

September 30, 2017

**World Federation of Engineering Organizations
Standing Technical Committees on Disaster Risk Management
2017 Activities, Midterm Report (March to September 2017)**

CONTENTS

1. Name of Committee Secretary
2. List of Committee Members with National Membership and Their Affiliations
3. Recruitment of New Members
4. Detailed Budget and Sources of Funds
5. Report on the WFEO-CDRM Webpage on the WFEO Homepage
6. Organizational Structure in 2017
7. Action Plans for 2017
8. Midterm Status/Progress of the Proposed Activities
9. Subcommittees' and Individual Members' Activities

Reference 1: The 11th Joint International Symposium on Disaster Risk Management in Fukuoka,
Japan

Table of Abbreviations

WFEO-CDRM Chair
Prof. Toshimitsu Komatsu



1. Name of Committee Chair and Secretary

WFEO-CDRM Chair

Toshimitsu Komatsu

WFEO-CDRM Secretary

Kenichi Tsukahara

WFEO-CDRM Deputy Secretary

Nobuaki Kimura

Contact:

Department of Urban & Environmental Engineering,

Kyushu University,

W2-1011, 744 Motoooka, Nishi-ku, Fukuoka City,

819-0395, JAPAN

Tel/Fax: +81-92-8023411

E-mail: nkimura3@civil.kyushu-u.ac.jp

2. List of Committee Members with National Membership and Their Affiliations

The World Federation of Engineering Organizations – standing technical Committee on Disaster Risk Management (WFEO-CDRM) has over 20 active members from seven countries and regions. They were officially confirmed by their national members in Sept 2017.

WFEO-CDRM MEMBER LIST

Chair, Vice chair and leaders

Country	Name and title	Position and affiliation	Remark
Japan	Prof. Toshimitsu Komatsu	Chair, WFEO-CDRM; Vice President, WFEO; Chair, Committee on WFEO, Science Council of Japan; Professor Emeritus, Kyushu Univ.	Active
Japan	Prof. Syunsuke Ikeda	Vice chair, WFEO-CDRM; Member, Committee on WFEO, Science Council of Japan, Japan Cabinet Office; Professor Emeritus, Tokyo Institute of Technology.	Active
Peru	Dr. Jorge E Alva Hurtado	Vice chair, WFEO-CDRM; President, Peruvian Association of Professional Engineers; Distinguished member, National Academic of Science of Perú; Member, Pan American Academy of Engineering.	Active
USA	Dr. Vilas Mujumdar	Vice chair, WFEO-CDRM; USA Consulting Engineer, Retired Program Director, National Science Foundation; WFEO National Member Representative (USA); Member, WFEO Executive Council; President, UPADI, Committee on Disaster Risk Management and Resilience.	Active
India	Er. Ashok K. Basa	Leader, Subcommittee CBNDRM, WFEO-CDRM; Director, B Engineers & Builders Ltd; Immediate-Past President, Institution of Engineers (India)	Active
Japan	Prof. Kenichi Tsukahara	Leader, Subcommittee WDRM, WFEO-CDRM; Secretary, WFEO-CDRM; Secretary, Committee on International Cooperation for Natural Disaster Risk Reduction, Science Council of Japan; Professor, Dept. of Civil Engr., Kyushu Univ.	Active
Japan	Prof. Akira Wada	Leader, Subcommittee EQDRM, WFEO-CDRM; Professor Emeritus, Tokyo Institute of Technology; Council Member, Science Council of Japan; Vice-President, International Association for Bridge and Structural Engineering.	Active

Subcommittee on Water-related Disaster Risk Management (WDRM)

Country	Name and title	Position and affiliation	Remark
Canada	Prof. S. Chan Wirasinghe	Professor, Dept. of Civil Engr., Schulich School of Engr., Univ. of Calgary.	Active
China	Dr. Peng Jing	Vice President, China Institute of Water Resources and China Institute of Water Resources and Hydropower Research (IWHR)	Active
Japan	Dr. Ali Chavoshian	Engineer, CTI Engineering Co. Ltd; Assistant Professor, Iran Univ. of Science and Technology.	Active

