3rd Annual Louisiana STEM Summit

LASTEM 2020

LA STEM
REGENTS
Science • Technology • Engineering • Math

Experience the Network

October 28–29, 2020

Virtual Two-day Event

LASTEM 2020 Annual Summit

WELCOME

Welcome to the virtual 2020 LaSTEM Summit. What a year! While our format has changed, our commitment remains the same - to showcase many of the compelling Science, Technology, Engineering, and Math programs our state has to offer and the talented individuals who are invested in this work. Your participation today demonstrates your commitment to educate, collaborate and innovate at scale in order to fully develop our STEM potential in Louisiana.

During this summit, we will showcase the value of our proposed Regional STEM Network Centers (RSNC), which will advance our vision of an interconnected STEM ecosystem that supports education, economic development, and employment opportunities across our state. Since our last summit in November 2019, we've made progress, partnerships have been strengthened, enthusiasm remains high and many regional stakeholders are eager to establish centers in their areas.

We appreciate the leadership of Senator Sharon Hewitt, a dedicated champion of all things STEM for the state of Louisiana. We are grateful for the strong partnerships between the Regents' LaSTEM Advisory Council, the Department of Education, Louisiana Economic Development, business leaders and regional partners who are committed to this effort. But none of this is possible without you.

Thank you for joining us not only for this Summit but also on this journey to build a STEM network that supports our communities and helps our state to prosper.

I hope this Summit sparks both energy and excitement as well as a network of innovative ideas. I encourage you to share your thoughts, develop new contacts and join us in creating Louisiana's STEM ecosystem together.

Enjoy!

Dr. Kim Hunter Reed
Commissioner of Higher Education

LASTEM 2020 Summit

KEYNOTE SPEAKER

Cindy Hasselbring

Senior Policy Advisor, Assistant Director,
White House Office of Science and
Technology Policy, Washington, D.C.

Cindy Hasselbring currently serves as Senior Policy Advisor and Assistant Director for STEM Education at the White House Office of Science and Technology Policy. Previously, she was the Senior Director for AOPA's High School Aviation Initiative and led efforts to build a four-year aviation STEM curriculum to inspire more students to enter careers in aviation and aerospace. In addition, she developed and planned AOPA's annual High School Aviation STEM Symposium, which most recently hosted more than 350 educators, administrators, industry representatives and government officials at the United Airlines Flight Training Center in Denver, Colorado. She led STEM initiatives as Special Assistant to the State Superintendent at the Maryland State Department of Education (MSDE) including the expansion of computer science, development of a youth apprenticeship program, and conducting STEM education workshops for approximately 300 Maryland educators.

Prior to working at MSDE, Cindy completed two years as an Albert Einstein Distinguished Educator Fellow at the National Science Foundation in Arlington, Virginia where she participated in the development of the former Federal STEM education strategic plan. She is a 16-year veteran mathematics teacher at Milan High School in Michigan and was awarded the Presidential Award for Excellence in Mathematics and Science Teaching and earned National Board Certification during her teaching tenure. As a teacher, she was heavily involved in NASA's Network of Educator Astronaut Teacher program and participated in numerous teacher workshops and two reduced gravity flights. Cindy was one of 120 applicants invited to interview for the NASA Astronaut Candidate program in 2013. She learned to fly in Ann Arbor, Michigan and enjoys flying as a private pilot and has her seaplane rating.

Schedule

Day 1

Wednesday, October 28, 2020	
TIME	**Sessions**
8:15-8:45	Welcome and Opening Address - Commissioner of Higher Education Dr. Kim Hunter Reed & State Senator Sharon Hewitt
8:45-8:50	Day 1 Overview
8:50-9:00	*Transition Break and Video Segment*
9:00-9:50	Integrating STEM into Prek-16
	Regions 2 & 6
9:50-10:00	*Transition Break and Video Segment*
10:00-10:50	Workforce Partnerships
	Regions 3 & 9
10:50-11:00	*Transition Break and Video Segment*
11:00-11:30	Keynote Address - Cindy Hasselbring "National STEM Strategic Plan and Louisiana's involvement"
11:30-11:40	Day 1 Closing

