

Granite State Geologist

The Newsletter of the Geological Society of New Hampshire, Winter-Spring (March) 2007 Issue No.56 www.gsnhonline.org

2006-2007 GSNH Officers:

President –Julie Spencer ENSR, Inc. Westford, MA jspencer@ensr.aecom.com

Vice President-Council - Jutta Hager Hager GeoScience, Woburn, MA. jhager@hagergeoscience.com

Vice President –Society - Lee Wilder Colby-Sawyer College New London, New Hampshire lwilder@colby-sawyer.com

Secretary – Doug Allen Haley & Aldrich Manchester, New Hampshire dallen@HaleyAldrich.com

Treasurer – Rich Moore US Geological Survey Pembroke, New Hampshire rmoore@usgs.gov

Past-President – Mike Robinette Gilmanton, New Hampshire Robinett@worldpath.net

Members-at-Large:

Paul Rydel Sanborn, Head & Associates Concord, New Hampshire prydel@sanbornhead.com

Ralph Wickson NHDES Waste Management Division Concord, New Hampshire rwickson@des.state.nh.us

Membership:

Doug Allen Haley & Aldrich, Inc. Manchester, New Hampshire dallen@HaleyAldrich.com

Website:

Julie Spencer ENSR Westford, Massachusetts jspencer@ensr.aecom.com

Newsletter Editor:

Bettina Eames Loureiro Engineering Associates Merrimack, New Hampshire beeames@loureiro.com

In This Issue:

- Dr. Larry Krissek's Distinguished Lecturer Visit
- Remembering David Wyman
- Town of Auburn, NH Seeks Help with Mineral Collection
- GEOLOGY 101: So What Is a Thrombolite?
- NHGS Groundwater Levels February 2007 Update
- BIA/NHDES Consultants Day, April 17, 2007
- GSNH Spring Dinner April 12, 2007

Message from the President - Julie Spencer, ENSR, GSNH President 2006-2007

Greetings! Our January 18, 2007 meeting was a great success as 72 geologists and geology enthusiasts gathered at the Cat 'n Fiddle in Concord for our first meeting featuring a distinguished lecturer. The evening started on a sad note as we paused to remember Dave Wyman who passed away in December. Dave was our Program Chairman for many years; tirelessly working to being us interesting speakers and I know he would have been very pleased with our program that evening. Dr. Lawrence Krissek from the School of Earth Sciences at Ohio State University introduced us to icebergrafted debris and its implications in the deciphering of the historic global climate. Dr. Krissek's lecture was sponsored in part by the Joint Oceanographic Institutions/U.S. Science Advisory Committee. For the remaining expenses we used funds which were generously donated to GSNH by Charles Spalding a few years ago to use for a speakers fund. This was our first opportunity to bring a speaker to the area from outside of New England and we are very grateful to Mr. Spalding for his donation. At the end of the lecture Dr. Krissek was presented with our speaker's gift, a plaque which includes a piece of the Conway Granite. Coming from a state without any granite, he was very pleased to receive it!

After the presentation we held our customary mineral raffle. Suzanne Wall won a thrombolite from Port Hood Island, Cape Breton, Nova Scotia donated by Lee Wilder and Andrew Sadowski won a lapis lazuli necklace and earring set created and donated by Tania Coffin. Congratulations to the winners and thanks to those who donated the prizes!

Dr. Krissek had a full schedule during his visit to New Hampshire as he spoke at the University of New Hampshire during the afternoon on January 18 and lectured again on the ANDRILL project on January 19 as part of the New

Hampshire Geological Survey Lunchtime Lecture Series. The ability to include these other talks and give more people a chance to meet Dr. Krissek and hear him speak really made for a great experience with our first distinguished lecturer. I'd like to thank Mike Robinette for reaching out to the educators and other organizations to set up the talks and for being such a great ambassador of the GSNH, ensuring that our guest reached each location on time. Dr. Krissek sent us a very nice thank you message, reprinted in this newsletter.

