

RECENT PUBLICATIONS

Almeida, F, Lobo, A, Couto, A, Ferreira, J P, Ferreira, S (2022) 'Urban factors influencing the vehicle speed of public transport', *Transportation Research Procedia* 62, 318-324. DOI: 10.1016/j.trpro.2022.02.040

Chandan, K, Seco, A and Bastos Silva, A (2022) 'Real-time incident-responsive signal control strategy under partially connected vehicle environment', *Journal of Advanced Transportation*, 8970695. DOI: 10.1155/2022/8970695

Coppola, P, Lobo, A (2022) 'Editorial: Inclusive and collaborative advanced transport: are we really heading to sustainable mobility?' *European Transport Research Review*, in press. DOI: 10.1186/s12544-022-00570-1

Couto, R, Duarte, F and Magalhães, A (2022) 'Mechanical systems for pavement energy harvesting: a state-of-the-art', *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 44(3), 6957-6969. DOI: 10.1080/15567036.2022.2105454

Duarte, F, Silva, A, Barbosa, M and Carvalho, L (2022) 'Road pavement energy harvesting: A technological, economical and cost-benefit analysis', *Energy Sources Part B: Economics, Planning, and Policy* 17(1). DOI: 10.1080/15567249.2022.2109776

Ferreira, S, Amorim, M, Lobo, A, Kern, M, Fanderl, N, Couto, A (2022) 'Travel mode preferences among German commuters over the course of COVID-19 pandemic', *Transport Policy* 126, 55-64. DOI: 10.1016/j.tranpol.2022.07.011

Fonseca, M, Capitão, S, Almeida, A and Picado-Santos, L (2022) 'Influence of Plastic Waste on the Workability and Mechanical Behaviour of Asphalt Concrete', *Applied Sciences* 12, 2146. DOI: 10.3390/app12042146

Gonçalves, J, Santos, B, and Oliveira, A (2022) 'Prioritization of railway proximity interventions: The case of the Portuguese railway network', *Case Studies on Transport Policy* 10(1), 559-571. DOI: 10.1016/j.cstp.2022.01.016

Justo-Silva, R, Simões, F and Ferreira, A (2022) 'Mechanistic-empirical pavement design guide applied to Portuguese pavement structures', *Applied Sciences* 12, 5656, 1-18. DOI: 10.3390/app12115656

EDITORIAL

Dear Reader,

This is my first editorial as CITTA Director, so my first words are to the previous CITTA Board to express my gratitude for their impressive work over these years, which I am sure is corroborated by all CITTA members. The current CITTA Board will make every effort to continue the work done so far. Obviously there will be differences, particularly in matters of management style and practical procedures, naturally, we are all different, even though the goals are the same.

FCT has recently postponed the preparation of the periodic evaluation process of the R&D Units 2022-2023, which includes the evaluation of activities for the period 2018-2022 and the planning for 2024-2027. It is expected now that submission of applications will be launched in October 2023. This measure will certainly allow us to prepare a smoother and continual transition to the next financial cycle, including obviously the careful preparation of the centre's pluriannual evaluation application.

Following the words of Paulo Pinho in the previous editorial of the CITTA newsletter, the energy-climate crisis, the covid years, and now the war in Europe, impacting entire cities, food and production chains, and, unfortunately, dragging the whole society to a new recession time, have been showing how dependent we are on our natural and built environment and, I would say, how much we have to change our habits and perspectives of everyday behaviour. These uncertain times are a crucial challenge and, at the same time, an opportunity to the societal value of research on spatial planning and transports. But this is certainly what society demands of us, the ability to rethink and renew themes and topics that respond to its needs. Being adaptable and creative is essential to attract financial resources to sustain and develop further a research centre like CITTA. I am confident that our research team will face the near future with the same cooperative and dedicated spirit as they have had to date.

Finally, I would like to take this opportunity to thank my colleagues of the management board for having accepted to be part of this new Board, namely: Adelino Ferreira, the Vice-Director, and Coordinator of RG4, who will make the effort to shorten the distance between Coimbra and Porto Universities, making the developed research in these universities, not two parts of CITTA but an unique and unified R&D Centre; Fernando Brandão Alves, Paulo Conceição and António Pais Antunes, who will coordinate the RG 1-3, the CITTA Secretary, Sílvia Sousa, who will bring the spirit and liveliness of the younger researchers to inside CITTA board, Joana Bailão, who will take the responsibility to work as CITTA Scientific Manager and, finally, Rute Pereira, who will give the technical informatic support to all Porto staff and will be responsible for producing the next Newsletters.

