Center for Fire Science and Technology, RIST, TUS Member
(Research Center for Fire Safety Science as a Joint Usage / Research Center)

Director
A. Sekizawa R. Inst. of Sci. and Tech. Center for Fire Sci. & Tech. Professor (Part time)
K. Matsuyma G. Sch. of Sci. and Tech. Dept. of Global Fire Sci. & Tech. Professor
M. Mizuno G. Sch. of Sci. and Tech. Dept. of Global Fire Sci. & Tech. Associate Professor
H. Kinugasa F. of Science and Technology Dept. of Architecture Professor
Y. Ohmiya F. of Science and Technology Dept. of Architecture Professor
M. Kanematsu F. of Science and Technology Dept. of Architecture Professor
M. Kohno F. of Engineering Division Dept. of Architecture Professor
A. Shono F. of Engineering Division Dept. of Applied Chemistry Professor
T. Kurabuchi F. of Engineering Division Dept. of Architecture Professor
T. Akitsu F. of Science Division II Dept. of Chemistry Professor
M. Morita F. of Science Division I Dept. of Applied Math. Professor (Part time)
S. Yanagita F. of Science and Technology Liberal Arts Lecturer
S. Ichimura F. of Science and Technology Liberal Arts Professor
M. Kanematsu F. of Science and Technology Dept. of Architecture Professor

■ Setting up purpose & Research theme (Present State and Visions)

■ Setting up purpose
Becoming a global foothold on fire safety science

■ Research Theme
Red: Reporting this time, Blue: already reported

■ Fire Engineering of Urban and Architecture
- Field of Human Science & Social Science
  • Evacuation of high-rise buildings
  • Fire safety engineering based on exercise physiology
  • Explosive fire accident on industry base
- Field of Material Science
  • Evaluation of flame spread using façade test
  • Test Method for Toxicity Evaluation of Materials using FT-IR Gas Analyzer
  • Fire resistance of post installed chemical anchor
  • Analysis of Concrete Behavior at High Temp. using Neutron
  • Combustions of bedclothes(futon • Bed Mattress)
  • New extinguish material

■ Field of Advanced Measuring Technique
  • Application of terahertz wave to Fire Engineering Field
  • Technology for disaster by ICT

■ Field of Research & Statistics and Risk Analysis
  • Comparison of Fire Protection Standards in East Asia

■ Seeking Potential Fire Risks (New field & Seeds)
- New Energy and Industrial Technology
  • Fire Safety of energy-related Facilities and Devices such as solar power generation
- Transportation & Nuclear Power Generation
  • Fire Risks of Trains & Airplanes of high-speed transportation
  • Fire Protection for Specified Facilities such as Nuclear Site

■ Our Visions of the Future

Outcomes of researches of this Center are often conducive to regulations in several industrial fields.
By the Joint Usage / Research Center, we make researches in cooperation with government, industry and academia.
Government: progress toward regulations, Industry: promoting new techniques. → Reflecting in JIS, ISO etc.

Number of adoption and implementation of joint/collaborative research tasks

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FORUM for Advanced Fire Education /Research in Asia 2018
Korea (From November 22nd)

Expanding research themes in new fields to promote cooperation among government, industry and academia
⇒ Construction of Novel Region...ex. Evaluation of Risks on Energy Utilization Technique

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Field of Material Science:
Extension of the antiseismic reinforcement technology by the elucidation of fire-resistant performance

**Highlight of Research outcomes**
- Fire resistance of Post-installed chemical anchor

**Field of Material Science**
Fire safety by inflammable prediction of a bed mattress

**Background**
Big earthquake is expected at high occurrence probability and efficient measures are needed urgently.

**Purpose**
Promotion and extension of the antiseismic reinforcing method by research about fire-resistant performance.

**Research results**
Making clear the strength of anchoring during and after fire, we can use it safely. It lead to governmental project.

**Presented paper**
2) Seira Owa, Kenichi IKEDA: EXPERIMENTAL STUDY ON BOND STRENGTH OF ADHESIVE POST-INSTALLED REBARS OF EPOXY INJECTION RESIN TYPE DURING FIRE AND AFTER FIRE, SUMMARY OF PAPERS OF ANNUAL MEETING ARCHITECTURAL INSTITUTE OF JAPAN 87-88 2015

**Highlight of Research outcomes**
- Combustion of bedclothes (Bed Mattress)

**Field of Material Science**
Fire safety by inflammable prediction of a bed mattress

**Background**
Bedding is combustibles which account for the highest rate in the fire accompanied by the dead in Japan.

**Purpose**
Prediction of the combustion spreading of bed mattress

**Research results**
The burning characteristics and combustion spread of a bed mattress become clear, the prediction methods were developed.

**Presented paper**
5)~12) abbreviation

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**Combustion experiment of a bed**

**Section of bed specimen**

**Heat release rate of bed**