

New industry and partnership with cross laminated timber.

My Background






- Resume
- International Paper
 - Wood Quality Project Leader
 - Chemometric Characterization
- Louisiana Pacific
 - New Product Development
 - Statistical Modeling
 - Development of cost effective and green adhesives
- Auburn
 - Combines these areas

Dr. Maria Soledad Peresin Background



Dr. Maria Soledad Peresin

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Relevance of Industry to Alabama

ALABAMA FORESTRY COMMISSION
PROTECT • SUSTAIN • EDUCATE

Home | Employment | About Us | AL Forest Facts | FAQ | AFCA's TREASURED Forest Magazine | Fire Weather Forecast | Links

Alabama Forest Facts

- Alabama forests generate over \$21 billion in timber production & processing revenue (source: AFCA)
- Alabama forests provide over 122,000 jobs in timber production & processing (source: AFCA)
- There are 17 million acres of timberland in Alabama, accounting for 40% of the total land area in the state.
- Alabama has the fifth most timberland acreage in the 48 contiguous states, behind only Georgia and Oregon. Due to its private timberland acreage, it is considered a "timber-rich" state.
- Of timberland acreage, 47% is owned by non-industrial private landowners.
- The single most prevalent forest type is "loblolly pine," which occupies 6.7 million acres.
- The most prevalent hardwood forest type is the "short-leaf pine," of which there are 2.1 million acres. Hardwood forest is the only natural resource in Alabama that is not commercially harvested.
- Approximately 31% of Alabama's timberland is composed of pine plantations.
- Although Alabama has a robust forest industry, more timber is being grown than is being harvested. According to AFCA's 2016 report, the timber growth in acreage with the highest volume is 1.18. The average yield for the state is 1.18. The growth in volume is 1.18. The growth in volume is 1.18. The growth in volume is 1.18.

Blending Education and Research Blending Industry and Academia

School of Forestry & Wildlife Sciences

The Future of Tall: Building a Wood High-Rise in the U.S.

High-rise construction is a multi-billion dollar industry, and the U.S. is looking to the forest for the materials to build the next generation of tall buildings. The School of Forestry & Wildlife Sciences is leading the way in research and education to make this vision a reality.

Research & Education in Forestry & Wildlife Sciences

The School of Forestry & Wildlife Sciences is a leading center for research and education in the field of forestry and wildlife. Our faculty and students are working to advance the science of forestry and wildlife management, and to develop the next generation of forest professionals.

Auburn University is gearing up for CLT

WADE IN ALABAMA

International Beams to invest \$20M in Alabama manufacturing facility

GLULAM
CROSS LAMINATED TIMBER
265 x 265 mm on LEVELS 2-9
15 mm

Is CLT an Opportunity?

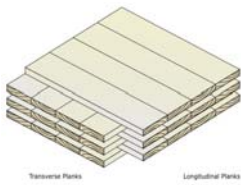


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What is CLT?



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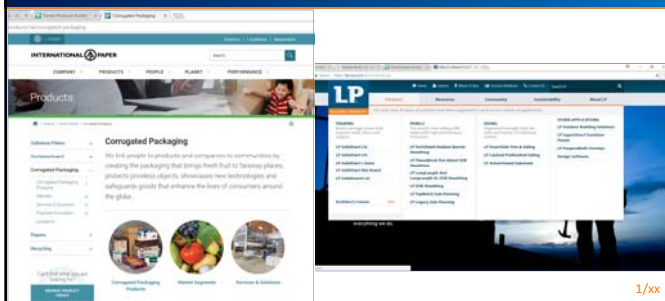


- <https://youtu.be/iEmcJer3AUM>

Reminder of My Engineered Wood Background



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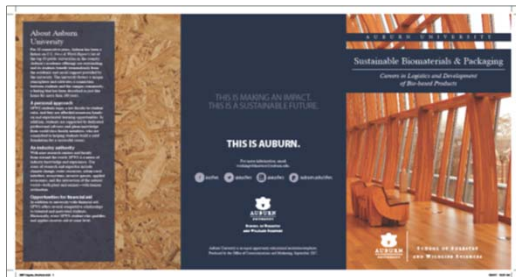
More than CLT is at Stake

Video:

<https://lpcorp.com/about-lp/why-lp/>

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Auburn University is gearing up for CLT



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Auburn University is gearing up for CLT



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Thomas Robinson combats CLT misconception



<https://www.cbsnews.com/video/wood-construction-catching-on-but-could-be-dangerous/>

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Other capabilities



Auburn University Assistant Professor David Roueche analyzes damage after Hurricane Irma in Florida. Roueche and fellow researchers are collecting data from more than 900 buildings after hurricanes in Texas and Florida to determine why some structures failed and others didn't.