Hopefully many of you are able to attend the 2007 Northeast Section Meeting of the Geological Society of America (GSA). This newsletter should be arriving sometime during the meeting (March 11 to 14) and I look forward to hearing about all the wonderful talks and trips at our dinner meeting in April.

I hope that we have another strong turnout for our April 12, 2007 meeting. We are again fortunate to bring a distinguished lecturer to New Hampshire. Dr. Maria Luisa Crawford from the Department of Geology at Bryn Mawr College will be speaking as part of the Distinguished Lecturer Program of the Association for Women Geoscientists (AWG). Dr. Crawford is a metamorphic petrologist and her topic will be "The Role of Magma Emplacement in Orogenesis." The Mineralogical Society of America sponsored a day-long tribute to Dr. Crawford at the 2006 GSA Annual Meeting to honor her contributions to the earth sciences. Her talk promises to be very educational and enlightening. I look forward to seeing everyone in April!



NHDES Lunchtime Lecture Series: THE ANDRILL PROJECT – Drilling Back to the Future - Bettina Eames, Loureiro Engineering, Inc.

On Friday, January 19, 2007, Dr, Larry Krissek presented a second talk as part of his two-day visit to the area about the ANDRILL (Antarctic Geologic Drilling) project and results from his recent summer field season at McMurdo Station in Antarctica. The ANDRILL project involves a consortium of over 150 students,

scientists, drillers and educators from around the world (USA, New Zealand, Italy and Germany) working in varying disciplines (geology, sedimentology, stratigraphy, microbiology, pore water chemistry paleomagnetics, geochronology and chromo-stratigraphy to name a few) who have been working together to understand and interpret the history of climate change over time through the study of core records. The ANDRILL project is the first drilling project of its kind to use a drilling system stationed atop an ice shelf - the Ross Ice Shelf in McMurdo Sound between East and West Antarctica. Dr. Krissek discussed the many challenges of drilling from atop an ice shelf through the various materials (ice, ocean sea water, sediments, muds and rock) which required changes in drilling techniques as well as strategies to compensate for vertical and horizontal movement of the rig due to the active moving ice shelf. As of December 22, 2006, the ANDRILL project has succeeded in reaching a depth of 1,125 meters below the seafloor, which marks the deepest geologic borehole ever drilled in Antarctica. Recovered cores which have been a remarkable 98% provide much for interpretation and consist of a "varicolored array of sediment, including mud, sand, rounded pebbles, fossilized diatoms and forams, volcanic ash and minerals". Dr. Krissek's talk on the ANDRILL Project took us "back to the future" but also reminded us that in Antarctica "every direction is north" and "West Antarctica isn't in the west and East Antarctica isn't in the east - they were just named that way." The GSNH would like to thank Dr. Krissek for coming to spend time in our much warmer part of the world and on so little sleep! The project which is being conducted in phases will have two future drilling events between 2006 and 2010. Stay in touch with the ANDRILL Project via the world wide web at http://www.andrill/org.

THANK YOU

February 13 2007

Before even more time slips by, I want to send a note to thank all of you for a most enjoyable visit to New Hampshire 2 weeks ago. I appreciate the financial support provided by the New Hampshire Geological Society, but I especially appreciate the hospitality and collegiality provided by each of you and your respective groups. A special thanks goes to Mike, for arranging the details and acting as driver during my visit.

Finally, thanks for serving as the test audience for the "beta version" of my Distinguished Lecture Series (DSL) talk. I haven't made many changes from the version you saw, and can only hope that the remainder of my DLS trips go as smoothly as the first one did. Akron, Ohio this week and Carbondale, Illinois next week. Somehow, I don't think they'll measure up to Manchester/Concord/Durham for atmosphere and scenery!

Best wishes for a successful (and low-stress) Northeastern Section GSA Meeting next month - and be sure to let me know if you ever want to come fossil-hunting in Ohio. No in-place granite, but lots of brachiopods and corals!