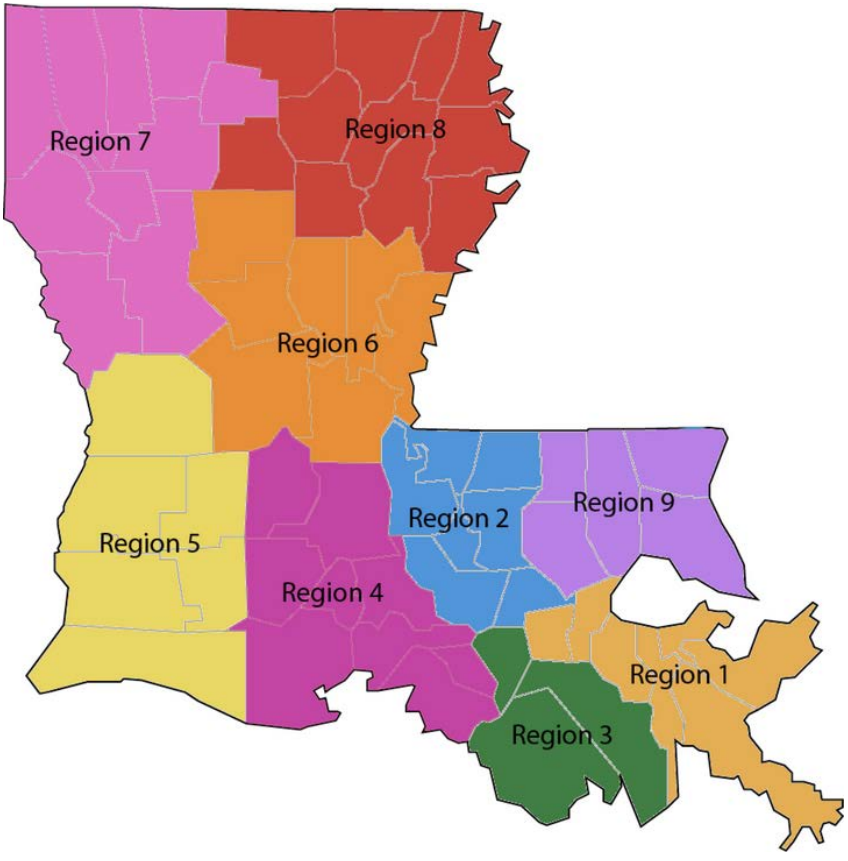
Schedule

Day 2

Thursday, October 29, 2020	
TIME	**Sessions**
8:30-8:50	Welcome and Day 2 Overview
8:50-9:00	*Transition Break and Video Segment*
9:00-9:50	Afterschool STEM & Community Programs
	Regions 1 & 7
9:50-10:00	*Transition Break and Video Segment*
10:00-10:50	Innovative STEM Pathways Connecting Prek-16 and the Workforce
	Regions 5 & 8
10:50-11:00	*Transition Break and Video Segment*
11:00-11:20	Summit Recap and Closing Address

Regions

LOUISIANA STEM REGIONS



Breakout Session I

INTEGRATING STEM INTO PREK-16

Region 2

STEM Ecosystems - Leveraging and Connecting Partners for Effective STEM Integration PK-16

The journey to a rewarding STEM career can be difficult, particularly for underrepresented populations.To become STEM proficient, students must have access to challenging and relevant activities and coursework. They also need well-trained instructors (in both formal and informal settings) and exposure to a continuum of stimulating project-based experiences, internships, and/or apprenticeships. In addition, they need supportive, well-designed pathways that culminate in well-paying STEM jobs.Sparking interest in STEM early on and retaining students during their journey through post-secondary education and into the workplace requires a huge dose of community and family awareness and strategic engagement by business and industry. What does this continuum of STEM learning look like and how must partners connect and align to fill gaps? This presentation will highlight actions taken by our partners who have formed an "Opportunity Zone" that is increasing equity and easy access to STEM-integrated learning experiences, resources, and opportunities for all stakeholders, in all contexts, at all ages that results in high-quality talent for our region.

