2015 STEM Conference

Hosted by:
The Center of Excellence in Mathematics & Science Education

Conference Theme
“Best Practices in STEM Education”

Financial Support Provided by:
The Center of Excellence in Mathematics & Science Education
The Claudius G. Clemmer College of Education
Research and Sponsored Programs
Business and Technology
The College of Arts and Sciences

Dr. Anant P. Godbole, Executive Director
Center of Excellence in Mathematics and Science Education

Ms. Angela Haga, Executive Secretary
Center of Excellence in Mathematics and Science Education
### Thursday, May 28th, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00am--12:00 noon</td>
<td><strong>Conference Registration</strong></td>
</tr>
<tr>
<td>10:30am-12:00pm</td>
<td>Gray Fossil Site Tours for all registered participants</td>
</tr>
<tr>
<td>12:00 noon--2:35pm</td>
<td><strong>Luncheon</strong></td>
</tr>
<tr>
<td>12:30pm-1:00pm</td>
<td><strong>Opening Comments:</strong> <strong>Dr. Angela Lewis</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dr. Angela Lewis</strong>, <strong>Interim Dean/Professor</strong>, <strong>Claudius Clemmer</strong></td>
</tr>
<tr>
<td></td>
<td><strong>College of Education, East Tennessee State University</strong></td>
</tr>
<tr>
<td>1:05pm--2:35pm</td>
<td><strong>PANEL DISCUSSION:</strong> “<strong>STEM Research by Students</strong>”</td>
</tr>
</tbody>
</table>

#### Panel Members:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Anant P. Godbole</td>
<td>Executive Director, Center of Excellence in Mathematics &amp; Science Education, East Tennessee State University</td>
</tr>
</tbody>
</table>

The NSF Research Experiences for Undergraduates (REU) Program in the Mathematics and Statistics department has operated continually since 1991. Each summer, I select eight students nationally from a pool of as many as 125 applicants. Sometimes, I am able to augment the program by admitting international students who are not funded by the NSF, or who are funded by other federal agencies. Occasionally, high school teachers participate in the program supported by NSF’s RET (Research Experiences for Teachers) budget. In all cases, writing professional papers for submission to refereed journals is a desirable outcome that is part of the expectations laid out at the beginning of the program. The students all present their work at the Joint Mathematics Meetings, the world’s largest professional meeting for mathematical scientists. Occasionally, students attend and present their work at other meetings. For example, four students from the 2012 cohort attended and presented their work at the 11th International Permutation Patterns meeting held in Paris, France. It is difficult to capture the strong national impact of this program in a short summary, so I will just provide data for one year of the program, namely 2012.

**Dr. Gary Henson**, **Associate Professor**, **Department of Physics & Astronomy, East Tennessee State University**

“**STEM Research by Students**”

ETSU hosts a regional Science Olympiad tournament every February. The Science Olympiad is an international nonprofit organization devoted to improving the quality of science education, increasing student interest in science and providing recognition for outstanding achievement in science education by both students and teachers. Science Olympiad is an ideal way to increase student interest in STEM fields as a potential career. The knowledge and skills that students develop through competing in Science Olympiad improves their overall academic performance and helps prepare them for college. Both middle and high school teams compete in multiple events in earth science, biology, chemistry, physics, engineering, computers, and technology during the day long tournament.

The ETSU Physics & Astronomy department has also participated in the Southeastern Association for Research in Astronomy (SARA) Research Experiences for Undergraduates (REU) Program funded by the NSF. Typically a dozen students selected from a national pool of applicants pursue research activities ranging from solar system
studies to cataclysmic variable stars and active galactic nuclei. All students are also given the opportunity to use the SARA Observatory in Arizona during the course of their summer research activities. At the conclusion of the program the students present a talk on their research project and at a minimum publish a paper in the undergraduate research journal JSARA. The most promising students may also travel to a professional meeting to present their results.

**Tom Rutherford**, Instructor, Sullivan County School System  
**Kayla Jenkins**, Student, Bays Mountain Park and Planetarium

“**STEM Research by Students**”

An Astronomy research program has existed at Sullivan South High School since 2005. A variety of student projects have resulted in 15 SSHS students being published in peer-reviewed journals as well as poster presentations at science fairs and professional conferences. Until 2015, this was done as an extra-curricular program, on the students’ (and instructor’s) own time—now, there is a science research class offered at South so students now receive a credit for their work. Students who have gone through the program have moved on into a variety of STEM fields, with at least one planning on becoming a professional astronomer.

2:40pm—3:40pm **Marilyn P. Carlson**, Professor, School of Mathematical and Statistical Sciences, Arizona State University, The Pathways Project

“A Research Based Approach to Curriculum Development and Refinement: Supporting Student Success in STEM”

The Pathways research project has identified aspects of curriculum and instruction that has led to high gains in the teaching and learning of key ideas, reasoning abilities, and mathematical practices needed for continued STEM learning. In this talk I will describe the development and refinement of the Pathways Precalculus Curriculum and Professional Development Model, and will engage the audience in activities that highlight the cross cutting reasoning abilities and understandings that lead to student success and persistence in solving novel problems.

3:40pm—4:00pm **Break and Networking**

4:00pm—4:45pm **Tom Cheatham**, Director, Tennessee STEM Education Center, Middle Tennessee State University (MTSU)

“**Tennessee STEM Education Center: Helping STEM Faculty Succeed**”

The Tennessee STEM Education Center was created to provide support for STEM faculty, outreach to K-12 teachers and students, and on-going research on teaching and learning at all levels. In a practical sense, these goals are all the same and most project include all three components. This presentation will focus on a model where Center staff support STEM faculty from idea stage to proposal submission through award implementation, for successful proposals. The model resulted in 2014-15 in the submission of 13 proposals (with one more in process to be completed by end of June).
Sally Pardue, Associate Professor of Mechanical Engineering, Tennessee Technological University

“Highlights of TTU STEM Center Activities”

The Millard Oakley Center for Teaching and Learning of Science, Technology, Engineering, and Mathematics (Oakley STEM Center) at Tennessee Technological University was formed as a campus level service unit, partnering with the Colleges of Arts and Sciences, Education, and Engineering, to provide support for STEM education research and outreach programs. The Oakley STEM Center collaborates with the Upper Cumberland region of local education agencies, industry and business, and community partners to deliver research based professional development for in-service teachers (PreK – 12), to offer informal STEM education programs such as STEM Saturday Safaris, STEM Fab Fridays, STEM E(x)peditions, and STEM Maker Camp Fridays. The Upper Cumberland Rural STEM Initiative (UCRSI) Hub, funded for 24 months via the TN STEM Innovation Network and now sustainably funded via a variety of grants and self-generated sources, produced eight targeted outcomes that are tightly blended into the ongoing strategic initiatives of the Oakley STEM Center. Resources that are available for use include the UCRSI Oakley STEMobile, the UCRSI.org webportal, the STEM Equipment Lending Library, and the facilities of Ray Morris Hall on the TTU campus. An overview of the funded grants and Oakley STEM Center ongoing programs during the last five years will be provided during the presentation.