Thanks again! *Larry*

Town of Auburn Library Seeks Help with Mineral Collection - Lee Wilder, GSNH Vice President

The library in the town of Auburn, New Hampshire has several boxes of rocks and minerals in need of identification. Some have old handwritten labels, but there are also labels in the bottoms of the boxes which have fallen off and some labels have gone missing altogether. We are seeking a person or persons who would be willing to volunteer to go to the library to see what they have and identify the specimens in their collection. The rocks and minerals are not for sale, just in need of identification. This would be a great activity for an educator with some students or a group of friends who enjoy rock and mineral identification. This is an excellent outreach opportunity for the GSNH. Once the rocks and minerals are properly identified the library will have the ability to put them on display, and who among us does not enjoy a nice mineral display? If you can volunteer some of your time and talent to the library please contact Lee Wilder at 603-271-1976or geology@des.state.nh.us.

Remembering David Wyman - Julie Spencer, ENSR with input from Tom Shevenell, Greg Kirby, NHDES and Mark Emmons, Resource Laboratories

The GSNH lost a great friend and founding member on December 17, 2006 when Dave Wyman passed away. Dave served on the board of directors for 6 years, first as Secretary, then as Society Vice President. Dave was an integral part of the Board of Directors meetings, always bringing a fresh perspective to the discussion at hand. But Dave's most important contribution to the GSNH was as Program Chairman where he arranged for so many of our interesting and educational speakers and coordinated all the details with the venues. Truly a behind-the-scenes job which never gets the recognition it deserves. Dave always had his ears open for leads on good lecturers, sometimes working for years to find an opening in their schedules to speak at one of our meetings. Many of us who attended board meetings regularly remember Dave saying meeting after meeting "And I'm still working on getting Sam Bowring!" He never gave up and when Dr. Bowring was finally able to come and speak it was truly a memorable night. We all owe him a belated thank you for his work on our behalf.

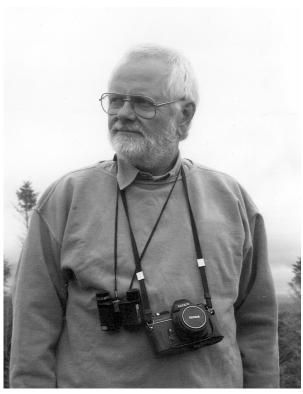


Photo of Dave Wyman. Courtesy of Tom Shevenell

Dave was a devoted husband to his wife of 35 years. Debbie, and an active and involved father to their daughter, Allison. There were a few board meetings which Dave could not attend because of conflicts with the high school softball game schedule and his dedication to cheering for Allison on the field. Mark Emmons' first memory of meeting Dave was not at a GSNH meeting, it was at a high school basketball game: "As many of you know Dave Wyman was an avid rock enthusiast, a beloved colleague and committed family man but how many of you knew of his passion for following local sports? This is where my story begins in meeting Dave. Dave's family home is next door to Bishop Brady High School (Brady) in Concord, and although his family no longer attended Brady, Dave's smiling face was always a constant within the stands routing the team onto victory. Our oldest son attended Brady during the athletic heydays of the late 90's in which the school won state championships in both Basketball and Football.

As I started to participate in the GSNH meetings, Dave came up to me and asked if I was related to anyone on the Brady basketball team. This started up an immediate connection with Dave that lasted for years. As the years rolled on, at our meetings it may have appeared that Dave and I were kibitzing about various geologic topics or mutual business contacts but what we were really doing was discussing the latest angst and triumphs of the Brady athletic teams. Although our son graduated in 1999 and my interest in following the home team has been preoccupied with other ventures I still looked forward to my tri-annual updates from Dave and our "How's our team doin?" conversations. I know the boosters of the Brady sports program are going to miss Dave's enthusiasm in the stands and his participation in the 50/50 raffle. I know I sure will."

