

## CALL FOR ABSTRACTs : Outlines of Theme Sessions (TS) & General Sessions (GS)

CFA: The session invites abstracts (“Call for Abstract”).

### Theme Sessions (TS)

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS1-1	Invitation only	Advanced Concept and Implementation of Seismic Design Methods for Resilience Against Intense Earthquake	<p><b>Riki Honda, Professor, The University of Tokyo</b></p> <p>Experience of various destructive earthquakes indicates that it is essential for seismic design to deal with the extremely severe conditions with practical solutions, which may exceed the situation defined in the design codes. Such concept has been accepted by many engineers and variety of methods have been proposed.</p> <p>They are not, however, yet been widely utilized in the ordinary design codes.</p> <p>Considering such background and social needs, this session discusses the advanced concept of methodologies for seismic design that considers considerably strong ground motions. Resilience-based and performance-based design methods are of our main interest. We also put emphasis on the implementation of those concepts as design codes. We review current design codes, such as ISO 23469(2005), which was developed based on the knowledge of advanced skills, and discuss the design methods for the next generation.</p>
TS1-2	CFA	Long Life Steel Bridges : Design, Construction, Replacement and Maintenance Technologies to Extend the Life of Steel Bridges	<p><b>Hiromi Shirahata, Professor, Tokyo City University</b></p> <p>In order to extend the life of steel bridges, the development of corrosion, fatigue measures, maintenance and management technology is an important issue. In addition, there is a demand for updating technology of existing bridges and technology of newly constructed bridges with a longer life, which are easy to maintain and manage. Even in Japan, as the number of steel bridges exceeding 50 years has increased rapidly, the importance of technology on long life has been increasing more and more, we will discuss the latest efforts and future issues with international experts.</p>
TS2-1	Invitation only	Coastal Erosion in Asian Countries-Monitoring, Evaluation and Prediction Techniques Foward Coastal Protection and Adaptation Strategies-	<p><b>Yoshimitsu Tajima, Professor, The University of Tokyo</b></p> <p>This proposed session focuses on how we should monitor, evaluate and predict chronical or rapid coastal erosions in Asian countries and how we should adapt to such changes of coastal environment. Potential speakers from different countries, such as Bangladesh, Vietnam, Japan and Sri Lanka, will present features of coastal erosion problems in each country and discusses how the monitored or predicted features of coastal erosion can be applied for planning and designs of future coastal protections and adaptation strategies. These presentations in each country are then followed by panel discussions of how these monitoring techniques and adaptation strategies can reflect future climate change scenarios.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS2-2	Invitation only	Development of Quality Port Infrastructure Through the Establishment of the National Technical Regulations and Standards	<p><b>Atsushi Fujii, Director of Planning and Research Administration, National Institute for Land and Infrastructure Management</b></p> <p>It is very important to have its own technical standards for each country to develop quality infrastructures. In this session, the technical assistance by Japan to develop new technical standards for design and construction of port facilities in Viet Nam will be shared. Then a panel discussion will be held on the importance of having its own technical regulations and standards as well as on how to develop engineers' ability for quality infrastructure development.</p>
TS2-3	CFA	Development of the Northern Sea Route and Its Future Tasks	<p><b>Natsuhiko Otsuka, Professor, Hokkaido University Arctic Research Center</b></p> <p>With declining sea ice in the Arctic Ocean due to global warming, the international concerns over the Northern Sea Route are highlighted. Marine transport across the Arctic Ocean Passage has increased rapidly since 2010, but has declined sharply since 2014. On the other hand, the total cargo volume of the Arctic Ocean Passage continues to increase, and the international interest in future Northern sea route commercial operations still remains high. Also, internationally, Arctic Ocean traffic research has been widely conducted, not only in the fields of science and engineering, but also in the fields of environment, social economics, international politics, security, and other interdisciplinary areas. Further, Asia is considered to be a major player in this Northern sea route, which subsequently increases the international attention toward Japan. In the current session, recent development of the Northern sea route and its future tasks are discussed.</p>
TS2-4	CFA	Integrated Risk Management for Sediment Related Disasters	<p><b>Atsushi Okamoto, Director, SABO Dep. NILIM, MLIT</b></p> <p>Although increased scientific progress, it is still difficult to predict the timing and location of sediment related disasters and to estimate the mass volume of debris flows, landslides, slope failures or flash floods which cause human and socio-economic losses. This leads to challenges for the proper design of structural measures and early warning. Furthermore, climate change, urbanization as well as earthquakes and volcanic activities increase sediment disaster risks in the Asia Pacific Region.</p> <p>Since studies and countermeasures have been taken in the Region for different solutions adapted to each specific situation, lessons learned in the past should be shared in the Region.