

# GeoConnections



## 2014 SPRING FIELD TRIP ANNOUNCEMENT

**Location:** New Milford, Connecticut

**Date:** Saturday April 12

**Theme:** The bedrock geology of western Connecticut

**Trip Leader:** Greg Walsh, USGS

Continuing our theme of exploring the geological wonders packed into all four corners of our small state, the GSC April 2014 Spring Field Trip will continue our fascinating look at the Paleozoic bedrock geology of western Connecticut with Greg Walsh of the USGS. With years of experience mapping and solving the structural and stratigraphic problems in the highly folded terrain, Mr. Walsh will present the "insiders view" of the diverse structures and economically important formations in the western highlands. For more information and registration, visit the GSC on-line at:

[www.geologicalsocietyofconnecticut.org](http://www.geologicalsocietyofconnecticut.org)

Mr. Walsh has worked as a Research Geologist with the USGS since 1992. Currently, he is a Project Chief in charge of bedrock geologic mapping activities in the northeastern United States. Greg specializes in the structure and tectonics of complexly deformed rocks, the integration of geologic data with hydrogeologic studies, and the use of GIS as a mapping and analysis tool.



Greg Walsh, USGS



Greg in a marble quarry, western Conn.

### References:

Walsh, G.J., 2003, *Bedrock geologic map of the New Milford quadrangle, Litchfield and Fairfield Counties Connecticut*: U.S. Geological Survey Open-File Report 03-487, 49 p., scale 1:24,000, <http://pubs.usgs.gov/of/2003/of03-487/>.

Walsh, G.J., Aleinikoff, J.N., and Fanning, C.M., 2004, *U-Pb geochronology and evolution of Mesoproterozoic basement rocks, western Connecticut*, in *Proterozoic Tectonic Evolution of the Grenville Orogen in North America*: GSA Memoir No.197, p. 729-753, doi: 10.1130/0-8137-1197-5.729.

## From the... President's Desk

As I sit snowbound in February, I have had a chance to remember our enjoyable Annual Meeting at Trinity, including the field excursion to the basalts, the joy of acknowledging the contributions of the Skinners, and Greg Walsh's wonderful talk. The high turnout for the meeting, and the participation of so many students, was particularly gratifying because I think it means that our society has successfully transformed from a new venture to a more established presence in the Connecticut geologic community.

We have ironed out most of the challenges of starting up, planning and routinely running the basic functions of the society, and that serves as motivation to concentrate on finding ways to better serve our membership. Toward that end, our Communications and Education Committee and our Program Committee are tasked with identifying and implementing new initiatives such as the Student Scholarship Program that we announced at the Annual Meeting. Of course, our efforts would be more effective if we had the benefit of your input. We are accepting contributions to the scholarship fund, and would like to hear from you if you have suggestions for initiatives that would enhance the Society's value to you.

We will be continuing to explore the geology of western Connecticut with Greg Walsh for our April field trip. Please stay tuned for the details and registration at:

[www.geologicalsocietyofconnecticut.org](http://www.geologicalsocietyofconnecticut.org)

~Ralph Lewis, President

### In this issue of GeoConnections:

Spring Field Trip	1
Committee Reports	2
A visit to the Copernican Planetarium	3
Environmental Science at Trinity College	4- 5
Breaking news from Dinosaur State Park	6
Geo-Puzzle	7

## COMMITTEE REPORTS

**From the Treasurer:**

The Geological Society of Connecticut, Inc., is a non-profit IRS 501(c)(3) tax exempt organization. The Society submits annual Federal tax returns (form 990) and annual reports of Incorporation to the Connecticut Secretary of State's Office.

Organizational Filings

Application to CT Dept of Consumer Protection, and received Charitable Organization Registration Exemption Verification effective 9/6/2013. This documents that CT DCP recognizes that we are a Charitable Organization that does not receive more than \$50K/yr. in donations. This exemption does not expire, as long as we are below the \$50K/yr. threshold. Therefore, the Treasurer of GSC will not need to file the State Annual Charitable Organization Registry, saving \$50/yr.

CT Secretary of State Incorporation Reports completed for the years 2012 and 2013.

Submitted form to update the designated Agent and Address for the Society (9/16/2013).

