much needed sleep.

Day 3
-Ashley Austin & Kim Phillips-

We left the hotel at 9 am and met our tour guide, Echo. On our way to Zhuji jiao, an old water town in Shanghai, we learned a lot about Shanghai history. The city itself is more than 2,500
years old, but it used to be a small fishing village and the area was called Hu. In the Ming dynasty, Shanghai grew into a bigger town where they produced a lot of silk. In fact they produced so much silk that they could make enough clothing for the entire country. In the Ching dynasty, the government was forced to open 5 cities for ports to foreigners, and Shanghai was the first port and international city.

Upon arriving in Zhujiajiao, we were immediately surrounded by local people trying to sell us merchandise. This area has a lot of street shopping and the opportunities to test our bargaining skills. Once we entered the town we saw many small shops and gondolas on the river, but we continued to walk until we arrived at a large bridge. Echo told us that there are three bridges like the one we were on in the area and each bridge has a different meaning. The first bridge stands for money or wealth, the second for luck and fortune, and the third (the one we were on) stands for long life. When someone gets married it is traditional for the bride and groom to walk along each bridge and then to buy some fish from the vendors in the area and set them free in the river. If the fish swim under the bridges then the new family will be blessed with whatever that bridge represents.

We were then given some free time to walk around North Street to practice our bargaining skills and to look at some of the interesting street food. After about an hour we went to a local restaurant for lunch where we were served a mixture of frog, pig knuckle, pork, beef, sweet and sour fish, rice, snow peas, and crawdads. After lunch we headed to the Shanghai museum in downtown Shanghai.
On the way to the museum, Echo taught us more about the culture, such as Emperor pork and the dragon boat festival. During the Ming dynasty the local people wanted to do something special for the emperor. The people believed that the most delicate food to serve him would be whole pieces of pork, chicken, fish, or duck. They knew that the emperor could not eat a whole piece of meat at once so they had to come up with a more practical way for him to eat it. The people began to cook the pork for an extended period of time. By cooking the meat 2 to 3 hours the pork became very tender, making it easier for the emperor to eat. Therefore this type of cooking is "fit for emperors."
The dragon boat festival was started to honor an old leader. Two thousand years ago there was no emperor because China as we know it today did not exist. At that time China was made up of multiple kingdoms. The people in the district where Shanghai is now located loved their leader. However, other districts were beginning to fear the power that he had over the people so they removed him from power. He became very upset and began to drink excessively. One day, he jumped into the river and drowned. The people in the district were extremely upset by this and feared that by dying in the water, the fish would eat him. They believed that having multiple boats in the water would scare the fish away and throwing special rice dumplings into the water would keep their leader safe. This occasion is celebrated on the 5th day of the 5th lunar month of each year with boat races and these special dumplings.

The Shanghai museum is located in the middle of the people’s square. The museum has 10 different galleries including Chinese bronze, calligraphy, jade, and furniture collections. This was a great opportunity for students to see the culture and history of Shanghai. We spent about 2 hours walking through the museum and looking at all of the artifacts.
After the museum we went to the Jade Buddha temple and to the plaza (bazaar) that was built outside the temple. After some sightseeing and shopping we went to dinner, where we had a hot pot meal. Hot pot is similar cooking style as fondue. We had two types of broth, one being spicy, and they served us plates of raw meats and veggies. We threw them in the pot, waited for them to cook, and enjoyed! It was delicious! After the meats, they serve uncooked noodles to put in the pot. This way, the noodles cooked with the flavors of all of the veggies and meats in the pot to give it a very nice flavor.

Voith is a German company that is involved in many different industries including, Hydro, Industrial Services, Paper, and Turbo. China’s economic growth is 8% whereas US growth is 3.2%. Paper growth for China is 6.1%, Asia is 4.3%, and US is .1%. We visited a facility in Kunshan that is part of Voith. This facility primarily produces fabric and roll covers. There is also a pre-assembly hall and a manufacturing part of the site. Voith assembles the machinery before sending the parts out to the customer, to speed up installation and ensure all parts fit properly. There are 1-2 new machine start ups each month. In 2009 one of their machines started up in 3 hours. They are very energy and environmentally friendly, incorporating solar and wind energy and collecting rain for wash water. They also have recently expanded their facilities and rearranged their machinery for better throughput. We toured their facility and got to see the looms which make the wires and bases for felts. In the looms, the shuttles make 25 passes in a minute on an older machine and 75 passes per minute on a newer machine. We also saw the needling machines that put the batting into the felts, the roll coating machinery, and the machining workshop. In the workshop we saw many parts to paper machines that are not usually seen once installed in a mill: screw press, Yankee dryer hood, basket screens, open scanner head, and suction boxes. We also saw the wet end of a machine in pre-assembly being altered to fit together properly.

