WEF 2017
WORLD ENGINEERING FORUM
WFEO GENERAL ASSEMBLY

26 November / 02 December 2017  Sheraton Roma Hotel - Rome, Italy

SAFEGUARDING HUMAN KIND’S HERITAGE,
THE GREAT CHALLENGE FOR ENGINEERS

www.wefrome2017.com
WEF 2017
WORLD ENGINEERING FORUM
WFEO GENERAL ASSEMBLY

26 November / 02 December 2017  Sheraton Roma Hotel - Rome, Italy
SAFEGUARDING HUMANKIND’S HERITAGE, THE GREAT CHALLENGE FOR ENGINEERS
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The National Council of Italian Engineers is very glad to host the World Engineering Forum (WEF 2017). The event, organized with WFEO, is due to take place on 27th (opening ceremony), 28th and 29th November, in Rome. The main topic of WEF2017 will be “Safeguarding humankind's heritage, the great challenge for engineers”. The Forum will focus on the engineering support offered to the social and economic development, with special reference to the role of engineering in sustainable development and technological innovation. During the WEF2017,
innovative developments, technological applications and best practices related to the general topic of the forum, will be explored and analyzed. WEF2017’s mission will be that of orienting the world towards the safeguarding of its heritage through the help of innovation and creativity. Public speakers of high-level, national and international organizations, academia, businesses and professionals will meet and confront each other. We will discuss and share innovative ideas, solutions and practices from all over the world. It will be a pleasure for me to welcome you to Rome!

Armando Zambrano
CNI President
SCIENTIFIC COMMITTEE

Jorge Spitalnik
President of the World Federation of Engineering Organizations (WFEO)

Marlene Kanga
President Elect WFEO

Marwan Abdelhamid
Past-President WFEO

Martin Manuhwa
Chair of WFEO Committee on Anti Corruption (CAC)

Yashin Brijmohan
Chair of WFEO Committee on Engineering Capacity Building (CECB)

Toshimitsu Komatsu
Chair of WFEO Committee on Disaster Risk Management (CDRM)

Samuel Grossman
Chair of WFEO Committee on Energy (CE)

Jean Venables
Chair of WFEO Committee on Engineering and the Environment (CEE)

Abdul Menhem Alameddine
Chair of WFEO Committee on Education in Engineering (CEIE)

Ke Gong
Chair of WFEO Committee on Engineering for Innovative Technologies (CEIT)

S.S. Rathore
Chair of WFEO Committee on Information and Communication (CIC)

Valerie Ifueko
Chair of WFEO Committee on Women in Engineering (WIE)

Zainab S. Garashi
Chair of WFEO Committee on Young Engineers / Future Leaders (YE/FL)

Alex Tarchini
EMEA EDU Business and Market Development
Jan Kowal  
Director of the Department of Engineering and Innovation at the Open University

Paul Jowitt  
President of the Commonwealth Engineers Council (CEC)

Manchao He  
Director of the State Key Laboratory for Geomechanics and Deep Underground Engineering

Surendra Kumar Biswa  
CSIR Council of the Scientific and Industrial Research

Adil Al Hadithi  
President of the Federation of Arab Engineers (FAE)

Mustafa Shehu  
Past President of the Federation of the African Engineering Organizations (FAEO)

José Manuel Vieira  
President of the FEANI – European Federation of National Engineering Associations

John Li Chien Chung  
President of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP)

Edemar Amorim  
Pan American Federation of Engineering Societies (UPADI)

Ashok Kumar Basa, FIE  
Past President of the Institution of Engineers (India)

Michael Milligan  
ABET (Accreditation Board for Engineering and Technology)

Jennifer Deboer  
Co-Director of the International Institute for the Development of Engineering Academics

Gustavo Arvizu Lara  
President of the Unión Mexicana de Asociaciones de Ingenieros [UMAI]

Vito Cardone  
President of the Quacing

Piero Torretta  
President of the Ente Italiano di Normazione (UNI)

Nicola Monda  
Italian delegate of the WFEO

Maurizio Tira  
Dean of the University of Brescia

Massimo Sessa  
President of the Consiglio Superiore dei Lavori Pubblici

Marco Tubino  
President of the Conferenza per l’Ingegneria [COPI]

Giovanni Cardinale  
Vicepresident of the Italian National Council of Engineers [CNI]

Gaetano Manfredi  
President of the CRUI

Enzo Siviero  
Rector of the University eCAMPUS
WFEO EXECUTIVE COUNCIL

WFEO EXECUTIVE BOARD

Jorge Spitalnik President
Marlene Kanga President Elect
Marwan Abdelhamid Past President
Peter Greenwood Executive Vice President
Crtomir Remec Executive Vice President
Reginald Vachon Treasurer
Pierre de Boigne Deputy Treasurer
Jacques de Méreuil Executive Director

WFEO COMMITTEE CHAIRS – VICE PRESIDENTS

Abdul M. Alameddine Education in Engineering
Jean Venables Engineering & the Environment
Ke Gong Engineering Innovative Technologies
S.S. Rathore Information & Communication
Zainab Garashi Young Engineers / Future Leaders
Samuel Grossman Energy
Valerie Ifueko Women in Engineering
Martin Manuhwa Anti-corruption
Toshimitsu Komatsu Disaster Risk Management
Yashin Brijmohan Engineering Capacity Building
WFEO EXECUTIVE COUNCIL

WFEO NATIONAL MEMBERS

José Tadeu da Silva Brazil
Vilas Mujumdar USA
Ruomei Li China
Ashok Basa India
Haro Bedelian UK
Khaled Chehab Lebanon
Nicola Monda Italy
Tomas Sancho Spain

WFEO INTERNATIONAL MEMBERS

CEC Paul Jowitt Commonwealth Engineers Council
FAE Adil Al Hadithi Federation of Arab Engineers
FAEO Julius M. Riungu Federation of African Engineering Organizations
FEANI José Manuel Vieira European Federation of National Engineering Associations
FEIAP John Li Federation of Engineering Institutions of Asia and the Pacific
UPADI Edemar Amorim Pan American Federation of Engineering Societies

WEF2017 is held under the patronage of UNESCO
CONSIGLIO NAZIONALE DEGLI INGEGNERI

The Italian National Council of Engineers (CNI) is the institutional national body representing the professional category of the Italian engineers. CNI is a non-economic public entity, established in 1944 and placed under the supervision of the Ministry of Justice. The institutional commitment of CNI includes, among others, the following tasks: to express opinions concerning decisions made by the Disciplinary Committees of each provincial Order of Engineers relevant to appeals and complaints; to issue legal opinions, on behalf of the Ministry of Justice, concerning legislative or regulation proposals about the profession of engineer; to act as advisory body towards the Governmental, Institutional and Supervisory Authorities, which deal with the profession of engineer.

CNI plays a significant role in: promoting, developing and safeguarding the figure of the Engineer in the society; providing the Continuing Professional Development and ensuring the quality of the professional performances. Activities and objectives of CNI give high importance to the following topics: safety and security of people and goods, environment protection, safeguarding of the natural resources, sustainable development, scientific and technological progress, and enhancement of the intellectual work.
WFEO

WFEO is an international, non-governmental organization representing the engineering profession worldwide. Since 1968, the World Federation of Engineering Organizations brings together national engineering organizations from over 90 nations and represents some 20 million engineers from around the world.

WFEO serves society and is recognized as a respectable and valuable source of advice and guidance on the policies, interests and concerns that relate to engineering and technology.

WFEO encourages all of its national and international members to contribute to global efforts to establish a sustainable, equitable and peaceful world.

MISSION

• To represent the engineering profession internationally, providing the collective wisdom and leadership of the profession.

• To assist national agencies to choose appropriate policy options that address the most critical issues affecting countries of the world.

• To enhance the practice of engineering.

• To make information on engineering available to the countries of the world and to facilitate communication between its member nations about the world’s best practices in key engineering activities.

• To foster socio-economic security and sustainable development and poverty alleviation among all countries of the world, through the proper application of technology.

• To serve society and to be recognized by national and international organizations and the public, as a respected and valuable source of advice and guidance on the policies, interests and concerns that relate engineering and technology to the human and natural environment.

• To cooperate with Funding Agencies such as development banks.

• To encourage public private partnerships by including the engineering dimension.

• To address the issue of what public policies need to be implemented.