Region 6

Building a Community Around STEM

This presentation will provide an overview of the new Region 6 STEM Center in Alexandria hosted by Northwestern State University. The STEM center will provide regional opportunities for PK-16 faculty and students and STEM partners to engage in activities that promote STEM culture and literacy, experiential learning, and prepare a STEM workforce for the future. The STEM Center will support activities and experiences where faculty and students become immersed in challenging, problem-based learning experiences and engage in scientific inquiry. The Region 6 STEM Center will build a collaborative, sustainable infrastructure for STEM, fostering collaborative opportunities that inspire young people to be leaders in science, technology, engineering, and math and to think like scientists, inventors, and entrepreneurs.

Breakout Session II

WORKFORCE PARTNERSHIPS

Region 3

Virtual Innovation and Industry Partnerships

This summer, Fletcher Technical Community College partnered with Shell, Chevron, NASA, and non-profits to implement virtual STEM summer camps in a unique and innovative way. This session will highlight the strategic approach utilized to generate student-centric outcomes through Industry-Education partnerships; maintaining an innovative mindset is crucial. Topics will include working to serve both internal and external stakeholders, aligning initiatives and funding streams to maximize resources, developing from a student-centric perspective, and operating with agility.

Region 9

Innovation and Collaboration through Workforce Partnerships

Southeastern Louisiana University was selected to serve as the lead entity for the Northshore Regional STEM Network Center (Region 9) in partnership with Northshore Technical Community College. This presentation will provide a high-level overview of our existing leadership through innovative and collaborative STEM education and workforce development initiatives, showcasing market responsiveness through various workforce partnerships in the region. Industries served include computing, advanced manufacturing and mechatronics, occupational safety, health, environment (OSH&E), and construction. Industry partners include DXC Technologies, Amazon Web Services, Laitram LLC, Elmer's Chocolate, Zatarains, and Performance Contractors.

Breakout Session III

AFTERSCHOOL STEM & COMMUNITY PROGRAMS

Region 1

Re-Thinking STEM Outreach & Engagement: Building Capacity through Building Community

STEM NOLA has redefined STEM outreach through an intentional, consistent and innovative community-based engagement model. Through research and years of practice, STEM NOLA understands that early and ongoing exposure and experience with STEM concepts in a rigorous, culturally-relevant environment is absolutely critical to unlocking the doors of economic opportunity that STEM careers uniquely provide. The Out of School Time (OST) model is a well-structured program, staffed exclusively by live STEM professionals, STEM NOLA's programmatic staff, and paid college interns and volunteers. These individuals leverage their content and instructional knowledge to provide exceptional, hands-on learning opportunities that participating students will never forget. K-12 students engage in grade-appropriate activities building mechanisms and devices that tackle real-life and real-world challenges; this translates to deeper student engagement and an increased sense of self-efficacy within STEM. Dr. Calvin Mackie of STEM NOLA will describe the model in detail and explain how to create sustainable community-based STEM engagement in your community.

Region 7

Diversity Initiatives, Community Partnerships, and Family Engagement

The North Louisiana STEM Alliance partners together with diverse stakeholders with an emphasis on diversity initiatives, community partnerships, and family engagement. Several programs support these endeavors, including "Bars without Barriers: Teaching Incarcerated Fathers How to Engage Their Families in Hands-on STEM"; the SB Mini Maker FaireTM, a family STEAM event; The Family that Codes Together; GSK Science in the Summer; community outreach to schools and out-of-school time organizations; and COVID-19 response (masks, computer refurbishing, digital literacy). Together the team of 188 individuals from over 80 organizations served 75,000 individuals for over 210,000 contact hours with 65% of clients being from underrepresented groups.