We next went sightseeing in Suzhou which is home to five million people. Our first stop was the “Fisherman’s Garden.” This garden is small but famous, and there are copies of this garden in both Beijing and New York. In the front of the garden, there...
Discover the world –
at Voith

Do you like challenging tasks? For over 145 years, Voith has made contributions with its technologies and services for the markets of energy, oil and gas, paper, raw materials, transportation and automotive. Global megatrends like urbanization or renewable energy are the focus of our business. Voith offers a special mix of internationalism, reliability, professionalism and innovation as well as being responsible to our employees and the environment.

With locations in over 50 countries, annual sales of € 5.7 billion and more than 42,000 employees, Voith is one of Europe’s largest family-owned companies.

We are continually striving to develop better products to help solve the challenges of our times. These are key reasons to start your career at Voith.

For more information: www.voith.com/careers
was a tea room which was meant for the servants to give their guests a place to rest and wait until the carriage needed to leave. Also, the presence of a vase (ping) and a mirror (jing) was a good thing because the words, put together, mean “peace”. To make a great garden one must have four components. First is water which has fish, symbolizing a baby dragon, and lotus flowers, resembling Buddha because it cannot be touched. Next, a garden must include walls with windows. This allows for the garden to seem bigger than is actually is, and the windows allow one to view the same area from different perspectives. The third item is to have a narrow and low bridge to connect with nature. Lastly, there must be trees and flowers. One of the trees in the garden is called the daughter tree. This tree is planted the day a daughter is born, and when it is able to be seen from the outside the daughter is ready to be married. The tree is then cut down to make three boxes to hold money, fabric, and a quilt. Trimming trees and silk painting are also used to teach girls patience.

Our next stop was the No. 1 Silk Mill in Suzhou. The daily life of the silk worm is simply eating and sleeping. It takes 25 days to become a full-grown worm and then another 3 days to make a cocoon. Single cocoons are used for clothing and double cocoons are used to make quilts, which are cool in the summer and warm in the winter. One way to find out if the silk is pure is to burn it. If it produces white smoke it is silk, but black smoke means it is fake. The process is done mostly by hand from separating the kinds of cocoons and threading the machine to unwind the cocoon. This thread is then sent to the loom, where it is woven together.

We next enjoyed a cruise of the Grand Canal on a boat that sat very low in the water. This canal connects Suzhou and Beijing and was used for the transportation of silk. It took 2 million people and 5 years to finish this man-made canal. Before we could make it to the canal we had to pass through a gate. The door was made of a single piece of steel and was closed during times of war. The rest of the stone wall was held together with sticky rice almost like cement or mortar in today’s world.

To end this long day we all experienced an authentic Chinese foot massage. We were all in for a surprise. To start, we soaked our feet in a hot bath while the attendants worked on our backs, arms, hands and legs. Our massage was finished off with hot rocks and an intensive foot massage. These people were really
strong handed and hit all of the deep tissue.

Day 5
Kendre Kesler & Mitchell Jones

Gold East Paper was founded May 18, 1997, and it is the world’s largest manufacturer of art paper. The facility we visited in Zhengjiang had three paper machines and is the largest coated paper mill in the world. Two of the machines had paired offline coaters, and the third had an online coater. They also have four super-calendars and four rewinders. Being the largest coated paper mill in the world requires a lot of pulp, and Gold East paper makes their own APP mechanical pulp and imports pulp as well. They have their own power and water generation, as well as converting, packaging, and port. The port is located on the "Long River," which is the longest river in China. It connects to the ocean and aids in imports and exports. Gold East is a very environmentally conscious company by not using chlorine bleaching on site nor purchasing and pulp- ing trees from uncertified forests. Also, the stack exhaust is used by calcium carbonate manufacturing plants. A small zoo is located on company grounds with peacocks, deer, ostriches, pheasants, rabbits, and coy. The entire facility is like a small town containing apartments and houses for the workers, a golf course, pool, courts, restaurants, and transportation.

