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The Nucleus 2010-2011

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The Nucleus

2010 | Advancing the interest, engagement and understanding of science
Available online at *http://chemphys.gcsu.edu/~science*

From Fossils to Space educates teachers about science in the Natural History Museum and Planetarium

After yearlong workshops on how to use the Georgia College Natural History Museum and Planetarium, Middle Georgia third- through eighth-grade educators are ready to teach their students science using these resources.

Thirteen elementary and middle school teachers participated in the university's new science program, *From Fossils to Space*. Participating teachers came from Baldwin, Jones, Hancock, Putnam, and Wilkinson counties.

"It's good to know now I can incorporate Georgia College's resources into my classroom using methods like inquiry-based science," said Pamela Longino, fourth- and fifth-grade gifted teacher at Blandy Hills Elementary School, "and it's free."

Added Dr. Bob Chandler, biological and environmental sciences professor: "We at Georgia College view science as a culture that is alive and not just facts from a textbook; therefore, the project is in place to transmit this view and practice throughout the surrounding public schools."

"My students enjoyed learning about the museum's many artifacts, and it's a productive way for me to plan interesting science-related field trips."
—Vicki Thigpen

Georgia College was awarded a $149,296 grant by the Institute of Museum and Library Services for monthly training sessions in biology, paleontology, astronomy and earth science. Initiated in August 2009, the two-year project also provides free field trips.

"I encourage more teachers to attend next year's program," said Vicki Thigpen, Clifton Ridge Middle School teacher. "My students enjoyed learning about the museum's many artifacts, and it's a productive way for me to plan interesting science-related field trips. Plus, I now have a network of Georgia College experts to go to for advice."

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Fifth-graders from Blandy Hills Elementary School in Milledgeville get a close-up view of the Natural History Museum's water buffalo.

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From Fossils to Space

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From Fossils to Space is designed to provide opportunities for science teachers to grow professionally in earth science and astronomy using inquiry-based science teaching strategies. Science and education faculty with expertise in paleontology, biology, earth science and astronomy collaborate on strategies and content knowledge, which is aligned with the new Georgia Performance Standards.

Top row left to right: Daphne Todd (Wilkinson County Middle School), Felicia Poole (Oconee GNETS), Dennis Drummond (Creekside Elementary) and Jemica Brown (M.E. Lewis Elementary). Bottom row left to right: Vickie Thigpen (Clifton Ridge Middle School), Kara Parks (Midway Elementary), Pam Longino (Blandy Hills Elementary) and Lisa Smith (Gray Elementary).

Hands-on learning activities help teachers explore and incorporate a variety of activities into the classroom. *From Fossils to Space* includes a workshop and student field trips to Georgia College's Natural History Museum and Planetarium. Free transportation is provided for students. During the field trips, teachers implement activities they develop during the workshop. Participants meet again in the summer for a two-day follow-up session where they learn how to apply the university's museum and planetarium resources to their classroom study. Teachers who successfully complete the program receive a $300 stipend and six Professional Learning Units.

For more information about the program, visit http://www.gcsu.edu/museum.

Benefits to Teachers

- ☑ Monthly training in paleontology, biology, earth science and astronomy
- ☑ Substitute teachers provided
- ☑ GPS science activities for students
- ☑ Free bus transportation for student field trips
- ☑ Stipend for two-day summer workshop (June 2011)
- ☑ Six Professional Learning Units
- ☑ Networking among colleagues

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Send Us Your News!

Do you have a science story or news event that you'd like to share? Send your news, photos and contact information to science@gcsu.edu.

Editor's Note

Many of the activities highlighted in each issue of *The Nucleus* fall under the framework of *Science to Serve*, a strategic initiative at Georgia College and one of the university's Programs of Distinction. Science to Serve advances the interest, engagement and understanding of the sciences by people of all backgrounds. In July of this year, a team of university faculty and staff representing science, mathematics and education spent two days brainstorming and discussing strategic plans to advance the *Science to Serve* Initiative. Participants included Rodica Cazacu (mathematics), Mike Gleason (biology), Jason Huffman (mathematics), Karynne Kleine (education), Charles Martin (Center for Program Evaluation & Development), Al Mead (biology), Julia Metzker (chemistry), Rosalie Richards (chemistry), and Linda Watson-Kaufman (Grants & Sponsored Projects). The retreat, hosted at the Lake Blackshear Resort in Cordele, Ga., was supported by the Georgia College STEM Initiative. So look out for ways you can support *Science to Serve*!

