



# Academy of Pavement Science and Engineering



## Message from the President

“Individual commitment to a group effort – that is what makes a teamwork, a company work, a society work, a civilization work.” - Vince Lombardi

On April 25, we had the APSE annual meeting in which our members clearly exhibited their commitment to APSE. The active participation of our members was a clear testimony of their common goal to advance APSE’s mission: Serve the pavement science and engineering academic community through education, research and professional development. I want to express my gratitude for each one of you for your commitment to APSE. This was an excellent year for APSE by all measures!

We held several webinars that covered various exciting topics such as the history of our paving industry, resilience, artificial intelligence, and education. We also have several ongoing APSE initiatives that target the development of educational materials on sustainability and resilience; development of a course to characterize pavement materials; and best practices for publishing in pavement science and engineering. APSE has also published infographics that summarize views of APSE members on emerging research fields. I urge you to visit the APSE website to learn more about these research fields (e.g. resilience, smart pavements, biomimicry, and autonomy). In our meeting, we have also announced the names of the winners of the different APSE awards. We are truly proud of the achievements of our members and award winners, who are listed in this newsletter. Congratulations to the award winners!

Again, on behalf of APSE Officers and Board Members, I want to thank you for your support and involvement with APSE that is leading us to excellence.

**Dr. Eyad Masad**  
APSE President



## Highlight of recent activities

On April 25th, APSE held its 2022 Annual Meeting through a video conferencing platform. More than 50 people joined, including APSE members and friends. The meeting started by Dr. Eyad Masad providing an overview of APSE's most recent activities. Some of these activities include five webinars held during the last year, which have been well received by the community, with over 500 attendees from 28 countries. This was followed by an update from the APSE Officers about the ongoing task forces, with excellent outcomes and material to be shared with our community in the second semester of this year. Then, Dr. Diana Sánchez summarized the most critical information gathered from the breakout groups held during the APSE meeting in last January in Washington D.C. on emerging pavement research topics and APSE's potential contributions. This information is summarized in an infographic, which can be found [here](#). The audience was also invited to visit the [member resources tab in the APSE website](#) to find all the material APSE has generated for our members. This was followed by announcing new APSE initiatives, including 'APSE School of Excellence', which main goal is to provide APSE members with knowledge about cutting-edge topics that would help them in developing research ideas, collaborations, and possibly advanced courses. The meeting included interactive discussions among attendees about publishing in pavement engineering, strategies to advance pavement engineering, among others.



## APSE 2022 awards recipients

During the annual meeting, five members were recognized for their excellent achievements and their contributions to APSE and to the pavement community. Congratulations to all the award winners!



Dr. Shane Underwood (North Carolina State University), current APSE Officer, was recognized as Outstanding academic member.



Dr. Daniel Castillo (Aalto University), was awarded the Associate member award.



Dr. Pengfei Liu (RWTH Aachen University), was awarded the Associate member award.



Mr. Egemen Okte (University of Illinois at Urbana Champaign), was awarded the Student member award.



Mr. Saqib Gulzar (North Carolina State University), was awarded the Student member award.

More information on these awards can be found [here](#).



## Member resources

As a result of the efforts conducted during the last years by our task forces and APSE members, we have developed a variety of resources which are available to the community. Click [here](#) to access all these resources, which include:

- White paper on "Desirable attributes of a journal article in the area of pavement science and engineering"
- Infographics with information about class topics in undergraduate and graduate programs in pavement engineering, bibliographic references, and common journals where the community publishes their works.
- Comprehensive Zotero database about critical works in Pavement Science and Engineering (PS&E).
- Academic education material to support Pavement Engineering classes.
- Webinar's recordings and APSE important documents (please log-in into the system to access this information).

Besides, APSE recently released a [database for academic positions](#) where student and associate members can publish their resumes for faculty members to review when they have opportunities available.



## News about our members



Dr. Silvia Caro, current APSE Officer, and APSE Past president has been appointed as the new Vice-President of University of Los Andes (Colombia).



Dr. Hasan Ozer, current APSE Officer, was recognized by the American Society of Civil Engineer's Transportation & Development Institute as the 2022 Wilber S. Smith Award Winner.

*Please share your successes with us to announce to the APSE community.*



## Student members spotlight

We requested three APSE PhD student members working on sustainability in pavement engineering to share with us information about themselves and their ongoing research projects. Enjoy the read!