Social Hour, Possibly another Fossil Site Tour

Sheila C. Boyington, President- Thinking Media/Learning Blade®, National Senior Advisor- STEMconnector® and Million Women Mentors®

“The Changing Face of STEM”

As a nation, careers in science, technology, engineering, and mathematics (STEM) continually make the top of lists in pay value and a host of other criteria for great careers. However, the U.S. faces an increasing shortage in the STEM workforce. Employment in STEM is expected to grow 17% by 2018, while the number of college graduates in STEM fields continues to decline. In 2009, just 18% of bachelor’s degrees awarded were in STEM fields, down 24% from two decades ago. Further, the gender and racial gap within the STEM workforce is widening. Women comprise 50% of the college-educated workforce, but only 14% of engineers are women and just 27% are in computer science and math positions. Ethnic diversity is negligible with only 6% of STEM workers being Hispanic and African American.

In order to effectively do this it means more than just adding more science and math to the educational process. Finding new and unique ways to effect this STEM equation requires innovative ways to multiply the impact of corporate investments, supporting organizations that assist promoting STEM careers and opportunity to students and the current workforce.

We need to look at ways to change the face of STEM. If students are asked to describe a typical STEM worker we all can imagine the images that are created. We need to include changing the face of STEM as part of our national STEM debate and efforts. Let’s talk about how!
Friday, May 29th, 2015

7:30am--8:15am  Breakfast and Networking

8:15am--9:00am  Peter Bridson, Director, Center for Research & Innovation in STEM Teaching & Learning, The University of Memphis

“Highlights of University of Memphis STEM Center Activities”

The Center for Research and Innovation in STEM Teaching and Learning at The University of Memphis (Cristol) was established in 2009 to provide coordination and focus for the university’s efforts to recruit and retain students in the STEM disciplines. Cristal grew out of a committee of faculty with interests in STEM education, and first received University funding for staff and space in 2012. At that time a governance structure was put in place that emphasized communication between the colleges (Arts and Sciences, Education, and Engineering), Student Support Programs (TRiO, Tutoring), Admissions, University Libraries, and Career Services. Cristal’s mission encompasses three main themes: enhancement of the undergraduate STEM experience, support for STEM faculty teaching and learning activities, and outreach to K-12 STEM teachers and students. One program in each area will be discussed and used to illustrate some of the issues facing a university STEM center. 1: Funding for MemphiSTEM from the NSF is just coming to an end. How do we use metrics that indicate areas of success within this program to transition to a sustainable program for continued STEM student success? 2: STEMinar is a monthly forum for faculty discussion of STEM teaching and learning. How do we use this to promote faculty awareness of recent teaching and learning research, course redesign, and active learning strategies, particularly among STEM faculty who have not already embraced such approaches? 3: The West Tennessee STEM Hub is part of the Tennessee STEM Innovation Network (TSIN), originally supported by the state through First-to-the-Top funding. How do we engage community organizations and commercial enterprises, in partnership with institutions of higher education and local education agencies, to ensure that all students are prepared with the knowledge and skills to join the 21st century workforce?

9:05am---10:05  Dr. Elaine Swafford, Executive Director, The Chattanooga Girls Leadership Academy/Young Women’s Leadership Academy Foundation

“Best Practices at Chattanooga Girls Leadership Academy”

The Chattanooga Girls Leadership Academy is 6-12 STEM School. CGLA was the first single gender STEM school in the State of Tennessee. The school opened in 2009 and was on the brink of closure by 2011. Beginning in August of 2012, in just nine months, the team finds formula and strategies to be removed from the low performing list and make the State Reward List, two years in a row. Presentation will include the CGLA STEM model, steps to success, and tools on how one school went from one of the lowest performing schools to highest. It’s no silver bullet, it’s working smarter with data driven decisions. Our Motto-ALL STUDENTS WILL AND CAN LEARN AT HIGH LEVELS.

To show how to replicate a process of moving a school forward and to present strategies with details on leading successful transformation in a Title I school with a 97% free and reduced lunch population, that at a one time had single digit proficiency rates in some core subjects. Participants will leave with strategies of changing culture, climate in mindsets of adults and students. Learn to use benchmarking and effective data tracking, put in place accountability measures for the school. Presentation from beginning to end on how to start the real improvement process and how to sustain the STEM efforts.
10:05am--10:25am  **Break and Networking**

10:30am---11:15am  **PANEL DISCUSSION:** Highlights of ETSU STEM Center Activities

**Dr. Aimee Lee Govett,**  *James H. Quillen Chair of Excellence in Teaching and Learning, East Tennessee State University*

“*Quillen Chair Impacting STEM Education*”

The Quillen Chair initiated an ETSU STEM Women Mentor program that was kicked off with a luncheon and information meeting on Friday, November 21, 2014 held at the Carnegie Hotel. There were 38 STEM Women and Graduate students in attendance from 14 different departments across campus. The purpose of this program entitled T.W.I.ST.E.R. (Tennessee Women in STEM Education and Research) is to encourage successful female role models to act as mentors for young women in STEM fields. Working closely with The ETSU Center of Excellence in Mathematics and Science Education and INSIGHT Training & Educational Center, Inc. (“INSIGHT”), a charitable organization providing educational and advancement opportunities to underserved minority groups, the Quillen Chair organized and financially supported a series of Saturday Academies during the fall 2014 through spring 2015. We recruited 14 ETSU faculty from the departments of math, physics, biology, and engineering technology as well as STEM professionals from Eastman and the Gray Fossil Site to teach these STEM Academies.

**Dr. Chih-Che Tai,**  *Assistant Director, Center of Excellence in Mathematics and Science Education, East Tennessee State University*

“*Two Partnership Stories in Northeast Tennessee- Outcomes of Eastman Scholar MathElites & HCS-ETSU MSP*”

This presentation tells the story of two partnerships co-initiated by the ETSU Center of Excellence in Mathematics and Science Education. The first partnership, Eastman Scholar MathElites, demonstrates how a 7+ year partnership between business and an institute of higher education (Eastman-ETSU) has brought a regional impact in Grades 3-8 math. The second partnership, G6-12 Science and Literacy project, introduces how a local education agency and institute of higher education (Hawkins County Schools-ETSU) have worked together to provide teacher professional development (PD) that focuses on Grades 6-12 English Language Arts and Science. This PD seeks to build confidence and understanding about using reading as a tool to understand STEM literacies. These two programs do not only benefit K-12 education in the Northeast Tennessee region, but also bring practical implications for future development in state-wide and national issues.