Dr. Rosalie Richards
Director, Science Education Center
science@gcsu.edu

Ali Willis, a first-year chemistry major, makes slime with Milledgeville children during NCW 2009.

Georgia College celebrates National Chemistry Week

During the week of Oct. 17 through 23, students across the country celebrated National Chemistry Week.

This year's theme, "Behind the Scenes with Chemistry!" showcased the difference between what is seen on TV, movies, and read in literature with the real science behind special effects, hair/makeup and forensics.

"Students were amazed," said Emily Williams, chemistry major and president of the Georgia College Chemistry Club. "We're prepared a week full of science that explained the magic of some of today's most popular TV shows and big-screen hits. With this new and interesting take on science, we saw more students and families participate."

For the past eight years, the Chemistry Club has hosted NCW events and programs, the most popular event being Family Fun Night.

The family event attracted approximately 500 middle Georgia students throughout the week to 2009's "Chemistry—It's Elemental!" The event celebrated the 140th anniversary of Mendeleev's Periodic Table of the Elements.

"Last year, students, family and friends enjoyed magic shows and chemistry experiments that they could understand and replicate at home," she said. "We built a huge black-light maze and just had a blast. We brought that same energy back this year."

National Chemistry Week is a community-based program sponsored by the American Chemical Society. Across central Georgia, it is celebrated through the middle Georgia section of the American Chemical Society.

Millions of Americans are exposed to the world of chemistry through schools; media; museums and parks; exhibits in local malls; and public displays demonstrating the wonders of chemical science and its impact on lives.

National Chemistry Week

For more information, visit www.chemistry-week.org or contact Dr. Catrena Lisse at catrena.lisse@gcsu.edu or (478) 445-3511.

Chemistry Club 2009-2010 (back row left to right): Dean Harper, co-vice president; Justin Cross, treasurer; David Wilson, co-vice president; Dr. Catrena Lisse, faculty adviser. Front row left to right: Hannah Paul, public relations; Leah Corley, secretary; Emily Williams, president; not pictured: Rich Crumpton, student NCW coordinator.

Georgia College Chemistry Club at Work

The Chemistry Club at Georgia College is a national award-winning student affiliate chapter of the American Chemistry Society. The organization participates in various outreach activities throughout the year in middle Georgia. Along with coordinating National Chemistry Week during the fall, the club hosts charitable fundraisers, organizes Earth Day events, tutors peers and volunteers at surrounding nursing homes and science fairs.

To learn more, visit www.gcsu.edu/chem phys/organizations.htm.

Dr. Catrena H. Lisse is an associate professor of chemistry in her ninth year at Georgia College. For the past seven years, Dr. Lisse has served as the faculty adviser to the GC Chemistry Club and led them to six national awards. As the chair-elect (2008) and chair (2009) of the middle Georgia local section of the American Chemical Society, Dr. Lisse initiated mini-grants to fund community outreach programs such as National Chemistry Week for all middle Georgia schools and universities.

Emily Williams is a 2010 chemistry graduate of Georgia College. She is from Douglasville, Ga., and is preparing for graduate study in forensic sciences.

High school students' research presented at international conference

Geovic Jadol of Georgia Military College Prep and Candace Jordan of Washington County High School both conducted research on new air-stable compounds, which sought to identify lithium ion concentrations in blood serum of patients using lithium.

Dr. Rosalie Richards, research mentor, presented their work at the Sixth International Conference on Porphyrins and Phthalocyanines held this summer in Albuquerque, N.M. The conference hosted more than 1,200 participants representing 35 different countries.

"These are some really bright students, along with all the other students who come through our science programs," Richards said. "It was an honor to show off what they have worked so hard on."

Jadol recently completed his second year as a participant of Georgia College's Young Scientists Academy, a commuter summer program for students interested in science.

Geovic Jadol wins first place in chemistry from the Georgia Science and Engineering Fair.

"When I first found out my work was going to be presented at the ICPP Conference, I was shocked," said Jadol.

Jordan spent a year in the American Chemical Society's Project SEED program, a summer internship for juniors and seniors who want to experience what it is like to be a chemist.