Country	Name and title	Position and affiliation	Remark
Japan	Prof. Syunsuke Ikeda	Same as above	
Japan	Dr. Yumio Ishii	Former Chair, WFEO-CDRM; Honorary Adviser, CTI Engineering Co. Ltd.	Active
Japan	Dr. Kazumasa Ito	Former Secretary, WFEO-CDRM; Chief Engineer, CTI Engineering Co. Ltd.	Active
Japan	Prof. Kazutoshi Kan	Professor Emeritus, Shibaura Institute of Technology.	Active
Japan	Mr. Tsuneyoshi Mochizuki	Councilor, Japan River Association	Active
Japan	Prof. Kuniyoshi Takeuchi	Advisor, the International Center for Water Hazard and Risk Management (ICHARM), Public Works Research Institute (PWRI); Professor Emeritus, Univ. of Yamanashi.	Active
Japan	Dr. Son Hung Nguyen	Engineering Advisor, International Business Division, CTI Engineering Co. Ltd.; The former Secretary, WFEO-CDRM in the first term (2008-2010).	Active
Kuwait	Eng. Talal M. Al-Qahtani	Chair of Kuwaiti Society of Engineers.	Active
Peru	Ing. Loren M. Ruiz García	Researcher, member of Capitulo de Ingenieria Agricola del, Consejo Departamental de Lima del, Colegio de Ingenieros del Peru.	Active

Subcommittee on Earthquake-related Disaster Risk Management (EQDRM)

Country	Name and title	Position and affiliation	Remark
India	Er. Ashok K. Basa	Same as above	
Peru	Dr. Alberto Delgado	Director, technical and project manager in Disaster Risk Reduction Peru International S.A.C.	Active
USA	Dr. Vilas Mujumdar	Same as above	

Subcommittee on Capacity Building for Natural Disaster Risk Management (CBNDRM)

Country	Name and title	Position and affiliation	Remark
Canada	Prof. S. Chan Wirasinghe	Same as above	
China	Prof. Fang Chen	Professor, Institute of Remote Sensing and Digital Earth (RADI) Chinese Academy of Sciences	Active
Kuwait	Eng. Ahmad H. Bahman	Chair, Disaster Risk Management for the Kuwait Chapter, Kuwait Society of Engineers; Head, installation inspection Dept. of Prevention Sector of the Kuwait Fire Services Brigade.	Active
USA	Dr. Vilas Mujumdar	Same as above	

WFEO-CDRM Secretariat

Country	Name and title	Position and affiliation	Remark
Japan	Prof. Kenichi Tsukahara	Same as above	
Japan	Dr. Nobuaki Kimura	Deputy Secretary of WFEO-CDRM; Post-doctoral fellow of Dep. of Civil Eng., Kyushu Univ.	Active

3. Recruitment of New Members

The committee on disaster risk management (WFEO-CDRM) has not recruited a new member during this term (March to September, 2017) although the inquiries about a new member came from some countries. The current host (Science Council of Japan, named SCJ, in Japan) will transfer WFEO-CDRM to a new host (Peruvian Association of Professional Engineers, named CIP, in Peru) after the next WFEO General Assembly (Rome Italy, December 2017). Therefore, we have recommended that the new host will recruit some potential members after the next General Assembly.

4. Detailed Budget and Sources of Funds

The financial statement of the WFEO-CDRM from March to September 2017 is shown below.

4.1 Revenues and Expenditures for Midterm Fiscal Year 2017 (Mid-FY2017) from March to September 2017

The budget for Mid-FY2017 was spent as planned the previous year. Most of the funds were used for participation in international meetings (including registration fees), such as the WFEO extended Executive Board meetings in Paris, April 2017, and the 11th Joint International Symposium on disaster risk management (DRM) in Fukuoka, Japan, September 13, 2017.

WFEO-CDRM Financial Statements for Mid-FY2017

Revenue

Content	Unit	Amount
WFEO allocation	EUR	0.00

Expenditures

Content	Unit	Amount
1. WFEO Extended Executive Board meetings (Paris, France, April 3-7, 2017)		
- Consumable printing supplies (e.g., papers)	JPY	5,000
2. Joint International Symposium (Fukuoka, Japan, September 13, 2017)		
- Invitation costs for guest speakers (travelling fees, honorarium, etc.)	JPY	450,000
- Printing for handouts (100 units)	JPY	120,000
- Consumable printing supplies (e.g., ink, drums, papers)	JPY	10,000
3. Report on WFEO-CDRM activity		
- Consumable office supplies (e.g., envelopes)	JPY	5,000
4. Other		
- Bank transfer fee		100
Total	JPY	590,100
Total	EUR	4,485
Balance (subtracted from WFEO allocation)	EUR	- 4,485

Note that 1 JPY = 0.0076 EUR (as of September 2017), and sales tax is included. The deficit cost in the above table and business trip fees, such as hotel and flight costs (~7,500 EUR), were covered by Kyushu University, SCJ, and the Japan Federation of Engineering Societies (JFES).

