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2013, he won the second prize of National Natural Science as the first complete person. In addition, he won 2 first prizes in Natural Science of the Ministry of Education both as the first person to be completed. In academic terms, he was the first, second, fourth, fifth, seventh, eighth International Biomedical Conference chairman, editor in several journals, expert of Military Commission of Science and Technology Committee, the vice chairman of China Circuit and System Society, the chairman of Biometrics and Bioprocessing Professional Committee of China, and the member of the Ministry of Education Cyberspace Security Advisory Committee. His main research areas are graph theory and combinatorial optimization, novel computing models, biological computing, information security, etc.

## Talk: Computer: Past-Present-Future

**Abstract:** This report reviews a brief history of computing tools and gives a new definition of computer from the perspective of decomposability; points out the reasons why electronic computers cannot effectively deal with the combinatorial explosion problems, which leads to the current computer science in the "Warring States Era"; and gives the basic principles and research progress of DNA computing, in particular, inspired by DNA computing, the reporter discovered a kind of fully parallel mathematical computing model from the bottom—the Probe Machine, and gave two types of probe computers based on biological materials and electronic materials. Finally, the report points out the possible development trend of computer in the future is: the mathematical computing model of the computer is a series/parallel structure type, and its realization materials are mainly protein materials.