Exploring the role of the gut microbiome on conventional nanomedicines

*Paul Joyce**

Centre for Pharmaceutical Innovation
University of South Australia
Adelaide, South Australia, Australia
Email: paul.joyce@unisa.edu.au

Increasing attention is being afforded to understanding the bidirectional interaction that exists between the gut microbiome and drugs. This is because the microbiome can impact all aspects of pharmacokinetics, while drugs can modulate the composition and diversity of the GI microbial ecosystem [1]. Often overlooked within this rapidly growing field of pharmacomicrobiomics is the impact of the gut microbiome on nanomedicines [2]. Subsequently, the focus of this work was to understand the mechanisms by which the gut microbiome alters the activity of orally and systemically administered nanomedicines. For the first time, we highlight that a bidirectional relationship exists between the gut microbiome and conventional nanomedicines.

References:

[1] Kamath, S.; et al. *Expert Opinion on Drug Delivery* **2023**, *20*, 1315-1331
[2] Meola, T.; et al. *Advanced Functional Materials* **2024**, 2403914.