Foreword

The International Conference on Clustering Aspects in Nuclear and Subnuclear Systems held in Kyoto on July 25-29, 1988 is the fifth conference on the nuclear clustering aspects and continues the tradition of Bochum 1969, Maryland 1975, Winnipeg 1978 and Daresbury 1984. It was held under the joint sponsorship of the International Union of Pure and Applied Physics, the Science Council of Japan, the Physical Society of Japan and the Institute of Physical and Chemical Research, and it was supported by the Research Center for Nuclear Physics of Osaka University, the Institute for Nuclear Study of the University of Tokyo and the National Laboratory for High Energy Physics.

Recently several international conferences were successively held in Japan. Nevertheless many participants totaling 243 persons attended the Conference from 26 countries. The Conference comprised 79 talks given in 15 plenary and 7 parallel sessions, in addition to one poster session in which 82 papers were displayed among 211 contributed papers.

At the beginning of the study of the nuclear clustering aspects many people thought that the aspect appeared only in a few phenomena of the limited nuclei. Now we can find out them widely in the highly excited states of light, medium and heavy nuclei. Recently the concept of the clustering aspect has had a new denotation in the subnuclear system. Furthermore we have an interesting problem of micromolecules. This means that the idea of clustering has a possibility to extend to the field of the molecule and I would say that the idea of clustering is more general beyond our expectation. The present Conference has been organized so as to be able to respond to the present physical trend.

I think that we should give deep consideration to the ground for the situation like this. Now everything must be well grounded by a principle or fact when it is general. What is the principle or the fact in this case? It is reasonable that we take up two kinds of correlations, that is, internally strong and externally weak, corresponding to the stability of the cluster itself and the weak correlation between two clusters. We can find these two correlations in any many-particle system which has cluster structure and inversely the cluster structure is realized in any particle system under the above two kinds of correlation. It is important that both correlations are equally generated by the general principle and the usual fact, that is, by the Pauli Principle and the short range properties of interactions between composite particles. The clustering aspects must therefore be always found out in many kinds of physical systems. Especially we can see an interesting situation in nuclei, because a nucleus is not a simple matter but a multi-layer substance of a nucleon and a quark. The idea "clustering" should be taken up as a comprehensive concept for the multi-layer substance, nuclei.

The chairman of the Conference thanks every chairperson, every speaker and all participants for their efforts to make each session fruitful, especially the discussion leaders of the discussion sessions for their earnest and nice organization. A conference like this cannot be held without much aid from outside. On behalf of the Organizing Committee I would like to thank all of the Sponsorship and the financial support of the Japanese Economic World. I also would like to acknowledge the friendly cooperation of the members of the Organizing Committee during the preparatory period of the Conference, and the much efforts of all members of the Program Committee in making the nice program of the Conference. Finally I would

like to express my thanks for the warm help of the staffs of the host institutes, the Research Institute for Fundamental Physics and the Department of Physics, of Kyoto University.

HAJIME TANAKA
Chairman of the Organizing Committee