**Position:**

***Dr. Ravi P. Gollapalli, P.E., IEEE Senior Member***

***Professor, Electrical & Robotics Lab Coordinator***

***ABET Coordinator - BS Engineering Technology Program  
Founding Counselor - IEEE @ UNA Student Branch***

**Bio:**

I am an experimentalist combined with experience in numerical simulations/analysis and equipped with a unique combination of electrical engineering and optics. I joined University of North Alabama (UNA) in the fall of 2017. It has been a great experience and joy to be part of UNA and enjoy teaching electrical engineering courses to the wonderful students at UNA. I enjoy mentoring and advising student-led projects such as Robotics Team, ATV gas-to-electric conversion etc. Contact me if you are interested in joining IEEE student team or any other project you would like to work on.

**Research Expertise:**

* + Sensors – Ultrasensitive biosensor development using Surface Plasmon Resonance.
  + Femtosecond Lasers – Study of Pulse Generation, Interaction with different materials
  + Femtosecond Frequency Combs – Applications for Frequency Transfer
  + Lasers – Free Space Communications
  + Remote Sensing – Hyperspectral & Multispectral Imaging Systems
  + Image Processing – Pattern Recognition, Image Analysis

**Selected Intellectual Contributions:**

**Peer-reviewed Journal Articles:** (*‡ - First/Corresponding Author)*:

1. **Gollapalli, R.P.**, “Enhanced sensitivity in graphene-based SPR biosensors using electrical bias,” Optics Letters, Vol. 45, No. 10, 2862-2865 (2020). doi: [10.1364/OL.391504](https://doi.org/10.1364/OL.391504).
2. Dale, R. B., **Gollapalli, R.P.**, Price, T., Megahee, K., Duncan, M., Tolstick, N. and Ford, L., “The Effect of Visual Perturbation upon Femoral Acceleration during the Single and Bilateral Squat,” Physical Therapy in Sport, Vol. 26, (2017). doi: [10.1016/j.ptsp.2017.06.003](http://dx.doi.org/10.1016/j.ptsp.2017.06.003).
3. Hu, C., **Gollapalli, R.P.**, Yang, L. and Duan, L., “Excess Phase Noise Characterization in Multifrequency Remote Clock Distribution based on Femtosecond Frequency Combs,” Applied Sciences, Vol. 5, pp 77-87 (2015). doi:[10.3390/app5020077](http://dx.doi.org/10.3390/app5020077)
4. **Gollapalli, R.P.** and Duan, L., “Multiheterodyne Characterization of Excess Phase Noise in Atmospheric Transfer of a Femtosecond-Laser Frequency Comb,” Journal of Lightwave Technology, Vol. 29, Issue 22, 3401-3407 (2011). doi: [10.1109/JLT.2011.2169449](http://dx.doi.org/10.1109/JLT.2011.2169449)
5. **Gollapalli, R.P.** and Duan, L., “Atmospheric Timing Transfer using a Femtosecond Frequency Comb,” IEEE Photonics Journal, Vol. 2, No. 6, Dec 2010, pp 904-910. doi: [10.1109/JPHOT.2010.2080315](http://dx.doi.org/10.1109/JPHOT.2010.2080315)
6. Alatawi, A., **Gollapalli, R.P.** and Duan, L., “Radio-frequency clock delivery via free-space frequency comb transmission,” Optics Letters, Vol. 34, No. 21, Nov 2009, pp 3346-3348. doi: [10.1364/OL.34.003346](http://dx.doi.org/10.1364/OL.34.003346)

**Book (Research) Chapters:**

1. **Gollapalli, R.P.**, Wei, T. and Reid, J., “Application of electric bias to enhance the sensitivity of graphene-based surface plasmon resonance sensors”, Book Title, “Graphene - Recent Advances, Future Perspective and Applied Applications”, edited by Mujtaba Ikram, ISBN 978-1-80356-432-6, IntechOpen Limited, Rijeka, Croatia, 2022) Online: [https://www.intechopen.com/online-first/83631.](https://www.intechopen.com/online-first/83631.d) doi: 10.5772/intechopen.106556
2. Duan, L. and **Gollapalli, R.P.,** “Atmospheric Timing/Frequency Transfer based on Femtosecond Frequency Combs,” Chapter 16 in *Photodetector*, edited by Sanka Gateva, (ISBN 979-953-307-350-6, INTECH, Rijeka, Croatia, 2012). doi: [10.5772/34973](https://doi.org/10.5772/34973) <http://cdn.intechopen.com/pdfs-wm/33524.pdf>

**Graduate Projects Supervised:**

* + - 1. “A Standalone Acoustic Noise Filtering and Analysis Package Developed using Matlab” - Project funding provided by RNS Acoustics, Student: Anthony R. Portella II (Jun – Dec 2017), University of South Alabama, Mobile, AL.

**Undergraduate Projects Supervised:**

1. ‘Electric Vehicle’ - Undergraduate student project to convert a gasoline-powered ATV to battery-powered vehicle. Spring 2020 – Spring 2023
2. ‘Simulation and study of electrical bias on the sensitivity of graphene-based SPR biosensors using Lumerical Photonic Simulation Software Package’ - Senior Thesis Project, Student: Derick Vickery. Fall 2019 – Spring 2020.
3. ‘Application of Electro-Optic Modulation (EOM) in Graphene for the Development of Multi/Hyperspectral Imaging Systems’ - Research Project funded by the Office of the Quality Enhancement Plan, Students: Dylan McKelvey, and John Wise, 2017 – 2018.