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Konu: ATI 2020: Architecture, Technology and Innovation 2020 Sempozyumu

#### BARTIN ÜNİVERSİTESİ REKTÖRLÜĞÜ

Yaşar Üniversitesi Mimarlık Fakültesi, Mimarlık Bölümü tarafından 27-30 Nisan 2020 tarihleri arasında "ATI 2020: Architecture, Technology and Innovation 2020: Smart Buildings, Smart Cities" isimli uluslararası bir sempozyum düzenlenmektedir.

Sempozyuma, akıllı yapılar ve akıllı kentler bağlamında olmak kaydıyla, bilgisayar destekli tasarım, yapı bilgi modellemesi, enerji etkin tasarım, sürdürülebilir strüktür tasarımı, adapte olabilen cephe ve strüktürel sistemler, akıllı malzemeler, sanal gerçeklik uygulamaları, akıllı enerji gridleri, akıllı ulaşım, nesnelerin interneti, yapay zekâ, coğrafi bilgi sistemleri vb. konu başlıklarında çalışan tüm mimarlık, mühendislik ve şehir planlama alanlarından akademisyen ve uzmanların katkıları hedeflenmektedir.

Sempozyuma dair tüm bilgiler, katılım şartları ve ilgili belgeler https://ati.yasar.edu.tr/ adresinde bulunabilir. Sempozyumda sunulan bildirilerden bir seçki "International Journal of Digital Innovation in Built Environment" dergisinde basılacaktır. "Derginin bilgilerine https://www.igiglobal.com/journal/international-journal-digital-innovation-built/224363" adresinden ulaşılabilir.

Sempozyumun ilk 3 gününde (27-29 Nisan 2020), öğrencilere yönelik atölye çalışmaları olacaktır. Bu çalışmaların detaylarına yine sempozyum adresinden ulaşılabilir.

Ekte yer alan davet metni ve etkinlik afişini Üniversiteniz akademik personeline ve öğrencilerine duyurulması hususunda bilgilerinizi ve gereğini arz ederim.

#### e-imzalıdır

Prof. Dr. Mehmet Cemali DİNÇER Rektör

Ek:

1- ATI Flyer (2 sayfa)

2- ATI Poster (1 sayfa)

3- ATI Workshops (1 sayfa)

Dağıtım:

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YILDIZ TEKNİK ÜNİVERSİTESİ REKTÖRLÜĞÜ YOZGAT BOZOK ÜNİVERSİTESİ REKTÖRLÜĞÜ YÜKSEK İHTİSAS ÜNİVERSİTESİ REKTÖRLÜĞÜ ZONGULDAK BÜLENT ECEVİT ÜNİVERSİTESİ REKTÖRLÜĞÜ

Evrakı Doğrulamak İçin: http://195.142.121.227/enVision.Sorgula/BelgeDogrulama.aspx?V=BENUM74J



International Symposium

Architecture, Technology and Innovation 2020
"Smart Buildings, Smart Cities"



#### Introduction

Technology has always been pivotal in shaping the society. Advances in information technologies and material sciences in the course of the twenty-first century have irreversibly altered not only everyday life of individuals, so that the structural tenets of societies, but also the design, construction and management methods in architectural, engineering and urban practices. Beyond these alterations, recent innovations in emergent technologies such as Internet of Things (IoT) and/or Machine Learning have started to define unprecedented needs and requirements for the built environments. Moreover, environmental problems like pollution, source limitations, overcrowded cities, climate change, extreme weather conditions and the social crises that they cause on the doorstep require each and every profession to rethink its role in the ever changing conditions of today's dynamic political and economic agenda, make urgent decisions to adjust itself and take immediate actions. Cutting edge technological developments and innovations have the potential of being both remedy and poison for these environmental, economic and social upheavals.

In order to give insights into the role of technology and innovation in the practice and critical theory of contemporary architecture, Yaşar University initiates the International Symposium of Architecture, Technology and Innovation (ATI), which is planned to be organized annually from this very first one onwards. The symposium aims to provide scholars a transdisciplinary platform where theoretical, technical and/or practice-based state-of-the-art research findings revolving around a yearly theme in the larger framework of ATI can be discussed reciprocally.

