



WORLD FEDERATION OF ENGINEERING ORGANIZATIONS

PROGRESS REPORT STANDING TECHNICAL COMMITTEE ON DISASTER RISK MANAGEMENT 2021 ACTIVITIES

Dr. José Macharé Ordoñez
WFEO/CDRM Chairman

October 29, 2021

Lima, Peru

1. INTRODUCTION

This report to the WFEO Executive Council gives a brief outline of the activities that the Committee on Disaster Risk Management (CDRM) has performed from October 2020 to October 2021. The committee's activities have focused on the preparation of the booklet on Resilience, as well as on capacity building through the organization of webinars and online courses.

2. BRIEF BACKGROUND

The Peruvian Engineers Association (CIP, *Colegio de Ingenieros del Perú*) became the chair of the WFEO-CDRM on December 2017 in Rome, Italy. In order to organize their activities, the Peruvian members of the CDRM prepared the 2018-2021 Strategic Plan, which was circulated among all the committee members for their input. This plan was approved at the General Assembly meeting in Rome.

3. PLANNED AND EXECUTED ACTIVITIES

In its fourth year of activities, the committee worked to achieve the following planned activities:

Activities	Status
Organize a webinar in the framework of the World Engineering Day 2021	Finished
Prepare the book on Resilience	In process
Organize international webinars	Finished
Organize online courses	Finished
Virtual committee meetings	Finished
Prepare the annual newsletter of the activities of the committee	Finished

3.1 Organize a webinar in the framework of the World Engineering Day 2021

In the framework of the World Engineering Day celebrated on 4 March 2021, CDRM organized the international webinar **"Toward Resilient Societies: The Engineering Contribution"**, which took place on 9 March. The achievement of SDG11: Make cities inclusive, safe, resilient and sustainable, is in the core of CDRM concern. Speakers presented case studies from Hong Kong, New Zealand and Costa Rica. Prof Gong Ke, WFEO President and Dr. Marlene Kanga WFEO Immediate Past President made opening remarks on the importance of engineering for disaster resilience and for sustainable development.

<https://www.cip.org.pe/events/dia-mundial-de-la-ingenieria/>

<https://www.youtube.com/watch?v=cRx6oeRcwf4&t=118s>

TOWARD RESILIENT SOCIETIES: THE ENGINEERING CONTRIBUTION

9 March 2021

19:00 Lima time

08:00 Hong Kong time (10 March)
13:00 New Zealand time (10 March)
18:00 Costa Rica time (9 March)



SESSION OPENING

Gong Ke
WFEO President



INTRODUCTORY SPEECH

Marlene Kanga
WFEO Past President

REGISTRATION

<https://forms.gle/jsDe4z6mphaQUR8o6>

1

Land Use Planning to Build Disaster Resilience

Ir Eric MA Siu-cheung, GBS, JP, CEO, NWS Holdings Limited, Hong Kong



Eric Ma

2

Infrastructure as a Key Contributor to Resilient Nations

Roger Fairclough, Chair, New Zealand Lifelines Council, New Zealand



Roger Fairclough

3

Business continuity in the construction sector based on COVID-19 preventive measures in Costa Rica.

Andrea Chacón, Marcial Rivera, Members, CFIA Costa Rica



Andrea Chacón



Marcial Rivera

3.2 Prepare the book on Resilience

The CDRM is working on a booklet on Resilience. This publication will present a general framework on how to build and implement resilience to disasters. Five key elements have been identified which will allow customizing this framework in different countries: Land Use Planning, Resilient Infrastructure, Data and Information Management, Capacity Building, and Institutional Framework. These themes are being developed through working groups composed of committee members, according to their areas of knowledge and expertise, as well as external specialists have been convened for this purpose.

Disaster Risk Management as an integral part of Resilience: The Engineering Contribution is the title of a booklet that the committee would be launching on World Engineering Day in March 2022.



