SEI STRUCTURAL ENGINEERING INSTITUTE ASCE Houston Chapter

SEI HOUSTON NEWS

October 2022
Issue #10

SEI HOUSTON MONTHLY NEWSLETTER

Fred Hartman Bridge – Baytown, TX

Design of Bridge Concrete Structures using Corrosion-Resistant Prestressing Strands and Auxiliary Reinforcement

Abdeldjelil Belarbi, PhD., P.E., FASCE, FACI, IIFC

On September 27, 2022, Dr. Belarbi presented a SEI Technical Session through Microsoft Teams.

Dr. Abdeldjelil Belarbi is the Hugh Roy and Lillie Cranz Cullen Professor Distinguished Professor of Civil Engineering at the University of Houston and served as the Department Chair from 2009 to 2013. During his career he has taught more than fourteen different undergraduate and graduate courses on subjects related to civil and structural engineering

During the webinar, he introduced the current research taking place at the University of Houston as it relates to Corrosion-Resistant Prestressing Stands and Auxiliary Reinforcement. Dr. Belarbi's presentation showcased some of the major advantages of using Fiber Reinforced Polymers when it comes to their capacity to resist large stresses. However, due to their potential for abrupt failure leading to a collapse mechanism, AASHTO and related organization have imposed a lot of capacity reduction factors. The outlook on their use looks brighter as more research and testing is conducted, thus giving designers an alternative to carbon steel reinforcing.

Dr. Belarbi presentation offered a great glimpse into the future of Fiber Reinforced Polymers and their applications.

UPCOMING EVENTS


Davide Zampini, Ph.D.

"Industrialization of High-Performance Fiber Reinforced Concrete – The Resilia Solution" by Davide Zampini, Ph.D, October 25 2022.

The Construction Industry is increasingly confronted with the challenges of increasing the efficiency in design and sustainability, as the push towards net-zero grows. The new context has created opportunities to promote cutting-edge technologies to be THE solution in the new Green Economy. By the decarbonization of construction materials and processes, increasing the share of recyclables, and optimizing the design of structures, the industry goal of sustainability can be achieved. CEMEX's High-Performance Fiber-Reinforced Concrete (HPFRC), Resilia, emerges as a very competitive solution due to its unique post-peak mechanical performance. Additionally, its ease to industrialize allows the product to be produced at any ready-mix plant. The presentation will focus on material performance, design code applicability, and real-world applications.

Please click on the following link for registration*.

https://ascehouston.org/meetinginfo.php?id=705&ts=1665181146

*This even is a virtual meeting. A link to access the meeting will be included at the bottom of your payment receipt email upon registration.

GET TO KNOW YOUR COMMITTEE MEMBER – DIRECTOR OF PROGRAMS


Daniel Torres, P.E., MBA, PMP

Daniel Torres recently joined the SEI Board of Directors and is humbled to be part of the talented team!

Daniel has 14 years of experience in delivering design solutions and advisory services for energy and heavy civil industries. He is a registered Professional Engineer and PMP. Daniel completed his Bachelor's and Masters of Science from Texas A&M with an emphasis in Structural Engineering. Additionally, Mr. Torres is an editor of ACI 447 and EERI Committees.

WHO IS YOUR HERO AND WHY?
My mother is my hero. She taught me be respectful, diligent and positive about life experiences. She was a great example to me as she became principal for a major bank.
WHAT DO YOU DO DURING YOUR FREE TIME?
I enjoy spending time with my wife and daughter, sister and father when traveling to San Antonio or Boston. Also, I like to play soccer, basketball, running, calisthenics, taekwondo (hopefully pass BB test!) and read self-help/ business and engineering books. During holidays, I volunteer at my local church in Cypress.