

We are pleased to present the following speaker for our January 14 virtual meeting – Details to follow!

### A DURABILITY STUDY OF EPOXY-BASALT FIBER COMPOSITE REBAR FOR CONCRETE REINFORCEMENT

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#### Abstract

Nonconventional rebar made by fiber-reinforced polymer (FRP) composite has been available to the industry for many years,

mainly due to its unique value propositions, including: (a) high mechanical performance to weight ratio, and (b) corrosion free nature in those constructionsexposed to harsh environments. Unfortunately, even nowadays, engineers have to adopt relativeexcessive safety factors when using FRP reinforcement because of the lack of durabilityperformance information. To address this need, this study presents laboratory results conducted at a Florida Department of Transportation approved testing facility. The tested bars were pultruded using epoxy-anhydride thermoset and basalt fibers. The durability performance was evaluated after an accelerated environmental treatment that involves a

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#### MEETING DETAILS

This will be a virtual meeting utilizing Microsoft Teams. There is no charge for the meeting, which will begin at 12 noon on Thursday, January 14.

**Log-in details will follow with  
an email blast in a few days.  
Save the date/time**



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90-day immersion in alkaline solution at 60 Deg C. Details, including testing method, specification, and promising outcomes are discussed in this paper.

### Biography

Francisco De Caso, LEED AP, Ph.D. received his MEng from the University of Bath, England, and his PhD from the University of Miami, Florida, where he is currently a Principal Scientist, and associate director of the Center for Integration of Composites into Infrastructure (CICI), an NSF Industry/University cooperative research center. Additionally, Dr. De Caso is the manager of the Structures and Materials Laboratory, an ISO 17025 accredited laboratory with focus on evaluating composites for infrastructure applications. His research on composite material systems, encompass challenges related to mechanical behavior, durability, and design. De Caso is actively engaged in sponsored research from federal, state agencies, and private industry.

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### 2020– 2021 Meeting Schedule

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**September 17, 2020 – Jacob Shevrin,  
Evonik Corp.**

**September 21-24 – CAMX, On-Line  
Conference**

**October 15 Golf Outing, Picatinny  
Arsenal**

**December 3, 2020 – Brian Kleinheinz,  
BYK Inc.**

**January 14, 2021 – Francisco De Caso,  
Univ. Miami**

**February 4, 2021 - TBD**

**March 4, 2021 - TBD**

**April 1, 2021 - TBD**

**May 6, 2020– TBD**

**May 2021– SAMPE 2021, Long Beach  
CA**

**June, 2021 – 2<sup>nd</sup> Annual NJ Additive  
Manufacturing Symposium, in collaboration  
with Rutgers Mechanical Engineering  
department – in planning stages now.**

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- 2018-2020 Technical Service Chemist, Huntsman (acquired CVC Thermoset Specialties) Supported formulator customers of specialty epoxy resins and CTBN toughening agents.
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Contact: (215) 620-7764  
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#### Miles Petchler

I am a **chemist** who works developing resinous floor coatings for a building materials company. I am a **skilled formulator** who has created a diverse, easy to manufacture product line for my current employer based largely on feedstock materials for proactive cost optimization via sourcing.

I have also championed innovative ideas, such as using tile installation products to install wireless chargers for electric vehicles into floors. I presented this idea to the owner of the company. I am looking to expand my knowledge in coatings; cement products are my current employer's core competency, so R&D efforts with coatings are limited.

I take pride in my attention to detail, personal drive, and ability to solve problems outside of the skillset of a chemist. Please contact me if you would care to discuss the work I have done in more detail.

Contact: (860)575-6768  
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