Form 990-in preparation- needs to be approved by the BOD for filing prior to Nov. 15, 2013 for FY July 1, 2012-June 30, 2013. Will be emailed to BOD members for approval prior to filing.

*Tax deductible donations to the new scholarship fund are welcome!*

*Go to the GSC website to donate to this important fund!*

~Margaret Thomas, Treasurer

**You're just in time...**

**to renew your 2014 membership!**

**Be sure to get the members price for all GSC events including our upcoming April 2014 Spring Field Trip**

*Join more than 140 of your colleagues-  
join or renew today!*

**It only takes a minute. . .**

*...using Paypal on the GSC website...you do not have to be a Paypal member to pay by credit card!*

~ Ed.

**This Just In...****From the Secretary's Portfolio**

It has been a busy year for the GSC Board of Directors, with five meetings since August 2013 – with one meeting cancelled due to dangerous travel conditions. The following is a brief summary of some of the important business conducted at the GSC board meetings:

- reviewing the Board's budget with an accountant;
- completing appropriate non-profit paperwork and filing tax returns for the society;
- approving the new GSC logo;
- investigating CEU and LEP credit opportunities for future GSC events.

Membership remains strong, with approximately 140 active members at the start of the Fall, and picking up several new members at the annual meeting.

The board has examined a new GSC brochure developed by the communications committee and is nearly complete with fine-tuning. We expect to release the new brochure soon.

Considerable planning and discussion took place in advance of and following a very successful annual meeting held at Trinity College. More than 80 members attended the meeting and were treated to an excellent presentation by USGS scientist Greg Walsh on the bedrock geology of Western CT. The board also planned an exciting spring field trip with Greg Walsh to examine sites of interest referred to in his presentation. We are exploring venues for future annual meetings.

The board of directors also received updates from membership, education, and communication subcommittees. The latter will be releasing guidelines for a new research grant opportunity for juniors, seniors, and graduate students conducting research on the geology of Connecticut. Our GSC Board meetings continue and we look forward to seeing members at upcoming events.

~ Drew Hyatt and Camille Fontanella

**MEET THE BOARD OF DIRECTORS**Officers

<b>President</b>	<b>Ralph Lewis</b>
<b>Vice President</b>	<b>Peter Letourneau</b>
<b>Secretaries</b>	<b>Camille Fontanella, Drew Hyatt</b>
<b>Treasurer</b>	<b>Margaret Thomas</b>

Members-at-Large

<b>Margaret Enkler</b>	<b>Mark Lewis</b>
<b>Harold "Fritz" Moritz</b>	<b>Janet Stone</b>
<b>Mike Wizevich</b>	

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## Star Gazing at the Copernican Observatory and Planetarium

By: Kristine Larsen

Professor, Physics and Earth Sciences Department  
Central Connecticut State University

Increasingly, we “Nutmeggers” (as well as citizens across the world) are spending less and less time stargazing, not only because of the negative effects of light pollution, but quite simply due to the stresses and constraints on our time imposed by everyday life.

Most people do not have the dark skies, equipment or the spare time to gaze upward and pick out the constellations, marvel at the beauty of the Orion Nebula or Andromeda Galaxy, or even see the rings of Saturn or moons of Jupiter for themselves. When was the last time you noted the current phase of the moon, for example?



*The big telescope!*

At CCSU’s Copernican Observatory and Planetarium, we have the ability to immerse you in the darkness of pre-industrial skies, take you on a tour of the stars and constellations, and teach you a bit about our galaxy, black holes, or even comets. We offer free public planetarium shows on the first and third Saturdays of each month, year-round (except when those dates fall on a major holiday such as Christmas or New Year’s Eve).

Join us in our 90-seat planetarium at 7:30 pm and engage in fun, family oriented hands-on science activities and demonstrations while you wait for the show to begin at 8 pm.



*Dr. Larsen gets ready to reach to the stars!*

After the live hour-long planetarium performance, if the skies are clear, you can put what you’ve learned into practice, as you observe stars, planets, nebulae and maybe even a galaxy or two through a variety of telescopes, from portable telescopes similar to ones you might eventually wish to purchase (or build) for yourself, to the 16-inch Cassegrain reflector permanently mounted in our rooftop observatory.