Dave owned Buoy Technology Inc., an ocean engineering firm in Concord, and Dave was a world authority on elastic tethered-buoy technology. His company's buoys and rubber tethers are used around the world. His clients included the US, British, and Japanese governments; international oil and gas exploration companies; and universities and research institutions across the globe. Dave traveled the world installing his mooring equipment in some of the harshest environments on the planet. He loved to solve the problems each job created. Dave would casually talk about his diving adventures as he installed buoys in the sea snake-infested waters off northern Australia. Or how the dolphins outsmarted the US and British Navies off Nova Scotia. Dave's business took him all over the world, from the Gulf of Alaska to the Gulf of Mexico, from the Pacific Ocean to the Atlantic Ocean, from Penobscot Bay to Chesapeake Bay. As Dave would say about his impressive resume of jobs over the past 20 years "I knew how to create a business niche, I just didn't realize I would have to travel the world to find enough business to pay the bills."

Many will remember Dave for his wit and his humor, especially laughing at the human condition. Greg Kirby's favorite memory of Dave involved a geology field trip, a group of exchange students and some lobsters: "While serving as president of the Society in 1997, I coordinated the family outing to Franconia Notch State Park in July with Dave for food and refreshments. Dave let me know that he was bringing a contingent of foreign exchange students (from Austria I believe), so we decided to include an added treat by holding a lobster boil for our guests.

When the students arrived and eventually shown the lobsters, it happened to be for the first time they saw these live crustaceans. Unfortunately, while plunging the crustaceans into the pot, a few were shocked at the nature of the custom of boiling them turned out to be. As luck would have it, we would come to find out that they were all vegetarians!" (The word barbarians may even have been uttered that day!) It's a memory that still evokes laughter all these years later.

Tom Shevenell recounts Dave's scientific insights and his desire to get to the point without relying upon the typical scientific jargon during a UNH Earth Science field trip to West Virginia in 1974. After working a long cross-section of roadside sedimentary rock outcrops, mapping lithofacies features, detailing bedform orientations, and mapping erosional contacts, the class intently listened to the combined wisdom of Wally Bothner, Herb Tischler and Franz Anderson describing the complex details of how this deposit was formed. Dave was the first to raise his hand, and asked (while scratching his ear with his mechanical pencil) "Well..., which way was the beach?"

We will miss Dave's wit, wisdom and work on behalf of our society. He was an active and contributing member in every way and it is people like him who have made the GSNH what it is today, a thriving, energetic and committed society. We had the privilege of counting him as a member and it is with great sadness that we remove his name from our roster, gone but not forgotten, Dave Wyman.

NHGS Groundwater Levels - February 2007

Ground-water level measurements for February 2007 were collected by NHGS staff members Genevieve Al-Egaily from February 21 - 23. The statewide average ground-water level showed a 0.81-foot decrease from last month. Decreases were seen in all wells except for the Greenfield well, which showed a slight increase of 0.01 feet. When compared with February 2006, statewide average ground-water level decreased 1.11 feet.

Geology 101: So What Is a Thrombolite? Lee Wilder, GSNH Vice President

At the January 2007 GSNH Dinner Meeting, one of the Mineral Raffle items was a Thrombolite. This cylindrical shaped specimen was from the Miss-Penn sedimentary strata, exposed off the western shore of Cape Breton, NS. Thrombolites, "living rocks", are the most common form of microbialites, which are rock-like structures built by micro-organisms. Thrombolites, like Stromatolites, are fossil algal colonies and represent the earliest record of life on earth.

As these colonies grew in shallow brackish water, they incorporated fine sediment into the colonies structure. The presence of calcium carbonate "cements" these muds together within the colony to form large cylindrical structures of rock. A cross section of these colonies reveals the internal structure of the cemented sediments. Thrombolites tend to have a "clotted" structure, while Stromatolites tend toward an internal structure that is "layered".

It is interesting to note the sedimentary layer in which these Cape Breton Thrombolites were found. Tectonic forces here have tilted the Miss-Penn sequence nearly vertical. The Thrombolite colonies are now laying horizontal, stacked up like so many cylinders. This site must have had a huge, dense colony of Thrombolites, for the sedimentary layer is packed with their fossils remains (See Figure 1). Thrombolites still live today. One of the few places in the world where they still survive is at Lake Clifton in Western Australia's Yalgorup National Park.



