THE GEOLOGICAL SOCIETY OF AMERICA

*Geoscience Education Division*

http://geosciedu.org/ Winter 2004

## From Your Newsletter Editor

As always, if you have inquiries, suggestions or news items to contribute, please e-mail them to me, and I will include them in the next newsletter (Summer 2004).

Mark R. Hafen <mhafen@cas.usf.edu>
Department of Geography, University of South Florida

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## New Trilobite Genus Named for Skehan

Jim Skehan, S.J., <skehan@bc.edu>, Weston Observatory, Department of Geology and Geophysics, Boston College, was honored by Prof. Mark A.S. McMenamin, paleontologist, Mount Holyoke College, whose research is the basis for establishing the new trilobite genus *Skehanos*, named for Dr. Skehan "to honor his contributions to New England geology." The ca 500 million year old Middle Cambrian arthropod is the first new trilobite genus from Massachusetts to be named since the 1880's and was found in Hayward's Quarry at the site of the Fore River Shipyard. The published basis for the new genus *Skehanos* was in *Northeastern Geology and Environmental Sciences*, 24(4), 276-281, Dec 2002. Much of Jim's published research over the past 40 years has been concerned with the Avalonian terrane of eastern North America for which *Paradoxides* and *Skehanos* are now diagnostic.

Jim's reaction: "I cannot imagine a more significant gift and accolade than having the Avalonian trilobite genus named for me by a fellow geologist who has established that *Skehanos* may have evolutionary linkages to even older (Precambrian) ancestral Australian species as well as possibly also to younger Ordovician species. Moreover, *Skehanos* and other related trilobites may serve as a key to possible discovery of additional Avalonian terranes in various parts of the world, as it has done for the Carolina terrane near Batesburg, South Carolina where *Skehanos* and *Braintrella* are found."

Congratulations, Jim!

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## Cochise College: Geology Resources on the Web

During the past four years, Roger Weller (Associate Dean, Science Unit, Cochise College, AZ) has created a geology website that is open to educators and the public, no passwords required, no charge. Within the website are extensive collections of photographs (last count over 2300). Topics include: minerals, minerals by chemical groups, Bisbee minerals, rocks, gemstones, opals, fossils, and virtual geology tours. All of the images are offered as a small thumbnail which can then be expanded as a photo that fills most of the computer screen. The pages were designed this way so that a geology instructor could project these views on a screen with a multimedia projector hooked to the Internet.

Many schools throughout the country have discovered this website and are using it. The math/science website at Cochise College is now getting about 2 million hits a year from more than 85 countries.

There are also extensive geology link collections: physical geology (chapter by chapter), US geology links (state by state), and gemstones. The physical geology link is aging and will soon be updated and replaced by an organized collection of 5000 links. Many of the Cochise College geology web sites are within the top three positions when searched on Google. For example, when searching for photos of gemstones, Weller's site is at the top of the list.

To see all of this, go to <http://math.cochise.edu/geol>.

Also being developed, but not yet advertised on the geology page is an illustrated dictionary of physical geology at <http://math.cochise.edu/glg101-vocabulary>. Other geology websites under construction include: Geology Maps, Photos of Turquoise, The Geology of Southeastern Arizona (mountain range by mountain range and stratigraphy), Arizona Geology References, and Fossil Links.

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*Cochise College Web Resources (continued from p. 1)*
Already in existence at the Cochise College web site is an extensive organized collection of astronomy and planetary geology links. Go to <http://math.cochise.edu> and click on "Astronomy" on the left side of the page. There are 2500 links (540 just on Mars). Many of the NASA sites are loading slowly because of interest in the Mars rover.

Try the sites, and if you would like extra information, Roger can be reached via e-mail at <wellerr@cochise.edu>.

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## *Hot Hot Hot* Geology and Natural History Workshops

Into basalt? Then definitely plan to attend one or more the following workshops/seminars being offered this summer at Craters of the Moon National Monument and Preserve (Idaho) in conjunction with their partner the Sawtooth Science Institute (SSI). Interested educators should contact the SSI at (208) 788-9686 for more information or to register for the workshops, which are available for college credit.

