
TEST TUBE

Communication for Tennessee Earth Science Teachers

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PRESIDENT'S CORNER

By Rose Lummus

Hello to all new members and welcome to Tennessee Earth Science Teachers. Thank you to all renewing members. It is the membership that makes TEST a great organization. The professional networking and collaboration is a major benefit for us all. A new year is here, a time of new beginnings. For some it is the second half of the school year and for others the final preparation for NCLB state mandated testing. It is also a time of planning for this year. Already calendars are beginning to fill.

This year serving as your president has made me appreciate TEST members and leadership all the more. I am amazed by your spirit, drive and willingness to give of your talents and time. I have met many new friends and enjoy the enduring relationships of fellow members. Each of you is very special to me. I am looking forward to a great year in 2007.

Geography and Educational Technology Summer Workshop

The Tennessee Geographic Alliance will host its most popular workshop, Geography and Educational Technology, June 11-15, 2007 at the Coker County Alternative School in Newport, Tennessee. The objective of the workshop is to enhance teacher preparation in and understanding of the use of educational technologies to improve teaching effectiveness while developing lessons incorporating geography. Workshop content will

focus on a variety of software packages that have proven utility in enhancing student achievement in geography and related subjects. Liberal use of maps, charts, and graphing will be incorporated. Both PC and Macintosh versions are available for virtually all of the software used in the workshop, but the workshop will take place in PC labs. Use of digital cameras and flatbed scanners will also be featured, and participants will be given some flexibility as to what kinds of skills they wish to emphasize. Participants will have considerable time at workstations, with assistance readily available, to implement and practice their new technological skills. Each participant will develop a classroom presentation using skills learned during the workshop.

Any in-service teacher, or senior in a pre-service teacher-education program in Tennessee, may apply for the workshop. A few applicants from outside Tennessee will be considered for participation. The Tennessee Geographic Alliance will provide: a) \$100 stipend for travel and other expenses; b) up to \$200 lodging stipend (double occupancy) for non-commuters; c) lunch each day of the workshop; d) all required materials; and e) the cost of Continuing Education Units (CEUs) for those requesting them.

For more information and an application please contact Kurt Butefish (email requests are preferred):

Kurt Butefish
Coordinator, Tennessee Geographic Alliance
304 Burchfiel Geography Building.
Knoxville, TN 37996-0925
865-974-4841
kbutefis@utk.edu



Starr Bell and Katesha Hudson use a dichotomous key and a dissecting microscope to identify specimens collected on the Pontoon Boat Ride

Camden Jr. Hi Science Club Visits Reelfoot Lake

By Pat Royle

The first day of fall break Camden Junior High Science Club Members, 8th grade Science teacher Mrs. Royle and several parent chaperones boarded a bus headed for Reelfoot Lake. Kim Crews, UTM Research Center in Samburg, Tennessee, greeted the eager students and gave them a quick tour of the Research Center. Then, they were off to the pier where a pontoon boat tour of Reelfoot Lake awaited them. During the tour students collected specimens, performed a plankton drag, took temperature readings at several depths, and collected bottom samples. After a quick sack lunch the students returned to the pier to perform pH and oxygen content tests from the lake. In the lab, an overview of the use of the dissecting microscope, preparing specimens, and an explanation of the use of the dichotomous key were discussed. Students spent a great deal of time making observations of collected specimens from the Lake using the microscope and the key. After a quick clean-up the bus was once boarded again - destination Reelfoot Lake State Park Visitor Center. A Ranger from the State Park

presented a fantastic hands-on, heads-up Birds of Prey and Snake Program. After a quick trip past the Gift Shop, the students crossed the street to have dinner at Boyette's Restaurant before heading back to Camden.



Jacob Keen looks on as Destiny Cunningham experiences a King Snake hands-on



Cody Robins collects bottom samples from Reelfoot Lake

TSTA Awards Breakfast By Rose Lummus

Tennessee Earth Science Teachers were well represented at the annual Tennessee Science Teachers Association Awards Breakfast on Saturday, November 18, 2006. It was held at the Sheraton Music City in Nashville, TN. Several of our own received awards. TEST also presented three Ptero Awards this year. Included below are the recipients of awards for this year.

