

SPACE JAPAN CLUB (15)

Meet people who sweat for developing satellite communications



Dr. Zhili Sun Talks,

Leader in Satellite Networking,

UNIVERSITY OF SURREY

“Due to advance in space technology, small satellite may also have large capacity. It is possible to explore the advantages of constellations of many satellites in earth observation, communications and global position systems.”

Interviewer Yutaka Kazekami, Senior Editor

Dr. Zhili Sun is a reader in the Centre for Communication Systems Research (CCSR), University of Surrey, UK. He received his BSc in Mathematics from Nanjing University, China, in 1982 and his MPhil and PhD from the Department of Computing, Lancaster University, UK. He was a Postdoctoral Researcher, from 1989 to 1993, in the Telecommunications Group, Queen Mary and Westfield College, University of London.

He has been a principal investigator and technical co-ordinator in many R&D projects including the European projects ESPRIT BISANTE project on evaluation of broadband traffic over satellite using simulation approach, the European TEN-Telecom VIP-TEN project on Quality of Service (QoS) of IP telephony over satellite, the European 5th Framework Programme GEOCAST project on IP Multicast over satellites and ICEBERGS project on IP based Multimedia Conference over Satellite. He is the leader of the satellite networking group consisting of a number of PhD students and research fellows. He also teaches MSc, undergraduate and industrial courses on satellite networking, computer and data networks, IP networking and Internet traffic engineering.

Thank you very much for taking your valuable time for our interview. First of all, for readers' understanding of the Space Japan Review in

Japan, could you introduce us your organization and your responsibility within the organization?

Dr. Sun: I'm a READER with the Centre for Communication Systems Research (CCSR), University of Surrey, teaching satellite networking, Internet and data networking, computer and data networks. I'm also a principle investigator leading a research team working on EU projects in the areas of VoIP over satellite, IP multicast over satellite and satellite networking within the European 5th and 6th Framework programme, and published over 80 papers in international journals and conferences in the subject area. The CCSR is the largest

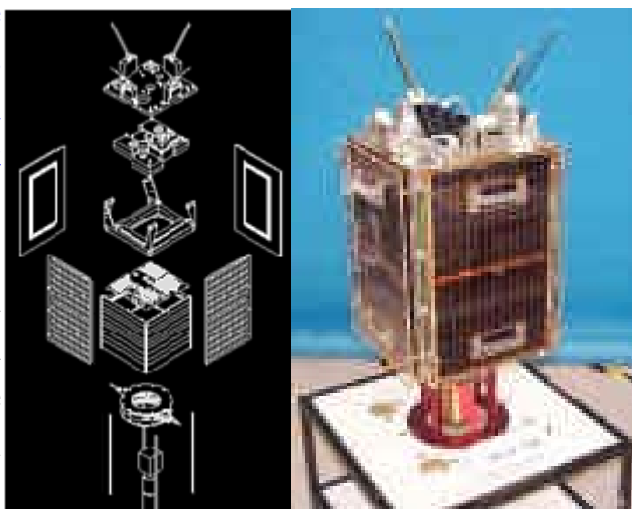


Space Centre of Surrey University

postgraduate research center specializing in satellite and mobile communications and networking, multimedia and network research. In addition to the CCSR, University of Surrey also has a Space Centre and owns a technology transfer company "Surrey Satellite Technology Ltd" manufacturing min- and micro-satellites.

Are you seeing the kind of the demand for small satellites that people expected would materialize given the recent growth in the space business?

Dr. Sun: Due to advance in space technology, small satellite may also have large capacity. The cost of each



Microsatellite Module

satellite can also be reduced. Therefore, it is possible to

explore the advantages of constellations of many satellites in earth observation, communications and global position systems (GPS). These can be seen as the recent area for growth in the space business.

What is your perspective on where the small satellite business is headed in the 21st century?

Dr. Sun: Satellite DVB, IP multicasting, Data and multimedia distributions in large scale, global network infrastructure, emergency services and GPS. Convergence of these will be the trend in 21st Century.

What do you think the new revolution in small satellite area will be driven by? What kind of technologies will be the key for the future small satellite area?

Dr. Sun: New services and applications will drive the small satellite area. Self-configured network of small satellites with high capacity and low cost will be the key technology for small satellites.

Finally, could you tell us some comments on the development of small satellite related technologies in Japan and the expected relationship between your country and Japanese organizations?

Dr. Sun: Space business is a global business.

In Europe, system level design and applications are the driving force of the satellite research and development. Japan has well developed electronic industries in terminal and satellite payload technology development.

In many areas, they complementary each other and will have great potential to work together in space industrial for the benefit of space business.

Thank you very much for today's interview.