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RECENT PUBLICATIONS

Almeida, A, Capitão, S, Bandeira, R, Fonseca, M & Picado-Santos, L (2020) 'Performance of AC mixtures containing flakes of LDPE plastic film collected from urban waste considering ageing', *Construction and Building Materials* 232, 117253.

Almeida, A, Moreira, J, Silva, J & Viteri, C (2021) 'Impact of traffic loads on flexible pavements considering Ecuador's traffic and pavement condition', *International Journal of Pavement Engineering* 22(6), 700-707.

Amado, H, Ferreira, S, Tavares, JP, Ribeiro, P., & Freitas, E. (2020) 'Pedestrian–vehicle interaction at unsignalized crosswalks: a systematic review', *Sustainability* 12(7), 2805.

Bobermin, M & Ferreira, S (2021) 'A novel approach to set driving simulator experiments based on traffic crash data', *Accident Analysis & Prevention* 150, 105938.

Bobermin, MP, Silva, MM, & Ferreira, S (2021) 'Driving simulators to evaluate road geometric design effects on driver behaviour: A systematic review'. *Accident Analysis & Prevention* 150, 105923.

Cvetkovic, M, Soares, D, Fonseca, P, Ferreira, S, & Baptista, JS (2020) 'Changes in Postures of Male Drivers Caused by Long-Time Driving'. In *Occupational and Environmental Safety and Health II* (pp. 491-498): Springer.

Ferreira, H, Rodrigues, CM, Pinho, C (2020) 'Impact of Road Geometry on Vehicle Energy Consumption and CO2 Emissions: An Energy-Efficiency Rating Methodology', *Energies* 13(1).

Ferreira, S., Couto, A., & Daniels, S. (2020) 'Letter from the Guest Editors: Safety, human factors and technology', *Journal of Safety Research* 72, 201-202.

Hasselwander, M, Tamagusko, A, Bigotte, J, Ferreira, A, Mejiab, A & Ferranti, E (2021) 'Building back better: The COVID-19 pandemic and transport policy implications for a developing megacity', *Sustainable Cities and Society* 69, 102864.

Lobo, A, Ferreira, S, & Couto, A (2020) 'Exploring monitoring systems data for driver distraction and drowsiness research', *Sensors* 20(14), 3836.

Lobo, A, Ferreira, S, Iglesias, I, & A Couto (2020) 'Daily and latent lagged effects of rainfall on pedestrian-vehicle collisions', Weather, Climate, and Society 12(2), 279-291.

EDITORIAL

Dear Reader,

The University of Porto is currently discussing a proposal to regulate the annual evaluation of the performance of all the research staff with an individual employment contract included under the umbrella of the so-called *scientific employment career*. At UPorto this career is subject to recently approved specific regulations (Reg. no. 487/2020, from 22nd of May). These general regulations include a chapter (Chap. VII) totally dedicated to the foundations of the performance evaluation process applicable to the present three categories of researchers, namely *Investigador Auxiliar* (Assistant Researcher), *Investigador Principal* (Principal Researcher) and *Investigador Coordenador* (Coordinator Researcher).

At the University of Coimbra, a similar discussion has been carried out by the Scientific Council based on the Reg. no. 334/2018, from 30th of May. However, in the case of UCoimbra, the discussion seems to emphasise more the different criteria to frame the renewal of the contracts and of the promotion processes and not so much the regular annual process of evaluation. In any case, both processes are closely related if not complementary, and deserve our reflection.

To start with, the adoption of a regular and structured evaluation process is a sound principle and a positive sign that the research career in Portuguese universities and research centres is finally maturing. After all, the different categories of the academic career - to which the research career has strong resemblances - have long been subject to similar annual performance evaluations. It is true that these evaluation processes always attract some criticisms, particularly when the criteria are not appropriate, well defined, sufficiently clear and, above all, critically supervised and scrutinised by an independent panel. Nevertheless, even with some mistakes and unfair judgements here and there, the overall benefits of a systematic and comprehensive evaluation process far exceed the possible weaknesses of such a process.

Having said that, the transposition of a similar method of evaluation from the academic career to the research career, with minor adjustments in the relative weights of the different assessment components, may not be sufficient to encompass the specificities of the research career. These specificities are particularly evident when confronting different scientific areas, from physical sciences and engineering to life sciences, social sciences, arts, or humanities. To make things more difficult, at CITTA, researchers frequently move between and within these different areas, working side-by-side in pluri- and interdisciplinary teams. To establish common quantitative and qualitative criteria will not be an easy task in these circumstances. To convince our two host institutions (UPorto and UCoimbra) that these specificities require tailored evaluation processes likely to contrast with similar processes applied elsewhere in other research centres will be even more difficult.

In practice, a move towards the adoption of new processes of evaluation based on fewer and more general performance indicators commonly used in international research assessments (such as the *h-index*), able to better illustrate these differences among scientific areas, seems a promising way forward. The adoption of aggregated indicators could also be extended to other evaluation components besides research, like lecturing, management activities and the provision of services.

Finally, particular attention has to be paid to the internal conditions offered at CITTA to our senior researchers in order to involve all of them, if they so wish, in lecturing (up to 4h/wk), management and service provision activities. In the near future, the evaluation processes they will be subject to will likely involve such activities as well. This also seems a just departure from present practices, allowing a better and fairer distribution of the burden of these duties between academics and researchers, both dedicated to working together to pave the future of our Centre.

Paulo Pinho

RECENT PUBLICATIONS

Miranda, H, Batista, F, Neves, J & Antunes, M (2020) 'Influence of the aggregate skeleton matrix and volumetric composition on the resistance of stone mastic asphalt to permanent deformation', *Road Materials and Pavement Design*, 1-14.