The World Federation of Engineering Organizations
FORUM OVERVIEW

THEMES

• Engineering must help achieve material wealth within a sustainable development perspective. Technological research and smart applications should support societies and countries in generating social values and safeguarding the social and cultural heritage of each community of people.

• Defining engineering’s social mission in a rapid changing context will be the starting point of the event, which will then focus on challenges related to safeguarding and developing humankind’s heritage.

• Science, technology and engineering should contribute to two principles: ensuring social and technological changes for a better life and safeguarding the context in which such changes take place. Engineers should not only lead progressive material wealth but also act for the conservation of humankind’s heritage, defining a new development path.

• WEF2017 aims to analyze humankind’s heritage in different aspects, considering its conservation and preservation as a great challenge for engineers and for society. Rapid changes on a global scale may represent opportunities for increasing material wealth, but also threats to the preservation of the common heritage of each country, including landscape, natural environment, climate and monumental heritage. Engineering should propose smart solutions, combining development, wealth and conservation of humankind’s heritage through different approaches.

• The Forum is open both to decision-makers and professionals working in the field of managing, restoring and safeguarding cultural heritage and its different components. Managers, designers, researchers and restorers dealing with a wide range of activities connected with safeguarding humankind’s heritage are warmly welcome to the event, as are representatives of governmental and institutional bodies.

VENUE
SHERATON ROMA HOTEL & CONFERENCE CENTRE
Viale del Pattinaggio, 100 - Rome

Sheraton Roma is a Conference Hotel with 20 meeting rooms and over 4,100 m² of meeting spaces including a multifunctional ballroom that can be divided into seven soundproof sections. The hotel is located next to the EUR district, between Fiumicino airport and the city centre.
GLOBAL IDEAS AND SOLUTIONS
FOR WORLDWIDE INFRASTRUCTURE PROJECTS

Italferr, the engineering arm of Ferrovie dello Stato Italiane Group, is a leading provider of design, site supervision and project management services for infrastructure projects, on the Italian and international markets. From planning and design to commissioning, we have the know-how – based on more than 30 years’ experience – to offer our clients the best integrated technology solutions, with a low environmental impact, to help build a better world.

www.italferr.it
### SUNDAY 26 NOVEMBER 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Hall</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 / 09:00</td>
<td>HALL</td>
<td>WFEO Registration</td>
</tr>
<tr>
<td>09:00 / 10:30</td>
<td>TIZIANO</td>
<td>Young engineers/ Future leaders meeting</td>
</tr>
<tr>
<td>10:00 / 11:00</td>
<td>MALATESTA</td>
<td>Break</td>
</tr>
<tr>
<td>11:00 / 13:00</td>
<td>LUDOVISI</td>
<td>WFEO CAC Anti-Corruption Workshops</td>
</tr>
<tr>
<td>13:00 / 14:00</td>
<td>BENTIVOGLIO</td>
<td>Finance Committee</td>
</tr>
<tr>
<td>14:00 / 15:30</td>
<td>COLONNA</td>
<td>Committee on Women in Engineering</td>
</tr>
<tr>
<td>15:30 / 16:00</td>
<td>DORIA</td>
<td>IEA International Education Committee</td>
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</tbody>
</table>

**Day 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Hall</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>09:00 / 10:30</td>
<td>TIZIANO</td>
<td>Young engineers/ Future leaders meeting  &amp; Anti-Corruption Workshops</td>
</tr>
<tr>
<td>11:00 / 13:00</td>
<td>MALATESTA</td>
<td>President’s Advisors Meeting &amp; Anti-Corruption Workshops</td>
</tr>
<tr>
<td>13:00 / 14:00</td>
<td>LUDOVISI</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 / 15:30</td>
<td>BENTIVOGLIO</td>
<td>Strategic Planning Committee &amp; Anti-Corruption Workshops</td>
</tr>
<tr>
<td>15:30 / 16:00</td>
<td>COLONNA</td>
<td>Committee on Energy</td>
</tr>
<tr>
<td>16:00 / 18:00</td>
<td>DORIA</td>
<td>Committee on Engineering Capacity Building</td>
</tr>
<tr>
<td>Time</td>
<td>HALL TIZIANO</td>
<td>HALL LUDOVISI</td>
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<tr>
<td>08:00 / 08:30</td>
<td>WFEO Registration</td>
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<tr>
<td>08:30 / 10:00</td>
<td>Committee on Disaster Risk Management</td>
<td>Committee on Education in Engineering</td>
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<tr>
<td>10:00 / 10:30</td>
<td>Break</td>
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<tr>
<td>10:30 / 12:30</td>
<td>Committee on Disaster Risk Management</td>
<td>Committee on Education in Engineering</td>
</tr>
<tr>
<td>12:30 / 13:00</td>
<td>Lunch</td>
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<tr>
<td>13:00 / 14:30</td>
<td>Nominations Committee</td>
<td>Marketing Task Group</td>
</tr>
<tr>
<td>Time</td>
<td>Tuesday 28 November 2017</td>
<td>Wednesday 29 November 2017</td>
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<tr>
<td>08:30 / 09:00</td>
<td><strong>WFEO Registration</strong></td>
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<tr>
<td>09:00 / 10:30</td>
<td>HALL LUDOVISI</td>
<td>Executive Board Meeting</td>
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<td>HALL BENTIVOLGIO</td>
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<td></td>
<td>HALL COLONNA</td>
<td>50th Anniversary Meeting</td>
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<tr>
<td>10:30 / 11:00</td>
<td><strong>Break</strong></td>
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<tr>
<td>11:00 / 13:00</td>
<td>HALL COLONNA / DORIA</td>
<td>WEF/WFEO* Oral Session 6 (10:45 - 13:00)</td>
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<td></td>
<td><strong>Executive Board Meeting</strong></td>
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<tr>
<td>13:00 / 14:00</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>14:00 / 15:30</td>
<td>All STC Chairs Meeting</td>
<td>WURC Committee</td>
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<td>HALL COLONNA</td>
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<td></td>
<td>WURC Committee</td>
<td>Future Events 2018, 2019, 2020, 2023</td>
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<tr>
<td>15:30 / 16:00</td>
<td><strong>Break</strong></td>
<td></td>
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<tr>
<td>16:00 / 18:00</td>
<td>Young Engineers/Future Leaders Workshop (15:30-18:30)</td>
<td>WURC Committee</td>
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</tbody>
</table>

*WFEO Attendees are invited to WEF Oral Sessions 6-9*
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<thead>
<tr>
<th>Time</th>
<th>Thursday 30 November 2017</th>
<th>Friday 1 December 2017</th>
<th>Saturday 2 December 2017</th>
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<tbody>
<tr>
<td>08:30 / 09:00</td>
<td>WFEO Registration</td>
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<tr>
<td>09:00 / 10:30</td>
<td>WFEO Executive Council</td>
<td>WFEO General Assembly</td>
<td>WFEO General Assembly</td>
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<tr>
<td>10:30 / 11:00</td>
<td>Break</td>
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<tr>
<td>11:00 / 13:00</td>
<td>WFEO Executive Council</td>
<td>WFEO General Assembly</td>
<td>WFEO General Assembly</td>
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<tr>
<td>13:00 / 14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00 / 15:30</td>
<td>WFEO Executive Council</td>
<td>WFEO General Assembly</td>
<td>WFEO New Executive Board (Hall Borgia)</td>
</tr>
<tr>
<td>15:30 / 16:00</td>
<td>Break</td>
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<td>WFEO New Executive Council (Hall Borgia)</td>
</tr>
<tr>
<td>16:00 / 18:00</td>
<td>WFEO Executive Council</td>
<td>WFEO General Assembly</td>
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<tr>
<td>18:00 / 20:00</td>
<td>CEC Cocktail</td>
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<td>WFEO Dinner</td>
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<tr>
<td>20:00 / 22:00</td>
<td>WFEO Dinner</td>
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</tbody>
</table>
SUNDAY 26 NOVEMBER 2017

