Scientific Publications of Michele Griffa

Last update: April 1st 2024

Note 1: in green, articles where I'm a/the corresponding author.
Note 2: in red, PhD/Master/Bachelor student authors/co-authors at the time of the publication.
Note 3: the lists are sorted according to the publication dates, in discending order.

Articles in SCI(E) Journals

PUBLISHED

1. A. Velásquez, F. Marone, R. Kaufmann, **M. Griffa**, J. Jiménez-MartÍnez, *Phase Saturation Control on Vorticity Enhances Mixing in Porous Media*, Water Resources Research 60, e2023WR036628/1-19 (2024). DOI: 10.1029/2023WR036628.

2. M. Miljković, **M. Griffa**, B. Münch, M. Plamondon, P. Lura, *Mesostructural evolution of fine-aggregate bitumen emulsion-cement composites by X-ray tomography*, Int. J. Pavem. Eng. 25 (1), 2283610/1-27 (2024). DOI: 10.1080/10298436.2023.2283610.

3. Z. Hu, T. Cajuhi, N. Toropovs, **M. Griffa**, M. Wyrzykowski, A. Kaestner, L. De Lorenzis, P. Lura, *A neutron radiography study on the drying of cement mortars: Effect of mixture composition and crack length*, Cem. Concr. Res. **172**, 107245/1-18 (2022). DOI: 10.1016/j.cemconres.2023.107245.

4. M. Shakoorioskooie, **M. Griffa**, A. Leemann, R. Zboray, P. Lura, *Quantitative analysis of the evolution of ASR products and crack networks in the context of the concrete mesostructure*, Cem. Concr. Res. **162**, 106992/1-20 (2022). DOI: 10.1016/j.cemconres.2022.106992. Supplementary Data.

5. A. Leemann, M. Bagheri, B. Lothenbach, K. Scrivener, S. Barbotin, E. Boehm-Courjault, G. Geng, R. Dähn, Z. Shi, M. Shakoorioskooie, **M. Griffa**, R. Zboray, P. Lura, E. Gallyamov, R. Rezakhani, J.-F. Molinari, *Alkali-silica reaction – A multidisciplinary approach*, RILEM Tech. Letters **6**, 169-187 (2021). DOI: 10.21809/rilemtechlett.2021.151. Supplementary Data.

6. M. Shakoorioskooie, **M. Griffa**, A. Leemann, R. Zboray, P. Lura, *Alkali-silica reaction products and cracks: X-ray micro-tomography-based analysis of their spatial-temporal evolution at a mesoscale*, Cem. Concr. Res. **150**, 106593/1-16 (2021). DOI: 10.1016/j.cemconres.2021.106593. arXiv pre-print Nr. 2105.15092. Supplementary Data.

7. P. Zhong, Z. Hu, **M. Griffa**, M. Wyrzykowski, J. Liu, P. Lura, *Mechanisms of internal curing water release from retentive and non-retentive superabsorbent polymers in cement paste*, Concr. Cem. Res. **147**, 106494 (2021). DOI: 10.1016/j.cemconres.2021.106494. Abstract.

8. M. Wyrzykowski, S. Ghourchian, B. Münch, **M. Griffa**, A. Kaestner, P. Lura, *Plastic shrinkage of mortars cured with a paraffin-based compound. Bimodal neutron/X-ray tomography study*, Cem. Concr. Res. **140**, 106289 (2021). DOI: 10.1016/j.cemconres.2020.106289. Abstract.

9. Z. Zhang, M. Shakoorioskooie, **M. Griffa**, P. Lura, U. Angst, *A laboratory investigation of cutting damage to the steel-concrete interface*, Cem. Concr. Res. **138**, 106229 (2020). DOI: 10.1016/j.cemconres.2020.106229. Abstract.

10. Z. Hu, M. Wyrzykowski, **M. Griffa**, K. Scrivener, P. Lura, *Young´s modulus and creep of calcium-silicate-hydrate compacts measured by microindentation*, Cem. Concr. Res. **134**, (2020). DOI: 10.1016/j.cemconres.2020.106104. Abstract.

11. F. Marone, C.M. Schlepütz, S. Marti, F. Fusseis, A. Velásquez-Parra, **M. Griffa**, J. Jiménez-Martínez, K.J. Dobson, M. Stampanoni, *Time resolved in-situ X-ray tomographic microscopy unraveling dynamic processes in geologic systems*, Frontiers in Earth Science **7**, 346 (2020). DOI: 10.3389/feart.2019.00346. Abstract.

12. H. Guo, P. Warnicke, **M. Griffa**, U. Müller, Z. Chen, R. Schaeublin, Z. Zhang, M. Lukovic, *Hierarchical Porous Wood Cellulose Scaffold with Atomically Dispersed Pt Catalysts for Low-Temperature Ethylene Decomposition*, ACS Nano **13**(12), 14337 – 14347 (2019). DOI: 10.1021/acsnano.9b07801. Abstract.

