

Dear Editors:

Regarding the article "What mean means" by Jesper Smidt in the August *TLE*:

While I commend the author for trying to explain these concepts in simple terms, it is unfortunate that the paper contains errors.

First, the definition of the harmonic mean is wrong; it must be multiplied by  $n$ , the number of samples. By following the author's simple advice and replacing all the variables by a constant  $A$ , his definition of harmonic mean gives  $A/n$  when it should be  $A$ .

Second, the statement "the geometric mean actually is the geometric mean of the arithmetic and harmonic means" is only true when considering two samples. With three samples (or more) the statement is not always valid.

Take samples 1, 2, and 3: arithmetic mean = 2; geometric mean =  $6^{1/3}$ ; harmonic mean =  $18/11$ .

The geometric mean of 2 and  $18/11$  is  $6/11^{1/2}$  which is not  $6^{1/3}$ .

—GUILLAUME CAMBOIS

Reply by the author:

In my article "What mean means", the factor  $n$  was most unfortunately missing on the right side(s) of the formula for harmonic mean, which should read  $Mh = n(A_1^{-1} + A_2^{-1} + A_3^{-1})^{-1}$ . I am grateful to Guillaume Cambois for noticing this and for also pointing out that the statement "The geometric mean actually is the geometric mean of the harmonic and arithmetic means" requires the qualifier "for the case of two samples", as it does not apply more generally. I offer my apologies for these errors.

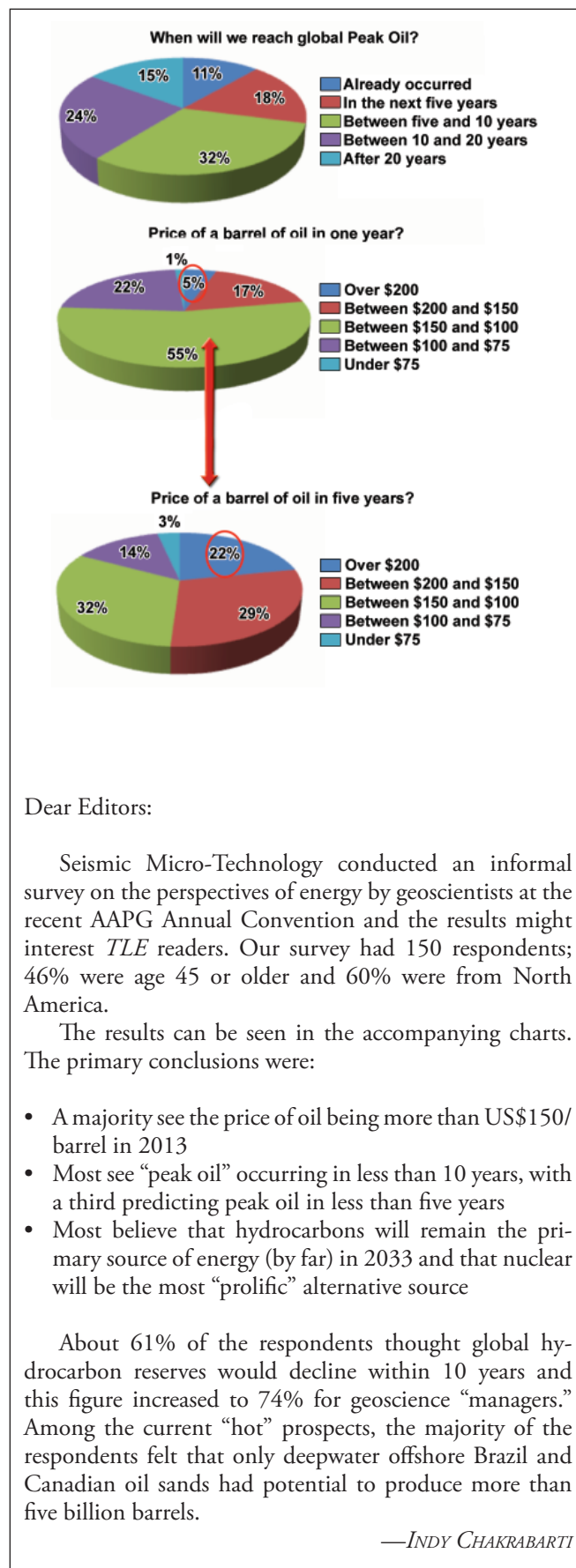
Dear Editors:

For the first time in decades (and perhaps ever), EAGE had contested races for electing half of the members to its Board (the equivalent of SEG's executive committee). As all EAGE members can vote (except students), I regard this as a great step forward toward a truly democratic, inclusive society. In SEG elections, all offices (except editor) on the Executive Committee are determined by contested elections. However, less than half of SEG members have voting rights, so I see a kind of "draw" in the level of democracy regarding how the two organizations select their leadership.

Globalization is another aspect where EAGE is flourishing. It has two international offices (one only for SEG), and the EAGE president next year will be a person born and working outside Europe. SEG has never had a president born and working outside North America so far.

In my opinion EAGE is evolving in the right direction. On the other hand, is SEG aging?