Day 6
David Stenger & Cullen Alexander

The day started off with a ride to visit the Mausoleum of Dr. Sun Yat-Sen. The mausoleum is located on Purple Mountain, named for the purple light often reflected off the mountain. This location was chosen for the monument because it was a popular hunting spot of Sun Yat-Sen. The design of the mausoleum was chosen after a competition between numerous ideas. An ominous archway headed the tree-lined path to the first building. After walking through this building, we were greeted with 392 steps up to the hall. Inside the hall, a statue of Dr. Sun Yat-Sen was positioned in the center. From the mausoleum we ventured to the beamless hall, an architectural masterpiece in its day. It was constructed in the 14th century without the use of a single beam in the walls or to support the roof; the arch-like construction allows this to be possible. Then we visited the Linggu Pagoda, a 9 story building built in 1931 to honor soldiers killed from the National Revolutionary Army.

After sightseeing, we headed back to Nanjing to tour the Nanjing Forestry University. This university was established in 1952 with a Pulp and Paper program established in 1963. We took a tour of the campus and were given a brief history of the college. Later we were given an informative presentation that focused on the specifics of the school and the Pulp and Paper program at NFU. The school
itself is comprised of twenty colleges, and offers 36 doctoral programs, 90 masters programs, and 58 undergraduate programs. As a whole, NFU has 1,150 faculty members and approximately 30,000 students. NFU heavily prides itself on its global relations. The institution has partnered with 46 other institutions in 20 countries via student and faculty exchange programs as well as research opportunities. The Pulp and Paper program at NFU graduated its first class in 1964, and it has since expanded to about 900 total students.

After our presentation we had a chance to interact with some students from the university and compare and contrast both our studies and culture. English is taught at a young age as part of the curriculum, so the language barrier was minimal during our discussions. One fun fact we learned was that students would learn about the American culture through television shows such as Friends. Also, most of the male students enjoyed watching and playing basketball. After great discussions we attended dinner hosted by the university, where we had additional time to get to know the students in the Pulp and Paper program at NFU. Following our great meal, we headed out with some of the students to a local karaoke bar to show off our “impressive” vocal abilities and be equally dazzled by their skills!

**Day 7**

-David Stenger & Cullen Alexander-

After a riveting evening with the students of Nanjing Forestry University, we departed the hotel early in the morning to make our way to the train station. After acquiring our tickets and finding the correct spot to stand, the nerve-wracking part of this journey approached. The train stops at the station for a brief two minute period, at which point everyone had to depart and board. Luckily this went well, and everyone safely made it aboard and into Jinan after a blistering 300 km/hr (~186mph) train ride. Upon arriving in Jinan, we were treated to lunch by Tralin Paper. After a delicious lunch, our tour of the world’s largest wheat straw mill commenced. This mill produces roughly 2500 tons of product a day, with expansion on the horizon. The production level is obtained with the use of 64 globe digesters and 8 batch digesters. The construction of a new continuous digester, which is near completion, will be the driving force of increased production.
The process starts off with dried wheat straw, which is stored both on site and in the fields of the farmers in the surrounding area. A thatch style roof is utilized on the gargantuan straw piles to sheet off rain water to prevent moisture penetration and raw material degradation. After proper drying, the wheat straw is then cooked in either globe or batch digesters. This mill has actually pioneered a way to utilize indirectly heated batch digesters without the issue of the straw forming a mat and rendering the cook ineffective. After the cook is completed, the mill removes the black liquor, and rather than reclaiming chemicals, the black liquor is spray-dried and turned into pellets for fertilizer. Tralin prides itself on this process and their use of ammonium sulfite pulping. The process becomes cyclic within nature, starting in the field and ultimately ending back up in the field as fertilizer. The fertilizer sells for roughly $600/ton, making it more profitable than the paper.

After the mill tour, we were taken to a conference room where we were able to see some of their products and talk with the mill management. Tralin produces food packaging items like trays, plates, bowls, cups, and napkins/tissues. Ninety-five percent of this food packaging is exported to the United States. We also learned a little more about the mill’s expansion plans. They are currently able to produce 800,000 tons of pulp, 1,200,000 tons of paper, and 1,200,000 tons of fertilizer each year. After adding a chemical recovery system and some other mill enhancements, Tralin plans to be able to produce 2,000,000 tons of pulp, 2,500,000 tons of paper, and 3,000,000 tons of fertilizer every year. Tralin pays the highest tax share of any company in the entire country. Following the mill visit, we enjoyed a second delicious meal with the Tralin employees. We said our farewells and parted ways with our Chinese paper-making friends. After another bus ride we arrived at our new hotel in Jinan and checked in for the night.