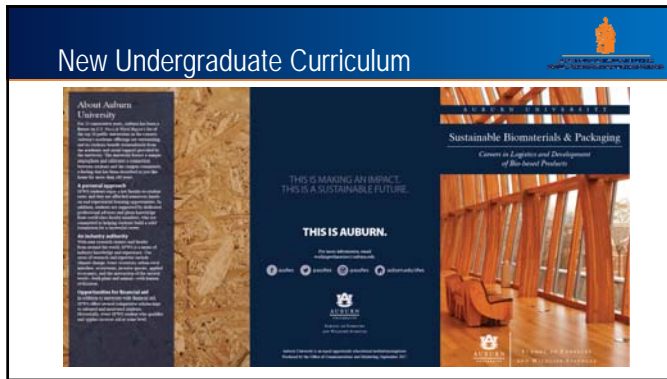
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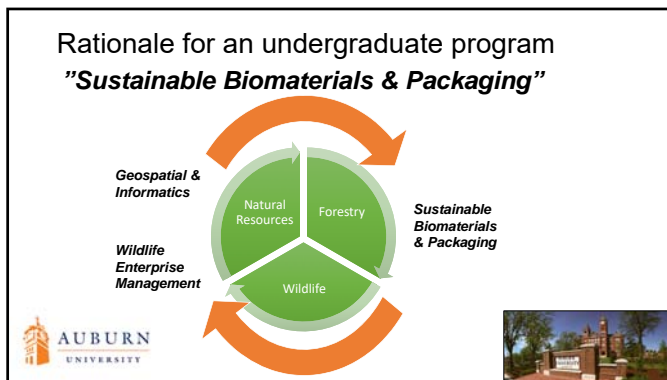
Other capabilities



Maria L. Auad
Director
Center for Polymer and Advanced Composites
Associate Professor, Chemical Engineering

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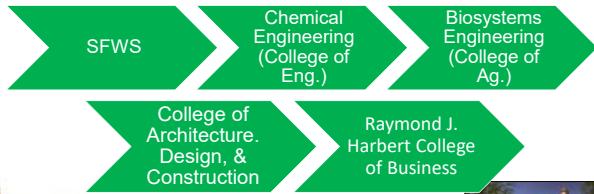






Rationale for an undergraduate program

Interdisciplinary Team



Rationale for an undergraduate program

Case: Sustainable Biomaterials & Packaging: VT Enrollment

2004-2015 Combined Enrollment for College of Natural Resources at Virginia Polytechnic Institute and State University

Discipline	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
01.0001 Natural Resources/Conservation, General	15	11	11	11	14	13	6	6	13	15	21	
01.0001 Fishing and Fisheries Sciences and Management	49	44	41	49	41	51	64	65	53	48	49	41
01.0001 Forestry, General	74	65	54	49	50	56	75	80	101	101	109	106
01.0001 Urban Forestry	9	10	11	10	10	10	8	6	9	8	4	5
01.0001 Wood Science and Wood Products/Pulp and Paper Technology	38	7	33	27	37	20	37	48	60	74	91	136
01.0001 Forest Resources Production and Management	15	11	11	11	12	9	12	20	24	16	0	
01.0001 Wildlife, Fish and Wildlife Science and Management	137	97	109	120	107	148	155	140	160	165	158	154
11.1001 Elementary Education and Teacher Education	12	8	8	6	10	5	5	7	4	5		

Approximately 30% of packaging students are minority or female

faeis Food and Agricultural Education Information System

Rationale for an undergraduate program

Where is Industry Headed?



Rationale for an undergraduate program

Sustainable Biomaterials & Packaging Equipment



Dynamic Mechanical Analysis
(Strength testing of polymer at
Various temperatures)



Thermo-mechanical analysis



Donation of Used Thermal Analysis Equipment

Sustainable Biomaterials & Packaging Equipment



Thermal Gravimetric Analysis (TGA)



TGA + Infra Red Spectrometer



Differential Scanning Calorimeter (DSC)



Thermo-mechanical analysis



Conclusions

- *Cross Laminated Timber is the new industry in town.*
- *New Undergraduate Curriculum has 12 students!*
- *This program is sustainable with 17 trees grown for every 10 harvested.*