The Mission of the APPF is to provide scholarship support to facilitate Auburn University providing adequate and continuous supply of highly skilled, entry level engineers into the Pulp & Paper and Allied Industries.

EXECUTIVE COMMITTEE

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Kevin Walls

Vice-President,
Finance/Communications
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Merle Stein

Membership & Development
Roger Lawton

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Scott Childress

Nominating
Charles Sewell
Charles S. “Chip” Aiken

Foundation Meeting Planning
Chris Spraggins

AC-PABE Director
Zhihua Jiang

212 Ross Hall
Auburn University, Al 36849
T. 334.844.3046
F. 334.844.2063
wp.auburn.edu/appf

LETTER FROM THE PRESIDENT

I am honored to currently serve as President for the Auburn Pulp and Paper Foundation (APPF), an organization vital to the success of our manufacturing industry. I am proud to meet those who are a part of the APPF, and I am very impressed with mission of the foundation. Not only does the APPF provide scholarships to students seeking higher education degrees, it provides them with opportunities to gain industry experience through co-op terms with member corporations. The result is a pipeline of experienced, forward-looking engineers ready to embrace what this industry has to offer.

KEVIN WALLS
President, APPF

I would like to acknowledge Auburn University’s continued dedication to the success of this foundation. Its goal of fostering student success ensures the pulp and paper industry will thrive with dedicated and knowledgeable individuals eager to realize their full potential. Additionally, the Director of Alabama Center for Paper and Bioresource Engineering (AC-PABE), Dr. Zhihua Jiang, has enhanced our Pulp and Paper program, and we are grateful to have him and his team as part of this organization. Student enrollment in the program currently surpasses XX students, and we are excited as these numbers only promise to grow in the future.

Throughout this edition, you will hear from our leaders on the progress we have made and the lasting momentum the APPF will continue to build going forward. I know we will continue to create value for our members, and your support can help. Whether it be through financial support, advocating careers in the industry, attending student career fairs, engaging in community outreach, or mentoring students in their professional development, your personal contributions matter. I encourage all to become involved and support the APPF.

The world is constantly changing, and our industry is playing a fundamental part in its progress. With the growth of e-commerce and the push for renewable and sustainable packaging solutions, we have the potential to expand our presence like never before. Auburn University and the APPF are essential instruments in making this happen; your support will help guide us into a better future.

I would like to acknowledge the committed leadership of our Board of Directors, and the hard work and dedication every member puts forth to engage our community and grow our organization. The APPF has a bright future and I am proud to be a part of it for years to come!
FALL BANQUET THURSDAY DINNER SPEAKER
MARK W. KOWLZAN
Chairman & Chief Executive Officer
Packaging Corporation of America

Mark W. Kowlzan has served as PCA’s Chairman since January 2016 and as Chief Executive Officer and a director since July 2010. From 1998 through June 2010, Mr. Kowlzan led the company’s containerboard mill system, first as Vice President and General Manager and then as Senior Vice President – Containerboard. From 1996 through 1998, Mr. Kowlzan served in various senior mill-related operating positions with PCA and Tenneco Packaging, including as manager of the Counce linerboard mill. Prior to joining Tenneco Packaging, Mr. Kowlzan spent 15 years at International Paper Company, where he held a series of operational and managerial positions within its mill organization. Mr. Kowlzan is a member of the board of directors of the American Forest & Paper Association.

Mr. Kowlzan received an undergraduate degree in Natural Science from Assumption College; an undergraduate degree in Chemical Engineering and Pulp and Paper Engineering from the University of Massachusetts, Lowell; a graduate degree in Pulp and Paper Engineering from the University of Massachusetts, Lowell; and an MBA from the University of Louisiana at Monroe.

FALL BANQUET FRIDAY BREAKFAST SPEAKER
ROGER TUTTEROW
Professor of Economics, Henssler Financial Endowed Chair
Director, Econometric Center, Kennesaw State University

Roger Tutterow is Professor of Economics at Kennesaw State University where he holds the Henssler Financial Endowed Chair. In addition, he serves as Director of the Econometric Center, an applied research center housed in KSU’s Coles College of Business.