"Our programs do a great job of getting young talent noticed on both national and international platforms," said Richards.

Sponsored by the Society of Porphyrins and Phthalocyanines, the conference is held every two years at various locations around the world and covers research projects on porphyrins, phthalocyanines and related macrocycles.

Heme and chlorophyll are porphyrin molecules and are known as the "colors of life."

High school students interested in science and similar opportunities can apply to either Young Scientists Academy or Project SEED.

For more information, contact the Science Education Center at (478) 445-7531 or science@gcsu.edu.

STEM Symposium gets professors talking about science and math

Georgia College professors and area teachers shared ideas about math and science during the 2010 STEM Symposium.

Lori Robinson, director of the Georgia College Learning Center, presented test score statistics of students who received help from campus tutors.

"This year's STEM was more exciting than the last," Robinson said. "The Learning Center presented data showing the probability of success in a course based on the number of visits to the center."

Robinson found that each time C students visit the Learning Center, they increased their chances of receiving a better grade by 10 percent.

"The symposium provides an effective outlet for grant recipients to share methods, encourage others and develop new ideas for the next year," she said.

The STEM Symposium is one outgrowth of the Georgia College Science, Technology, Engineering and Mathematics (STEM) Initiative—a program directed toward high school students, parents and educators. The program promotes the value of rigorous courses such as math and science and the need for early career and postsecondary planning.

The purpose of the symposium is to provide a forum for faculty to discuss innovations in STEM teaching and learning.

The projects presented at the symposium are the result of competitive mini grants awarded to Georgia College faculty, K-12 collaborators and community partners. Since 2008, the STEM Mini Grants Program has awarded a total of 28 grants for up to $7,000.

The program has impacted more than 2,000 students and faculty from kindergarten through college.

For more information, visit http://www.gcsu.edu/stem.

Georgia College Theatre Department performs scientific method

Students gave new meaning to the scientific method with a play that explored the lives of famous scientists who used it.

Twenty high school students from the Baldwin County YES program collaborated with Georgia College theatre and education students for the production of *STEMing a Performance: Acting out the Scientific Method.*

"It was fun to see students act out the parts of the scientific method," said Iona Pendergast, Georgia College theatre professor, who led the play with STEM specialist Gale Sheaffer. "They not only learned the facts and important contributions of scientists such as Benjamin Franklin, but the group also enacted intricate concepts that required them to use their bodies in complex ways."

Funded by the STEM Initiative, the performance helped students understand how scientists think and contribute to current knowledge.

For nearly a month, students practiced before performing at Max Noah Recital Hall for family and friends.

"They will long remember the names of important scientists after this," said Theatre Chair Karen Berman.

Teachers work SMART during summer institute at Georgia College

Energy was the theme of this summer's sixth annual Science and Mathematics Alliance for Regional Teachers (SMART) Institute at Georgia College. Made possible by a $346,382 grant from the Math and Science Partnership Program of the Georgia Department of Education, the middle grades science program's goal is to provide practicing science teachers opportunities to increase their teaching skills and knowledge in mathematics and science. For two weeks, mathematics teachers from grades three through 12 and science teachers from grades six through eight participated in the 2010 SMART Institute. Teachers will return throughout the year for follow-up sessions. The partnership is coordinated by the Oconee Regional Education Service Agency and supports a mathematics/science collaboration among RESA, Georgia College and seven school districts: Baldwin, Hancock, Jasper, Johnson, Putnam, Washington and Wilkinson.

For more information about SMART, contact science@gcsu.edu.

Area middle grades science teachers study energy in life, earth and physical science during the SMART Institute. (Top left) Teachers tour Wallace Dam's hydroelectric facility on Lake Oconee to study energy production; (above) the cohort investigates energy consumption at the Macon Aggregate Quarry in Jones County; (bottom) and the group builds and demonstrates solar water heaters.

Preschoolers at the First United Methodist Church pet Jessie the cockatoo, who is perched on the arm of **Kim Ireland**, administrative assistant at Georgia College's Department of Government and Sociology. Ireland adopts birds who are disabled or have been abused. Because of *Science Time with Dr. Rosie and Friends*, a hands-on preschool program in Milledgeville focused on increasing science knowledge of children and parents, Jessie was able to visit the preschoolers.