Resilient Infrastructure WG

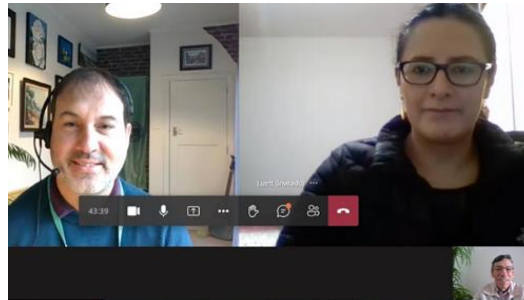
Capacity Building WG



Land Use Planning WG



Data Management WG



Institutional framework WG

3.3 Organize international webinars

The WFEO-CDRM, the Peruvian Engineers Association (CIP), the University College London (UCL), the EPICentre, the International Scientific Committee on the Analysis and Restoration of Structures of Architectural Heritage (ISCARSAH) and the National Academy of Sciences of Peru joined forces to organize the international webinar **“Strengthening Efforts to Protect and Safeguard the World’s Cultural and Natural Heritage”**, which took place on October 7.

<https://www.cip.org.pe/events/fortaleciendo-esfuerzos-para-proteger-y-salvaguardar-el-patrimonio-cultural-y-natural-del-mundo/>

<https://www.youtube.com/watch?v=LI-bhgQY9XA>

INTERNATIONAL WEBINAR:

STRENGTHENING EFFORTS TO PROTECT AND SAFEGUARD THE WORLD'S CULTURAL AND NATURAL HERITAGE

Organized by: WFEO-CDRM UCL EPICentre Icomos

07 OCTOBER 2021

11:00 am Lima time
5:00 pm UK
6:00 pm Spain

Dr. Dina D'Ayala
University College London, UK
Multi-hazard risk and prioritization for architectural heritage. Applications to the Philippines

Dr. Pere Roca
Technical University of Catalonia, Spain
The Icomos / Icomos Guidelines on the Analysis, Conservation and Structural Restoration of Architectural Heritage

Dr. Victor Carliotto
National Academy of Sciences, Peru
Geological investigations at cultural and natural heritage sites

Information: eventoscip1@cip.org.pe

zoom f LIVE

ZOOM ACCESS
Simultaneous translation



On August 26, the international webinar "**Humanitarian Logistics in Disasters: New Technologies for Decision Making**" was held. This event was organized by the WFEO-CDRM, the CIP, and Production and Operations Management Society (POMS), and presented the technological applications and solutions that can be deployed for humanitarian interventions.

<https://www.cip.org.pe/events/la-logistica-humanitaria-en-casos-de-desastres-nuevas-tecnologias-para-la-toma-de-decisiones/>

<https://www.youtube.com/watch?v=F4ufVHMsesU>

WEBINAR INTERNACIONAL:

LA LOGÍSTICA HUMANITARIA EN CASOS DE DESASTRES: NUEVAS TECNOLOGÍAS PARA LA TOMA DE DECISIONES

26 de agosto - 19.00pm (Perú)

ORGANIZAN: WFEO-CDRM CIP POMS

Dr. Pavel Albores
Auston University, UK
Nuevas Tecnologías y Ciudades Inteligentes en la gestión de Desastres y Emergencias

Dr. William Guerrero
Universidad de la Sabana, Colombia
Principios de la Industria 4.0 aplicados a los desafíos de la Gestión de la Respuesta a Desastres

MSc Renzo Benavente
Grupo para Manejo de Crisis y Desastres, de la PUCP, Perú
Aplicación de herramientas de analítica y nuevas tecnologías en la logística humanitaria

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INFORMES: eventoscip1@cip.org.pe
CIPCN/ f

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The CDRM organized an international webinar focused on “**Engineering contributions for managing the next pandemics**” that was held on December 18th 2020. In the present-day SARS-CoV-2 outbreak, every country deal with the disaster according their own vision, strategies and resources. Speakers showed that science and technology provide adequate knowledge and various tools that contribute to the management of the current and a future pandemic.

<https://www.cip.org.pe/events/international-webinar-engineering-contributions-for-managing-the-next-pandemics/>

https://www.youtube.com/watch?v=DOn8xUywn_E

INTERNATIONAL WEBINAR

Engineering Contributions for Managing the Next Pandemics

18 December 2:00p.m. Lima time

Dr. Carina Fearnley
University College of London, UK
Early warning systems for pandemics: Lessons learned from natural hazards

Dr. Simiao Chen
Chinese Academy of Medical Sciences, CN
Fangcang shelter hospitals: a novel concept for responding to public health emergencies

Dr. Michael O'Sullivan
University of Auckland, NZ
Healthcare Modelling for Pandemic Planning and Recovery

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3.4 Organize online courses

The WFEO-CDRM with the support of the Peruvian Engineers Association (CIP), organized the free online course “**Managing the risk of debris and mud flow-related disasters**”, bringing together distinguished specialists from different countries. The course took place from 13 to 30 April.