—ALDO VESNAVER



Dear Editors:

Seismic Micro-Technology conducted an informal survey on the perspectives of energy by geoscientists at the recent AAPG Annual Convention and the results might interest *TLE* readers. Our survey had 150 respondents; 46% were age 45 or older and 60% were from North America.

The results can be seen in the accompanying charts. The primary conclusions were:

- A majority see the price of oil being more than US\$150/barrel in 2013
- Most see "peak oil" occurring in less than 10 years, with a third predicting peak oil in less than five years
- Most believe that hydrocarbons will remain the primary source of energy (by far) in 2033 and that nuclear will be the most "prolific" alternative source

About 61% of the respondents thought global hydrocarbon reserves would decline within 10 years and this figure increased to 74% for geoscience "managers." Among the current "hot" prospects, the majority of the respondents felt that only deepwater offshore Brazil and Canadian oil sands had potential to produce more than five billion barrels.

—INDY CHAKRABARTI

*Editor's note: The following letter was forwarded by Susan Henley, administrator of SEG's Youth Education. Her cover letter included this assessment: "I think the following letter is the best testimony to the value of SEG's Youth Education efforts that I have ever received. It is from a high school student who was a three-time recipient of SEG awards at the International Science and Engineering Fair. She received our highest honor in 2007 and subsequently attended the SEG Annual Meeting in San Antonio where she was, as you can see, very impressed by geophysical technology and the expertise and enthusiasm of our members. Hannah received the highest scholarship amount from the SEG Foundation this last spring and has now enrolled in college and is planning to major in geoscience."*

Dear Ms. Henley:

Over the past few days I have been getting ready to move out to Carleton College in Minnesota. As I was going through some important e-mail messages that I've saved, I realized that there was an unopened attachment in one that you had sent me. I opened it, and inside I found an article titled, "Three times a charm."

Reading this article brought back so many great memories. I am grateful for this article, and most appreciative. I was reminded of my journey over the past few years into the wonders and challenges of geology/geophysics. If it were not for people like yourself, I am sure that I would not be where I am today—an excited, anxious Carleton College student diving into the field of geology. Your support over the years, and everything you have done for me, and for many young people in the geosciences, will always be remembered. I am so appreciative of the opportunities you have helped me to experience. You have taught me many things, not only about succeeding as a woman geoscientist, but also as a person. I admire your passion and dedication, and I hope that one day I will be able to encourage young people also.

I am attracted to the geosciences for the challenges, diversity of experiences, and for the applications such research has in our society. I have also chosen to pursue this field because of the people I have gotten to work with. Because of what you have done for me, I have a brighter future, so thank you very much! Enjoy the coming year, and I hope to keep in touch.

—HANNAH LOUISE HILBERT-WOLF

## ERRATUM

**CHRISTIAN BERNSTONE**, of Vattenfall Utveckling AB, Stockholm, Sweden, coauthored the article, "Guidelines for licensing CO<sub>2</sub> storage operation," which appeared in the April 2008 *TLE* Special Section on offshore technology.

Dear Editors:

This fall I will begin my third year as an intern at the SEG Geoscience Center. When I began, I was in the eighth grade and geoscience was one of my many interests. But volunteering at the Geoscience Center has changed that, and that interest has become more intense.

Interning at the Geoscience Center also led to a junior membership with the Tulsa Geological Society, attending meetings at the Tulsa Petroleum Club, and active membership in the Tulsa Rock and Mineral Society. I have been a member of the Tulsa County 4-H for six years and in each of the last two years I have been awarded a gold medal in geology at the county level. This year I also won the statewide Oklahoma 4-H Geology Award and a US\$1000 scholarship. My experience at the Geoscience Center has been a major factor in my winning these awards.

In addition to a lot of encouragement to self-study rocks, minerals, fossils, plate tectonics, earthquakes, seismology, cores, rock porosity and permeability, and natural resource exploration, the SEG Geoscience Center has given me books, Web site links, opportunities to meet and be mentored by real geoscientists, and interact with different learning and teaching styles. My responsibilities have increased over time, and I now can lead tours of elementary school students by myself, a direct benefit of increased self confidence and better speaking skills that I developed because of my experience at the Geoscience Center and working with its wide variety of visual and hands-on activities.

My most memorable experience was the tour this summer for the TechGyrls, 4th and 5th grade girls from disadvantaged homes. The TechGyrls program gives them experiences in science and math they would not otherwise get in school. I realized these girls were looking up to me, and it felt very natural to encourage them to become involved in the geosciences, just as I had been encouraged. The Geoscience Center provides great education and fires up youth of all ages to become interested in a career in the geosciences.

—EMILEE ROBBINS

Dear Editors:

SEG and the Chinese Petroleum Society have recently agreed to co-organize a major professional meeting in Beijing on 24-27 April 2009. I would like to alert potential participants that we are now arranging four half-day pre-convention workshops. The tentative titles are reservoir geophysics, near-surface seismic, subsalt imaging challenges, and geophysical equipment. Further details (e.g., chairmen, presentation style and length) will be announced soon.

—YONGHE SUN