Dr. Laura Robertson, Associate Professor, East Tennessee State University

“Integrating Science Learning with Literacy using Informational and Fictional Texts in Grades 6-12”

Laura will share information about a current initiative of the Center of Excellence in Mathematics and Science Education, “Integrating Science Learning with Literacy using Informational and Fictional Texts in Grades 6-12”, a Math Science Partnership Grant Program awarded by the Tennessee Department of Education. The grant includes 80 science and ELA teachers from middle and high schools throughout northeast TN.

11:20am---12:20am Moderator: C. Eugene Athon, Jr., Applied Technology Director & Principal Scientist, Nuclear Fuel Services, Inc.

Panel Members: Susan Metcalf, Media & Communications Advising Manager, Nuclear Fuel Services, Inc.
Garth Fine, Mathematics Department, Nuclear Fuel Services, Inc.
Rachel Glass, Technology Department, Nuclear Fuel Services, Inc.
Andrew Davidson, Engineering Department, Nuclear Fuel Services, Inc.
Norman Jacob, Science Department, Nuclear Fuel Services, Inc.

“STEM Abounds at Nuclear Fuel Services”
Nuclear Fuel Services (NFS) manufactures specialty nuclear materials for the U.S. Navy’s nuclear fleet and other customers while protecting its workers, the public and the environment. The NFS panel will discuss how STEM applies to a broad range of projects, programs and work assignments throughout the company.

12:20pm--2:00pm Lunch

1:00pm --1:45pm Dr. Dennis R. Depew, Dean/Professor, College of Business & Technology/STEM, East Tennessee State University

“Future Role of the College of Business and Technology in STEM Education at East Tennessee State University”

The rapid advancements in science and technology along with the interconnectedness of global economies are influencing our lives in countless ways. The rapid advances in technology are also shaping the future job market and the need for a highly skilled workforce.
The College of Business and Technology will be playing a vital role in the future with the “E” and “T” in STEM. A new initiative at ETSU is the launching of a new Bachelor of Science in Engineering degree in the fall of 2016. This new BSE will offer concentration relevant to the work force needs of our region.

The College will also continue to enhance our existing programs in Engineering Technology, Surveying, Digital Media and Computing. This will include expanding in the important areas of cyber security, data analytics, and scientific visualization.

Finally, the College will be a key partner with other Colleges on campus in developing collaborations around STEM education in K-16 and beyond.

2:00pm

*Adjournment of STEM Conference*
2015 STEM Conference

SPEAKER BIOGRAPHIES

Hosted by:
Center of Excellence in Mathematics & Science Education

Dr. Anant P. Godbole, Executive Director
Center of Excellence in Mathematics and Science Education
godbolea@etsu.edu

Ms. Angela Haga, Executive Secretary
Center of Excellence in Mathematics and Science Education
haga@etsu.edu
**Speaker Biographies**

**Mr. C. Eugene Athon, Jr.**  
*Applied Technology Director/Principal Scientist*  
Nuclear Fuel Services, Inc.

Gene Athon Jr. is an Applied Technology Director/Principal Scientist for Nuclear Fuel Services. He serves as the technical leader in support of operations and business development. He provides technical guidance for fuel manufacturing processes, nuclear processing programs, business development and special tasks as assigned by the president of NFS. Mr. Athon received his degree in chemical engineering from Georgia Tech and an MBA from ETSU.

---

**Sheila C. Boyington, PE**  
*President – Thinking Media/Learning Blade®*  
*National Senior Advisor – STEMconnector® and Million Women Mentors®*

Sheila Boyington co-Founder with her husband Dane of Thinking Media where she serves as President. Thinking Media is the creator of Learning Blade® for STEM education that introduces the students to STEM careers through a game-based format and has been validated by BattelleEd to increase awareness and interest in STEM Careers. Thinking Media also created KeyTrain® that was acquired by ACT (where she also served as Vice President until 2012) and has been hailed as the most effective system for improving basic skills, and was used by millions of students/clients in high schools, community colleges, one stops and major corporations. Thinking Media is also the creator of PictureRx® for health literacy and CharacterEd.Net® for K-12 character education.

Sheila is currently serving as the National Senior Advisor to STEMconnector® and Million Women Mentors® as she is leading national efforts in STEM particularly for women. Sheila is well-known for her passion, strong management and leadership skills. Those skills have been and are being used to gain high adoption of the Thinking Media tools.

Sheila has won numerous awards for her Entrepreneurship and Leadership including the Athena, Navigator of Entrepreneurship, Supernova, and Chattanooga Engineer Entrepreneur of the Year. Sheila is a Professional Engineer, and holds a Master’s Degree in Civil/Environmental Engineering from the University of California at Berkeley and a B.S. in Chemical Engineering from the University of Florida. Sheila worked for environmental firms such as Black and Veatch, Parsons Engineering prior to founding Thinking Media.

You may contact Sheila Boyington at: (423) 309-3667 or Sheila@thinkingmedia.com
Peter K. Bridson joined the faculty of the Department of Chemistry at The University of Memphis (then Memphis State University) in August 1980. He established a research program in synthetic organic chemistry with applications to drug design, and taught classes in general, organic, and biochemistry. From 1987 to 1997 he served as the department’s Director of Graduate Studies, and from 1997 to 2009 he served as Department Chair. From 2000 to 2002 he also served as Interim Vice-Provost for Research, and in that role he was a member of the state-wide team that successfully established Tennessee as an EPSCoR state. Since 2009 he has served as the Chemistry Department’s Director of Undergraduate Studies, and Pre-Pharmacy Advisor. His scholarship activities are now primarily focused on course redesign to improve student success in introductory chemistry classes, and the development of resources for the improvement of STEM education in secondary schools. Since 2012 he has also served as Director of CRISTAL, the University of Memphis Center for Research and Innovation in STEM Teaching and Learning.

You may contact Dr. Bridson at: (901) 678-4423 or pbridson@memphis.edu

Dr. Marilyn P. Carlson
Professor, School of Mathematical and Statistical Sciences
Arizona State University

Dr. Carlson is currently a professor in the School of Mathematical and Statistical Sciences at Arizona State University. She has published over 50 research articles about student learning and teaching of key ideas of pre-calculus and beginning calculus, and has developed professional development and student curriculum that leverages this knowledge. Her current research focus is on teacher mathematical knowledge and meanings as they relate to teacher instructional goals and teaching practice. Dr. Carlson has received funding from the National Science Foundation for her research and outreach work with teachers. Her current NSF grant, Project Pathways, is working in over 20 secondary schools, community colleges, and universities to support improvements in curriculum and student learning in algebra I, algebra II, pre-calculus and calculus. Dr. Carlson was the Coordinator of the MAA Special Interest Group for Research in Mathematics Education, and edited the MAA Volume, Making the Connection: Research to Practice in Mathematics Education. She received an NSF CAREER award to study student learning in calculus. In 2007 she received the MAA Selden Award for Research in Undergraduate Mathematics Education and in 2012 she received the outstanding doctoral mentor award at Arizona State University.