Fig. 1. Thrombolites exposed in vertical layer.

Don't Forget to Renew Your Annual GSNH Membership!

Check your mailing label for your membership expiration date. If it says any year other than 2007, then we need to receive your renewal! You can renew at the spring dinner meeting in April or by mail. Membership forms are available at all dinner meetings and on the website: www.gsnhonline.org; click on Membership and Sponsorship to find the form. The Membership Directory will be published this year and if you'd like to be included please be sure to renew for 2007! If your membership is up to date, but your contact information has changed, please send a message to Doug Allen, the Membership Chair, at dallen@haleyaldrich.com so we can update our database.

ANNOUNCEMENT

BIA/NHDES Waste Management Seminar TUESDAY, APRIL 17,2007

It's that time of year again! The annual BIA/.NHDES Waste Management Seminar (a.k.a."Consultant's Day and Contaminated Sites Seminar) will be held at the Center of New Hampshire in Manchester, NH on April 17, 2007 from 8:00 AM to 4:00 PM. Registration for the event can be done on-line at www.acteva.com/go/nhbia. Admission fee is \$95.00 for BIA and GSNH members and \$125 for non-BIA members. On-site registration is between 8:00 and 8:25 AM. Welcome and introductions begin at 8:25 AM. Morning session will include general and regulatory updated by DES staff. Lunch will be from noon to 1:15 PM followed by two concurrent afternoon sessions. Sessions A (Petroleum) and B (Hazardous Waste) will run from 1:15 to 2:30 PM and Sessions C (Vapor Intrusion) and D (Waste Programs).





Geological Society of New Hampshire

2007 SPRING DINNER MEETING

Speaker: Dr. Maria Luisa Crawford Bryn Mawr College, Bryn Mawr, Pennsylvania

Brought to you in part by the Association for Women Geoscientists Distinguished Lecture Series

Topic: "The Role of Magma Emplacement in Orogenesis"

Thursday, April 12, 2007

Cat-n-Fiddle Restaurant Exit 13, I-93, Manchester Street, Concord, NH

6:00 pm Social Hour, 7:00 pm Buffet Dinner, 7:45 pm Speaker

GSNH 2007 Annual Spring Dinner Meeting, Thursday, April 12, 2007 Advance Reservations: Member (Dues Paid) @ \$20.00. Member at the Door or Non-Member with Reservation (\$22.00). Non-Member without Reservation (\$24.00).

Note: GSNH will also accept dinner reservations by e-mail, which will then allow you to pay at the door. Please note that e-mail reservations constitute an agreement with the Society for which you will be responsible to pay, whether you are able to attend or not, unless you cancel your reservation by noon the day before the Dinner.

Students \$10.00 with valid student ID card (Reservation Requested).

Note: Reservations will be taken until Monday, April 9, 2007! Make checks payable to: Geological Society of New Hampshire

Mail to: Lee Wilder, 477 Putney Hill Road, Hopkinton, NH 03229. Reply via e-mail to: boslwne@tds.net.

| Name(s): | | |
|---------------------|--|--|
| Address: | | |
| Phone and/or Email: | | |

Half the cost of the dinner may be tax-deductible as a business expense.

The lecture part of the program counts as 1.5 hours of CEU contact hour credit.

Upcoming Events/Dates to Remember!

- MARCH 11-14, 2007 GEOLOGICAL SOCIETY OF AMERICA-NORTHEAST SECTION AT UNH, Durham, NH
- APRIL 12, 2007 GSNH Spring Dinner, Cat-n-Fiddle, Concord, NH
- APRIL 17, 2007 BIA/NHDES CONSULTANT'S DAY, Center of New Hampshire, Manchester, NH.
- JULY 2007 GSNH SUMMER FIELD TRIP, FINAL LOCATION TO BE DECIDED.



Geological Society of New Hampshire PMB 133, 26 South Main St. Concord, NH 03301