

January 24, 2007

Amid debate, Professor Barazangi asserts that world oil production could delay its peak 'way ahead into the future'

By Anne Ju

Peak oil production in the Middle East's Arabian/Persian Gulf region could be delayed if oil companies would invest more heavily in drilling and extraction technologies and push to explore new sites.

So says Muawia Barazangi, professor of geological sciences in the College of Engineering's Department of Earth and Atmospheric Sciences. He gave his estimates of the region's undiscovered oil reserves Jan. 17 at Snee Hall in a talk, "Geologic and Strategic Comments on Oil Resources in the Arabian/Persian Gulf Region," hosted by the Institute for the Study of the Continents. His comments were inspired, he said, by a recent energy security conference at Cornell.

Using figures and overhead maps to illustrate what he sees as the "huge" amount of oil that has yet to be uncovered in many Persian Gulf countries, Barazangi said he was taking a more optimistic view of so-called "peak oil" (an area's maximum oil production capability) than have other academic and political analysts. Peak oil is a term that refers to the Hubbert peak theory, which states that oil production tends to follow a bell curve, peaking to a maximum production level, then declining over time.



Muawia Barazangi

Lindsay France/University Photography

Opinions vary widely as to when the world will reach peak oil, Barazangi said. Some think it will be within the next 20 years. But he argued that the "exploration story" in the Middle East is not yet complete. Two-thirds of the world's proven recoverable oil reserves exist in the Persian Gulf, and there are more oil fields to be discovered through offshore and deep-water drilling, as well as more oil to be extracted from existing fields if oil companies would look to new technologies and further exploration, Barazangi said.

"That peak, worldwide, is still way ahead into the future," Barazangi said. "Oil will still be the main source of energy for the next 50 years, guaranteed -- 100 years, quite possibly." He voiced the opinion that Persian Gulf countries are in the habit of overproducing oil and should cut back on production in order to delay peak oil and better use their resources.

The spirit of debate dominated much of the informal session, as several of Barazangi's colleagues and other academics took a less optimistic view of peak oil.

Professor of Earth and Atmospheric Sciences Rick Allmendinger, for example, said that while it may be true the Middle East is not tapping its oil potential fully, it is unlikely that many more "supergiant" oil fields -- the largest category -- will be discovered. "You can have a lot more exploration, but it will result in diminishing returns," he said, commenting that he felt that Barazangi's estimates about peak oil were "charitably optimistic." Allmendinger went on to say that even the American Association of Petroleum Geologists estimates "peak conventional oil" will occur by 2025, and peak natural gas by 2040. Furthermore, he said, the world energy demand is expected to double by 2050, and fossil fuels -- oil, gas, coal, tar sands, etc. -- will be the only viable ways to meet that demand.

Despite these differences, Barazangi stressed the fact that only seven countries worldwide (Saudi Arabia, Iran, Iraq, Kuwait, United Arab Emirates, Venezuela and Russia) contain 80 percent of the world's proven recoverable oil reserves. Five of those are notably in the Persian Gulf region and share Islamic cultures.

He argued that in order to better understand oil issues in the Gulf, the world must understand the Arab and Persian people, and Islam's history and culture. He expressed hope that Cornell would undertake initiatives, such as a Center for Gulf Studies, to strengthen Arab/Islamic studies in which disciplines such as geology, environment, economy, culture and religion could be integrated.