09:00 – 13:00    HALL TIZIANO  
Young Engineers / Future Leaders Meeting

09:00 – 15:30    HALL LUDOVISI  
WFEO CAC Anti-Corruption Workshops

09:00 – 13:00    HALL BENTIVOGLIO  
Finance Committee

09:00 – 13:00    HALL COLONNA  
Committee on Women in Engineering

09:00 – 13:00    HALL DORIA  
IEA/International Education Committee

11:00 – 13:00    HALL MALATESTA  
President’s Advisors Meeting

14:00 – 18:00    HALL BENTIVOGLIO  
Strategic Planning Committee

14:00 – 18:00    HALL COLONNA  
Committee on Energy

14:00 – 18:00    HALL DORIA  
Committee on Engineering Capacity Building

16:00 – 18:00    HALL LUDOVISI  
Committee on Anti-Corruption Meeting
<table>
<thead>
<tr>
<th>Time</th>
<th>Hall</th>
<th>Committee/Task Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 12:30</td>
<td>HALL TIZIANO</td>
<td>Committee on Disaster Risk Management</td>
</tr>
<tr>
<td>08:30 – 12:30</td>
<td>HALL LUDOVISI</td>
<td>Committee on Education in Engineering</td>
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<tr>
<td>08:30 – 14:30</td>
<td>HALL BENTIVOGLIO</td>
<td>Committee on Engineering and the Environment</td>
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<tr>
<td>08:30 – 12:30</td>
<td>HALL COLONNA</td>
<td>Committee on Information and Communication</td>
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<tr>
<td>08:30 – 12:30</td>
<td>HALL DORIA</td>
<td>Committee on Engineering for Innovative Technologies</td>
</tr>
<tr>
<td>13:00 – 14:30</td>
<td>HALL TIZIANO</td>
<td>Nominations Committee</td>
</tr>
<tr>
<td>13:00 – 14:30</td>
<td>HALL LUDOVISI</td>
<td>Marketing Task Group</td>
</tr>
<tr>
<td>13:00 – 14:30</td>
<td>HALL COLONNA</td>
<td>Awards Committee</td>
</tr>
<tr>
<td>13:00 – 14:30</td>
<td>HALL DORIA</td>
<td>STCs Performance Group</td>
</tr>
</tbody>
</table>
TUESDAY 28 NOVEMBER 2017

09:00 – 13:00 HALL COLONNA
Executive Board Meeting

11:00 – 15:30 HALL BENTIVOGLIO
All STC Chairs Meeting

14:00 – 18:00 HALL COLONNA
WURC Committee

15:30 – 18:30 HALL LUDOVISI
Young Engineers / Future Leaders Workshop

WEDNESDAY 29 NOVEMBER 2017

09:00 – 13:00 HALL BENTIVOGLIO
50th Anniversary Meeting

10:45 – 13:00 HALL COLONNA / DORIA
WEF / WFEO Oral Session 6

14:00 – 15:30 HALL BENTIVOGLIO
Future Events 2018, 2019, 2020, 2023

15:30 – 18:00 HALL COLONNA / DORIA
WEF / WFEO Oral Session 9
THURSDAY 30 NOVEMBER 2017

09:00 – 18:00  HALL ORSINI
WFEO Executive Council

FRIDAY 1 DECEMBER 2017

09:00 – 18:00  HALL FARNESE / BAGLIONI
General Assembly

SATURDAY 2 DECEMBER 2017

09:00 – 13:00  HALL FARNESE / BAGLIONI
General Assembly

14:00 – 15:00  HALL BORGIA
WFEO New Executive Board

15:00 – 16:00  HALL BORGIA
New Executive Council
fresh SURVEYING
Porta il #fresh surveying nel tuo business con innovazioni uniche e pratiche di GeoMax

(video) Zoom3D
Catalogo Generale
Zenith 35 Pro

www.geomax-positioning.it
### MONDAY 27 NOVEMBER 2017

Camera dei Deputati, Aula dei Gruppi Parlamentari, Via di Campo Marzio 78, Rome

**WEF Opening Ceremony**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00</td>
<td>Welcome Greetings</td>
</tr>
<tr>
<td></td>
<td>Benedetto Della Vedova, Under-Secretary of the Italian Ministry of Foreign Affairs and International Cooperation</td>
</tr>
<tr>
<td>16:30</td>
<td>Safeguarding Humankind’s Heritage, the great challenge</td>
</tr>
<tr>
<td></td>
<td>Philippe Pypaert, Head of Science Unit, UNESCO Regional Bureau for Science and Culture in Europe</td>
</tr>
<tr>
<td>16:45</td>
<td>WEF 2017 - Engineering for a better world</td>
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<td></td>
<td>Armando Zambrano, President Consiglio Nazionale degli Ingegneri</td>
</tr>
<tr>
<td></td>
<td>Jorge Spitalnik, President World Federation of Engineering Organizations</td>
</tr>
<tr>
<td></td>
<td>Marlene Kanga, President elect World Federation of Engineering Organizations</td>
</tr>
<tr>
<td>18:00</td>
<td>Welcome drink</td>
</tr>
</tbody>
</table>

**Important notice:**

- Since there will be metal detector security checks at the entrance, **participants are kindly requested to arrive at 15:15**
- Access to the Chamber of Deputies is permitted only to appropriately dressed visitors, **men are requested to wear jacket and tie**
- no mineral water or other liquids can be introduced in the venue.

Transportation from Sheraton Rome Hotel is available (departure at 14:30 - no return transfer). Tickets can be purchased at WEF2017 reception desk. As the venue is in the historic centre of Rome and the ceremony finishes around 18:30, participants will have the opportunity for a walk and free evening.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:15</td>
<td>Registration</td>
</tr>
<tr>
<td>10:00</td>
<td>Rome welcomes WEF 2017 attendees</td>
</tr>
<tr>
<td></td>
<td>Safeguarding Humankind’s Heritage: challenges for a better future</td>
</tr>
<tr>
<td></td>
<td>Gianni Massa, Vice President CNI</td>
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<td></td>
<td>Roberto Orvieto, Councillor CNI</td>
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<tr>
<td>10:30</td>
<td>Master Session</td>
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<td>Infrastructures and Networks in a sustainable perspective</td>
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<td>Event in collaboration with Italferr SpA</td>
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<tr>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Armando Zambrano, President CNI</td>
</tr>
<tr>
<td></td>
<td>Gian Luca Galletti, Minister for the Environment, Land and Seas</td>
</tr>
<tr>
<td></td>
<td>Carlo Carganico, CEO Italferr SpA</td>
</tr>
<tr>
<td>11:00</td>
<td>Designing sustainable infrastructures</td>
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<td>Antonello Martino, Head of Architecture, Environment and Territory,</td>
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<td>Italferr SpA</td>
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<td>11:30</td>
<td>Break</td>
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<td>Lorenzo Orsenigo, General Director ICMQ SpA</td>
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<td>John M. Stanton, President and CEO Institute for sustainable Infrastructure (ISI)</td>
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<td>12:15</td>
<td>Mobility and environment safeguarding: ideas and policies</td>
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<td>Maria Fernanda Stagno D’Alcontres, Ministry for the Environment, Land</td>
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<tr>
<td>12:30</td>
<td>Designing infrastructures with a global perspective</td>
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<td>Admir Nocaj, Director for Foreign Markets, Italferr SpA</td>
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<tr>
<td>12:45</td>
<td>Question time</td>
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<td>13:00</td>
<td>Lunch</td>
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</tbody>
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**Sheraton Roma Hotel & Conference Centre, Viale del Pattinaggio 100, Rome**
<table>
<thead>
<tr>
<th>Time</th>
<th>Hall</th>
<th>Session</th>
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</thead>
</table>
| 14:15 | HALL VISCONTI | Plenary Lecture: Green technologies in the preservation and renovation of historic buildings  
  Keynote speaker: Conghong Liu, Tianjin University |
| 14:45 |            | Plenary Lecture: Green engineering for a better environment  
  Keynote speaker: Felice Arena, Mediterranea University Reggio Calabria |
| 14:15 | HALL BORGIA | Break                      |
| 15:30 | HALL FARNES | Oral session 1  
  Preserving the environment: ideas and technical solutions  
  Chairman: Giuseppe Rossi  
  Accredia  
  Speakers: Shindler L.  
  Tan G.  
  Romolo A.  
  Losasso M.  
  Cremonini P.  
  Barbato E.  
  Liu D.  
  Weifner T.  
  Tsvirko L.  
  Salcedo Jarabo E.  
  Martinoli C.  
  Baldacci S. |
|       | HALL BAGLIONI | Oral session 2  
  Urban space and building’s preservation in a sustainable perspective  
  Chairwoman: Conghong Liu  
  Tianjin University  
  Speakers: Spinosa A.  
  Margarone M.  
  Yamamoto K.  
  Zhang W.  
  Fazio T.  
  Lalsa V.  
  Petras D.  
  De La Fuente C.  
  Abate S.  
  Ruiz Salinas M. T.  
  Wu J.  
  Perillo G.  
  Capezzali M.  
  Marino C. |
|       | HALL BORGIA | Oral Session 3  
  Preventing climate change: engineering for sustainability  
  Chairwoman: Nicoletta Antonias  
  Italferr SpA  
  Speakers: Lopez A.  
  Makaranka T.  
  Pirrera G.  
  Koen T.  
  Rocca U. V.  
  Yao S.  
  Antonini A  
  Lorato N.  
  Antonias N.  
  Xu X.  
  Pirrera G.  
  Colucci B. |
| 18:30 |            | WEF 2017 1st day closing |
| 20:00 |            | WEF2017 Social dinner, Pinacoteca del Tesoriere, Rome (by invitation) |

