# Publications

## Coming Soon (tentatively titled) :

1. **A. K. Gupta**, T. J. Russin and P. C. Eklund, "*Laser induced inhomogeneous heating in Graphene*" (in preparation)
2. **A. K. Gupta,** T. J. Russin, H. R. Gutierrez and P. C. Eklund, " *Electrical and Raman Properties of Incommensurately Rolled up Graphene NanoScrolls*" ( in preparation)
3. **A. K. Gupta,** H. R. Gutierrez and P. C. Eklund, " *A novel way to convert bipolar graphene devices into field effect transistors* " ( in preparation)
4. **A. K. Gupta**, S. Karthik and P. C. Eklund, " *Mechanical properties of n-graphene layers*" (in preparation)
5. **A. K. Gupta,** and P. C. Eklund, " *Raman scattering from suspended n-graphene layers*" (in preparation)

## Draft Ready Manuscripts (request a preprint):

6. **A. K. Gupta,** T. J, Russin and P. C. Eklund, "Dispersive *Raman Scattering from n=1-4 Graphene Layers*" (in preparation for publication)
7. **A. K. Gupta** and P. C. Eklund, "*Effect of Surface Corrugation on optical phonon lifetime in n-Graphene Layer films*" (in preparation for publication)
8. **A. K. Gupta,** H. R. Gutierrez and P. C. Eklund, " *Raman scattering of confined graphene via nanoparticles* " ( in preparation for publication)
9. H. R. Gutierrez, **A. K. Gupta** and P. C. Eklund, " *Preparation of confined graphene* " ( in preparation for publication)
10. J. Wu, **A. K. Gupta** and P. C. Eklund, "*Giant Non-Linear Raman Scattering from Short GaP Nanowires*" ( in preparation for publication)
11. H. R. Gutierrez, J. Wu, **A. K. Gupta**, D. Zhang and P. C. Eklund, "*Spontaneous Natural Formation of Axial, Radial Core-Shell and Branched Hetrojunctions in Crystalline Ge:Mn Nanowires*" (in preparation for publication)

12. H. E. Romero, P. U. Joshi, **A. K. Gupta**, H. R. Gutierrez, M. W. Cole, S. Tadigadapa and P. C. Eklund, " *Electrical Transport Studies of the Adsorption of Ammonia on Graphene*" ( in preparation for publication)
13. H. R. Gutierrez, **A. K. Gupta**, H. Romero, P. Joshi, S. Tadigadapa and P. C. Eklund, " *Electrical Characterization of Multi-Probe Graphene Devices Prepared by Chemical Free Technique*" (in preparation for publication)
14. **A. K. Gupta**, T. Russin and P. C. Eklund, "*Temperature Dependent Raman Scattering from n-(n=1,2..) Graphene Layers: Role of nGL-Substrate and Sheet-Sheet interaction*" (in preparation for publication)
15. **A. K. Gupta**, T. Russin and P. C. Eklund, "*Effect of dimensionality (0D, 1D, 2D & 3D) in temperature dependent Raman in* $sp^2$ *carbon*" (in preparation for publication)
16. **A. K. Gupta**, C. Nisoli, T. J. Russin, V. H. Crespi and P. C. Eklund, " *Curvature-Induced D-Band Raman Scattering in Graphene*" (in preparation for publication)

