

The **Tang Lab** (EECE) studies the effects of nanoparticles – sizes, shapes, surface charges, compositions – on bacteria physiology. Specifically, they investigate the stress response of human related enterobacterium (*E.coli*) and environmental bacteria (*S. oneidensis*) in the presence of nanoparticles. They determine changes in growth kinetics, membrane protein function and *in vivo* enzymatic activity due to exposure to nanoparticles and use proteomics and isotopomer based metabolic flux analysis to study the mechanism of toxicity in microorganisms. The findings will be helpful in determining the mode of toxicity and the usefulness for inhibiting unwanted microbial activity. This research may lead to the discovery of new medicine to treat disease such as *tuberculosis*.

Tang, Y. J., Ashcroft, M., Chen D., Min G., Kim C.H., Murkhejee B., Larabell C., Keasling J. D. & Chen F. F. Charge-associated effects of fullerene derivatives on microbial structural integrity and central metabolism. *Nano Letter.* **7**, 754-60 (2007)

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