2006 Ptero Awards By Rose Lummus

Three organizations received the Ptero Award this year. TEST President Rose Lummus presented the awards. Dr. Don Byerly accepted on behalf of the Knoxville Gem and Mineral Society. Accepting the Ptero Award for the Memphis Archaeological and Geological Society was Mike Baldwin. Marty Hart, president of Middle Tennessee Gem and Mineral Society accepted the award for that organization.



Pictured from left to right: Rose Lummus, Dr. Don Byerly, Mike Baldwin, and Marty Hart

TSTA Distinguished Educator Award

Dr. Michael Gibson was awarded the 2006 TSTA Distinguished Educator Award. Virginia Cooter presented the award.



Pictured: Dr. Michael Gibson, Virginia Cooter

OEST

Bryan Byrne received the 2006 NAGT Outstanding Earth Science Teacher for both the Southeast Region and Tennessee. Dr. Michael Gibson presented the award.



Pictured: Bryan Byrne, Michael Gibson

Evolution Corner: GTS2004

Michael A. Gibson
(Spring, 2007)

Campbell's Oyster Soup Does Make People Puke. Three Jacks Can Take Queens. Do these meaningless phrases look familiar? You probably recognized them as mnemonic devices for memorizing the Periods of the Paleozoic portion of the geologic time scale: Cambrian, Ordovician, Silurian, Devonian, Mississippian, Pennsylvanian, Permian and periods of the Mesozoic (Triassic, Jurassic, and Cretaceous) and Cenozoic (Tertiary and Quaternary). The Q for Quaternary being the current geologic period we live in. Well, I am afraid to tell you that it is time to develop new mnemonics devices as there is a new, revised, updated, improved geologic time scale: GTS2004. There have been lots of changes for us professional geologists who use the finer divisions of the scale, but even the basic version you teach to your students has shifted. I will refer you to the <http://www.stratigraphy.org/gts.htm> site for a more detailed look, and the nearest university library may have a copy of The Geologic Time Scale 2004 (by so many authors it would take its own article to list, but F.M. Gradstein will get you there) for those of you who are brave enough to wade through the 589 pages of serious science. I doubt it will hit your textbooks for a while, but you might want to be aware of a few of the changes. The website is a great resource because you can download a summary of the book with the primary changes abstracted and color copies of both the GST2004 chart and a summary page of the major changes in the new scale.

The Tertiary is no longer considered an official period and the Quaternary is probably going to change in the next iteration. The Cenozoic has been reorganized into the Paleogene (Paleocene – Oligocene epochs), Neogene (Miocene – Pliocene epochs). The term Tertiary has been retained, but as an informal “subera” that

does not extend to the base of the Pleistocene Epoch any longer, rather it ends ~ 2.58 million years ago (at the boundary for the last one-third of the Pliocene Epoch). Quaternary is also a subera in this usage. The K/T boundary is better referred to as the K/Pg boundary now, and begins at 65.5 million year ago.

There is a new period added to Proterozoic Eon (2.5 billion years ago until 542 million years ago), namely the Ediacaran, named for the famed Ediacara Hills of Australia where soft-bodied organisms have been uncovered. The Ediacaran terminates the Proterozoic Eon and Neoproterozoic Era and is succeeded by the Cambrian Period of “Campbell's” fame. There is a great deal of geologic study of the Neoproterozoic Eon going on right now and we are quickly formulating global climate events (e.g. “Snowball Earth”) and tectonics (supercontinents of Rodinia and Pannotia). Recall the “tectonic revolution” of the 1960's and 70's (Pangea), well a similar revolution of understanding is occurring for the previous tectonic cycle.

The Hadean Eon is now officially Archean Eon with no lower boundary defined. The term Hadean, which had been proposed by geologists in the 1980's and used mostly informally, has been discarded. A new eon name is being considered for the time for initial formation of Earth to ~4.6 Ga (Giga annum or billion years), proposed as “the Genesis Eon”, but this is only a proposal at this point.

Many of the dates for the starting and stopping points of eons, eras, periods, and epochs have changed as well. Most notable of these is the establishment of the Paleozoic Era (542 mya – 251 mya), Mesozoic Era (251 mya – 65.5 mya), beginning of the Pleistocene Epoch (1.8 mya) and Holocene Epoch (11.8 kya).

So, “times...they are a changing”. Literally!