***Craters of the Moon Natural History Teachers' Workshops (April 23-24 and again August 27-28)***
This workshop is designed for teachers who are preparing to bring their classes to the Monument for a field trip. The workshop will consist of a Friday evening program of slide shows and other presentations about the Natural History of the Monument put on by park scientists. The Saturday program will be spent out in the field visiting a variety of sites that classes can be taken to within the Monument and learning about the geology, plants, animals, and ecology firsthand, studying what students will be observing.

***Craters Geology (June 25-26)***
This in depth seminar instructed by both Park Service and BLM geologists will examine the geologic history of the Monument and surrounding region. It will introduce the participants to the broad spectrum of hypotheses explaining the origin of the Eastern Snake River Plain and Yellowstone. They will learn to recognize many of the volcanic features generated by basaltic volcanism and learn how they formed. They will learn about how and why the various kinds of lava present in the Monument formed and what causes the variation in chemistry. Participants will also be introduced to the geologic processes that are at work within the Monument. This will be a field oriented seminar with about ¾ of the time being spent out in the field studying the geology.

Doug Owen, Park Ranger (Interpretation)/Park Geologist <Doug_Owen@nps.gov>
Craters of the Moon National Monument and Preserve, Arco, ID

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## NSF and White House Launch Awards Program

The White House has established the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) program. The program, administered on behalf of the White House by the National Science Foundation, seeks to identify outstanding mentoring efforts/programs designed to enhance the participation of groups underrepresented in science, mathematics and engineering. The awardees will serve as exemplars to their colleagues and will be leaders in the national effort to more fully develop the Nation's human resources in science, mathematics and engineering. Nominations to honor individuals and institutions are invited for the competition of these annual awards.

The call for nominations is available. The deadline for the next cycle of submittals is Tuesday, March 2, 2004. You may access the document through the NSF Online Document System by its number (NSF 04-525) or directly by using the following: <http://www.nsf.gov/pubs/2004/nsf04525/nsf04525.htm>.

Marilyn J. Suiter <msuiter@nsf.gov>
National Science Foundation, Washington, DC

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## CALIFORNIA! GEOLOGY and MINING HISTORY FIELD TRIPS

The Bureau of Land Management and Buena Vista Museum of Natural History are offering earth science field trips to points of mineralogic, geologic, paleontologic, and historic interest throughout central California. These trips are designed for persons of high school age and older. It is not necessary to have a technical background to attend or to benefit from the trips. These field trips are recommended for teachers, and many of them can be taken for in-service continuing education credit through California State University Bakersfield. Each trip includes a full spectrum of environmental and land management topics. A field guide is prepared for some of the field trips which include maps and directions which can be used by anyone for self guided investigation of the geology along the field trip route.

California is ever-changing. The Geology Field Trip Program explores the changes that have occurred throughout California's complex and fascinating geologic history and focuses on the human interaction with this geology over the past

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*California Field Trips (continued from p. 2)*

150 years. Since the discovery of gold at Sutter's Mill in 1848, the landscape of California has never been the same. We live in an environment today with a range of social issues that are directly linked to our geologic past. Symposia and field trips of this interpretive outdoor program are designed to bring this message to residents of all parts of California.

Visit their web site at <http://www.ca.blm.gov/bakersfield/geologytrips.html>. The Buena Vista Museum of Natural History web site is <http://www.sharktoothhill.com>. For additional information, comments or suggestions, contact Dr. Gregg Wilkerson at (661) 391-6177 or at <gregg_wilkerson@blm.gov>.

### PACK SADDLE CAVE: March 20, 2004

This is an all-day hiking trip to Pack Saddle Cave north of Kernville. It is a 3 hour hike into the cave on a fairly steep trail and a 2 hour return hike. Bring your flashlights! The geology and mining history of the Kern Canyon-Lake Isabella area is covered including a discussion of hydraulic gold mining on the Kern River from 1851-1871.

### OWENS VALLEY-MONO BASIN, May 28-31, 2004 (Memorial Day Weekend)

Water management, historic mining, glacial and volcanic geology are the main topics of this field trip. Stops or topics of discussion include Cinder Hill, Owens Lake, Alabama Hills, Mazourka Canyon, American Perlite Mine, Tinnemaha Reservoir, June Lake, Devil's Post Pile, Inyo Craters, Mono Lake, Bode State Park and Travertine Hot Springs.

