

# Newsletter

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## ➔ APSE Officer's Note

May 2020

Dear APSE members,

Last January 11<sup>th</sup> we held our APSE 2020 Annual Meeting in Washington DC. As usual, it was an interesting and productive meeting that allowed us to summarize our recent efforts and plan for future direction. We would like to thank all our members and friends who were able to attend and actively participate in this meeting. We would also like to convey a special thanks to the task leaders and APSE members and volunteers who have worked very hard to get the ball rolling on activities that advance our mission. For those who were not able to attend, we sent the minutes by e-mail (and you can find them [here](#)) and we hope you will continue remain involved in the different activities of our organization.

Looking back, it was difficult at that time to imagine that just a couple of months after this meeting most of us would be working remotely from home and facing new and unexpected challenges. As a community of academics, the global health COVID-19 situation has forced us to modify the way we teach –for academic members—and learn –for student members—and to find new ways to face the impact on our research activities. This situation, however, also offers the opportunity to come together as a community to share, among others, good practices and experiences. Following a suggestion of an APSE member, we decided to collect course content that could support our Academic members in their on-line education activities. We received links to websites with tips for good practices when transforming conventional teaching to ‘emergency’ on-line/remote teaching, videos of different road material experiments, videos of recorded webinars on different topics of pavement science and engineering, and regular class material for different courses in these areas, which also include resources for on-line exams. You can find the information in a PDF

guide located here: <https://apse.wildapricot.org/memberresources>. If you have any additional material that you would like to share please, let us know ([admin@pavementsacademy.onmicrosoft.com](mailto:admin@pavementsacademy.onmicrosoft.com)). In addition, APSE officers, members of the APSE Board of Governors and other academic members have offered to provide guest lectures in your on-line classes. If you are interested in exploring this possibility, please let us know.

We are confident that we will continue working together in the different activities planned for our APSE –some of them described in this newsletter—and, once again, thank you for your support and involvement in the APSE community.

#### APSE Officers

Silvia Caro, Amit Bhasin, Eyad Masad, Elie Hajj, Sandra Erkens.



### ➔ APSE Academic Members experiences during the current COVID-19 situation

We requested three academic members from three different countries (USA, Brazil and The Netherlands) to share with us their experiences when transitioning to on-line education and remote working. Next, you can find the responses from Dr. Imad Al-Qadi (University of Illinois Urbana-Champaign), Dr. Kamilla Vasconcelos (University of São Paulo) and Dr. Katerina Varveri (TU Delft).



Dr. Imad Al-Qadi



Dr. Kamilla Vasconcelos



Dr. Katerina Varveri

Before starting, however, we would like to highlight some positive experiences that they shared with us in the middle of this global situation:

‘This crisis allows our staff and students to step up and shine. Staff converted to an online setting in less than 48 hours without any glitches. Daily student meetings increased interaction and enhanced their sense of responsibility, collaboration, and the great feeling of support. Students found innovative solutions to manage their time and better plan their research. The uncertainties allow them to rise up to the ongoing challenge. I am impressed by their maintained focus.’ – Dr. Imad Al-Qad.

‘In our group I see that friendship and care with each other has increased along this journey.’ – Dr. Kamilla Vasconcelos.

‘I really enjoy this solidarity-driven and empathetic version of academia; commitment, pragmatism and people-centred approaches are improving (my) productivity in these difficult times.’ – Dr. Katerina Varveri.

## **1. What have been the challenges and strategies for transitioning your teaching to an on-line mode?**

**Dr. Al-Qadi:** we offer workshops taught by academia, the private sector, and agencies — like the Army Corps of Engineers. Within a few days, we changed the entire curriculum for online classes to ensure the continuation of engineer certification. The workshop has a hands-on portion, which the instructors innovatively addressed.