5. Report on the WFEO-CDRM Webpage on the WFEO Homepage

Three areas and items were updated to the website between March 2017 and September 2017 with many helps by the WFEO webmaster (Eng. Ivan Juiz), as follows:

Update of membership lists (modification of a member's information)

updated June 2017

Submissions of the 2016 annual activity report for WFEO-CDRM

uploaded June 2017

Submissions of the announcement for the 11th Joint International Symposium on DRM

uploaded August 2017

6. Organizational Structure in 2017

WFEO-CDRM keeps consisting of three subcommittees: Water-related Disaster Risk Management (WDRM), Earthquake-related Disaster Risk Management (EQDRM), and Capacity Building for Natural Disaster Risk Management (CBNDRM). A detailed membership list is shown in section 2.

Chair

Prof. Toshimitsu Komatsu (Japan)

Vice-chairs

Prof. Syunsuke Ikeda (Japan), Dr. Vilas Mujumdar (USA), and Dr. Jorge E Alva Hurtado (Peru)

Subcommittee on WDRM

Current leader: Prof. Kenichi Tsukahara (Japan).

Subcommittee on EQDRM

Current leader: Prof. Akira Wada (Japan).

Subcommittee on CBNDRM

Current leader: Er. Ashok Basa (India).

Secretary and deputy secretary

Current secretary: Prof. Kenichi Tsukahara (Japan); deputy secretary: Dr. Nobuaki Kimura (Japan).

7. Action Plans for 2017

The action items for 2017 were planned in March 2017 and approved at the extended Executive Board meetings (Paris, April 2017). They are as follows:

7.1 Joint International Symposium

WFEO-CDRM will hold the 11th joint international symposium on DRM in Fukuoka, Japan, in the middle of September 2017, which will be run by the WFEO-CDRM and the local academic organizations: JFES, JSCE, and AIJ.

7.2 International Collaborations

7.2.1 WFEO-CDRM will collaborate with the International Institute for Infrastructure Renewal and Reconstruction (I3R2) for an international conference, which will be held in Shenzhen, China, in early July 2017. At least one member will be sent to the conference in order to work together with the I3R2 committee members.

7.2.2 WFEO-CDRM will collaborate with a disaster-related committee in the Federation of Engineering Institutions of Asia and the Pacific (FEIAP). We will maintain a good relationship with the disaster-related committee through a potential activity.

7.2.3 The future WFEO-CDRM host would be transferred from SCJ (Japan) to CIP (Peru) after early December 2017 when the next WFEO General Assembly is held in Rome, Italy. The current chair and secretariat will support a smooth transfer of the host's duties.

7.3 Routine Work

We will perform the following tasks annually or otherwise routinely:

- Recruitment of new members.
- Continuous updating of information on the WFEO-CDRM homepage.
- Issuance of WFEO-CDRM e-newsletter (annually).
- Holding of an annual face-to-face meeting during the World Engineering Forum (WEF), Rome Italy, on November 27, 2017.

The above plans will be performed mainly by the WFEO-CDRM secretariat and other potential action plans are as follows:

7.4.1 WFEO-CDRM may have cooperation with Earth Sciences and Geo-Hazards Risk Reduction Section (SC/EES/EGR) in United Nations Educational, Scientific, and Cultural Organization (UNESCO) in order to publish a building seismic-standards handbook.

7.4.2 Prof. Tsukahara (WFEO-CDRM Secretary) will participate in the 2017 Global Platform for Disaster Risk Reduction (DRR), which will be held in Mexico and hosted by the United Nations Office for Disaster Risk Reduction (UNISDR), to discuss the implementation of Sendai Framework (www.unisdr.org/conferences/2017/globalplatform/en).

8. Midterm Status/Progress of the Proposed Activities

Based on the 2017 action plans (see section 7 above), the midterm status and progress made on WFEO-CDRM activities between March 2017 and September 2017 are as follows:

8.1 Joint International Symposium

WFEO-CDRM held a joint international symposium on DRM in Fukuoka, Japan, on September 13, 2017, organized by WFEO-CDRM, JFES, JSCE, and AIJ. The symposium involved two sessions concerning water-related and earthquake-related disasters. Dr. Vilas Mujumdar (CDRM Vice-chair) also made the impressive presentation as a resilience-related expert. The detailed program is shown in Reference 1.