### POINT SAL: July 24, 2004

Ecology, history and geology of the Santa Maria area, with discussions on plate tectonics, continental accretion and shoreline processes. Additional stops will be made at the Celite diatomaceous earth mine and La Purisima Mission. The program ends at Point Sal State Beach. Optional camping at Point Sal on Saturday night is possible for those not going on this field trip in private vehicles. This will require hiking to and from the Point on a steep trail.

### SAN ANDREAS FAULT: PALLET CREEK TO PARKFIELD, Sept 4-6, 2004 (Labor Day Weekend)

***Pallet Creek to Gorman***
This segment of the San Andreas fault takes us to several sag ponds and offset streams, with stops at the Pallet Creek paleoseismic site, Devil's Punch Bowl, Avenue S and Highway 14, Lake Elizabeth, Lake Hughes and Quail Lake. The tour also includes a visit to National Cement's limestone mine.

***Gorman to Wallace Creek (Carrizo Plains)***
This day examines the "Big Bend" segment of the San Andreas Fault. We'll visit exposures of the 1857-foot Tejon fault scarp along with several pressure ridges and sag ponds. The timing of earthquake activity along this stretch of the San Andreas will be discussed in relation to the offset drainage at Wallace Creek, and we will review the paleotectonic, sedimentation, and drainage patterns of the Carrizo Plains-Temblor Mountains.

***Wallace Creek to Parkfield***
Parkfield, the "earthquake capital of the world," is the final stop in this trip along the San Andreas. We learn about the complex and fascinating ecology at Soda Lake and Carrizo Plains Natural Area. We see examples of offset fences and bridges in the fault zone. Learn about the stratigraphy and ecology of the La Panza and Gablin ranges, including Syncline Hill in the Carrizo Plains.

### MOTHER LODE GOLD BELT: NORTHERN MINES, Sept 18-19, 2004

Structure, stratigraphy, and ecology of the Northern Mines of the Mother Lode in Sierra and Plumas Counties. Friday's trip will be from Quincy to Forest City by way of La Porte and Downieville. Saturday's trip will be from Quincy to the Walker Mine by way of the Taylorsville. Sunday's trip examines gold deposits along the Feather River between Quincy and Oroville. We'll have fireside lectures at the Quincy Campground on Friday and Saturday evenings.

### TO PAY FOR YOUR RESERVATIONS

Complete the reservation form, below. Registration fees are $10 per person per day, or $25 per vehicle per day, whichever is less. Make your check payable to "Buena Vista Museum of Natural History" and mail to BVMNH, 2018 Chester Ave., Bakersfield, CA 93301. Charge card payments may be made by calling (661) 324-6350. If you have any questions about these field trip programs, call Dr. Gregg Wilkerson at (661) 391-6177 or contact the Museum directly at (661) 324-6350. You will be asked to sign a "Hold Harmless" agreement before the field trip begins.

CALL FOR MOST RECENT DATES AND SCHEDULE. SOMETIMES WE NEED TO CHANGE FIELD TRIP DATES.

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Reservation form for California field trips by the Bureau of Land Management and Buena Vista Museum of Natural History (see preceding page for description of trips and trip dates.)

Name _____ Phone Number w/ Area Code _____

Address _____
Street Apt/Unit

_____ _____ _____
City State Zip Code

E-mail: _____ **bring a sack lunch and plenty of water**

_____ _____
Field Trip Name Dates

Number of people: _____ Number of vehicles: _____

**Registration Fees: For 1 or 2 persons traveling in one vehicle:**

_____ persons x $10 person per day = $_____ per day

$_____ per day x _____ days = $_____ total for this field trip

**- OR -**

**Registration Fees: For 3 or more persons traveling in one vehicle:**

_____ vehicles x $25 per vehicle per day = $ _____ per day

$_____ per day x _____ days = $_____ total for this field trip

AMOUNT ENCLOSED: _____
Credit card type: Visa ____ MC ____ Card Number: _____

NOTE: WE NO LONGER OFFER MUSEUM VANS FOR THESE TRIPS DUE TO THEIR HIGH COST AND LIABILITY ISSUES ASSOCIATED WITH USING THE VANS.