- **Hall LUDOVISI**
  - **15:30 / 18:30**  
    WFEO Young Engineers / Future Leaders Forum  
    Chairwoman: Zainab S. Garashi
**WEDNESDAY 29 NOVEMBER 2017**

Sheraton Roma Hotel & Conference Centre, Viale del Pattinaggio 100, Rome

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00 / 09:30</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 09:30   | **HALL VISCONTI**  
Plenary Lecture: Safeguarding cultural heritage in the current understanding of earthquakes  
Keynote speaker: Massimo Mariani, Consiglio Nazionale degli Ingegneri, Counsellor for seismic and hydrogeological risk |
| 10:00   | **HALL FARNES**  
Plenary Lecture: Risk prevention and management: the great challenge  
Keynote speaker: Toshimitsu Komatsu, Kyushu University |
| 10:30   | Break                                                                |
| 10:45   | **HALL FARNES**  
Oral session 4  
Engineering and technologies for safeguarding and monitoring the cultural heritage  
Chairman: Fabrizio Vestroni  
Sapienza University Roma  
Speakers: Biasiotti A.  
Vestroni F.  
Solari L.  
Sforza G.  
Del Regno R.  
Barone F.  
Anelli A.  
Marra A.  
Deiana A.  
Molinari G.  
**HALL BAGLIONI**  
Oral session 5  
Risk prevention, hazard monitoring, seismic risk mitigation  
Chairman: Giovanni Cardinale  
Consiglio Nazionale degli Ingegneri  
Speakers: Bianchi F.  
Clemente P.  
Yoshimi M.  
Fregatti M.  
Mita L.  
Miceli G.  
Realini E.  
Vallone I.  
Cappelli A.  
**HALL COLONNA/DORIA**  
Oral session 6  
Women in engineering: panel discussion  
Chairwoman: Valerie Ifueko  
WFE0  
Speakers: Sigamoney R.  
Li R.  
Lopez A.  
DelVecchio S.  
Ifueko V.  
**HALL BORGIA**  
Oral Session 7  
Smart technologies for an effective development  
Chairwoman: Stacey DelVecchio  
Caterpillar Inc.  
Speakers: Cella A.  
Charalambous S.  
Ladisa P.  
Unteerger D.  
Nicolai G.  
Guermont M.  
Garzia F.  
Muyora M. |
| 13:00 / 14:00 | Lunch                                                                |
**WEDNESDAY 29 NOVEMBER 2017**

Sheraton Roma Hotel & Conference Centre, Viale del Pattinaggio 100, Rome

<table>
<thead>
<tr>
<th>14:15</th>
<th>HALL VISCONTI</th>
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<tr>
<td>Plenary Lecture: Information security: threats and opportunities in a safeguarding perspective</td>
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<td>Keynote speaker: Agostino Bruzzone, University of Genoa</td>
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| 14:45 | |
| Plenary Lecture: Belt and Road Initiative A Global Game Changer in Sustainable Engineering | |
| Keynote speaker: Yee Cheong Lee, UNESCO International Science, Technology and Innovation for South-South Cooperation (ISTIC), President Academy of Engineering and Technology of the Developing World (AETDEW) | |

| 15:15 | |
| Break | |

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<tr>
<th>15:30</th>
<th>HALL FARNESE</th>
<th>HALL BAGLIONI</th>
<th>HALL COLONNA/DORIA</th>
<th>HALL BORGIA</th>
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<tbody>
<tr>
<td>Oral session 8</td>
<td>ICT and Information security for humankind’s heritage</td>
<td>Oral session 5</td>
<td>Risk prevention, hazard monitoring, seismic risk mitigation</td>
<td>Oral session 9</td>
</tr>
</tbody>
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| 18:00 / 18:30 | WEF Closing Ceremony | A. Zambrano, J. Spitalnik, M. Kanga |
MONDAY 27 NOVEMBER 2017

OPENING CEREMONY
Camera dei Deputati, Aula dei Gruppi Parlamentari
Via di Campo Marzio, 78 - Rome

16:00 WELCOME GREETINGS
Benedetto Della Vedova
Under-Secretary of the Italian Ministry of Foreign Affairs
and International Cooperation

16:30 SAFEGUARDING HUMANKIND’S HERITAGE, THE GREAT CHALLENGE
Philippe Pypaert
Head of Science Unit, UNESCO Regional Bureau for Science and Culture in Europe

16:45 WEF2017 - ENGINEERING FOR A BETTER WORLD
Armando Zambrano, President Consiglio Nazionale degli Ingegneri
Jorge Spitalnik, President World Federation of Engineering Organizations
Marlene Kanga, President elected World Federation of Engineering Organizations

18:00 WELCOME DRINK
TUESDAY 28 NOVEMBER 2017

HALL VISCONTI

10:00 ROME WELCOMES WEF ATTENDEES 2017
(event organised by CNI)
Safeguarding Humankind’s Heritage: Challenges for a Better Future
Gianni Massa, Vice President CNI
Roberto Orvieto, Councillor CNI

10:30 MASTER SESSION
Infrastructures and Networks in a Sustainable Perspective
(event in collaboration with Italferr SpA)

INTRODUCTION
Armando Zambrano, President CNI
Gian Luca Galletti, Minister for the Environment, Land and Seas
Carlo Carganico, CEO Italferr SpA

11:00 DESIGNING SUSTAINABLE INFRASTRUCTURES
Antonello Martino, Head of Architecture, Environment and Territory, Italferr SpA

11:45 ENVISION PROTOCOL
Lorenzo Orsenigo, General Director ICMQ SpA
John M. Stanton, President and CEO Institute for Sustainable Infrastructure (ISI)

12:15 MOBILITY AND ENVIRONMENT SAFEGUARDING: IDEAS AND POLICIES
Maria Fernanda Stagno D’Alcontres, Ministry for the Environment, Land and Seas

12:30 DESIGNING INFRASTRUCTURES WITH A GLOBAL PERSPECTIVE
Admir Nocaj, Director for Foreign Markets, Italferr SpA

12:45 QUESTION TIME
TUESDAY 28 NOVEMBER 2017

HALL VISCONTI
14:15  Plenary Lecture  
GREEN TECHNOLOGIES IN THE PRESERVATION AND RENOVATION OF HISTORIC BUILDINGS  
Keynote speaker: Conghong Liu, Tianjin University

14:45  Plenary Lecture  
GREEN ENGINEERING FOR A BETTER ENVIRONMENT  
Keynote speaker: Felice Arena, Mediterranean University Reggio Calabria

15:30  HALL FARNES
Oral Session 1  
PRESERVING THE ENVIRONMENT: IDEAS AND TECHNICAL SOLUTIONS  
Chairman: Giuseppe Rossi, Accredia

15:30  HALL BAGLIONI
Oral Session 2  
URBAN SPACE AND BUILDING’S PRESERVATION IN A SUSTAINABLE PERSPECTIVE  
Chairwoman: Conghong Liu, Tianjin University

15:30  HALL BORGIA
Oral Session 3  
PREVENTING CLIMATE CHANGE: ENGINEERING FOR SUSTAINABILITY  
Chairwoman: Nicoletta Antonias, Italferr SpA

15:30  HALL LUDOVISI
WFEO YOUNG ENGINEERS / FUTURE LEADERS FORUM  
Chairwoman: Zainab S. Garashi

18:30  1st DAY CLOSING
09:30 Plenary Lecture
SAFEGUARDING CULTURAL HERITAGE IN THE CURRENT UNDERSTANDING OF EARTHQUAKES
Keynote speaker: Massimo Mariani, Consiglio Nazionale degli Ingegneri, Councellor for Seismic and Hydrogeological Risk

