

FIRE SAFETY SCIENCE— PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM

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FIRE SAFETY SCIENCE—PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM

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Preface

The Second International Symposium on Fire Safety Science was held at the Shobokaikan in Tokyo, Japan from June 13 to 17, 1988. We wish to express our sincere gratitude to our host, the Japan Association for Fire Science and Engineering (JAFSE). There were more than 300 registrants from 23 countries attending the two parallel technical sessions in which over 90 papers were presented.

The number of attendees at this symposium exceeded that at the first symposium. They came from Australia, Brazil, Canada, Denmark, Federal Republic of Germany, Finland, France, Holland, India, Italy, Japan, New Zealand, Northern Ireland, Norway, People's Republic of China, Republic of Korea, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and United States of America. In addition to the technical papers, there were several panel discussions and video presentation that were well attended. The symposium was preceded by the Tenth Meeting of the UJNR Panel on Fire Research and Safety in Tsukuba, Japan, and followed by the Eighteenth CIB W14 Meeting in Kyoto, Japan and the CIB W14 Specialists Meeting in Chengdu, China.

Prof. K. Kawagoe received the 1988 Howard W. Emmons Invited Lecture-ship Award and delivered the plenary lecture entitled "Real Fire and Fire Modeling." The Publications Committee received permission from the authors of the two previously unpublished Emmons Invited Lectures, Dr. J. G. Quintiere (1986) and Dr. J. N. de Ris (1984), to include their papers in this volume. Since all future Howard W. Emmons Invited Lectures will be symposium plenary lectures, the complete set will be contained in the Proceedings of the International Symposia on Fire Safety Science.

The International Association for Fire Safety Science (IAFSS) Medal of Excellence for the best paper at the First Symposium held in 1985 at the National Bureau of Standards in Gaithersburg, Maryland, USA was awarded to Dr. Y. Hasemi of the Building Research Institute, Tsukuba, Japan for his paper entitled "Thermal Modeling of Upward Wall Flame Spread." Invited papers were presented by Dr. H. R. Baum, Prof. S. Horiuchi, Prof. K. Kordina (delivered by Prof. U. Schneider), Prof. P. J. Pagni, and Prof. T. Wakamatsu.

We are particularly grateful to Mr. G. Cox, Dr. R. Friedman and Prof. T. Hirano, who coordinated the reviews of the manuscripts from Europe, America and Asia, respectively. Rigorous peer review resulted in 96 accepted papers, about two-thirds of the papers submitted. Papers were accepted on the basis of their quality and original contributions to the science of fire safety and its applications. The six accepted papers that were not presented are not included in these proceedings. The chapters that follow are arranged in the order of the ten technical sessions at the symposium.

We wish to thank the following organizations for their generous contributions which will also help ensure the success of future symposia:

The Marine and Fire Insurance Association of Japan
SECOM Science and Technology Foundation
Petroleum Association of Japan
Building Contractors Society, Japan
The Kajima Foundation
The Nohmi Bosai Kogyo Company Ltd.
Tokyo Gas Company Ltd.
The Tokyo Electric Power Company, Inc.
Fire Equipment Association of Japan
The Federation of Electric Power Companies
ALC Association
Japan Chemical Industry Association
Japan Petrochemical Industry Association
The Kozai Club
Gypsum Board Association of Japan
The Japan Building Equipment Safety Center Foundation
The Japan Building Disaster Prevention Association
Slate Association