Gregg Wilkerson, Bureau of Land Management

## Education & Outreach @ GSA HQ

Hello from the Education & Outreach (E&O) team at GSA Headquarters. We are a small but dedicated group that aims to run programs that really add impact and raise awareness of the importance of geoscience to the whole community.

E&O programs operate through the GSA Education Committee, which is a sub-committee of GSA Council. The three entities (Education Division, Education Committee and the E&O Group) need to work closely together to make sure that we are making the most impact and building on all our strengths.

I am sure that many members do not know the scope of the work undertaken by HQ E&O, so I take this opportunity to highlight the work of our group.

***E&O Programs***

The GSA E&O group operates a number of programs which aim to raise the awareness of the role and importance of geoscience in society. These programs target a wide range of audiences including school teachers, faculty, college students and the general public. Examples of the programs offered are:

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*GSA HQ Education & Outreach Programs (continued from p. 4)*

### *GeoCorps America*

Through the GeoCorps America Program, GSA places all levels of geoscientists — college students, professionals, and retirees — in temporary summer positions with the National Park Service and USDA Forest Service and geoscience/ environmental companies. The participants work on geoscience projects over 10-12 weeks, many of which have an outreach component. This year, 26 placements will be made. Contact Elaine Hassinger at <ehassinger@geosociety.org>.

### *Shlemon Mentor Program*

The Shlemon Mentor Program is designed to acquaint undergraduate and graduate students with careers in applied geoscience. Mentors practicing in various fields of applied geoscience present informal programs free to students focusing on professional opportunities and challenges in the applied geosciences. The mentors' goal is to provide information and insight based on their own careers. These programs take place during the course of scheduled GSA Section meeting events. Contact Karlon Blythe at <kblythe@geosociety.org>.

### *Teachers Advocate Program*

The Teachers Advocate Program aims to support and encourage school teachers to introduce exciting and stimulating geoscience experiences into their classrooms. The first stage of this program is the development of CD ROM teaching modules on a variety of topics. These CD's contain teaching notes, student activities, photographs, diagrams and cut-out 3D models. The second stage of this program will be the operation of a teacher training programs based on the materials. Contact Christine McLelland, Distinguished Earth Science Educator, at <educator@geosociety.org>.

### *GeoInq Project*

This year a new project, GeoInq, will commence in summer. This project aims to produce inquiry-based introductory geoscience course modules that will be written by GSA members who are experts in their field as well as excellent teachers. These modules will include all teaching materials including notes, images and assessment tasks. The first modules will be released in 2005 after classroom testing.

### *GeoVentures*

GSA runs a series of field trips each year to some of the most amazing geological sites around the planet. This year we have over 10 trips which are broken up into trips for Professionals, trips for K-12 Teachers and trips for students. These trips will be heading to Iceland, Mongolia, New Zealand, Australia as well as the continental US. More information can be found on the GSA web site. Contact Edna Collis at <ecollis@geosociety.org>.

### *E-News Lists*

E&O also operates sign-in email news lists. If you want to be kept updated on the range of programs that are running, please go to <http://rock.geosociety.org/Enews/> and sign up for the appropriate list.

The team members at HQ E&O are always delighted to work with members to move geoscience education forward. Please don't hesitate to contact us if you have an idea or an issue.

We all look forward to working together with year.

Gary Lewis <glewis@geosociety.org>
Director, GSA Education & Outreach

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## GeoScienceWorld to Launch Online Access to Earth Science Journals

Six leading earth science societies and one institute have agreed to develop cooperatively GeoScienceWorld (GSW), an electronic research resource unprecedented in the earth sciences. GSW will deliver online the aggregated journal content of both its founding organizations and many other not-for-profit and independent earth science publishers. The collection will feature full text searches across the aggregated journals and reference linking between included journal articles and, where possible, other online journals.

GeoRef, the premier bibliographic database in the geosciences, will be fully integrated into GSW, expanding the search capability to include nearly all geoscience literature using a controlled vocabulary and providing direct linking to full text articles and abstracts within and outside the journals aggregation. With time, other material such as maps, books, and geoscience digital data will be included or inter-linked on an optional participation basis with content owners. When technically practical, GSW will include non-English publications.