10:00 Plenary Lecture
RISK PREVENTION AND MANAGEMENT: THE GREAT CHALLENGE
Keynote speaker: Toshimitsu Komatsu, Kyushu University

10:45 HALL FARNESI
Oral Session 4
ENGINEERING AND TECHNOLOGIES FOR SAFEGUARDING AND MONITORING THE CULTURAL HERITAGE
Chairman: Fabrizio Vestroni, Sapienza University Rome

10:45 HALL BAGLIONI
Oral Session 5
RISK PREVENTION, HAZARD MONITORING, SEISMIC RISK MITIGATION
Chairman: Giovanni Cardinale, Consiglio Nazionale degli Ingegneri

10:45 HALL COLONNA-DORIA
Oral Session 6
WOMEN IN ENGINEERING: PANEL DISCUSSION
Chairwoman: Valerie Ifueko, WFEO

10:45 HALL BORGIA
Oral Session 7
SMART TECHNOLOGIES FOR AN EFFECTIVE DEVELOPMENT
Chairwoman: Stacey DelVecchio, Caterpillar Inc.
WEDNESDAY 29 NOVEMBER 2017

HALL VISCONTI

14:15  Plenary Lecture
INFORMATION SECURITY: THREATS AND OPPORTUNITIES IN A SAFEGUARDING PERSPECTIVE
Keynote speaker: Agostino Bruzzone, University of Genoa

14:45  Plenary Lecture
BELT AND ROAD INITIATIVE A GLOBAL GAME CHANGER IN SUSTAINABLE ENGINEERING
Keynote speaker: Yee Cheong Lee, UNESCO International Science, Technology and Innovation for South-South Cooperation (ISTIC), President, Academy of Engineering and Technology of the Developing World (AETDEW)

15:30  HALL FARNESE
Oral Session 8
ICT AND INFORMATION SECURITY FOR HUMANKIND’S HERITAGE
Chairman: Roberto Orvieto, Consiglio Nazionale degli Ingegneri

15:30  HALL BAGLIONI
Oral Session 5
RISK PREVENTION, HAZARD MONITORING, SEISMIC RISK MITIGATION
Chairman: Stefano Bergagnin, PASS

15:30  HALL COLONNA-DORIA
Oral Session 9
DIVERSITY AND INCLUSION IN ENGINEERING. WOMEN AND YOUNG PROFESSIONALS: A RESOURCE FOR PRESENT AND FUTURE
Chairwoman: Ania Lopez, Consiglio Nazionale degli Ingegneri

15:30  HALL BORGIA
Oral Session 7
SMART TECHNOLOGIES FOR AN EFFECTIVE DEVELOPMENT
Chairwoman: Stacey DelVecchio, Caterpillar Inc.

18:00  WEF CLOSING CEREMONY
Armando Zambrano, Jorge Spitalnik, Martene Kanga
MAIN SPEAKERS
VISIT WEF2017 WEBSITE TO READ SPEAKERS BIOGRAPHIES

NICOLETTA ANTONIAS
Chairwoman
Oral Session: Preventing Climate Change: Engineering for Sustainability

FELICE ARENA
Keynote Speaker
Plenary Lecture: Green Engineering for a Better Environment

STEFANO BERGAGNIN
Chairman
Oral Session: Risk prevention, hazard monitoring, seismic risk mitigation

AGOSTINO BRUZZONE
Keynote Speaker
Plenary Lecture: Information security: threats and opportunities in a safeguarding perspective

GIOVANNI CARDINALE
Chairman
Oral Session: Risk prevention, hazard monitoring, seismic risk mitigation

CARLO CARGANICO
Master Session: Infrastructures and Networks in a sustainable perspective

STACEY DELVECCHIO
Chairwoman
Oral Session: Smart Technologies for an effective development

ZAINAB S. GARASHI
Chairwoman
WFEO Young Engineers / Future Leaders Forum

VALERIE IFUEKO
Chairwoman
Oral Session: Women in Engineering: panel discussion

MARLENE KANGA
Opening Session: WEF 2017
Engineering for a better world

TOSHIMITSU KOMATSU
Keynote Speaker
Plenary Lecture: Risk prevention and management: the great challenge

YEE CHEONG LEE
Keynote Speaker
Plenary Lecture: Belt and Road Initiative a Global Game Changer in Sustainable Engineering

CONGHONG LIU
Keynote Speaker
Plenary Lecture: Green technologies in the preservation and renovation of historic buildings

ANIA LOPEZ
Chairwoman
Oral Session: Diversity and inclusion in engineering. Women and young professionals: a resource for present and future

MASSIMO MARIANI
Keynote Speaker
Plenary Lecture: Safeguarding cultural heritage in the current understanding of earthquakes
“With honesty and enthusiasm we believe that our mission is to help our customers to adopt the best software tools, with the best possible support, with training and services needed to the BIM implementation.”
MAIN SPEAKERS
VISIT WEF2017 WEBSITE TO READ SPEAKERS BIOGRAPHIES

ANTONELLO MARTINO
Master Session: Designing Sustainable Infrastructures

GIANNI MASSA
Welcome Greetings: Safeguarding Humankind’s Heritage: Challenges for a Better Future

ADMIR NOCAJ
Master Session: Designing Infrastructures with a global perspective

LORENZO ORSENGO
Master Session: Envision Protocol

ROBERTO ORVIETO
Welcome Greetings: Safeguarding Humankind’s Heritage: Challenges for a Better Future
Chairman
Oral Session: ICT and Information security for humankind’s Heritage

PHILIPPE PYPAERT
Opening Session: Safeguarding Humankind’s Heritage, the great challenge

GIUSEPPE ROSSI
Chairman
Oral Session: Preserving the environment: ideas and technical solutions

JORGE SPITALNIK
Opening Session: WEF 2017 Engineering for a better world

MARIA FERNANDA STAGNO D’ALCONTRES
Master Session: Mobility and environment safeguarding: ideas and policies

JOHN M. STANTON
Master Session: Envision Protocol

FABRIZIO VESTRONI
Chairman
Oral Session: Engineering and technologies for safeguarding and monitoring the cultural heritage

ARMANDO ZAMBRANO
Opening Session: WEF 2017 Engineering for a better world
More than 50 years of experience in transportation sector make Spea Engineering an ideal partner and consultant from the design and feasibility phase of projects ranging from the one-off to the infrastructures till the complex network. Engineering services include traffic and transportation studies, economic and financial feasibility, environmental and territory impact analysis.
WEF ORAL SESSIONS
TUESDAY 28 NOVEMBER 2017

15:30 – 18:30  HALL FARNESE ORAL SESSION 1

PRESERVING THE ENVIRONMENT: IDEAS AND TECHNICAL SOLUTIONS
Chairman: Giuseppe Rossi, Accredia, Italy

15:30  LOW-COST SENSING PLATFORM FOR AIR QUALITY MONITORING
Shindler L.*, Ordine degli Ingegneri della Provincia di Roma – Rome – Italy

15:45  UTILIZATION OF LOW COST RF HARVESTER CIRCUIT IN HARNESSING ELECTRICAL ENERGY FROM MULTIBAND RF SIGNALS

16:00  ON NEW PORT INFRASTRUCTURES FOR WAVE ENERGY EXPLOITATION
Romolo A.*, Arena F., Mediterranean University – Reggio Calabria – Italy

16:15  PARTICLE BEAM ACCELERATORS FOR ENVIRONMENTAL APPLICATIONS
Losasso M.*, CERN – Geneve – Switzerland

16:30  CONSTRUCTABILITY & SUSTAINABILITY
Cremonini P.*, Fagioli SpA – S. Ilario d’Enza (Reggio Emilia) – Italy

16:45  LANDFILL FOOTPRINT
Barbato E.*, Studio Franchetti, Arzignano (Vicenza) – Italy

17:00  THE ETHICS OF BIOMASS ENERGY
Liu D.*, Yellow River Engineering Consulting Co.,Ltd. – Zhengzhou – China

17:15  NUMERICAL HYDROLOGICAL MODELLING OF THE BRENNER MASSIF FOR THE BRENNER BASE TUNNEL
Weifner T.*, Bergmeister K., BBT SE – Innsbruck – Austria

17:30  TRANSFORMATION OF PEAT ORGANIC MATTER UNDER THE INFLUENCE OF HYDRODYNAMIC CAVITATION

17:45  VIRUNGA MAMA MAENDELEO (VIRUNGA, MOTHER OF DEVELOPMENT)

