

Long-distance call

Chelsea Shover

Since proving the Calabi conjecture - which is concerned with measuring volume - in 1976, Dr Yau Shing-tung has won several awards for solving long-standing geometry problems. In 1982, he won a Fields Medal, the mathematics equivalent of a Nobel Prize. Now occupying the chair of Harvard University's mathematics department, in the United States, Yau still finds ways to bring his expertise home.

Born in Guangdong province, Yau's family moved to Hong Kong when he was young - first to Yuen Long then to Sha Tin. In 1993, Yau established the Institute of Mathematical Sciences at his alma mater, the Chinese University of Hong Kong, where he was once a professor. 'It's tough to help all young mathematicians,' Yau says. 'I chose [to become involved with an institution] I was familiar with.'

Yau grew up near farmlands, spending days outdoors, climbing the hills and mountains of the New Territories.

'Most of the landscape has [been] destroyed by development,' he says, noting that despite the loss of nature, there have been improvements. 'In the old days, a lot of families got killed by typhoons. Now they have apartments.'

In lectures he gives in Hong Kong and the mainland, Yau talks about Chinese literature (he writes poetry in Putonghua) as well as mathematics. He says people often think maths is there just to prove things are true but he also sees a beauty in the subject, the same 'elegant expressions that touch your heart' that he finds in poetry.

Furthermore, Yau, who is also the director of Zhejiang University's Centre of Mathematical Sciences, sees maths as a potential avenue for East-West understanding.

'We are interested in the same thing,' he says. 'Still, there are different styles for people looking at the same subject.'

The main differences he sees between Harvard students and those he has worked with in the mainland are in motivation and preparation. Mainland schools stop short of teaching calculus whereas American undergraduates arrive at Harvard well-versed in the subject and eager to start research. China's consuming focus on examinations can also suppress academic curiosity.

'Once [students] have finished high school, they feel they have done their duty, they have lost interest,' he says.

The academic climate in Hong Kong lies somewhere between that of the United States and the mainland, says Yau.

'Hong Kong has produced a lot of good scientists in the past,' he says, but, at least until recently, 'their stock market has been too good.'

'Many bright kids seem to be more interested in how to make money than in academics.'