Georgia College hosted a Bridge Building Competition using K'Nex™ building kits. Students competed to see which bridge could bear the most weight. **Dr. Victoria Deneroff**, assistant professor in the Department of Early Childhood and Middle Grades Education, coordinated the competition as part of a teacher professional development grant.

CONGRATS!

Nicholas Gober, 2010 graduate and valedictorian from Washington County High School, was a summer III intern in the Project SEED program. He won a $5,000 scholarship from the American Chemical Society Scholars Program as a Project SEED participant. He is currently pursuing a degree in chemistry at Georgia Tech.

National Geographic and Discovery Channel feature Georgia College professor

Georgia College biology professor Dr. Bob Chandler is no stranger to cameras. In addition to previous filmed documentaries, the nationally acclaimed Terror Bird expert recently was featured on National Geographic and Discovery Channel.

The National Geographic show titled *Prehistoric Predators: Terror Bird* explored how approximately 65 million years ago this large, flightless bird evolved into the top predator role in South America.

"The Terror Bird pursued, ambushed, and killed with a lethal bite," said Chandler. "It stood 6.5 feet tall and weighed 250 to 300 pounds preying on animals such as deer and even extinct beavers four times larger than today's modern species."

National Geographic filmed the show at Ohio University in Athens, Ohio, where Dr. Lawrence M. Witmer, professor of anatomy and paleontology, partnered with Chandler.

The two paleontologists took CT scans of the bird's skull, which gave insight into how these birds were hardwired and how their internal anatomy functioned.

Discovery Channel videotaping Dr. Chandler and Dr. Bill Wall, chair of Georgia College's biological and environmental sciences.

"This is something that has never been done before," Chandler said. "It's important because now we have been able to see the construction of the bill and brain case."

Chandler followed this coverage with an hour-long show called *Mega Predators* on the Discovery Channel.

Shot at Georgia College's Natural History Museum in Herty Hall, the feature focused on the feeding mechanisms and ecology of the Terror Bird.

"Terror Birds were an extraordinary group of predatory birds and important members of the Great American Biotic Interchange," he said. "They competed with all the top mammalian predators except man."

Chandler has collected Terror Bird fossils in north central Florida's Santa Fe River. During the past 10-plus years, many Georgia College students and volunteers have joined him excavating fossils from the river.

For more information about Terror Birds, contact Dr. Chandler at bob.chandler@gcsu.edu.

Natural History Museum and Planetarium

The Georgia College Natural History Museum and Planetarium is an academic and research treasure for students, faculty, staff and the public in the Southeastern United States. The 2,500-square-foot museum is dedicated to earth sciences, emphasizing paleontology—the study of fossils and ancient life forms.

The museum opened in 2004 and is an official repository for National Park Service specimens. It is also home to a full-dome planetarium featuring state-of-the-art digital projection. Built in 2008, the Planetarium provides educational programs and shows about astronomy and the night sky.

For more information, visit http://www.gcsu.edu/biology/museum.htm.

Top 5 reasons to visit:

1. An opportunity to learn.
2. Great fun!
3. Free and open to the public.
4. The planetarium features stellar shows about stars, planets and the universe.
5. The museum has one of the largest selections of real fossils on display in the Southeast covering the last 500 million years.

Ashley Quinn, M.S., is manager of the Georgia College Natural History Museum. She develops museum activities and programs as well as coordinates the *From Fossils to Space* project. Quinn serves as public relations specialist for the Milledgeville Museum Association and is a Georgia College graduate.

PRELIMS program doubles participation

In its second year, Georgia College's PRELIMS Academy increased student participation from 12 to 24.

"We wanted to expand the program," said Dr. Karynne Kleine, the academy's director and professor of Middle Grades Education. "We received 50 applications, but we narrowed it down to 24 middle Georgia students, one person traveling from as far as Columbus, Ga."

The PRELIMS Academy, which stands for Preparing Robust Educators through Learning Integrative Math & Science, is a two-week residential experience for high school students to explore math, science and teaching as a career option. Led by teachers at Georgia College's College of Education, this year's program was themed "MatheSCImatics of Music."