8.2 International Collaboration

WFEO-CDRM members did not participate in the 13th International Conference of I3R2, held in Shenzhen, China, in early July 2017 because Prof. Tsukahara (WFEO-CDRM Secretary), who was supposed to participate in, unfortunately did not receive an invitation letter from the local organizing committee of the conference. Probably, some miss-communication occurred between him and the local committee. The collaboration with a disaster-related committee in FEIAP has made little progress because of no opportunity for having a meeting with the committee chair (Mr. Sugk-Yong Yoon) in FEIAP. In addition, the host transfer processing from SCJ (Japan) to CIP (Peru) is in good progress. Some individual face-to-face meetings and several information exchanges by emails have been performed. The new host is continuously preparing to start their term from 2018 after the next GA (December 2, Rome Italy).

8.3 Routine Work

We continue to make efforts to recruit new members and regularly update the information on our website. The committee e-newsletter may be issued by early January 2018. We are preparing the WFEO-CDRM face-to-face meeting, to be held in Rome, Italy on November 27, 2017.

8.4 Other Business

We have not got any opportunity yet to discuss the experts, who belong to the SC/EES/EGR in UNESCO. In addition, Prof. Tsukahara participated in the 2017 Global Platform in Mexico, late May 2017 as sort of a WFEO delegate, by collaborating with the Japan committee for the national Integrated Research on Disaster Risk (IRD), and the WFEO Japan committee within the SCJ. We also keep searching a potential collaboration with other standing technical committees to provide effective impacts to the UN-based SDGs.

9. Subcommittees' and Individual Members' Activities

9.1 Dr. Peng Jing (a member of the subcommittee on WDRM, China), is currently working as the Vice President of China Institute of Water Resources and Hydropower Research (IWHR) in charge of international cooperation. She led a delegation to the United Kingdom to attend the 7th International Conference on Flood Management in Leeds from September 4 to September 9. The Conference, with its overarching theme “Resilience to Global Change-anticipating the unexpected”, focuses not only on engineering and technical issues, but also economy, environment, finance, insurance, etc., attracting more than 300 participants gathered from over 30 different countries. There are altogether 6 keynote speeches made by experts from five countries including China, UK, the Netherlands, Canada and Japan, sharing experience in flood risk management and resilience enhancement under climate change based on local cases, and putting forward new ideas such as the importance of proper investment and insurance in flood risk management. One of the delegates Prof. Wan Haibin from the State Flood and Drought Relief Headquarters of the Ministry of Water Resources of China, made a keynote speech on the progress of emergency management in flood control and disaster mitigation in China and received positive response from the audience. During the 3-day Conference, there are 31 parallel sessions, covering areas of flood risk assessment and sustainable management, flood modeling and hydroinformatics, community and social resilience, urban and coastal flood risk management, economic impacts and damage estimation, insurance and investment in disaster management, flood risk mapping, etc.. The Chinese experts shared their views on sponge city construction, safety assessment on flood control, and development of community flash flood risk assessment system. On this conference, IWHR is recognized by the ad hoc committee to host the permanent secretariat of the International Conference on Flood Management (ICFM).



Opening Ceremony in ICFM



Dr. Peng Jing with the ad hoc committee

9.2 Ing. Loren Ruiz (a member of the subcommittee on WDRM, Peru) had several individual and local collaborative activities from March to August 2017 as follows:

- she is currently working on agreements between the Faculty of Mechanical Engineering of the National University of Engineering and Cayetano Heredia Hospital to achieve the successful run of a pilot hospital with undergraduate and postgraduate studies on disaster risk management and working between the Ministry of Health and the Peruvian Association of Professional Engineers

(CIP) WFEO DRM for the participation of the engineers at the departmental level in the support for public health.

