

# Exploring the interactions between gallium-based nanodroplets and biological systems for biomedical applications

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Gallium (Ga) compounds, known for their role as a source of Ga ions ( $\text{Ga}^{3+}$ ) in anti-inflammatory applications, have rarely been reported in the form of metallic nanoparticles. In this presentation, I will showcase our research on the interactions between gallium-based nanodroplets and biological systems, with a specific emphasis on macrophages [1,2]. Additionally, I will provide updates on our ongoing work, centring on comprehending the interactions between Ga nanodroplets and small biomolecules. Furthermore, I will introduce findings from our prior studies that explored the potential of gallium-based nanodroplets for sensing and biosensing applications [3, 4]. This talk aims to offer an overview of our recent endeavours in understanding the intrinsic functionalities of Ga-based nanodroplets in biological systems and exploring their versatile applications in the fields of biomedicine and biosensing.

## Reference:

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