For two years the founding organizations (American Association of Petroleum Geologists, American Geological Institute, Geological Society of America, Geological Society of London, Mineralogical Society of America, Society for Sedimentary Geology (SEPM), and Society of Exploration Geophysicists) have been developing plans for GeoScienceWorld. Final agreement allows implementation of the plan.

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*GSW (continued from p. 5)*
A prospectus will be sent in January to societies and other journal publishers potentially interested in participating. A free trial period for potential subscribers is anticipated prior to the launch of paid online subscription service later this year. Charter online subscription rates will be announced this summer. More detailed information about GeoScienceWorld (GSW) can be found at <http://www.GeoScienceWorld.org>.

Bonnie A.B. Blackwell
Research Scientist & Director, RFK Research Institute, Williams College

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## Geoscience Education Initiative for Minority-Serving Institutions

The LSU Department of Geology & Geophysics and nine minority serving institutions (MSIs) are linked in a unique 5-year research and education venture to increase under-represented minority participation in the geosciences. This new program, Geoscience Alliance to Enhance Minority Participation (GAEMP), is sponsored by a National Science Foundation grant. The Principal Investigator is Ray Ferrell. Co-PIs include Laurie Anderson, Phil Bart, Juan Lorenzo, and Jonathan Tomkin. More than half of the department faculty are active in the project.

African-Americans and Hispanics represent a much smaller percentage of the scientists employed in the geosciences than the percentage of members of these ethnic minority groups receiving advanced degrees. Many college-age minority students attend MSIs where geoscience is not available as a major subject. GAEMP's program will build on the excellent science programs in these institutions and produce qualified scientists while striving to increase the general awareness of career opportunities in geoscience among members of these communities. Partners in GAEMP include: Southern University, Baton Rouge; Southern University, New Orleans; Dillard University; Xavier University; Grambling State University; University of Houston Downtown; Jackson State University; Texas Southern University; and University of Texas San Antonio. Seven of the universities are Historically Black Colleges and Universities (HBCUs) and two are Hispanic Serving Institutions (HSIs).

The program targets junior-year degree candidates in chemistry, physics, life or environmental sciences and engineering and mathematics and provides an advanced, content-rich, field and research-oriented introduction to geoscience during a six-week summer course taught by LSU faculty. After the summer course, the students are encouraged to define an individual research project to conduct during their senior year in their home institution with support from LSU and their local mentor. Opportunities are provided for the students to present their research results at professional meetings. In workshops, or during recruiting fairs, the participants will learn about geoscience career opportunities in government, industry, and academia.

GAEMP will support 64 students in the summer program (16 per year), four students in an M.S. program and two for a Ph.D. Other students interested in graduate study will be encouraged to seek admission in geoscience departments at other universities. In the LSU graduate program the students will take two required course courses and make up specific deficiencies based on the advice of their graduate committee. Based on our experience with non-geology degree students, these students with strong credentials in another science should be able to compete favorably in the discipline after they have been through the summer course and the other special mentoring activities provided by GAEMP.

The summer program will begin in Baton Rouge in mid-June and incorporate an excursion through Texas and New Mexico to the LSU field camp near Colorado Springs, CO. The drive to Colorado will take advantage of the varied geology between Baton Rouge and the southern margins of the Colorado Plateau and Rocky Mountains to explore classical geologic localities and to provide additional background and insight on geoscience research objectives and activities. Participating faculty will place heavy emphasis on demonstrating how the concepts learned are used in their own research program. A unit on mineralogy and geochemistry, for example, will provide the students with opportunities to describe mineralogical and ion exchange reactions in soil profiles in western Louisiana and to analyze changes in the chemistry of the associated pore water. The observations will provide the basic material for discussions of the rock cycle, pedogenesis, geochemical abundance of elements, weathering, potential groundwater pollution by the local petrochemical industry, and others.

