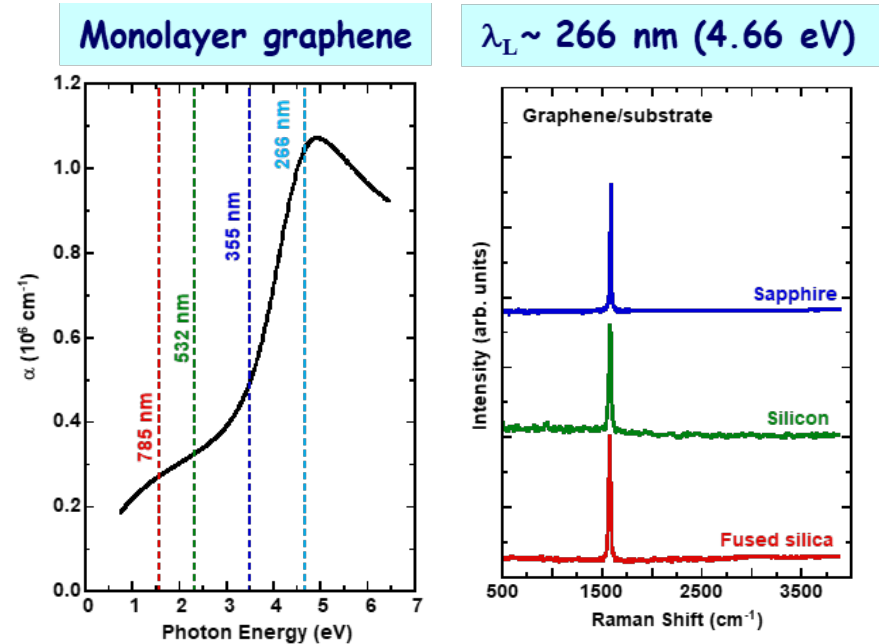


The overall accomplishment of my research is to utilize optical spectroscopic technique to study the electronic and vibrational excitations of two-dimensional materials such as graphene and layered transition metal dichalcogenides.

### Techniques used in study

My primary techniques are THz, infrared, Raman, optical, and ellipsometric spectroscopies.



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### Background:

PhD in Physics, University of Florida,  
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### Funding:

Ministry of Science and Technology



### Publications

- H. W. Chen, Y.-W. Chen, J.-L. Kuo, Y. C. Lai, F. C. Chou, C. H. Du, and H. L. Liu\*, "Spin-charge-lattice coupling in YBaCuFeO5: Optical properties and first-principles calculations", Scientific Reports 2019, 9, 3223.
- H. L. Liu\*, T. Yang\*, Y. Tatsumi, Y. Zhang, B. Dong, H. Guo, Z. Zhang, Y. Kumamoto, M.-Y. Li, L.-J. Li, R. Saito, and S. Kawata, "Deep-ultraviolet Raman scattering spectroscopy of monolayer WS2", Scientific Reports 2018, 8, 11398.

