

D. Paul Jackson, Ph.D.

Associate Professor, Plant Science
Norman and May Pipes Johnson Endowed Professor of Horticulture
School of Agricultural Sciences and Forestry, Louisiana Tech University

For the third year in a row, I have been nominated by my colleagues to represent the College of Applied and Natural Sciences for the University Senate Chair Award. I have a genuine desire to prepare students for the next phase of their lives, to answer scientific questions, solve operational problems, and to give my time and effort to the university and community. Thank you for the opportunity to be the first ever South Campus winner of this award since it began in 1977.

TEACHING (60%)

As a university professor, I am able to fulfill several core convictions that I hold dear in my life that are directly related to being an effective teacher. I will share just a few here. The first one is **inspiration**. Being in this position, I have opportunities to inspire students in many ways. After heart to heart discussions, I have witnessed students go from no confidence in their abilities after a poor performance to making excellent scores. I have witnessed students be hesitant to move on their own ideas to being proficient at carrying out research that involved abstract writing, trial installation, data collection, data processing, and the conveyance of results with presentations. I have witnessed students go from thinking they were not good fits for jobs and internships to receiving full-time offerings from employers afterwards.

The second conviction is **learning**. With all of the classes I have taught over the years, I try to convey enthusiasm to effectively communicate and develop a positive rapport with students. I also try to create an environment that builds interest in the course material, especially for students that came into the course uninspired. Part of being successful at this has involved having students get hands-on experience with the subject matter. Project based or out of the traditional classroom learning has led to new landscape designs and the planting of hundreds of plants at the Tech Farm Salesroom, Reese Hall, Lomax Hall, the Boulware IDEA Place at Woodard Hall, the John D. Griffin Garden, and President Guice's home as well as students performing turfgrass mowing trials, growing lettuce in hydroponics, mixing growing medium and sowing seeds, pruning shrubs and trees, mixing and applying fertilizers, renovating greenhouses, grafting trees, and laying brick walkways. Over the years, I have led field trips with entire classes to almost 20 different locations around Louisiana, Texas, Arkansas, and Alabama which has allowed agricultural professionals to share their expertise. My dedication to hands-on learning is shown as well by my willingness to take on individual student projects (Special Problems in Plant Science-PLSC 400) almost every quarter.

A third conviction that is important to me is **communication**. To be an effective communicator, I feel it is necessary to develop an understanding between myself and the student that involves them knowing my respect for their presence and efforts and my perspective as an instructor providing information to them. With them knowing traditional boundaries in place, they can approach me about course material, career advice, research ideas, and even personal questions. Developing a communication line is vital to be an effective teacher with students knowing my expectations and the academic standards I maintain and require. It also helps to develop mutual respect between us.

I can go on with more examples of how teaching fits well with what I hold dear as an individual. Bottom line, I love teaching because of the opportunity I have to help individuals reach deep within themselves to achieve goals they never knew they were capable of reaching. I will always carry that mentality because of the opportunities given to me throughout my life by those with similar convictions.

RESEARCH (15%)

Several of the convictions I hold dear with teaching could also relate with my approach to research. The first conviction in this area I will share is **mentorship**. Because of several scientists and professors that mentored me during my journey as a research technician, graduate student, and post-doctoral fellow, I vowed to make a similar impact in young people's lives when presented with the opportunity by teaching them, and at the same time, challenging them to learn and carry out the scientific method. I believe that undergraduate research is vital to plant the notion in young minds that answering scientific questions and solving operational problems will make a direct impact in the world. In the last five years, and with some support from grants I was awarded, I have mentored several undergraduate student researchers who claim that their experiences positively influenced their subsequent career decisions. Their accomplishments are listed

in this packet. I have also worked with graduate students at Louisiana Tech as a committee member on many research trials and presentations.

The second conviction I will discuss is **science**. I have a passion to understand science and solve scientific problems, especially when the outcomes lead to agricultural producers being able to improve their operations. The theme of our research over the last five years has been to improve tree seedling quality and nursery growing practices. The operational question to answer involved developing methods to detect undesirable hybrid pine species at the seed and young seedling stage before inputs were made to grow them all year just to be culled at the end. Concurrently, the scientific question to answer involved relating the morphology of the seed and seedling to it either being a hybrid species or a true to form species. In total, this work has led to almost \$70,000 of federal funding, an undergraduate being first author on a refereed journal article in 2019, three full conference proceedings manuscripts, four undergraduate oral presentations with two awards, three undergraduate poster presentations with one award, four undergraduate student worker positions, and numerous pieces of equipment and upgrades to facilities for horticultural production at Tech.