Comprehensive No Child Left Behind Content Curriculum Offered - Institutes for Middle Grade Educators in Science – Year 3

By Michael A. Gibson

IMEGS (Institute for Middle Grade Educators in Science) will be offering its third and last summer institutes during summer of 2007. IMEGS is an interdisciplinary, field and on-line sequence of courses designed to reduce content deficiencies in Tennessee middle school educators, and is funded through the TN-Math & Science Partnership Program. All three base curriculum standards, Earth, Physical, and Life Sciences have been covered over the three-year period. Summer 2007 institutes are Physical Science (taught by Drs. Lionel Crews and Rosemary Effiong of UT Martin) and Life Science (taught by UTM biologists Darrell Ray, John Collins, Dawn Wilkins, and Tom Blanchard. Each teacher will additionally be enrolled in a Fall semester on-line education application course taught by UTM professor Becky Cox. Participants spend two weeks during summer in each chosen institute focusing on the aspects of science data collection and interpretation, and demonstrations of basic principles. Teachers can take up to two workshops per year. Participants will leave the workshops with “teacher kits” valued at around \$4000 that will allow them to transfer their newfound knowledge to their classrooms. These teacher kits will include such things as CBL interfaces and sensors, binocular microscopes, telescope materials, physics demonstration equipment, and a variety of software. In addition, participants will video-tape demonstrations of the various principles so that all teachers in Tennessee can benefit from the experience. Nearly every curriculum standard will be covered by a variety of hands-on activities that can be directly translated to the classroom.

PARTICIPANTS - Eighteen participants will be selected. Several school systems have signed up as partners for the grant, and teachers from those systems will be given first preference until December 1, 2006. Beyond that the program is open to other middle school educators followed by high school educators; selection criteria include: date of application, potential for applicant’s experience being shared with students and other teachers, and demographics - “new” and minority teachers are encouraged to apply. Participants will be given stipends to cover travel, lodging, and meals. Teachers will receive 3 hours of graduate credit per workshop course and all participants automatically are registered for the education follow-up course, all paid for through the grant. Participants must pay ~\$200 in fees to the University not covered by grant funding, but eligible through local school district monies.

IMPORTANT DATES

Dec. 1, 2006 – Early Registration Deadline for MSP Partner Schools
March 30, 2007 – Deadline for all applications
April 6, 2007 – Final selection of all applicants
June 17-29, 2007 – Physical Science Institute at UT Martin
July 9-20, 2007 – Life Science Workshops

For more information contact Dr. Michael A. Gibson – Geology, PI @ (731) 881-7435; mgibson@utm.edu

TEST Annual Board Meeting

The annual board meeting will be held in the home of Bob and Tina King. Saturday, February 24, 9am-3pm, is the scheduled meeting date. Discussion will focus on this year's agenda and make plans for TSTA. If you are interested in attending, contact President Rose Lummus at lummusr@yahoo.com for more information and directions.

A Big Thank You

This November saw the successful implementation of Plate Tectonics workshops at TSTA. A big hearty THANK YOU to all the presenters for the fantastic job! THANK YOU to all who helped make it happen by attending the planning meeting and/or Saturday work session. All the effort was evident during the sessions at TSTA. TEST members put in many hours each year to provide classroom teachers with knowledge and materials each year.

Newsletter Alert

Visit the website often as our newsletter will be posted instead of mailing due to the increasing cost of postage.
<http://www.tnearthscience.org>

Call for Nominations

It is time for nomination of TEST officers for 2008-2009. The list of offices open for nomination and their respective duties can be found by visiting the TEST website at <http://www.tnearthscience.org>.

If you would like to make a nomination, please send to Rose Lummus, current TEST President.

The contact information is:
 Rose Lummus
 TEST President
 400 Frank Maynard Blvd
 Dyersburg, TN 38024
 work phone 731-286-3625
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 email lummusr@yahoo.com

ARTICLES AND ANNOUNCEMENTS WANTED

This newsletter is published three times annually, February, May, and October. The deadline for articles is January 15, April 15, and September 15 respectively. We want to hear about what you are doing so please email articles and photographs to Jane Skinner at jaskinne@hotmail.com

TEST Membership Application

Last Name _____

First Name _____

Address _____

City _____

State _____ Zip _____

Home phone _____

Work Phone _____

E-mail _____

School Name _____

School Address _____

Subjects and grade(s) Taught _____

Degrees Earned _____

Discipline of study _____

Dues are \$10.00 per year. Make checks payable to TEST.

Mail to: Christine Henry
 2805 Woodson Drive
 Knoxville, TN 37920