消防研究センター
National Research Institute of Fire and Disaster
ごあいさつ

消防研究センターは、国民を災害から守る消防にとって、「いざというときに役に立つ専門家集団」でありたいと願っております。消防研究センターは総合的な消防防災研究機関としての幅広い使命を担っております。発生する災害に立ち向かう消防を、科学技術的裏面から支援することが、その最重要な使命と信じて居ります。

しかし、人間の反応、地震、海嘯、豪雪を含む様々な災害対策のための研究開発を進めるために、科学技術の背景を支える技術者や幹部にとって、この職務は難しいと言われています。科学技術の発展を支える「普通の市民」に対する認識が深まることを願っております。

災害に対する対策を充実させるためには、事前準備と早期の発見が重要です。事前に十分に知識を蓄積し、備えておくことが肝要です。将来発生するかも知れない災害に備えて研究課題を戦略的に選定することが不可欠です。

災害の未来を見通す「先見性」、国内外の他者との連携をはかる「連帯性」、災害発生などに対応して計画を変更する「即応性」が不可欠であると感じます。そこでこそ、目先のニーズにのみ賭けられることなく地道な努力を続けて基礎力を蓄積する「継続性」も忘れてはなりません。

平成23年3月11日の東日本大震災を経験し、「国民の生命、身体及び財産を火災・災害から守る」という消防の任務が、「科学技術の研究開発」がいかに果たすかが、改めて問われております。

こうした認識をもって、私たちも、安全を安心できる社会づくりに貢献していきたいと考えております。

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**Greetings**

It is the hope of the National Research Institute of Fire and Disaster (NRID) that we can be considered as useful professionals during emergencies for firefighters who protect the citizens of Japan from fires and disasters. This is because NRID is entrusted with a wide range of missions in our role as a comprehensive research institute studying fires and disasters, and we believe that our most important mission is to provide support from a scientific and technological viewpoint for firefighters who take a stand against disasters.

However, maintaining usefulness at times of emergency is not an easy thing for an organization with a limited workforce. When controlling fire and disaster in particular, what is required is not just simple knowledge but a deeper sense of knowledge and understanding based on experience. In a disaster response "a little knowledge is a dangerous thing".

In order for us as professionals to respond immediately to disasters, starting the related research after the disaster will be too late. It is imperative that we accumulate sufficient knowledge beforehand to ensure that we are ready to meet all eventualities. Tacitly selecting topics for research is indispensable in order to prepare ourselves fully for situations that may occur in the future.

We believe that we must be equipped with "insight" to foresee the future of disasters, with "flexibility" to make any necessary modifications to present plans according to disaster occurrence, and with "continuity" to carry out basic research through steadfast efforts instead of just trying to meet immediate needs.

Having experienced the Great East Japan Earthquake that struck on March 11, 2011, we are re-examining how "research and development of science and technology" can best contribute to the role of firefighters in "protecting the lives, bodies and property of our citizens from fire and disaster."

With this awareness in mind, we would like to continue contributing to the creation of a safe and secure society.

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**Missions of the National Research Institute of Fire and Disaster**

1. Continuous implementation of research and development into fire and disaster prevention based on the long-term vision.
2. The implementation of and support for investigations into the causes of fires and accidents involving the leakage of hazardous materials.
3. Professional support for fire-fighting activities in the event of large-scale or extraordinary disasters.
4. Establishing and maintaining cooperation with people related to science and technology in the field of fire fighting.
沿革 History

昭和23年 消防研究所設置（消防行政庁内局）。
昭和36年 研究部を新設。
昭和38年 研究部を増設、第一研究部および第二研究部とする。特殊法人日本消防検定協会設立により、検定業務を同協会に移管。
昭和44年 第三研究部を新設。
昭和57年 研究企画部を新設。
平成13年4月 独立行政法人消防研究所となる。研究企画部、基盤研究部、プロジェクト研究部を置く。
平成14年4月 研究企画部に火災原因調査室を置く。
平成18年4月 独立行政法人消防研究所を廃止、共済会消防防災大学校消防研究所センター設置、火災調査部、技術研究部、研究企画部を置く。
平成21年4月 研究企画部及び検査担当部長を廃止、研究企画部を置く。
平成28年4月 地域連携企画担当部長を廃止、研究企画部を置く。