You may contact Dr. Carlson at: (480) 965-6168 or marilynaz@me.com
**Dr. Thomas J. Cheatham**  
*Director, Tennessee STEM Education Center*  
Middle Tennessee State University

**Tom Cheatham** graduated Campbellsville College, near his Kentucky birthplace, with a math major and a high school math teaching certificate and completed his graduate work in mathematics at the University of Kentucky. He taught mathematics and computer science at Samford University in Birmingham, Alabama from 1971-1980. In 1980, he accepted a position in the Computer Science Department at Western Kentucky University where he taught nearly every course in the BS and MS programs before leaving in 1990 to become Chair of the Computer Science Department at Middle Tennessee State University. In 1987, Dr. Cheatham was selected as Western Kentucky University’s Outstanding Teacher, an honor which he still cherishes. Even as department head of MTSU’s Computer Science Department from 1990-98, teaching was still very much a part of his life and an endeavor to which he committed much energy and time. Dr. Cheatham was honored by MTSU for his work in applying technology to teaching when he was selected to receive the MTSU “2000 Award for Innovative Excellence in Teaching, Learning, and Technology” and in 2000 when he received the “University Outstanding Achievement in Instructional Technology Award.” He served as dean of the College of Basic and Applied Sciences at MTSU from 2000-2012 and currently directs the TN STEM Education Center at MTSU. Dr. Cheatham enjoys cooperative research, learning new technologies, rock climbing with his son and watching University of Kentucky basketball.

Cheatham published refereed articles in mathematics, computer science, computer science education, science education, leadership and grant writing. He believes strongly in studying the professional development the Center does with K-12 teachers. He has served as PI and Co-PI on numerous NSF and US Department of Education awards, mostly projects that help students or faculty. Currently, he is PI on two NSF multi-year project—a $2M NSF STEP grant and a $450K DR K12 grant, both joint with talented MTSU faculty.

*You may contact Dr. Cheatham at: (615) 494-8738 or Tom.Cheatham@mtsu.edu*

---

**Andrew Davidson**  
*Program Manager for Uranium Downblending*  
Nuclear Fuel Services, Inc.

Andrew Davidson is Program Manager for Uranium Downblending at NFS. He holds a B.S. in Chemical Engineering from Bucknell University and a M.B.A. from the University of Tennessee. He has 14 years of experience in manufacturing, including 12 at NFS, and has served in roles of increasing responsibility including Naval Fuel Development Manager and Engineering Section Manager for Uranium Downblending.
East Tennessee State University welcomes Dr. Dennis R. Depew as the new dean of the College of Business and Technology.

Depew comes to ETSU as dean emeritus of the College of Technology at Indiana’s Purdue University, where he was also a professor of technology leadership and innovation.

Depew says, “I feel like I have come home. East Tennessee and ETSU are where I grew up.” Depew and his wife, Donna, are graduates of Elizabethton High School. After high school, he served in the U.S. Marine Corps, including a tour in Vietnam.

The new dean received an undergraduate degree in technology education from ETSU in 1975, as well as a master’s degree in technology in 1984.

Depew began his teaching career as assistant professor at his other alma mater, Indiana’s Purdue University, where he received a Ph.D. in industrial technology in 1987.

In 1990, Depew was named head of the Department of Industrial Technology at Purdue, a position he held from 1990-1998, when he was named assistant dean of the Purdue Graduate School. A year later, he became dean of the College of Applied Sciences at Western Carolina University in Cullowhee, N.C.

In 2002, Depew returned to Purdue, where he served as dean of the College of Technology, and he achieved dean emeritus status in July of 2011. In addition to awards from ETSU and Purdue for excellence in teaching, Depew was a Fulbright Scholar who spent time at the Dublin Institute of Technology in 2011.

“Donna and I loved our time in Ireland,” Depew says, “and hope to draw on friendships formed there to investigate opportunities abroad for our ETSU programs.” When he looks toward the future, Depew says, “I see interdisciplinary collaboration, innovation and partnerships within the community. The problems we face with the environment, energy sources, national and international security and health care cannot be solved by any one group. Those issues require a multi-layered approach with input from all disciplines and fields.”

His plans for growth at the college are varied. He notes, “I am excited about the new engineering program scheduled to begin, pending approval by the Tennessee Higher Education Commission, in the fall of 2015. Another area where we can focus is the field of cyber-security. The possibilities for the college are endless.”

Depew says he wants to be the kind of dean that “when I leave, people will say, ‘It was a good thing he came along and helped the college to become a better place’. Depew’s wife, the former Donna Polk, is a fellow ETSU student. An active member of the community, she plans to continue the work she started at Purdue, where she has been an advocate for the American Red Cross, the Baptist Student Union and Promoting Educational Opportunities for Women.

The Depew’s are the parents of three daughters, two in Indiana and one in North Carolina, and they have eight grandchildren.

You may contact Dennis Depew at: (423) 439-5489 or depewd@etsu.edu
**Garth Fine**
*Configuration Management Specialist*
Nuclear Fuel Services, Inc.

Garth Fine has been with NFS since 2001 and is currently a Configuration Management Specialist. He completed his B.S. in Mathematics at ETSU in May 2006. He is a certified Configuration Management Professional and also is a Six Sigma Black Belt through the American Society for Quality.

---

**Rachel Glass**
*Chemist/Operational Excellence*
Nuclear Fuel Services, Inc.

Rachel Glass is a chemist turned Operational Excellence, Six Sigma Black Belt. She has worked for NFS for 14 years, starting as chemist in the area of Research and Development. She is an active member of NFS’ Speakers Bureau. She holds a Bachelor of Science degree in Chemistry from ETSU.

---

**Dr. Anant P. Godbole**
*Executive Director, Center of Excellence in Mathematics and Science Education*
East Tennessee State University

Anant Godbole is a mathematical scientist who has held positions at ETSU, Michigan Technological University, University of California (Santa Barbara and Berkeley), and Johns Hopkins University. He has been Department Chair and Associate Dean, and is currently Director of the ETSU STEM Center. Anant has written over 100 professional papers, and been awarded around $8M in grant funding, mainly through the National Science Foundation. He runs a nationally recognized Research Experiences for Undergraduates program. See [http://faculty.etsu.edu/godbolea](http://faculty.etsu.edu/godbolea) for more details.

You may contact Dr. Godbole at: (423) 439-7589 or godbolea@etsu.edu
Chairholder Dr. Aimee Lee Govett, appointed in August 2014, is a professor of science education in the Department of Curriculum & Instruction at East Tennessee State University. As a scholar, Dr. Govett has focused on the development of new ways to introduce and teach science to elementary, middle level and secondary students and their teachers. She has been co-principal investigator on five major NSF grants and principal investigator on two THEC proposals in the last five years that total over $5 million dollars in funding. Dr. Govett has made ten international/national presentations, six regional, and ten state/local presentations at major conferences in the last five years. Thus, the goal and mission of the James H. Quillen Chair of Excellence in S.T.E.M. Education can help to form partnerships and links between education and other math and science faculty at ETSU and the K-12 community. Through working closely with The ETSU Center of Excellence in Mathematics and Science Education, we can support the advancement of S.T.E.M. education, K - 16, through direct services, technical assistance, partnerships, research, leadership institutes / workshops, and as an information conduit providing standards-based resources to schools, districts, teachers, and community members.