#### **Themes**

- ▶ Transformable / Deployable Structures
- Adaptive Systems
- ▶ Responsive Facades
- ▶ Origami-Based Structures
- ▶ Computational Design and Fabrication
- Sustainability and Structural Design
- ▶ Smart and Bio-based Materials
- ▶ BIM Technologies
- ▶ Digital Humanities
- ▶ Big Data and Data analytics
- ▶ Virtual Reality (VR) and Augmented Reality (AR) Technologies
- ▶ Energy Efficient Design
- ▶ Smart Energy Grid
- ▶ Smart Transportation and Parking
- ▶ IoT Applications
- ▶ Artificial Intelligence and Machine Learning
- ▶ GIS, Smart Communities and Urban Mobility

#### Call for Papers

This year's symposium entitled "Smart Buildings, Smart Cities" will be held on 27-30 April 2020 in Yaşar University, Izmir, Turkey. Smart cities today, are considered as ecosystems of various networks designed to make the urban environment more intelligent; and smart buildings are one of the most indispensable components of this ecosystem. By bringing together scholars from diverse disciplines all those who focus on the effects of unfolding intelligent systems of built environment, the symposium is aimed to initiate a scholarly informed basis for the discussion of the opportunities, requirements and sustainability of this ecosystem with its present and potential future forms as well as its undercurrents.

#### Important Dates

25.11.2019 - Call for Papers

24.01.2020 - Deadline for the Abstract Submission

24.02.2020 - Final Announcement of the Accepted Papers

30.03.2020 - Final Full-text Submission





"Smart Buildings, Smart Cities"



#### Workshops

Workshop 1 \*Sufficient number of apply is necessary

Dr. Omar Avellaneda and Assist. Prof. Dr. Feray Maden

#### **Deployable Pavilion Design Workshop**

Workshop 2 \*Sufficient number of apply is necessary

**Biodesign Team Turkey** 

#### Smart Biodesign Workshop

Workshop 3 \*Sufficient number of apply is necessary

Wilhelm Neusser, Yaşar University Yenal Akgün, Yaşar University Arda Ağırbaş, Yaşar University İşik Ülkün Neusser, IEU

#### Parametric Design Workshop

#### Social Program

On May 1, 2020, a site trip to Izmir's Historical City Center: Kemeraltı, Basmane and Agora is planned. Kemeraltı is the oldest open-air bazaar of the city which is one of the biggest globally. Basmane and Agora are the ancient and historical city center of the city with interesting ruins, layers of different cultures and religions.



# Kemeraltı

#### Keynote Speaker

#### PATRICK TEUFFEL

CONCEPTUAL STRUCTURAL DESIGN, LIGHTWEIGHT STRUCTURES, ADAPTIVE STRUCTURES



Patrick Teuffel studied civil engineering at the University of Stuttgart from 1991 to 1996 with a focus in Conceptual Structural Design. From 1999-2003 he carried out his PhD, about the application of adaptive systems in architecture and engineering, at the University of Stuttgart. Patrick's vision for the research of ISD focuses on lightweight and adaptive structures, as well as the application of innovative materials, such as smart materials or bio-based materials. In the context of lightweight and adaptive structures he is using numerical and experimental models to optimize the design and construction processes. In addition, he is conducting research for the development of 'smart skins' using textiles with integrated smart materials, which have variable properties in shape, stiffness, viscosity and transmission.

#### Invited Speakers

#### KORAY VELIBEYOĞLU

SMART CITIES, URBAN TECHNOLOGIES, SUSTAINABLE STRATEGIES



Koray Velibeyoğlu completed his master's and doctoral studies at İzmir Institute of Technology, after graduating from Dokuz Eylül University, Department of City and Regional Planning. He is a faculty member at the Faculty of Architecture, Department of City and Regional Planning. He has been working at Izmir Institute of Technology since 1995 and has also held various administrative positions. Development strategies, smart city studies, urban design theory and practice, knowledge management, spatial development, local development, sustainable living strategies, urban technologies are the areas of study. Koray Velibeyoğlu was the coordinator of the "Sustainable Development Strategy of the Izmir Peninsula" projects.