</p> <p>Therefore, the Session will focus on the integrated risk management by an optimal combination of various measures. The Session will cover the technologies and strategies to reduce the disaster risks such as monitoring of torrents and slopes, hazard maps, early warning, emergency response, design of preventive facilities and awareness building.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS2-5	CFA	Recent Water-Related Natural Disasters in Asian Region	<p><b>Hitoshi Tanaka, Professor, Tohoku University</b></p> <p>Devastating water-related natural disasters, such as floods, droughts, landslides and storm surges, have occurred in various countries in Asian region especially in recent years. It is noted that climate change will cause further increase of number and severity of these water-related natural disasters in the near future. In addition recent tsunamis in 2004 and 2011 have caused highly serious impact to the region. The aim of the present session is to bring together diverse experiences induced by water-related natural disasters in various Asian countries and to share their knowledge and lessons learned.</p>
TS2-6	Invitation only	Water and Disasters-Toward Building Resilient Society under Climate Change-	<p><b>Tetsuya Ikeda, Chief Researcher, Public Works Research Institute / International Centre for Water Hazard and Risk Management (ICHARM)</b></p> <p>In order to build resilient society under the future climate change in the Asia-Pacific region, where water-related disasters such as floods, drought and high tides are devastating, this session aims at sharing expertise through the presentations by the experts from the member countries, and at trying to establish partnership and collaboration scheme on disaster forecasting and damage mitigation.</p>
TS2-7	CFA	Wave and Tide Observation and Analysis	<p><b>Hiroyasu Kawai, Director, Marine Information and Tsunami Department, Port and Airport Research Institute (PARI), National Institute of Maritime, Port and Aviation Technology (MPAT)</b></p> <p>This session focuses on the process from the acquisition of hydro/meteo information to the application to coastal disaster mitigation. Wave, tide (astronomical tide, storm surge, and tsunami), wind, and atmospheric pressure are observed by permanent nationwide observation networks and temporary standalone sites in Asian countries.</p> <p>These data are inputted to wave generation-propagation-transformation analysis models and are used in wave and tide statistical analysis. These outputs are applied to real-time and permanent coastal disaster prevention/mitigation/control such as coastal defense construction and inundation warning.</p>
TS3-1	CFA	Applications of Geosynthetics for Various Civil Engineering Disciplines	<p><b>Chiwan Hsieh, Distinguished Professor, National Pingtung Univ. of Science &amp; Technology</b></p> <p>Geosynthetic includes eight main product categories: geotextiles, geogrids, geonets, geomembranes, geosynthetic clay liners, geofoam, geocells and geocomposites. Geosynthetics are available in a wide range of forms and materials. These products have a wide range of applications and are currently used in many civil, geotechnical, transportation, geoenvironmental, hydraulic, and private development applications including roads, airfields, railroads, embankments, retaining structures, reservoirs, canals, dams, erosion control, sediment control, landfill liners, landfill covers, mining, aquaculture and agriculture. The objectives of this session will provide some technical presentations to introduce the applications of geosynthetics in various Civil Engineering disciplines. This session will also to assist the promotion of the use of geosynthetics in all member economic regions. In addition, the session will invite some international geosynthetic organizations to participate this program.</p>

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TS3-2	CFA	Experiences and Challenges in Construction and Management of Underground Infrastructures	<p><b>Shinichi Akutagawa, Professor, Kobe University</b></p> <p>Effective usage of underground space is now one of the MUSTs for Asian region to sustain its large population with fast growing economy. A great number of construction projects are now underway for building underground infrastructures such as tunnels, underground power house, shopping zones, and more. At the same time, in some regions, aged underground infrastructures are starting to show maintenance problems. In the proposed session, special attention is paid not only to organization and risk management of newer projects, but also to effective maintenance of aging underground infrastructure, with special interests in employment of advanced monitoring technologies.</p>
TS4-1	CFA	Civil Engineering Heritage: Preservation, Reuse and Social Significance	<p><b>Masaaki Okada, Professor, Kindai University</b></p> <p>Recently civil engineering heritages are obtaining more interest in academia or local communities. Some have already been designated as world heritage sites, such as Forth Bridge in UK, Porto Bridge in Portugal or Ponte Vecchio in Italy, evaluated in cultural aspect. Other than such a global or national scale, civil engineering heritages are cherished by local residents or visitors and have been applied as items to enlighten the local history, to show the great achievements of former engineers, or to enhance local identities.</p> <p>This session attempts to invite diverse professionals, such as engineers, archaeologists, architects, museologists, heritage practitioners, or even enthusiasts worldwide who are interested in this subjects and discuss what and how to appreciate, brand, survey, publicize, utilize or localize the civil engineering heritage in various contexts.</p>