The course was offered in Spanish and English, and included an evaluation system in order to obtain a certificate of participation. The course had 533 participants from different countries around the world.

SPECIALIZED SHORT ON-LINE COURSE

MANAGING THE RISK OF DEBRIS AND MUD FLOW-RELATED DISASTERS

13 START APRIL 2021

TOPICS AND SPEAKERS

1 Debris flow mechanics and climatic influences

2 Hazard maps for risk prevention and reduction

3 Vulnerability assessment of building and infrastructure

4 Early warning systems for debris and mudflows

5 Capacity building and social organization

6 Engineering solutions in mass flow-prone areas

Dr. Paul Santi
Colorado School of Mines, USA

Dr. Reginald Hermanns
Norwegian University of Science and Technology, NO

Dr. Dimitris Pitilakis
Aristotle University of Thessaloniki, GR

Dr. Edier Aristizabal
National University of Colombia, CO

Dr. Silvia Hostettler
EPFL Sustainability, CH

Dr. Federico Vagnon
Università degli Studi di Torino, IT

INFORMATION
wfeo-cdrm@cip.org.pe

3.5 Virtual Committee meetings

The first online meeting of the WFEO-CDRM took place on Thursday 28 January. At the meeting, the new members of the committee were introduced, the working groups were formed to prepare the booklet, the structure and content of the booklet were discussed, and the theme of the webinar on the occasion of World Engineering Day was agreed.

The committee chair had a meeting with Dr. Gong and Dr. Kanga on January 30 to present and discuss the concept note of the booklet proposal.



3.6 Prepare the annual newsletter of the activities of the committee

The newsletter was prepared to update its members, as well as the WFEO and those interested in the subject of Disaster Risk Management, on the activities of the committee.



WFEO-CDRM Secretary

Dr. Lizett López

Peruvian Engineers Association

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E-mail: llopezs@cip.org.pe

WFEO-CDRM CURRENT MEMBERS

Country	Name and title	Position
Australia/International	Myles Lind	International Federation of Municipal Engineering (IFME)
Bolivia	Eduardo Velásquez	Sociedad de Ingenieros de Bolivia
China	Fang Chen	China Association for Science and Technology
China	Jing Peng *	China Association for Science and Technology
Costa Rica	Marcial Rivera Rodríguez	Colegio Federado de Ingenieros y de Arquitectos de Costa Rica
Czech Republic	Karel Vancura	The Czech Association of Scientific and Technical Societies
Ethiopia	Tihtina Laeke Hailu	Ethiopian Association of Civil Engineers
Ghana	Carlien Bou Chedid	Ghana Institution of Engineers
Hong Kong, SAR of China	Eric Ma	The Hong Kong Institution of Engineers
Hong Kong, SAR of China	Edwin Chung*	The Hong Kong Institution of Engineers
India	Ashok Basa	The Institution of Engineers, India
Italy	Giovanni Cardinale	Consiglio Nazionale degli Ingegneri
Japan	Kenichi Tsukahara	Science Council of Japan
Kenya	Fanuel Mwashigadi	Institution of Engineers of Kenya
Kuwait	Ahmad H. Bahman	Kuwait Society of Engineers
Lebanon	Ali Hennaoui	Federation of Lebanese Engineers
Myanmar	U Ko Ko Gyi	Myanmar Engineering Society
New Zealand	Dave Brunson	Engineering New Zealand
Peru	José Macharé (Chair)	Peruvian Engineers Association
Peru	Lizett López	Peruvian Engineers Association
Portugal	José Manuel Brazao Andrade da Silva Branco	Ordem dos Engenheiros
Rwanda	Vivens Karamaga Nshimiyimana	The Institution of Engineers Rwanda
Spain	Roberto López Casasola	Instituto de la Ingeniería de España
Spain	Arturo Muiña Dominguez*	Instituto de la Ingeniería de España
United Kingdom	Valentina Putrino	Institution of Civil Engineers
USA	Vilas Mujumdar *	Expert member

(*) Observers