HOLIDAY PARTY
December 15, 2019
from 4 to 8 PM

FELLOWS, MEMBERS, SIRDARS &
FRIENDS OF THE NORTHERN CALIFORNIA
CHAPTER OF THE EXPLORERS CLUB

JOIN US ON DECEMBER 15TH FOR OUR 2019 HOLIDAY PARTY

As 2019 winds down to a close, we have much to remember, much for which to be thankful and much to anticipate for the years ahead. We hope many of you can join us at the home of Rick and Aldeana Saber for a time of joy and celebration, to enjoy time with those who are present and to remember those who cannot join us.

We will provide food and beverages and some surprises for your general entertainment. Additions to the party bounty will be welcome, but let Anna Freitas know what you’ll be bringing when you RSVP so we can avoid having too many duplicates.

December 15, 2019, from 4 to 8 PM
150 Indian Hills Drive, Novato, CA

Please RSVP to Anna Freitas, treasurer@explorersnorca.org or 925-457-6424
A $25 per person donation at the door will be most appreciated.
By Mail to: Anna Freitas, 161 Camino Posada, Walnut Creek, CA 94595
Sign up via PayPal at http://www.explorersnorca.org/.
We hope to see everyone on December 15th.

Rick and Aldeana Saber and the Chapter Officers and Directors

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Have you ever wondered how the geologists have figured out that the continents are part of the earth’s crust, pieces that are drifting around, bumping into each other and generally making a mess out of the boundaries between them? They drill holes into the bottom of the ocean at special places to see what’s there. Of course that leads to another question: if they have to pull their drill pipes up to change the bits, how do they get back in the hole they’re drilling.

All this was revealed in a most interesting talk at the November meeting of the Chapter presented by Dr. Barbara Bekins of the United States Geological Survey. Ocean bottom drillers set up a drill hole for re-entry by putting a funnel at its mouth so that there is a guide to steer the pipe with the new bit back into the old hole to keep drilling. In this way, scientists can find out what the rocks are below the ocean floor. They choose to locate the holes on sea mounts, shallower volcano-like projections that have grown by the pressures from below pushing up rocks that formed along the boundary between different continental rocks.

That pressure alters those rocks as they scrape along the fault line; one indicator of that high pressure is the product, serpentinite, that is found along the fault. That serpentinite is not only a product of the sliding friction, it also serves as a lubricant between the two layers, the one subducting below the other. It is those samples that come out of the core sampling barrel that show the changes in the rock types along the fault plane that is the zone of subduction of one continent being covered over by another.

During December 2016 and January 2017 the Integrated Ocean Discovery Program drilled into three Mariana seamounts. On board were 31 invited scientists from 12 countries, including geologists, microbiologists, geochemists and one lone hydrologist. Dr. Bekins, a US Geological Survey scientist, was a member of the exploratory team. In addition to describing the science, she also spoke about the positive experience of working in close quarters with fellow scientists on this exciting expedition.
He developed the techniques he used to help locate sunken submarines and enormous stone heads, as well as early applications for artificial intelligence. Geophysicist Sheldon Breiner doing field work in 1964. He developed new types of magnetometers, which can detect things under ground or water.

Ever since the compass was invented, perhaps about 2,000 years ago, humans have used Earth’s magnetic field to guide them. Many ages later, Sheldon Breiner devised ways to use magnetism to guide him to things that might otherwise never have been found — like sunken ships, a lost city and colossal basalt heads buried underground.

Dr. Breiner, a geophysicist, inventor and serial entrepreneur, started a company called Geometrics in 1969 that built sophisticated magnetometers, which measure magnetic fields. (A compass is probably the most simple example of one.) He then discovered how to use them to detect objects by observing the way the objects affect the magnetic fields that surround them.

Dr. Breiner had started employing rubidium magnetometers to detect seismic activity along the San Andreas Fault when he was studying geophysics at Stanford University. In time he harnessed magnetometers to search for mineral and oil deposits deep underground; find hidden weapons; locate skiers lost in avalanches; and help the government track down sunken submarines and a hydrogen bomb that had fallen into the ocean after a B-52 bomber collided with a refueling jet over Spain in 1966.

Dr. Breiner used his expertise with magnetometers to help archaeological expeditions around the world peer deep below ground or water. He joined researchers looking for the wreckage of galleons off the coasts of California and Mexico. He helped discover buried ruins that many archaeologists believe were part of Sybaris, an ancient city in Southern Italy that inspired the word “sybarite” because of the hedonism of its inhabitants.

On an expedition to San Lorenzo Tenochtitlan, a group of archaeological sites in southern Mexico, Dr. Breiner discovered scores of ancient artifacts, including two enormous basalt heads, one of which weighed about 10 tons, made during the Olmec civilization, which thrived as early as 1200 B.C.E. and vanished around 400 B.C.E. Over several decades, Dr. Breiner returned to Mexico to keep searching. An article in The New York Times about an expedition to Laguna de los Cerros in 1998 described how he used a $25,000 cesium magnetometer attached to a pole to investigate an archaeological site. “Carrying the pole, Dr. Breiner systematically marched through dense tick- and snake-infested brush, building a record of the magnetic variations at each point in Laguna de los Cerros,” the article said. “An assistant who wielded a machete walked in front of him, allowing the survey to be made in an array of straight lines.” Dr. Breiner sold Geometrics to EG & G, a technology company and military contractor, in 1976, a transaction eventually worth about $45 million.

