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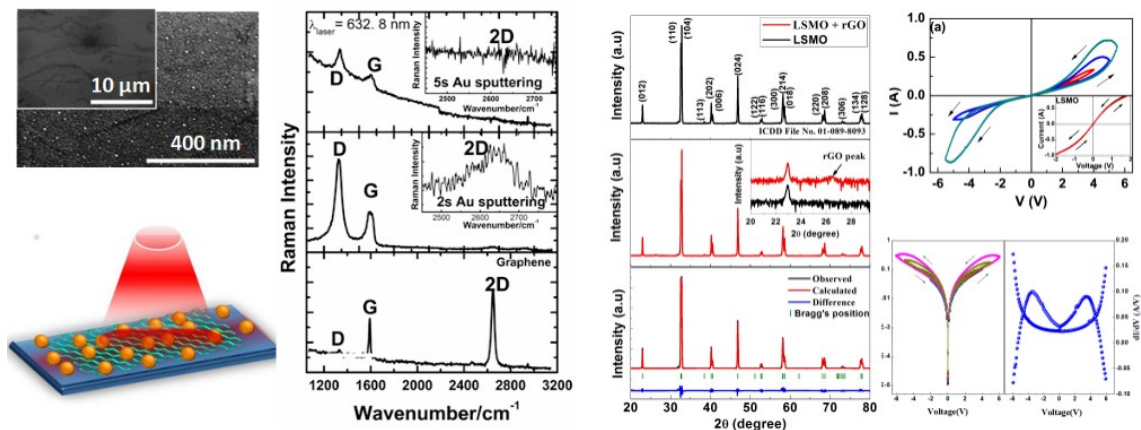
Research Interests

- 2D Materials
- Spintronics
- Low temperature transport
- Perovskite – 2D material interfaces

Brief Summary of Research

Jayakumar's research mainly spans in the area of magneto transport studies in 2D materials. Recently, he also focuses on synthesis of 2D materials and their applications in fields like sensors. His recent interests also lies in exploring physics at perovskite -2D material interfaces, thermal transport studies in such heterostructures/hybrids.

Overview of 2D Material/Perovskite Research



Projects

- “Graphene and other 2D materials based spintronics and topological insulators”, DST INSPIRE Fellowship, July 2014 – July 2019.
- “Spin transport in graphene/LSMO heterostructures”, DST Nanomission, June 2016 - June 2019.

Recent Publications

- Pranay Ranjan, Atul Kumar, **Jayakumar Balakrishnan**, Ajay D Thakur, “Graphene Oxide Based P-N Junctions,” *Material Today: Proceedings 11*, 830-832 (2019).
- Pranay Ranjan, **Jayakumar Balakrishnan**, Ajay D Thakur, “Dye Adsorption Behavior of Graphene Oxide” *Material Today: Proceedings 11*, 833-836 (2019).
- Pranay Ranjan, Shweta Agarwal, Apurva Sinha, T Rajagopala Rao, **Jayakumar Balakrishnan**, Ajay D Thakur, “[A Low-Cost Non-explosive Synthesis of Graphene Oxide](#) for Scalable Applications”, *Scientific Reports 8*, 12007 (2018).
- Pranay Ranjan, **Jayakumar Balakrishnan**, Ajay D Thakur, “Free Standing Graphene Oxide Film for Hydrogen Peroxide Sensing”, *AIP Conference Proceedings 1953*, 030029 (2018)