13. P. Zhu, S. Brunner, S. Zhao, **M. Griffa**, A. Leemann, N. Toropovs, A. Malekos, M. Koebel, P. Lura, *Aerogel-cement mortars for improving the fire safety of high-performance concrete linings in tunnels*, Cem. Concr. Compos. **104**, 103414/1-11 (2019). DOI: 10.1016/j.cemconcomp.2019.103414. Abstract.

14. H. Guo, M. Lukovic, M. Mendoza, C. Schlepütz, **M. Griffa**, B. Xu, S. Gaan, H. Herrmann, I. Burgert, *Bioinspired Struvite Mineralization for Fire-Resistant Wood*, ACS Appl. Mater. Interfaces **11**, 5427 – 5434 (2019). DOI: 10.1021/acsami.8b19967. Abstract.

15. S. Iswar, **M. Griffa**, R. Kaufmann, M. Beltran, L. Huber, S. Brunner, M. Lattuada, M.K. Koebel, W.J. Malfait, *Effect of aging on thermal conductivity of fiber-reinforced aerogel composites: An X-ray micro-tomography investigation*, Micropor. Mesopor. Mat. 278, 289-296 (2019). DOI: 10.1016/j.micromeso.2018.12.006. Abstract.

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17. E. Franzoni, A. Leemann, **M. Griffa**, P. Lura, *The „Terranova“ render of the Engineering Faculty in Bologna (Giuseppe Vaccaro, 1931-1935): An example of outstanding durability*, Materials and Structures **50**, 221/1-14 (2017). DOI: 10.1617/s11527-017-1083-x. Abstract.

18. S. Josset, L. Hansen, P. Orsolini, **M. Griffa**, O. Kuzior, B. Weisse, T. Zimmermannm, T. Geiger, *Microfibrillated cellulose foams obtained by a straightforward freeze-thawing-drying procedure*, Cellulose **24** (9), 3825-3842 (2017). DOI: 10.1007/s10570-017-1377-8. Abstract.

19. B.W. Hailesilassie, I. Jerjen, **M. Griffa**, M. Partl, *A closer scientific look at foam bitumen*, Road Mat. Pav. Design **18**(2), 362-375 (2017). DOI: 10.1080/14680629.2016.1213513. Abstract.

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(18 pages) (2017). DOI: 10.3390/polym9020078. Abstract.

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23. F. Yang, **M. Griffa**, A. Bonnin, R. Mokso, C. Di Bella, B. Münch, R. Kaufmann, P. Lura, *Visualization of water drying in porous materials by X-ray phase contrast imaging*, J. Microscopy **261**(1), 88-104 (2016). DOI: 10.1111/jmi.12319. Abstract.

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25. E. Franzoni, G. Graziani, E. Sassoni, G. Bacilieri, **M. Griffa**, P. Lura, *Solvent-based ethyl silicate for stone consolidation: influence of the application technique on penetration depth, efficacy and pore occlusion*, Mat. Struct. **48**, 3503-3515 (2015). DOI: 10.1617/s11527-014-0417-1. Abstract.

26. C. Di Bella, M. Wyrzykowski, **M. Griffa**, P. Termkhajornkit, G. Chanvillard, H. Stang, A. Eberhardt, P. Lura, *Application of microstructurally-designed mortars for studying early-age properties: Microstructure and mechanical properties*, Cem. Concr. Res. **78**, 234-244 (2015). DOI: 10.1016/j.cemconres.2015.08.001. Abstract.

27. F. Yang, F. Prade, **M. Griffa**, I. Jerjen, C. Di Bella, J. Herzen, A. Sarapata, F. Pfeiffer, P. Lura, *Dark-field X-ray imaging of unsaturated water transport in porous materials*, Appl. Phys. Lett. **105**, 154105 (2014). DOI: 10.1063/1.4898783. Abstract.

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225, 2227-2237 (2014). DOI: 10.1007/s00707-014-1136-y. Pre-print available at http://arxiv.org/abs/1401.6308. Abstract.

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34. H. Derluyn, **M. Griffa**, D. Mannes, I. Jerjen, J. Dewanckele, P. Vontobel, A. Sheppard, D. Derome, V. Cnudde, E. Lehmann, J. Carmeliet, *Characterizing saline uptake and salt profiles in porous limestone with neutron radiography and X-ray micro-tomography*, J. Build. Phys **36** (4), 353-374 (2013). DOI:10.1177/1744259112473947.

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36. **M. Griffa**, B. Ferdowsi, R.A. Guyer, E.G. Daub, P.A. Johnson, C. Marone, J. Carmeliet, *Influence of vibration amplitude on dynamic triggering of slip in sheared granular layers*, Phys. Rev. E **87** (1), 012205 (2013). DOI: 10.1103/PhysRevE.87.012205. Abstract.

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56. **M. Griffa**, M. Scalerandi, C. Camagna, *Influence of the Medium Rigidity on the Growth of Multicellular Tumor Spheroids*, European Physical Journal: Applied Physics **30**, 65-71 (2005).

