



International Conference on Advances in Composite Materials and Structures (CACMS 2015)

13-15 April 2015, Istanbul

WELCOME TO CACMS2015

On behalf of members of the organizing committee, we would like to welcome you to International Conference on Advances in Composite Materials and Structures (CACMS 2015) in Istanbul.

CACMS2015 will be held in 13-15 April 2015 in Istanbul Technical University (İTÜ) which is world's third oldest technical university. Istanbul is one of the largest cities in the world and through its strategic location has always played a significant role in bridging east with the west. It is a vibrant cultural, business, economic and science and engineering center of Turkey. You will find many different cultures spread throughout Istanbul.

www.cacms2015.itu.edu.tr

İTÜ, Ayazaga Campus, SDKM
Conference Center

Full paper submission
(compulsory):
July 31,2015

We hope that this three day meeting will further the collaborative activities internationally by serving as a scientific platform, which fosters scientific understanding and technical innovation in composite materials and technology through the information exchange among the worldwide community of engineers and scientists in the field.

This conference intends to bring forward the best research, studies and applications on composite materials and structures. The themes are:

- **Structural Designs, Analysis & Applications**
- **Experimental Methods & Manufacturing Techniques**
- **Materials Mechanics**
- **Materials**

ISTANBUL TECHNICAL UNIVERSITY



Istanbul Technical University (ITU) was established in 1773, during the time of the Ottoman Sultan Mustafa III. under its original name “Mühendishane-i Bahr-i Humayun”. Since then ITU continued and developed its higher education in various forms.

In 1946, ITU became an autonomous university, including the Faculties of Civil Engineering, Architecture, Mechanical Engineering, and Electrical Engineering. ITU is a state university which defines and continues to update methods of engineering and architecture in Turkey.

Istanbul Technical University (In Turkish “İstanbul Teknik Üniversitesi”, commonly referred to as ITU or Technical University) is an international technical university located in Istanbul, Turkey. It is the world’s third oldest technical university dedicated to engineering sciences as well as social sciences recently, and is one of the most prominent educational institutions in Turkey. ITU is ranked 108th worldwide and 1st nationwide in the field of engineering/technology by THES – QS World University Rankings. Graduates of İstanbul Technical University have received many TUBITAK science and TUBA awards. Numerous graduates have also become members of the academy of sciences in the U.S.A., Britain and Russia. The university has 39 undergraduate, 144 graduate programs, 13 colleges, 346 labs and 12 research centers. Its student -to-faculty ratio is 12:1.23 engineering departments of ITU are accredited by ABET.

The vision of Istanbul Technical University is always in development as ITU is a world university.

The mission of Istanbul Technical University as a research university competing in the international arena without being constrained by the national boundaries, is to continue teaching, education and R&D activities as well as contributing to the international knowledge by reaching the advanced knowledge rather than only improving the quality of teaching and research activities.

ISTANBUL



Istanbul: A world center of great value in the past as well as in the present, Istanbul embraces Asia on the one hand and Europe on the other.

Istanbul, with its historical peninsula, numerous scenic and historical beauties is a magnificently unique city that has been capital to many civilizations from past to present and still continues to be home to residents from all over the world. This rooted city, with a history dating back to 300 thousand years before, constitutes a mosaic of many civilizations and cultures combined.

One may come across legacies and monuments of thousands of years behind any door or around any corner in Istanbul. Whether you take a round tour in Istanbul or visit any of the 39 districts nearby, you will catch hold of

various historical and natural wonders any minute.

You may begin your Istanbul tour at the Grand Bazaar that will enchant you with its bright and pleasant environment while a sense of peace and security will wrap you tightly in Hagia Sophia. A tour of the pearl of the Bosphorus, Ortaköy, Beşiktaş and Kabataş will let you enjoy the delightful views along the deep blue coast.

With the Black Sea in the north, the Marmara Sea in the south and the Istanbul Strait running in all its glory through the middle of the city, you will experience great moments in Istanbul and witness the unique combination of the Mediterranean and Black Sea climates. You may encounter a hot and humid weather in the summer and a cold and snowy weather in the winter.

On the other hand, Pierre Loti, one of the most tranquil and charming corners in Istanbul, will invite you to drink some Turkish Tea and enjoy the view on site.

The setting sun illuminates the city like a painting every evening. The candle- like silhouettes of the mosques rise above the historical peninsula to greet the city while the sun and the moon salute each other as the day turns into night. Right at that moment you will feel like a sultan in the cradle of civilizations. If you prefer to be carried away by the beat of the

night you may consider visiting Kalamış, Fenerbahçe, Moda and Caddebostan located on the Anatolian side. Likewise, the coast of the European side, such as Ortaköy, Kuruçeşme, Bebek, Tarabya and Suada offer popular entertainment venues with doors open to guests until early sunrise.

Bridging two continents, this unique city, where one can encounter people from different countries and witness diverse cultures merging in harmony, will awaken completely different feelings in you.



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Themes & Tracks

Structural Designs, Analysis & Applications

- Composite structures in civil engineering
- Composite structures in automotive applications
- Innovative Applications, multifunctional and smart composites
- Textile Structural Composites
- Bio-inspired design of composites
- Green Composites
- Fiber metal laminates and composites

Experimental Methods & Manufacturing Techniques

- Non-destructive Inspection Techniques for Composite Materials and Structures
- New Materials Testing Methods
- New Structural Testing Methods
- Structural Health Monitoring
- Manufacturing Technologies (Sandwich technologies, Low cost technologies etc.)
- Recycling of Composites and Sustainability

Materials Mechanics

- Multi-scale Modeling
- Numerical Modeling
- Micromechanics and Finite Element Models on Composite Structures
- Optimization techniques and methods
- Impact on Composites, Fatigue
- Dynamics of Composite Materials & Dynamic Fracture
- Delamination
- Failure & Damage

Materials

- Porous and cellular materials
- Interfaces and interphases
- Fiber Reinforcement & Fiber Architecture
- Self Healing Systems and Materials
- Nanocomposites
- Carbon and Graphene Related Composites
- Thermoplastic Matrix Materials & Composites
- Metal Matrix Composites, Ceramic Matrix Composites & Ceramic Materials Composites
- Hybrid Composites

Venue Map



Istanbul Technical University, SDKM (Süleyman Demirel Kültür Merkezi, Suleyman Demirel Culture Center) Maslak, ISTANBUL is the proposed venue for CACMS2015. SDKM is a large and modern conference center, which is situated in Ayazaga Campus, Maslak district just 15 minutes from the city centre, Taksim. ITU has its own metro station; this is the fastest way of transportation in Istanbul. SDKM is only a 50 meter walk from the ITU-Ayazaga Metro Station. The metro station is located at the entrance of the university.

<http://www.sdkm.itu.edu.tr>



Plenary Lecturers

13th of April, 2015

Time: 09:10-09:40

Prof. Dr. Lütfi Öveçođlu

M. Lütfi Öveçođlu is Professor in the department of Metallurgical and Materials Engineering at Istanbul Technical University. He received his M. S. and Ph. D. degrees in Materials Science and Engineering from Stanford University in Stanford, CA, U. S. A. in 1987. He worked at Xerox PARC for one year and as Technical Manager at Devtech B. V. in the Netherlands for two years following his Ph. D. He became faculty member in the department of Metallurgical and Materials Engineering of Istanbul Technical University in 1990 and has since been in this position.



He is the founder and technical director of a cluster of 9 laboratories named Particulate Materials Laboratories (PML). He was awarded the TÜBİTAK Encouragement Award (Teşvik Ödülü) in Engineering in 1997 and the Turkish Ceramic Federation Ceramic Honorary Award in 2010. He is author or co-author of 145 papers cited in Web of Science, 2 book chapters and 3 edited conference proceedings with about 949 citations to his work which mostly related to metal matrix composites (MMCs) and ceramic matrix composites (CMCs). PML group consists of 3 professors, 1 associated professor, 3 doctorate researchers, 15 PhD candidates and 16 graduate students.