TS4-2	Invitation only	Civil Engineers' Contributions to SDGs Through Promoting Resilient Infrastructure and Community Initiatives for Livelihood Improvement	<p><b>Makoto Kimura, Professor, Kyoto University</b></p> <p>This session is to discuss how civil engineers can contribute to SDGs (Sustainable Development Goals) by promoting not only major infrastructure fundamental to economic growth but also local to people's livelihood improvement. Particularly, feeder roads provide roadside communities access to basic human needs. However, due to the limited number of beneficiaries and localized economic effect, less interventions on those roads have been implemented compared to major roads, thus, their conditions have remained poor. It is time for civil engineers to consider how to improve feeder roads as one of the issues to be treated through their professions.</p> <p>Several cases to improve feeder roads, one of which is through enhancing community initiatives with innovated method, will be presented by researchers, road authorities, consultants and NGOs. It can be expected that the session attract civil engineers interests into even local infrastructure for livelihood improvement and expedite the approach towards them.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS4-3	Invitation only	How to Utilize Big Data for Transportation Planning and Management	<p><b>Akimasa Fujiwara, Professor, IDEC, Hiroshima University</b></p> <p>This session focuses on the utilization of big data as the transportation planning and management tool. The person trip survey has been used as the basic tool for urban transportation planning, however that includes some problems such as the cost of survey, so that it is hard to conduct the survey frequently. In recent years, it became feasible to utilize the big data as a supplement tool for trip survey such as CDR along with the penetration of cell phone especially in developing countries. In this session, we are going to discuss the possibility of such big data for the trip survey tool and to show the future direction of its application to the transportation planning and management through the some case studies.</p>
TS4-4	Invitation only	ITS-based Solutions for Urban Transportation in Asia Pacific Countries	<p><b>Shunsuke Kamijo, Associate Professor, The University of Tokyo</b></p> <p>In recent years, Intelligent Transport Systems (ITS) such as Electronic Fee Collection (EFC), traffic control, information provision, utilization of probe data, etc. have been introduced in Asian countries. Several Asian countries have realized some cost-effective services by utilizing advanced ICT. Many of the world's megacities are concentrated in Asian region, and they often have common urban traffic problems. Therefore, useful ITS solutions are highly expected to be effected in other countries as well. In this session, we will invite experts involved in ITS policy of Asian countries as speakers, introduce latest examples in each country, and discuss effective ITS introduction methods.</p>
TS4-5	Invitation only	Public Spaces for Local Communities as the Resilient Infrastructure-based on the Experiences on Post-disaster Recoveries; How to Develop the Methodology for Spatial Planning and Design Fused with Community Enhancement? -	<p><b>Yu Nakai, Professor, The University of Tokyo</b></p> <p>Public space is one of the most essential infrastructures for local communities. The spatial quality of public spaces is an index of not only richness of daily life but also resiliency to natural disasters of local communities. Now it is important to develop the philosophy and methodology to fuse public space planning/design with community enhancement, due to the fact that grave natural disasters have been increasing lately in Asia. The aim of this session is to discuss how to develop the methodology for spatial planning and design fused with community enhancement based on actual cases of post-disaster recoveries.</p>
TS4-6	CFA	Quality and Resilient Infrastructure in Asia: How Can Investment Gap Be Bridged?	<p><b>Mikio Ishiwatari, Senior Advisor, Japan International Cooperation Agency</b></p> <p>There is significant gap between infrastructure demand and actual investment in Asia. According to the ADB report "Meeting Asia's Infrastructure Needs", Asia and the Pacific region will need around \$1.7 trillion per year from 2016 to 2030 in economic infrastructure. In addition, a JICA research project reveals that there is a substantial demand for disaster prevention and social infrastructure.</p> <p>This seminar will examine how to formulate policies and mechanisms to bridge the gap to develop quality and resilient infrastructure in Asia. The participants will discuss:</p> <ul style="list-style-type: none"> <li>(i) what scale of the gap between needs and investment in economic and social infrastructure,</li> <li>(ii) how to arrange financing source for more resilient infrastructure, and</li> <li>(iii) how to establish ecosystem to mainstream investment in social and disaster prevention infrastructure within the development planning and budgetary process.</li> </ul>

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TS4-7	CFA	The Keys of Success in Promoting Regional Revitalization	<p><b><i>Yoko Kabaki, Principal Engineer Division of Infrastructure, Eight-Japan Engineering Consultants Inc.</i></b></p> <p>The goal of this session is to identify the keys of success in promoting regional rehabilitation. Regional revitalization has been initiated from various approaches such as city development, traffic networks rebuilding, disaster prevention, environment protection, tourism promotion and sports events. Social infrastructure and community development play the important role for these regional revitalization programs. For example, regional revitalization has been promoted by developing disaster-resistant community coupled with tsunami prevention infrastructure in the Tohoku region where the Great East Japan Earthquake and Tsunami struck in 2011. In this session, some successful cases of regional revitalization utilizing the social infrastructure wisely will be introduced, and the opinions will be exchanged about the following keys of success in promoting regional revitalization:</p> <ul style="list-style-type: none"> <li>• The contribution of social infrastructure to regional revitalization</li> <li>• Leaderships</li> <li>• Consensus building among stake- holders</li> <li>• Community development</li> <li>• Public involvement</li> </ul>