António Couto

RECENT PUBLICATIONS

Mota, B, Neto, B, Barroso, S, Aragão, F, Ferreira, A, Soares, J and Brito, L (2022) 'Characterization of piezoelectric energy production from asphalt pavements using a numerical-experimental framework', *Applied Energy* 14, 9584. DOI: 10.3390/su14159584

Santos, B, Passos, S, Gonçalves, J, and Matias, I (2022) 'Spatial multi-criteria analysis for road segment cycling suitability assessment', *Sustainability* 14(16), 9928. DOI: 10.3390/su14169928

Simões, A, Lobo, A, Ferreira, S, Rodrigues, C, Tavares, J, Couto, A, Cunha, L, and Neto, C (2022) 'Mapping risks and requirements for truck platooning: a human-centred approach'. In: T Ahram and R Taiar (Eds.) *Human Interaction, Emerging Technologies and Future Systems, Lecture Notes in Networks and Systems* 319, Springer, Cham, Switzerland, 514-522. DOI: 10.1007/978-3-030-85540-6_65

Tamagusko, T, Correia, M, Huynh, M and Ferreira, A (2022) 'Deep learning applied to road accident detection with transfer learning and synthetic images', *Transportation Research Procedia* 64, 90-97. DOI: 10.1016/j.trpro.2022.09.012

Zhang, Q, Wu, C, Zhang, H, Ferreira, S (2022) 'Comparative analysis of drowsiness and performance in conditionally automated driving and manual driving considering the effect of circadian rhythm', *Journal of Intelligent Transportation Systems*. DOI: 10.1080/15472450.2022.2130292

Capitão, S, Almeida, A and Picado-Santos, L (2022) 'Volumetric properties, workability, and mechanical performance of waste plastic-modified asphalt mixtures', Chapter 7, In: F Giustozzi, S Nizamuddin (Eds.) *Woodhead Publishing Series in Civil and Structural Engineering, Plastic Waste for Sustainable Asphalt Roads*, Woodhead Publishing, 117-144. DOI: 10.1016/B978-0-323-85789-5.00007-1

RESEARCH GROUP 4

In the last years, the COVID-19 pandemic had disrupted international supply chains causing major global concerns, and increasing the prices of goods and services. Today, due to the war in Ukraine, we are faced with increasing inflation and a global recession is predicted for the coming years. As a result, new research projects about territory, transport and the environment will be necessary in the next few years to try to mitigate these and other problems for the public at large and for countries.

The Transport Engineering and Management (TEM) CITTA research group has been contributing to a safe and high-quality mobility environment, through the design and implementation of innovative solutions of speed management, specifically by better understanding and modelling road user behaviour. At the same time, significant research and development work is being carried out in the areas of life-cycle assessment of transport infrastructures and towards improving the energy efficiency of urban transport infrastructures. Several researchers in this research group are enrolled in a significant number of research projects, such as: Brain Behaviour Analysis Using the Most Advanced Artificial Intelligence and Computer Vision (BBAI); Fostering Dynamic Adaptation of Smart Cities to Cope with Crises and Disruptions (DynamyCITY); Modernisation, Development and Capacity Building of Master Curriculum in Traffic Safety (ASIASAFE); Geotechnics for Safe and Sustainable Mine Tailings Management (GEOSTUSTAILINGS); Pavement Energy Harvesting Solutions (PAVENERGY); etc.

Results from these and other lines of research are being presented to academia and industry, in various articles published in international journals belonging to the Web of Science and Scopus databases. At the same time, these research studies have also been discussed and disseminated in relevant international and national conferences.

It is also worth mentioning the involvement of members of the TEM research group in significant collaborations with Portuguese Public Authorities responsible for different transport planning and management systems.

During 2022, the TEM CITTA research group had a total of 27 members, including 18 Integrated Researchers with PhD and 9 Integrated Researchers without PhD (PhD students). Between January 2021 and now, the TEM group has been responsible for the publication of 33 papers in ISI and SCOPUS Journals, which corresponds to a productivity rate of about 1.0 papers per senior researcher per year. This number is higher than the average number of 0.80 observed in the period 2013 - 2018 for the entire Centre, a performance that was then well above the European average for similar research centres. Nevertheless, there are reasons to believe that in the next few years the present productivity indicator may increase to 1.20 or more. We aspire to maintain the rating of Excellence for the centre in the next evaluations over a period of five years, with each senior academic member dedicated 50% to research authoring two papers per year, and each senior (fulltime) researcher authoring three papers per year published in ISI or SCOPUS journals.

An additional effort, involving all senior researchers, has to be made to ensure funding is approved for new research projects taking advantage of a new round of national and European funding calls that will open in 2023.

I wish you all the best for the final quarter of 2022 and for 2023.

Adelino Ferreira