



1. Name and Academic rank: Rouba A. Joumblat, Ph.D., Assistant Professor, Faculty of Engineering, Department of Civil & Environmental Engineering, Beirut Arab University.

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2. Education: Degrees, discipline, institution and date:

- Ph.D. in Civil Engineering (Public Works), Beirut Arab University, Lebanon, 2017–2022. Dissertation: “Enhancing the Performance and Sustainability of Asphalt Mixture Containing Selected Alternative Materials.”
- Master of Engineering in Public Works, Beirut Arab University, Lebanon, 2017.
- Bachelor of Engineering in Civil and Environmental Engineering, with Distinction, Beirut Arab University, Lebanon, 2016.

3. Academic experience

- Beirut Arab University, Assistant Professor, September 2022–Present.
- Beirut Arab University, Lecturer, September 2017–August 2022, full-time.
- Beirut Arab University, Graduate Assistant, September 2016–May 2017.

4. Nonacademic experience

- 2013: Khatib and Alami, Beirut, Lebanon, Public Works Department.
- 2014: Senmarec Engineering for Consultancy, Beirut, Lebanon, Structural Department.
- 2015: Jamil Ibrahim Establishment, Beirut, Lebanon, Site Engineer.

5. Certification or professional registration

- Civil Engineer, member of the Order of Engineers and Architects of Beirut.

6. Current Membership in professional organization

- Member, American Society of Civil Engineers (ASCE).
- Member, RILEM (International Union of Laboratories and Experts in Construction Materials, Systems and Structures).
- RILEM technical committees (as listed in prior BAU CV): 279-WMR (Valorisation of Waste and Secondary Materials for Roads); 308-PAR (Performance-based Asphalt Recycling); 323-APD (Alternative Paving Materials, Design and Performance); APS (Alternative Paving Materials, Sustainability).
- Transportation Research Board (TRB) committees: AFK50 (Structural Requirements of Asphalt Mixtures) and AFD60 (Design and Rehabilitation of Asphalt Pavements).
- Former RILEM Representative for the Middle East and North Africa (MENA) Region, May 2022–January 2026.

7. Honors and Awards:

- 2022: Research Mobility Grant (€4,000), University of Santiago de Compostela, Spain.
- 2017: Scholarship for Continuous Study, Ph.D. degree, Public Works Department, Beirut Arab University.
- 2016: Scholarship for Continuous Study, Master’s degree, Public Works Department, Beirut Arab University.
- 2016: Second Place, BAU Engineering Day, “Suspended Steel Building” project.
- 2016: B.E. with Distinction, Beirut Arab University.

8. Service activities

Beirut Arab University: Teaching and academic service

- Undergraduate courses: Highway Engineering; Transportation Planning and Traffic Engineering; Traffic Safety.



- Postgraduate teaching areas: Highway Maintenance; Traffic Theory; Advanced Transportation Planning and Traffic Engineering; Pavement Engineering; Asphalt Binders and Mixtures for Pavements; Transportation Modeling; Railway Engineering; Transportation Facilities; Viscoelasticity.
- Supervision of final-year projects, master's theses and doctoral research; responsibility for the Highway Engineering Laboratory and support for laboratory-based student work.
- Course and curriculum development, academic assessment and quality assurance activities.

Editorial and peer-review service

- Editorial Board Member, Road Materials and Pavement Design.
- 128 reviews recorded in exported ORCID peer-review record as of October 2026, across 22 publication/grant entries. Journals include Buildings, International Journal of Pavement Engineering, Road Materials and Pavement Design, Environmental Science and Pollution Research, Scientific Reports, Transportation Research Record, and other outlets.