Breakout Session IV

INNOVATIVE STEM PATHWAYS CONNECTING PREK-16 AND THE WORKFORCE

Region 5

Is This Our Sputnik Moment?

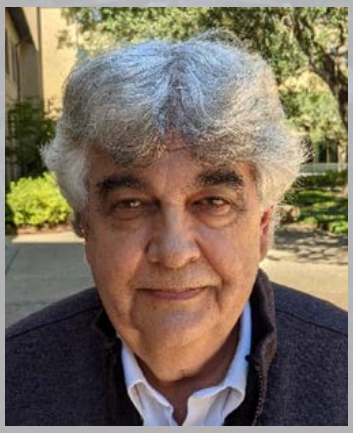
This presentation will showcase some of the ways Region 5 is preparing generations to come for a world that does not exist yet. The way we live has changed dramatically over the past 6 months: how we socialize, how we communicate, how we work, how we educate. How do we prepare our young people for a world that is constantly changing? STEM is not rigid, it is fluid. We can provide the next generation with tools, strategies, and a growth mindset that sees problems as opportunities. With the COVID-19 pandemic, we have before us an opportunity. Is this our Sputnik moment? Regina Dugan, the CEO of Wellcome Leap and a former director of DARPA, agreed with that assessment. "It feels very much to me like a Sputnik moment—almost as if the 1918 pandemic and the '29 crash happened on top of each other." She added, "It's not coincidental that new waves of transformation happen and grow out of these very difficult situations. It's my sense that just as we had a new commitment to innovation after Sputnik, this Coronavirus could spark, not a space age, but a health age. And that's going to require a lot of us. But it is certainly within our capacity to get it done." Region 5 is committed to educating generations to come in order to expose them to the tools, strategies, and a growth mindset that true STEM education can provide.

Region 8

STEM Collaboration for Innovative Louisiana Stakeholders (SCILS)

This exciting session will showcase some of the innovative efforts currently taking place in north Louisiana with stakeholders from industry, education, and government. The efforts highlighted focus on improving the STEM, PK-Workforce life-long learning opportunities in the region. The STEM Collaborative for Innovative Louisiana Stakeholders (SCILS) is the regional hub that has leveraged resources and expertise to outline a sample of success and synergy related to Cyber Education and Security. The model will be presented in such a way to provide a template for others who are seeking ways to craft creative solutions to complex regional STEM-related problems for learners and innovators of all ages. In addition to SCILS partners for region 8, also showcased will be international partner, Coursera.

Speakers



Dr. Frank Neubrander is the Interim Executive Director and Chair of the Gordon A. Cain Center for STEM Literacy at Louisiana State University. He directs the LSU College Readiness Program that includes the LSU Dual-Enrollment Program, the LSU STEM Pathways Program, and several LSU STEM Teacher Training Programs. Daily, these programs provide more than 8,000 Louisiana middle and high schoolers with equitable access to state-of-the-art STEM learning experiences. Neubrander is a member of the Louisiana Board of Regents' Advisory Council for Teacher and Leader Effectiveness and of the Louisiana Board of Regents' STEM Advisory Council.

Frank Neubrander

Co-Director, Gordon A. Cain Center for STEM Literacy
Interim Associate Dean for Science Education, College of Science

Michael T. Snowden is employed by Northwestern State University of Louisiana, as the Vice President of Inclusion and Diversity. He is married to LaRona J. Snowden and is the father of three children. He received his degrees from the University of Southern Mississippi, which include a Doctor of Philosophy. His professional affiliation includes the National Association of Diversity Officers in Higher Education and the American Association for Access, Equity, and Diversity. Michael strives to be a positive force in whatever endeavor he undertakes and is committed to working with higher education institutions to contribute to the continued growth.