Although our skies are not especially dark (being situated on a college campus in New Britain), we do offer viewing of a variety of interesting celestial objects. The list changes with the seasons (as do our shows), so return visitors are especially encouraged to attend.



*Saturn’s Rings! The view from the Copernican Planetarium*

We also hold special viewing sessions when conditions warrant, such as a lunar eclipse or the appearance of a bright comet. We offer free planetarium shows and observing sessions on-demand (as our schedule permits) to public groups, such as schools, scouts, and libraries. For more information, visit our website:

[www.ccsu.edu/astronomy](http://www.ccsu.edu/astronomy)

## Meet the Department: Environmental Science at Trinity College

By Christoph Geiss

Environmental Science Program Director

Trinity's environmental science major is a relatively new addition to the College's curriculum. The program was founded in 2001 and the environmental science major was approved by the faculty in 2002. Since then we have been graduating approximately 10 students per year. The major is the result of an interdisciplinary effort between all the natural science departments at Trinity. Environmental Science majors rely on course offerings from Biology, Chemistry, Physics and Engineering.

*Trinity ENVS at the lowest point in the western hemisphere:*



*Badwater, Death Valley, California.*

During their four years in college our students get a strong background in the natural sciences combined with an emphasis on hands-on experience in the laboratory as well as in the field. Over half of our courses include a laboratory component, and more than three quarters of our students conduct at least one semester of research with a faculty member or in a laboratory off-campus. In addition, each year, we have approximately 10 students who are engaged in 10-week research projects during the summer months.



*Lake sediment coring on Mudge Pond, Western Connecticut.*

Students pursuing a BS in environmental science start with a series of foundational courses in the natural sciences as well as an introductory course in environmental science. A demanding upper-level course on instrumental and field methods prepares our students for further laboratory and independent research. Students then have the opportunity to focus on any of several areas of interest by selecting from a variety of courses from the natural and social sciences.



*Iceland fieldtrip: our camp at Alftavatn on the Laugarvegur.*

Examples include courses in conservation biology, botany, soil science, invasive species management, geographical information systems (GIS), ecology, or organic chemistry. Students who pursue a BA in environmental science can replace some of these upper level science courses with courses in the social sciences and humanities, such as courses on urbanization, environmental ethics, sustainable development, and history or public policy.



*Chilling out in Iceland!*

To expose students to a variety of environments we also run a series of field trips. This fall we used a long weekend to study geology, land use and forest succession in Western Connecticut, camping at Sage's Ravine and climbing Bear Mountain, the state's highest peak. This summer we'll spend two weeks in Iceland exploring volcanoes, glaciers and various other environmental problems. In past summers we have explored the geology and ecology of various landscapes in the western U.S.

Our faculty consists of two tenured faculty, one lecturer/laboratory instructor and an endowed postdoctoral fellow.

*Meet the Department...continued**Banding red-tailed hawks for long-term ecological studies.*

Professor Joan Morrison is a conservation biologist specializing in ornithology. Her current research interests included evaluating effects of land use change on a threatened raptor species in Florida and the habitat associations and reproductive ecology of red-tailed hawks in urban areas. Together with her students she has investigated the species diversity and habitat associations of birds in Hartford's city parks and has conducted environmental education activities, including bird banding, at several schools within Hartford. Her students also radio-tracked Red-tailed Hawks all around Hartford and used these data to map and evaluate habitat use within hawk home ranges.

Professor Christoph Geiss is a geophysicist interested in the magnetic properties of rocks and sediments and how they can be related to past environmental conditions. He currently studies the effects of grass- and forest fires on the magnetic properties of soils in the loess hills of Western Iowa, and analyzes lake sediments from Otsego lake in upstate New York to reconstruct the frequency of severe storms throughout the Holocene. He is also interested in reconstructing sub-arctic environmental change and in using ground-penetrating radar to map peatlands.

*Measuring soil temperature during a prescribed grassland fire, western Iowa.*

Jonathan Gourley is our lecturer/ lab coordinator and started out as a structural geologist, but has changed his focus towards geochemistry. While still interested in the tectonic setting of Taiwan he recently has focused on sediment quality studies of Hartford's Park River and soil nutrient concentrations in clear cut forests of the White Mountains of New Hampshire. Students working with Jonathan Gourley have investigated how trace metals such as lead, cadmium and mercury are highly concentrated in fine sediments within the Park River. Both watershed-wide and local point source mapping of metals have produced useful maps for the CT Dept. of Energy and Environmental Protection that show where the highest concentrations of trace metals occur.