TS5-1	Invitation only	Sustainable and Eco-friendly Concrete by Effective Application of Local Mineral Admixtures	<p><b><i>Tetsuya Ishida, Professor, The University of Tokyo</i></b></p> <p>The application of supplementary materials to concrete have been increased in many countries. Such mineral admixtures can be utilized not only for the improvement of fresh properties and durability but also for sustainability and ecology aspects because the slag and fly ash are by-products in steel plant and coal power station, respectively. The chemical composition, however, is different in countries and regions depending on the resource and manufacturing process of main product leading to distinct fresh and durability properties of concrete with admixture. Hence, the session will discuss the application of mineral admixtures in each country based on the characteristics. Since the slag cement has been used in Japan and fly ash cement has been used in Thailand with high replacement ratio, the specification or guideline will be also introduced to deploy the application to developing countries where is suffering from the emission of by-products.</p>

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TS5-2	CFA	Wood Utilization in Civil Engineering	<p><b>Tadashi Hara, Professor, Vice-Director of Center for Disaster Prevention Promotion, Kochi University</b></p> <p>Global warming is an urgent issue to be resolved in the first half of the 21st century. Using wood for a long time is one of concrete solutions for it. It is said that civil engineering field has four million m<sup>3</sup> potential wood usage and once used a lot of wood in Japan, but it is no longer using them now. In addition, forest in Japan is now extremely rich and we are at the timing we have to harvest them.</p> <p>For this reason, we should review wood use again and we would like to discuss this issue in civil engineering field in this session. Latest technologies and environmental evaluation of using wood in civil engineering field will be introduced.</p>
TS6-1	CFA	Advanced Construction/Maintenance Model Utilizing ICRT	<p><b>Hiroshi Yamamoto, Supreme Engineer, Office of the CTO, Komatsu Ltd.</b></p> <p>Rapid reduction in the working-age population will bring about a severe loss in the number of engineers and workers. The infrastructure will soon be due for maintenance as its facilities and systems are approaching their renewal dates. Disaster prevention measures against active natural disasters, such as heavy rainfalls and volcanic activities, will need to be strengthened and/or updated. Therefore, the task of providing a stable infrastructure for society on into the future will be more difficult than ever. More complex construction projects will have to be carried out with limited manpower and budgets. This problem will be addressed not only by an extension of the existing means, but also by innovations. Information, Communication and Robot Technology is expected to play an important role in this solution. The Proposed Session discusses the current conditions and future prospects for a new Advanced Construction/Maintenance model utilizing ICRT in Japan.</p>
TS6-2	CFA	Applications of Artificial Intelligence to Civil Engineering	<p><b>Nobuyoshi Yabuki, Professor, Osaka University</b></p> <p>Artificial Intelligence (AI) is deemed to give a significant impact to the future of our society due to the success of Deep Learning to various areas using Big Data. In civil engineering, especially, in construction and maintenance, huge amount of data will be collected thanks to the progress of Internet of Things (IoT). In fact, infrastructure owners and contractors have already stored a large amount of data. However, they may not know how to utilize such data by using the emerging third generation of AI. Some researchers in civil engineering have already done research on using machine learning for detecting cracks and other deterioration. And now, more and more researchers have started looking at the more advanced AI techniques for not only for maintenance but also for construction monitoring. The papers on such innovative applications of AI to civil engineering are solicited to this proposed session.</p>

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TS6-3	Invitation only	Comparative Study of Quality Infrastructure in Europe, the United States and Asia and Civil Engineer's Contribution	<b>Tamon Ueda, Professor, JSCE IAC Senior Director, Hokkaido University / JSCE IAC</b> In facing the challenge of aging infrastructures, many countries have realized the significance of infrastructure maintenance and management in order to build quality infrastructure for a present and future societies. In this session, speakers from Europe, America and the Asia-Pacific region will discuss their efforts, social systems, similarities and differences among them, focusing on quality infrastructure. In the course of comparing with each other, they will identify the central elements which are common to any country in pursuit of quality infrastructure. Those elements will be the indexes of quality infrastructure, which will tell them to what degree they have achieved and what to be done next. Then, the speakers will consider feasible adjustments to the elements. The findings of discussions will be collected as an infrastructure maintenance and management reference.