## Published/Submitted Papers:

17. **A. K. Gupta,** T. J. Russin, H. R. Gutierrez and P. C. Eklund," *Probing Edge Defects in Graphene via Raman Scattering"*(accepted for publication in **ACS Nano**)
18. **A. K. Gupta,** X. Wang, X. Li, H. J. Dai and P. C. Eklund, " *Polarized Raman Scattering from Narrow Graphene NanoRibbons*" (submitted to **Nano Letters**)
19. **A. K. Gupta**, Y. Tang, T. J. Russin, V. H. Crespi and P. C. Eklund," *Raman Scattering from incommensurately Stacked Graphene Bi-Layer*" (submitted to **Nano Letters**)
20. U. J. Kim, G. R. Gutierrez, **A. K. Gupta** and P. C. Eklund, " *Raman Scattering Study of the Thermal Conversion of Bundled Carbon Nanotubes into Graphitic Ribbons*" **Carbon**, 46 (5), 729-740 (2008)
21. P. Joshi, **A. Gupta**, S. Tadigadapa and P. C. Eklund," Electrical Properties of back-gated n-graphene layers films", **Proceedings of SPIE**-The International Society for Optical Engineering (2007)
22. **A. Gupta**, G. Chen, P. Joshi, S. Tadigadapa, P. C. Eklund, " High Frequency raman scattering from n-graphene layers", **Nano Letters**, Vol. 6, No.12, 2667-2673 (2006)
23. P. Joshi, A. Goyal, **A. Gupta**, S. Tadigadapa, P. Eklund, "*Improvement of the Elastic Modulus of Micromachined Structures using Carbon Nanotubes*", **Proceedings of SPIE** - The International Society of Optical Engineering, Jan. 2005, San Francisco, California.

24. A. Goyal, S. Tadigadapa, **A. Gupta**, P.C. Eklund, "*Use of Single Wall Carbon Nanotubes (SWNTs) to Increase the Quality Factor of an AT-cut micromachined Quartz Resonator*", **Applied Physics Letters**, 87, 204102, 2005.
25. A. Goyal, S. Tadigadapa, **A. Gupta**, P.C. Eklund, "*Improvement in Q-factor of AT-Cut Quartz Crystal Resonators using Single Wall Carbon Nanotubes (SWNTs)*", Proceedings of 2005 IEEE International Ultrasonics Symposium, Sep. 18-21, 2005, Rotterdam, Netherlands.
26. A. Goyal, S. Tadigadapa, **A. Gupta**, P.C. Eklund, "*Micromachined Quartz Resonator Functionalized with Single Wall Carbon Nanotubes (SWNTs) for Sensing Applications*", **Proceedings of IEEE Sensors 2005**, the 4th IEEE Conference on Sensors, Oct. 31- Nov. 3, 2005, Irvine, California.
27. P. Joshi, N. Duarte, A. Goyal, **A. Gupta**, S. Tadigadapa, P.C. Eklund, "*Improvement of the elastic modulus of micromachined structures using carbon nanotubes*", **MRS Proceedings**, Volume 875, O1.5, MRS Spring Meeting, March 28 – April 1, 2005, San Francisco, USA.

# Conference Presentations#

## Future Conferences:

- **A. K. Gupta** *et.al*, " *Confined Phonons in sp2 NanoCarbons*" in ICMS-ICMR Winter School on New Carbon Materials, Dec. 8- 13, JNCASR, Banglore, India (2008)
- Peter C. Eklund, **A. K. Gupta**, H. R. Gutierrez, T. Russin "*Resonant Raman Scattering from Graphene and Narrow Graphene Ribbons"* IUMRS-ICEM , July 28 – Aug 1, Sydney, Australia (2008)

## Completed Conferences:

1. **A. K. Gupta**, T. J. Russin and P. C. Eklund," *Temperature-Dependent Raman Scattering from n (n=1,2,3…) Graphene Layers"* MRS Spring Meeting, March 24 – 28, San Francisco, CA (2008)

