



HERALD PHOTO BY IAN MARTENS

University of Lethbridge researcher Behnam Seyed-Mahmoud, next to a model of a planet with a fluid core, has worked on a theory that a large asteroid struck Mars from its orbit around the planet, wiping out its magnetic field and leaving no possibility for life to exist.

DISCOVERY

UNIVERSITY OF LETHBRIDGE PHYSICIST INVOLVED WITH EXCITING RESEARCH SURROUNDING THE RED PLANET

UNEARTHING THE MYSTERIES OF MARS

By **DAVE MABELL**

Lethbridge Herald

A Lethbridge physicist has released new evidence there's no life on Mars. Now he's hoping the University of Lethbridge will play a role in sending a "mini-satellite" into space to learn more about the red planet.

Meanwhile Benham Seyed-Mahmoud, a U of L faculty member, is awaiting response to articles on those findings just published in two scientific journals. The Discovery Channel is also preparing a report on the results put forward by Seyed-Mahmoud and his research colleagues in Toronto.

"We have received many enquiries," he says. Their work "has been getting a lot of attention."

Adding to the science world's interest, no doubt, is information beamed to earth from the Phoenix Mars Lander which touched down in July. While it's confirmed there is ice below the surface of Mars, the probe has found no signs of life.

One of the reasons for that, according to Seyed-Mahmoud and his counterparts at York University and the University of Toronto, is the planet's lack of a magnetic field. That field, one of the earliest scientific discoveries on earth, helps maintain a life-supporting atmosphere above our planet's surface.

"If there's no magnetic field, the solar wind will roast the surface and burn everything," he explains. "Then it cannot support life" — unless it's deeper in Mars' cratered crust.

What the Canadian physicists are proposing, he says, is that Mars did have a magnetic field at one time. But they say the impact of a giant asteroid, which hit Mars long ago, may have stopped the tide-like flow of liquid at the planet's core and thus short-circuited its magnetic fields.

By studying the impact a magnetic field (or lack of one) has on a planet, he suggests physicists will also learn more about its role in the earth's ecosystem.

Those and many other possibilities are expected to be part of the dialogue that's followed publication of the researchers' findings. An online critique of their thinking can be read at the New Scientist website,

<http://space.newscientist.com/article>

There's also a Discovery Channel description of their findings at

<http://dcs.discovery.com/news/2008/07/24>

while the Journal of Geophysical Research offers the full report (with citations and footnotes) in its recent issue.

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MARS

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Returning his attention to Mars, meanwhile, Seyed-Mahmoud says the Toronto-Lethbridge team's next venture may take them into space. Not the researchers, that is, but a university-built satellite that could be launched in 2011 or '12 to send back more data from the neighbouring planet.

"It would skim very close to the surface," while locking into an orbit and relaying a stream of information.

"That concept was approved (for funding) by the Canadian Space Agency," he says.

The four-kg device would be built at an existing facility at the University of Toronto, and its miniature size should mean it could be easily launched.

"Now we're waiting for the agency's final decision."

If the satellite is approved, Seyed-Mahmoud says faculty members and students at the U of L would likely be involved in receiving and translating the incoming data into useable information.