You may contact Dr. Govett at: (423) 439-7589 or goveet@etsu.edu

---

Dr. Gary D. Henson
Associate Professor, Department of Physics & Astronomy
East Tennessee State University

Gary D. Henson has been involved in astronomy research and education for over 25 years. As a research astronomer, he has studied Variable Stars using observatories in three different countries and two hemispheres. He has taught not only at the university level, but has contributed much in the areas of public outreach programs and K-12 education throughout his career. He was the first research astronomer employed by ETSU in 1989 as the physics department began the focus on astronomy as a main research area. He has been instrumental in developing and maintaining the university’s membership in the Southeastern Association for Research in Astronomy (SARA), a consortium of 12 universities which operates observatories in Arizona, Chile, and the Canary Islands. Dr. Henson currently serves on the SARA Board of Directors and as the director of both the ETSU Harry D. Powell Observatory and ETSU Planetarium. He has an active role in K-12 STEM education as President of the Upper East Tennessee Science Fair and tournament director for the regional Science Olympiad. He is a recipient of the 2004 Distinguished Faculty Award for Service at ETSU.

You may contact Dr. Henson at: (423) 439-6906 or hensong@etsu.edu.
Dr. Norman Jacob  
*Section Manager, Fuel Development & Process Engineering*  
Nuclear Fuel Services, Inc.

Norman Jacob has 30 years of technical and management experience in the nuclear power generation and fuel cycle industries. He holds a Bachelor of Science degree in Chemistry with highest distinction from Purdue University and a Ph.D. Nuclear Chemistry from the University of California, Berkeley. He is currently Section Manager, Fuel Development and Process Engineering for Nuclear Fuel Services, Inc.

---

Miss Kayla Jenkins  
*Student*  
Bays Mountain Park and Planetarium

Kayla Jenkins is a 2015 graduate of Sullivan South High School, where she participated in three different astronomy research projects. The first of these resulted in a publication in the *Handbook and Proceedings of the Tennessee Junior Academy of Science* (2014). The second project was presented at the 2015 Southern Appalachian and Engineering Fair, where she received an honorable mention. Kayla has also been involved with a research program operated by Caltech called NITARP, which involved students and their teachers as coresearchers on a project involving active galaxies. As part of this program, Kayla traveled to the 2015 meeting of the American Astronomical Society in Seattle where she helped present a poster of the group’s work. Kayla will be attending James Madison University this fall, where she will be majoring in Physics with a minor in Astronomy.

You may contact Kayla at: (423) 863-0961 or kylajenkins97@gmail.com

---

Dr. Karin J. Keith  
*Assistant Professor, CUAI, COE*  
*Program Coordinator, Master of Arts in Reading*  
East Tennessee State University

Karin Keith is an assistant professor in the Department of Curriculum and Instruction at East Tennessee State University in the Claudius Clemmer College of Education. She also coordinates the Masters of Reading program. She received her Ph.D. in Language and Literacy Education from the University of South Carolina. Her research interests include teacher professional development in literacy studies with a focus on literacy integrated with science, how language facilitates learning, classroom discourse analysis, action research, and ethnographic study.
Dr. Keith has been published in a variety of peer-reviewed journals including *The Reading Teacher, The Journal of Literacy Research, Phi Delta Kappan, Illinois Reading Council Journal, Southeast Regional Association of Teacher Educators Journal, Reading Matters, The Tennessee Reading Teacher, Query*, and a number of edited volumes. She has also served as a reviewer for *The Journal of Teacher Education*. Additionally, Dr. Keith serves on faculty senate and as a campus representative for the Institutional Review Board.

You may contact Dr. Keith at: (423) 794-9702 or keithkj@etsu.edu.

---

**Dr. Angela R. Lewis**

*Interim Dean/Professor, Claudius G. Clemmer College of Education*

East Tennessee State University

---

Dr. Angela Radford Lewis is the Interim Dean in the Clemmer College of Education at East Tennessee State University. She is also a Professor in the Department of Curriculum and Instruction. She served as the Associate Dean for the College of Education from 2009 -2014; and served as the Department Chair for the Department of Family and Consumer Sciences at ETSU from 2004-2009. Prior to coming to ETSU, Dr. Lewis was an instructor and assistant professor in the Department of Human Sciences at Middle Tennessee State University, Murfreesboro, TN from 1998-2004. Dr. Lewis served as the Family and Consumer Sciences Education consultant at the Tennessee Department of Education from 1996-1998. She also spent seven years teaching secondary family and consumer sciences in Alabama and Mississippi.

Dr. Lewis completed her undergraduate studies at Middle Tennessee State University (MTSU), receiving a B.S. in home economics with an emphasis in consumer services in 1984 and a second B.S. in home economics education in 1987. She also completed her master's degree in vocational technical education at MTSU in 1996. Dr. Lewis earned her Ph.D. in human ecology with a concentration in retail and consumer sciences at the University of Tennessee-Knoxville in August 2003. In addition, she is certified in Family and Consumer Sciences (CFCS). Dr. Lewis received the MTSU 2002-03 Outstanding Teacher Award for Excellence in Teaching in August 2003. In January 2008, Dr. Lewis was selected as the recipient of The Chair Academy’s 2008 International Exemplary Leader Award. In 2011, she received the Woman of Excellence in Education Award from the Pi Omega Omega Chapter of Alpha Kappa Alpha Sorority, Inc. In 2012, Dr. Lewis received the 2012 American Association of Family and Consumer Sciences (AAFCS) Leaders Award; the National Coalition for Black Development in Family and Consumer Sciences (NCBDPCS) 2012 Coalition Leader Award and the National Coalition for Black Development in Family and Consumer Sciences (NCBDPCS) Outstanding Family and Consumer Sciences Service Award. In 2015, she received the American Association of Family and Consumer Sciences Distinguished Service Award (DSA).

Dr. Lewis has served in various capacities in the Tennessee Association of Family and Consumer Sciences, the American Association of Family and Consumer Sciences and Kappa Omicron Nu. She is also a member of various other national family and consumer sciences-related organizations and associations. She served on the Chair Academy’s International Practitioner’s Advisory Board for two years. Dr. Lewis also serves on various committees at ETSU.