Overview of research activities on the synthesis and characterization of particle reinforced Al and W-based composites

by Lütfi Öveçoğlu

Metal matrix composites (MMCs) reinforced with discontinuous phases in the forms of short fibers, whiskers, and particulates exhibit considerably enhanced strength values at room temperature or at higher temperatures, low coefficient of thermal expansion, good wear resistance and stiffness compared to the corresponding unreinforced alloys. Mechanical alloying (MA) is a solid-state powder processing technique involving repeated welding, fracturing, and rewelding of powder particles in a high-energy ball mill and it is used to produce composite metal powders, metastable crystalline and quasicrystalline phases and amorphous alloys with controlled submicron sized novel microstructures and/or nanostructures. In the last three decades, mechanical alloying has been shown to be capable of mechanochemically synthesizing a variety of equilibrium and non-equilibrium alloy phases starting from blended elemental or prealloyed powders. Aluminum-based metal matrix composite synthesized via mechanical alloying (MA) which have received considerable attraction as structural materials in aerospace, automotive and transportation industries due to their high specific modulus and strength, superior wear, fatigue and creep resistances. It is generally known that the Al composites containing hard particles exhibit high wear resistance depending on volume fraction, size and type of reinforcements compared to the matrix alloy. Tungsten (W) and its composite which are candidate materials for important structural applications at high temperatures due to their excellent properties such as high melting point, high elastic modulus, high thermal shock resistance, low thermal expansion coefficient, good corrosion resistance and good high temperature strength and stiffness. There are lots of our studies about tungsten composites reinforced various oxide and borides particles to enhance high temperature strength and creep resistance of tungsten and its alloys.

Plenary Lecturers

13th of April, 2015

Time: 13:30-14:00

Assoc. Prof. Dr. Demirkan Çöker

Dr. Coker is currently Associate Professor in Aerospace Engineering and Director of Structural Mechanics and Materials Laboratory at RÜZGEM, METU. He acted as a vice-Chair of the Dept. of Aerospace Engineering from 2009-2012. Dr. Coker holds a B.S. degree in Aeronautical Engineering from METU, an M.Sc. degree in Aerospace Engineering from University of Dayton, an M.Sc. degree in Applied Mathematics from Wright State University and a Ph.D degree in Aeronautics with a minor in Geophysics from California Institute of Technology (Caltech). After Dr. Coker obtained his B.S., he started his career as a research



engineer at the UDRI and at the Materials Lab/Wright Laboratories, Dayton,

carrying out research on thermomechanical fatigue of novel high temperature composite materials for the hypersonic National Aerospace Plane project. During his Ph. D. studies at Caltech he carried out groundbreaking experimental work on dynamic fracture of composite materials. Afterwards he worked as a Post-Doctoral research associate at Brown University on dynamic friction modeling (2001-2004) and worked as an Assistant Professor at Oklahoma State University (2004-2008). He also worked as a visiting Professor at KITP, the University of California at Santa Barbara and EPFL in Lausanne. Dr. Coker has published 24 peer reviewed articles and 23 conference proceedings, gave more than 50 international conference talks and more than 30 invited talks in the fields of fatigue, fracture mechanics, friction, dynamic failure, experimental mechanics, computational mechanics and composite materials. In addition, he has been instrumental in setting up the undergraduate aerospace labs at METU, structure and materials labs at RUZGEM and micro-and nano-mechanics laboratory at Oklahoma State University.

Dynamic failure of curved CFRP composite laminates under quasi-static loading

by Demirkan Coker

In aerospace and wind energy industries, new advances in composite manufacturing technology and high demand for lightweight structures are fostering the use of composite laminates in a wide variety of shapes as primary load carrying elements. However, once a moderately thick laminate takes highly curved shape, such as an L-shape, Interlaminar Normal Stresses (ILNS) are induced together with typical Interlaminar Shear Stresses (ILSS) on the interfaces between the laminas. The development of ILNS promotes mode-I type of delamination propagation in the curved part of the L-shaped structure, which is a problem that has recently raised to the forefront in in-service new composite wind turbines. Delamination propagation in L-shaped laminates can be highly dynamic even though the loading is quasi-static. An experimental study to investigate dynamic delamination under quasi-static loading is carried out using a million fps high-speed camera. Simulations of the experiments are conducted with a bilinear cohesive zone model implemented in user subroutine of the commercial FEA code ABAQUS/explicit. The experiments were conducted on a 12-layered woven L-shaped CFRP laminates subjected to shear loading perpendicular to the arm of the specimen with a free-sliding fixture to match the boundary conditions used in the FEA. A single delamination is found to initiate at the 5th interface during a single drop in the load. The delamination is then observed to propagate to the arms at intersonic speed of 2200m/s. The results obtained using cohesive zone models in the numerical simulations were found to be in good agreement with experimental results in terms of load displacement behavior and delamination history. These results are the first conclusive evidence of intersonic delamination in composite materials triggered under quasistatic loading.

Plenary Lecturers

14th of April, 2015

Time: 08:50-09:20

Assoc. Prof. Dr. Melih Papila

Melih Papila received his B.S. (1990) and M.S. (1995) degrees in Aeronautical Engineering from the Middle East Technical University, Ankara, Turkey. Dr. Papila participated in a training program and worked as an engineer in structural testing department of CASA, Madrid (1992). He then worked at Roketsan, Ankara (1993 - 1997) as an R&D engineer and assumed full responsibility in a multi-national and –institutional research and technology project on high performance structural composites. He started his PhD studies (1997) and received his degree in Aerospace Engineering from the University of Florida, Gainesville (2001), as a member of Multidisciplinary and Structural Optimization group.



Dr. Papila is currently a faculty member as an Associate Professor in the Materials Science and Nanoengineering Program at Sabancı University (SU), Istanbul, Turkey. Prior to joining SU in 2004, he was a Postdoctoral Associate jointly in Interdisciplinary Microsystems and Multidisciplinary and Structural Optimization Groups at the Department of Aerospace and Mechanical Engineering of University of Florida (2002 – 2004). Dr. Papila is a recipient of EU FP7 Marie Curie International Outgoing Fellowship. He joined Composites Design Group as a visiting professor in Aeronautics & Astronautics Department at Stanford University (2010-2012).

Dr. Papila has developed expertise in design of experiments and surrogate modeling, manufacturing, testing, analysis and design of advanced composite materials and structures. His current research aims to integrate the nano-scale materials into applied macro world of multi-functional composite materials and structures.

Challenge of Nano in the Macro world of composites: Are we there yet?

by Melih Papila

Advanced composites have become indispensable resource in a variety of fields such as aerospace, automotive and energy as they enable lighter structures without sacrificing the safety. Their full potential is yet to be met calling engineers and scientists to push the boundaries of research and development on composites for making them even more competitive and promising. In other words, we are urged to “think outside the box” practices with advancing manufacturing and characterization techniques and software specialized on composites as opposed to traditional lay-ups, materials and production. This challenge we are in is arguably dominated by the multi-scale nature of the composites. With the era of nanomaterials and their integration into macro world of composites, importance of the understanding and ability to design and manipulate the mechanisms bridging the scales, are further pronounced. Therefore, research front incorporating a multi-scale framework is essential.

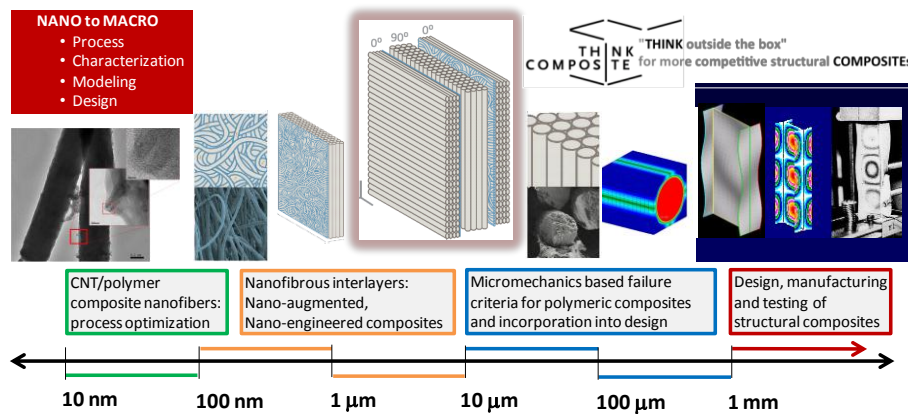


Figure 1: A multi-scale framework for engineering advanced composites.