Dr. Tutterow has served as a consultant on financial economics and statistical modeling for corporate clients ranging from Fortune 500 companies to closely held businesses. He has provided expert testimony on economic, financial and statistical matters in state and federal court, before the Georgia General Assembly and before the Georgia Public Service Commission.

A Georgia native, Dr. Tutterow holds a B.S. in Decision Science from Berry College and a M.A. and Ph.D. in Economics from Georgia State University. Prior to joining Kennesaw State University, Dr. Tutterow held faculty and administrative appointments at West Virginia University, Georgia State University and Mercer University.
2018 FALL SILENT AUCTION

The silent auction is one of our primary fund raising activities and it continues to generate interest from everyone who attends the fall meeting and banquet. We will again host the auction in the banquet room allowing for extended time for bidding on auction items and allowing us to generate additional funds for our scholarships. Last year, we collected over $16,200 from the silent auction.

I am sure that Owen Nichols will once again have a highly organized auction with lots of great items to bid on. We look forward to having a large crowd at the banquet who will get the chance to bid on some fantastic items. More importantly, we will all have a chance to provide funds for scholarships for students in the Pulp and Paper Program.

Mr. Terry Cantrell, President of Cantrell & Associates, an executive recruiting firm and Mr. Jim Greshman, Retired from WestRock, have both donated the use of their condos for auction at the banquet. Everyone who has had the chance to stay at these condos has absolutely loved it. Make sure you come prepared this year to be the highest bidder for these wonderful properties. And thanks once again to Mr. Cantrell and Mr. Greshman for their generous donations!

Thanks to all of the organizers, donors and bidders for making last year’s auction a success. Our challenge is to make this year’s auction the best one yet!

2018–2019 BOARD OF DIRECTORS AND COMPANY MEMBERS

CHARLES S. “CHIP” AIKEN
Retired
SHIRLEY BOULWARE
Georgia-Pacific
JIM BRUCE
International Paper, Selma
MIKE BRUNER
International Paper, Memphis
SCOTT CHILDRESS
Avid Solutions, Inc.
TOM COUTURE
Albany International
KETRENIA CRENSHAW
PCA, Jackson
ROZ DURDEN
Westrock, Mahrt
MARIO EDEN
Auburn University
BUFFY ETHERIDGE
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International Paper, Riverdale
CHRIS FUTRAL
Nalco

JIM GRAHAM
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JIM GRESHAM
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CARL GUNTER
International Paper, Prattville
JEFF HARGRAVE
Graphic Packaging, West Monroe
RUSSELL HARRIS
International Paper, Memphis
BRENT HANSEN
PCA, DeKiddier
TODD HASKINS
Asten Johnson
JEREMY HUCKABA
International Paper, Prattville
ZHIHUA JIANG
Alabama Center for Paper & Bioresource Engineering
MICHAEL JOHNSON
SEI Group

KEN JONES
Avid Solutions, Inc.
DONALD L. LARGE
Auburn University
ROGER LAWTON
Southern Environmental (SEI)
STEVEN LEATH
Auburn University
MIKE LYLES
International Paper, Orange
ROY MCAULEY
APPCEO/ Manufacture Alabama
R. NEAL MCDEVITT
International Paper, Prattville
OWEN NICHOLS
Nalco Chemical
MARK NICHOLS
Buckman Laboratories
TONY OWENS
International Paper, Memphis
GREGG RAFALSKY
Yates Construction
JACK RICHARDSON
Austin Industrial

CHRIS ROBERTS
Auburn University
KAREN SCHWARTZ
PCA, Counce
CHARLES SEWELL
Albany International
JOHN SMYTH
Retired
CHRIS SPRAGGINS
Albany International
MERLE STEIN
Albany International
MARK URBAN
Georgia Pacific, Alabama River Cellulose
KEVIN WALLS
International Paper, Pine Hill
TYLLA WILLIAMS
PCA, Valdosta
The Annual APPF Golf Tournament was held at the Auburn University Club. The club staff did a fantastic job in hosting our event. The golf course was in great shape and the weather was perfect, making this another successful tournament.