The Arrangements Committee is to be congratulated for its efficient organization, which led to an enjoyable and technically valuable symposium. The efforts of Prof. S. Horiuchi, Chairman of JAFSE, Prof. T. Hirano, of the University of Tokyo, and Prof. K. Kawagoe of the Science University of Tokyo are particularly appreciated. Mr. H. Koseki, Dr. I. Nakaya, Dr. C. Ogiso, Dr. J. G. Quintie, Dr. O. Sugawa, Prof. Y. Uehara, and many members of the excellent staffs at the Fire Research Institute, the University of Tokyo, the Science University of Tokyo, the Toho University, and the Agency of Industrial Science and Technology provided invaluable support. We also want to express our gratitude to the Accompanying Guests Committee for arranging several tours, including a Kabuki performance, a trip to Nikko and a visit to a Japanese home, which were most thoughtfully selected. Dr. C. Ogiso kindly prepared a book of abstracts, in both English and Japanese, for each attendee. I appreciate the assistance of Prof. J. Pagni and Ms. C. E. Grant of the University of California at Berkeley and Dr. Hasemi of the Building Research Institute.

The Third Symposium will be hosted by the Unit of Fire Safety and Engineering of the University of Edinburgh, Scotland, July 7–12, 1991. The following chairs of the committees for the Third Symposium have been appointed: Arrangements, Dr. D. D. Drysdale; Publications, Mr. G. Cox; and Program, Dr. P. Thomas.

Tokyo, Japan
September, 1988

Takao Wakamatsu, Chairman
Publications Committee

International Association for Fire Safety Science

The International Association for Fire Safety Science (IAFSS) was established in 1985 at the First International Symposium on Fire Safety Science held at the National Bureau of Standards in Gaithersburg, Maryland, USA. The Association was founded with the primary objective of encouraging research into the science of preventing and mitigating the adverse effects of fires and of providing a forum for presenting the results of such research. Since its inaugural meeting in 1985, the Association has grown to over 500 members under the guidance of the IAFSS Committee whose members are: Dr. P. H. Thomas, (Chair), Mr. G. Cox, Dr. M. R. Curtat, Prof. R. W. Fitzgerald, Dr. R. Friedman, Dr. T. Z. Harmathy, Prof. T. Hirano, Prof. S. Horiuchi, Prof. K. Kawagoe, Dr. M. Kersken-Bradley, Mr. H. E. Nelson, Prof. P. J. Pagni, Prof. O. Pettersson, Dr. J. G. Quintiere, Prof. D. J. Rasbash, Dr. P. G. Seeger, Dr. K. S. Pedersen, Dr. J. E. Snell, Prof. Y. Uehara, Dr. J. Unoki, Prof. T. Wakamatsu, Prof. R. B. Williamson, and Dr. W. D. Woolley. The Association Officers, who were elected at the First Symposium, are Dr. P. H. Thomas (Chair), Dr. R. Friedman (Vice-Chair), Prof. K. Kawagoe (Vice-Chair), Prof. O. Pettersson (Vice-Chair), Prof. T. Hirano (Secretary), and Dr. J. G. Quintiere (Treasurer). The IAFSS Committee and the Association Officers will serve until the elections in 1991. The formal process of legally establishing the Association as a charitable organization in England and Wales is nearing completion.

At the Second International Symposium, the business meeting of the Association was convened on Wednesday, June 15 at 3:30 p.m. The meeting was chaired by Dr. P. H. Thomas and approximately 100 members were in attendance. After explaining three amendments to the rules, the rules as amended were approved unanimously. Dr. Thomas announced a sub-committee, consisting of Mr. H. E. Nelson (chair), Prof. A. C. Fernandez-Pello, Dr. T. Jin, and Dr. U. Wickström, to organize the nomination and election of new IAFSS Committee members in 1991. Mr. G. Cox, Dr. K. S. Pedersen, Prof. T. Wakamatsu, and Dr. W. D. Woolley were invited to fill four of the five currently available committee positions. The names of Dr. D. D. Drysdale and Prof. F. W. Mowrer were put forth as financial auditors, and those of Dr. O. Sugawa and Dr. A. Sekizawa as election scrutineers, as required by the Rules. They were accepted by the attendees. It was also resolved that the Association would not publish a journal at this time; however, a newsletter describing developments in the Association and its activities will be initiated. Dr. R. Friedman has graciously agreed to serve as editor. The first newsletter describing this symposium, the Association Rules, and other information from the members will be circulated shortly.