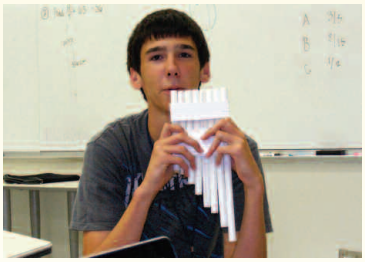
Kleine says the program provided nonstop opportunities for students to learn about probability; the mathematical and scientific concepts of acoustics; and math modeling with graphing calculators, among others topics.

"The music theme came because many adolescents love music," she said. "Last year, many participants sang and played instruments, so we presumed this group would find it relevant and engaging. As a matter of fact, one of the lead teachers, Rachel Horkan, is a pianist and mathematician."

Students also learned how to apply their understanding of science and math as teachers by designing and teaching a science or math lesson to fourth- and fifth-graders.

"The goal is to influence high school students earlier to become teachers," said Kleine. "PRELIMS is that high-quality learning experience to help them advance their skills and opportunities to become successful teachers."

PRELIMS Academy is a project of the Georgia College STEM Initiative that aims to increase the number of students who become STEM teachers. For more, contact karynne.kleine@gcsu.edu.



High school participants design musical instruments from household materials after using mathematics to determine the dimensions required for desired frequencies of musical notes.

Karynne Kleine is a 14-year professor of Middle Grades Education at Georgia College. Her main interest is how learning science and scientific thinking stimulates intellectual development, particularly for teachers. She is the past presiding officer of the University Senate and a member of NARST, AERA, NMSA, IHPST and AAUP.

Professors serve students food for thought

What better way to learn about your local food system than to eat what's in it?

For a semester, Georgia College students made good use of the Milledgeville Farmer's Market by learning about the market's resources and then using those resources to prepare a nutritious meal.

Georgia College chemist Dr. Julia Metzker and sociologist Dr. Sandra Godwin led the course "Vegetable, Animal, Human: The Science and Sociology of Your Food."

Students help plant a beneficial insect garden at the Milledgeville Community Garden.

"One of our goals was to investigate the level of hunger in Milledgeville and the availability and affordability of food," said Metzker. "We also wanted students to understand how our local food system works and ways they could support it."

Students planted an insect garden; interviewed local vendors about market experiences; listened to farmers and grocery store owners talk about food systems; and watched excerpts from the documentary film *Food, Inc.* to better understand corporate farming.

"The end-of-the-semester potluck turned out well," Godwin said. "It was great to see students take their course lessons about our food system and turn those resources into something delicious."

For more information, contact Dr. Metzker at julia.metzker@gcsu.edu or Dr. Godwin at sandra.godwin@gcsu.edu.

Julia Metzker is an associate professor of chemistry at Georgia College. She has been passionate about local food systems since working on an organic farm in the early '90s.

Sandra Godwin is an associate professor of sociology and has been critical of free market capitalism for a long time. Food is her latest avenue of complaint, which is why she has introduced students to the idea of local food systems as an alternative.

Georgia College hosts 33rd annual

Georgia College welcomed 204 fourth- through 12th-graders to the 33rd annual Regional Science and Engineering Fair at the Centennial Center's west court.

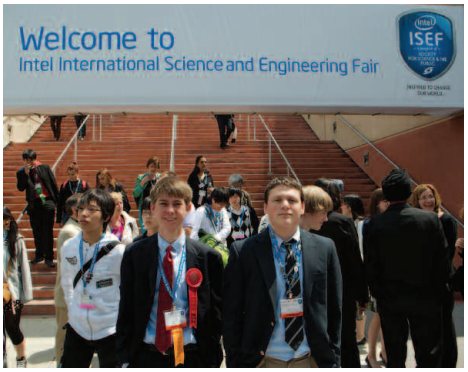
The fair showcased the best research projects from central Georgia's elementary, middle and high school students. Participating students came from Baldwin, Bibb, Hancock, Jasper, Putnam, Monroe, Washington, Wilkinson and Twiggs counties.

The winners of the event's "Best of Show" award were Baldwin High School's Kenneth C McGill Jr. and Mount de Sales Academy's Thomas F. Wilkason Jr. Both students received an all-expenses paid trip to the Intel International Science and Engineering Fair (ISEF) in San Jose, Calif., in May 2010.

