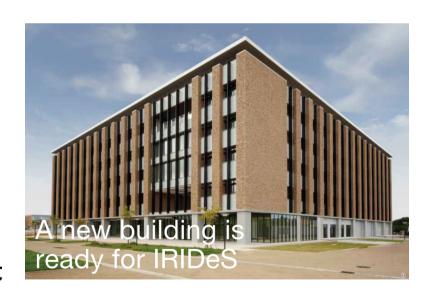


Interdisciplinary research in IRIDeS, International Research Institute of Disaster Science, Tohoku University 東北大学災害科学国際研究所の学際連携研究

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国立大学の3つの災害関係研究所

1923 →
Great Kanto Earthquake

関東大震災

Disaster

1950 Typhoon Jane ジェーン台風

2011 GEJE and Tsunami 東日本大震災 Disaster Institute settled in Major National University

→ The University of Tokyo
Earthquake Research
Institute(1925-)東大地震研

→ Kyoto University

Disaster Prevention Research Institute(1951-)京大防災研

Tohoku University International

→ Research Institute of Disaster Science (2012-) 東北大災害研

Establishment of a new research institute prepared for disasters of low frequency and high consequences. 低頻度巨大災害への備え



Interdisciplinary approach to reduce total loss from a large-scale disaster 巨大災害の長期的影響を小さくする学際的アプローチ

Activity Level 社会経済活動へ の水準 Arrival of Hazard and Exposure ハザードの襲来と暴露

直接被害 Impact

Loss損失

Resilience

回復力:レジリエンス

Time 時間

Damage, Impact

≪Hazard×Exposure×Vulnerability 直接被害≪ハザード×暴露×脆弱性

Prevention: 防災 Decrease Vulnerability

Building Facilities physically stronger

自然科学·工学 Natural Science, Engineering Aversion:回避

Decrease Exposure

Land-use control

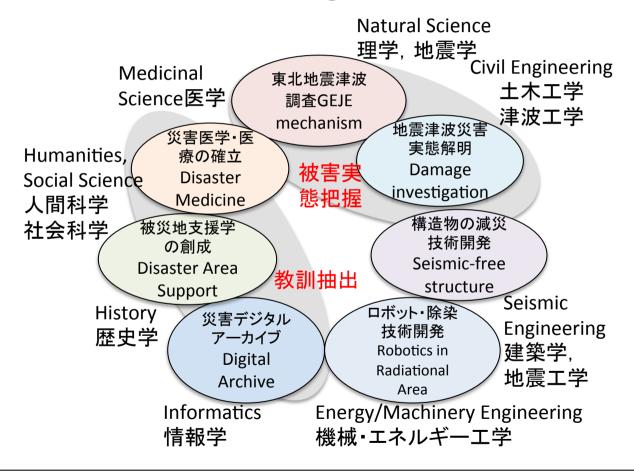
Quick evacuation

行動科学、都市計画 Social Science, Behavior Science, Urban Planning Mitigation: 減災 Increase Resilience Back-up, storage, Response, Insurance

社会科学, 災害医学 Social Science, Economics, Medical Science



Action-based Disaster Mitigation 実践的防災学創成



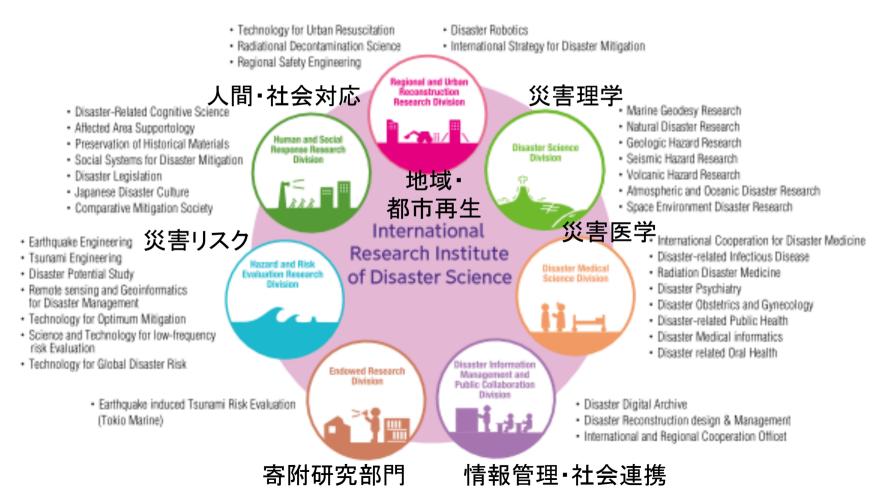
既存学問分野の災害研究への応用と融合

Application of Existent Research Disciplines to establish Action-based Disaster Mitigation



Organization of IRIDeS 研究所の組織: 7部門37分野

Organization of IRIDeS





People in IRIDeS 38 Professors(permanent), 30 Professors(5 years)







English name

IRIDeS



Iris, Iris laevigata or Japanese Iris: Symbol of hope and nobility **Logo meaning**

It is the deformalized image of the Japanese character of disaster (災, wazawai) turned upside down, based on the idea of Japanese saying "Turn your misfortune to good account".