9. Principal publications and presentations

9.1 Journal publications and other scholarly works (chronological, newest first)

1. de Medeiros Melo Neto, O., Pereira Tavares Mendes, L., Minervina Silva, I., de Figueiredo Lopes Lucena, L. C., de Figueiredo Lopes Lucena, L., Alnaqbi, A., Youssef, A. M., & **Joumbat, R. A.** (2026). Measuring circularity in asphalt mixtures: A scoping review of methods, gaps, and challenges. *International Journal of Pavement Research and Technology*. <https://doi.org/10.1007/s42947-026-00914-3>
2. **Joumbat, R. A.**, Alnaqbi, A., Al-Khateeb, G., Elkordi, A., Youssef, A. M., de Medeiros Melo Neto, O., Polo-Mendoza, R., & Kassem, H. (2026). Performance assessment of hot-mix asphalt modified with metakaolin as a partial filler replacement: Experimental testing and computational modelling. *International Journal of Pavement Research and Technology*. <https://doi.org/10.1007/s42947-026-00833-3>
3. **Joumbat, R. A.**, Al-Smaily, A. M., de Medeiros Melo Neto, O., Youssef, A. M., & Soliman, M. R. (2026). Cooling and hydrological performance of porous asphalt pavements: A state-of-the-art review for urban climate resilience. *Sustainability*, 18(8), 3836. <https://doi.org/10.3390/su18083836>
4. Ramadan, S., Kassem, H., Elkordi, A., & **Joumbat, R. A.** (2026). Incorporating artificial intelligence applications in flexible pavements: A comprehensive overview. *International Journal of Pavement Research and Technology*, 19(4), 902–927. <https://doi.org/10.1007/s42947-024-00496-y>
5. Qabur, A., Fahmy, E. A., Youssef, A. M., Shaheen, M., Eisa, M. S., Aati, K., & **Joumbat, R. A.** (2026). Evaluating the impact of quality control deficiencies on asphalt concrete mix performance. *Innovative Infrastructure Solutions*, 11(1), Article 12. <https://doi.org/10.1007/s41062-025-02417-9>
6. Peñabazena-Niebles, R., Walubita, L. F., Guerrero-Bustamante, O., Martinez-Arguelles, G., Polo-Mendoza, R., & **Joumbat, R. A.** (2026). Formulating the enhanced thermo-stiffness integration master curve model and evaluating it across 74 asphalt mixtures. *Case Studies in Construction Materials*. In Press (Accepted for Publication).
7. **Joumbat, R. A.**, Taan, Y., Kassem, H., Elkordi, A., Alnaqbi, A., & Al-Khateeb, G. (2025). Multi-scale evaluation of waste glass as a fine aggregate replacement in asphalt mixtures: Machine learning interpretation and experimental characterization of performance. *Journal of Umm Al-Qura University for Engineering and Architecture*. <https://doi.org/10.1007/s43995-025-00264-4>
8. Ramadan, S., Kassem, H., Elkordi, A., & **Joumbat, R. A.** (2025). Advancing pavement sustainability: Assessing recycled aggregates as substitutes in hot mix asphalt. *Sustainability*, 17(12), 5472. <https://doi.org/10.3390/su17125472>
9. **Joumbat, R. A.**, Jawad, H., & Elkordi, A. (2024). Analysing travel patterns at Beirut Arab University, Lebanon: An in-depth characterization of travel behavior on campus. *Sustainability*, 16(18), 8254. <https://doi.org/10.3390/su16188254>
10. **Joumbat, R. A.**, Kassem, H., Elkordi, A., & Khatib, J. (2024). Use of alternative recycled fillers in bituminous mixtures: A review. In *Advance Upcycling of By-Products in Binder and Binder-Based Materials* (pp. 335–356). Woodhead Publishing. <https://doi.org/10.1016/B978-0-323-90791-0.00007-X>
11. Barraji, F., **Joumbat, R. A.**, & Elkordi, A. (2024). Evaluation of the validity of a minimum VMA requirement in Superpave mixtures. *International Journal of Pavement Research and Technology*, 17(1), 18–35. <https://doi.org/10.1007/s42947-022-00218-2>
12. **Joumbat, R. A.**, Al Basiouni Al Masri, Z., & Elkordi, A. (2023). Dynamic modulus and phase angle of asphalt concrete mixtures containing municipal solid waste incinerated fly ash as mineral filler substitution. *International Journal of Pavement Research and Technology*, 16(5), 1196–1216. <https://doi.org/10.1007/s42947-022-00190-x>
13. **Joumbat, R. A.**, Al Basiouni Al Masri, Z., Absi, J., & Elkordi, A. (2023). Investigation of using municipal solid waste incineration fly ash as alternative aggregates replacement in hot mix asphalt. *Road Materials and Pavement Design*, 24(5). <https://doi.org/10.1080/14680629.2022.2071756>