In 1989, Dr. Breiner helped found Quorum Software Systems, which built software that allowed Apple applications to work with hardware made by other companies. A co-founder, R. Martin Chavez, devised a way for different operating systems to communicate with commands from Apple’s operating system without relying on Apple’s source code. Apple initially approved of Quorum and even certified the company as a developer, according to a 1992 article in Macworld magazine by the technology journalist Steven Levy. But before Quorum released its software in 1992, Apple wrote a letter claiming that Quorum had infringed on its intellectual property, though it did not specify how. Dr. Breiner knew that the letter and the threat of a lawsuit from Apple could ruin Quorum, which was seeking new funding. Before Apple could sue, Dr. Breiner filed a suit of his own, calling for a judgment that Quorum’s products did not violate Apple’s copyrights. The two sides settled, and Quorum was allowed to continue developing its software.

Sheldon Breiner was born on Oct. 23, 1936, in Milwaukee to James and Fannie (Appel) Breiner. His parents, Jewish immigrants from Eastern Europe, later moved the family to St. Louis, where they owned a bakery. After graduating from University City High School in St. Louis in 1955, he went to Stanford University, which had offered to pay for his education if he studied earth sciences. He earned bachelor’s and master’s degrees before completing his doctorate in the field at Stanford in 1967.

While at Stanford he met Phyllis Farrington, who goes by Mimi. They married in 1962. In addition to her and his daughter, he is survived by a son, David; a brother, Richard; and five grandchildren. Another son, Aaron, died in 1966.

Dr. Breiner, who also founded companies that developed early applications for artificial intelligence and cross-platform software, died on Oct. 9 at his home in Portola Valley, Calif., near Palo Alto. He was 82. His death was confirmed by his daughter, Michelle Driskill-Smith, who did not specify the cause.
FROM THE CHAIR

As we come to the end of 2019, on behalf of all the Officers and Directors of the Northern California Chapter of The Explorers Club, I want to extend to all the members of our Chapter our very best wishes for 2020. We thank you for your support, interest and enthusiasm that has made our chapter the exciting activity that it has been this past year.

We look forward to seeing many of you at our Annual Holiday Party on Sunday, December 15, information for which is found on page 1.

Lesley Ewing, FN’93

Sheldon Breiner FE’78 (1936-2019)

Our Chapter and the world has lost an explorer with significant contributions in the development of using magnetics in the search for everything from buried ski victims, huge Olmec monoliths to nuclear bombs lost at sea. Shelly was a close friend since our days at Stanford and the beginnings of using quantum physics to create new ways to measure the Earth’s magnetic field when at one of Silicon Valley’s early eponymous companies, Varian Associates. He went on, receiving his doctorate studying earthquake prediction at Stanford, to become the leading expert in magnetic search, founding Geometrics in 1969, as a successful manufacturer of magnetometers. As a long-time resident of Portola Valley he and his wife Mimi, co-founded the Peninsula Open Space Trust.

Sheldon worked with our late chapter member Edward van der Porten to discover the Manila galleon San Felipe off the coast of Baja, a find which has resulted in a treasure trove of 16th century artifacts. In 2014, he received the prestigious Lowell Thomas Award from The Explorers Club for his Imagination in Exploration.

Sheldon was an effervescent scientist who could capture the enthusiasm of individuals or audiences, young students to oldsters. He went on to found the artificial intelligence venture Syntelligence in 1976 and Quorum Software Systems in 1989. One of his most recent interests was researching the potential of using magnetics to discover and benefit Alzheimer control for potential or existing patients. Throughout his life he was an endearing family man, a devoted alumni to Stanford and an optimist filled with the joy of living. He was also a remarkable photographer who documented his world travels with skill. Nature took him away too soon.

Lee Langan, MED’99
December 2019 Issue
Northern California Chapter
Established 1973

CHAPTER DIRECTORS
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Late arrival phone number for Monthly meeting at the Dolan Law Center
The door will be locked and unattended after 7:15 p.m.
Chapter Phone: 415.236.3459 (for message or locked door entry).

MEETING VIDEOS
Our Chapter now records all of our dinner meetings. Videos of recent speakers’ presentations are available on the Chapter Website.

WANT TO GET INVOLVED IN THE INNER WORKINGS OF THE CHAPTER?
There are lots of tasks that come up during the course of a year: speakers, meetings, field trips, membership, newsletter, etc. A good place to get started is by volunteering to serve on a committee. Talk to any of the Chapter Officers or Directors for more information.

EXPLORATION
A FIRST EXHIBITION OF PHILO-PHOTOGRAPHY
If you haven’t yet seen Alan Nichol’s exhibition of Photos and Philosophy, there’s still time. It’s on the walls of the Tamalpais Residence in Greenbrae until January 20, 2020.

501 Via Casitas, Greenbrae, CA 94904

ANNUAL HOLIDAY PARTY!
DECEMBER 15, 2019
CHECK OUT FRONT PAGE FOR DETAILS.