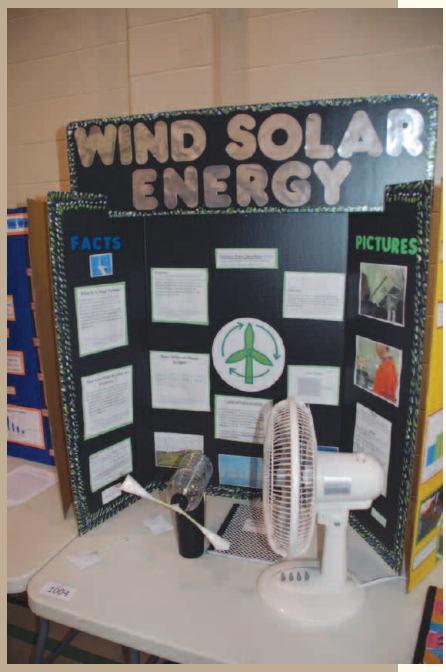
At ISEF, Wilkason received the second place "Overall Grand Award" in computer science, and awards and prizes of approximately $9,500. The award included a trip to the 2010 London International Youth Forum from the Air Force Research Laboratory on behalf of the U.S. Air Force.

The regional fair is directed by Georgia College's Science Education Center.

For more information, visit http://chemphys.gcsu.edu/~science.



Regional Science and Engineering Fair



2010 REGIONAL SCIENCE & ENGINEERING FAIR SPECIAL AWARDS

U.S. Army Awards
Kenneth C. McGill Jr.—Baldwin High School (Baldwin County)
Justin Jones—Washington Co. High School (Washington County)
Katie Brantley—Washington Co. High School (Washington County)
Nicholas Gober—Washington Co. High School (Washington County)
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

U.S. Navy/Marine Corp Awards
Amanda Rowan—Howard Middle School (Bibb County)
Will Coneway—T.J. Elder Middle School (Washington County)
Kenneth C. McGill Jr.—Baldwin High School (Baldwin County)
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

U.S. Air Force Awards
Kenneth C. McGill Jr.—Baldwin High School (Baldwin County)
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

Best of Show Awards
Junior/Senior Division: Thomas Wilkason Jr.—11th grade: Mount de Sales Academy (Bibb County)
Kenneth C. McGill Jr.—10th grade: Baldwin High School (Baldwin County)

Elementary Division: Maiah Wiley—5th grade: T.G. Scott Elementary School (Monroe County)

Best of Class Awards: Elementary Division
Kendal Bunn—4th grade: T.G. Scott Elementary School (Monroe County)
Sadie Jones—5th grade: Alexander II Magnet School (Bibb County)

2010 STATE SCIENCE & ENGINEERING FAIR SPECIAL AWARDS

1st Place Senior Division: AMERICAN CHEMICAL SOCIETY GEORGIA SECTION AWARD
Geovic Jadol—Georgia Military College Prep School (Baldwin County)

1st Place Senior Division: INTEL EXCELLENCE IN COMPUTER SCIENCE AWARD
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

1st Place Senior Division: YALE SCIENCE & ENGINEERING ASSOCIATION AWARD
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

1st Place Senior Division: GEORGIA JUNIOR ACADEMY OF SCIENCE GEORGIA ISEF RECOGNITION AWARD
Kenneth McGill Jr.—Baldwin High School (Baldwin County)
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

1st Place Senior Division: US NAVY AND US MARINE CORPS AWARD
Thomas Wilkason Jr.—Mount de Sales Academy (Bibb County)

1st Place Junior Division: US NAVY AND US MARINE CORPS AWARD
Amanda Rowan—Howard Middle School (Bibb County)

RIBBONS

1st Place: Senior Division
Thomas Wilkason Jr.—Mount de Sales (Bibb County)
Kenneth C. McGill Jr.—Baldwin High School (Baldwin County)

2nd Place: Senior Division
Nicholas O. Gober—Washington Co. High School (Washington County)

3rd Place: Senior Division
Geovic Jadol—Georgia Military College Prep (Baldwin County)
Jah-wann Galimore—Georgia Military College Prep (Baldwin County)
J.J. Bailey—Ninth Grade Academy (Jones County)
Courtney Burten/Sarah Lindsey—Washington Co. High School (Washington County)

1st Place: Junior Division
Willie Coneway—T. J. Elder Middle School (Washington County)
Tevan Ilan—Howard Middle School (Bibb County)
Elizabeth Grace Layton—T.J. Elder Middle School (Washington County)

2010 INTERNATIONAL SCIENCE & ENGINEERING FAIR

Thomas F. Wilkason Jr.—Mount de Sales Academy (Bibb County)
Second Place Overall in Computer Science Division
Kenneth C. McGill Jr.—Baldwin High School (Baldwin County)

Hidden Treasure

Georgia College offers a wealth of science education experiences. To conduct biological research, East Campus's Biological Field Station is a goldmine.