- in the organization, the technical events are listed below:

a) the Launching of the Lima City Resilient 2017-2030 program, whose objectives of implementing actions so that Peruvians can make are, for instance, making signs of nature and better face different scenarios to save their lives and protect them from physical injuries, by performing quick reaction and spreading knowledge (Municipality of Lima, Lima),

<https://www.facebook.com/jicaperu/posts/649150431960622>

b) the Round Table Impact of industrial-caused fires in urban areas, which was set up to maintain appropriate and healthy environment and population by collaborating with DRM Subcommittee of the Peruvian Association of Professional Engineers - National Council (CIP-CN) (San Martin de Porres, Lima),

<https://www.youtube.com/watch?v=mrK3J96j2ok>,

<https://www.youtube.com/watch?v=JRe3tAvmQNo>

https://www.youtube.com/watch?v=7KGq3t_1i8k,

<https://www.youtube.com/watch?v=ESBw3PjDb0g>

c) the coordination of a technical interview in DRM via radio-TV of CIP in a program, called “Peru around the world,” was performed to expose the health problem in disasters and to clarify the role of technical supports by engineering, done by CIP (San Isidro, Lima),

<https://www.youtube.com/watch?v=VfCbi-38VjE>

d) her participation in the intervention of the Functional Unit for Risk Management in Emergencies and Disasters in Cayetano Heredia Hospital was done in the context of the disaster in Carapongo, Lima, to visit flood victims (Lima, March 25),

https://www.facebook.com/loren.ruiz.77/media_set?set=a.10156246191394606.687499605&type=3

e) her assistances for several technical events are listed below:

the forum on disaster risk and urban management (Jesus-María, Lima, March 15),

https://www.youtube.com/watch?v=w_UV9w2f1AA

the forum, “Importance of meteorology,” held by CIP (San Isidro, March 23),

<https://www.youtube.com/watch?v=YoDgwpQBvq8>

the scientific event, “Impact of natural disasters on public health,” held by Hospital Cayetano Heredia and Ministry of Health (Saint Martin de Porres, Lima, March 29),

the forum, “Reconstruction of areas affected by disasters in Peru”, held by Subcommittee on DRM of CIP (Miraflores, Lima, June 05),

<http://www.cip.org.pe/index.php/eventos/item/1039-foro-de-reconstruction-of-areas-affected-for-disasters-in-the-peru.html>

the forum, “To 10 years of the earthquake of Pisco,” held by CIP-CN (Miraflores, Lima, August 29),

<https://www.facebook.com/cipcn/videos/1531825396880907/>

the international forum, “Reducing the Risk of Disasters in Vulnerable Cities” held by the Center for Seismic Research and Disaster Mitigation of the National University of Engineering (Rimac, Lima, August 06),

the workshop, “Simulation of earthquake of great magnitude in Lima and Callao,” held by Ministry of Health (Jesus-María, Lima, August 07).

<http://www.minsa.gob.pe/?op=51¬a=25379>



The meeting with the professors from the faculty of Mechanical Engineering and Cayetano Heredia Hospital personnel



The event on Fire at Cayetano Heredia Hospital



The workshop of "Simulation of earthquake of great magnitude in Lima and Callao"

9.3 Prof. Fang Chen (a member of the subcommittee on CBMDRM, China) was invited to

- a session as a chair at the 10th International Symposium on Digital Earth (April 2017, Sydney, Australia) and delivered a presentation on “Digital Belt and Road Initiative and its contribution to disaster risk reduction for effective decision making”.
- side events at the 2017 Global Platform for DRR (May 2017 Cancun, Mexico) and published a policy brief on “Cities and Disaster Risk Reduction” as co-author.
- the 4th NASA- Convergent Aeronautics Solutions (CAS) Workshop on “Use of Earth Observation to Address Glacier Change and Associated Hazards in High Mountain Asia (HMA)” (May 2017, Juneau, USA) and delivered a presentation on “Monitoring Glacial Lake Outburst Floods in Tibet Plateau from 2008-2016”.
- International Workshop on “China-Pakistan Economic Corridor Natural Hazards Risk Assessment and Mitigation” (organized by Pakistan Academy of Sciences and CAS, July 2017, Islamabad, Pakistan) and delivered a presentation on “Hazards Mapping from Large-scale Remotely Sensed Imagery in HMA”.

He was served as member of

- InterAcademy Panel working group for statement development on “Science and Technology for Disaster Risk Reduction” on the Global Forum on Science and Technology for Disaster Resilience (Tokyo, November 2017).
- scientific committee of the 2nd Conference of the Digital Belt and Road (Hong Kong, China, December 2017).

