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Fluorescent Carbon Dots and Their Sensing Applications

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Message from the Guest Editors

Dear Colleagues,

In recent years, carbon dots (CDs) have attracted considerable attention for their potential applications in photonics, lasing, photocatalysis, chemical and biological sensing, and bioimaging. CDs exhibit photochemical stability, low toxicity, and exceptional optical properties, such as high quantum yield and tunable photoluminescence. The mentioned properties and applications depend on the precursors and the synthesis process, which, in turn, govern the structure of the final products.

This Special Issue will present the different aspects of CDs, namely synthesis and structural and optical properties, with a particular focus on the sensing mechanisms through fluorescence. These main topics can be addressed both experimentally and theoretically. Review articles on both optical properties and applications of CDs are also welcome.

Keywords:

- carbon dots
- fluorescence
- sensing
- synthesis of carbon nanostructures
- carbon-based nanomaterials
- fluorophores