UPCOMING SHOWS & Events

June 9-10	**10:00-5:00**	**Celinka Show** **Our Lady of Mt. Carmel** **No. Ocean Avenue, Patchogue**
July 21	**11:00-?**	**Picnic – Hecksher State Park**
July 28-29	**10:00-5:00**	**31st Annual Gem, Mineral Jewelry & Fossil Show** **Mattituck –Cutchogue High School**
August 11		*Springfield Bus Trip*
September 8		New Hampshire Field Collecting-Limit to 1st 22 people
September 15-16		EFMLS Convention @ Harrisburg, Pa

For other Gem and Mineral shows:
http://www.amfed.org/EFMLS/calendar.htm

www.suffolkgem.com
P. O. Box 302
Bohemia, L.I., NY
11716

To promote cultural, educational, and scientific interest in mineralogy, and develop member's skills in lapidary arts and jewelry crafts

April 2012

THE CONGLOMERATE

The Monthly Newsletter of the Suffolk Gem & Mineral Club, Inc.

Monthly Club meetings held at the Bay Shore-Brightwaters Library, Montauk Highway, Brightwaters starting at 8:00pm.

Refreshments served at 7:30 pm.

CLUB OFFICERS

The Conglomerate Editor – Cheryl Neary
Club Webmaster – Kerry Ann Hilliard

President –	**Kerry Dicker**	**631-277-0994**	**Director - Elaine Casani**		**631-567-3342**
Vice President –	**Charles Runko (cell)**	**631-486-4549**	**Director – Martin Besso**		**631-666-8023**
Treasurer -	**Roberta Besso**	**631-666-8023**	**Director – Dorothy Scott**		**631-281-8555**
Secretary –	**Kerry Ann Hilliard**	**631-277-0994**	**Director –Cheryl Neary (cell)**		**516-449-5341**
Liaison –	**Charles Runko (cell)**	**631-486-4549**	***Historian – Kerry Ann Hilliard***		**631-277-0994**

Cell phones are to be turned off during all Club meetings.

More importantly, there should be no disturbances during any guest presentations.

Happy Birthday Wishes! May Your Year Be Filled with Hugs & Kisses!

GRETCHEN GOLDEN
EDNA RANDALL
BETTY SMALL
DIANA MCKAY
MARIA MASTAROROCCO
STEPHEN MASTAROROCCO

BELATED BIRTHDAY WISHES TO
RYAN WINSTON

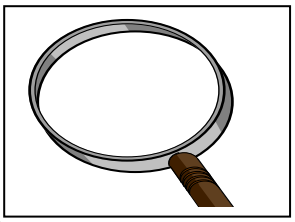
Picnic Time @ Hecksher State Park!

Saturday, July 21st (Rain date: Sunday, July 22nd)
Field 1@ 11:00am
Please note the change in month!
Plan on bringing chairs and a dish to share.
Notify Roberta with your choice of dish!

Field Trips:
Springfield Bus Trip: Saturday, August 11th .
If interested please see Cheryl. A 50% non-refundable deposit will be required to hold a seat for you on the bus.

UPCOMING MEETINGS: 2012

Save the Dates!



April 16-Lecture
May 21-Hands-On
June 18-Lecture

This Month's Meeting: 04/16/12

Dinosaurs!
Dr. Brett Bennington of Hofstra University Geology Department will be our guest speaker.

J Bret Bennington is a professor of geology at Hofstra University. Although born in Dayton, Ohio, Dr. Bennington spent most of his formative years on the north shore of Long Island, New York, where he learned to appreciate bagels and a good slice of pizza. He is a graduate of Northport High School (Class of 1981) and attended the University of Rochester, graduating with a B.S. in biology-geology in 1985. Heading south for graduate studies, Dr. Bennington joined up with Richard Bambach's paleontology group at Virginia Tech. He was hired at Hofstra University in 1993 and earned a Ph.D. in 1995. At Hofstra Dr. B (as his students call him) teaches courses in physical geology, historical geology, geomorphology, hydrology, dinosaurs, evolution and Charles Darwin, and paleontology. His main research focus is paleoecology and the statistical analysis of fossil assemblages. Dr. Bennington also has ongoing projects looking into Cretaceous marine communities and environments on the Atlantic Coastal Plain; the analysis of predation on fossil oysters, tetrapod and dinosaur trackways; and the glacial geomorphology and geological history of Long Island.

For the past seven years Dr. Bennington has co-directed a study abroad program in Ecuador and the Galápagos Islands with Hofstra biology professor Dr. Russell Burke. In that time he has had the good fortune to escort groups of students to the islands in the footsteps of Charles Darwin on five separate occasions. With Dr. Burke and Hofstra's Dean of Library and Information Services Daniel Rubey, he is a co-founder and organizer of Hofstra's annual Darwin Day celebration and was a co-director of the Darwin's Reach conference at Hofstra University in spring 2009, commemorating the 200th anniversary of the birth of Charles Darwin. During these events, "Mr. Darwin" has been known to appear, with Dr. Bennington nowhere to be found.

Let the Adventures Begin!
Agates

The wonderful world of agates- the unique stone which is a variegated form of chalcedony (pronounced kal-sed'-nee) in the quartz family.