A third conviction is **collaboration**. I enjoy working with and being around people. Forming a team comprised of diverse areas of expertise and skill sets makes research more fun and successful. I have collaborated with faculty at Tech outside of my unit which helps to foster relationships. I have also collaborated with people from across Louisiana and in Alabama, Georgia, Idaho, North Carolina and Virginia that represented state and federal agencies and private companies. The outside relationships established and maintained are also valuable for future projects and to connect students to potential contacts for future employment.

SERVICE (25%)

I am **dedicated** to make my work environment better, and in doing so, I accepted a nomination to be on the Louisiana Tech Leadership Institute (LTLI) last year in order to learn my effectiveness as a leader and learn skills to become a more efficient leader. I serve on the Covid Challenge Response Team (CCRT) which was designed to bring positive changes to Tech from analyzing the adversity we all faced during the pandemic. I recently was nominated to be an Aspire IChange Fellow. In that role, I plan to be an advocate for inclusion and diversity among, faculty, staff, and students by assisting with planning and implementing initiatives to enhance recruitment and retention of underrepresented groups. I have also served on the College of ANS Graduate Council, the University Senate, and numerous search committees.

Building a sense of **community** has been the theme behind many efforts of service. This idea falls in line with events I have coordinated to enhance the public's knowledge of horticultural practices. Since 2016, I have organized three gardening workshops at Lomax Hall that brought 75-100 people to campus each time and two private pesticide certification trainings. In addition, I assisted with coordinating and hosting the Back to Your Roots conference on South Campus in 2019 which brought well known experts in sustainable agriculture from all over the country to speak to about 150-200 people in concurrent sessions over three days. In 2017, the Greenscape club I sponsor built four raised bed gardens for Pecan Villa, an assisted living facility in Ruston. The club bought the materials with their raised funds and assisted the residents with planting the garden that year. Over the last 18 months I have spent much time renovating the John D. Griffin Garden structures on South Campus into picnic, sitting, and study areas, which have proven to be valuable during the distancing required during the pandemic. Grants were funded to get new roofs, fencing, electrical upgrades, and concrete poured in the structure. I worked with a young man to re-build a bridge in the garden for an Eagle Scout project.

Another example of building community involves times when I visit with prospective students and their families. I meet with and give tours to many prospective students each quarter that are interested in Agricultural Business/Plant Science. When I meet with them, I explain curriculum, club activities, scholarship opportunities, and other facts pertinent to the program. What could be considered just as important is the discussion of the individual care our professors at Tech provide, the camaraderie that can be built at our university events, and the interaction we can help facilitate with professionals and alumni contacts. All of these discussion points relate to a sense of community.

Courses Taught: Fall 2016-Spring 2021

Course	Enroll	Retain	Eval	Course	Enroll	Retain	Eval	Course	Enroll	Retain	Eval
Fall 2016				Winter 2016-17				Spring 2017			
101	63	94%	3.9	220	18	100%	3.7	101	65	89%	4.0
225B	1	100%	n/a	422	13	92%	3.4	284	16	100%	3.8
301	10	100%	4.0	589A	1	100%	n/a				
400C	1	100%	n/a								
516	4	100%	n/a								
Fall 2017				Winter 2017-18				Spring 2018			
101	63	92%	4.0	220	18	100%	3.7	101	56	91%	3.9
301	7	100%	3.5	422	19	100%	3.4	312	18	100%	3.5
400A	1	100%	n/a					400A	2	100%	n/a
								400C	1	100%	n/a
Fall 2018				Winter 2018-19				Spring 2019			
101	73	93%	3.7	289C	47	100%	3.7	101	60	95%	3.7
301	16	100%	4.0	422	19	100%	3.9	284	22	91%	4.0
								400A	1	100%	n/a
Fall 2019				Winter 2019-20				Spring 2020			
101	57	93%	3.9	220	28	100%	4.0	101	58	90%	3.8
301	16	94%	3.0	400B	1	100%	n/a	284	20	90%	4.0
400A	1	100%	n/a	422	16	100%	4.0	400A	1	100%	n/a
400B	1	100%	n/a					400B	2	100%	n/a
Fall 2020				Winter 2020-21				Spring 2021			
101	35	100%	3.9	101	50	88%	3.6	284	15	67%	
301	15	93%	4.0	422	23	100%	4.0	440	19	95%	
								400C	1	100%	

PLSC	101	Introduction to Plant Science	PLSC	400A	Special Problems in Plant Science (1 hr)
PLSC	220	Greenhouse Management	PLSC	400B	Special Problems in Plant Science (2 hr)
PLSC	225B	Special Problems in Plant Science	PLSC	400C	Special Problems in Plant Science (3 hr)
PLSC	284	Landscape Plants	PLSC	422	Pest Management
ANS	289C	Special Topics-Vegetable Gardening	PLSC	440	Nursery Management
PLSC	301	Landscape Design & Contracting	AGSC	516	Contemporary Topic-Tree Nursery Management
PLSC	312	Turf Management	ANS	589A	Special Topics-Practicum in College Teaching

Since Fall of 2016, there have been 14 courses taught. The PLSC 400 courses are taught at different levels with one on one project intensity reflecting the hours of credit the student receives, so they are counted separately. In addition to required courses taught for the Agricultural Business/Plant Science concentration, I have offered elective courses such as Vegetable Gardening (ANS 289C), Turf Management (PLSC 312), and Nursery Management (PLSC 440). Two graduate courses were also created and taught (AGSC 516 and ANS 589A) per request by the students and were in addition to my normal course load.