TS6-4	Invitation only	Developing a More Relevant Program for Civil Engineering Education	<b>Hironori Kato, Professor, The University of Tokyo</b> Modern civil engineers should be equipped with knowledge relating to engineering, design, construction, operation, and maintenance of infrastructure projects. Advances in infrastructure development and urbanization also emphasize the need for them to understand principles of finance and use of remotely sense data, in addition to all the traditional subjects. This poses a challenge in developing an appropriate curriculum for Civil Engineering education especially in developing countries, and, universities need to take a fresh look and develop curriculum that addresses the needs of the construction industries, Government organization and the society at large. This session aims to bring together participants from academic institutions and industries to deliberate on the challenge of developing a more relevant education program in Civil Engineering at all levels, and, need to develop graduate programs in interdisciplinary areas such as Earthquake Engineering and Construction Management, in addition to traditional areas.
TS6-5	Invitation only	Enhancing Citizens' Understanding on Importance of Infrastructure Based on Infrastructure Health Report	<b>Mitsuyasu Iwanami, Professor, Tokyo Institute of Technology</b> Due to the importance of infrastructure development and management, current assessment of overall infrastructure by civil engineers' societies has been conducted in Japan as well as the United States and the United Kingdom. In Japan, based on the deterioration state and management system of the infrastructure such as road, river, sewage and port, JSCE has assessed the soundness of the current infrastructure and published the result as "Infrastructure Health Report" for these years. In this session, we will share the current status on the report published by various countries, and seek the desirable ways to enhance citizens' understanding on importance of infrastructure based on the report.

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TS6-6	Pending	INFRA BIM	<p><b>Sang-Ho Lee, Professor, Yonsei University</b>  3-D oriented technology, representing the spatial and physical states of real structure, is an unavoidable trend in construction market. In addition, the technology for knowledge-based operation and management of various data and information occurring in the life-cycle of civil infrastructure is getting more important. BIM (Building Information Modeling) seems to be one of the most possible methodology and a tool to meet these demands. However, the level of BIM technology application in the civil engineering field is still very low and limited, compared to the architectural design and engineering field. BIM Technical Committee (TC-13) will play the pivotal role in setting up technology roadmap, strategy, policy, and standard of BIM in civil engineering. The TC proposes a session at CECAR8 to discuss on the development of BIM-based asset management technics for civil infrastructure to meet the needs of the time. The main issues will include knowledge-based information management techniques for civil structures and technology development, related to reliable support of decision-making by management and operation of well-organized database created in the life-cycle process of civil infrastructure.</p>
TS6-7	CFA	Infrastructure Development and Economic Growth	<p><b>Yasuhiro Tanaka, Director for International Cooperation and Projects, Overseas Projects Division, Policy Bureau, MLIT</b>  Infrastructure development is crucial for economic growth in any country. Especially in the Asian region, demand of infrastructure development is still far more encouraged. Because normally it takes long time to complete projects, proper plan and project management with long-term perspective are essential for sustainable infrastructure development. At the same time, aging infrastructure and its maintenance are rising as a core issue for both developed and developing countries. In order to support sustainable economic growth, we need to implement the best mix of portfolio between infrastructure development and maintenance while utilizing a variety of project platforms including Public Private Partnership (PPP).  In this session, panel presenters will discuss the impact and contribution of infrastructure development on their own countries and regions. Then they share ideas on effective policies to be implemented in order to maintain sustainable economic growth in the future.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS6-8	CFA	Innovative Construction Technologies and Management in Infrastructure Projects	<p><b>Akira Kashida, Deputy Manager, Project Management Group, Construction Department, International Division, Kajima Corporation</b>  <b>Peerapong Suthiwarapirak, Regional Technical Manager, Civil Engineering Technology Department, International Division, Shimizu Corporation</b></p> <p>This session discusses the infrastructure projects where innovative construction technologies and/or project management are applied. The civil engineers working in various countries introduce their projects including large-scale dams, tunnels and bridges. The main focus are on the difficulties in each project and the solution(s) that are proposed to overcome them. The aim is that, by sharing up-to-date information, the researches and developments in construction technologies and project management are further advanced in ACECC member societies.</p> <p>This session is proposed as one of the two sessions that the construction technology research committee of JSCE organizes under the same title, where ten to twelve different projects, in total, will be presented.</p>