The course will provide "content" in each of the six areas forming the core of introductory geoscience:

| | | |
|---|---|---|
| Earth Materials | Life Through Time | Paleogeography |
| Surface Processes | Plate Tectonics and the Solid Earth | Origin of the Universe |

Each lesson will draw heavily from "active" investigations by the student group. The schedule provides an opportunity for the students to work in state-of-the-art laboratories at LSU and to learn geology in the field. It will be more rigorous and presented in a more quantitative manner than the typical "on-campus" introductory geoscience course. A sketch of suggested locales and some associated themes indicates the diversity of the learning activities:

**Baton Rouge** – Departmental laboratories and special investigative facilities for vertebrate paleontology, mineralogy, geochemistry, and subsurface geology; BR fault; courses of the Mississippi and fluvial processes.

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**South-Central Louisiana** – N.O. flood control and subsidence; deltaic and fluvial environments (Barataria, Grand Isle, Cocodrie); the Chenier Plain; salt domes.
**Houston Area** – Space exploration and examination of extraterrestrial samples, including moon rocks.
**Central Texas** – Edwards aquifer, Llano intrusives and metamorphics, Cretaceous carbonates, global correlation.
**Big Bend** – Sediments, volcanics, structure, stratigraphy, paleosols.
**New Mexico** – WHIPP evaporites, Carlsbad Caverns, Guadalupe Mountains, sedimentary facies and global correlation, White Sands, Basin and Range tectonics, metal mining, Rio Grande rift, K/T boundary at Raton Pass, etc.

The LSU field camp will provide access to additional terranes and the opportunity to reflect and relate investigations conducted earlier.

The summer students will enroll in Geology 1001, 1601, 1003, and 1602 for 8 credit hours. Students may be majoring in any science curriculum at their home institution and should be planning to complete their degree program at the end of the following regular academic year. Following completion of this formal summer program, students will be encouraged to participate in a week-long more rigorous introduction to research with the professor of their choice. This will be the initial step in a formulating an individual senior research project that will be jointly supported by LSU and their home university.

For more information, contact Dr. Laurie Anderson, Chair of Geology & Geophysics at <laurie@geol.lsu.edu>.

Ray Ferrell, Harrison Family Professor of Geology
Louisiana State University

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## EARTH2CLASS: LINKING RESEARCH SCIENTIST AND TEACHERS

The Lamont-Doherty Earth Observatory and Teachers College, Columbia University have received a grant from the National Science Foundation for a "proof-of-concept" study of the "Earth2Class Workshops (E2C) for Teachers." Co-PIs for this project are GED member Dr. Michael J. Passow (Earth Science Teacher in the White Plains Public Schools/Adjunct Professor of Science Education at Teachers College/Organizer of Earth2Class/Current Past-President of STANYS) and LDEO Associate Research Scientist Dr. Gerardo Iturrino.

For several years, E2C has provided innovative Professional Development programs designed to improve knowledge, teaching, and technology skills of middle and high school science educators through ongoing interactions with research scientists at LDEO, located in Palisades, NY. Teachers and scientists interact through monthly workshops, web-based resources and other educational technologies, and summer institutes to produce exemplar curriculum materials about a wide variety of cutting-edge geoscience investigations. These curriculum materials are available for dissemination to other teachers and their students through <http://www.earth2class.org>.

Goals of the project include:
• Train teachers in the New York metropolitan area and neighboring districts to enhance content knowledge in the Earth Sciences, develop skills to incorporate improved electronic and hands-on investigations, and increase student achievement on elementary, middle, and high school mandated assessment tests.
• Increase the competency to teach the Earth Sciences of K-12 teachers serving in schools with high numbers of students from underrepresented groups, thereby providing greater role models that could potentially attract students into science and math careers.
• Contribute to the national effort of creating networks of classroom teachers, teacher-trainers, and science researchers seeking effective methods for innovative instructional techniques that will meet state and national Standards and mandates.
• Explore innovative professional development strategies based on existing and developing educational technologies.
• Engage both classroom educators and research scientists in expanding the knowledge base that will contribute to developing NSF Centers for Learning and Teaching, Science of Learning Centers, and other programs.

E2C is in an excellent position to address these issues and accomplish its goals because it has created an ongoing model that has been doing so on a limited basis for several years. LDEO is in the unique position to integrate its research scientists with classroom educators because of the ongoing E2C program. Connections with school districts and professional associations will also foster success of this program. This grant will enable E2C to conduct a systematic evaluation of the effectiveness of this approach.

