

**Report of the IUTAM Summer School on Nonlinear
Mechanics of Heterogeneous Materials
Beijing, China, September 2-5, 2002**

a) Organization

The IUTAM summer school on “Nonlinear Mechanics of Heterogeneous Materials” was successfully held in the main campus of the Peking University in Beijing during September 2 to September 5, 2002. The summer school was hosted by the Department of Mechanics and Engineering Science of Peking University.

b) Lecturers

The summer school invited the following principal lecturers:
Professor Zvi Hashin, Tel Aviv University, Israel
Professor Hideyuki Horii, The University of Tokyo, Japan
Professor Yonggang Huang, University of Illinois at Urbana-Champaign, USA
Professor Zhuping Huang, Peking University, China
Professor Bhushan L. Karihaloo, Cardiff University, UK
Professor Pedro Ponte Castaneda, University of Pennsylvania, USA
Professor Tzu-Chiang Wang, Chinese Academy of Sciences, China

c) Summer School topics

The topics covered by the main lecturers include:

- Thermoelastic properties of composites and cracked bodies (Z. Hashin)
- Micromechanics-based continuum theory for solution of engineering problems (H. Horii)
- The mesoscale size-dependent material behavior and the theory of mechanism-based strain gradient plasticity (Y. Huang)
- Mechanics of porous materials (Z. Huang)
- Mechanics of fibre-reinforced composites (B. L. Karihaloo)
- Effective behavior and potentials of nonlinear composite materials (P. Ponte Castaneda)

- Fundamentals of interface mechanics (T. Wang)

d) Participants

Over 60 participants from 15 Chinese universities and research institutions attended the summer school.

e) Scientific Output

The participants highly appreciated the summer school that gave them an excellent opportunity to learn the achievements in mechanics of a wide variety of heterogeneous materials. The excellent lectures and discussions promoted the academic exchange among the scholars and the students, and were helpful for the applications to the various engineering problems of theoretical and computational mechanics.

f) Publications of Proceedings of the Symposium

No formal proceedings were published, but the lecture notes of all the lecturers were distributed to the audience during the school.

g) Financial support

The National Natural Science Foundation of China provided 15,000 Yuan (about 2,000 US dollars). Peking University provided 10,000 Yuan (about 1,200 US dollars)

The total cost of the summer school is about 70,000 Yuan (25,000 Yuan local expenses + 45,000 Yuan airfares of the invited overseas lecturers), which is about 9,000 US dollars. A financial aid of \$5,000 from the IUTAM is expected to cover part of the cost.

Report composed by Jing Fang, Beijing, China