A nano-enhanced/augmented structural composite/material concept has been studied within such a multi-scale engineering framework (Fig.1), and its review is presented herein. The concept is realized by integration of the nano-scale in the form of nanofibrous interlayers into the polymer matrix composites. The nanofiber mats as interleafs may find extensive use in nearly all traditional light-weight laminated and sandwich structural applications where advanced composites are necessary. They can be easily incorporated into existing manufacturing processes and provide substantially enhanced mechanical properties, while the weight and thickness increase associated with interleaving is nearly negligible. Additionally, the possibilities for composite nanofibers by combining with particles/fillers allow the toughening performance to be further enhanced. Their full potential is even higher with multi-functional capabilities, such as tuning of mechanical, thermal and electrical properties by the right choices of nanofiber and filler combinations and proportions. With a thorough understanding of impact on the properties by the nanofibrous interlayers, the opportunities are plentiful for developing characterization and scaled-up production capabilities and integration of the nanofibrous materials into conventional composite materials and engineering design frameworks.

A road map and a series of examples are presented for effective incorporation of the electrospun nanofiber interlayers/interleafs into the laminated composites. The research hypothesis is that issues

contributing to poor interlaminar strength and toughness can be delayed or eliminated by interleaving, in addition to suppressing matrix cracking, whether the root cause of delamination is isolated or synchronous. Toughening mechanisms in the presence of nanofiber interleafs are shown to be effective under both in-plane and out-of-plane loading. Specifically, epoxy-compatible poly (styrene-co-glycidylmethacrylate), P(St-co-GMA) and P(St-co-GMA)/MWCNT nanofibrous interlayers incorporated into carbon/epoxy laminated composites are exemplified for enhancing mechanical behavior (Fig.2). Tests performed are longitudinal and transverse tension, open hole tension, three point bending, end notched flexural tests, Charpy Impact and Split-Hopkinson bar test. The working mechanism of these interlayers under in-plane loads is further elaborated by the custom design tensile tests of (0₂/90₄)s interleaved laminates, backed-up by acoustic recording and analysis. Influence of the nanofibrous interleafs on the extended fatigue life of the laminates is also demonstrated.

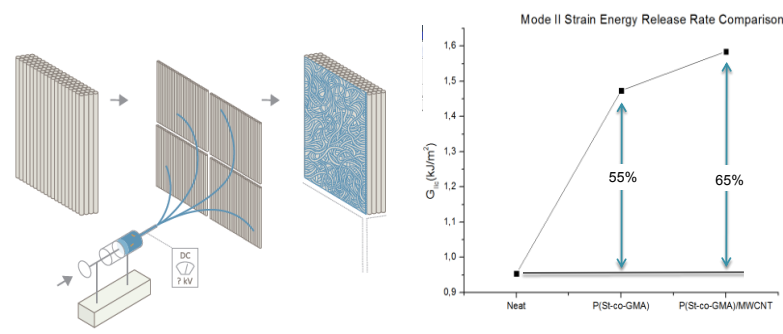


Figure 2: Representation of modified prepregs by nanofibrous interleafs and an example of enhanced mechanical properties.

Acknowledgement: TUBITAK Grant numbers 109M651, 213M542 and European Commission under the Marie Curie International Outgoing Fellowship Programme, Grant FP7-PEOPLE-2010-IOF-274737.

- 1) Ozden, E., Menceloğlu, Y. Z., Papila, M. "Engineering Chemistry of Electrospun Nanofibers and Interfaces in Nanocomposites for Superior Mechanical Properties," *Applied Materials&Interfaces*, Vol.2 (7), pp.1788-93, July 2010.
- 2) Yenigun-Ozden E., Menceloğlu, Y. Z., Papila, M., "MWCNTs/P(St-co-GMA) composite nanofibers of engineered interface chemistry for epoxy matrix nanocomposites," *Applied Materials&Interfaces*, Vol. 4 (2), pp.777-784, February 2012.
- 3) Bilge, K., Yenigün-Özden, E., Şimşek, E., Menceloğlu, Y. Z., Papila, M., "Structural Composites Hybridized with Epoxy Compatible Polymer/MWCNT Nanofibrous Interlayers," *Composites Science and Technology*, Vol. 72 (4), pp.1639-1645, July 2012.
- 4) Bilge, K., Venkataraman, S., Menceloğlu, Y. Z., Papila, M., "Global and Local Nanofibrous Interlayer Toughened Composites for Higher In-Plane Strength, " *Composites Part A: Applied Science and Manufacturing*, Vol. 58, pp.73-76, March 2014.
- 5) Bilge, K., Papila, M., "Chapter 10: Interlayer toughening mechanisms of composite materials," in *Toughening Mechanisms in Composite Materials*, edited by Q. Qin, and J. Ye, Elsevier-Woodhead Publishing-Elsevier, in press, June 2015.

Scientific Program

In Short

The poster display area will be available for set-up on beginning Monday, April 13.

Poster session will be held on Tuesday, April 14, at 16:00-17:20.

Poster dimensions can be maximum 90 cm in width and 180 cm in height.

13 APRIL 2015				
08:30-09:00	Opening/Registration			
09:00-09:10	Opening Ceremony			
09:10-09:40	Plenary Lecture-1			
09:50-10:50	SESSION-1			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
09:50-10:10	Th1.1.1.2	Th2.1.1.2	Th3.1.1.2	Th4.1.1.2
10:10-10:30	Th1.1.1.3	Th2.1.1.3	Th3.1.1.3	Th4.1.1.3
10:30-10:50	Th1.1.1.4	Th2.1.1.4	Th3.1.1.4	Th4.1.1.4
10:50-11:10	COFFEE BREAK			
11:10-12:30	SESSION-2			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
11:10-11:30	Th1.1.2.1	Th2.1.2.1	Th3.1.2.1	Th4.1.2.1
11:30-11:50	Th1.1.2.2	Th2.1.2.2	Th3.1.2.2	Th4.1.2.2
11:50-12:10	Th1.1.2.3	Th2.1.2.3	Th3.1.2.3	Th4.1.2.3
12:10-12:30	Th1.1.2.4	Th2.1.2.4	Th3.1.2.4	Th4.1.2.4

12:30-13:30	LUNCH BUFFET			
13:30-14:00	Plenary Lecture-2			
14:00-15:20	SESSION-3			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
14:00-14:20	Th1.1.3.1	Th2.1.3.1	Th3.1.3.1	Th4.1.3.1
14:20-14:40	Th1.1.3.2	Th2.1.3.2	Th3.1.3.2	Th4.1.3.2
14:40-15:00	Th1.1.3.3	Th2.1.3.3	Th3.1.3.3	Th4.1.3.3
15:00-15:20	Th1.1.3.4	Th2.1.3.4	Th3.1.3.4	Th4.1.3.4
15:20-15:40	COFFEE BREAK			
15:40-17:00	SESSION-4			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
15:40-16:00	Th1.1.4.1	Th2.1.4.1	Th3.1.4.1	Th4.1.4.1
16:00-16:20	Th1.1.4.2	Th2.1.4.2	Th3.1.4.2	Th4.1.4.2
16:20-16:40	Th1.1.4.3	Th2.1.4.3	Th3.1.4.3	Th4.1.4.3
16:40-17:00		Th2.1.4.4	Th3.1.4.4	

14 APRIL 2015

14 APRIL 2015					
08:30-08:50	Opening/Registration				
08:50-09:20	Plenary Lecture-3				
09:30-10:50	SESSION-1				
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)	
09:30-09:50	Th1.2.1.1	Th2.2.1.1	Th3.2.1.1	Th4.2.1.1	
09:50-10:10	Th1.2.1.2	Th2.2.1.2	Th3.2.1.2	Th4.2.1.2	
10:10-10:30	Th1.2.1.3	Th2.2.1.3	Th3.2.1.3	Th4.2.1.3	
10:30-10:50	Th1.2.1.4		Th3.2.1.4	Th4.2.1.4	
10:50-11:10	COFFEE BREAK				
11:10-12:30	SESSION-2				
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)	
11:10-11:30	Th1.2.2.1	Th2.2.2.1	Th3.2.2.1	Th4.2.2.1	
11:30-11:50	Th1.2.2.2	Th2.2.2.2	Th3.2.2.2	Th4.2.2.2	
11:50-12:10	Th1.2.2.3	Th2.2.2.3	Th3.2.2.3	Th4.2.2.3	
12:10-12:30	Th1.2.2.4	Th2.2.2.4	Th3.2.2.4	Th4.2.2.4	
12:30-14:00	LUNCH BUFFET				
14:00-15:20	SESSION-3				
	Theme-4 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)	General Session (Room-5)
14:00-14:20	Th4.2.3.1	Th2.2.3.1	Th3.2.3.1	Th4.2.3.5	Th5.2.3.1
14:20-14:40	Th4.2.3.2	Th2.2.3.2	Th3.2.3.2	Th4.2.3.6	Th5.2.3.2
14:40-15:00	Th4.2.3.3	Th2.2.3.3	Th3.2.3.3	Th4.2.3.7	Th5.2.3.3
15:00-15:20	Th4.2.3.4	Th2.2.3.4	Th3.2.3.4	Th4.2.3.8	
15:20-15:40	COFFEE BREAK				

