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## Math prof advises China on science policy

by Bev Betkowski

March 24, 2004 – A University of Alberta scientist is using his knowledge to help his birthplace of rural China find a footing on the world stage of research and technology.

Dr. Sam Shen, a professor of mathematical and statistical sciences at the U of A, has been asked to serve on a 10-member advisory committee to the Chinese Ministry of Science and Technology (MOST). The 10 members are Chinese academics from universities including MIT, Michigan and Berkeley. Shen is the only member from Canada. The group advises high-ranking officials in the Chinese government on science and technology policies.



Dr. Sam Shen (left) with Chinese Premier Wen Jiabo.

Shen, who in 1994 developed what is now a widely used formula to help measure errors in the assessment of global warming, grew up in China's impoverished countryside. He considers himself fortunate to have been able to finish his 10 years of basic schooling, the maximum allowed at the time.

"I was one of the luckiest ones. My parents were generous enough to let me finish school. My father valued education even though he only had two years of school. My mother never went to school and cannot read a word," he said.

Shen's older brother and most of his playmates were only granted a scant Grade 3 education before being put to work on their families' farms, out of necessity. To earn money for his school supplies, Shen carried firewood to a town 10 km from his home.

Convincing the Chinese government to educate its rural poor is one of Shen's major goals. Politicians are more interested in developing China's cities to attract foreign investment and growth, but the countryside can't be ignored, Shen said.

"They say, eventually the rich people will help the poor people. My argument to them is to look at the statistics." In studying his own village, Shen said the contrast was obvious. "I could see that extremely poor people never finished elementary school (but) people who have finished high school are not poor."

About 400 million people, one-third of the Chinese population, live in rural poverty.

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The committee Shen serves is helping develop a 20-year strategic plan to bring his home country up to par on a global standard.

In his advisory role, Shen has presented five goals to MOST, including sinking \$10 billion U.S. a year for five years into infrastructure and schools for rural China to stimulate the economy; to make rural education a priority; to establish a patent and grant service program for scientists; and to establish an immigration program that would encourage foreign scientists and administrators to bring their talents to China.

Shen disagrees with those who view China, traditionally a closed country, as a potential threat. "We have so many poor people in the countryside, we need to make the government more open, and only the educated people can do it. Poor China will make the government closed, and that will be more dangerous to the world. China is many years behind, it needs to have educated people, and these people will help the government to be more open."

China's enormity has economic advantages for the rest of the globe, Shen added. "Prosperous China will be helpful to the world, because it has one-fifth of the world population. A moderately rich China will provide a bigger market to the world."

With such problems as epidemics and terrorism shrinking the global village, collaboration amongst all countries is "more important than ever before," Shen believes.

The U of A will also benefit from his collaboration with MOST, said Shen. "It's very important for the U of A to attract the top talents from China. Chinese people only know Toronto, Ottawa, Vancouver. They don't know Edmonton--we need many people to promote the U of A in China."

Shen is asking MOST to invest money in developing joint research programs with the U of A.

"For the U of A and Dr. Shen, the selection represents a tremendous boost in reputation," said Dr. Rolf Mirus, a professor at the U of A School of Business, who has spent years helping develop a business school at an engineering university in China. "His appointment is known all over China, with the result that Chinese students will look to Canada and the U of A for graduate training."

The "international nature" of the post also links Shen and the U of A to top American and European academics as well as those in China, Mirus added.

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<http://www.ualberta.ca/~shen/>

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The Chinese Ministry of Science and Technology website:  
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