Dr. Lewis also serves in her community as a Board Member and 3rd Vice-President for the Johnson City/Washington County Boys and Girls Club; Board Member and Past-Chair of the Johnson City Senior Services Advisory Board; and a Board Member and Secretary for the Johnson City Public Schools Foundation, Inc. In 2012, Dr. Lewis was inducted onto the Johnson City Seniors’ Center Ambassador Wall.
Dr. Sally Pardue
*Director*
Millard Oakley STEM CENTER at Tennessee Tech University

**Sally** is a tenured Associate Professor of Mechanical Engineering at Tennessee Technological University, and Director of the TTU Oakley STEM Center, a member organization of the TN STEM Innovation Network via the Upper Cumberland Rural STEM Initiative Hub Project. Sally is a TN education product, graduating salutatorian from Hickman Co High School in 1985 and graduating with a PhD in engineering from TTU in 1995. Engineering research interests: nondestructive evaluation and material characterization using random vibrations for machinery diagnostics, bridge structural diagnostics, and composite materials assessment. Educational research interests: Integrated STEM project-based learning, science misconceptions, longitudinal progression and transfer of learning, and research training.


*You may contact Dr. Pardue at: (931) 372-3792 or spardue@tntech.edu*

---

Dr. Laura Robertson
*Assistant Professor*
East Tennessee State University

**Laura Robertson** joined ETSU in 2001 as a middle school instructor at University School teaching middle school science for 11 years. In 2010 she earned her Ph.D. in Science Education from North Carolina State University. She joined the faculty in the Department of Curriculum and Instruction in August of 2014 as an Assistant Professor of Science Education. She teaches science content and methods courses for the department. Laura is involved with several grants and programs through the ETSU Center of Excellence in Mathematics and Science education working with students and teachers throughout the area to improve science teaching and learning. Her research interests fostering teacher collaboration, teacher autonomy and motivation, and fostering best practices in science education.

*You may contact Dr. Robertson at: (423) 439-7678 or robertle@etsu.edu* .
Tom Rutherford  
*Science Teacher*  
Sullivan South High School

Tom Rutherford is a science teacher at Sullivan South High School, a position he has held since 1991. He was a 2005 participant in the NOAO’s Research-Based Science Education program where he first became familiar with student research at the high school level. For the last 10 years, Tom has coordinated an extra-curricular astronomy research program at South. This year, a science research class was added to the curriculum at South and students now receive a credit for doing science research projects. Since its inception, the research program has resulted in 16 students being published, three students presenting at the Southern Appalachian Science and Engineering Fair, two students presenting papers before the Tennessee Junior Academy of Science, and five students presenting posters at professional conferences.

You may contact Mr. Rutherford at: (423) 354-1300 or thomas.rutherford@sullivank12.net.

Dr. Elaine Swafford  
*Director*  
Chattanooga Girls Leadership Academy

In July 2012, Dr. Elaine Swafford took the helm as the Director of the Chattanooga Girls Leadership Academy, the first all girls public charter STEM school in the state of Tennessee. She and her team are in the second year of overseeing a school turnaround process and are meeting expectations of leading exceptional gains in student progress and academic achievement. Prior to accepting this position, she completed a thirty year stint in both public and higher education. Prior accepting the position at CGLA, she returned in July 2008 to assume the position as the Vice President of Student Affairs at Chattanooga State. She was selected to the position of Area II Superintendent for the Hamilton County Department of Education. She left Chattanooga State to become the Executive Principal at the Howard School of Academics and Technology on April 1, 2004.

Dr. Swafford’s community involvement during her career includes participation as an member on various local community boards. She has background experience at both the public school level and in higher education. Her educational experience, leadership ability, energy and passion to inspire and motivate young people will have a positive impact on the community. She is a member of the National Coalition of the 100 Black Women (NCBW).

You may contact Dr. Swafford at: (423) 718-4229 or elaineswafford#cglaonline.com.
Dr. Chih-Che Tai
Associate Director, Center of Excellence in Mathematics and Science Education
Assistant Professor, Curriculum and Instruction
East Tennessee State University

Dr. Chih-Che Tai has served as the assistant director of the Center of Excellence in Mathematics and Science Education and an assistant professor of science education in the Department of Curriculum and Instruction at East Tennessee State University since July 2009.

Dr. Tai's academic and professional activities include (1) developing and implementing grant proposals to improve math and science education at all levels, (2) encouraging and assisting STEM education faculty with grant proposals to improve math and science education, (3) assisting in the university's outreach and research efforts in math and science education, and (4) teaching graduate/undergraduate science education courses. Since 2009 he has been awarded USD $1.2 million as a principal investigator, including two Mathematics and Science Partnership grants from Tennessee Department of Education, three Improving Teacher Quality grants and one First to the Top STEM PD grant from Tennessee Higher Education Commission. Also, he has been involved in various grant activities in a role of co-principal investigator (USD $1.78 million) and a grant advisor (USD $274K). His research interests include investigating K-12 students’ conceptual understanding of science, technology, engineering and technology, teacher professional development and teacher effectiveness, learning progression, cross disciplines and social networking.

Dr. Tai holds a Bachelor of Science and Master of Science in Chemistry from National Taiwan University Taiwan, is a certified chemistry and physics teacher in Taiwan and holds a Ph. D. degree in Science Education from Teachers College, Columbia University. He has taught physics and chemistry in middle schools in Taiwan.

You may contact Mr. Tai at: (423) 439-7591 or taic01@etsu.edu.
Center of Excellence in Mathematics & Science Education

2015 STEM Conference

May 28th and 29th

Dr. Anant P. Godbole, Executive Director
Center of Excellence in Mathematics and Science Education
godbolea@etsu.edu

Ms. Angela Haga, Executive Secretary
Center of Excellence in Mathematics and Science Education
haga@etsu.edu
**Timothy M. Argenbright**  
6th Grade Math Teacher  
Innovation Academy of Northeast Tennessee  
2348 Highway 75  
Blountville, TN  37617  
Email: timothy.argenbright@iak12tn.net  
Phone: N/A

**Dorothy Ann Assad**  
Associate Professor  
Austin Peay State University  
820 S. 9th Street  
Murray, KY  42071  
Email: ann_assad@yahoo.com  
Phone: (270)564-5774

**Dr. Bert C. Bach**  
Provost, Vice-President Academic Affairs  
East Tennessee State University  
Burgin E Dossett 206  
Johnson City, TN  37614  
Email: bachb@etsu.edu  
Phone: (423)439-4219

**Larry Barr**  
Biology Teacher  
Daniel Boone High School  
1440 Suncrest Drive  
Gray, TN  37615  
Email: barrl@wcde.org  
Phone: (423)426-2359

**Amanda Barrett**  
Teacher  
Blountville Elementary School  
155 School Avenue  
Blountville, TN  37617  
Email: amanda.barrett@sullivank12.net  
Phone: (423)340-0025

**Dane R. Boyington**  
Vice-President  
Thinking Media-Learning Blade  
340 Frazier Avenue  
Chattanooga, TN  37405  
Email: dane@thinkingmedia.com  
Phone: (423)521-2309

**Mary L. Cain**  
Teacher  
Holston Middle School  
2348 Highway 75  
Blountville, TN  37617  
Email: cainm01@yahoo.com  
Phone: (423)361-0223