He published DRR papers:

- Fang Chen, Meimei Zhang, and et al. Extraction of Glacial Lake Outlines in Tibet Plateau Using Landsat 8 Imagery and Google Earth Engine, IEEE JSTARS, 2017
- Tianchan Shan, Changlin Wang, Fang Chen (corresponding author), and et al. A Burned Area Mapping Algorithm for Chinese FengYun-3 MERSI Satellite Data, Remote Sensing, 2017
- Bo Yu and Fang Chen. A new technique for landslide mapping from a large-scale remote sensed image: A case study of Central Nepal, Computers & Geosciences, 2017
- Bo Yu and Fang Chen(corresponding author). A Simple but Effective Landslide Detection Method Based on Image Saliency, PE&RS, 2017

9.4 Dr. Alberto Delgado (a member of the subcommittee on EQDRM, Peru) was involved in the following activities.

- Advising and developing the study of Risk Evaluation of water and sewage system of Lima, capital city of Peru, to avoid damages due to earthquakes, tsunamis and floods. The Lima Metropolitan Water Authority (SEDAPAL) is the entity in charge of the system;
- Participation in the preparation of The Plan to rebuild damages due to El Niño Phenomena in Lima capital city. The damages had occurred from January to March 2017. There was housing, building, bridges, and water supply system damages. The Municipality of Metropolitan Lima oversaw this Plan;
- As member of the Board of Japan International Cooperation Agency (JICA) Alumni, he was in charge of organizing several activities related with DRM such as DRM Group activities and communications. Also, he is organizing the new DRM Working Group for Latin American Federation of former participants of Japan scholarships from JICA.
- Published paper: RESILIENT CITIES AGENDA FOR THE 21st CENTURY, 16th World Conference on Earthquake Engineering (16 WCEE 2017). Santiago, Chile, January 9th to 13th 2017, Co-author: Dr. Julio Kuroiwa.
- Consulting work for several important projects such as Tunnel and freeway under the new Runway 2 of Lima International Airport, Subway stations or Underground Lima-Callao Line No. 2, among other works.
- Cooperation with the Peruvian Association of Professional Engineers (named CIP, in Peru) Committee in charge to prepare the transfer WFEO-CDRM from the current host (Science Council of Japan, named SCJ, in Japan) to new host after the next WFEO General Assembly (Rome Italy, December 2017). He will do the preparation of Working Plans and other documents.

9.5 Prof. Chan Wirasinghe (a member of WFEO-CDRM subcommittees WDRM and CBNDRM) and his group members published the following academic papers related to DRM:

- Thesis Dissertation

H. J. Caldera, "Analysis and Classification of Natural Disasters". Dissertation, Master of Science, Department of Civil Engineering, University of Calgary, April 2017.
<http://hdl.handle.net/11023/3704>

• Peer-reviewed journal article

S.W. Durage, S.C. Wirasinghe, and J.Y. Ruwanpura, (2016). Tornado mitigation network analysis and simulation, *International Journal of Disaster Resilience in the Built Environment*, Accepted with minor revisions in January 2016.

S.W. Durage, S.C. Wirasinghe, and J.Y. Ruwanpura, (2016). Decision analysis for tornado warning and evacuation, *Natural Hazards Review*, 10.1061/(ASCE)NH.1527-6996.0000195, 04015014.

M. A. Esfeh, H. J. Caldera, S. Heshami, N. Moshahedi, and S. C. Wirasinghe, "Severity of earthquake events - statistical analysis and classification", *International Journal of Urban Sciences*, vol. 20, no. sup1, pp. 4-24, March 2016, doi: 10.1080/12265934.2016.1138876.

• Peer-reviewed conference proceeding

H. J. Caldera, O. Ebadi, M. Salari, L. Wang, M. Ghaffari, and S. C. Wirasinghe, (2016) Severity classification for tsunamis based on fatality analysis. *Proceedings of the 12th International Conference of I3R2*, University of Peradeniya, Kandy, Sri Lanka, August 2016, pp.1-9.

S. Wickramaratne, D. Suriyamudali, J. Y. Ruwanpura and S. C. Wirasinghe, (2016) Recent developments in the international & Indian Ocean tsunami warning process and its benefits to Sri Lanka. *Proceedings of the 12th International Conference of I3R2*, University of Peradeniya, Kandy, Sri Lanka, August 2016, pp.10-17.