During the time the island of Sicily was occupied by the Greeks, over 3,000 years ago, beautiful rocks were found along the upper course of a river, then known as "Achates". Theophrastus, a Greek philosopher and naturalist, discovered the stone along the shore line and gave the stone its name. In his treatise *On Stones* (ca 315BC) he indicates that thed name of the gemstone achates (agate) was based on the source of stones from this river. The naturalist and scientist Pliny the Elder made reference to this in his *Naturalis Historia* and also the poet Silius Italicus quote in their writings that Agate had been found for the first time in Sicily, in the Achates river, from which the stone took the name. During the Arab rule the river became known as "The River of Acrille, an ancient Greek-Roman colony that stood in the surroundings. Today the river is known as the Dirillo or Fiume Grande, since it is the largest river in the area. Agate is one of the most common materials used in the art of hardstone carving and was used widespread in the ancient world.

Agate has been found with the remains of Stone Age man in France from as early as 20,000-16,000 B.C. and the Egyptians used agates prior to 3000 B.C. for talismans, amulets, seals, rings and vessels. Early civilizations used eye beads to protect them from evil and bring good luck. They created eye beads by carving a hole through an agate disc.

Although agate is found all over the world, the most exceptional specimens come from Southern Brazil and Northern Uruguay. However, the moss agates of Colorado and Montana are equal in beauty and some beautiful specimens have been found in Mexico and California, U.S. A geode type of agate, called "Thunder Egg" by Native American Indians, is found in Oregon. Fire agates come from Mexico and Arizona.

Commercial deposits exist in China, Mexico, India, Madagascar, and the U.S., especially along the shores of Lake. Agates are found all over the world where highly pressurized hot water rich in silica filled crevices and vugs.

The outer surface of an agate is rough, pitted and ugly. It masks the beauty of the crystal inside. However, the crust is weak and somewhat fragile and over centuries it is washed away allowing the gemstone to be discovered along rivers and streams.

Agates develop in hollow cavities in the host rock called vesicles. Most agates formed in ancient volcanic lava. Pockets

Outside the Box!
A synopsis of last month's meeting

Members participated in a hands-on project in which beautiful agate slabs, were made into clocks. The multitude of agates to choice from made the decision- making rather difficult. The color of the agates ranged from natural brownish-blackish colors to vibrant-dyed blues, pinks and purples. Thanks to Marty for providing instruction for the enjoyable project.

Agates- continued

Agates develop in hollow cavities in the host rock called vesicles. Most agates formed in ancient volcanic lava. Pockets of trapped gases existed in the lava, which later escaped through cracks that formed as the igneous rocks cooled and hardened, leaving hollow cavities. Other cracks and seams formed due to the different rate of cooling within the lava. These cavities, crack and seams filled with silica rich fluids, as well as other mineral impurities. When the silica concentration became supersaturated, it formed a gelatin-like consistency. This silica gel over time formed fibrous micro-crystals, which clung to the sides of the cavity or seam. This process is repeated with other mineral impurities collecting inside forming bands until there is no more silica gel. If there was a proper balance of silica and mineral impurities, under the constant pressure and temperature, then the entire cavity filled with alternating bands. If not, then the deposition formed a macro-crystalline form of quartz.
(See page 4)

AGATE CHARACTERISTICS

Quartz is classified as either macrocrystalline quartz, while the dense and compact forms are either called cryptocrystalline or microcrystalline quartz. The cause for the difference in structure, physical properties and visual appearance lies primarily in the environmental conditions during the formation of the minerals.
Examples of the different types of quartz is as follows:

Macrocrystalline (referred as Quartz) :growth is by the addition of molecules to the crystal's surface, layer by layer	Crypto or Microcrystalline (referred as Chalcedony): forms from a colloidal watery solution of silica.
Ideal Type: Rock Crystal	Ideal Type: None
Amethyst Ametrine Aventurine Blue Quartz Citrine Eisenkiesel Milky Quartz Prase Prasiolite Rose Quartz Smoky Quartz Tiger's, Hawk's or Cat's Eye	"Fibrous" Varieties: Agate Carnelian Chalcedony Chrysoprase Onyx Plasma Sard "Grainy" Varieties: Chert Flint Jasper Heliotrope Plasma
Color: Any Diapheny: Transparent to translucent Luster: Vitreous Luster on Fractures: Vitreous Streak: White Refractive Index: 1.54422-1.55332 Specific Weight: 2.6481 g/cm^3 Hardness: 7.6 Water Content: <0.1% Non-Silica Impurities: 1.01% -0.5%	Any Translucent to opaque Waxy-dull Dull White, slightly colored 1.53-1.54 2.4 –2.7 g/cm^3 5-7 0.1-4% 1%-20%

The distinction between "fibrous" and "grainy" varieties is based on the visual appearance of thin sections in a polarizing microscope.

It had been assumed that opal is an essential component of chalcedony (in particular of agate), and is intergrown with quartz grains (Correns and Nagelschmidt, 1933). However, various x-ray diffraction studies performed could not verify this concept (e.g. Heaney et al., 1994). Opal is occasionally associated with chalcedony, forming entire parts of a specimen, like the rim of an agate nodule. Opal and chalcedony also may occur together in maturing chert rocks and silica sinters (Lynne et al., 2007) which both develop from opaline silica.