15:40-17:20	SESSION-4				
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)	Theme-4 (Room-5)
15:40-16:00	Th1.2.4.1	Th2.2.4.1	Th3.2.4.1	Th4.2.4.1	Th4.2.4.5
16:00-16:20	Th1.2.4.2	Th2.2.4.2	Th3.2.4.2	Th4.2.4.2	Th4.2.4.6
16:20-16:40	Th1.2.4.3	Th2.2.4.3	Th3.2.4.3	Th4.2.4.3	Th4.2.4.7
16:40-17:00	Th1.2.4.4	Th2.2.4.4			Th4.2.4.8
17:00-17:20	Th1.2.4.5				

15 APRIL 2015

09:00-10:20	SESSION-1			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
09:00-09:20	Th1.3.1.1	Th2.3.1.1	Th3.3.1.1	Th4.3.1.1
09:20-09:40	Th1.3.1.2	Th2.3.1.2	Th3.3.1.2	Th4.3.1.2
09:40-10:00	Th1.3.1.3	Th2.3.1.3	Th3.3.1.3	Th4.3.1.3
10:00-10:20	Th1.3.1.4	Th2.3.1.4	Th3.3.1.4	Th4.3.1.4
10:20-10:40	COFFEE BREAK			
10:40-12:00	SESSION-2			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
10:40-11:00	Th1.3.2.1	Th2.3.2.1	Th3.3.2.1	Th4.3.2.1
11:00-11:20	Th1.3.2.2	Th2.3.2.2	Th3.3.2.2	Th4.3.2.2
11:20-11:40	Th1.3.2.3	Th2.3.2.3	Th3.3.2.3	Th4.3.2.3
11:40-12:00	Th1.3.2.4	Th2.3.2.4	Th3.3.2.4	Th4.3.2.4
12:00-13:30	LUNCH BUFFET			

13:30-14:50	SESSION-3			
	THEME-1 (Room-1)	THEME-2 (Room-2)	THEME-3 (Room-3)	Theme-4 (Room-4)
13:30-13:50	Th1.3.3.1	Th2.3.3.1	Th3.3.3.1	Th4.3.3.1
13:50-14:10	Th1.3.3.2	Th2.3.3.2	Th3.3.3.2	Th4.3.3.2
14:10-14:30	Th1.3.3.3	Th2.3.3.3	Th3.3.3.3	Th4.3.3.3
14:30-14:50	Th1.3.3.4	Th2.3.3.4	Th3.3.3.4	Th4.3.3.4
14:50-15:10	COFFEE BREAK			
15:10-16:50	SESSION-4			
	THEME-1 (Room-1)	THEME-2 (Room-2)	Theme-4 (Room-3)	Theme-4 (Room-4)
15:10-15:30	Th1.3.4.1	Th2.3.4.1	Th4.3.4.1	Th4.3.4.5
15:30-15:50	Th1.3.4.2	Th2.3.4.2	Th4.3.4.2	Th4.3.4.6
15:50-16:10	Th1.3.4.3	Th2.3.4.3	Th4.3.4.3	Th4.3.4.7
16:10-16:30	Th1.3.4.4	Th2.3.4.4	Th4.3.4.4	Th4.3.4.8
16:30-16:50		Th2.3.4.5		

Full Program

13 April 2015

08:30-09:00 Opening/Registration

09:00-09:10 Opening Ceremony

09:10-09:40 Plenary Lecture-1 Ovecoglu Lutfi

Session-1

Room-1 Theme-1: Structural Designs, Analysis & Applications

	Presentation Code	Paper ID	Surname	Name	Title
09:50-10:10	Th1.1.1.1	6963	Mara	Valbona	A design approach for the development of connections between FRP bridge decks
10:10-10:30	Th1.1.1.2	8205	Cherouat	Abel	Geometrical and FE approaches with remeshing procedure for composites woven fabric forming
10:30-10:50	Th1.1.1.3	6908	Ayad	Rezak	Numerical homogeneisation using a projected fiber technique for the analysis of mechanical properties of short fiber reinforced composites

Room-2 Theme-2: Experimental Methods and manufacturing techniques

	Presentation Code	Paper ID	Surname	Name	Title
09:50-10:10	Th2.1.1.1	7132	Jaeschke	Peter	Joining of thermoplastic composites using adapted laser transmission welding techniques for aircraft applications
10:10-10:30	Th2.1.1.2	7233	Bae	Ji-hun	Characterization of a PVDF based sensor for health monitoring of composite structures
10:30-10:50	Th2.1.1.3	8513	Jin-Ho	Roh	Origami-inspired self-deployable shape memory composite structures

Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
09:50-10:10	Th3.1.1.1	7463	Aydogdu	Metin	Forced vibration of Nanorods using nonlocal elasticity
10:10-10:30	Th3.1.1.2	7180	Böhlke	Thomas	Homogenization of the thermo-mechanical behavior of short-fiber reinforced composites
10:30-10:50	Th3.1.1.3	7015	Droz	Christophe	High-order wave propagation in multi-directional composite laminates
Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
09:50-10:10	Th4.1.1.1	8846	Reimer	Viktor	Progress in the development of self-optimising braiding process of technical textile structures
10:10-10:30	Th4.1.1.2	7134	Crainic	N.	Polymeric nanocomposites based on magnetorheological fluids, a new class of nanostructured materials
10:30-10:50	Th4.1.1.3	8918	Bilge	Kaan	Improved core-skin adhesion through electrospun nanofibers for honeycomb structures
10:50-11:10	COFFEE BREAK				
Session-2					
Room-1					
Theme-1:		Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th1.1.2.1	8323	Chinosi	Claudia	Mitc9 shell elements based on reissner mixed variational theorem for the analysis of anisotropic materials
11:30-11:50	Th1.1.2.2	8541	Choe	Kang Yeong	Design of the composite journal bearing for turbine/generator application
11:50-12:10	Th1.1.2.3	8875	Kumar	Deepak	Numerical evaluation of stiffness degradation in cross-ply laminates due to matrix cracking and fiber splitting
12:10-12:30	Th1.1.2.4	7277	Wael	Ibrahim	Effect of anchors on the RC slabs strengthened in flexure with FRP strips

Room-2	Theme-2:	Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th2.1.2.1	7257	Chien-Ching	Ma	Full-field measurement of carbon fiber composite under tensile test using digital image correlation
11:30-11:50	Th2.1.2.2	7284	Jung	Kyung-Chae	Health monitoring of a repaired runway using compliant polymer concretes under thermomechanical loading condition
11:50-12:10	Th2.1.2.3	7308	Lin	S. T.	White light shearing interferometer and its application to examine residual stress of deposited thin films
12:10-12:30	Th2.1.2.4	8294	Martins	David	Fire behaviour of thermally insulated RC beams strengthened with EBR-CFRP strips: experimental study

Room-3	Theme-3:	Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th3.1.2.1	7304	Shimoda	Masatoshi	Parameter-free shape optimization of orthotropic shell structure
11:30-11:50	Th3.1.2.2	7316	Sadowski	Tomasz	Modelling of damage process in two-phase ceramic composite materials under mechanical loading
11:50-12:10	Th3.1.2.3	7373	Yolum	Ugur	Modeling of mode I delamination growth in composites by using peridynamics implemented in Abaqus
12:10-12:30	Th3.1.2.4	7409	Höwer	Daniel	Comparison of numerical results of a 3-D model accounting for mode I and II delamination with experiments

Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th4.1.2.1	7276	Coenen	J.W.	The powder metallurgical route to tungsten-fiber reinforced tungsten
11:30-11:50	Th4.1.2.2	7103	Ukrainets	Maksym	High-temperature oxidation of composite material of the NiAl-TiB₂ system
11:50-12:10	Th4.1.2.3	7374	Budiman	Bentang Arief	A continuum model of interface to investigate stress transfer on fiber-matrix composite
12:10-12:30	Th4.1.2.4	8878	Cetin	Mesut	High precise cutting of carbon- and glass fiber using laser technology
12:30-13:30	LUNCH BUFFET				
13:30-14:00	Plenary Lecture-2		Coker	Demirkan	Dynamic failure of curved CFRP composite laminates under quasi-static loading
Session-3					
Room-1					
Theme-1:		Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th1.1.3.1	8877	Karen	Idris	Developing blast resistive foam filled sandwich panels by using evolutionary optimization algorithms
14:20-14:40	Th1.1.3.2	8778	Kim	J.H.	Finite element analysis of composite structures with corner radius
14:40-15:00	Th1.1.3.3	7342	Seyhan	Murat	Design and analysis of composite repairs in helicopter horizontal stabilizers
15:00-15:20	Th1.1.3.4	9290	Almassri	Belal	A FEM-based model to study the behaviour of corroded RC beams shear repaired by NSM CFRP rods technique

Room-2	Theme-2:	Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th2.1.3.1	7256	Takahashi	Kosuke	Instant sintering of silver nano-ink on CFRP laminate for structural health monitoring
14:20-14:40	Th2.1.3.2	8285	Sob	P.B.	Stochastic effect of grain-elongation on nanocrystalline materials strain and strain rate produced by accumulative roll-bonding and equal channel angular pressing
14:40-15:00	Th2.1.3.3	8297	Tengen	TB	Stochastic characters of nanostructures in nanomaterials contribute to nanomaterials mechanical property controversies
15:00-15:20	Th2.1.3.4	8561	Kiseleva	Tatiana Yu	FeGa particles concentration influence on the magnetomechanical anisotropy of polyurethane based nanocomposites

Room-3	Theme-3:	Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th3.1.3.1	8331	Tekin Atacan	Ayfer	An isogeometric collocation approach for laminated plates using higher-order shear deformation theory
14:20-14:40	Th3.1.3.2	8836	Yoo	Jae-Seung	Investigation on strength recovery of scarf patch repaired composite laminates
14:40-15:00	Th3.1.3.3	8838	Truong	Hoai V.	Failure load prediction of scarf patched composite single-lap joints by FEM
15:00-15:20	Th3.1.3.4	7291	Dan	Daniel	FRP composite materials - an alternative solution for retrofitting of shear walls affected by cut-out openings

Room-4	Theme-4:	Materials			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th4.1.3.1	7705	Reis	Paulo N.B.	Composites manufactured with green epoxy resin and tungsten mine wastes
14:20-14:40	Th4.1.3.2	8814	Ozden-Yenigun	Elif	High strain rate deformation of nano-enhanced structural composites
14:40-15:00	Th4.1.3.3	7012	Magdalena	Szutkowska	Diamond composites with ternary carbides bonding phase from Ti-Ge-C system
15:00-15:20	Th4.1.2.3	7084	Huang	J. C.	Amorphous/nanocrystalline ZrCu/Cu and ZrCu/Zr multilayered thin film composites with graded interfaces
15:20-15:40	COFFEE BREAK				

Session-4

Room-1	Theme-1:	Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th1.1.4.1	7243	Topac	Omer T.	Low-velocity impact damage on laminated composites: simulations and correlations with tests
16:00-16:20	Th1.1.4.2	7562	Carmona	Manuel	Gypsum composites for improving passive energy storage in buildings
16:20-16:40	Th1.1.4.3	8849	Yoo	Seong-Yoon	The structural analysis and strength evaluation of the rivet nut joint for composite repair

Room-2					
Theme-2:		Experimental Methods and manufacturing Techniques			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th2.1.4.1	8393	Chen	Terry Yuan-Fang	Experimental evaluation of aged CFRP panels with defects
16:00-16:20	Th2.1.4.2	8637	Tahir	Paridah Md.	Volumetric composition and shear strength evaluation of pultruded hybrid kenaf/glass fiber composites
16:20-16:40	Th2.1.4.3	8422	Ferreira	J.A.M.	Mechanical performance of jute fiber reinforced composites
16:40-17:00	Th2.1.4.4	8780	Tüzün	F.Nihal	Investigation of the effect of rheology control agent, temperature and time on the viscosity of epoxy-based adhesives
Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th3.1.4.1	6940	Al-Nasra	Moayyad M	The use of splicing swimmer bars as shear reinforcement in reinforced concrete beams
16:00-16:20	Th3.1.4.2	7013	Nourai	Mohammed	Failure analysis and numerical investigation on the induced damage when machining CFRP composites
16:20-16:40	Th3.1.4.3	8874	Atescan	Yagmur	A multiscale approach for investigation of CNT waviness effect on PNCs
16:40-17:00	Th3.1.4.4	8642	Khabashesku	Valery N.	Carbon nanotube-nanodiamond hierarchical nanostructures and their polyurea nanocomposites
Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th4.1.4.1	7087	Hsieh	C. H.	Tension behavior of sputtered and evaporated thin film composites with Zn/ZrCu on flexible polyimide substrate
16:00-16:20	Th4.1.4.2	7089	Klimczyk	Piotr	Microstructure and mechanical properties of alumina based composites containing cubic boron nitride hard particles
16:20-16:40	Th4.1.4.3	8651	Abdan	Khalina	Mechanical strength performance of hybrid kenaf/coir unsaturated polyester composite

14 April 2015

08:30-08:50 Opening/Registration

08:50-09:20 Plenary Lecture-3 Papila Melih

Session-1

Room-1 Theme-1: Structural Designs, Analysis & Applications

	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th1.2.1.1	7167	Capozucca	Roberto	Effects of damages of NSM CFRP rectangular rods on strengthened RC beams
09:50-10:10	Th1.2.1.2	7137	Wang	Hongtao	Plateau lower-bounds to the imperfection sensitive buckling of composite shells
10:10-10:30	Th1.2.1.3	6951	Uslu Uysal	Mine	Buckling behaviours of functionally graded polymeric thin-walled hemispherical shells
10:30-10:50	Th1.2.1.4	7408	Özer	Mehmet S.	Evaluation and validation of modal strain energy and complex eigenvalue methods for modelling damped composite structures

Room-2 Theme-2: Experimental Methods and manufacturing techniques

	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th2.2.1.1	7232	Hsu	Yung Chum	The comparison of inspection of CFRP material defect with electronic speckle pattern interferometry, shearography, and thermography
09:50-10:10	Th2.2.1.2	9276	Khan	Sohail M. A.	Investigation of cracked aluminum panel repaired with composite patch: An experimental study on effect of patch length
10:10-10:30	Th2.2.1.3	7111	Lin	H. K.	Characterization of local laser bonding quartz to anodic aluminum oxide
10:30-10:50	Th2.2.1.4	9274	Bouiadjra	Bachir B.	Comparison of fatigue crack growth behavior of Al 2024-T3 and Al-7075-T6 repaired with composite patch

Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th3.2.1.1	7401	García-González	D.	Numerical and experimental behavior of PEEK composite materials under low impact energy
09:50-10:10	Th3.2.1.2	7578	Gul	Ufuk	Static and dynamic analysis of beam with uncertain material properties
10:10-10:30	Th3.2.1.3	6947	Chao	Ching-Kong	Crack problems in heterogeneous media
10:30-10:50	Th3.2.1.4		Arikoğlu	Aytaç	Multi-objective optimal design of hybrid viscoelastic/composite sandwich beams by using generalized differential quadrature method (GDQM) and non-dominated sorting genetic algorithm II (NSGAI)
Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th4.2.1.1	8559	Stefanou	George	The influence of inclusion shape on the effective properties of random nanocomposites
09:50-10:10	Th4.2.1.2	7152	Cho	Maenghyo	Characterization of the mechanical properties of the polymer nanocomposites and their associated interphases
10:10-10:30	Th4.2.1.3	6962	Wong	Pei-Chun	Enhanced plasticity of MgZnCa based bulk metallic glass composites
10:30-10:50	Th4.2.1.4	6995	Jaworska	Lucyna	The influence of the graphene additive on mechanical properties and coefficient of friction of Al ₂ O ₃ composites for cutting tools application
10:50-11:10	COFFEE BREAK				