Day 8
-Scott Warren & Jacob Vrooman-

Our first day in Jinan was a peaceful one. We started out in the morning going to a natural spring that has been made into a garden. The area is called the Baotu Spring. Along the way our tour guide, Ben, taught us that the Weeping Willow and the Lotus were the city tree and flower. The Baotu Spring is unique because it is completely natural, due to the Mountains south of Jinan and the flat land north of Jinan. They believe the spring to be clean enough to drink coming out of the ground and even have small fountains where you can fill bottles with water. However, they do have signs recommending that you boil the water first. In the area of the spring we found many people practic-
ing Tai Chi, calligraphy and enjoying the sunny day. There was even a stage for people to come and sing. One section of garden was a bamboo garden. One of the buildings inside the garden was in memory of Likuchan, who was imprisoned by the Japanese because he refused to paint anything for them. Jinan as a city has two city walls, one of which was built during the Ming Dynasty and is 2.6 km long. After the garden we took a trip up to the Ming Lake, formerly known as the West Lake. All of the water from the city and lake flows through moats until they reach the Daming Lake. While visiting the lake we took a ride to one of the small manmade islands in the center.

After leaving the Lake we headed to the Jinan University of Forestry for Lunch. This was our first meal not served “lazy Susan” style. We were provided boxes with fish and pork in them, with sides of green beans and cauliflower. They had rice with the meal, and they brought out some large bowls of soup and steamed buns. After our lunch we took a tour of the campus and then went to the library, where we had introductions and got to meet all the other students. Here we took a break and got to talk to students, find out what they studied, and learn their impressions of us and what they do. After this cultural exchange we went to plant a Friendship Tree in a garden maintained by their college. This was followed by a tour of the labs. The equipment was very clean and the labs were spacious enough to have very adequate work space. Their equipment varied from pulpers and valley beaters to a row small batch digesters. Our tour was followed by a pickup game of basketball. China beat USA!

Day 9
-Scott Warren & Jacob Vrooman-

A 4-hour bus ride gave us a chance to reflect on the trip thus far as well as make some general observations about the landscape from the comfort of our seats. Urbanization has not yet consumed all of China. As we traveled toward the APRIL mill, the previously ubiquitous high-rise apartment complexes vanished from the landscape and were replaced by lush nurseries, orchards, and plantations. The highways are kept immaculate by workers on mopeds who scour the shoulders for
PAPER because

after all your hard work, you’ve earned something
you can hold in your hand.

Domtar is proud to support the 2013 Paper International Experience at North Carolina State University, allowing engineering scholars to develop as professionals, ready to make significant contributions to industry, their community, and their world. www.domtar.com
trash. Intricate stone mosaics accented with flowers, shrubs, and petite trees blend the life-giving crops with the stark network or roads and bridges.

Driving, like ping-pong or badminton, seems to be a popular sport in China. Two-lane roads miraculously turn into 3 or 4 lane bumper car rides as buses, cars, trucks, bicycles, motorcycles, and pedestrians jockey for position, passing on the shoulders, weaving precariously close to vehicles while horns and brights are graciously used to signal participants. Even so, we witnessed very few accidents; the general consensus was that because everyone was driving like a maniac, they were generally more aware of the potentially dangerous maneuvers of other drivers.

We were warmly welcomed by APRIL Pulp and Paper. The mill is the largest pulp mill in the world…. And it was HUGE! They make market pulp and board. They also house the world’s largest digester, recovery boiler, and wood yard. The effluent and air emissions standards required of the mill were higher than even those of European mills, which made it no surprise that these standards were the highest achieved in China’s pulp and paper industry. The expectations of the mill were so high in fact that it was 100% energy efficient, and it was successful at recovering 95% of their chemicals used in the pulping process. Though they are the largest mill in the world, we were told that the APRIL mill planned to expand its current capacity to three million tons of pulp per year by installing a new recovery boiler and tissue machine.

Day 10
-Scott Conrad & Carter Rechtin-

Fatigue was setting in as the group took a high-speed train from Jinan to Beijing. The train system is an impressive feat of engineering, spanning the east coast of China and containing trains that travel in excess of 300 kilometers per hour. On the train, a very sweet little Chinese girl with a cochlear implant befriended several students, commandeering their phones in order to play games. As the train closed in on Beijing, the smog was more apparent than ever before. The sheer number of apartment buildings was astounding; it was suddenly clear how a city can house 25 million people. As we began our journey through Beijing, the group was astounded by the size of this ancient city. Old and modern structures sit side by side giving the city a unique appearance. Taxi cabs, buses, and swarms of people do nothing to mask the majesty of this metropolis.
Real Members. Real Benefits.