H. J. Caldera, S. C. Wirasinghe, and L. Zanzotto, "An approach to classification of natural disasters by severity", in *proc. 5th Int. Natural Disaster Mitigation Specialty Conf. at the Annu. Conf. of the Canadian Society for Civil Engineering*, London, Canada, June 2016, pp. NDM-528:1-11, Available: <http://ir.lib.uwo.ca/csce2016/London/NaturalDisasterMitigation/20/>

• Peer-reviewed abstract

H. J. Caldera, and S. C. Wirasinghe, "Sizing up Natural Disasters", in *proc. 13th Annu. Canadian Risk and Hazards Network (CRHNet) Symp.*, Montreal, Quebec, Canada, November 2016, pp. 20.

Available:
<http://www.crhnet.ca/sites/default/files/2016-11-16%2016%3A37/CRHNet%20Symposium%20Program%202016-FINAL%20TO%20PRINT-Nov.15.16.pdf>

• Non-Peer-reviewed publications (newspapers/ magazines/ websites)

L. Yumagulova (Ed.), (2016), "CRHNet National Awards: 2015 Larry Pearce Education Award Winners-Jithamala Caldera (shared 1st Place)", *HazNet, The Magazine of the Canadian Risks and Hazards Network*, Special Issue: VOLUNTEERS, Vol.8, No.1, spring 2016, p.38-39, <http://haznet.ca/wp-content/uploads/2016/05/Haznet-10.pdf>

• Working paper

H. J. Caldera, S.C. Wirasinghe, and L. Zanzotto, 'Severity scale for tornadoes', *Journal of Natural Hazards* (under review)

He has also worked on the disaster research project entitled "Analysis of Severity Level of Natural Disasters" with his student (H. Jithamala Caldera in Department. of Civil Engineering, University of Calgary, Canada). The project aligns with the priority of the Sendai Framework for DRR 2015-2030 to improve communication and understanding of disaster risk. Their studies developed a new classification system for disaster severity based on fatalities because of no universal method that provides real magnitude of the natural disasters' severity levels. The classification system is used to understand the disaster continuity and impact.

Reference 1

Report on “The 11th joint international symposium on disaster risk management in Fukuoka, Japan”

The joint international symposium on Disaster Risk Management (DRM) was held in the morning on September 13, 2017, in Kyushu University, Fukuoka (Japan), collaborated with the Japan Society of Civil Engineers (JSCE), Architectural Institute of Japan (AIJ), Japan Federation of Engineering Societies (JFES), and WFEO-CDRM, and supported by the Science Council of Japan (SCJ). The symposium has been annually held since 2009 in order to disseminate that the DRM is a key to promote disaster prevention and reduction. The symposium attracted approximately 50 participants. Several guest speakers presented their great expertise and valuable experiences for natural disasters. They were invited from five countries. Three Japanese professors (Dr. Mazda, Dr. Shimizu, and Dr. Shimatani) reported the situations of severe earthquake- or water-related disasters that recently occurred in Japan. Dr. Mujumdar (USA) talked about the framework for resilience and sustainability. Dr. Saber (Egypt) and Dr. Sutcu (Turkey) presented the updated technologies locally developed against disasters. Dr. Lai (Taiwan China) showed the hazard mapping for severe landside disasters. The audience was interested in their talks and had several questions and comments to the guest speakers. For example, one discussed with Dr. Mazda the broken bridges over highways during Kumamoto Earthquake through specific breaking mechanism. The symposium was successfully ended with greatly valuable talks by the speakers and their constructive discussions with the audience.



Prof. Komatsu's opening remarks



Dr. Saber's talk



Guest speakers and organizing committee's members

The 11th Joint International Symposium on Disaster Risk Management

Large, severe natural disasters caused by earthquakes and extreme weather-induced floods and landslides have often occurred in Japan. For example, Kumamoto area (the southeastern Japan) experienced two catastrophic earthquakes with the highest intensity (Japanese seismic coefficient 7) of ground motion in April 2016, and then had over 200 deaths (directly and indirectly killed by the earthquakes) and 41-billion-USD damages. Another was the flood disaster by Typhoon No. 10 in 2016 over Tohoku and Hokkaido regions (the northeastern and northern Japan), which particularly caused great damages for agricultural and livestock products in the southern Hokkaido with poor river embankments for flood controls. We will hold an international symposium to share our experiences and lessons based on these severe disasters from Japan to the world. More catastrophic disasters caused by climate change and big earthquakes may occur in the future. To protect and reduce the disasters actively, it is necessary to collaborate and cooperate with a variety of government, academic and industrial organizations which work against disasters. This symposium will provide global thoughts and discussions among disaster experts and the people who are interested in, by thinking about earthquake and water-related disasters based upon experiences worldwide.