Session-2

Room-1 Theme-1: Structural Designs, Analysis & Applications

	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th1.2.2.1	7459	Aksencer	Tolga	Free vibration of rotating composite beams
11:30-11:50	Th1.2.2.2	7217	Zhou	Y.D.	A comparative study of rivet hole shapes for the mechanical connections of composite panels
11:50-12:10	Th1.2.2.3	7198	Altan	Mihrigül E.	Improving polymer/metal macro composite structure for vibration damping
12:10-12:30	Th1.2.2.4	9179	Lecheb	Samir	Vibroacoustics fatigue material parameters characterization of the composite materials with different short vegetal fiber reinforcement under low-velocity impacts

Room-2 Theme-2: Experimental Methods and manufacturing techniques

	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th2.2.2.1	8687	Batıbay	Ahmet B.	Investigation of alumina – transition metals in binary systems as armor material
11:30-11:50	Th2.2.2.2	7019	Leparoux	Marc	Simple processing of aluminium alloys nanocomposites showing outstanding mechanical performances
11:50-12:10	Th2.2.2.3	9007	Li	Jianwei	Fabrication of diamond particles dispersed Zr-alloyed Cu matrix composites and their thermal conductivity
12:10-12:30	Th2.2.2.4	7222	Kim	Do-Hyoung	Nondestructive evaluation technique of hidden delamination in glass fiber reinforced composites using terahertz spectroscopy

Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th3.2.2.1	7270	Suda	Mitsunori	Analysis of mechanical property on correlation between paperboard and paper tube
11:30-11:50	Th3.2.2.2	7418	De Bellis	M.L.	An enhanced multi-scale technique for the study of reinforced composites with damage
11:50-12:10	Th3.2.2.3	7525	VIALE	Roger	A simple and reliable method for the strength prediction of the CFRP UD pieces
12:10-12:30	Th3.2.2.4	7462	Arda	Mustafa	Torsional wave propagation in multiwalled carbon nanotubes using nonlocal elasticity

Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th4.2.2.1	7114	Thakur	Shaila	Microwave absorption and thermal conductivity enhancement of Epoxy TiO2 nanocomposites
11:30-11:50	Th4.2.2.2	7752	Nguyen	Huu-Duc T.	Evaluation of carbon nanotube and carbon fiber reinforced polymer composite for light weight automotive part
11:50-12:10	Th4.2.2.3	6941	Al-Nasra	Moayyad M	Investigating the use of super absorbent polymer as water blocker in composite concrete structures
12:10-12:30	Th4.2.2.4	8823	Jung	Kyung-Chae	Experimental study on the damping performance of a metal-composite hybrid wheel with a friction layer

12:30-14:00

LUNCH BUFFET

Session-3					
Room-1	Theme-4:	Materials			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th4.2.3.1	7654	Rahali	Yosra	Effective mechanical properties of 3D textiles including yarn contact interactions
14:20-14:40	Th4.2.3.2	7523	Rodriguez	Juan F.	The recycling and reinforcement of polystyrene wastes using cellulose
14:40-15:00	Th4.2.3.3	7129	Andersons	Janis	Evaluation of the apparent interfacial shear strength of flax fibers and polymer matrices
15:00-15:20	Th4.2.3.4	7143	Bespalko	Yulia N.	Thermoresistant oxide nanocomposite: synthesis and characterization
Room-2	Theme-2:	Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th2.2.3.1	7802	Guégan	Régis	Adsorption of self assembled systems made of nonionic surfactants onto layered materials
14:20-14:40	Th2.2.3.2	8384	Yemisci	Fatma	Improvement of the flame retardancy of plastized poly(lactic acid) by means of phosphorus based flame retardant Fillers
14:40-15:00	Th2.2.3.3	7130	Jaeschke	Peter	An insight into advanced continuous wave and pulsed laser cutting of CFRP structures
15:00-15:20	Th2.2.3.4	6976	Young Ju	Kim	Seismic test of composite beam system consisting of H-section and U-section members
Room-3	Theme-3:	Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th3.2.3.1	7267	Kitamura	Takanori	Mechanical property and fracture analysis of hybrid composite of recycled paperboard and recycled carbon fiber
14:20-14:40	Th3.2.3.2	7665	Costa	J. J.	Effect of the erosive wear promoted by dusts on the impact strength of composite laminates

14:40-15:00	Th3.2.3.3	7377	Hwu	Chyanbin	Singular integrals in boundary element analysis for unsymmetric laminated composites
15:00-15:20	Th3.2.3.4	8411	Bouabid	Anissa	Lower bound approaches for ultimate load prediction of composite laminates
Room-4	Theme-4:	Materials			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th4.2.3.5	6396	Behnaman	Hamed	The effects of nanosilica on permeability and porosity reduction of cement composites to prevent environmental pollutions
14:20-14:40	Th4.2.3.6	8810	Gönen	Seza Özge	Fabrication of bioactive glass containing nanocomposite fiber mats for bone tissue engineering applications
14:40-15:00	Th4.2.3.7	7197	Berber Yamak	Hale	Electrical, thermal and morphological properties of low density polyethylene/zinc oxide nanocomposite films
15:00-15:20	Th4.2.3.8	8861	Akkaya	İpek	Polymer/glass nanocomposite fiber as an insulating material
Room-5	General Session				
14:00-14:20	Th5.2.3.1	7172	Sierra-Pérez	Julián	Detection of nonlinear effects and damages during wind turbine blades certification tests by means of strain field pattern recognition. Comparative study: Fiber Bragg gratings vs Distributed sensing vs electrical extensometers.
14:20-14:40	Th5.2.3.2	7115	Uysal	Alper	Effects of process parameters on drilling performance of electrically conductive polymer composite
14:40-15:00	Th5.2.3.3	7490	Gallego	Raul	In situ polymerization of polyolefin (nano)composites using sepiolite as support of metallocene co-catalyst
15:20-15:40	COFFEE BREAK				

Session-4					
Room-1	Theme-1:	Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th1.2.4.1	6876	Shahrajabian	Hamzeh	The influence of machining parameters on thrust force in drilling of epoxy/ tio2 nanocomposites.
16:00-16:20	Th1.2.4.2	7372	Galvanetto	Ugo	Enhanced 2D lamina formulation for composite materials, simulation with a peridynamics approach
16:20-16:40	Th1.2.4.3	6944	Hassan	Nahla K.	Fatigue life of welded joint repaired with CFRP under cyclic tensile loading
16:40-17:00	Th1.2.4.4	8389	Matyatya	Tinashe A	Applying composite structure techniques of materials to design 3D printed plastic functional parts with enhanced properties
17:00-17:20	Th1.2.4.5	8445	Karczmarzyk	Stanislaw	New 2D local model of vibration of unidirectional multilayered symmetric sandwich structure hinged at two ages
Room-2	Theme-2:	Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th2.2.4.1	9014	Ünsal	Cem	Fabrication of P(AN-co-BuA)/PPy core/shell nanoparticles, their thin-films and spectroscopic and morphological characterization
16:00-16:20	Th2.2.4.2	8566	Chang	Ta-Peng	Confining effects on cylindrical concrete members with reactive powder concrete and carbon fiber reinforced plastics as retrofitting materials
16:20-16:40	Th2.2.4.3	8764	Moravvej	Mohammad M.	The effects of different levels of expansive cement on the bond strength in concrete-filled FRP tubes
16:40-17:00	Th2.2.4.4	8191	Gengec	Erhan	Optimization by central composite design of a new composite absorbent (Beidellite/Polyaniline) production for absorption of acid yellow 194

Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th3.2.4.1	9195	Chellil	Ahmed	Damage growth characteristics in composite glass-epoxy plate by Vibration analysis
16:00-16:20	Th3.2.4.2	7117	Oh Sang	Kweon	Evaluation on combustibile characteristic for finishing material of exterior wall
16:20-16:40	Th3.2.4.3	7581	Aydan Demirhan	Pinar	Elasticity Analysis for Bending of Sandwich Beam with Composite Metal Foam Core
Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th4.2.4.1	6728	Farsi	Mohammad	Effects of functionalized multi-walled carbon nanotubes on the mechanical properties of HDPE/wood flour nanocomposites
16:00-16:20	Th4.2.4.2	8402	Allonas	Xavier	Towards UV-composites using dual cure photoinitiating systems?
16:20-16:40	Th4.2.4.3	7624	Karen	De Clerck	Interlaminar toughening of fibre reinforced epoxy laminates by polycaprolactone electrospun nanofibres
Room-5					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th4.2.4.6	7325	Choi	Hyoung Jin	Magnetic carbonyl iron/natural rubber composite elastomer and its magnetorheology
16:00-16:20	Th4.2.4.7	9114	Huh	Y.-H.	Characterization of the damage propagation under cyclic loading for GFRP composites used in wind turbine blade
16:20-16:40	Th4.2.4.8	8643	Ibrahim	Nor Azowa	Development of graphene based poly(lactic acid) nanocomposites
16:40-17:00	Th4.2.4.9	9069	Furdui	Ioan	Flexure strengthening of glulam beams using carbon fiber fabric

15 April 2015

09:00-09:30 Opening/Registration

Session-1

Room-1 Theme-1: Structural Designs, Analysis & Applications

	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th1.3.1.1	8602	Saviz	Mohammed Reza	Layerwise approach to analysis of a functionally graded cylindrical shell vibration and dynamic behaviour
09:50-10:10	Th1.3.1.2	8817	Calado	Elçin	Selection of composite materials considering costs in the early phases of the design process
10:10-10:30	Th1.3.1.3	7524	Viale	Roger	Predictions of the strength of bonded connections in space opto-mechanical domain
10:30-10:50	Th1.3.1.4	7052	Akgöz	Bekir	The effect of geometric and material parameters on the static behavior of laminated plates

Room-2 Theme-2: Experimental Methods and manufacturing techniques

	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th2.3.1.1	8922	Kahraman	Ridvan	Hybrid use of carbon and halloysite nanotubes for toughening of epoxy composites
09:50-10:10	Th2.3.1.2	8835	Pi	June-Woo	Composite single-lap joint repair according to various parameters
10:10-10:30	Th2.3.1.3	6957	Aminanda	Yulfian	Spring-back prediction of CRFP composite laminate ribs
10:30-10:50	Th2.3.1.4	9331	Toptas	Ersin	Damage detection of the carbon fibers in filament winding process by electrical resistance measurements

Room-3					
Theme-3:		Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th3.3.1.1	8416	Karasoy	Taner	Dynamic buckling of empty closed cylindrical nano-tube viruses under time depended external pressure
09:50-10:10	Th3.3.1.2	8621	Gallimard	L. C.	Coupling reduced order and layerwise models for the analysis of laminated composite plates with variable stacking sequences
10:10-10:30	Th3.3.1.3	7192	Wael	Ibrahim	Behavior of R.C beams strengthened by bonded CFRP with lap splices
10:30-10:50	Th3.3.1.4	8779	Kim	C.H.	Static and fatigue strength of repaired composite single-lap joints
Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
09:30-09:50	Th4.3.1.1	7147	Chodak	I.	Structure of reinforcing filler network determined by electrical conductivity of the polymer / carbon black composite
09:50-10:10	Th4.3.1.2	7186	Abed	AbdulRahman	Mechanical properties of disperse hydroxyapatite nanoparticles and carbon nanotube in hybrid bone cement composites for orthopedic applications
10:10-10:30	Th4.3.1.3	7190	Nguyen	Huu-Duc T.	Injection molding of carbon nanotube and carbon fiber reinforced hierarchical polymer composite for light weight automotive part
10:30-10:50	Th4.3.1.4	8841	Kavrar	Deniz	Investigation of controlled alignment effect on the mechanical properties of polymernanocomposites with dynamic mechanical analysis
10:50-11:10	COFFEE BREAK				

Session-2					
Room-1	Theme-1:	Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th1.3.2.1	7347	Eksiler	Kubra	Development of the biodegradable joining tool for grafting plant
11:30-11:50	Th1.3.2.2	7209	Rubio-López	Ángel	Study of induced damage during drilling on natural fibre based biocomposites
11:50-12:10	Th1.3.2.3	9300	Martins	David	Clickhouse project – an all-composite emergency housing system
12:10-12:30	Th1.3.2.4		Turkmen	Halit	Analytical development of a composite drive shaft for heavy duty commercial vehicles
Room-2	Theme-2:	Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th2.3.2.1	6977	Young Ju	Kim	Applications of base isolation systems for building structures in Korea
11:30-11:50	Th2.3.2.2	7145	Neogi	Swati	Effect of nanoparticles on the diffusion of sea-water in USP-glass composites
11:50-12:10	Th2.3.2.3	7146	Iskhakova	Liudmila D.	Microstructural characterization of the eutectic composites in multiferroic Ln _{1-x} Ln ^x MnO ₃ and M-type ferrites MCoxTixFe _{12-2x} O ₁₉ crystals
12:10-12:30	Th2.3.2.4	8372	Goo	Byeong-Choon	Development and characterization of C/C-SiC-Cu brake disc
Room-3	Theme-3:	Materials mechanics			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th3.3.2.1	9073	Diaconu	Dan	RC beams flexural strengthening using carbon composite materials with different anchoring methods
11:30-11:50	Th3.3.2.2	9010	Wu	K.-C.	Moment distributions around elliptic holes in anisotropic plates subjected to remote uniform bending or twisting moments
11:50-12:10	Th3.3.2.3	7195	Chen	Y.H.	Comparison of time-dependent relaxation/creep in monolithic amorphous ZrCu/nanocrystalline Zr and ZrCu/Zr multilayer composite

12:10-12:30	Th3.3.2.4	8262	Zhang	Pan	The effect of polymer filling on dynamic response of metallic corrugated core sandwich panels under air blast loading – experimental study
Room-4	Theme-4:	Materials			
	Presentation Code	Paper ID	Surname	Name	Title
11:10-11:30	Th4.3.2.1	8870	Bong-Nam	Lee	Surface defect detection of the adhesive joint by measuring the normal and lateral impedances of adhesive joints with the carbon nanotubes
11:30-11:50	Th4.3.2.2	7234	Bae	Ji-Hun	Smart structural actuator using silicone-organically modified montmorillonite reinforced electroactive polymer composites
11:50-12:10	Th4.3.2.3	6960	Li	Tsung Hsiung	Ultrahigh strength and tough Fe-based bulk metallic glass composites fabricated by tilt casting
12:10-12:30	Th4.3.2.4	7135	Pádua	Paula G. L. de	Influence of sugar cane bagasse ash (SCBA) on the mechanical properties of cementitious composites

12:30-14:00

LUNCH BUFFET

Session-3

Room-1	Theme-1:	Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th1.3.3.1	7451	Daoud	Mohammad	Investigating the transitional state between circular plates and shallow spherical shells
14:20-14:40	Th1.3.3.2	7668	Reis	Paulo N.B.	Effect of the core's discontinuity on the impact strength of composite sandwiches
14:40-15:00	Th1.3.3.3	8740	Zu	Lei	Structural analysis of fiber-steered, variable-stiffness laminates based on various reference paths
15:00-15:20	Th1.3.3.4	8880	Cakmak D.	Umut	Composite structure of a solar electric vehicle

Room-2					
Theme-2: Experimental Methods and manufacturing techniques					
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th2.3.3.1	8876	Ün	ilkay	The effect of calcite (CaCO₃) filler on e-glass woven fabric reinforced epoxy composites
14:20-14:40	Th2.3.3.2	7065	Syahmie M.	Mohamad Rasidi	Properties of polylactic acid (PLA)/ recycled low density polyethylene (rLDPE) filled Nypa Fruticans (NF) fiber: Effect of fiber modification using chelator
14:40-15:00	Th2.3.3.3	7114	Thakur	Shaila	Microwave absorption and thermal conductivity enhancement of Epoxy-TiO₂ nanocomposites
15:00-15:20	Th2.3.3.4	8872	Gürkan	İdris	Multiscale fiber reinforced composites with a carbon nanotube/epoxy nano-phased polymer matrix attached: Synthesis and interlaminar shear strength property investigation
Room-3					
Theme-3: Materials mechanics					
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th3.3.3.1	7006	Daoud	Mohammad	Application of optimizing genetic algorithm to prestressed concrete beams
14:20-14:40	Th3.3.3.2	7154	Shahedi Asl	Mehdi	Fracture toughness improvement in ZrB₂-SiC-based composites at moderate hot pressing conditions reinforced with different additives
14:40-15:00	Th3.3.3.3	7405	Nikhamkin	Mikhailis Sh.	Carbon-fiber and glass-fiber test pieces heating during tensile fatigue tests using resonant test machine