**Andrea L. Carr**  
Chemistry Teacher  
Daniel Boone High School  
1440 Suncrest Drive  
Gray, TN  37615  
Email: carra@wcde.org  
Phone: (270)616-9477

**Misty G. Carriger**  
Associate Professor of Biology  
Northeast State Community College  
PO Box 2425, Highway 75  
Blountville, TN  37617  
Email: mdcarriger@northeaststate.edu  
Phone: (423)354-2496

**Sandra Clark**  
Technology STEM Teacher  
Innovation Academy of Northeast Tennessee  
811 Seven Oaks Drive  
Mt. Carmel, TN  37645  
Email: sandy.clark@iak12tn.net  
Phone: (423)360-0693

**A.J. Cox**  
Recruiting Operations Officer  
Department of Military Science  
East Tennessee State University  
PO Box 70648  
Johnson City, TN  37614  
Email: coxa01@etsu.edu  
Phone: (423)503-5937

**K.C. Curberson-Alvarado**  
Workforce Development & Education Coordinator  
Douglas Cherokee Economic Authority  
534 East First North Street  
Morristown, TN  37814  
Email: calvarado@douglascherokee.org  
Phone: (423)318-6912
Cindy Dye
Teacher
Colonial Heights Middle School
5013 Shannon Street
Kingsport, TN  37664
govols@charter.net
(423)279-9369

Scott Eddins
Instructional Training Coordinator
Oakley STEM Center, TTU
155 W. 7th Street, Ray Morris Hall
Cookeville, TN  38505
seddins@tntech.edu
(615)512-4660

Beulah Ferguson
Director of Special Projects
First Tennessee Development District
3211 N. Roan Street
Johnson City, TN  37601
bferguson@ftdd.org
(423)928-0224

Julia Geiger
5th Grade Teacher
Hawkins Elementary School
507 South Brownlow Street
Rogersville, TN  37857
julia.geiger@hck12.net
(423)921-2844

Julianna Gregory
Professor of Mathematics
Walters State Community College
1720 Old Newport Road
Sevierville, TN  37876
Julianna.Gregory@ws.edu
(865)774-5809

Wes Hall
Director, Tennessee STEM Innovation Network
Battelle
1207 18th Avenue South
Nashville, TN  37212
hallj@battelle.org
(615)727-1437

Kristina K. Hill
Graduate Research Assistant
Texas A&M University (Aggie STEM)
215 Apple Ridge Drive
Bluff City, TN  37618
Tina7@tamu.edu
(423)742-0295

Margaret Holladay
Science Teacher
Greeneville High School
210 Tusculum Blvd.
Greeneville, TN  37745
holladaym@gcschools.net
(423)787-8030

Rebecca A. Hunley
Biology Teacher
Jefferson County High School
115 West Dumplin Valley Road
Dandridge, TN  37725
rhunley@k12tn.net
(865)397-3182

Sherry Hunt
5th Grade Science Teacher
Hancock County Schools
420 Court Street
Sneedville, TN  37869
hunts5@k12tn.net
(423)733-2534

Nathan James
Director of Legislative Affairs
Tennessee State Board of Education
1st Floor Andrew Johnson Tower
710 James Robertson Parkway
Nashville, TN  37217
Nathan.James@tn.gov
(615)934-7076

Bridget Jennings
Area Director
Club Z! In-Home Tutoring Services
3101 Brown’s Mill Road, Suite #6-130
Johnson City, TN  37604
bridgetfjennings@yahoo.com
(423)361-3370
Charles H. Johnson
Teacher
Church Hill Middle School
122 Church Lane
Mooresburg, TN 37811
charles.johnson@hck12.net
(423)923-3049

Linda K. Jordan
Science Consultant
414 Van Buren Street
Nashville, TN 37208
jordan.linda1212@gmail.com
(615)668-8824

Jason T. Joyner
8th Grade Science Teacher
Church Hill Middle School
206 Grandview Street
Mount Carmel, TN 37645
jason.joyner@hck12.net
(423)367-4260

Felicia Kellner
ELS/SS STEM Educator
Innovation Academy of Northeast Tennessee
1644 Ridgeway Drive
Kingsport, TN 37664
felicia.kellner@iak12tn.net
(423)351-1500

Ryan Lovelace
Science Teacher
Innovation Academy of Northeast Tennessee
1644 Ridgeway Drive
Kingsport, TN 37664
lovelace121@gmail.com
(423)361-2863

Caryn McDermott
English Teacher
Daniel Boone High School
1440 Suncrest Drive
Johnson City, TN 37615
mcdermottc@wcde.org
(423)477-1600

Amy McRey
Science Teacher
Daniel Boone High School
664 Hood Road
Kingsport, TN 37660
amcrey@hotmail.com
(423)956-8033

Tom Maines
Chemistry Teacher
Daniel Boone High School
1440 Suncrest Drive
Gray, TN 37615
mainest@wcde.org
(423)477-1600

John W. Melendez
Associate Professor
Northeast State Community College
605 Franklin Street
Johnson City, TN 37604
jwmelendez@northeaststate.edu
(423)434-9410

Vicki Metzgar
Director, Middle Tennessee STEM Innovation Hub at Stratford Magnet High School
Metro Nashville Public Schools
Martin Center
2400 Fairfax Avenue
Nashville, TN 37212
Vicki.Metzgar@mnps.org
(615)259-8750

Jessica Miller
Science Teacher
Greeneville High School
210 Tusculum Blvd.
Greeneville, TN 37745
millerj@gcschools.netetu.edu
(423)787-8030

Leslie S. DeBord Miller
Teacher
Hawkins Elementary School
221 Caldwell Drive
Rogersville, TN 37857
leslie.miller@hck12.net
(423)736-1342

Shelby Morris
Graduate Student, CUAJ
East Tennessee State University
603 Davis Drive
Mt. Juliet, TN 37122
shelby657@gmail.com
(615)471-3787
Dr. Mark Musick  
*Former Chair, Quillen Chair of Excellence*  
East Tennessee State University  
665 Pelham Road NE  
Atlanta, GA 30324  
✉ musickma@etsu.edu  
📞 N/A

Diana O’Neal  
*Middle School Science Teacher*  
Sulphur Springs School  
1518 Gray Sulphur Springs Road  
Jonesborough, TN 37659  
✉ oneald@wcde.org  
📞 (423)753-1140

Tobias-Omondi Oketch  
*Graduate Teaching Assistant, CEMSE*  
East Tennessee State University  
1216 Seminole Drive, Apt. #5  
Johnson City, TN 37601  
✉ oketch@goldmail.etsu.edu  
📞 (423)676-4630

Haley Ottinger  
*Teacher*  
Jefferson County High School  
115 West Dumplin Road  
Dandridge, TN 37725  
✉ hottinger@k12tn.net  
📞 (865)397-3194