TS6-9	CFA	Introduction of Users' Viewpoints in Post Appraisal of ODA Infrastructure Project	<p><b>Tsunemi Watanabe, Professor, Kochi University of Technology</b></p> <p>In some ODA infrastructure development projects, their original project purpose is not sufficiently achieved due to reasons such as inappropriate maintenance. One of its fundamental reasons is that the point of view of the funding provider such as internal rate of return is overly emphasized in post appraisal of the ODA project and that the viewpoint of the user is lacking. Among the DAC principles of ODA project evaluation, there is no user viewpoint. It is worthwhile discussing the necessity of incorporation of users' viewpoints into post project appraisal. The objective of this seminar is to collect and share case examples of ODA projects with focus on users' viewpoints and discuss methods of incorporating users' viewpoints into post appraisal of ODA infrastructure project.</p>
TS6-10	CFA	Open Dialogs among Asian Economies on Anti-Corruption – Challenges from Different Perspectives	<p><b>Edward Wang, Professor, Minhsin University of Science and Technology</b></p> <p>The main objective of the TC-17 session is to provide a platform to encourage open discussions on the definition of anticorruption. The program will be designed to motivate ACECC member-societies to report any anti-corruption activities undertaken in their respective economies also showcase the best practices. The main activities of the session will achieve one of the 3 goals: 1.) Sharing information on anti-corruption activities by all; 2.) Providing member nation engineers with anti-corruption education and training; 3.) Encouraging each member nation to nominate a role model for others to learn from.</p>

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TS6-11	Invitation only	Present and Future Maintenance Strategy for Infrastructures in Asian Region	<p><b><i>Koji Matsumoto, Project Assist. Professor, The University of Tokyo</i></b></p> <p>In Asian region, the degrees of infrastructure development in each country are significantly different. Some countries are currently in a period of rapid construction, while others have already passed mass construction periods and are facing to aging problems of infrastructure. In this session, representative engineers from Thailand, Vietnam, Myanmar and Japan, where the degrees and significance of infrastructure development and conservation are different, give presentations to introduce current situations in their respective countries. In addition, issues and goals for infrastructure maintenance management in Asian region will be discussed including technology, organization, and human resource development.</p> <p>This session is organized by “Infrastructure Maintenance, Renovation and Management” in Cross-ministerial Strategic Innovation Promotion Program (SIP) which is steered by Cabinet Office, Government of Japan. The organizer aims to support overseas expansion of the latest technologies of infrastructure management by exchanging the information in the session.</p>
TS6-12	Invitation only	Productivity Improvements in the Field of Construction by Making Use of ICT Which Stands for Information and Communication Technology.	<p><b><i>Yoshinori Morita, Director, JACIC</i></b></p> <p>Transmission and opinion exchange of the latest trends and the effects regarding productivity improvements in the phase of design, construction and maintenance of civil structures by utilizing CIM which stands for Construction Information Modeling and Management with 3Dmodel as well as ICT.</p>
TS6-13	Invitation only	Study of Failure for Young Civil Engineers	<p><b><i>Hiromasa Iwai, Assistant Professor, Nagoya Institute of Technology</i></b></p> <p>In this session, we are going to share our mistakes and failure experiences in designing, construction, and any other cases. Mistake and failure in civil engineering threaten safety, and it will lead to fatal accidents. Someone’s experiences of mistake will help us predicting potential problems and accidents, and it will be a great help for us not to repeat the same mistakes, to reduce risks, and to find new methods to solve problems.</p> <p>First, a presenter show failure cases happened in his/her job, and then participants have time to detect the reasons why the failure occurred, and discuss how to overcome it. After that the presenter will show one of the answers for how to solve the problem.</p> <p>We are going to gather participants from the delegates of the 1st Future Leaders’ Forum, which was held at ACECC 32nd ECM in Nepal.</p>