Our marquee sponsor for this year’s event was PCA. They graciously hosted the pulp and paper students at a cookout on Wednesday night and made a generous donation to cover the golf course fees for our tournament on Thursday. We are thankful for PCA and their commitment to be involved with the Auburn Pulp and Paper Foundation.

Our other sponsors once again helped make the event successful. Lunch was provided by Yates. Austin Maintenance and Construction Inc. sponsored drink carts for the players while on the course. Following golf, Scott Wilson and his team with Advanced Industrial Resources (AIR) treated us to the best BBQ dinner around. Scott also donated TVs for the auction. Buckman sponsored the putting contest with the donation of a Rtic cooler.

Thank you to PCA, AIR, Yates, Austin and Buckman for their generosity, support for the foundation and commitment to making this tournament successful!

There were twenty two teams that participated in this year’s tournament, making for a solid turnout. Twelve of these teams registered at the corporate level with the remainder at the company level. Gross proceeds from the event exceeded $41,000 allowing nearly $33,000 to be applied to scholarships. This is a great accomplishment!

As always, the competition on the course was fierce and yielded the following winners:

<table>
<thead>
<tr>
<th>1st Gross</th>
<th>PCA Opelika</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Gross</td>
<td>Asten Johnson</td>
</tr>
<tr>
<td>3rd Gross</td>
<td>Avid Solutions</td>
</tr>
<tr>
<td>1st Net</td>
<td>Albany International</td>
</tr>
<tr>
<td>2nd Net</td>
<td>Nalco</td>
</tr>
<tr>
<td>3rd Net</td>
<td>Jay Industrial</td>
</tr>
</tbody>
</table>

I would like to offer a special thank you to all the mills and companies that support this event each year. It wouldn’t be the continued success it has been without all of their participation! Please encourage other mills and companies to come join us next year. We have plenty of room to grow this event and provide even more scholarship dollars to Pulp and Paper students!

We are already planning for next year and will once again host the 2019 spring golf tournament at Auburn University Club on April 23.

Thank you for your continued support!!

Merle Stein
The Pulp and Paper option was established at Auburn University to serve the industry and provide talented and well-prepared candidates for entry-level positions in manufacturing, sales, consulting and related fields. The Scholarship & Recruitment committee works to make sure both students and member companies receive value from the Pulp and Paper program. We want students to understand the vast and innovative opportunities that our industry presents. We want member companies to have access to the best and brightest students who are going to move the industry forward. This Fall we have 48 students on pulp and paper scholarship, of which several of the highly trained and creative seniors will be ready to join our industry.

Each year the committee strives to make progress towards its goals to recruit talented and diverse students, increase interaction with student and member companies and retain students in the industry.

A “members only” section is available on the Auburn Pulp & Paper Foundation website that gives member companies exclusive access to a recruiting toolkit. This toolkit provides contacts, template and calendar of important events around scholarship dates and recruitment activities. The committee will work with member companies to coach them through what is needed for each recruitment effort. This year, events are planned for International Paper at Prattville, AL and Georgia-Pacific at Alabama River Cellulose, Perdue Hill, AL. Member representatives are also scheduled to speak to various Freshman “intro” classes this Fall.

In response to our member companies and students, two exciting additions were approved this year. As a benefit to APPF members, a dedicated job fair and interview day was added to our fall meeting activities. Also, the board approved the addition of Biosystems Engineering as another major option for the scholarship. In Fall 2019, students in chemical, mechanical, electrical or biosystems engineering can received a Pulp & Paper Scholarship.

