

NPL Bibliography 2024 - 2025

Selected Publications, 2024-2025

Underwater Acoustics

Ainslie, M.A., Robinson, S.P., Harris, P.M., Tyack, P.L., Halvorsen, M.B., Cheong, S-H, Livina, V and Wang, L.S. "Ocean soundscapes and trends from 2003 to 2021 at 10-100 Hz", *J. Acoust. Soc. Am.* **157** (6), 4358-4384, 2025. <https://doi.org/10.1121/10.0036831>

Yubero R, de Jong, C.A.F., Ainslie, M.A.A., MacGillivray, A.O., and Wang, L. "Measuring vessel source level in shallow water using the smoothed semi-coherent image method", *J. Acoust. Soc. Am.* **157** (3), 1938-1954, 2025. <https://doi.org/10.1121/10.0036140>

Ainslie, M.A., Robinson, S.P., Barham R.G. "Fractional octave and fractional decade frequency bands in acoustics", *J. Acoust. Soc. Am.* **158**, 2025. *In press*

Malcher, F., Ford, B., Barham, R., Robinson, S., Bridges, A., Cheong, S-H, Wang L, Ward, J., Rodrigues, D., Barrera-Figueroa, S. "A calculable pistonphone for the absolute calibration of hydrophones in the frequency range from 0.5 Hz to 250 Hz", *Metrologia*, 61, 025011, 2024. <https://doi.org/10.1088/1681-7575/ad2d5a>

Lepper P A, Cheong S-H, Robinson S P, Wang L, Hartley J P, Tougaard, J., and Griffiths E. "In-situ comparison of high-order detonations and low-order deflagration methodologies for underwater unexploded ordnance (UXO) disposal", *Marine Pollution Bulletin*, vol. 199, 115965, 2024. DOI: <https://doi.org/10.1016/j.marpolbul.2023.115965>

Basan F., Fischer J-G., Putland R, Brinkkemper, J, de Jong C.A.F., Binnerts B., Norro A., Kühnel D., Odegaard L.-A., Andersson M., Lalander E., Tougaard J., Griffiths E., Kosecka M., Edwards E., Merchant N. D, de Jong K., Robinson, S. Wang, L. and Kinneing N. "The underwater soundscape of the North Sea", *Marine Pollution Bulletin*, vol. 198, 115891, 2024. DOI: <https://doi.org/10.1016/j.marpolbul.2023.115891>

Oihane Fernandez-Betelu, Isla M. Graham, Freya Malcher, Emily Webster, Sei-Him Cheong, Lian Wang, Stephen Robinson, Virginia Iorio-Merlo, Paul M. Thompson. "Characterising underwater noise and changes in harbour porpoise behaviour during the decommissioning of an oil and gas platform", *Marine Pollution Bulletin*, vol. 200, 116083, 2024. <https://doi.org/10.1016/j.marpolbul.2024.116083>

Lepper P A, Robinson S P, Cheong S-H, Wang L, Tougaard J, Griffiths E T, Hartley J. "Deflagration: A Method For Lowering Noise From Underwater Unexploded Ordnance (UXO) Clearance Operations", In: Popper, A.N., Sisneros, J., Hawkins, A.D., Thomsen, F. (eds) *The Effects of Noise on Aquatic Life* . Springer, Cham. 2024. https://doi.org/10.1007/978-3-031-10417-6_79-1

Medical Ultrasound

H. Koruk & A. Pouliopoulos. Investigation of the Motion of a Spherical Object Located at Soft Elastic and Viscoelastic Material Interface for Identification of Material Properties. *Applied Science and Engineering Progress*, Vol. 17, No. 4 (Special Issue), 2024, 7277. DOI: <https://10.14416/j.asep.2023.12.002>

H. Koruk, H.O. Koc, S.B. Yurdaer, et al. A New Approach for Measuring Viscoelastic Properties of Soft Materials Using the Dynamic Response of a Spherical Object Placed at the Sample Interface. *Exp Mech* 64, 21-32 (2024). <https://doi.org/10.1007/s11340-023-01004-2>

H. Koruk, S. Rajagopal. A Comprehensive Review on the Viscoelastic Parameters Used for Engineering Materials, Including Soft Materials, and the Relationships between Different Damping Parameters. *Sensors*. 2024; 24(18):6137. <https://doi.org/10.3390/s24186137>

G. Durando, F. Vurro, F. Saba, A. M. Ivory, R. de M. Baesso, P. Miloro, A. E. Spinelli. Combination of US hyperthermia and radiotherapy on a preclinical glioblastoma model. *Sci Rep* 14, 19878 (2024). <https://doi.org/10.1038/s41598-024-70838-0>

S. Carlucci, C. Lees, P. Miloro, I. Papastefanou, G. T. Haar, A. Dall'Asta, On Behalf of the Safety Committee of the International Society of Ultrasound in Obstetrics and Gynecology, Doppler ultrasound and first trimester pregnancy: not always a happy marriage, *Human Reproduction*, Volume 39, Issue 10, October 2024, Page 2371, <https://doi.org/10.1093/humrep/deae176>

S. Carlucci, C. Lees, P. Miloro, I. Papastefanou, G. T. Haar, A. Dall'Asta. Safety Committee of the International Society of Ultrasound in Obstetrics and Gynecology. First-trimester ultrasound and research: should we keep driving without a license? *Ultrasound Obstet Gynecol.* 2025 Aug 20. doi: 10.1002/uog.29315

W. Vale, J. Bamber, H. Koruk, G. Carneiro, L. Florescu. Deep learning for photoacoustic imaging of CAR-T cells in cancer immunotherapy. Proc. SPIE 13412, Medical Imaging 2025: *Ultrasonic Imaging and Tomography*, 134120K (10 April 2025); <https://doi.org/10.1117/12.3046979>

Hasan Koruk, Chris Payne, Paul Cressey, Maya Thanou, Antonios N. Pouliopoulos. Delivering Gd-Labeled IgG Antibodies Into the Mouse Brain Following Focused Ultrasound Treatment. *Ultrasound in Medicine & Biology*, Vol. 51, Issue 6, 2025, Pages 1018-1027. <https://doi.org/10.1016/j.ultrasmedbio.2025.02.015>