1948 The Fire Research Institute was founded (as a division within the National Fire Defense Agency).
1961 The Research Division was established.
1963 The Research Division was expanded and divided into the First Research Division and Second Research Division. The Japan Fire Equipment Inspection Institute was established, and control of official testing business was transferred to this institute.
1969 The Third Research Division was established.
1982 A deputy director general (research planning director) was appointed.
2001.4 The National Research Institute of Fire and Disaster (NRIFD) began operations as an independent administrative organization. The Research Planning Division, a Fundamental Research Division, and a Project Research Division were established.
2002.4 The Fire Investigation Office was established within the Research Planning Division.
2006.4 The NRIFD was dissolved as an independent administrative organization and reorganized as a research institute within the Fire and Disaster Management Agency of the Ministry of Internal Affairs and Communications. The Fire and Disaster Investigation Division, a Research and Development Division, and a Research Planning Division were established.
2009.4 The Research Planning Division was discontinued, and a chief of planning for community-based cooperation was appointed.
2016.4 A chief of planning for community-based cooperation was discontinued, and the Research Planning Division was established.
特殊機能を備えた多彩な研究施設群

Research facilities outfitted with special functionality

1. 本館
Main building

研究センター全体の管理的機能のほか、原因
調査室、研究紹介コーナー、研究会場を開催する
大会議室などがあります。

This building houses the NRF’s overall
administrative functions as well as the
Investigation Office, the research presentation
area, a conference room for holding
workshops, and other vital functions.

2. 情報管理棟
Information administration building

消防庁や地方公共団体との間で衛星通信を
行うための機器があります。

This building houses facilities for satellite
communication with the Fire and Disaster
Management Agency and local public organizations,

3. 機械研究棟
Machinery research building

消防用機械や、地震等のための防災技術に
関する研究を行う施設です。

This building houses facilities for conducting
research on firefighting rescue equipment and
disaster prevention technology for use during
earthquakes and other disasters.

4. 材料研究棟
Material research building

危険物施設や消防用具製材の強度を研究す
るための設備や、工作室があります。

This building houses equipment, workrooms
and facilities for carrying out research on hazardous
materials, as well as equipment and materials for
firefighting.

5. 防災実験棟
Disaster prevention experimental building

振動試験をはじめ、各種小規模実験などが行
える多目的の空間です。

This building houses a multipurpose area in which
a wide variety of small-scale experiments can be
performed, including vibration experiments.

6. 建築防火研究棟
Large fire experimental building

火災の発生、様々な火災、避難経路など建物火
災に関する研究や、火災の原因の調査を行う
施設です。

This building houses facilities for conducting
research on structural fires, including fire
detection, smoke flow, and evacuation guidance,
as well as facilities for fire cause investigations.

7. 大規模火災実験棟
Large fire experimental building

屋内において大規模な火災や燃焼の実験を
行う施設です。実験で出した煙等、電気集塵
機により処理することができます。

主実験棟：
（幅）24m×（長さ）24m×（高さ）20m

This building houses facilities for conducting fire
and combustion experiments indoors. The soot
and smoke emitted during these experiments can be
processed using an electrostatic precipitator.

@Primary experimental area
24×24×20 m (W×D×H)

8. 機械研究棟
Machinery research building

アトリウムなどを想定した屋内火災実験など
を行うための排煙処理設備を備えた大空間
の実験場があります。大型の送風機を備えて
おり、有阻火時の火災延焼実験も行えます。

主実験場：
（幅）25m×（長さ）25m×（高さ）22m

副実験場：
（幅）14m×（長さ）14m×（高さ）12m

This building houses a large experimental area
equipped with exhaust smoke treatment facilities
for performing indoor fire experiments, for example
in an atrium. With its large blower, it also
allows for experiments on how fire spreads in
windy conditions.