Michael T. Snowden

Vice President, Inclusion and Diversity

Speakers

Darlene Williams

Vice President for Technology, Innovation, and Economic Development and Associate Professor

Dr. Darlene Williams is the Vice President for Technology, Innovation, and Economic Development at Northwestern State University and serves as the key administrator in the development and continuance of business and industrial partnerships. In addition, she is responsible for the operation of the Offices of Information and Technology Services, Electronic and Continuing Education, the Office of Sponsored Programs, NSU@Barksdale, NSU@Marksville, NSU@BPCC, the CENLA and Leesville/Ft.Polk instructional sites, and eNSU, Northwestern State's online programs. Dr. Williams received her B.A, M.Ed., and Ed.S. from Northwestern State University and her Ph.D. in Educational Administration, Curriculum, and Instruction from the University of Nebraska - Lincoln.

Dr. Curtis Penrod is the Senior Coordinator of Business Programs and an Associate Professor in the Northwestern State University (NSU) College of Business and Technology (COBT). In this role, Dr. Penrod helps oversee the various degree programs in the COBT, including the B.S. and M.S. in Computer Information Systems (CIS). Dr. Penrod has worked at NSU for approximately 15 years, first in the Office of Institutional Research and now in the COBT. Dr. Penrod holds an MBA from Louisiana State University - Shreveport, a GC in CIS from Georgia Southwestern State University, and a Ph.D. in Business Administration with a specialization in Applied Computer Science from Northcentral University.

Curtis Penrod

Senior Coordinator of Business Programs and Associate Professor

Speakers

Clint Coleman

Dean of STEM

Dr. Clint Coleman focuses on bringing outcome-based, cutting-edge academic and workforce programs to the Bayou Region as the Dean of STEM at Fletcher Technical Community College. In July 2020, Fletcher hosted the Shell Energy Venture Camp and NASA Astro Camp as a pilot virtual summer camp experience. Success of the camps relied on the combined efforts and support of three LCTCS schools, Central Creativity, Shell Oil, Chevron, and NASA. Combined, these camps serviced over 1350 registrants from 16 states and 5 countries over the two weeks. In August 2020, Dr. Coleman was selected as the LCTCS representative to the Louisiana Board of Regent's LaSTEM Advisory Board. Dr. Coleman's career goals align with increasing STEM education access to Louisiana citizens of all ages. He continues to strive towards that goal by working with industry, commercial, non-profit, and government partners to bring educational opportunities to Fletcher and beyond.

Dr. William Wainwright was appointed Chancellor of Northshore Technical Community College in August 2011. Career Highlights include Harvard Institute for Educational Management Fellow, recognition as the 2014 St. Tammany Economic Development Innovator of the Year, 2015 Partner of the Year, 2017 St. Tammany West Chamber of Commerce Community Leadership award recipient, 2016 nomination to the American Association of Community Colleges Commission on Research, Innovation, and Emerging Trends, and 2017 nomination to the La STEM Advisory Council. His college, Northshore Technical Community College, ranked top in the nation by the Brookings Institute for greatest economic value of graduates in 2015. Dr. Wainwright completed his doctoral studies at the University of New Orleans in December of 2011 in Higher Education Administration. He resides in Madisonville, LA with his wife Misty and two children.

William Wainwright

Chancellor

Speakers

Mr. Crabtree serves as the Director of Innovative Technologies and STEM Outreach at Northshore Technical Community College. With more than 10 years of teaching experience in areas such as mathematics and mechatronics, he continually strives to develop relevant, engaging curriculum to align with industry requirements. Since 1995, he has organized and facilitated STEM Outreach programs in Oklahoma, Texas and Louisiana, reaching more than 30,000 participants. Mr. Crabtree holds a B.S. in math from the University of Oklahoma and a M.S. in mechanical engineering from the University of Delaware, as well as several instructor-level certifications.

