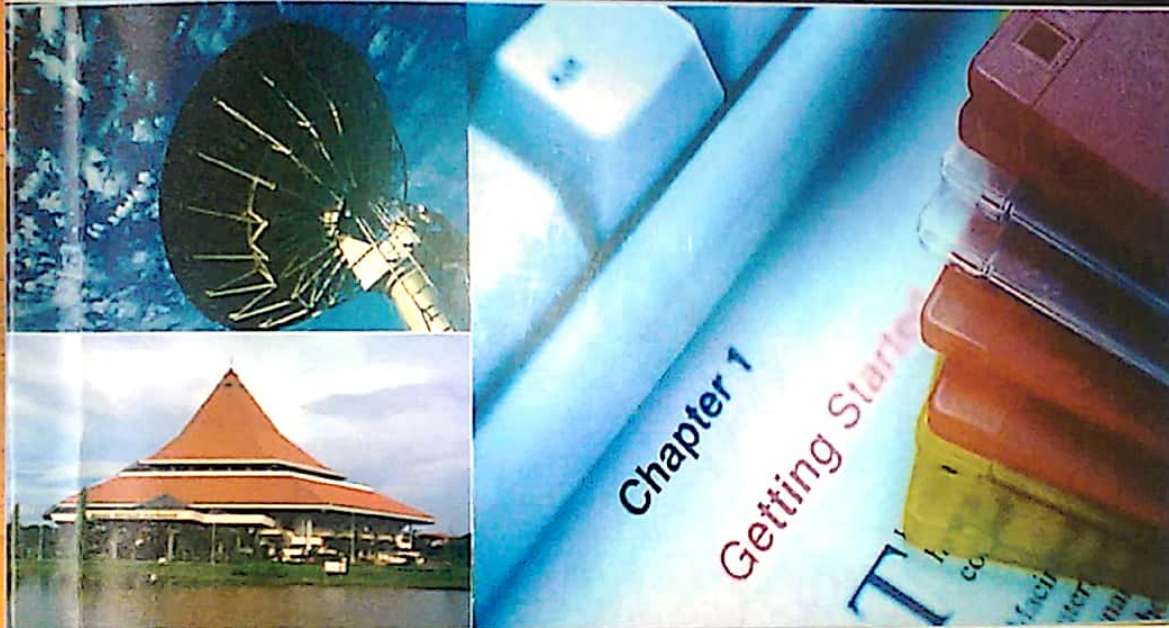


**The 5th
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on Information & Communication
Technology and Systems (ICTS) 2009**

August 4th 2009, Surabaya - Indonesia



SECTION 1

**DEPARTMENT OF INFORMATICS
FACULTY OF INFORMATION TECHNOLOGY
INSTITUT TEKNOLOGI SEPULUH NOPEMBER**



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Proceedings

Proceeding of

the 5th International Conference on Information & Communication Technology and Systems

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PREFACE

This proceeding contains sorted papers from the International Conference on Information & Communication Technology and Systems (ICTS) 2009. ICTS 2009 is the fifth annual international event organized by Informatics Department, Faculty of Information Technology, ITS Surabaya Indonesia.

The 5th ICTS 2009 proceeding is divided into three sections based on a research interest. Section 1 contains all about Computer & Communication Networks, Computer Education, Society and Management. Section 2 covers Software Engineering, while Section 3 includes topics on Intelligent and Visual Computing.

This event is a forum for computer science, information and communication technology community for discussing and exchanging the information and knowledge in their areas of interest. It aims to promote activities in research, development and application on computer science, information and communication technology.

We would like to express our gratitude to all of keynote speakers: Professor Abdul Hanan Abdullah and Professor Sampei Mitsuji.

We would like to express our gratitude to all technical committee members who have given their efforts to support this conference.

We also would like to express our sincere gratitude to our sponsors: Faculty of Engineering Kumamoto University Japan, JICA PREDICT - ITS, IEEE Indonesia Section, HMTC and Computer Society for great support and contribution to this event.

We would like to thank you to all the authors and the participants of ICTS 2009. This year the authors and the participants come from England, Germany, Indonesia, Iran, Malaysia, New Zealand, Oman, Poland, Switzerland and Taiwan. We hope next year you will participate again in the ICTS 2010.

Finally, we also would like to thank to all parties for the success of ICTS 2009.

Editorial Team

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