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TS6-14	Invitation only	Transdisciplinary Approach for Disaster Risk Reduction by Scientific Knowledge-based Decision-Making - Four Years of Activity of TC21 and Statement from the Members for Future DRR -	<p><b>Yoshihiro Katsuhama, Manager, Nippon Koei Co., Ltd.</b></p> <p>The committee TC21 “Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters”, held three session and symposiums on “Scientific Knowledge-based Decision-Making Schemes for Disaster Risk Reduction (DRR)”, in Hawaii (CECAR7), the Philippines, Nepal, and another symposium is planned to be held in Vietnam in 2018.</p> <p>The proposed session for CECAR8 will present findings of the 4 years of efforts and to voice the rational and processes of decision-making by TDA for DRR to be heard by all concerned stakeholders and the future leaders. The findings will be the compiled results of case studies, presenting the mechanisms of TDA based on facts and actual processes. We will conclude the session with a statement that TDA, if customization for each societal condition is successful, will help build the institutional and political systems that enhances the efficient processes of scientific knowledge-based decision-making for DRR.</p>
TS6-15	Invitation only	Transforming Civil Engineering Education and Practice to Achieve the United Nations Sustainable Development Goals: Where We Are	<p><b>William Kelly, ASCE</b>  <b>Eiki Yamaguchi, Professor CE, Kyushu Institute of Technology</b></p> <p>Resilient and sustainable infrastructure is essential to achieving the UN 2030 Sustainable Development Goals. Goals 9 and 11 deal specifically with resilient infrastructure and sustainable cities. Other goals deal with infrastructure sectors, for example, water and wastewater (Goal 6), energy (Goal 7), materials (12), and climate adaptation (13). Presenters will report and discuss progress to date in transforming civil engineering education and practice to meet the challenges of achieving the UN SDGs and make sustainable infrastructure the new norm.</p>
TS6-15	Invitation only	Transforming Civil Engineering Education and Practice to Achieve the United Nations Sustainable Development Goals: Next Steps	<p><b>William Kelly, ASCE</b>  <b>Eiki Yamaguchi, Professor CE, Kyushu Institute of Technology</b></p> <p>Resilient and sustainable infrastructure is essential to achieving the UN 2030 Sustainable Development Goals. Goals 9 and 11 deal specifically with resilient infrastructure and sustainable cities. Other goals deal with infrastructure sectors, for example, water and wastewater (Goal 6), energy (Goal 7), materials (12), and climate adaptation (13). Panelists will discuss and date what still needs to be done to transform civil engineering education and practice to meet the challenges of achieving the UN SDGs and make sustainable infrastructure the new norm. This session will be interactive with sufficient time allocated to engage the audience in the discussion and debate.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS6-16	CFA	Women in Civil Engineering	<p><b>Kiko Yamada-Kawai, Researcher, Tokyo Institute of Technology</b></p> <p>Civil engineering is one of the most male-dominant domains in both industry and academia, and various challenges have been implemented. In Japan's case, JSCE's women members grew notably in these 20 years while a society by women civil engineers celebrated its 30 years, yet a regulation remains to prohibit women to enter specific construction sites. Sometimes women in civil engineering is discussed as part of compliment of labor shortage that may lack continuity. In this session, we would like to invite speakers from both academia and industry to share their knowledge and achievements on encouraging women in civil engineering. Possible topics include: history and present status, activities in earlier education (STEM), job retention, women's selfhelp, goal setting in society and organization, and regulation to help/prohibit women. Introduction of cases and analysis are both welcome. A panel discussion is planned after the paper presentations as a networking opportunity.</p>
TS7-1	Pending	Adoption of Standard Operating Procedures for Design, Construction and Maintenance of Long Span Bridges	<p><b>Ho-Kyung Kim, Professor, Seoul National University</b></p> <p>In last three decades, engineers and researchers made outstanding developments in long-span bridge technologies. As part of the advancement, the ACECC launched TC-18 for adoption of standard operating procedures for design, construction and maintenance of long-span bridges. KSCE is now chairing this committee from 2016 and is proposing a special session in 8th CECAR for the mutual communication and cooperation between committee members and colleagues. In this session, various topics will be presented and discussed to share recent development and cutting-edge technology in design, construction, monitoring and maintenance of regular and cable bridge systems.</p>