**Atanu Behera**  
Indian Institute of  
Technology, Madras



**Julia Rodrigues**  
Polytechnic School of the  
University of São Paulo, Brazil



**Ahmad Alfalah**  
Rowan University  
United States

**Mr. Atanu Behera**  
**Indian Institute of Technology, Madras**

**1. What engineering problem(s) are you trying to solve, and what is the novelty of your research?**

**Mr. Behera:** I am working on the mechanical characterization of the emulsified cold recycled mixture (ECRM). The objective is to design an appropriate material characterization framework for both experimental and constitutive models for ECRM. I am developing new post-processing techniques to characterize the rutting and fatigue behaviour of ECRM.

**2. What do you enjoy the most about conducting research?**

**Mr. Behera:** The challenges related to solving a new problem, the thinking process to surmount a technical obstacle, and a chance to learn every day something new about this material. The complexity in the combination of emulsion with recycled material makes me think of a new paradigm to look for, and to me, it is most exciting.

**3. What is the impact of your work in the civil engineering practice?**

**Mr. Behera:** As India is embarking on an ambitious road infrastructure plan, a systematic investigation of the recycling of available reclaimed asphalt is required. This research work on cold recycling will aid a highway engineer in making judicious use of ECRM as a possible construction material.

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**Ms. Julia Amaral Rodrigues**

**Polytechnic School of the University of São Paulo, Brazil**

**1. What engineering problem(s) are you trying to solve, and what is the novelty of your research?**

**Ms. Rodrigues:** The practice of reusing recycled asphalt pavement (RAP) for the construction of new pavement structures is already applied throughout the world. The process by which RAP material is reused more than one time is known as multi-recycling. The main objective of my research is to evaluate the performance of RAP materials submitted to multiple recycle processes. This includes analysis in various scales (i.e., asphalt binder and full asphalt mixture) as well as quantifying emissions, consumption of materials, and energy utilization.

**2. What do you enjoy the most about conducting research?**

**Ms. Rodrigues:** The most interesting and rewarding thing about my research is the fact that in some way I am working to contribute to a more sustainable world. I am motivated to discover, investigate, and find sustainable solutions for engineering challenges.

**3. What is the impact of your work in the civil engineering practice?**

**Ms. Rodrigues:** The reuse of RAP in new pavement structures can reduce the non-renewable natural resources exploitation and construction costs. Besides, it also avoids dumping large amounts of construction wastes to the environment. The reuse of the same materials more than once will significantly impact the environment and the economy in a positive way.

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**Mr. Ahmad Alfalah**

**Rowan University, United States**

**1. What engineering problem(s) are you trying to solve, and what is the novelty of your research?**

**Mr. Alfalah:** Previous studies have investigated multiple methods of introducing fibers to the asphalt mixtures such as the wet-mixing method (adding mixed

fiber and asphalt binder to the heated aggregate), and the dry-mixing method (mixing aggregate and fiber before asphalt binder addition). In our research, we have introduced a new mixing method called the proportional dispersion method, where we introduce the fibers over three portions after the aggregates are fully coated with asphalt binder. Our results have shown that the proportional dispersion method did not change the mix design requirements.

## **2. What do you enjoy the most about conducting research?**

**Mr. Alfalah:** For many individuals, giving talks at conferences, publishing papers, and sharing their thoughts with others may be a nerve-wracking experience. However, that is not the case for me. We get several opportunities to discuss and present our work. This allows us to develop as more confident researchers. And at the end of the research, seeing the work being published, cited and discussed gives a feeling that it all paid off.

## **3. What is the impact of your work in the civil engineering practice?**

**Mr. Alfalah:** The impact of our work is assessing the effects of additives such as fibers to asphalt mixtures. We also want to see how these additives affect the design and performance of asphalt mixtures. Fiber-reinforced asphalt mixtures can extend the life of asphalt pavement at a low cost and with ease of implementation at the plant level.



 Updates about coming plans

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We are organizing a series of webinars on various technical and non-technical topics for the upcoming weeks. Stay tuned to receive all the information!

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We are always looking for big ideas. Please share your ideas with the officers or  
by email: [admin@pavementsacademy.onmicrosoft.com](mailto:admin@pavementsacademy.onmicrosoft.com)

Help us expand our APSE community by inviting students and colleagues to join.

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