18:00  HEALTH ENGINEER: NEW PERSPECTIVES IN ENVIRONMENTAL SUSTAINABILITY IN HEALTHCARE AND ON THE ROLE OF BIOMEDICAL ENGINEER
Martinoli C.*[1], Gemma C.[1], Vallone I.[1], Lago P.[1], Bottura S.[2], Gadaleta M.[2], Bravar D.[4], Leogrande L.[3], Valsecchi A.[6]

18:15  A NEW WAY OF CONCEIVING AND DEALING WITH ENVIRONMENTAL CONTROL OF PROCESS PLANTS BY REAL-TIME SOFT SENSORS AND MONITORING
Baldacci S.*, Mogorovich D., Gubinelli G., Bellassai D., ARPAT – Pisa – Italy
TUESDAY 28 NOVEMBER 2017

15:30 – 18:30  HALL BAGLIONI  ORAL SESSION 2

URBAN SPACE AND BUILDING’S PRESERVATION IN A SUSTAINABLE PERSPECTIVE
Chairwoman: Conghong Liu, Tianjin University, China

15:30  A NEW ALGORITHM FOR THE CITY: THE USE OF TOPOLOGY AND TRANSPORT MODELING TO MAKE URBAN AREAS MORE EQUITABLE
Spinosa A.*, Freelancer consultant – Rome – Italy

15:45  A NOVEL LEAN APPROACH OF ENGINEERING CONVERGENCE IN THE HUMANKIND’S HERITAGE MANAGEMENT IN A SMART CITY CONTEXT: THE SAVONA MUNICIPALITY CASE HISTORY
Margarone M.*, Pastorino D., Ricci F., Ordine degli Ingegneri di Savona – Savona – Italy

16:00  AN EVALUATION OF MEASURES FOR THE REDUCTION OF CARBON DIOXIDE EMISSIONS FROM AUTOMOBILE TRAFFIC IN TOKYO
Yamamoto K.*, Shen K., University of Electro-Communications – Tokyo – Japan

16:15  BEIJING CAISHIKOU POWER TRANSFORMER SUBSTATION COMPLEX (STATE GRID ELECTRIC POWER SCIENCE AND TECHNOLOGY MUSEUM)
Zhang W.*, Wang W., Tsinghua University – Beijing – China

16:30  RAILWAY STATION DESIGN FROM LOCAL TRADITION TO INNOVATION IN A SUSTAINABLE PERSPECTIVE
Fazio T.*, Aluisi D., ITALFERR SpA – Rome – Italy

16:45  ELIMINATE TOILET PAPER
Lalsa V.*, Freelancer – New York – United States of America

17:00  INDOOR ENVIRONMENT AND ENERGY CONSERVATION BY HOUSING IN SLOVAKIA
Petras D.*, Slovak University of Technology in Bratislava – Bratislava – Slovakia

17:15  PERMEABLE INTERLOCKING CONCRETE PAVEMENT AS A SUSTAINABLE TOOL FOR PRESERVING THE ENVIRONMENT AND PREVENTING NATURAL DISASTERS

17:30  PAES MUNICIPALITY OF SAN LUCIDO - WINNER AWARD CINEV 2016
Abate S.*, Studio Ing. Abate Santo – San Lucido (Cosenza)– Italy

17:45  PLANNING OF A TRANSPORT NETWORK FOR THE PROMOTION OF A CULTURE OF SUSTAINABLE MOBILITY IN UNIVERSITY STUDENTS
Ruiz Salinas M.T.*, Ruiz Salinas M.C., Cabrera F., Pontificia Universidad Católica del Perú – Lima – Peru
15:30 – 18:30 HALL BAGLIONI ORAL SESSION 2

18:00 EV CAR-SHARING AND ITS EFFECTS ON URBAN ENVIRONMENT
Wu J.*, Hu K., Tsinghua University – Beijing – China

18:15 PLANTS IN NEAR ZERO ENERGY BUILDINGS
Perillo G.*, University of Naples Parthenope – Naples – Italy

18:30 AN INNOVATIVE APPROACH FOR ROBUST INTERNAL INSULATION OF BUILDINGS: THE RIBUILD PROJECT
Capezzali M.*, Lasvaux S., University of Applied Sciences of Western Switzerland (HES-SO) | HEIG-VD | IGT-LESBAT – Yverdon-les-Bains – Switzerland

18:45 ZERO ENERGY BUILDINGS
PREVENTING CLIMATE CHANGE: ENGINEERING FOR SUSTAINABILITY

Chairwoman: Nicoletta Antonias, ITALFERR SpA, Italy

15:30  ENGINEERING FOR CLIMATE CHANGE, THE CHALLENGE FOR THE USE OF NEW RENEWABLE ENERGY
Lopez A.*, Consiglio Nazionale degli Ingegneri – Rome – Italy

15:45  RATIONAL USE AND PROTECTION OF PEAT DEPOSITS OF THE REPUBLIC OF BELARUS

16:00  TECHNOSSOILS FOR THE PREVENTION OF DESERTIFICATION RISK

16:15  WATER CRISIS CAUSING A DROUGHT IN THE SOCIO-ECONOMIC ENVIRONMENT OF SOUTH AFRICA

16:30  SUGGESTION TO ROME CITY COUNCIL TO AVOID POLLUTION
Rocca U.V.*, NEW – Rome – Italy

16:45  CHINA’S CCUS PROGRESSES AND A NEW EVALUATION METHOD OF CO2 STORAGE CAPACITY IN COALBED RESERVOIRS
Yao S.*, The Research Institute of Petroleum Exploration and Development (RIPED) – Beijing – China

17:00  A LOW COST AUTOMATIC WEATHER STATION DEVELOPED AT SCHOOL, OPPORTUNITY FOR STUDENTS TO MEET THE JOB WORLD

17:15  EXPLORING ECONOMICAL GROUNDWATER RESOURCES IN KWA-ZULU NATAL MIDLANDS, SOUTH AFRICA
Lorato N.*, South African Institute of Civil Engineering – Johannesburg – South Africa
### TUESDAY 28 NOVEMBER 2017

**15:30 – 18:30**  
**HALL BORGIA ORAL SESSION 3**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:30</td>
<td>DESIGNING SUSTAINABLE RAILWAYS INFRASTRUCTURES ENVISION PROTOCOL AND THE CARBON FOOTPRINT. ENVIRONMENTAL SUSTAINABILITY OF RAILWAY INFRASTRUCTURES</td>
<td>Antonias N.*, Martino A., ITALFERR SPA ~ Rome ~ Italy</td>
</tr>
<tr>
<td>17:45</td>
<td>STUDY ON AUTOMATION TRAIN OPERATION APPLIED TO HIGH SPEED RAILWAY</td>
<td>Xu X.*, Song Z., Li Y., Yi H., Wang Y., Xiaoning Xu ~ Beijing ~ China</td>
</tr>
<tr>
<td>18:00</td>
<td>INDUSTRIAL ECOLOGY WITH PHYTOREMEDIATION BY NATIVE SPECIES</td>
<td>Pirrera G.*[1], Pluchino A.[2], Ferrara L.M.[3], Latteo V.[2], [3]AIPIN</td>
</tr>
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<td>(Associazione Italiana per l’Ingegneria Naturalistica) ~ Palermo ~ Italy,</td>
<td>(Associazione Italiana per l’Ingegneria Naturalistica) ~ Palermo ~ Italy,</td>
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</table>
WEDNESDAY 29 NOVEMBER 2017

10:45 – 13:00 HALL FARNESE ORAL SESSION 4

ENGINEERING AND TECHNOLOGIES FOR SAFEGUARDING AND MONITORING THE CULTURAL HERITAGE
Chairman: Fabrizio Vestroni, Sapienza University of Roma, Italy

10:45 ADVANCED TECHNOLOGIES FOR PROTECTION OF ARCHAEOLOGICAL HERITAGE
Biasiotti A.*, UNESCO – Modena – Italy

11:00 ENGINEERING ANALYSIS AND MONITORING TO PRESERVE THE COLOSSEUM
Vestroni F.*, Pau A., Sapienza University of Roma – Rome – Italy

Solari L.*, Caporali E., Castelli F., Federici G.V., Franchilanci S., Paris E., University of Firenze – Florence – Italy

11:30 IN SITU TESTS AND EXPERIMENTAL DYNAMIC CHARACTERIZATION OF THE SANCTUARY OF MADONNA DELLA LIBERA IN PRATOLA PELIGNA (AQ)
Sforza G.*, Lepori L., ESSEB I Srl – Rome – Italy

