Editor's Introduction to the Special Section on Software Engineering in Japan

HIROSHI G. OKUNO*†

This issue of the *Journal of Information Processing* includes in five invited papers and one regular contribution on Software Engineering (SE) in Japan. Major research and development activities up to 1988 were reported in *Japanese Perspectives in Software Engineering* [1], published in 1989. Five invited papers overview research and development results related to Software Engineering of these past few years, and one research contribution related to SE proposes a new research direction.

The first paper "Current Status of Software Engineering in Japan", written by Yutaka Ohno, surveys the recent research programs in SE and also gives a future view of Software Engineering activities. The second paper "Improving Software Reductivity with Upper CASE Tools", written by Kiyoshige Agusa, describes the current directions of the upstream CASE tools to improve human communications within a group of people. The third paper "Software Testing", written by Hiroshi Kawata, Hiroshi Yoshida, Muneaki Nagai, and Hiroshi Saijo, surveys the current status of software testing and describes their methodologies and techniques for it. The fourth paper "Softwere Quality/Reliability Measurement and Assessment: Software Reliability Growth Modols and Data Analysis", written by Shigeru Yamada, discusses the quantitative measurement and assessment of software reliability and presents a software reliability growth model. The fifth paper "SIGMA (Software Industrialized Generator and Maintenance Aids) Project", written by Noboru Akima, documents the history and results of the Σ-Project which was a Japanese national project to design and develop a common platform for software development realizing better productivity. The last paper "Software Design Process as Category Morphism", written by Yoshihiro Matsumoto, presents a software design process model using a catenated set of partial processes and describes a category morphism for transformation of conceptual schemes. This is a research contribution, because Dr. Matsumoto proposed us to submit an original paper at our request of a survey paper.

We must admit that some references are written in Japanese. We would encourage interested readers to see English abstracts of technical papers in the *Transactions of Information Processing Society of Japan* and those of technical reports of SIG-SE, both of which appear in the *Journal of Information Processing*.

We wish to thank the authors for their contributions, the referees and the Editorial Board of the *Journal of Information Processing*, in particular, Kazuo Matsumura of Systems & Software Engineering Laboratory, Toshiba Corporation, for their cooperation. We are also indebted to the late Dr. Shuetsu Hanada for his advice and assistance in publishing this special section. We would be pleased if this special section succeeds in providing a better perspective on research and engineering activities in Software Engineering in Japan.

References

1. MATSUMOTO, YOSHIHIRO and OHNO, YUTAKA (eds.): *Japanese Perspectives in Software Engineering*, Addison-Wesley Publishing Company, 1989.

*Nippon Telegraph and Telephone Corporation, Basic Research Laboratories.

†This special section was originally planned by the late Dr. Shuetsu Hanada.