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Sommario/riassunto	<p>Plasmonic optical biosensors allow label-free and highly sensitive detection of analytes, usually within a dedicated microfluidic system that brings the sample to the biosensor surface. Since the nineties, an optical fiber counterpart to the bulky Kretschmann prism configuration implemented in most commercial systems is investigated and developed to allow in situ measurements with a miniaturized system. Thanks to straightforward light injection and considering the optical fiber geometry, such developments indeed allow remote operation in very small volumes of analytes of the order of 10 L or even less. The plasmonic optical fiber technology is now mature to such a degree that it becomes to be industrialized. Various configurations comprising unclad/etched multimode optical fibers, D-shaped fibers, U-bent fibers, interferometers, and optical fiber gratings (tilted and long period fiber gratings) were reported. When combined with thin metal films or nanoparticles and functionalized with antibodies, aptamers or other relevant bioreceptors, they show unprecedented performance in terms of sensitivity and limit of detection. Also, the target applications are ever growing, covering biomedical sensing, environmental sensing, and food quality monitoring, among others. This will be a great resource for photonics Engineers and Bioengineers (Industrial engineers and researchers).</p>