**Dr. Vasconcelos:** one challenge, at least in Brazil, is to make sure all the students have computers and proper access to the internet. Our on-line teaching approach is to offer synchronic classes during the original classes’ schedule. The recommendation is to record the sessions, so students who might not be able to attend, would be able to watch the video later. Another challenge has been to adapt laboratory sessions and applied projects. Some faculty have initially postponed them in an attempt to teach them later, once the isolation period ends. Also, additional activities have been proposed, such as complementary reading on topics related to the classes and extra homework.

**Dr. Varveri**: the biggest challenge has been time! The urgency to move from face-to-face to on-line education was high and neither the teachers nor the students were prepared, even though digital education has been already practiced in our organization. Depending on the course set-up and number of students both real-time and pre-recorded lectures are available. Also, more formative assessments are being introduced (through assignments, quizzes, etc.) and we are providing students with guidelines on how to study using other learning sources. We expect this will stimulate interaction and engagement of students to new collaborative forms of learning. Online video conferences have been organized within office hours to address students' questions, and we are constantly seeking feedback from students, since we understand we are all together in this new reality.

**2. Based on your experience so far, do you have any piece of advice about remote teaching under these unexpected circumstances?**

**Dr. Al-Qadi**: I started teaching online classes more than 25 years ago, and I have been regularly teaching all of my classes online for the past five years, so it has not been a major change for me. For online learning, I find it best to introduce interactive questions throughout the lecture and use quick quizzes to ensure students remain engaged. I always believe in open-book exams, especially these days when information is so readily available. This is an opportunity to think about implementing online learning innovatively.

**Dr. Vasconcelos**: The circumstance is new to everyone (professors, students, staff, etc.) and many of us were not prepared to such situation. I would say EMPATHY is the first step to make it work better. Another advice would be to choose the content carefully and try not to address detailed subjects during the online sessions, leaving the secondary topics for reading at students' own time and for some exercises.

**Dr. Varveri**: both teachers and students are working in new and different circumstances. I would say that we all have to be mindful. At the moment, we have to focus on continuing with high quality education, but also be humane. Not everything will go perfect, but we have to be positive, enjoy and learn from the process.

### **3. Has the COVID-19 situation affected your research? If so, what have you done to overcome those difficulties?**

**Dr. Al-Qadi:** our labs closed March 20<sup>th</sup>. This forced us to be innovative in working with our students. At times, it's required changing research direction and modifying timelines and priorities in order to maintain productivity. I divided my students into groups that meet daily online. They check in on each other, and I join their meetings as needed. We've kept our weekly group meetings and associated presentations as well as our Kent Seminar Series, which is offered online. As for our staff, we established detailed protocols to keep serving the center's different projects. Research remains ongoing, and that could not have happened without strong commitment and ownership by our engineers, staff, and students.

**Dr. Vasconcelos:** the laboratories are closed and this is certainly affecting our research. The situation varies from student to student, as some still need the data to their analysis and writing. Some of the activities that could be done during the isolation period is to resume part of the pending work that had been put on hold before due to different reasons. This includes writing papers with existing data from past research and studies, and more comprehensive literature review, especially for thesis and dissertations.

**Dr. Varveri:** the main impact on research comes from the closing down of the laboratories. Funded projects, PhD and MSc work are subject to delays. I am using different approaches to deal with this situation. For example, I have asked students who are close to finishing with their MSc project, and their laboratory work was interrupted, to work more on the data analysis and if the results allow start working on a journal paper. PhD students that have a combination of laboratory testing and modelling, are now focusing more on developing their models and using data from international literature for model validation and verification. So, we are all trying to be resourceful and use this time efficiently.