#### OZAN ÖNDER ÖZENER

TECHNOLOGY, ARCHITECTURE INNOVATION



Ozan Önder Özener is an Associate Professor of Architecture at the ITU School of Architecture. Dr. Özener has multiple building projects and design competition awards. He also collaborates with architecture firms in Istanbul for improving process performance, sustainability and design quality in complex projects. Prior to his post at ITU, he worked as a Research Scholar at Texas A&M University CRS Center and TAMU-VizLab Visualization Laboratory. He has also held Visiting Professorships at Texas A&M University and Prairie View A&M University. His particular research and teaching interests include BIM, design practice, design technology and innovation, studio culture, and digital design. Dr. Özener holds B.Arch and M.Arch in Design Computing degrees from Istanbul Technical University and a Ph.D. degree from Texas A&M University, College of Architecture.

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30.04.2020 **Symposium** 



International Symposium

### Architecture, Technology and Innovation 2020

"Smart Buildings, Smart Cities"

\*Selected papers will be published in the International Journal of "Digital Innovation in the Built Environment" as a special issue.



#### **Keynote Speaker**

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# 'Call for Papers'

Technology has always been pivotal in shaping the society. Advances in information technologies and material sciences in the course of the twenty-first century have irreversibly altered not only everyday life of individuals, so that the structural tenets of societies, but also the design, construction and management methods in architectural, engineering and urban practices. Beyond these alterations, recent innovations in emergent technologies such as Internet of Things (IoT) and/or Machine Learning have started to define unprecedented needs and requirements for the built environments. Moreover, environmental problems like pollution, source limitations, overcrowded cities, climate change, extreme weather conditions and the social crises that they cause on the doorstep require each and every profession to rethink its role in the ever changing conditions of today's dynamic political and economic agenda, make urgent decisions to adjust itself and take immediate actions. Cutting edge technological developments and innovations have the potential of being both remedy and poison for these environmental, economic and social upheavals.

In order to give insights into the role of technology and innovation in the practice and critical theory of contemporary architecture, Yaşar University initiates the International Symposium of Architecture, Technology and Innovation (ATI), which is planned to be organized annually from this very first one onwards. The symposium aims to provide scholars a transdisciplinary platform where theoretical, technical and/or practice-based state-of-the-art research findings revolving around a yearly theme in the larger framework of ATI can be discussed reciprocally.

#### **Themes**

- ▶ Big Data and Data analytics
- ▶ Virtual Reality (VR) Technologies
- Augmented Reality (AR) Technologies
- ► Energy Efficient Design
- ▶ Smart Energy Grid
- **▶** Smart Transportation and Parking
- ▶ IoT Applications
- Artificial Intelligence and Machine Learning
- ▶ GIS, Smart Communities and Urban Mobility
- Transformable / Deployable Structures
- Adaptive Systems
- Responsive Façades
- Origami-Based Structures
- ▶ Computational Design and Fabrication
- ▶ Sustainability and Structural Design
- ▶ Smart and Bio-based Materials
- **▶** BIM Technologies
- ▶ Digital Humanities





International Symposium Architecture, Technology

and Innovation 2020

"Smart Buildings, Smart Cities"

## WORKSHOPS 27-29 April 2020

\*Sufficient number of apply is necessary

\*Workshop participants will receive a participation document

#### 100τι Parametric Design Workshop

contact: nur.sipahioglu@yasar.edu.tr

The contribution of the workshop to the ATI symposium will present a research study that examines the potential of integrating software and control units into a kinetic architectural system. Specifically the correlation between the program [algorithm] and its parameters, control units [electric pistons and cable pulls, servo motors] and its effects on architectural geometries are in focus. Rather than aiming for a solution for a specific function or task, this research project is analyzing general principles between these acting components and exploring its potential. The outcome of this study will be presented at the ATI symposium and participants are kindly invited to join a workshop subsequent to the lecture. The workshop will offer the opportunity for a concentrated introduction into the principles of integrating electronic components into a design and how to control them programmatically in detail.

#### **Coordinators**

#### **WILHELM NEUSSER**

Received his bachelor degree in Architecture as 'Diplom Ingenieur' from Technische Universität Wien. He completed his master's degree in Colombia University New York. After his master degree, he worked as full time architect in different architecture offices in different locations like SOM New York, AIA Associate and Atelier Wimmer. Since 2013, he has been providing architecture services in his own company, UNA architecture and currently is a lecturer in Yaşar University.