*Jon Gourley setting up a GPS station in Taiwan.*

Our current postdoctoral fellow, Cameron Douglas, studies invasive species management at various Connecticut sites.

Students and faculty benefit from rather extensive equipment that is available to them free of charge. We have access to a variety of analytical instruments including a new X-ray diffractometer, an ion chromatograph, as well as a mercury analyzer. Our rock-magnetism lab is equipped with various magnetometers and supporting equipment. A 24-channel seismograph and a GPR system round off the suite of geophysical instruments. Various pieces of supporting equipment ranging from small GPS units over microscopes and freeze dryers to a canoe and other rafts that are stashed away in nooks and crannies of the labs. Further equipment is available to our students in the Chemistry and Biology departments, including a transmission and a scanning electron microscope.

All these projects involve active participation by our undergraduates who assist in field and laboratory work. Over the last ten years we have had over 100 students working with faculty. Some participated in research for only one semester, but many started as first-years, were bitten by the research bug and continued all the way through their senior year.

If you are interested in learning more about the Environmental Science Program at Trinity College visit our website at: [www.trincoll.edu/Academics/MajorsAndMinors/Environmental](http://www.trincoll.edu/Academics/MajorsAndMinors/Environmental), or contact christoph.geiss@trincoll.edu

## Breaking News from Dinosaur State Park

### The New Discovery Room at Dinosaur State Park!

By Meg Enkler, Park Manager

Dinosaur State Park's new Discovery Room is approaching its first anniversary this April. We have continued to add and modify the exhibits so that there is always something new on display.



*The new Discovery Room!*

Our "Investigation Station" changes every other month. Some of the topics have included; Messing Around with Mica, Fluorescent Minerals, Magnetic Minerals, a crystal shapes matching activity and Investigating Geodes.



*Hands-on science exhibits are fun for the whole family*

Our Natural History cabinets are also changed periodically and at present contain a display on conifers and pine cones. Our rock/mineral and fossil drawers are now all filled with hundreds of specimens, most of which are from Connecticut. The room also features a bird sound station, a skull display, a core from the Portland Formation and a series of True /False questions so that you can test your knowledge of Connecticut geology.



*Explore mineral and fossil treasures!*

### Visit Dinosaur State Park in 2014 for these exciting events!

Connecticut's Premier geological park is sponsoring a number of special events over the next few months. These are the ideal times to visit with the entire family. Please join us for the following programs:

**February 20<sup>th</sup> Hawk and Owl Program** presented by Sharon Audubon at 1 p.m. Free with admission, tickets are available on a first-come, first-served basis after 9 a.m. on the day of the show. Space is limited to 100.

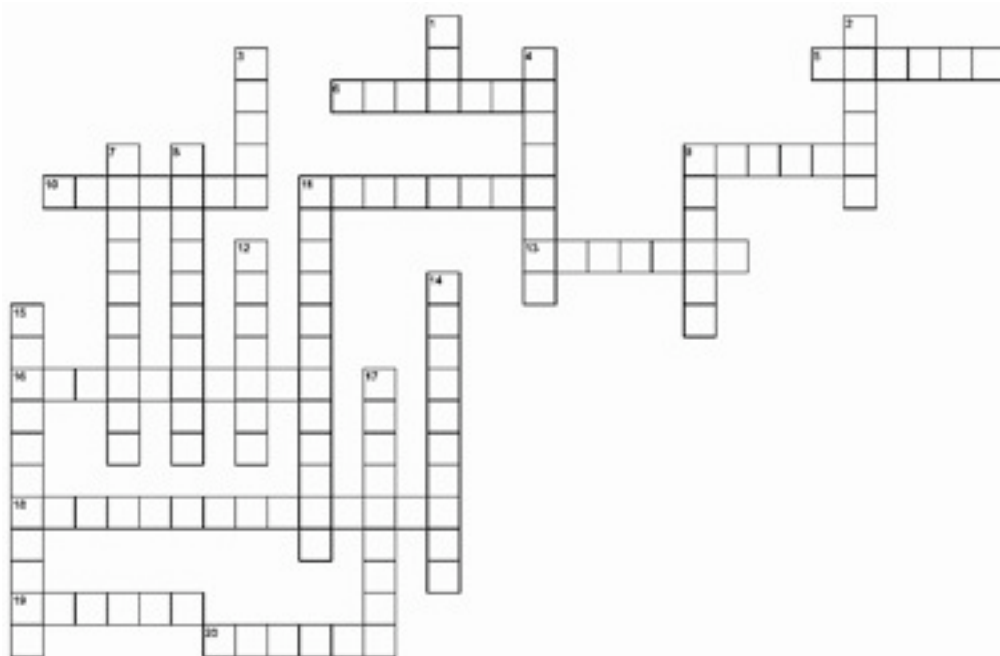
**April 17<sup>th</sup> Massachusetts Birds of Prey** 1 p.m. Free with admission, Tickets are available on a first-come, first-served basis after 9 a.m. on the day of the show. Space is limited to 100.