## ➔ 2020 APSE Annual Meeting

On January 11<sup>th</sup> 2020, we held the 2020 APSE Annual Meeting in Washington DC. More than 60 people attended the meeting, among members and friends. Besides sharing several achievements and future plans, we had a special talk about innovation in the area of PS&E and we granted APSE members with the annual awards:

*Invited guest offered an inspiring talk about innovation in pavement engineering*

APSE hosted an invited talk by Mr. Thomas Harman, the Director of the Center for Accelerating Innovation of the Federal Highway Administration (FHWA). Mr. Harman offered his perspective on the role of innovation in advancing societies and improving quality of life. Then, he gave an excellent overview of the critical issues in transportation engineering with emphasis on future changes in pavement design and construction. These changes are driven primarily by advancements in vehicle autonomy, road-to-vehicle communication, and the increasing emphasis on resiliency and durability. Mr. Harman concluded by giving a summary of state and federal programs that focus on promoting innovations in infrastructure systems. He invited all meeting participants to become more familiar with these programs and take part in accelerating innovation deployment.



## APSE Annual Awards

During the meeting, three members were recognized by their contribution to APSE and to the community:

Dr. Mohab El-Hakim (Manhattan College) was recognized as “**Outstanding Emergent Academic**”, for his contributions in teaching and curriculum development.



Mrs. Angeli Jayme (University of Illinois at Urbana - Champaign) and Mr. Guoyang Lu (RWTH Aachen University) were awarded the “**APSE Outstanding Service by a Student Member Award**”.



If you would like to know more about the details of the meeting, please read the minutes that are available for download [here](#).



## ➔ Release of a database with critical works in Pavement Science and Engineering (PS&E)

During the last couple of years, a task force of the Research Committee (RC- TF1) composed by more than 15 APSE members, from diverse backgrounds and expertise, has been working hard in building a database with the most critical works published in different areas of PS&E. These activities, which have been conducted under the leadership of Dr. Shane Underwood, resulted in a comprehensive Zotero database or bibliographic catalog.



Dr. Shane Underwood

This catalog is organized in six main areas: i) Pavement and Asset Management, ii) Pavement Construction, iii) Pavement Foundations, iv) Pavement Materials, v) Pavement Structure, and iv) Sustainability. Within each of these areas there are several subjects and topics.

The time has come to release this database! You can access the Version 1.0 by clicking here: [PS&E bibliographic references database](#)

Please note that this database will evolve with time. Therefore, if you have any input and feedback when using the database (e.g. important references missing on a specific topic or consider that a reference should be removed or located under a different section), please let us know by contacting: [admin@pavementsacademy.onmicrosoft.com](mailto:admin@pavementsacademy.onmicrosoft.com).



## ➔ Recognitions received by our APSE community

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### **Prof. Y. Richard Kim receives Francis C. Turner Award:**

ASCE has honored Dr. Kim, APSE member (North Carolina State University, USA), with the 2020 Francis C. Turner Award for his extraordinary contribution to the fundamental characterization of transportation materials and its application to mechanistic pavement analysis and design.

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### **Prof. Erol Tutumluer has been awarded the 2020 James Laurie Prize:**

Dr. Tutumluer, APSE member (University of Illinois, USA) received this recognition for “career contributions to the advancement of transportation engineering in the field of transportation geotechnics, which provides key knowledge to building sustainable pavement and railroad track infrastructure.”

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**Prof. Dallas Little named Distinguished Professor by Texas A&M University:**

Dr. Dallas Little, member of the APSE Board of Governors (Texas A&M University, USA) was awarded the highest faculty honor by the university he has served so well.

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**Prof. Chuck Schwartz received the Carl Monismith Lecture award:**

Dr. Chuck Schwartz, APSE member (University of Maryland, USA) received the Carl. L. Monismith Lecture award. This award is from the Geo-Institute of the American Society of Civil Engineers.