11:45 SAFETY AND CONSERVATION IN THE HISTORICAL AND ARCHITECTURAL QUALITY BUILDING SITES. STUDY CASES
Del Regno R.*, Cucco P., University of Salerno – Fisciano (Salerno) – Italy

12:00 THE UNISA MONOLITHIC FOLDED PENDULUM: AN INERTIAL COMPACT SENSOR FOR LOW FREQUENCY HIGH SENSITIVITY LINEAR AND ANGULAR MONITORING OF THE HISTORICAL MONUMENTAL HERITAGE
Barone F.*[1], Giordano G.[2], [1]University of Salerno – Baronissi (Salerno) – Italy, [2]University of Salerno – Fisciano (Salerno) – Italy

12:15 UAV’S (SO CALLED “DRONE”) EMPLOYMENT IN SURVEYING: A FAST AND AFFORDABLE WAY TO ARCHIVE OUR HERITAGE

12:45  SMART TECHNOLOGIES AND WORKFLOWS FOR ENVIRONMENTAL AND CULTURAL HERITAGE: INTEGRATING BIM AND 3D GIS INTO A 4D WEB GLOBE
Deiana A.*, GeolInfoLab – Olbia – Italy

13:00  TEMPORARY RELIGIOUS BUILDINGS TO PRESERVE HUMANKIND’S HERITAGE FROM NATURAL AND MAN-MADE DISASTERS
Molinari G.*, Forte P.L., [i]Molpass Srl – San Giovanni in Persiceto (Bologna) – Italy
WEDNESDAY 29 NOVEMBER 2017

10:45 – 13:00  HALL BAGLIONI  ORAL SESSION 5

RISK PREVENTION, HAZARD MONITORING, SEISMIC RISK MITIGATION
Chairman: Giovanni Cardinale, CNI, Italy

10:45 ADVANCED STRUCTURAL MODELLING FOR RISK ASSESSMENT OF BUILDING PORTFOLIOS SUBJECTED TO INDUCED SEISMICITY
Bianchi F.*, Nascimbene R., Pinho R., Mosayk Srl – Pavia – Italy

11:00 SAFEGUARDING HUMANKIND’S HERITAGE AGAINST EARTHQUAKES: CIVIL, INDUSTRIAL AND CULTURAL HERITAGE STRUCTURES
Clemente P.*, Bongiovanni G., Buffarini G., Saitta F., ENEA – Rome – Italy

11:15 ACTIVE FAULT RESEARCH IN JAPAN FOR DISASTER MITIGATION
Yoshimi M.*, Research Institute of Earthquake and Volcano Geology – Tsukuba – Japan

11:30 THE “THEORY OF CATASTROPHES” AS HEURISTIC-HERMENEUTIC INNOVATIVE PLATFORM FOR THE ORGANIZATION AND MANAGEMENT OF CHANGE AND RISK IN COMPLEX PROJECTS FOR SAFEGUARDING HUMANKIND’S HERITAGE
Fregatti M.*, Ordine degli Ingegneri della Provincia di Rovigo – Rovigo – Italy

11:45 THE WEB-BASED FLOOD WARNING SYSTEM EXPLOITING THE JGRASS-NEWAGE
(1)University of Basilicata – Potenza – Italy, (2)Civil Protection Basilicata Region – Potenza – Italy, (3)Interuniversity Consortium for Hydrology (CINID) – Potenza – Italy

12:00 A GEOMATIC MULTI CRITERIA APPROACH TO ASSESS LANDSLIDE HAZARD AND SUPPORT REMEDIAL WORKS PLANNING ALONG RAILWAY LINES
Miceli G.*, ETS Srl – Rome – Italy

12:15 LOW-COST GNSS TECHNIQUES FOR CONTINUOUS MONITORING OF STRUCTURES AND LAND MOVEMENTS
Realini E.*, Rambaldi A., Caldera S., Softeco – Genova – Italy, (1)Proteco Group – Como – Italy

12:30 DISASTER PREPAREDNESS: THE CENTRAL ROLE OF CLINICAL ENGINEERING
Vallone I.*, Gemma C., Martinoli C., Lago P., Bottura S., David Y., Allegrini A.
(1)Fondazione IRCCS Policlinico San Matteo – Pavia – Italy, (2)Higea Srl – Pavia – Italy, (3)IFMBE Board Member – Houston – United States of America, (4)Ordine degli Ingegneri della Provincia di Pavia – Pavia – Italy

12:45 A FIRST STEP TO GETTING TO HYDRAULIC RISK ASSESSMENT METHODOLOGY FOR RAILWAY INFRASTRUCTURES
RISK PREVENTION, HAZARD MONITORING, SEISMIC RISK MITIGATION

Chairman: Stefano Bergagnin, PASS. Italy

15:30 MEASUREMENT OF ORGANIZATIONAL RESILIENCE FOR DISASTER RISK REDUCTION: A CASE STUDY
Herrera C.*, Negrete L., Echeverri H., Muñoz G., Díaz L., Universidad de Córdoba – Córdoba – Colombia

15:45 LEARNING AND PROTECTING FROM NATURAL IONIZING RADIATIONS
Cecchetti S.*, Consultant – Rome – Italy

16:00 HOW FROM ENGINEERING WE PRESERVE THE CULTURAL HERITAGE OF HUMANITY
Agostinelli S.R.*, Junta Central de los ConsejosProfesionales de Agrimensura, Arquitectura e Ingeniería – Buenos Aires – Argentina

16:15 LEARNING FROM THE SENÚ PROPOSAL TO DRAWN ON INDIGENOUS ENGINEERING KNOWLEDGE FOR FLOOD AND DROUGHT MANAGEMENT IN CORDOBA, COLOMBIA
Díaz Perez L.D.*, Universidad de Córdoba – Córdoba – Colombia

16:30 SEISMIC DESIGN OF RAILWAY STRUCTURES
Toyooka A.*, Railway Technical Research Institute – Tokyo – Japan

16:45 SAFETY AND SECURITY MANAGEMENT OF HYSTORICAL BUILDINGS AND TEMPORARY EVENTS IN HYSTORICAL CITIES

17:00 USE OF FIXED BY VIBRATION STEEL RODS AND GRIDS FOR ENVIRONMENT’S SAFEGUARDING
Facchinato F.*, Studio Tecnico ing. Facchinato Francesco – Arsiè (Belluno) – Italy

17:15 BLU CONSULTING MODEL APPLIED TO BUSINESS CONTINUITY MANAGEMENT (BCM-2-BCM)
Barletta G.*, Masciarelli M., Scrocca C., Ordine degli Ingegneri di Roma – Rome – Italy
WEDNESDAY 29 NOVEMBER 2017

ORAL SESSION 6

HALL COLONNA-DORIA

WOMEN IN ENGINEERING: PANEL DISCUSSION

Chairwoman: Valerie Ifueko, WFEO, Nigeria

10:45 UNESCO’S ACTIVITIES ON WOMEN IN STEM
Sigamoney R.*, UNESCO

11:00 GENDER ISSUES IN CHINA
Li R.*, WFEO – China

11:15 INGENIO AL FEMMINILE. GENDER ISSUES IN EUROPE
Lopez A.*, CNI – Rome – Italy

11:30 GENDER ISSUES IN AMERICA
Del Vecchio S.*, United States of America

11:45 CWIE PROGRAMS & PROJECT
Ifueko V.*, WFEO – Nigeria
SMART TECHNOLOGIES FOR AN EFFECTIVE DEVELOPMENT
Chairwoman: Stacey DelVecchio, Caterpillar Inc., USA

10:45  CELLULAR ALGORITHMS A NEXT-GENERATION MCAE SOFTWARE AND ITS APPLICATIONS  
       Cella A.*, Ordine degli Ingegneri della Provincia di Genova – Genoa – Italy

11:00  HP’S PRODUCTS AND SERVICES AS A CIRCULAR ECONOMY ENABLER  
       Charalambous S.*, Lahn B., HP – Milan – Italy

11:15  INDUSTRIAL MACHINES AND SUPPORT EQUIPMENT: CRITERIA FOR SUSTAINABLE PRODUCTION  
       Ladisa P.*, Ordine degli Ingegneri della Provincia di Roma – Rome – Italy