Charles A. Crabtree

Director of Innovative Technologies and STEM Outreach

Dr. Mohammad Saadeh is the Department Head of Industrial and Engineering Technology at Southeastern Louisiana University. He received his first two degrees (B.S. and M.S.) in Mechatronics Engineering from Jordan and Malaysia, respectively. He then earned his Ph.D. in Mechanical Engineering from the University of Nevada Las Vegas. Dr. Saadeh joined Southeastern as an Assistant Professor in 2012. Before becoming the Department Head, Dr. Saadeh was the curriculum chair of the Engineering Technology program. He also held the position of the Engineering Technology Coordinator, and next, the Department Head of the newly established Department of Industrial Technology. Dr. Saadeh enjoys working on projects that are STEM-oriented.

Mohammad Saadeh

Department Head of Industrial and Engineering Technology

Speakers

Wendy Conarro

Director of Science & Technology Interactive Learning Experiences

Dr. Wendy Conarro serves as the Director for the Southeastern Louisiana University Science & Technology Interactive Learning Experiences (STILE) program, in partnership with Louisiana GEAR UP/LOSFA, which serves high school students underrepresented in STEM fields throughout the state. Previous to her career in higher education, she held positions with multiple agencies conducting environmental research and compliance projects. Recent professional activities include collaboratively launching the Northshore STEM Coalition to prepare all youth and young adults in the Northshore region for success by facilitating inclusive and quality STEM education and workforce development opportunities. She earned a Bachelor of Science in Environmental Biology from the University of LaVerne, a Master of Science in Teaching Science from Portland State University, and a Doctorate in Educational Leadership and Technology from Southeastern Louisiana University.

Christopher Montgomery

Assistant Director of Innovative Technologies and STEM Outreach

Christopher Montgomery is the Assistant Director of Innovative Technologies and STEM Outreach at Northshore Technical Community College. Prior to joining the Northshore family, he worked for the United States Department of Agriculture, Federal Grain Inspection Agency, as an Agricultural Commodity Grader and Union Safety Representative for nearly 10 years. In 2008, Christopher attended Alcorn State University and obtained a Bachelor of Science in Agricultural Economics. He later attended Columbia Southern University and obtained a Master of Science in Occupational Health and Safety with a concentration in Environmental Science in 2019.

Speakers

Daniel McCarthy

Dean for the College of Science and Technology

Dr. Daniel McCarthy earned a B.S. in Physics from Case Western Reserve University in Cleveland, Ohio, and Ph.D. in Plasma Physics, with a specialization in Magnetically Confined Fusion Energy, from the University of Maryland, College Park. Prior to his appointment as the Dean of the College of Science and Technology, Professor McCarthy served as the Head of the Department of Chemistry and Physics. During his time as a faculty member at Southeastern, he has taught sixteen different courses ranging from Acoustics for Musicians to Electromagnetic Wave Theory. In the field of plasma physics, he has published over 20 articles in international plasma physics journals, which have received over 250 citations, has received over $350,000 in external funding to support his research, and continues active collaborations with scientists from around the world. He has also been actively involved with undergraduate research, and has had six undergraduate students as co-authors on his publications. Outside of his life at Southeastern, Dr. McCarthy enjoys music, competing in triathlons, and spending time with his daughters, Cerys and Juliana.

Calvin Mackie

Founder of STEM NOLA

Dr. Calvin Mackie is an award-winning mentor, inventor, author, former engineering professor, internationally renowned speaker and successful entrepreneur. Dr. Mackie is the founder of STEM NOLA, a non-profit organization founded to expose, inspire and engage communities about the opportunities in STEM. In 7 years, STEM NOLA has engaged over 50,000 mostly low-income low-resourced K-12 students in hands-on project based STEM activities in New Orleans communities. Mackie graduated from Morehouse College earning a BS in Mathematics in 1990 and was simultaneously awarded a BS in Mechanical Engineering from Georgia Tech, where he subsequently earned his Master's and Ph.D. in Mechanical Engineering in 1996. He served on the engineering faculty at Tulane University for 12 years. Mackie has won numerous awards including the 2003 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring in a White House ceremony and currently serves on the Louisiana STEM (LA-STEM) advisory council.