2. **A. K. Gupta**, Y. Tang, T. J. Russin, V. H. Crespi and P. C. Eklund," *Raman Scattering from Incommensurately Stacked Bi-Layer Graphene"* MRS Spring Meeting, March 24 – 28, San Francisco, CA (2008)
3. **A. K. Gupta,** Y. Tang, T. Russin, V. H. Crespi and P. C. Eklund "*Incommensuratey Stacked Graphene Bi-Layer: A Raman Study*" APS Meeting. March 10- 14, New Orleans, LA (2008)
4. **A. K. Gupta,** and P. C. Eklund "*Dispersive Raman Scattering from n=1-4 Graphene Layer System*" APS Meeting. March 10- 14, New Orleans, LA (2008)
5. **A. K. Gupta,** H. R. Gutierrez and P. C. Eklund "*Probing Edge Defects in n=1,2.. Graphene Layer System via Raman Scattering"* APS Meeting. March 10- 14, New Orleans, LA (2008)
6. **A. K. Gupta,** T. Russin and P. C. Eklund " *Anharmonic Effects in Raman Scattering from Few-Layer Graphene Systems "* APS Meeting. March 10- 14, New Orleans, LA (2008)
7. Q. Lu, J. Wu, **A. K. Gupta** and P. C. Eklund "Enhanced Raman Scattering Near the Tip of Semiconducting Nanowires" APS Meeting. March 10- 14, New Orleans, LA (2008)
8. J. Wu, **A. K. Gupta** and P. C. Eklund "*Non-Linear Raman Scattering from Semiconducting GaP Nanowires "* APS Meeting. March 10- 14, New Orleans, LA (2008)
9. **A. K. Gupta**, T. J. Russin, P. Joshi, H. R. Gutierrez, G. Chen and P. C. Eklund "*Phonons in n-Graphene Layers*", PASI (Novel Materials for Micro- and Nano Electronics) Renaca, Chile (2007)
10. **A. K. Gupta**, G. Chen and P. C. Eklund "*1st, 2nd and 3rd order Raman scattering from n-Graphene Layers supported on Si/SiO2 substrates*", APS Meeting, March 5-9, Denver, CO (2007)
11. **A. K. Gupta** and P. C. Eklund "*Raman Scattering Probe of Graphene-Substrate Interactions*", APS Meeting, March 5-9, Denver, CO (2007)
12. **A. K. Gupta**, T. J. Russin, H. R. Gutierrez and P. C. Eklund "*Generation of Carbon Scrolls from Graphene*", APS Meeting, March 5-9, Denver, CO (2007)
13. P. Joshi, **A. K. Gupta**, S. Tadigadapa and P. C. Eklund "*Electrical and Optical Properties of Supported n-Graphene Layers Films*", SPIE-sensors, San Franscisco, CA (2007)
14. **A. K. Gupta**, G. Chen, P. Joshi, S. Tadigadapa and P. C. Eklund "*A non destructive technique (RAMAN) to count the layers of graphene in nGL films*" in PASI, June 18 – June 30, Costa Rica (2006)
15. **A. K. Gupta** and P. C. Eklund "*Raman Scattering from few layered graphene films*", in APS meeting, March 13-17 2006, Baltimore, MD (2006)

16. **A. K. Gupta**, K. W. Adu, H. R. Gutierrez, Q. Xiong, J. Wu, X. M. Liu and P. C. Eklund "*Novel low dimensional systems for new technologies*" Materials Day, Penn State University, University Park, Pennsylvania (2006)
17. D. Narehood, K. Adu, Y. Chen, **A. K. Gupta**, X. M. Liu and P. C. Eklund"*Carbon nanotubes-polymer composite for EMI shielding*" Materials Day, Penn State University, University Park, Pennsylvania (2006)
18. **A. K. Gupta**, Q. Xiong, U. J. Kim, K. W. Adu, H. R. Gutierrez, J. Wu, X. M. Liu and P. C. Eklund "*Chemical Sensors for NanoFilaments*" Materials Day, Penn State University, University Park, Pennsylvania (2005)
19. U.J. Kim, C.A. Furtado, H.R. Gutierrez, X.M. Liu, **A. Gupta** and P.C. Eklund "*The effects of tube-wall functional groups on the dissolution of individual SWNTs"* APS meeting, March 22-26, Montreal, Quebec, Canada (2004)

[#] *List of authors is (in general) in order of contribution to a particular work. First author in the list presented the work.*