11:30  MACRO SCALE NUMERICAL MODELLING FOR THE WORLD’S LONGEST TUNNEL  
       Unteregger D.*, Weifner T., Bergmeister K., BBT SE – Innsbruck – Austria

11:45  NEW TECHNOLOGICAL AND SERVICE PROSPECTS FOR THE SPACE  
       Nicolai G.*, De Franco G., Ordine Ingegneri della Provincia di Roma – Rome – Italy

12:00  PHARES A HIGH-TECH DIALOGUE WITH OUR GLOBAL HERITAGE  
       Guermont M.*, MILENE GUERMONT – Paris – France

12:15  THE INTERNET OF EVERYTHING SYSTEM FOR THE PAPAL BASILICA AND SACRED CONVENT OF SAINT FRANCIS IN ASSISI, ITALY  
       Garzia F.[1], Gambetti M.[2], Baiocchi V.[1], Borghini F.[1], Ciarlariello D.[2],  
       Chakaveh S.[4], Costantino D.[5], Culla A.[1], Faundez Zanuy M.[12], Ferrer  
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Convent of Saint Francis in Assisi – Minor Conventual Friars – Assisi – Italy,  
[3]School of Engineering, SISTEMIC, Universidad de Antioquia – Medellin – Colombia,  
[4]University of Southampton – Southampton – United Kingdom,  
Gran Canaria – Las Palmas de Gran Canaria – Spain, [7]Moravian University  
College Olomouc – Olomouc – Czech Republic, [8]National Corp of Fire Brigades –  
Coimbatore – India, [12]ESUP Tecnocampus- Pompeu Fabra University – Mataró –  
[Barcelona]– Spain, [13]University of Bedfordshire – Luton – United Kingdom
12:30  INTELLIGENT TRANSPORTATION SYSTEMS IN SOUTH AFRICA: AN AFRICAN PERSPECTIVE ON USE OF TECHNOLOGY AND INNOVATION TO SAFEGUARD ENGINEERING HERITAGE
Mutyora M.*, South African Institution of Civil Engineering – Pietermaritzburg – South Africa

15:30  THINK BIG...START SMALL...ACT FAST: DEPLOYING ADDITIVE MANUFACTURING IN A FORTUNE 50 COMPANY

15:45  MACHINE PERFUSION: NEW DEVICES AND HUMAN RESOURCES TO IMPROVE TRANSPLANTATION

16:00  BUILDING NEW TECNOLOGICAL CELL FACTORIES: THE ROLE OF CLINICAL ENGINEERS AS PROJECT MANAGERS
Rebola A.*, Ordine degli Ingegneri della Provincia di Torino – Turin – Italy

16:15  THE VISIONARY FOCUS FOR TECHNOLOGY DEVELOPMENT

16:30  CASE STUDY: THE INVESTIGATION OF THE FEASIBILITY OF INCORPORATING AUGMENTED REALITY AND INFORMATION TECHNOLOGY SYSTEMS TO ASSIST WITH THE TRAINING OF COMMUNITIES, EDUCATORS AND THE YOUTH
Ncube S.S.*, Pather B., SAICE JHB – Midrand – South Africa

16:45  TECHNOLOGY SYSTEM FOR AQUACULTURE SUSTAINABILITY AND FISH TRACEABILITY
Latino M.E^[2], Zizzari A^[1], Corallo A^[1], Menegoli M^[2], Cataldo M^[3]
WEDNESDAY 29 NOVEMBER 2017

15:30 – 18:00  HALL BAGLIONI  ORAL SESSION 8

ICT AND INFORMATION SECURITY FOR HUMANKIND’S HERITAGE
Chairman: Roberto Orvieto, CNI, Italy

15:30 CYBER SECURITY FRAMEWORK FOR HUMANKIND’S HERITAGE

16:00 HOW TO PROTECT THE COMMON HERITAGE SITES WITH LIMITED IMPACT IN THE SURVEILLANCE? A DYNAMIC AND NOT INVASIVE SURVEILLANCE SYSTEM THROUGH THE USE OF DRONES AND OTHER TOOLS FROM MILITARY KNOWLEDGE
Praitano A.*, Zorzino G.G., Ordine degli Ingegneri della Provincia di Roma – Rome – Italy

16:15 HYBRID CYBER THREAT TO HUMANITY’S CULTURAL HERITAGE: RISKS AND OPPORTUNITIES

16:30 ICT SYSTEMS: THE KEY FOR IMPROVEMENT IN HEALTHCARE
WEDNESDAY 29 NOVEMBER 2017

15:30 – 18:00

HALL COLONNA-DORIA ORAL SESSION 9

DIVERSITY AND INCLUSION IN ENGINEERING. WOMEN AND YOUNG PROFESSIONALS: A RESOURCE FOR PRESENT AND FUTURE

Chairwoman: Ania Lopez, CNI, Italy

15:30 ACHIEVING SUSTAINABLE DEVELOPMENT GOAL NO. 5 ON GENDER EQUALITY IS THE RESPONSIBILITY OF HUMANKIND
Lee Y.C.*, UNESCO International Science Technology an Innovation for South Cooperation (ISTIC) – Malaysia

15:45 COACH-ING (COACHING-INGEGNERIA) COACHING AND ENGINEERING INTEGRATION
Callea V.*, Santini E., Sapienza University of Roma – Rome – Italy

16:00 MEN AS DIVERSITY PARTNERS: BEING A CHAMPION OF WOMEN IN ENGINEERING
Horting K.*, DelVecchio S., Society of Women Engineers – Chicago – United States of America

16:15 SUSTAINABILITY AND INCLUSION: A PERSPECTIVE ON DIVERSIFYING ENGINEERING EDUCATION
Pearson Y.*[1], Mattingly S.[2], Haselbach L.[3], Rice University – Houston – United States of America, University of Texas at Arlington – Arlington – United States of America, Lamar University – Beaumont – United States of America

16:30 BIOMEDICAL ENGINEERS: THE INCREASING ROLE OF WOMEN AND YOUNG PEOPLE AS A RESOURCE FOR HUMAN HEALTH

16:45 A MODEL FOR DEVELOPING THE ENTREPRENEURIAL CAPACITY OF YOUNG ENGINEERS AND TECHNOLOGISTS FROM WAR AFFECTED REGIONS - A CASE STUDY ON KURDISTAN AND IRAQ

17:00 YOUNG ENGINEERS: SELF PREPARATION FOR THE INDUSTRY WHILST ON CAMPUS
Koma N.*, Anena D.L., University of Kwa-Zulu Natal – Durban – South Africa
17:15  WOMEN IN ENGINEERING HAVE A UNIQUE STORY TO TELL. PRESERVING THE HISTORY OF ALL WOMEN IN ENGINEERING, IN THEIR OWN VOICE, BENEFITS THE PROFESSION; AND WILL INSPIRE FUTURE GENERATIONS OF YOUNG WOMEN WHO ARE INCLINED TO PURSUE ENGINEERING AS A PROFESSION
Grossman N.P.*, NPG ~ Engineering ~ United States of America

17:30  HOW CAN YOUNG ENGINEERS SAFEGUARD HUMANKIND’S HERITAGE? – AN AFRICAN CONTEXT
Anena D.L.11*, University of KwaZulu ~ Natal ~ Durban ~ South Africa

17:45  WOMEN ENGINEERING: EXPERIMENTAL CONTRIBUTION IN THE WASTE PROCESSING SYSTEM AND ITS APPLICATIONS IN COOKING "CASE STUDY OF CLEAN AND ECOLOGICAL SUB-SAHARAN AFRICA (DRC)
Mutala Kabeya R.*, Civil Engineer in Environment Country: DR ~ Congo
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GENERAL INFORMATION

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Official language of WEF2017 is English. Simultaneous interpretation (from/into Italian) will be provided for WEF Opening Ceremony at the Chamber of Deputies, master sessions of Tue 28 November, all plenary lectures and WEF Closing session (Wed 29 November). Simultaneous interpretation will not be available for Oral Sessions.

Badges
Badges must be worn at all times. Access to the meeting rooms is allowed only to participants wearing their badges.

- WEF delegates blue
- WEF students beige
- WFEO attendees green
- Fondazione CNI purple
- Daily Pass light blue
- Accompanying Persons orange

Proceedings
- Abstracts presented will be published in a special issue of the magazine “L’Ingegnere Italiano”, in December 2017.

- Full papers or copy of the slides used as support to the presentation will be uploaded on the website of Consiglio Nazionale degli Ingegneri, after the end of the meeting.
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