**June 14<sup>th</sup> – Connecticut Open House Day** – Free Admission to the museum all day.

**August 16<sup>th</sup> – Dinosaur State Park Day** – This is the day that we celebrate the 48<sup>th</sup> anniversary of the discovery of the tracks. It is an all-day festival that features live entertainment, animal shows, a craft tent, face painting, games with prizes and continuous education programs.

Join us for these exciting programs and our other daily programs and tours! I hope to see you there!

**GSC GEO-PUZZLE: GO WEST!**



**ACROSS**

- 5 Not the hors d'oeuvres, the dating method, although your date might also like these
- 6 Connecticut's famous garnet locality
- 9 Like the leaders of the glacial trip!
- 10 Not the national park in Maine, the orogeny
- 11 The base of the Paleozoic
- 13 The allochthon, not the parkway in New York State
- 16 Named after a tribe related to the Silures
- 18 You might "smell at rat" in this schist
- 19 Punningly, the opposite of mean or nasty
- 20 Not the children's game, the carbonate metamorphic rock

**DOWN**

- 1 Not Pb and J, but the useful radioisotopes
- 2 Fencers may \_\_\_\_\_ and parry, and so do these faults
- 3 The "eyes" have it!
- 4 A sheared tectonic fabric
- 7 A light in the in the woods, also Connecticut's largest lake.
- 8 Not the actor Kevin Kline, his "micro" -scopic brother
- 9 "Holy \_\_\_\_\_, Batman!
- 11 Not a line in the sand, a major suture in western Connecticut
- 12 Be sure your answer for this dark mineral is flaky
- 14 You'll blow your horn for this mineral
- 15 The Massachusetts town where Arlo Guthrie was arrested in "Alice's Restaurant"
- 17 This rock is "all mixed up"

**Answers in the next big issue of GeoConnections**

**Answers to the Fall 2013 Geo-Puzzle:**

**Across:**

- 1 Drumlin
- 7 Holocene
- 10 Kame
- 11 Crevasse
- 12 Stone
- 14 Varved
- 15 A glacial epoch.
- 16 Ablation
- 17 Pingo
- 18 Nunatak
- 20 Loess

**Down:**

- 2 RocheMounntonnee
- 3 Moraine
- 4 Ventifact
- 5 Esker
- 6 Foreset
- 8 Delta
- 9 Arete
- 13 Firn
- 19 Till

**Spring Calendar**

**Sat-Sun. March 29-30**

The Western Mass Mineral, Jewelry & Fossil Show, Clarion Hotel, Northampton, Mass. \$5. Children twelve and under are free when accompanied by an adult. Free parking will be available at the hotel.  
info:  
[www.westernmassmineralshow.com](http://www.westernmassmineralshow.com)

**April 12, 2014**

GSC Spring Field Trip: The bedrock geology of western Connecticut.  
*Please visit our web page for details and registration.*

**Aug. 8-10:** West Springfield, MA mineral/gem/fossil show. Better Living Center, Eastern States Expo., 1305 Memorial Ave., West Springfield, MA. 200 dealers. \$6 Admission. Parking \$5/day.

[http://www.mzexpos.com/east\\_coast.html](http://www.mzexpos.com/east_coast.html)

**GeoConnections**

**News and Views from the Geological Society of Connecticut**

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Peter Letourneau

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