On and off the job, TAPPI members excel—from winemakers to Boys and Girls Club mentors to deep sea fishermen. But to be the very best, they rely on one sure thing—membership benefits:

- Over 18,000 fully-searchable online technical papers, articles, reports and studies in the e-Library
- ANSI-Certified Standards and Technical Information Papers (TIPs)
- Discounts on PRESS publications, conferences and classes
- Networking opportunities with the brightest minds in the business

The Power of TAPPI Membership.

Whether you are new to the industry or a seasoned professional, TAPPI has the resources you need to succeed.

To learn more about the many benefits of TAPPI membership, visit www.tappi.org/join
We received warm greetings from officials from the China National Pulp and Paper Research Institute in a beautiful modern building. After a circus-like, willy wonka-esque elevator ride, the group was shown into a cafeteria for a buffet style meal. A conference room with furniture made of rich mahogany was our next destination. A one o'clock meeting awaited us in this picturesque conference room. We received a warm welcome from our host, followed by an exchange of gifts. "Inheriting Civilization, Pioneering Innovation," the institute’s motto was apparent. Founded in 1956, the research institute is the standard of pulp and paper research facilities in China. With over 1500 projects completed, the institute has established themselves as a worldwide leader in the industry. The company employs 70 of China’s best researchers who study everything from pulping technology to environmental protection. World class paper research labs awaited us on our tour. Clean and vibrant laboratories decorated the complex, inspiring awe among students in the group. One highlight was a baby pilot paper machine. Chatter filled the room as American and Chinese paper-makers discussed cultural differences and lifestyles. Popular conversation topics ranged from fashion to soccer and American TV shows. It was soon apparent that we are not very different from one another. After a hectic check-in and a short rest, the group attended a luxurious "Hot Pot" dinner in which everyone cooked their own food in a manner similar to fondue. The night was a mix of things. Some went downtown to bars, some got foot massages, and some rested for the night.

Day 11
-Scott Conrad & Carter Rechtin-

A brilliant sunrise gave way to a hazy yet vibrant Beijing. After a scrumptious Chinese breakfast, it was onto the bus, rush hour traffic, and a day of adventure. A model of fine ancient Chinese architecture, the Summer Palace is a fascinating area surrounding the glass-like Kunming Lake. In ancient times, the Summer Palace was used as a vacation home by the Chinese Emperor and would be filled with the bustle of royalty and servants. A highlight of our journey through this mystical palace was a two kilometer walkway covered by intricate paintings depicting landscape and Chinese culture.
After an eventful ride through the city, the group tucked in for a classically prepared Chinese meal. The next stop was the Forbidden City and the famous Tiananmen Square. Waves of people trek through this historic place. The entrance to the Forbidden City gave us goosebumps. Quizzical stares crossed the eyes of the students as 600 year old structures stood in front of them. Built by the 3rd Ming Emperor in 1420, the Forbidden City served as the capital of Ancient China. Here, emperors would go about the daily business required to rule a kingdom as vast and great as China. Detailed brickwork spans the ground of the main square which sparkles in the bright afternoon sun. Statues of mythical animals signify the enduring belief of the ancient Chinese ways of thinking. The forbidden city housed emperors and their families until the Qing dynasty was overthrown in 1911.

To close out our afternoon, the group made their way to the Temple of Heaven. Colorful, ancient buildings dominate this beautiful area. We discovered the wonders of the most important of the Chinese holy places as we explored. Bargain shopping at a nearby market followed, as we moved through a labyrinth of goods ranging from "Dre Beats" to Zippo lighters. After the exchange of much yuan, elated students board a bus bound for another "lazy Susan" meal. Given a free evening, the students partook in a wide range of activities. The most popular destination was the Olympic Stadium. This popular icon of Chinese athletics was located a mere three blocks from our hotel. Nick, our tour guide, named the Birds Nest the Chinese national stadium; it played host to the 2008 Olympic Games. Steel framing that entangles to form a figure resembling a birds nest drapes the outside, making the name highly appropriate. An early bedtime was in order, because the Great Wall awaited.