Built in 1997, the two-story log cabin is located on Lake Laurel and serves as the university's designated site for examining specimens and testing field projects.

Lake Laurel is a unique outdoor laboratory. A state-of-the-art facility in a natural biological setting allows ample opportunities for original research and exploration.

The station is equipped with an abundance of tools for life science, including lab benches, reference books, microscopes, glassware and safetyware.

The main level is used mostly for botanical, natural history and other science studies for Academic Outreach and outdoor education students. The lower level accommodates collections and provides research space for professors.

Functional for camps, classes, research and storage for specimens, the Biological Field Station is a Georgia College treasure worth exploring.

For more information, call (478) 445-0810.

Ruth Eilers, director of Georgia College's Academic Outreach, has been providing surrounding county students with hands-on academic programs for 10 years through afterschool programs, in-school field trips and camps. Her love for teaching and her passion for science are passed on to Georgia College students who, in turn, help reach thousands of children each year.

Award-winning nature writer visits Milledgeville

Jack Nisbet, a celebrated nature writer and teacher from Spokane, Wash., shared his expertise with Georgia College and Milledgeville during spring semester 2010.

The 2010 Pacific Northwest Book award-winner led students on a nature walk through the Lower Tobler Creek Trail at Flannery O'Connor's Andalusia. He also helped others with research projects involving plant fossils and gave a slide presentation titled "David Douglas and the Lure of the New World," which was followed by a book signing.

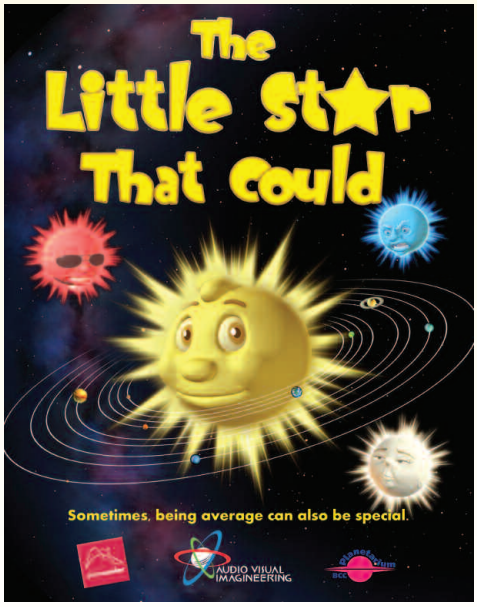
Raised in North Carolina "by a mother who liked to pin insects and near a grandmother who loved birds," Nisbet moved to Eastern Washington after graduating from Stanford University in 1971. He has written extensively about the Intermountain West.

Between 1986 and 1994, he returned to the South and taught for various programs in Georgia and South Carolina, including writer-in-the-school residencies in Milledgeville and natural history teacher workshops at Georgia College.

Nisbet's book, *Sources of the River: Tracking David Thompson across Western North America* (1994), was awarded the Murray Morgan History Prize. It was followed by *Purple Flat Top* (1997), a collection of short stories about the way people talk, and *Singing Grass, Burning Sage*, a series of essays on the wonders of the Columbia Basin.

Visible Bones: Journeys Across Time in the Columbia River Country explores the melding of human and natural history in the greater Northwest, which won a Washington State Library award in 2003. His latest book, *The Collector*, evokes a lost world of early exploration, pristine nature, ambition and cultural and class conflicts with surprisingly modern resonances. *The Seattle Times* writes, "Nisbet makes the landscape come alive on many levels—historical, biological and cultural."

Georgia College Planetarium Presents *The Little Star That Could*



Georgia College's Natural History Museum and Planetarium will debut *The Little Star That Could* fall semester 2010. Admission is free.

The family movie follows Little Star, an average yellow star, as he searches for planets of his own to warm and protect. The space adventure teaches children about the various stars that make up the galaxy and how each star is special.