#### ARDA AĞIRBAŞ

Received his bachelor degree Architecture from Izmir University of Economics, Faculty of Fine Arts and Design. He completed his master's degree at Yaşar University, Institute of Science and Technology. His research interests are on Computational Design, Finding Methods and Digital Production Techniques in Architecture. Since 2015, he has been providing architecture and construction services in a private company which he is one of the founding partners.



#### YENAL AKGÜN

In 2000, he received his bachelor's degree in architecture from Istanbul Technical University. After working in national and international projects architectural offices between 2000-2002, he started his academic career in 2002 as a research assistant in Izmir Institute of Technology (IYTE). He received his master's degree from IYTE in 2004. Later, during her doctoral studies, he continued her academic studies at the Institute of Light Structures and Conceptual Design (ILEK) of the University of Stuttgart in Germany and completed her doctoral studies about Construction and Construction Technologies / Systems in 2010. He worked as a full-time architect in Izmir Konak Municipality Urban Design Department between 2017-2019 and as a part-time faculty member in Yaşar University Faculty of Architecture Department. Since September 2019, he has been working as a full-time faculty member in Yaşar University Department of

#### Smart Biodesign Workshop

contact: aysu.gurman@yasar.edu.tr

The aim of the workshop is to create awareness about biodesign, to create a productive, creative discussion environment with the participation of undergraduate and graduate students studying in different disciplines and to guide young researchers interested in biodesign. The workshop, which will be held for 2 days, aims to create a rich platform of ideas by transferring the experiences of the participants from different disciplines. In this direction, the workshop will start with mind-opening presentations and will continue with group activities; The products designed according to the ideas to be developed by the sub-groups will be expressed and presented with drawing / presentation / models.

#### Coordinators

#### **BIODESIGN TEAM**

It was established in May 2016 by Ege University and Dokuz Eylül University faculty members and is a joint research, study and project development platform. While studying in the academic field; it carries out various initiatives in the fields of design, architecture and various engineering. One of the most important qualities of TBT is that it brings together individuals from different architecture, design, civil engineering, chemical engineering, mechanical engineering, electronic engineering and interdisciplinary relations in its activities. The main objective of the team is to produce scientific value and to contribute to a sustainable environment by developing interdisciplinary relationships in the field of biodesign and to develop biodesign products that can be used in daily life.



100TL

#### Deployable Pavilion **Design Workshop**

contact: ecenur.kizilorenli@vasar.edu.tr

The objective of the workshop is to design and construct a deployable pavilion at a human scale which will be temporarily exhibited at Yasar Campus. The idea is based on investigating the morphology of deployable structures and kinetic design strategies. First, participants are expected to generate different deployable geometric forms by means of the models made at different scale. There will also be theoretical sessions to strengthen the design concepts. Finally, the topics learned will be applied to construct a prototype at 1/1 scale.

#### **Coordinators**

#### MAR AVELLANEDA

Architect and Master in Construction of the National University of Colombia. PhD in Technology Architecture, Building and Planning from Polytechnic University of Catalonia, Spain. Research on deployable and transformable structures, habitability approaches. Study of structural morphology applied to the architecture and lightweight structures. Skills in parametric design and digital fabrication. Teaching experience in the area of innovation and technology in architecture. Participation as a speaker at several international conferences on unconventional structures in architecture. Co-founder SMiA research group.

#### FERAY MADEN

Received her B.Arch (2004) and M.Sc. (2008) in Architecture from Izmir Institute of Technology (IZTECH). Studied also at KU Leuven for her Master research. Started her PhD studies at IZTECH and was awarded PhD Research Grant by TÜBİTAK in 2011. Worked as a PhD researcher at Delft University of Technology (2012) and Eindhoven University of Technology (2013). Earned her PhD degree in Architecture from IZTECH in 2015. Currently works as an Assistant Professor at Yaşar University and as the institutional coordinator of an EU project entitled "Optimization Driven Architectural Design of Structures" that is granted under Marie-Curie RISE scheme of Horizon 2020 Programme. Major research interests include kinetic architecture, responsive facades, structural design and parametric design.







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