JST’s Efforts and Activities in relation to “the Great East Japan Earthquake”

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@ NSF Arlington

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1. Urgent Funding with Foreign Partners J-RAPID
2. Urgent Funding for Affected Areas by JST
3. Major Supports from Foreign Partners
4. New Funding
What is JST?

Japan Science and Technology Agency (JST) is one of the major funding agencies in Japan.

JST promotes science and technology which will create new values and lead to the future, in order to advance the national welfare and prosperity.

Top Down Research

Number of full-time directly employed staff:
Approximately 1,500 people

Revenues

- Operating Income: 158 (10.8%)
- Government Subsidy: 1,312 (89.2%)
- Total: 1,470 (million US$)

Urgent Funding for International Collaborative Research

J-Rapid Program:
responds to immediate needs for international collaborative research/survey that arise from unanticipated situations

Collaborative Researches/Surveys having a severe urgency of Data Collection, Problem Solving, and so on
Urgent Funding for International Collaborative Research

Counterpart Funding Agencies/Research Institutes of J-RAPID Program
In the Case of Great East Japan Earthquake

- National Science Foundation (NSF) U.S.
  - On-going Projects: 20

- Agence Nationale de la recherche (ANR) France
  - On-going Projects: 9

- Indonesian Institute of Sciences (LIPI) Indonesia
  - On-going Project: 1

- National Institutes for Health (NIH) U.S.
  - On-going Project: 1

- Atmospheric Dispersion Modeling Liaison Committee (ADMLC) U.K.
  - On-going Project: 1

- National Center for Atmospheric Research (NCAR) U.S.
  - On-going Project: 1

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Urgent Funding for International Collaborative Research

“J-RAPID”

- UNITED STATES: 22
  - NSF : 20
  - NIH : 1

<table>
<thead>
<tr>
<th>Biodosimetry based on EPR (Electron Paramagnetic Resonance) Measurements of Tooth Enamel</th>
<th>Minoru Miyake</th>
<th>Kagawa University Faculty of Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harold Swartz</td>
<td>Dartmouth Medical School Radiology and Medicine (Radiation Oncology)</td>
<td></td>
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</table>

- NCAR (National Center for Atmospheric Research): 1

<table>
<thead>
<tr>
<th>Survey of estimation method for amount of radioactive materials emitted from nuclear power station during severe accident</th>
<th>Genki Yagawa</th>
<th>Nuclear Safety Research Association</th>
</tr>
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<tbody>
<tr>
<td>Paul Bieringer</td>
<td>National Center for Atmospheric Research</td>
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</table>
Urgent Funding for International Collaborative Research

“J-RAPID” Program – France
In the Case of Great East Japan Earthquake

JST

ANR (France)
Proposals: 33
On-going Projects: 9

Thematic repartition of submitted proposals

Earth sciences
Engineering sciences
Environmental impacts
Societal impact, resilience,...

Number of funded projects

Source: ANR
### Urgent Funding for International Collaborative Research

#### J-RAPID Program – France No.1

<table>
<thead>
<tr>
<th>Project</th>
<th>Japanese PI</th>
<th>French PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tracing the environmental consequences of the 2011 off the Pacific coast of Tohoku Earthquake-triggered tsunami and the Fukushima accident</td>
<td>Yuichi Onda</td>
<td>Laboratory of Climate and Environmental Sciences (LSCE)</td>
</tr>
<tr>
<td>2. Quantitative assessment of nonlinear soil response during the great The 2011 off the Pacific coast of Tohoku Earthquake</td>
<td>Hiroshi Kawase</td>
<td>Kyoto University</td>
</tr>
<tr>
<td>3. Dynamics of The 2011 off the Pacific coast of Tohoku Earthquake: from long term stress accumulation to asperities</td>
<td>Satoshi Ide</td>
<td>The University of Tokyo</td>
</tr>
<tr>
<td></td>
<td>Raul Madariaga</td>
<td>Ecole Normale Supérieure</td>
</tr>
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#### J-RAPID Program – France No.2

<table>
<thead>
<tr>
<th>Project</th>
<th>Japanese PI</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. The 2011 off the Pacific coast of Tohoku Earthquake from Earth to Oceans and Space: a critical case-study to improve earthquake and tsunami anticipation</td>
<td>Shingo Watada</td>
<td>The University of Tokyo</td>
</tr>
<tr>
<td></td>
<td>Anthony Sladen</td>
<td>Université de Nice Sophia Antipolis</td>
</tr>
<tr>
<td>5. Effects of ionising radiation on bird physiology, phenotype, and fitness in the Fukushima contaminated area of Japan</td>
<td>Mamoru Watanabe</td>
<td>University of Tsukuba</td>
</tr>
<tr>
<td></td>
<td>Christelle Adam-Guillermin</td>
<td>Institute for Radiological Protection and Nuclear Safety</td>
</tr>
<tr>
<td>6. Crustal seismic velocity changes and deformation associated with The 2011 off the Pacific coast of Tohoku Earthquake</td>
<td>Takeshi Nishimura</td>
<td>Tohoku University</td>
</tr>
<tr>
<td></td>
<td>Florent Brenguier</td>
<td>Institut de Physique du Globe de Paris</td>
</tr>
</tbody>
</table>
# Urgent Funding for International Collaborative Research

