

Giulia Fratoni

Publicazioni su riviste internazionali (peer review)

1. **Fratoni G.**, Garai M., & D'Orazio D., Assessment of modal density and free path distribution in circular ancient halls, in revisione per la rivista Journal of Acoustical Society of America (JASA), 2023 (*ongoing process*)
2. **Fratoni G.**, D'Orazio D., Ducceschi M., & Garai M., Acoustic analysis of a well-preserved Renaissance music space: the Odeo Cornaro in Padua, in revisione per la rivista Acta Acustica, 2023 (*ongoing process*)
3. **Fratoni, G.**, Hamilton, B., & D'Orazio, D. (2022). Feasibility of a finite-difference time-domain model in large-scale acoustic simulations. The Journal of the Acoustical Society of America, 152(1), 330-341.
4. Cingolani, M., Fusaro, G., **Fratoni, G.**, & Garai, M. (2022). Influence of thermal deformations on sound absorption of three-dimensional printed metamaterials. The Journal of the Acoustical Society of America, 151(6), 3770-3779.
5. Cingolani, M., **Fratoni, G.**, Barbaresi, L., D'Orazio, D., Hamilton, B., & Garai, M. (2021). A trial acoustic improvement in a lecture hall with MPP sound absorbers and FDTD acoustic simulations. Applied Sciences, 11(6), 2445.
6. D'Orazio, D., **Fratoni, G.**, & Garai, M. (2020). Enhancing the strength of symphonic orchestra in an opera house. Applied Acoustics, 170, 107532.
7. D'Orazio, D., **Fratoni, G.**, Rovigatti, A., & Garai, M. (2020). A virtual orchestra to qualify the acoustics of historical opera houses. Building Acoustics, 27(3), 235-252.
8. **Fratoni, G.** (2020). The Sound of a Monumental Architecture. Canadian Acoustics, 48(2).
9. D'Orazio, D., **Fratoni, G.**, Rossi, E., & Garai, M. (2020). Understanding the acoustics of St. John's Baptistery in Pisa through a virtual approach. Journal of Building Performance Simulation, 13(3), 320-333.
10. **Fratoni, G.**, D'Orazio, D., & Barbaresi, L. (2019). Acoustic comfort in a worship space made of cross-laminated timber. Building Acoustics, 26(2), 121-138.
11. D'Orazio, D., **Fratoni, G.**, & Garai, M. (2017). Acoustics of a chamber music hall inside a former church by means of sound energy distribution. Canadian Acoustics, 45, 7-17.

Atti di convegni internazionali

1. **Fratoni, G.**, D'Orazio, D., & Garai, M. Uncertainty of input data for wave-based room acoustic simulations in large non-trivial environments. Forum Acusticum (FA 2023), Torino, 11-15 settembre
2. **Fratoni, G.**, D'Orazio, D., Ducceschi, M., & Garai, M. The coupled rooms of Odeo Cornaro (1534) as support for Renaissance musicians and soloists. 24° International Congress on Acoustics (ICA), Gyeongju (Corea), 24-28 ottobre.

3. **Fratoni, G.**, D'Orazio, D., Barbaresi, L., Garai, M., & Cappellini, L. Mixing materials in false ceilings to increase sound diffusion in education spaces. *Internoise, Glasgow (Regno Unito)*, 21-24 agosto.
4. **Fratoni, G.**, D'Orazio, D., Ducceschi, M., & Garai, M. (2022). Acoustic analysis of a well-preserved Renaissance music space: the Odeo Cornaro in Padua. *2° International Symposium on The Acoustics of Ancient Theatres, Verona*, 6-8 luglio.
5. D'Orazio, D., **Fratoni, G.** (2022). The Loggia Cornaro (1524) as a bridge between the ancient and the modern theatre. *2° International Symposium on The Acoustics of Ancient Theatres, Verona*, 6-8 luglio.
6. **Fratoni, G.**, Hamilton, B., & D'Orazio, D. (2021, September). Rediscovering the Acoustics of a XII-Century Rotunda through FDTD Simulation. In *2021 Immersive and 3D Audio: from Architecture to Automotive (I3DA)* (pp. 1-8). IEEE.
7. **Fratoni, G.**, D'Orazio, D., De Salvio, D., & Garai, M. (2021). Acoustical comfort in university lecture halls: simulating the dynamic role of occupancy. *Proceedings of the 17th IBPSA, Bruges, Belgium*, 1-3.
8. **Fratoni, G.**, D'Orazio, D., Rossi, E., & Rovigatti, A. (2020, December). Some Considerations on Sound Propagation in a Cylindrical Worship Space. In *Forum Acusticum* (pp. 1905-1906).
9. D'Orazio, D., **Fratoni, G.**, & Rossi, E. (2020, December). Improving the acoustic quality of a food court by using rate spatial decay. In *Forum Acusticum* (pp. 3053-3054).
10. **Fratoni G.**; Rovigatti A.; Garai M., An attempt to rank Italian historical opera houses based on numerical simulations, in *Proceedings of 4th Building Simulation Applications Conference BSA 2019, Bolzano, BU Press, 2020, 1*, pp. 157 – 164.
11. D'Orazio, D., **Fratoni, G.**, & Garai, M. (2019). Overhead stage canopies in a coupled volume theatre: Effects on the sound energy distribution and on the secondary reverberation. *The Journal of the Acoustical Society of America*, 146(4), 2802-2802.
12. Hamilton, B., Newton, M. J., **Fratoni, G.**, & D'orazio, D. (2019, September). On the acoustics of St Cecilia's hall: Measurements and comparison of wave-based and geometrical acoustics modelling. In *International Symposium on Room Acoustics*.
13. D'Orazio, D., **Fratoni, G.**, Rovigatti, A., & Hamilton, B. (2019). Numerical simulations of Italian opera houses using geometrical and wave-based acoustics methods (pp. 5994-5996). *Universitätsbibliothek der RWTH Aachen*.
14. Rovigatti, A., Rossi, E., **Fratoni, G.**, D'Orazio, D., & Garai, M. (2019). A Virtual Acoustic Restitution of St John's Baptistery in Pisa. *Universitätsbibliothek der RWTH Aachen*.
15. **Fratoni, G.**, D'Orazio, D., De Salvio, D., & Garai, M. (2019). Predicting speech intelligibility in university classrooms using geometrical acoustic simulations. *Proceedings of the 16th IBPSA, Rome, Italy*, 2-4.

Publicazioni su riviste nazionali

1. **Fratoni, G.**, D'Orazio, D. Incremento dell'intelligibilità del parlato in un'aula mediante installazione di sistemi line array, *Rivista Italiana di Acustica Vol. 41 (2018), N. 4*, pp. 27-39.

2. D'Orazio, D., **Fratoni, G.**, & Garai, M. (2017). Acoustic design of a multipurpose hall inside a former church. *IN_BO. Ricerche e progetti per il territorio, la città e l'architettura*, 8(11), 570-582.

Tesi di dottorato

Fratoni, G. (2021). Standardization of procedures and calculation models for the numerical simulation of acoustics of enclosed spaces. Ph.D. dissertation, University of Bologna.

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Giulia Fratoni