Information about joining the Association can be obtained from the Secretary, Prof. T. Hirano, Department of Reaction Chemistry, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.

*Borehamwood, U.K.
September, 1988*

*Philip Thomas, Chairman
International Association for Fire Safety Science*

Awards

Under the auspices of the International Association for Fire Safety Science (IAFSS), two awards are presented at each international symposium: the Howard W. Emmons Lectureship and the Medal of Excellence.

HOWARD W. EMMONS LECTURESHIP

This award was established at The Howard Emmons' Fire Research Conference "Fire Science for Fire Safety" in 1983. To date, there have been four recipients: Dr. J. N. de Ris (1984), Prof. E. E. Zukoski (1985), Dr. J. G. Quintie (1986), and Prof. K. Kawagoe (1988). The qualifications required to receive the award are:

The ideal lecturer will emulate the outstanding research qualities and contributions to fire science of the person in whose honor the award is named. In particular, the committee will seek those of high repute who have combined technical excellence with practical and humanitarian application in the selection and execution of their research topics. A prime criterion is that the recipient's contributions be widely recognized for their innovation and significance. No restriction is made regarding the area of expertise within fire research.

The IAFSS Awards Committee will select the lecturer and inform him or her at least a year prior to the symposium, that he or she is to present the plenary lecture. A written version of the lecture will be provided in a timely fashion for inclusion in the proceedings. In addition to the plenary lectureship, the award consists of a bronze plaque, travel expenses, and an honorarium.

MEDAL OF EXCELLENCE

This award is presented to the author(s) of the best paper at each International Symposium on Fire Safety Science. The award for the First Symposium was presented to Dr. Y. Hasemi. The five criteria used to identify the best paper are

Pertinence Is the paper pertinent to the aims of the Association? Does it epitomize "a forum dedicated to all aspects of fire research and their application to solving problems presented by destructive fire"?

Utility Are the results useful? Will this work save lives? Will it enhance fire service efforts? Will it lead to new areas of research? Will it be incorporated into standards or codes?

Significance Does it add significantly to our knowledge? Are there new results? Are they both accurate and important?

Rationality Does the paper link experiment and theory? Have the results been both verified and explained? Does the work display wisdom, logic and intellectual insight?

Eloquence Is the paper well written? Is there a worthwhile story which is described in a concise yet readable manner?

The award consists of a silver medal and an award certificate for each author. The medal is cast from the reverse of a silver tetradrachma minted in Athens in 400 B.C., at the time of Socrates and Plato. The central images are an olive sprig, symbolizing peace, and an owl, symbolizing wisdom. The international synergism of our Association is reflected in this Athenian design, suspended from a ribbon of Gosen white silk, presented in a medal box from the San Francisco mint.

At this symposium a Thursday evening banquet was held at which Prof. H. W. Emmons presented a plaque honoring all Howard W. Emmons Invited Lecturers to the International Association for Fire Safety Science. Dr. P. H. Thomas presented the 1988 Lectureship plaque to Prof. K. Kawagoe, and Prof. P. J. Pagni presented the Medal of Excellence to Dr. Y. Hasemi.

The IAFSS Awards Committee would appreciate receiving nominations from Association members at the Mechanical Engineering Department, University of California, Berkeley, CA 94720, U.S.A.

Berkeley, California
September, 1988

Patrick J. Pagni, Chairman
Awards Committee

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Dr. M. Kersken-Bradley

Dr. J. G. Quintiere

Prof. S. Sugahara

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Dr. P. G. Seeger

DETECTION (I)

Dr. T. Jin

Prof. R. W. Fitzgerald

SUPPRESSION (I AND II)

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Prof. U. Schneider

SPECIALIZED FIRE PROBLEMS (I)

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Prof. T. Terai

TRANSLATION OF RESEARCH INTO PRACTICE (I, II, AND III)

Dr. W. Becker

Mr. G. Cox

Dr. Y. Mimura

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