Day 12
-Scott Conrad & Carter Rechtin-
A swift sunrise awoke students full of anticipation. After a quick breakfast, the group boarded the bus and departed for one of the wonders of the world, the Great Wall of China. As the bus entered the mountains surrounding the great metropolis that is Beijing, it was hard to believe that we were surrounded by buildings, cars, and busses only 45 minutes ago. It was almost as if this mighty mountain range encapsulated the city and its wonders. As we approached the Great Wall, hearts began to race. Only 8000 kilometers separated us from the end of this magnificent structure. As we began our ascent to the top, it was apparent this would not be an easy climb. Approximately a mile of incline lay before us. After a labored march, the entire group gathered at the top for a picture, a tremendous feat. As we took in the beauty of this place, it was hard to contain our emotions. A very interesting and death-defying bus ride then brought us to a traditional Chinese copper factory. Workers made beautiful structures out of copper before our
very eyes. Lunch followed this tour. After a terrific lunch, we were able to go through the elaborate works of art and do a little shopping in the store. On our way back into the city, we stopped at a legendary Ming tomb. What makes this one different is that it is underground. Not for the claustrophobic, this underground tomb is said to house an ancient Ming emperor. After a dinner of famous Peking duck, it was off to bed for a tired group of climbers.

Day 13
-Scott Conrad & Carter Rechtin-

As we woke, we knew it was finally the day we had to depart from this wonderful and fascinating country. After breakfast, the group visited a bargain mart for a few hours of shopping, once again filling their bags and emptying their pockets. The drive to the airport was neither fun nor short. After boarding, we were forced to wait on the runway for two hours due to mechanical troubles. After takeoff, it was clear that our flight from Toronto to Raleigh would be missed. Fortunately, the airline held the plane for us, a smart idea considering we made up 75% of the passengers. As we arrived at the gates of RDU, it was a bittersweet goodbye to new friends and memories as drowsy travelers met loved ones. We will all take the lessons learned and move forward with a new attitude about Chinese culture and the world in general.
What if your ideas had the support of a global leader?

International Paper makes things that matter, things of substance, things that weave our world together: paper on which ideas are exchanged, packages that carry goods around the globe, and distribution centers that diminish the distance between people and their dreams.

As part of our team you will be able to do more and reach farther. That’s what it means to have International Paper behind your career. We’re a Fortune 150 leader that believes our professionals’ ideas need support. Working alongside the best professionals in the industry, you’ll be able to see what we mean when we say Infinite Possibilities.

Along with competitive compensation and performance-based incentives, we offer a dynamic work environment and a total rewards package that includes the tools you need to support your well-being, plan for your future and grow your career.

Learn more and apply online at www.ipaper.jobs

©2013 International Paper Company. All rights reserved. International Paper is an Equal Opportunity Employer M/F/D/V
The students are thankful for the support of Dr. Hubbe, Dr. Lucia and their BioResources Journal!

Cullen Alexander
Ashley Austin
Michelle Blood
Geoffrey Bogner
Scott Conrad
Daniel Dudley
Mitchell Jones
Kendre Kesler
Lalita Kohprasert
Patrick Leasure
Ashley Massey
Katie Payne

Kimberly Phillips
Carter Rechtin
Jesse Chade
David Stenger
Scott Strednak
Matt Thomas
Jacob Vrooman
Scott Warren
Dr. Chang
Dr. Byrd
Jennifer Piercy
FOOD JOURNAL
Better to try it first, then ask...
We would like to thank the following groups and individuals for their support.

Packaging Corporations of America
MeadWestvaco
Domtar
International Paper
Sonoco
Rayonier
Voith
Andritz
College of Engineering
TAPPI National
Va-Carolina TAPPI Section
Dean Larry Tombaugh
Dr. Phillips
Dr. Lucia
Dr. Hubbe
Dr. Argyropoulos
Brent & Lesa Collins
Dr. Chang
Dr. Heitmann
Lou Boos
Dean Watzin
Sam Fipps
David Albrecht

Patrich Buenaventura
Susan Short
Joseph Rawls
CA McDonald
Tabatha Blalock Penny
Robert Kaminskas
Jordan Jernigan
Sam Lipes
Doug Kaminskas
Maria Luna
Kristin Grant
Danny Martin
Jamie Pye
Dan and Kathleen Grismer
Laura Landau
Zhoujian Hu
Douglas Mehlenbacher
Amber Bowen
Kelly Fitzwater
Shelly Jones Johnson
Carrie Hawes
Karen Ciccone
Justin Farmer

Kimberly Phillips
Carter Rechtin
Jesse Chade
David Stenger
Scott Strednak
Matt Thomas
Jacob Vrooman
Scott Warren
Dr. Chang
Dr. Byrd
Jennifer Piercy
Learning is a lifetime pursuit

Life is about learning. And sharing it back in a way that brings out the best in others. MWV proudly supports lifelong learning. Because what we learn today can change tomorrow for the better.