Miranda, H., Batista, F., Antunes, M. & Neves, J. (2020) 'Influence of laboratory aggregate compaction method on the particle packing of stone mastic asphalt', *Construction and Building Materials* 259, 119699.

Pereira, LC, Correia, G, Tavares, JP (2020) 'The Reversible Lane Network Design Problem (RL-NDP) for Smart Cities with Automated Traffic', *Sustainability* 12(3), 1-22.

Pereira, LC, Tavares, JP (2021) 'Envisioning Transport Policy in a Future with Autonomous Vehicles', *IEEE Potentials* 40(1), 38-42.

Piccone, G, Loprencipe, G, Almeida, A & Fiore, N (2020) 'Evaluation of the Performance of a Warm Mix Asphalt (WMA) Considering Aged and Unaged Specimens', *Coatings* 10, 1241.

Rodrigues, C, Capitão, S, Picado-Santos, L & Almeida, A (2020) 'Full Recycling of Asphalt Concrete with Waste Cooking Oil as Rejuvenator and LDPE from Urban Waste as Binder Modifier', *Sustainability* 12, 8222.

Santos, L, Correia, A & Coelho, P (2020) 'Post-wildfire slope stability effects and mitigation: a case study from hilly terrains with unmanaged forest', *SN Applied Sciences* 2(11), 1883.

Santos, L, Correia, A & Coelho, P (2020) 'Slopes instability phenomena and mitigation techniques after october 2017 wildfires in serra da estrela region', *Advances in Science, Technology and Innovation*, 81-85.

Silva, PB, Andrade, M, & Ferreira, S (2020) 'Machine learning applied to road safety modeling: a systematic literature review', *Journal of traffic and transportation engineering (English edition)*.

Soares, S, Ferreira, S, & Couto, A (2020) 'Driving simulator experiments to study drowsiness: A systematic review', *Traffic Injury Prevention*, 1-9.

Soares, S, Ferreira, S, & Couto, A (2020) 'Drowsiness and distraction while driving: A study based on smartphone app data', *Journal of Safety Research* 72, 279-285.

Soares, S, Monteiro, T, Lobo, A, Couto, A, Cunha, L, & Ferreira, S (2020) 'Analyzing driver drowsiness: from causes to effects', *Sustainability* 12(5), 1971.

Sousa, N, Almeida, A & Coutinho-Rodrigues, J (2020) 'A multicriteria methodology for estimating consumer acceptance of alternative powertrain technologies', *Transport Policy* 85, 18-32.

Tamagusko, T & Ferreira, A (2020) 'Data-driven approach to understand the mobility patterns of the Portuguese population during the COVID-19 pandemic', *Sustainability* 12, 9775, 1-12.

RESEARCH GROUP 4

For more than a year, the entire world has been living under a pandemic crisis. The COVID-19 pandemic, and the lockdown and social distancing mandates have disrupted the population's habits and activities worldwide. Despite this fact, the academic community has been developing unprecedented efforts to overcome this situation and help fighting COVID-19.

Thus, despite the adverse context, CITTA's Transport Engineering and Management Research Group (TEM RG) has been improving the quality and impact of its activities. This is particularly attested by more than twenty-five of peer-reviewed papers that have been recently published, many of them in lead journals in diverse areas, such as safety, transport technology, transport infrastructures and sustainability. A special recognition should be made to the work developed at CITTA Coimbra that provides new insights into the mobility patterns of the Portuguese population during the COVID-19 crisis.

Several members of TEM RG have also been involved in a significant number of research projects, such as the recently closed project AWAREE – *A data driven towards driver attention* (FCT/MIT Portugal), the ongoing projects SIMUSAFE – *Simulator of behavioural aspects for safer transport* (H2020) and AUTODRIVING – *Modelling the driver behaviour in automated driving* (FCT/COMPETE2020), and the starting project TRAIN – *Mapping risks and requirements for truck platooning using a driving simulator* (FCT).

On the educational side, the project ASIASAFE – *Modernisation, Development and Capacity Building of Master Curriculum in Traffic Safety in Asian Universities* (Erasmus+) started last February with the participation of six Asian and three European universities, among which is the University of Porto represented by TEM RG members. A recent R&D project entitled *Emission modelling within the model cities* has been performed by *Instituto da Construção* with an active collaboration of TEM RG members in the work package WP 2 – *Modelling and Simulation*.

Due to the pandemic situation, the organization of events was scarcer compared to previous years. The exceptions were the Workshop on Machine Learning in Smart Mobility (MLSM), held at IDEAL 2020 – 21st International Conference on Intelligent Data Engineering and Automated Learning (4-6 November, Guimarães, Portugal), in which Sara Ferreira acted as a member of the Organising Committee, and the participation of António Lobo in the Intelligent Mobility - Management and Operation Programme Committee of the European Transport Conference 2020 (9-11 September, online).

More recently, the kick-off meeting of the project TRAIN was held online on April 15th, 2021. This meeting engaged all partners (CITTA/FEUP, CPUP/FPCEUP and DREAMS/ULusófona) and advisory board members from different European universities (Chalmers University of Technology, Polytechnic University of Milan, and Technical University of Braunschweig) in the discussion of the research plan and opportunities for international collaboration.

Finally, it is also worth mentioning the collaboration of TEM RG members with Portuguese public authorities responsible for the planning and management of different transport systems. Especially relevant has been the collaboration of Sara Ferreira as Member of the Executive Council of Specialists of the Vision Zero 2030 strategy implemented by the National Road Safety Authority (ANSR). Also significant is the engagement of TEM RG members in editorial activities of international scientific journals, namely Sara Ferreira as Editorial Board Member of Journal of Safety and Research and António Lobo as Associate Editor of European Transport Research Review.

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