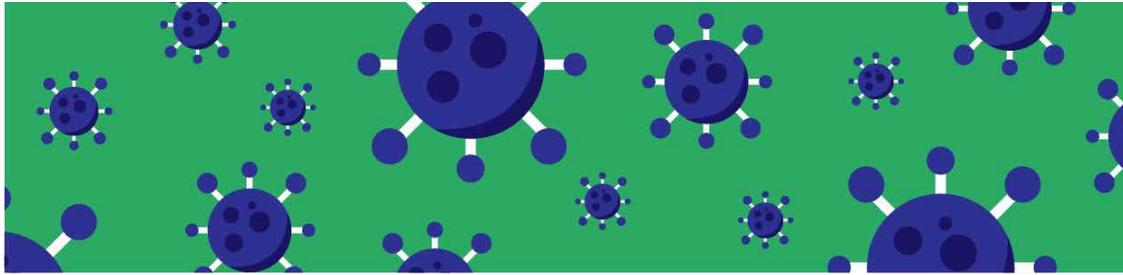
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**Dr. Diana Sánchez received For Women in Science Award by L'OREAL and UNESCO:**

Dr. Sánchez, APSE Communications Coordinator (Universidad de los Andes, Colombia), was one of the seven women in Colombia who received this recognition. This award promotes and recognizes the work of women who have contributed to the advancement of knowledge through their research projects.

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## ➔ Conceivable effect of COVID-19 pandemic on our pavements

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Unlike the increase in heavy loads, climate change extreme events, and delayed maintenance activities, the Coronavirus disease (COVID-19) can have different impacts on our pavements.

The performance or serviceability of a pavement is influenced by several factors, including allocated funds and investments, traffic characteristics, climate conditions, drainage quality, properties and production of the pavement materials, pavement design, construction operations and practices, and maintenance and rehabilitation activities.

The COVID-19 pandemic has affected, among others, public transport, shared mobility services, and freight movements. With funding for infrastructure being primarily based on revenues from taxes on gasoline and diesel fuel, we should be asking ourselves how anticipated changes and trends in future mobility and freight caused by the current global situation could affect our existing and future pavement networks. To that end, we have included select articles that may help identifying a list of conceivable effects on our pavements.

[The impact of COVID-19 on commercial transportation and trade activity](#) by [Geotab Data & Analytics Team](#) in [Fleet Management](#) on April 14, 2020

[Interest in autonomous vehicles and delivery drones grows during COVID-19 pandemic](#) by [Veronica Combs](#) in [Innovation](#) on April 13, 2020

[How has COVID-19 impacted 2020s mobility trends](#) by [Carol Schweiger](#) in [Intelligent Transport](#) on April 20, 2020

[For Developers and Owners: How COVID-19 Is Affecting Construction Projects and Actions You Should Consider](#) by R. C. Epstein, Z. D. Knaub, D. C. Jensen, and J. L. Mascialino in The National Law Review on April 15, 2020

Although the progress of transportation infrastructure has been key for global connection and has brought positive impacts in the countries' development, nowadays this connection is making us more susceptible to being affected by events happening anywhere in the planet, such like this COVID-19 pandemic. One certain thing is that the world will not be the same after this pandemic, and it will likely change the future of several different areas in engineering.



### ➔ In Memoriam Dr. Rebecca McDaniel

It is with a very heavy heart that we share the news about the passing away of Dr. Rebecca (Becky) McDaniel. She was undoubtedly a significant contributor to the pavement community with a unique perspective that came from serving in both Indiana DOT and the North Central Superpave® Center at Purdue University.



She was the second female president of AAPT, and she was very involved in leadership positions in several organizations, including ASTM and TRB. At TRB, she served as member of several committees through the years and, more recently, she acted as the chair of the asphalt materials section. She also participated as member and chair of multiple NCHRP projects and was part of the FHWA expert task group on Hot-Mix Asphalt Recycling.

While all of us know well Dr. McDaniel significant technical contributions, many of us will also fondly recall and miss our personal interactions with her in professional committees, meetings, and organizations. We will remember her bright and cheerful demeanor and the enthusiasm that she radiated even while discussing the most in-depth technical topics.

The APSE community mourns the loss of a significant figure in our community and we stand by her family in our thoughts and prayers.



### [➔ Update about coming plans](#)



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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**If you have not renewed your membership for this year we kindly invite you to do so to stay informed and engage with all our activities.**

**[Click Here](#)**

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