SCHOLARLY ACTIVITY

Manuscripts Accepted/Published: 2016-2021; in addition, 16 abstracts published at research meetings

- Holderieth, J.J., M.K. Crosby, T.E. McConnell, and D.P. Jackson. (2021). *Impact of Covid-19 Related Transition to Online Instruction on Student Achievement*. Applied Economics Teaching Resources 3: 15p.
- Olatinwo, R., D.P. Jackson, S. Sung, A. Mangini, B. Strom, and J.P. Barnett. (2020). *Genetic markers for identification of southern pine species*. In Proceedings: 20th Biennial Southern Silviculture Research Conference, e-Gen. Tech. Rep., Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.

- Barnett, J.P., **D.P. Jackson**, and R. Olatinwo. (2020). *Hybridization of longleaf pine: Is there a growing problem?* In Proceedings: 20th Biennial Southern Silviculture Research Conference, e-Gen. Tech. Rep., Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.
- **Jackson D.P.**, J.P. Barnett, R. Olatinwo, B. Strom, and S. Sung. (2020). *Field observations of longleaf pine seedlings to determine the extent of hybridization.* In Proceedings: 20th Biennial Southern Silviculture Research Conference, e-Gen. Tech. Rep., Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.
- Bolner, N.G., **D.P. Jackson**, J.P. Barnett, and R. Olatinwo. 2019. *Evaluation of sowing methods to determine the role of hypocotyl extension in longleaf pine seedling development.* Tree Planters' Notes. 62(1&2): 88-94.
*The first author on this refereed paper is Nathan Bolner, an undergraduate student from 2015-2019.
- **Jackson, D.P.** and D.N. Bowe. 2017. *Root growth potential of loblolly pine seedlings after defoliation to mimic browsing damage.* Tree Planters' Notes 60(2): 19-23.
*The co-author was an undergraduate who did the trials and assisted with publishing in 2017.

Advised/Mentored Undergraduate and Graduate Student Research: 2016-2021 (10 Presentations)

1) Kelsey Shoemaker (Undergraduate Student-Agricultural Business/Plant Science)

Theme: *Evaluating Patterns in Avian Herbivory Influenced by Southern Pine Seed Sowing Practices*

Oral Presentations: 1) 2021 Louisiana Tech Undergraduate Research Symposium, 2) 2021 University of Louisiana Systems Academic Summit, and 3) 2021 College of ANS Research Symposium

2) Nathan Bolner (Undergraduate Student-Forestry)-Published this work in a refereed journal (see above).

Theme: *Evaluation of Sowing Methods to Determine the Role of Hypocotyl Lift in Longleaf Pine Seedling Development*

Oral Presentations: 1) 2019 University of Louisiana Systems Academic Summit, Grambling State University, 2) 2019 Biennial Southern Silviculture Research Conference, Shreveport, LA (1st Place of all undergraduate and graduate students), and 3) Louisiana Tech, 2019 Undergraduate Research Symposium (3rd Place)

Poster Presentations: 1) 2019 Louisiana Society of American Foresters Meeting, Pineville, LA (1st Place) and 2) Louisiana Tech, 2018 College of ANS Research Symposium (3rd Place)

3) Barrett Moore (Undergraduate Student-Agricultural Business)

Theme: *Morphological Assessment of Longleaf Pine Seedlings to Understand Hybridization Patterns in Seed Crops over the Last Five Years*

Oral Presentation: Louisiana Tech, 2017 College of ANS Research Symposium

4) Jacob Reichley (Graduate Student-Louisiana Tech University-Biological Sciences)

Theme: *Effects of Plant Growth Regulators and Fertilizer Supply on Performance of Poinsettia Varieties*

Oral Presentations: 1) Louisiana Tech, 2017 College of ANS Research Symposium and 2) Louisiana Tech, 2017 Undergraduate/Graduate Student Research Symposium

Selected Presentations: 2016-2021; in addition, 9 oral presentations and 1 poster at research meetings, at invited venues at the university and in the community (all separate from student ones)

- 2020-**D.P. Jackson.** *Influence of Nursery Practices on Seedling Quality.* North Louisiana Society of American Foresters Winter Meeting, Louisiana Tech University, Ruston, LA, January 23, 2020.
- 2019-**Jackson D.P.**, J.P. Barnett, R. Olatinwo, B. Strom, and S. Sung. *Field Observations of Longleaf Pine Seedlings to Determine the Extent of Hybridization.* 20th Southern Silviculture Conference, Shreveport, LA.
- 2019- Barnett, J.P., **D.P. Jackson**, and R. Olatinwo. *Hybridization of longleaf pine: Is there a growing problem?* 20th Southern Silviculture Conference, Shreveport, LA.