The scholarship and recruitment committee welcomes members passionate about students and the industry to help attract students to the program and ultimately connect with member companies. Please contact Shirley Boulware at Shirley.boulware@gapac.com if interested in joining the committee.
SENIOR SCHOLARSHIP STUDENTS

DOUGLAS BETHEA
Chemical Engineering

JOSH DUCOTE
Chemical Engineering

KYLE EDSALL
Mechanical Engineering

DAVID EISON
Mechanical Engineering

ELLIOTT LAWRENCE
Chemical Engineering

COLE RAMPY
Chemical Engineering

JOHN STUEDEMAN
Mechanical Engineering

CONGRATULATIONS
CLASS OF 2019!
## 2018 Financial Summary Statement

<table>
<thead>
<tr>
<th>SUPPORT AND REVENUE</th>
<th>Spendable Accounts</th>
<th>Scholarship Accounts</th>
<th>Endowment Accounts</th>
<th>Foundation Total Year To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate contributions</td>
<td>$226,000.00</td>
<td>—</td>
<td>$161,419.96</td>
<td>$387,419.96</td>
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<tr>
<td>Income from Services</td>
<td>$30,000.00</td>
<td>—</td>
<td>—</td>
<td>$30,000.00</td>
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<tr>
<td>Interest</td>
<td>$430.48</td>
<td>$2,835.46</td>
<td>—</td>
<td>$3,265.94</td>
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<tr>
<td>Individual Contributions</td>
<td>$2,120.14</td>
<td>$2,500.00</td>
<td>$18,500.00</td>
<td>$23,120.14</td>
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<tr>
<td>Contributions</td>
<td>$258,550.62</td>
<td>$5,335.46</td>
<td>$179,919.96</td>
<td>$443,806.04</td>
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<tr>
<td>Endowment earnings distributed to spendable accts</td>
<td>$67,286.00</td>
<td>—</td>
<td>—</td>
<td>$67,286.00</td>
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<tr>
<td>Endowment earnings (Current Yr) added to Principal</td>
<td>—</td>
<td>—</td>
<td>$1,919.46</td>
<td>$1,919.46</td>
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<tr>
<td>Conference Registrations</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Fund Raiser (Golf / Auction) Revenues</td>
<td>$47,857.27</td>
<td>$268.20</td>
<td>—</td>
<td>$48,125.47</td>
</tr>
<tr>
<td>Total Revenues</td>
<td>$47,857.27</td>
<td>$67,554.20</td>
<td>$1,919.46</td>
<td>$117,330.93</td>
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<tr>
<td><strong>TOTAL APPF INCOME</strong></td>
<td>$306,407.89</td>
<td>$72,889.66</td>
<td>$181,839.42</td>
<td>$561,136.97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>Spendable Accounts</th>
<th>Scholarship Accounts</th>
<th>Endowment Accounts</th>
<th>Foundation Total Year To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholarship grants to Auburn University</td>
<td>—</td>
<td>$252,984.00</td>
<td>—</td>
<td>$252,984.00</td>
</tr>
<tr>
<td>Conference Expenses</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Printing</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Professorships</td>
<td>$14,914.74</td>
<td>—</td>
<td>—</td>
<td>$14,914.74</td>
</tr>
<tr>
<td>Fund Raising Fees</td>
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<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Tuskegee Program Support</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>$14,914.74</td>
<td>$252,984.00</td>
<td>—</td>
<td>$267,898.74</td>
</tr>
</tbody>
</table>

| Excess of revenue over expenses | $291,493.15 | $(180,094.34) | $181,839.42 | $293,238.23 |
| **Interfund Transfers** | $(262,164.81) | $261,130.73 | $(25,174.65) | $(26,208.73) |

| Net assets, July 1, 2017 | $299,998.18 | $119,146.25 | $1,959,115.27 | $2,378,259.70 |
| Net assets, as of June 30, 2018 | $329,326.52 | $200,182.64 | $2,115,780.04 | $2,645,289.20 |
MEMBERSHIP & DEVELOPMENT

SCHOLARSHIPS MAINTAINED AT RECORD LEVEL!

Thanks to our Member company’s contributions, we have been able to maintain the 50 scholarship level in 2018. It’s slightly bittersweet, because we had to turn down some very qualified candidates.

Fortunately, we have new Members which will help to increase the scholarship pool. The PCA mills at Valdosta, DeRidder, and Counce have joined the Jackson mill as Members. Graphic Packaging in West Monroe has joined their sister mill in Macon as members.