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ACCEPTED

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Papers in non-SCI(E) Journals

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2. S. Hu, F. Yang, **M. Griffa**, R. Kaufmann, G. Anton, A. Maier, C. Riess, *Towards quantification of kidney stones using X-ray dark-field tomography*, Proceed. of the 14th IEEE International Symposium on Biomedical Imaging, April 18th – 21st 2017, Melbourne, Australia. **Abstract**. DOI: **10.1109/ISBI.2017.7950711**.

3. U.M. Arepalli, R.B. Mallick, P. Mathisen, L. Poulikakos, **M. Griffa**, S. Hartmann, D. Nener-Plante, *A study of hot mix asphalt (HMA) susceptible to moisture induced material loss*, Proceed. of 96th Annual Meeting of the Transportation Research Board, Paper n° 17-04156. **Abstract**.

4. F. Yang, **M. Griffa**, A. Hipp, H. Derluyn, P. Moonen, R. Kaufmann, M. Boone, F. Beckmann, P. Lura, *Advancing the visualization of pure water transport in porous materials by fast, Talbot interferometry-based multi-contrast X-ray Micro-Tomography*, Proceed. SPIE 9967, Paper 99670L, „Development of X-ray Tomography X“, Aug. 28Th – Sept. 1St 2016, San Diego (CA), USA (August 2016). DOI: 10.1117/12.2236221. **Abstract**.

5. L. Poulikakos, **M. Griffa**, M.C. Cavalli, M. Partl, *Digital sieving as a tool for designing high RAP mixtures*, International Symposium on Asphalt Pavements and

Environment (ISAP2016) and 53rd Annual Petersen Asphalt Research Conference, July 18th - 21st 2016, Western Research Institute, Jackson Hole (USA).

6. R. Kaufmann, F. Yang, M. Beltran, S. Hartmann, **M. Griffa**, P. Lura, A. Neels, *Dark-Field Imaging on Micro- and Macro-Focus Sources in Comparison with Normal Micro-CT for Building Materials*, Proceed. 19th World Conference on Non-Destructive Testing (WCNDT 2016), June 13th - 17th 2016, Munich (Germany).

7. R. Kaufmann, F. Yang, F. Prade, **M. Griffa**, I. Jerjen, C. Di Bella, J. Herzen, A. Sarapata, F. Pfeiffer, P. Lura, A. Neels, *Enhancing X-ray imaging of liquids in porous materials*, Proceedings of the Digital Industrial Radiology and Computed Tomography (DIR2015) conference, June 22nd - 25th 2015, Ghent (Belgium).

8. R. Kaufmann, A. Flisch, **M. Griffa**, S. Hartmann, J. Hofmann, I. Jerjen, Y. Liu, T. Lüthi, A. Neels, M. Plamondon, F.A. Reifler, P. Schuetz, C. Stritt, F. Yang, A. Dommann, *New directions in X-ray tomography*, Proceedings of the 11th European Conference on Non-Destructive Testing (ECNDT 2014), September 6th - 10th 2014, Prague (Czech Republic).

9. B. Weber, M. Wyrzykowski, **M. Griffa**, S. Carl, E. Lehmann, P. Lura, *Neutron radiography of heated high-performance mortar*, MATEC Web of Conferences **6**, 03004 (2013). DOI: 10.1051/matecconf/20130603004. Abstract. 3rd International Workshop on Concrete Spalling due to Fire Exposure (Fire Spalling 2013), September 25th - 27th 2013, Paris (France). Peer-Reviewed.

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Lake City, Utah, USA (Peer-Reviewed).

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16. TJ Ulrich, B.E. Anderson, **M. Griffa**, *Improving Focal Determination of Time Reversed Acoustic Signals*, Proceedings of QNDE (Quantitative Non-Destructive Evaluation) 2007 Conference, July 22nd - 27th 2007, Golden, Colorado, USA.

17. B.E. Anderson, P.A. Johnson, TJ Ulrich, **M. Griffa**, *Complex source imaging using time-reversal (TR): experimental studies of spatial and temporal resolution limits*, Proceedings of the 153rd Meeting of the Acoustical Society of America, June 4th - 8th 2007, Salt Lake City, Utah, USA.

18. **M. Griffa**, P.A. Johnson, R.A. Guyer, T.J. Ulrich, B.E. Anderson, Time Reversal Acoustics (TRA) reconstruction of symmetric-in-time sources in solid elastic specimens: investigation of the effects of finite-size transducers on TRA in solids, Proc. XII International Workshop on Nonlinear Elasticity in Materials (IWNEM), Ajaccio (Corsica), June 3rd - 9th 2007.

19. M. Nobili, F. Bosia, A. Gliozzi, **M. Griffa**, M. Scalerandi, *Acoustic Emission and Nonlinear Elasticity in Fatigue Induced Damage*, Proceedings of the 12th International Congress on Sound and Vibration – ICSV12 – Lisbon, July 11th - 14th 2005.

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22. S. Delsanto, L. Morra, **M. Griffa**, C. Demartini, A Genetic Algorithms' Approach to the Exploration of Paramter Space in Mesoscopic Multicellular Tumor Spheroids Models, Conference Proceedings, IEEE EMBC 2004 (26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society), 1-5 Sept. 2004, Vol. 1, 675-678;

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