## J-RAPID Program – France No.3

<table>
<thead>
<tr>
<th>Project</th>
<th>Japanese PI</th>
<th>French PI</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster Evacuation and Risk Perception in Democracies</td>
<td>Norichika Kanie</td>
<td>Francois Gemenne</td>
<td>Tokyo Institute of Technology</td>
</tr>
<tr>
<td>Paleoseismology and paleotsunamis of the NE Japan subduction zone and relationships with The 2011 off the Pacific coast of Tohoku Earthquake: Constraints on the seismic Cycle</td>
<td>Shinji Toda</td>
<td>Mustapha Meghraoui</td>
<td>Kyoto University</td>
</tr>
<tr>
<td>Interdisciplinary study on the mitigation of NaTech risks in a complex world: learning from Japan experience applying ERRA NaTech method, INTEg-Risk project</td>
<td>Atsuo Kishimoto</td>
<td>Adrien Willot</td>
<td>The National Institute of Advanced Industrial Science and Technology (AIST)</td>
</tr>
</tbody>
</table>

## J-RAPID” Program – U.K.

In the Case of Great East Japan Earthquake

- Atmospheric Dispersion Modeling Liaison Committee (ADMLC) U.K. On-going Project: 1

<table>
<thead>
<tr>
<th>Project</th>
<th>Japanese PI</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey of estimation method of washout effect of radioactive materials from soil by rainfall</td>
<td>Genki Yagawa</td>
<td>Nuclear Safety Research Association</td>
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<tr>
<td></td>
<td>Matthew Hort</td>
<td>Meteorological Office</td>
</tr>
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</table>
Urgent Funding for International Collaborative Research

“J-RAPID” Program – Indonesia
In the Case of Great East Japan Earthquake

<table>
<thead>
<tr>
<th>JST</th>
<th>Indonesian Institute of Sciences (LIPI) Indonesia On-going Project: 1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Urgent surveys for evacuation and measures from unexpected large tsunami</th>
<th>Kenji Satake</th>
<th>The University of Tokyo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hery Harjono</td>
<td>Indonesian Institute of Science</td>
</tr>
</tbody>
</table>

Indonesian visitors at Yuriage, one of severely affected areas by the tsunami

Indonesian visitors at operation room of Tohoku Regional Bureau, MLIT

Source: By Courtesy of Prof. Satake
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Urgent Support for Researches Discontinued by the Disaster

- Research Seeds Quest Program (RESQ)
  June 24: 101 projects selected
  (78 selected projects from Tohoku University)

  JST have funded for:
  - Repairing or Purchasing new equipment and reagents in order to start research activities again as soon as possible
  - Cost for temporary use or rent of experimental equipment outside of the laboratories
  - Additional cost for change of experiment plans
Support for Social Application

Funding Program for Supporting Social Application of R&D Outcomes to Suffered Area

Launched by RISTEX (Research Institute of Science and Technology for Society, JST) in order to Tackle the Urgent Situation.

6 projects are on-going.

Wooden Comfortable Temporary Housing
(Fukushima Pref.)
Associate Prof. Fuminori TANBA, Fukushima University

Determination of heavy-metal pollution caused by Tsunami
(Miyagi Pref.)
Prof. Noriyoshi TSUCHIYA, Tohoku University

Decontamination technique using rapeseed
(Miyagi Pref.) Prof. Yutaka RAKAI, Tohoku University

Fatigue measurement for prevention of disease
(Kesennuma City, Miyagi Pref.)
Prof. Toshiko YOSHIDA, Miyagi University

Water quality improvement using micro-bubble method
(Ofunato City, Iwate Pref.)
Prof. Hirofumi OHHARI, Tokuyama College of Technology

Splitting portable toilet
(Minami Sanriku-cho, Miyagi Pref.)
Prof. Yoshihisa SHIMIZU, Kyoto University
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Major Supports From Foreign Partners

EPSRC (Engineering and Physical Sciences Research Council, U.K) allows researchers affected by the disaster to exceptionally access to UK national supercomputing facility (HECToR).

DFG (German Research Foundation) provides additional funding to German Researchers with Japanese counterpart who have effected by the disasters.
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New J-RAPID Funding

Counterpart Funding Agencies/Research Institutes of J-RAPID Program

In the Case of Thai Flood in 2011

Outline of Flood (as of November 19, 2011)
Started July, 2011 and still part of problems remain.
Casualties: 529 people died
Flooded area: 6 Million hectare
2 Million people troubled
Estimated Loss: 1.567 Billion Bat. (US$5 Bill.)
Indirect Loss: Yen 700 Billion (US$ 8.8 B)
Japanese companies’ reduction in net profit

Source: various. Compiled by JST
New J-RAPID Funding

Counterpart Funding Agencies/Research Institutes of J-RAPID Program
In the Case of Thai Flood in 2011

JST

NSTDA
(National Science and Technology Development Agency, Thailand)

Duration: 6 – 12 months
Funding: Yen 3 MM (approx.)=US$40K
Expected Number: 3 – 4 Projects

Website

Please find list of projects at the JST website.

http://www.jst.go.jp/inter/english/project/country/j-rapid.html
Thank You For Your Attention