Special Issue

Photoacoustic Sensing Techniques

Message from the Guest Editor

Quantitative analysis of gas concentrations became a topic of great importance in the recent century. This occurred because of the high demand for reliable sensors to implement in numerous fields, including environmental monitoring, medical sensors, security control and industrial process monitoring. Among the various techniques, photoacoustic spectroscopy (PAS) is proving to be an excellent alternative, compared to bulkier and high-performing devices, in terms of quantification of gas species in a specific matrix. This is due to its easy implementation and transport, small investigation volumes and absence of background signal. The PAS technique, on the one hand, enjoys excellent accuracy, especially through recent studies aimed at understanding and mitigating non-linearities due to non-radiative relaxation. On the other hand, through the use of innovative materials and additive technologies, such as 3D printing, this technique is becoming particularly approachable at a low cost, paving the way for large-scale use in many fields.

Guest Editor

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