As you spend time with the students, you realize the importance of the APPF scholarships and the effect they have on young lives. With rising college costs, they help bridge the financial gap to allow many of the most promising students to attend Auburn. The payback to the Paper Industry comes quickly. These young engineers soon graduate to join the more than 300 other engineers the Foundation has helped, in contributing to the future of our industry.

Members benefit by being able to nominate a Mill Scholar, which provides positive local publicity, as well as having early access to the students. This includes interview sessions weeks before the main sessions companies have through the school. This can assist with internships, co-ops, and hiring for full time positions. Everyone has received help along the way in their career. The members of the Foundation are given the opportunity to give back, through their assistance to our students and by mentoring.

We welcome new members and having history with Auburn is not a prerequisite. Members have a variety of opportunities to contribute their time and talent from participating in the on campus events, to working on a committee (like M&D), to serving on the Board. The events like the Spring Golf Outing and the Annual Fall meeting are great ways to get to know the students in the Pulp & Paper program.

The Foundation is indebted to our Director, Dr. Jiang for his help and support, as well as Dr. Eden in the Chemical Engineering area. We are also grateful to the Auburn University Engineering Dept. staff, notably Naomi Gehling, for her innovative and creative work.

The work of these individuals, groups and the many other volunteers who helped with their time, manual labor and financial support made for a very successful year in 2018!

BECOME A FOUNDATION MEMBER

If you are a part of the Pulp and Paper Industry, there is no reason why you should not be a part of the Auburn Pulp and Paper Foundation and gain access to Members Only events and recruiting efforts.

To apply for membership visit wp.auburn.edu/appf and select Foundation Membership.
This has been an exciting year for the Auburn Pulp and Paper Foundation (APPF) and Alabama Center for Paper and Bioresource Engineering (AC-PABE).

The continuing efforts of APPF to increase member participation have yielded remarkable dividends. In the past year, the foundation added four new pulp and paper mills to its list of members and again raised record levels of funding. These funding levels allowed us to continue our mission of providing highly skilled entry-level engineers to the pulp and paper, and allied industries. Traditionally, only students majoring in chemical engineering, electrical engineering, or mechanical engineering were eligible for APPF scholarships. Building upon this solid foundation, APPF extended the eligibility of its scholarship programs to students majoring in biosystems engineering (BSEN) at Auburn University, to be effective March 2019. The BSEN curriculum at Auburn University includes an area of study concentrating on bioprocess engineering; the synergy with the AC-PABE is obvious.

On behalf of AC-PABE and our students including the BSEN students, I wish to express my sincere appreciation to the APPF team members for your hard work and continuing support. The foundation has established Jim Gresham and John Smyth scholarships; the first of these scholarships were awarded in Fall of 2018. The Gresham and Smyth scholarships join the existing Cantrell and McDevitt scholarships and the Crane Memorial Leadership Endowed Scholarship for recognition of their longstanding contributions made to Auburn's pulp and paper program.

We continue to have strong team efforts of APPF and AC-PABE that inspire students to enter our industry and prepare them for a lifelong career in our industry. Our community events led by Dr. Bill Josephson, such as pulp & paper career nights at pulp & paper mills for local high school students and laboratory demonstrations and tours of AC-PABC for secondary school teachers, have garnered significant interest and impacts. We continue to see growth in students' applications to the APPF scholarship program, and the number of active students in the APPF scholarship program has increased by more than 40% over the last two years. APPF members also strengthened their engagements with our students through hosting various on-campus events, highlighted by the dinner hosted by Mr. Kowlzan, Chairman and CEO of Packaging Corporation of America in April of 2018.

Thanks to the strong support from APPF, the Department of Chemical Engineering, and the Samuel Ginn College of Engineering, the center has been making good progress in developing an innovative R&D program, focusing on the industry technology needs (See highlights of the research activities of our graduate students below). We are also strengthening the ties between the center and industry by actively providing now-well-received technical training, services and support to several pulp and paper companies/mills. In May of 2018 we hosted a very successful mill-day event at AC-PABE attended by a group of 15 people including manufacturing excellence team leaders, young engineers and co-op students from one of APPF’s member mills (I. P. Riverdale).