TS7-2	CFA	Climate Change Adaptation Measures in Water-related Issues	<p><b>Tomohito Yamada, Associate Professor, Hokkaido University</b></p> <p>The increasing frequency of natural disasters caused by climate change, such as heavy precipitation, drought, and high tide, is a pressing concern for countries around the world. One measure against climate change is adaptation, which involves anticipating the adverse effects of climate change and taking the appropriate and/or least unfavorable course of action to prevent or minimize damage. Practical actions for adaptation, such as the "National Plan for Adaptation to the Impacts of Climate Change" in Japan, could help protect vulnerable communities and strengthen economic resilience, and the beginning of such activities can be seen in many other countries.</p> <p>This session will bring together climate change adaptation studies on water and its related issues, focusing mainly on the Asia-Pacific region. As climate change adaptation is a borderless problem requiring solutions across many different research fields, studies from a wide variety of fields are highly welcome, from climate change projection methods (such as statistical and dynamical downscaling) to actual, concrete examples of adaptation measures.</p>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS7-3	CFA	Environmentally Sound Management of Construction and Demolition Waste (CDW) : Challenges and Opportunities in Asian Countries	<p><b>Noboru Takano, Researcher, Planning Department, Advanced Construction Technology Center (ACTEC)</b></p> <p>Due to demolition and renovation works of old buildings and new construction works for infrastructure improvement, a huge amount of CDW including surplus soil has being produced in all countries worldwide. In particular, big cities in Asia-Pacific countries are facing numerous problems caused by improper management of CDW such as illegal dumping and environmental degradation. Along with further rapid and intensive urban development, it is needed to have more challenges and opportunities to develop sustainable and environmentally sound management of CDW in those countries. The objectives of this session are 1) to report current situation and management on CDW in typical countries facing rapid development including Japan, 2) to share experience and know-how of CDW management, and 3) to discuss necessary actions to develop environmentally sound CDW management.</p>
TS7-4	CFA	Role of Civil Engineering in Mitigation of Climate Change	<p><b>Minoru Yoneda, Professor, Kyoto University</b></p> <p>Civil engineering deals with practically all areas of climate change problems. In relation to mitigative measures, it is necessary to engage in research and development that makes use of the breadth of the field of civil engineering with regard to the linkage of various measures, scenario research, and issues of policy, industrial structure changes, social factors, and economic aspects. Considering these characteristics, it is both effective and necessary for the field of civil engineering to develop and implement strategies toward the formation of a low-carbon society. This session will accept presentations in the following categories: reducing greenhouse gas (GHG) emissions in civil engineering projects, materials, facilities or structures; incorporating mechanisms to reduce GHG emissions in government activity; developing and supporting low-carbon energy technologies; developing low-carbon urban systems through city planning and transportation planning; and international cooperation of civil engineers to reduce GHG emissions.</p>
TS7-5	Pending	Technology of New & Renewable Energy for Sustainable Society	<p><b>Tai Sik Lee, President, Korea Institute of Civil Engineering and Building Technology</b></p> <p>Recently, renewable energy sources such as solar power, wind power, and tidal power, are mainly focused as alternative traditional energy sources. These renewable energies will reduce environmental pollution, and they will become the semi-permanent energy sources. We invite all international guests to join us in a dynamic discussion of distinguished scholars and experts on renewable energy.</p> <p>Field of presentation</p> <ul style="list-style-type: none"> <li>- Policy Issues and Trends in New &amp; Renewable Energy field</li> <li>- Technology of New &amp; Renewable Energy</li> <li>- New Directions for Implementing and Operating Technologies</li> <li>- Economic Feasibility Analysis for New &amp; Renewable Energy field</li> <li>- Other New &amp; Renewable Energy Technology etc.</li> </ul>

No.	Abstract	Titles of Proposed Sessions	<b>Session Conveners and Outlines</b>
TS7-6	Invitation only	Towards More Resilient Lifeline Systems	<p><b>Shigeo Fujii, Professor, Kyoto University</b></p> <p>Asia-Pacific region has been under increasing pressure to address issues on understanding risks of natural hazards, so as earthquake, tsunami, hurricane, climate change, flooding etc. In order to reduce the environmental health risk in emergency, it is of unquestionable importance to establish disaster resilience for water and sewerage systems.</p> <p>The purpose of this session is to share the experiences of emergency response, recovery and reconstruction of lifeline systems from the catastrophic natural disasters in United States, New Zealand, Thailand, and Japan. This session also works to communicate the expertise and knowledge on making infrastructure more resilient and reliable, so as to build and redesign water and sewerage systems with business continuity and technologies. Thus, it would contribute to develop the civil engineering networking of 'Towards more resilient water and sewerage system'.</p>

### General Sessions (GS)

No.	Abstract	Titles of Proposed Sessions
GS-1	CFA	Structural Engineering/Earthquake Engineering & Applied Mechanics
GS-2	CFA	Hydraulic, Coastal and Environmental Engineering
GS-3	CFA	Geotechnics
GS-4	CFA	Infrastructure Planning and Management
GS-5	CFA	Materials, Concrete Structures and Pavements
GS-6	CFA	Construction Engineering and Management
GS-7	CFA	Environmental Systems and Engineering