Organized by: WFEO-CDRM), JFES, JSCE, AIJ and Natural disaster information center of western Japan in Kyushu University

Supported by: SCJ

Date and Time: Wednesday, September 13, 2017, 09:00–13:00

Venue: Ito Campus, Kyushu University, 744 Motoooka Nishi-ku, Fukuoka 819-0395, Japan.

Room: Inamori-hall A, Inamori Center

Maximum number of participants: 80 people

Admission: Free of charge, but you need to register at the reception desk (Inamori-hall A).

The registration will start at 08:40.







Language: English

(Note) This symposium is held as an international activity during the 72th annual conference of JSCE in 2017.

This symposium will provide the credits of JSCE Continuing Professional Development (CPD) program (JSCE17-0625, 3.3 credits).



Program

Time & item/speaker (affiliation)	Speaker's present title	Country
09:00 Opening remarks		
Toshimitsu Komatsu (Chair, WFEO-CDRM; Vice President, JFES; Emeritus Professor, Kyushu University)		Japan
09:15 Earthquake disaster session		
Taiji Mazda (Professor, Kyushu University)	Overview of damage due to the 2016 Kumamoto Earthquake. (Page: 3 – 12)	Japan 
Fatih Sutcu (Assistant Professor, Istanbul Technical University in Turkey)	The recent developments in seismic isolation and response control technology and research in Turkey.	Turkey 
Vilas Mujumdar (National Member, WFEO; Consulting Engineer; Vice chair, WFEO-CDRM)	A framework for resilient and sustainable communities.	USA 
10:30~10:45 Short break		
10:45 Water & landslide disaster session		
Yasuyuki Shimizu (Professor, Hokkaido University; Chair, Committee on Hydraulic Engineering in JSCE)	Heavy rain-induced disasters in Hokkaido, August 2016.	Japan 
Yukihiro Shimatani (Professor, Kyushu University)	Torrential rain-induced disasters in Northern Kyushu, July 2017 - preliminary report.	Japan 
Wen-Chi Lai (Professor, Taiwan National Cheng Kung University)	Hazard mapping and disaster management of large scale landslides in Taiwan.	Taiwan China 
Mohamed Saber (Assistant professor, Assiut University in Egypt; Senior researcher, Kyoto University)	Wadi flash floods integrated management in Egypt by considering climate change for secured development in Wadi basins.	Egypt 
12:25 Closing Remarks		
Kenichi Tsukahara (Secretary, WFEO-CDRM; Professor, Kyushu University)		Japan
12:30 End of the Program		

Abbreviations

AIJ	= Architectural Institute of Japan
CAS	= Convergent Aeronautics Solutions
CBNDRM	= Capacity Building for Natural Disaster Risk Management (subcommittee of CDRM)
CDRM	= WFEO-Committee on Disaster Risk Management
CIP	= Peruvian Association of Professional Engineers
CIP-NC	= Peruvian Association of Professional Engineers – National Council
DRM	= Disaster Risk Management
DRR	= Disaster Risk Reduction
Eng.	= honorific title of Engineer or Engineering
Er.	= honorific title of Engineer
EQDRM	= EarthQuake-related Disaster Risk Management (subcommittee of CDRM)
FEIAP	= Federation of Engineering Institutions of Asia and the Pacific
I3R2	= International Institute for Infrastructure Renewal and Reconstruction
Ing.	= Ingenieur (French), Ingeniero (Spanish), honorific title of Engineer
IWHR	= China Institute of Water Resources and Hydropower Research
JFES	= Japan Federation of Engineering Societies
JICA	= Japan International Cooperation Agency
JSCE	= Japan Society of Civil Engineers
NASA	= National Aeronautics and Space Administration
SCJ	= Science Council of Japan
SC/EES/EGR	= Earth Sciences and Geo-Hazards Risk Reduction Section
SDGs	= Sustainable Development Goals
SEDAPAL	= Servicio de Agua Potable y Alcantarillado de Lima
UN	= United Nations
UNESCO	= United Nations Educational, Scientific, and Cultural Organization
UNISDR	= United Nations Office for Disaster Risk Reduction
UPADI	= Pan American Academy of Engineers Association
WDRM	= Water-related Disaster Risk Management (subcommittee of CDRM)
WFEO	= World Federation of Engineering Organizations