Last September we said farewell to Mrs. Karen Cochran, who provided strong administrative support to APPF and AC-PABE for several years, and welcomed Mrs. Naomi S. Gehling to our team. Karen moved to work at Auburn University's Raymond J. Harbert College of Business. We greatly appreciated her service to APPF and AC-PABE and wish her the best! Naomi has brought in new energy and significantly expanded the scope of the administrative support. Thanks, Naomi!

Let us go marching together into the exciting future!

COMING SOON!
PULP & PAPER GRADUATE CERTIFICATE

The Department of Chemical Engineering will offer a graduate certificate program that requires four courses (12 credit hours) in chemical engineering and is delivered online.

CERTIFICATE CURRICULUM:
Students are expected to complete the following three core courses which can be earned by both degree and non-degree seeking students:
- Pulp and Paper Technology
- Pulp and Paper Engineering
- Special Topic in Pulp and Paper Technology

Plus one of the following electives:
- Biochemical Engineering
- Macromolecular Science and Engineering
- Polymer Chemical Engineering

ADMISSION REQUIREMENTS:
A relevant bachelor’s degree from an accredited U.S. institution is expected for admission. Exceptions to this may be approved if the student has the background needed to succeed in the graduate engineering courses. The GRE is not required.

AC-PABE CENTER UPDATE
MARCHING INTO THE FUTURE

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Let us go marching together into the exciting future!
HIGHLIGHTS OF THE GRADUATE STUDENTS RESEARCH ACTIVITIES AT AC-PABE

AJINKYA MORE
PhD Student, Advised by Dr. Zhihua Jiang

Oxidative degradation of lignin to value-added chemicals
- Study oxidative degradation reactions of lignin model compounds and lignin with various bleaching chemicals
- Deepen the fundamental understandings of the factors governing the oxidative degradation of Kraft lignin and biorefining lignin into vanillin
- Develop a process to produce value-added chemicals that integrates with current pulp mill bleach plant operation

AMOD DILIP PARKHI
PhD Student, Advisors – Drs. Selen Cremaschi and Zhihua Jiang

Process simulation for developing innovative water recycle strategies to minimize freshwater usage and discharge in pulp and paper industry
- Develop integrated pulp and papermaking process models that capture the material, water, energy, and non-process elements flows throughout pulping and papermaking processes in adequate detail, and validate the models with real mill data from an integrated bleached kraft mill in southeastern region of the United States
- Investigate novel process strategies using the integrated models for reducing freshwater usage and discharge, and energy consumption
- Quantify the environmental benefits of these strategies using crate-to-gate life-cycle analysis

MAHESH PARIT
PhD Student, Advised by Dr. Zhihua Jiang

Engineering novel nanocellulose-lignin nanocomposites as a platform for lignin valorization
- Deepen the understanding of the optical properties of cellulose nanocrystals films and develop a novel and green approach to tune cellulose nanocrystals particle alignment to produce transparent and homogenous cellulose nanocrystals films
- Engineer bio-inspired transparent and homogenous cellulose nanocrystals-lignin UV protection films and develop a green matrix to improve the interfacial binding interactions for the maximization of the mechanical properties and performance of cellulose nanocrystals/lignin films
- Engineer thermoplastic nanocomposites and co-polymers based on nanocellulose and lignin

NAVID ETEBARI ALAMDARI
PhD Student, Advised by Dr. Zhihua Jiang

Producing high value products from soybean hulls
- Develop methods to effectively fractionate soy hulls into various value-added fractions
- Utilize pectin and protein from soybean hulls as a novel, cost-effective, renewable, and biodegradable binder in various applications including linerboard and paper-based gas sensor
- Study and develop methods to produce dissolving grade pulp from soybean hull fibers

ALABAMA CENTER FOR PAPER & BIORESOURCE ENGINEERING