Susan Quave  
*8th Grade Science Teacher*  
Johnson County Middle School  
500 Fairground Lane  
Mountain City, TN 37683  
✉ squave@k12tn.net  
📞 (423)727-2600

Tara Carver Peters  
*Secondary Mathematics Teacher*  
Sullivan County School System  
1306 Moreland Drive  
Kingsport, TN 37663  
✉ tara.peters@sullivank12.net  
📞 (423)354-1300 Ext: 2299

Catherine Barron Ramey  
*Teacher*  
Washington County Schools  
116 Clearview Street  
Gray, TN 37615  
✉ cabarron@gmail.com  
📞 (423)794-0482

Lillie Rattler  
*4th Grade Teacher*  
Hancock County Department of Education  
400 Court Street  
Sneedville, TN 37869  
✉ ltrattler@k12tn.net  
📞 (423)733-2534

Sheila A. Rhodes  
*Teacher*  
Boones Creek Middle School  
4352 N. Roan Street  
Johnson City, TN 37615  
✉ rhodess@wcde.org  
📞 (423)283-3520

Dr. Jack Rhoton  
*Retired, Executive Director, CEMSE*  
East Tennessee State University  
✉ rhotonj@etsu.edu  
📞 (423)767-7000

Holly Sampson  
*Teacher*  
Church Hill Middle School  
211 Oak Street  
Church Hill, TN 37642  
✉ holly.sampson@hck12.net  
📞 (423)817-5493

Brandi Shelnut  
*Science Teacher*  
Greeneville High School  
210 Tusculum Blvd.  
Greeneville, TN 37745  
✉ shelnuttb@gcschools.net  
📞 (423)787-8030
Emily Vaughn
Graduate Assistant, CEMSE
East Tennessee State University
2904 Greenline Road
Johnson City, TN 37604
vaughane@goldmail.etsu.edu
(423)737-7810

Sandy Watkins
Principal-in-Residence
Tennessee STEM Innovation Network
221 Meadow Lark Lane
Bluff City, TN 37618
Sandy.Watkins@sullivank12.net
(423)366-3402

Danielle Webb
Teacher
Innovation Academy of Northeast Tennessee
800 W. Locust Street, Apt. #3
Johnson City, TN 37604
danielle.webb@iak12tn.net
(423)354-1500

Marie Westfall
Manager
Oak Ridge Associated Universities
PO Box 117, MS 36
Oak Ridge, TN 37830
Marie.westfall@orau.org
(865)576-3425

Ruth Woodall
AVP for Education & Workforce Development
Tennessee Chamber of Commerce & Industry
611 Commerce Street, Suite #3030
Nashville, TN 37203
ruth.woodall@tnchamber.org
(615)686-8883

Juanita Young
Student
East Tennessee State University
PO Box 70301
Johnson City, TN 37614
youngja1@goldmail.etsu.edu
(423)439-7592
Dr. Norman Jacob  
Section Manager, Fuel Development & Process Engineering  
Nuclear Fuel Services, Inc.  
1205 Banner Hill Road  
Erwin, TN 37650  
 norman.jacob@nuclearfuelservices.com  
 (423)440-4482

Kayla Jenkins  
Student  
Bays Mountain Park and Planetarium  
835 Bays Mountain Park Road  
Kingsport, TN 37660  
 kaylajenkins97@gmail.com  
 (423)863-0961

Dr. Karin J. Keith  
Assistant Professor  
East Tennessee State University  
PO Box 70684  
Johnson City, TN 37614  
 keithkj@etsu.edu  
 (423)439-7910

Dr. Angela R. Lewis  
Interim Dean, College of Education  
East Tennessee State University  
Warf-Pickel Hall 319  
Johnson City, TN 37614  
 lewisar@etsu.edu  
 (423)439-7616

Susan Metcalf  
Media & Communications Advising Manager  
Nuclear Fuel Services, Inc.  
1205 Banner Hill Road  
Erwin, TN 37650  
 susan.metcalf@nuclearfuelservices.com  
 (423)440-4482

Sally Pardue  
Director, Millard Oakley STEM Center  
Tennessee Technological University  
155 W. 7th Street, PO Box 5112  
Cookeville, TN 39505  
 spardue@tntech.edu  
 (931)372-3792

Laura Robertson  
Assistant Professor, COE  
East Tennessee State University  
P.O. Box 70684  
Johnson City, TN 37614  
 roberle@etsu.edu  
 (423)439-7678

Thomas Rutherford  
Science Teacher  
Sullivan South High School  
1236 Moreland Drive  
Kingsport, TN 37664  
 thomas.rutherford@sullivank12.net  
 (423)354-1300

Dr. Elaine Swafford  
Director  
Chattanooga Girls Leadership Academy  
1802 Bailey Avenue  
Chattanooga, TN 37404  
 elaineswafford@cgaonline.com  
 (423)718-4229

Dr. Chih-Che Tai  
Assistant Director/ Assistant Professor  
ETSU, Center of Excellence in Math and Science  
PO Box 70301  
Johnson City, TN 37614  
 taic01@etsu.edu  
 (423)439-7591
Faculty and Staff
Center of Excellence in Mathematics & Science Education

Dr. Anant P. Godbole
Executive Director, Center of Excellence in Mathematics & Science Education
Director, Tennessee Governor’s School for Scientific Models and Data Analysis
Professor of Mathematics Education
East Tennessee State University
Box 70301
Warf-Pickel Hall 509-A
Johnson City, TN 37614
godboeleaj@etsu.edu
(423)439-7589

Dr. Chih-Che Tai
Assistant Director/ Professor of Science Education
Center of Excellence in Mathematics & Science Education
PO Box 70301
Warf-Pickel Hall 509-F
Johnson City, TN 37614
taic01@etsu.edu
(423)439-7591

Dr. Aimee Lee Govett
Associate Professor/Science Specialist
Center of Excellence in Mathematics & Science Education
Associate Professor, Claudius Clemmer
College of Education
East Tennessee State University
Box 70301
Warf-Pickel Hall 509-B
Johnson City, TN 37614
govett@etsu.edu
(423)439-7678

Dr. Ryan Nivens
Associate Professor of Mathematics
East Tennessee State University
Center of Excellence in Mathematics & Science Education
Department of Curriculum & Instruction
P.O. Box 70301
Warf-Pickel Hall 509-G
Johnson City, TN 37614
nivens@etsu.edu
(423)439-7591

Laura Robertson
Assistant Professor, COE
East Tennessee State University
P.O. Box 70684
Johnson City, TN 37614
robertle@etsu.edu
(423)439-7678

Ms. Angela Haga
Executive Secretary, Center of Excellence in Mathematics & Science Education
Assistant Director, Governor’s School for Scientific Models & Data Analysis
East Tennessee State University
Public Relations Coordinator, ETSU Northeast Tennessee STEM Innovation Hub
Box 70301
Warf-Pickel Hall 509
Johnson City, TN 37614
haga@etsu.edu
(423)439-7592