Room-4					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
14:00-14:20	Th4.3.3.1	6909	Hemeda	O.M.	Piezomagnetic - Piezoelectric composite prepared by high energy ball milling for magnetoelectric applications.
14:20-14:40	Th4.3.3.2	8301	Stehlík	Michal	Action of the environment on the durability of fibre composites with cement matrix
14:40-15:00	Th4.3.3.3	9085	Hamdan	H.	Pioneer timber species for cross laminated timber in Malaysia
15:00-15:20	Th4.3.3.4	7184	Chiang	Tzu Hsuan	Effect of anhydride curing agents, imidazole of accelerants, and silver particle size on the electrical resistivity and thermal conductivity of silver adhesives
15:20-15:40	COFFEE BREAK				

Session-4

Room-1					
Theme-1:		Structural Designs, Analysis & Applications			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th1.3.4.1	6996	Mara	V.	Experimental investigation of bolted and hybrid connections for FRP structural members
16:00-16:20	Th1.3.4.2	8276	Karakas	A. Sertac	The preserving and improvement of historical structures based on qualified a RC structure: A case study
16:20-16:40	Th1.3.4.3	7009	Melbouci	B.	The shear behavior's characterization of limestone material by analysis of the fractal dimension
16:40-17:00	Th1.3.4.4	7487	Santos	Caio C. P.	An alternative strategy for offshore flexible pipes Finite Element Analysis

Room-2					
Theme-2:		Experimental Methods and manufacturing techniques			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th2.3.4.1	7141	Seung Cho	Yang	Fire resistance performance evaluation of Curtain-Wall Systems Applying Light-Weight Inorganic Panels
16:00-16:20	Th2.3.4.2	7283	Salasinska	Kamila	The mechanical properties and fire stability of natural fiber composites from PE-HD foil and walnut shell
16:20-16:40	Th2.3.4.3	7331	Hwang	Hui Yun	Novel manufacturing the micro- and nano- hierarchical structures like Gecko's feet for the adhesion system
16:40-17:00	Th2.3.4.4	9070	Furdui	Ioan	Flexure strengthening of glulam beams using carbon fiber sheet
17:00-17:20	Th2.3.4.5	8417	Gabr	Mohamed	Preparation and characterization of polypropylene reinforced by electrospun nano-cellulose
Room-3					
Theme-4:		Materials			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th4.3.4.1	9294	Abutaha	Fuad Y.	Utilization of palm oil clinker (POC) as aggregates for sustainable lightweight concrete
16:00-16:20	Th4.3.4.2	7077	Muhtaroglu	Nitel	Evaluation of isogeometric analysis for homogenization of textile composites
16:20-16:40	Th4.3.4.3	8855	Batibay	Ahmet B.	Synthesis of Fe based nanocomposites prepared by mechanical attrition
16:40-17:00	Th4.3.4.4	7235	Tsao	L. C.	Direct active soldering of Al-graphite composite/Al joints in air using Sn3.5Ag0.5Cu4Ti filler

Room-4	Theme-4:	Materials			
	Presentation Code	Paper ID	Surname	Name	Title
15:40-16:00	Th4.3.4.5	7730	Keshk	Sherif	Microwave assisted synthesis of cellulose-supported metal-oxide nanoparticles
16:00-16:20	Th4.3.4.6	9020	Kucukali Ozturk	Merve	A study on acoustic behavior of the combined structure from nanofibrous membrane and nonwoven fabric
16:20-16:40	Th4.3.4.7	9084	Anwar	UMK	Properties and behaviour of resin-treated plybamboo exposed to weathering
16:40-17:00	Th4.3.4.8	7695	Islam	Mohammad Tariqul	Synthesis and characterization of Zn _{1-x} Mn _x Fe ₂ O ₄ magnetodielectric material antenna for wireless communication

Poster Presentations

The poster display area will be available for set-up on beginning Monday, April 13.

Poster session will be held on Tuesday, April 14, at 16:00-17:20.

Poster dimensions can be maximum 90 cm in width and 180 cm in height.

POSTER PRESENTATION

Poster Code	Paper ID	Surname	Name	Title
Ps.1	9025	Półka	Marzena	The heat release rate of hardened Epidian 5 resin unmodified and modified by fire retardants ZS and ZHS
Ps.2	6966	Hsieh	Ker-Chang	Ti-Cu-Ni-Si Phase diagram in Ti-rich region
Ps.3	7066	Kuo-Chih	Su	Biomechanical analysis of PEEK versus PEKK dental implant
Ps.4	8343	Yi-Chun	Ko	Effect of temperature on the creep characterization of dental composite resins
Ps.5	8879	Kekevi	Burcu	Effect of starch source on the biodegradability of LDPE/Thermoplastic Starch Blends
Ps.6	8300	Xiaoguo	Shi	The optical absorption ability of coaxial double-walled TiO ₂ nanotubes sensitized with FeS ₂ nanoparticles
Ps.7	8167	Bouchama	Idris	The role of defects gettering at the inter-grain interfaces of the polycrystalline Cu(In,Ga)Se ₂ based-solar cells
Ps.8	8524	Moreira	JR.V.	Processing and characterization of diamond wire beads
Ps.9	8525	Carvalho	C.S.	A new diamond composite for use in cutting tools for the stone industry
Ps.10	7119	Wang	Wenhai	Bio-inspired interphases for composite toughening
Ps.11	6893	Chiang	C. H.	Workability of spray-formed Al/Sip metal matrix composites
Ps.12	8462	Zieleniewska	Milena	The rigid polyurethane foams from renewable raw materials for application in cosmetic

				industry
Ps.13	7140	Heung-Youl	Kim	Development of the evaluation program based on fire resistance performance design of steel structure
Ps.14	8942	Kızıldağ	Nuray	Development of composite polyacrylonitrile filaments for use as multi-functional textiles
Ps.15	9292	Mechakra	H.	Mechanical properties of polypropylene matrix reinforced with short natural Alfa fibers: extraction fibers & chemical treatment
Ps.16	7326	Pietrzak	Kamila	Composite elastomers with titanium (iv) oxide
Ps.17	8866	Kaya	Ismail	Scrolling CNTs reinforced nanowebs into yarns
Ps.18	8665	Aravi	İpek	Composite nanofiber based proton exchange membranes for fuel cell applications
Ps.19	7434	Lee	Jaeyoung	Preparation of epoxy nanocomposite incorporated with silane treated nanosilica for end plate of PEMFC
Ps.20	7444	Song	Minho	Effect of organifier elimination on mechanical properties of an epoxy/organoclay nanocomposite prepared by using an electromagnetic field dispersion method
Ps.21	8883	Yu	Yeontae	Effects of gas diffusion layers on performance of Pt/C composite catalyst electrode prepared by electrophoresis deposition for PEMFC application
Ps.22	7324	Zacharopoulou	Aggeliki	Evaluation of nano-modified cementitious sensors for corrosion monitoring in reinforced concrete
Ps.23		Zafeiropoulou	Theodosia	Electrochemical evaluation of corrosion in nano-modified cement mortar specimens/ engineered cementitious composite (ECC)
Ps.24	8869	Sunay	Selin	Film formation from PS/Al ₂ O ₃ nanocomposites: A fluorescence study
Ps.25	9120	Hanene	Bensouyad	Calorimetric studies of the crystallization growth process in Al-Mg alloys
Ps. 26		Sebaey	Tamer A.	Crashworthiness of laminated composite structures under quasi-static loading
Ps.27	8562	Kiseleva	Tatiana Yu	FeGaIn nanocomposite particles formation via mechanochemical interaction of Fe with Ga-In eutectics

BOOK
OF
ABSTRACTS