- 2018-**Jackson, D.P.**, N.G. Bolner, J.P. Barnett, and R. Olatinwo. *Evaluation of Sowing Methods to Detect Sonderegger Pine Seedlings*. Joint Southern and Northeastern Forest and Conservation Nursery Association Conference, Pensacola, FL.
- 2016-**Jackson, D.P.**, R.K. Dumroese, D.J. Leduc, and J.P. Barnett. *Evaluation of Longleaf Pine Fertilization Treatments in the Nursery Nine Years After Outplanting*. Joint Southern and Northeastern Forest and Conservation Nursery Association Conference, Lake Charles, LA.

Selected Research Grants: 2016-2021; In addition, two Louisiana Tech mini-grants totaling \$3,526

- **Jackson, D.P.** *Evaluation of longleaf pine (*Pinus palustris*) seedlots for the prevalence of hybridization*. USDA Forest Service, Southern Research Station: Funded amount: \$53,388
- Adams J, N., N. Clay, A. Keith, **D.P. Jackson**, and G. Holley. *Cedar/Garlic Insect Repellent: Testing in a Controlled Environment*. Mr. Richard Fewell (Entrepreneur): Funded amount: \$34,598
- **Jackson, D.P.** and R. Olatinwo. *Relating Substrate pH to Pathogen Populations, Causal Virulence, and Southern Pine Seedling Quality*. USDA Forest Service, Southern Research Station: Funded amount: \$15,000

Selected Enhancement Grants: 2016-2021; Two currently submitted with a proposed \$10,000

- Shoemaker, K.D. and **D.P. Jackson**. *Training Future Landscape Horticulturalists and Providing an Interactive Landscape at Louisiana Tech University's IDEA Place*. Louisiana Nursery and Landscape Association. Funded Amount: \$3,500 (Undergraduate Student as First Author)
- **Jackson, D.P.** *John D. Griffin Pollinator Garden Fence*. Student Government Association, Louisiana Tech University. Funded Amount: \$1,164
- **Jackson, D.P.** *New Roofs for the John D. Griffin Horticultural Garden Structures: The Original Louisiana Tech Farm Salesroom and Tool Storage Building*. Lagniappe Ladies. Funded Amount: \$4,500
- Adams, H. and **D.P. Jackson**. *Development of a pollinator garden on Louisiana Tech's South Campus*. Lagniappe Ladies. Funded Amount: \$5,000

SELECTED SERVICE

Community: 2016-2021

- Organized and hosted 3 different Home Gardening Workshops at Tech: 1) Raised Bed and Container Gardening, 2) Organic Gardening, and 3) Herb Gardening. Each one was attended by 75-100 people on South Campus.
- Assisted with coordinating and hosting the Back to Your Roots Conference in 2019 at Tech on South Campus.
- Organized and hosted a Private Pesticide Applicator's Certification Workshop on South Campus in 2016 and 2017 where people took an exam in order to get licensed to become a private pesticide applicator.
- Completed renovations to the John D. Griffin Garden including new roofs on the historic Tech Farm Salesroom structure, coordinating concrete pouring and electrical upgrades, buying picnic tables and chairs and Eagle Scout bridge building project.

University: 2016-2021

- Appointed as Aspire IChange Fellow designed to bring positive changes to Tech for inclusion and diversity
- Member of the Covid Challenge Response Team (CCRT) designed to bring positive influence and practical action from the challenges of the pandemic
- Member of the 2019-2020 Louisiana Tech Leadership Institute (LTLI) class
- Served on the University Senate (2015-18) and College of ANS Graduate Council (presently)
- Assisted with planning and implementation of the Noble Tree plantings on Tech campus
- Coordinate and organize the FFA Horticultural contests and the State FFA Agronomy contest at Tech each year
- Faculty sponsor for Greenscape, the Plant Science club; took members on a trip to Auburn, AL in 2019 to tour Young's Plant Farm and Auburn University Horticulture; built, donated, and planted raised bed gardens for Pecan Villa Assisted Living in Ruston, and help maintain raised bed gardens at local schools in Ruston.
- Meet with many prospective students and parents each quarter, have given 10 guest lectures in several different Forestry courses, and helped with several career fairs and many any other departmental events.