It represents our mission of learning the lessons from the 2011 Tohoku earthquake and tsunami disaster and pursuing effective disaster management to build sustainable and resilient societies. Iris is the symbol of "hope" and "dignity".



New Building of IRIDeS



The new building is located on the west side of the Aobayama campus, in a quiet location enclosed by green trees.

The five story RC building has

a seismic isolation system,

72-hour emergency power generation,

natural ventilation and light,

a balcony preventing direct sunlight.

It also has a space for conveying information to visitors,

a multi-purpose hall for 150 people, seminar rooms, a lecture room, meeting rooms, a server room, and a library room.

Most of the research labs have glass walls, and each floor also features a common

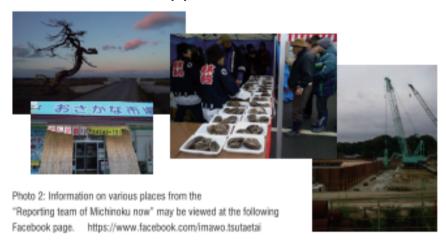
space to enable researchers interact ions.



Impressive Interdisciplinary researches 学際研究の例

M みちのく震録伝

-Great East Japan Earthquake Archive Project: Michinoku-Shinrokuden – -Collaboration among over 120 organizations from industry, government, academia and the private sector. Documenting images of the earthquake disaster as it happened.







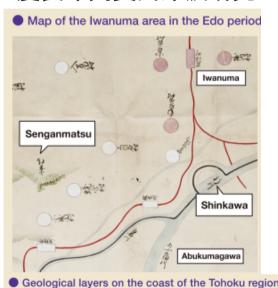
Elementary school pupils wearing protective hoods rush to the school building of Tamaura Middle School (Tsunami evacuation drill, Iwanuma City, 2012)

Kakeagare! Japan is a project that aims to habitualize evacuation behavior in preparation for a tsunami while tackling regional problems based on the lessons learned from the Great East Japan Earthquake. Tsunami evacuation drill programs are being planned and implemented in collaboration with industry, government and academia, including IRIDeS.



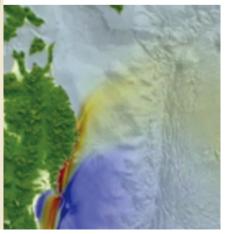
Impressive Interdisciplinary researches 学際研究の例

Keicho period, Oshu Tsunami Project 慶長年間奥州津波研究プロジェクト



About 400 years ago,
"Keicho Reriod Oshu
Earthquake Tsunami"
struck the Pacific coast
of the Tohoku Region.
The accurate picture of
the disaster is
investigated by a team
from the different areas.





- Analysis and Observations based on Hyogo Framework for Action (HFA) - Publication of Preliminary Report outlining problems and calling for discussion.

国連防災世界会議に向けて、議論を加速させるためのHFA分析レポートの作成・発行





IRIDeS Project Research 特定プロジェクト研究

The IRIDeS promotes publicly-offered project research with collaborating organizations from many countries and with broad areas of specializations. The aims of these research projects are not only to contribute to on-going recovery/reconstruction efforts in the affected areas but also to conduct world-leading research on natural disaster science and disaster mitigation.

1~2年間の研究プロジェクトを公募し、 学内の共同研究、国際連携研究、及び 被災地・関連他大学との連携研究を推 進しています。

公開報告会を年1回7月に実施しています.

Meeting opportunities in IRIDeS 公開型の研究会の開催

IRIDeS will hold conferences and meetings on a regular basis, in order to share and disseminate our research progress and outcomes, and to promote research collaboration and integration.

IRIDeS Friday forum

A forum of regular presentations and discussions is provided in order to share the information of research activities and collaborations at the IRIDeS. This forum also reports emergency disaster surveys.

金曜フォーラム 研究所内の研究成果を公開型で紹介・議論する催しです.



Outputs from Research Activities 研究活動成果

| | 2012FY 24年度 件数 | 2012FY per capita 24年度1人 当たり | 2013FY 25年度件 数 | 2013FY per capita 25年度1人 当たり |
|------------------------------------|----------------------|---------------------------------------|----------------------|---------------------------------------|
| Academic Paper as head author 筆頭論文 | 90 | 1.76 | 168 | 2.40 |
| Academic Paper coauthor 共著論文 | 313 | 6.14 | 411 | 5.87 |
| Books 著書 | 37 | 0.73 | 54 | 0.77 |
| Conference Presentations 学会発表 | 717 | 14.06 | 796 | 11.37 |
| as guest 基調講演·招待講演·特別講演 | 146 | 2.86 | 132 | 1.89 |
| as top author 単独·筆頭発表 | 293 | 5.75 | 192 | 2.74 |
| as co-author 共同発表 | 424 | 8.31 | 472 | 6.74 |
| Lectures to public 一般向け講演 | 112 | 2.20 | 250 | 3.57 |
| Reviews and Reports 総説・解説 | 65 | 1.27 | 79 | 1.13 |
| Patents 特許·実用新案出願 | 1 | 0.02 | 4 | 0.06 |
| Awards 受賞 | 16 | 0.31 | 16 | 0.23 |

Activity Reports: http://irides.tohoku.ac.jp/topics/index.html