Speakers

Heather Kleiner

Sciport Sponsored Programs Manager

Heather Kleiner, Ph.D. is the founding chair of the North Louisiana STEM Alliance. She has worked with Sci-Port Discovery Center since 2014 in Informal STEM Education, from program design & implementation for learners of all ages; survey & evaluation; grant writing, management & reporting; and community engagement. Dr. Kleiner previously served 10 years at LSU Health Sciences Center as a faculty member where she conducted extramurally funded cancer research, taught graduate & medical students, residents & fellows. Dr. Kleiner co-created the BioStart program to train high school seniors in biomedical research and was the graduate student recruiter. Her Ph.D. is in Pharmacology & Toxicology at the University of Texas at Austin with post-doctoral training at UTMD Anderson Cancer Center. She published 31 peer-reviewed original research articles, presented at numerous professional conferences, and served on editorial boards. Special programs co-created by Dr. Kleiner at Sci-Port include "Bars without Barriers" prison outreach and the first Shreveport Mini Maker FaireTM.

Mark Arsenault

CPSB Grants Coordinator

Mark Arseneault has been the Grants Coordinator for the Calcasieu Parish School Board (CPSB) since October of 2019. Prior to that, he was a master teacher and STEM coach for CPSB.After graduating from the University of Massachusetts with a Bachelor's degree in Chemistry in 1989, Mark and his family relocated to Baton Rouge. Mark continued his education at LSU where he received his Masters of Arts in Teaching, and also his Masters of Natural Science. He taught high school math and science in the Baton Rouge area from 1990 to 2015. In 2015, he was hired by LSU to assist with the Geaux Teach program through the Cain Center. In 2016, Warren Drake, the Superintendent for East Baton Rouge Schools, hired Mark as a STEM Coordinator for the district. He worked closely with the Elementary STEM Coordinator and STEMup BR organizing STEM workshops, competitions, projects, and lessons. In 2017, Mark and his family relocated to the Lake Charles area after he and his wife, Pamela, were both hired by CPSB: Mark as a STEM coach, and Pamela as the Elementary Personnel Supervisor.

Speakers

Erica Guillory is a native of Lake Charles, La. and has worked in the education field for 20 years. She has taught 4thand 5th grade, gifted education. She also has had the role of curriculum coordinator, and district elementary science curriculum specialist. Currently she is the Principal of Ralph Wilson Elementary. She is a formal graduate of McNeese State University where she earned a Bachelor's degree in Pre-K, K--8 Education, a Master's of Science in Instructional Technology, and a Master's of Education in Educational Technology. Erica has won numerous awards one being the 2013 Teacher of the Year for Calcasieu Parish and Region V. She has dedicated herself to becoming a life-long educator and learner, and she strives to instill a similar desire in all the educators with whom she works. She has two wonderful children (Gabriel and Abigayle).

Erica Guillory
Ralph Wilson Elementary
Principal

Dr. Lindsey Keith-Vincent serves as the Associate Dean of Research, Outreach and Innovation in the College of Education at Louisiana Tech University. Lindsey leads the Science and Technology Education Center (SciTEC) where she has the opportunity to collaborate with academic, community, and corporate colleagues across the nation to develop and support STEAM-focused initiatives in the PK-20 arena. Select SciTEC collaborative activities and outreach efforts include, The Office of Professional Education Outreach (OPEO), Louisiana Center for Afterschool Learning (LACAL) supported through the Charles S. Mott Foundation, The Doug and Sandra Boulware IDEA Place; and Louisiana's only NASA Educator Resource Center. In addition she has co-labored with colleagues and helped facilitate recent partnerships with international organizations including Discovery Education and Coursera to bring world-class, flexible learning opportunities to individuals across Louisiana of all ages. Dr. Vincent earned a B.A. in Secondary English Education, an M.S. in Adult Education, certification in Biology education, and an Ed.D. in Educational Leadership. Her interest in models of positive education inspired her to earn a certificate in Positive Psychology from the University of Pennsylvania, through COURSERA.

Lindsey Vincent
Associate Dean of Research, Outreach, and Innovation

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