**Fluorescent graphene quantum dot sensor array for precise multi-label biothiol detection enabled by artificial intelligence**

*Nanyang Technological University, Singapore*

**Xue Liu**

**Email: xue.liu@ntu.edu.sg**

Fluorescent graphene quantum dots (GQDs) are a new class of photoluminescent nanomaterials and can be employed in sensing and illumination. The GQDs-based sensor arrays are adept at detecting groups of analytes with structurally similar characteristics, while traditional sensor array construction typically requires complex multiple sensors. Here, we propose a novel concise sensor array technique utilizing a single fluorescent GQD. Leveraging neural network analysis, this streamlined method not only enhances detection accuracy but also facilitates the multi-label classification of biothiol markers, which these markers are crucial in a wide range of medical diagnostics such as tumors.

**Short Bio:**

**Xue Liu** is a professor at Liaoning University and a visiting scholar at Nanyang Technological University. His research interests are fluorescent carbon nanomaterials with multicolor luminescence and their applications in sensing and imaging for disease diagnosis.