"This movie introduces young viewers to basic astronomical concepts," said Dr. Donovan Domingue, associate professor of physics and astronomy. "They will learn about lifetimes, stellar properties, our solar system's planets, the significance of stars' colors and the Milky Way galaxy."

Georgia College acquired the show after receiving a grant from the Institute of Museum and Library Services.

"As funds become available through grants and donations, we hope to increase our library of planetarium shows," said Domingue.

The planetarium is located inside the university's Natural History Museum, which is located on the first floor of Herty Hall near the intersection of North Wilkinson and East Montgomery streets.

For more information and to preview planetarium shows, visit www.gcsu.edu/planetarium/shows.htm.

Cool sites for teachers

Calling all K12 teachers and university faculty!

Are you interested in GREENING your courses? Do you want to teach about sustainability? Georgia College offers a number of courses on sustainabilty across several disciplines: biology, geology, chemistry, sociology, outdoor education, marketing, criminal justice, interdisciplinary studies, etc.

Contact doug.oetter@gcsu.edu or visit www2.gcsu.edu/green/education.html.

Galileo

GALILEO, GeorgiA LIbrary LEarning Online, provides equal access to information for all Georgia citizens. It also features resources that help teachers, administrators, program coordinators and other educators stay current within their fields. Several journals are available in full text. The following link describes resources to help kindergarten through 12-grade students and teachers meet various Georgia performance standards. http://www.galileo.usg.edu; http://about.galileo.usg.edu/docs/materials_docs/GPS ScienceJan2009.doc.

National Science Digital Library

The NSDL is the nation's online library for education and research in science, technology, engineering and mathematics. The library features cutting-edge, real-world, interactive science resources to stimulate excitement about science in today's digital learners. NSDL offers professional learning opportunities for college faculty, K-12 teachers and other science educators; software tools and services to organize, manage and disseminate digital educational content; and research-based best practices on teaching and learning with digital content. For more information, visit http://www.nsdl.org.

Lockerly Arboretum and the Worley Environmental Education Center

Lockerly Arboretum is a 50-acre public garden with outdoor and indoor classrooms and hiking and driving trails. The facility provides outstanding ecological, horticultural and historical education to promote preservation and stewardship of the environment. The 200-acre Worley Center in Putnam County offers many ideal spots to study water ecology, life sciences, ecology and forestry. Customized educational programs for school groups are available. http://www.lockerlyarboretum.org. Also contact Greg Eilers, director of education, at (478) 452-2112 or e-mail gregeilers@lockerly.org.

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About Us

Dr. Rosalie Richards is director of the Science Education Center and Kaolin-Endowed Chair in Science. She joined the Department of Chemistry and Physics in 2001 and is also a chemistry professor. She lives in Milledgeville, Ga., with her husband, James, and their children, Bronte and Byron. Richards enjoys reading, gardening and outdoor activities.

Ms. Patti Veal joined the Science Education Center in 2008 as the first full-time administrative assistant. Veal lives in Sandersville, Ga., with her husband, Tom, and their son, Daulton. She enjoys traveling, gardening and attending her son's sporting events.

Linda Chandler, assistant editor of *The Nucleus*, is a scientific illustrator and anatomy instructor at Georgia College. She is also an active volunteer in the Baldwin County public schools. Linda enjoys sculpting, gardening, kayaking and hanging out with husband, Bob, and their three boys, Dane, Brett and Mickey.

Ansley Tiller is a senior mass communications major from Lilburn, Ga. In her spare time, she enjoys cooking things seen on the Food Network, bargain shopping, photography and traveling. She has enjoyed her time spent with the Science Education Center.

CALENDAR OF EVENTS

2010

Oct. 28: *From Fossils to Space: Workshop #3—Natural History Museum at Georgia College*

Nov. 19: *From Fossils to Space: Workshop #4—Natural History Museum at Georgia College*

2011

Jan. TBA: *From Fossils to Space: Field Trips begin—Natural History Museum at Georgia College*

Jan. 29: SMART Institute Follow-up Session #2

Feb. 4-5: 34th annual Georgia College Regional & Science Engineering Fair

March TBA: STEM Symposium at Georgia College

June-July: Summer Science Academy

For more information about Georgia College's summer camps, teacher professional development opportunities and research programs, visit http://chemphys.gcsu.edu/~science.

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