@Primary experimental area
25×25×22 m (W×D×H)
@Secondary experimental area
14×14×12 m (W×D×H)

9. 燃焼実験棟
Combustion experimental building

特殊空間や、閉鎖的な地下施設での火災の模
擬実験を行う施設です。

This building is for performing simulations of fires
in special areas and confined spaces, such as
subway facilities.
Exhaust smoke treatment equipment
This environmentally friendly equipment treats the exhaust smoke generated by combustion experiments, etc.
- Large fire experimental building
  Exhaust smoke treatment capacity: 49,500 m³/h×4
- Residential fire research building
  Exhaust smoke treatment capacity: 2,520 m³/h
- Fire extinguishing research building
  Exhaust smoke treatment capacity: 80,000 m³/h×1
  30,000 m³/h×1

Pressure gradient hot gas calorimeter
(A Material safety research building)
This equipment is used for the evaluation of thermal hazards of chemical substances in the condition without the heat losses from the sample container to surroundings.

Primary experimental area
(9. Fire extinguishing research building)

Steel-made explosion proof vessel
(A Material safety research building)
This equipment is used for explosion experiments on hazardous materials.
研究結果をより広く役立てるために
Ensuring the results of our research serve an even wider audience

消防研究センターの研究成果を社会に役立てるためには、消防機関に活用されることがもちろんです。広く皆さんに伝えることが必要です。消防研究センターは一般公開をはじめ、さまざまな対外活動に力を注いでいます。

To ensure the results of our research serve an even wider audience, they must be employed at firefighting institutions and reported to the general public. To this end, the NRIFD opens the institute to the general public and pursues a variety of PR activities.

一般公開
Opening to the public

毎年4月の科学技術週間に、消防研究センターの研究内容を一般の方々により深くご理解いただくために一般公開を行っています。また、消防関係者および一般の方々の見学にも随時対応しています。

During Science and Technology Week each April, we hold an open house to provide the general public with opportunities to better understand our research efforts and achievements. We also conduct facility tours for firefighting personnel and the general public upon request.

調査技術会議
Investigation conferences

各消防本部における調査技術の向上をめざし、年6回、全国の主要都市で開催しています。この会議では、消防や消防に関する新情報、研究の進歩、技術の発展を情報交換を行う会議です。

Conferences are held six times every year in major cities around the country as part of efforts to help firefighting headquarters improve their investigating techniques. These conferences are designed for the sharing of expertise and experiences, and it is a time when firefighting headquarters personnel can exchange information and suggestions about unusual examples of fires, the kinds of science and technology that can be used to investigate the causes of fires, and investigations into accidents involving the leakage of hazardous materials.

研究交流・共同研究
Technical exchange / joint research

広範囲かつ多領域にわたる消防防災研究の充実を図るために、国内外の大学や研究機関などと共同研究を実施しています。また、消防機関からの研究者や大学からの実習生、外国機関からの研究者も積極的に受け入れています。

In an effort to enhance firefighting and disaster prevention research across a broad spectrum of areas, we conduct joint research with domestic and overseas universities and research labs. We also actively seek research students from firefighting organizations, trainees from universities, and researchers from overseas organizations.

全国消防技術者会議
National Fire-Defense Engineers' Conference

消防機関との交流促進や消防・防災技術の向上を図ることを目的として、毎年開催しています。全国の消防関係者が、研究発表や情報交換を行う会議です。

We hold this conference each year to promote relations between firefighting institutions, and improve firefighting and disaster prevention technology. Participants from all over the country come here to present research papers and exchange information.

消防防災科学技術賞
Official commendation of firefighting and disaster prevention scientific technology

消防科学技術の高度化と消防・防災活動の活性化を目的として、消防機関や一般から消防防災機器の開発・改良および科学論文、原因調査事例報告書を広く募集し、優秀な作品は消防庁長官から表彰されます。

In an effort to advance firefighting technology, and stimulate firefighting and disaster prevention activities, we invite firefighting organizations and the general public to submit scientific papers on firefighting and disaster prevention, case reports of fire cause investigation, and ideas to improve and develop firefighting equipment. Distinguished submissions are officially recognized by the Director-General of the Fire and Disaster Management Agency.

消防防災研究講演会
Fire Defense and Disaster Prevention Study Seminar

消防研究センターの研究成果を広く発表する場として毎年開催しています。研究成果の普及や将来の研究ニーズの把握を目的としています。

We hold this seminar each year as a platform for announcing the outcome of our research to as wide an audience as possible. Its main purpose is to disseminate the results of our research and identify future research needs.
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