14. **Joumblat, R. A.**, Elkordi, A., Khatib, J. M., Al Basiouni Al Masri, Z., & Absi, J. (2023). Characterisation of asphalt concrete mixes with municipal solid waste incineration fly ash used as fine aggregates substitution. *International Journal of Pavement Engineering*, 24(4). <https://doi.org/10.1080/10298436.2022.2099855>
15. **Joumblat, R. A.**, Kassem, H. A., Al Basiouni Al Masri, Z., Elkordi, A., Al-Khateeb, G., & Absi, J. (2023). Performance evaluation of hot-mix asphalt with municipal solid waste incineration fly ash using the stress sweep rutting test. *Innovative Infrastructure Solutions*, 8, 261. <https://doi.org/10.1007/s41062-023-01230-6>
16. **Joumblat, R. A.**, Al Basiouni Al Masri, Z., Al-Khateeb, G., Elkordi, A., El Tallis, A. R., & Absi, J. (2023). State-of-the-art review on permanent deformation characterization of asphalt concrete pavements. *Sustainability*, 15(2), 1166. <https://doi.org/10.3390/su15021166>
17. Merhebi, G. H., **Joumblat, R. A.**, & Elkordi, A. (2023). Assessment of the effect of different loading combinations due to truck platooning and autonomous vehicles on the performance of asphalt pavement. *Sustainability*, 15(14), 10805. <https://doi.org/10.3390/su151410805>
18. El-Bastawissi, I. Y., El Baba, N., Khalil, S., El Hage, N., **Joumblat, R. A.**, & Gatzweiler, F. (2022). Partial systems' analysis of traffic noise reduction in Tarik Al Jadidah, Beirut. *BAU Journal, Creative Sustainable Development*, 3(2), Article 9. <https://doi.org/10.54729/URLW9540>
19. El-Bastawissi, I. Y., El Baba, N., Khalil, S., El Hage, N., **Joumblat, R. A.**, & Gatzweiler, F. (2022). Partial system analysis of traffic noise reduction in Tarik Al Jadidah, Beirut, Lebanon. In *Urban Health and Wellbeing Programme*. https://doi.org/10.1007/978-981-19-2523-8_9
20. Abou Shakra, J., **Joumblat, R. A.**, Khatib, J., & Elkordi, A. (2020). Corrosion of coated and uncoated steel reinforcement in concrete. *BAU Journal, Science and Technology*, 2(1), Article 4. <https://doi.org/10.54729/NXZC6026>

9.2 Conference presentations and proceedings

1. **Joumblat, R. A.** (2026). Oral research presentation on the circularity, carbon, and cost assessment of high-RAP asphalt mixtures incorporating babassu oil. Net Zero Future Conference, Darmstadt, Germany, September 30 to October 2, 2026. Conference proceedings forthcoming.

10. Professional development activities

- Visiting Professor, University of Minho, Braga, Portugal, 6–12 April 2025; undergraduate Highway Maintenance teaching activities.
- Invited Researcher / research mobility, University of Santiago de Compostela, Spain, 2 May–30 August 2022.
- Workshop: Safe Roadway and Highway Design, Al-Balqa Applied University, Amman, Jordan, Erasmus+ project, October 2018.
- Workshop: Road Design, Linköping University, Sweden, Erasmus+ project, October 2017.
- Workshop: Traffic Safety and Road Auditing, Gdańsk University of Technology, Poland, MENASAFE Erasmus+ project, April 2017.