Project plans for the current academic year include:
• Developing and revising www.earth2class.org web resources and curricular materials to serve as a more effective basis for teacher-scientist interactions.
• Training and support for research scientists to develop additional instructional materials (print and electronic) correlated to state and national science education standards.
• Selection and training of approximately thirty-five participating teachers from New York City and other districts in Westchester and Rockland Counties, NY and Bergen, Essex, and Hudson Counties, NJ. *(continued on p. 8)*

*Earth2Class (continued from p. 7)*

- Creating two follow-up programs for curricular development based on E2C Workshops.
- Designing and carrying out formative evaluation plans.

During Summer 2004 there will be workshops at LDEO and STAC to field test materials, with a focus on discussing results of teaching lessons, sharing success and failures; update about research efforts; possible field experiences to see applications of scientific concepts.

In the 2004-2005 Academic Year, plans call for:
- Continuing support for first group and add thirty-five additional participants from similar districts.
- Expanded dissemination of curricular materials through professional conferences, DLESE, and other venues.
- Preparation of final versions of curricular materials.
- Preparation of final evaluations and report.

Among the themes explored during the current academic year are: “Structure and Composition of the Oceanic Crust”; “Marsh Archives of the Hudson Estuary”; “Exploring the Southern Oceans with Ships and Satellites”; “Historical Impact Craters”; “Using Synthetic Aperture Radar (SAR) to Map Natural Hazards and Disasters.”

For more information, contact:
Dr. Michael J. Passow <michael@earth2class.org>
White Plains, NY Public Schools

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## Ohio Citizens for Science Fight for Science Standards

GED member Tom Baillieul is working with the group Ohio Citizens for Science to review model curriculum packages being written to correspond to the state's new science education standards approved last year. As some GSA members may recall, Ohio became a battle ground between creationists and the proponents of good science as these standards were being developed. In the end, the State Board of Education approved a high quality set of standards for all grade levels and recognized explicitly (for the first time ever) the Theory of Evolution as the central organizing pillar of the biological sciences.

Now, as the second step of the legislatively-mandated process, several creationist members of the board are trying to control the writing of model science curricula. Working closely with the Seattle Discovery Institute, these Board members have forced staff of the State Department of Education to accept a small number of lesson plans which insert pseudo-science ideas (e.g., the expanding Earth hypothesis; Velikovsky's catastrophism) as equivalent to consensus theories in various Earth and space science knowledge areas. Some of these lessons also include blatant misrepresentations of current scientific thought (all modern Geology and Astronomy are based on the concept of gradualism - which the lesson writer incorrectly defines as uniformitarianism). The overall intent appears to be to confuse high schoolers about the level of confidence that scientists have achieved regarding the age of the Earth and the Universe, and the predictability of natural processes.

If the creationist forces are allowed to succeed with their strategy here in Ohio, they will trumpet this as a success for "fairness" in teaching a diversity of "scientific" ideas, and then will go on to use this success as a wedge to do the same in other states.

The threat to science education by religious fundamentalists is national in scope and very real. GSA members need to become actively involved. To find out what is going on in your state or region, contact the National Center for Science Education at <http://www.ncseweb.org>.

Tom Baillieul, Columbus, OH

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## Thorson and Colleagues: Beyond Stone Walls

Elsewhere, the obvious link between normal humans and geology may be about canyons, outcrops and sea-cliffs, but in rural New England it seems to be about stone walls, perhaps because these rock collections seem to be everywhere. Robert M. Thorson <robert.thorson@uconn.edu>, Professor of Geology & Geophysics at the University of Connecticut, working with colleagues David Moss (science ed) and Wendy Glenn (English ed) at UConn's NEAG School of Education are mid-way through a project funded by the National Science Foundation's Geoscience Directorate titled "Beyond Stone Walls: Towards a K-8 Curriculum." Their research explores the effectiveness of curricula at primary (grades K-2), intermediate (3-5), and upper (6-8) levels, all based on Thorson’s co-authored book *Stone Wall Secrets*, which is available through the GSA Bookstore. *Stone Wall Secrets* was named a Smithsonian Notable Book for Children in 1998. The lure of the subject is catching on with adults as well; Thorson's *Stone by Stone* (Walker & Co., New York, 2002) won the 2003 Connecticut Book Award (best nonfiction).