

## STAFF PROFILE



1) Name: Dr. N.Narayana Moorthy

2) Designation: Assistant Professor

3) Department: Physics

4) Qualifications:

Academic: M.Sc., M.Phil., Ph.D.,

Additional: B.Ed

5) Experience (in years): Teaching: 13 Research: 5

6) Area of Specialization: Thin Films

7) Contact: 8148523167 E-mail: narayanamoorthy83@gmail.com

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8) Research Publications:

	International	National
Total Number of Publications	8	5

List of International Publications:

1. **N. Narayana Moorthy**, A. John Peter and Chang Woo Lee, Raman gain in a Boron based Group-III nitride quantum well, **Superlattices and Microstructures**, 70 (2014) 13–23.
2. **N. Narayana Moorthy** and A. John Peter, Magneto-Raman scattering of an exciton in a  $B_xGa_{1-x}N/BN$  coupled quantum well, **Journal of Advanced Physics**, 3 (2014) 1-7.
3. **N. Narayana Moorthy**, A. John Peter and Chang Woo Lee, Electric field induced Raman scattering in a  $B_{0.2}Ga_{0.8}N/BN$  coupled quantum well, **Journal of Nano particles**.
4. **N. Narayana Moorthy**, A. John Peter and Chang Woo Lee, Intersubband optical transition energies in Boron based Gallium Nitride quantum wells, **Science Letters** 4 (2015) 209.
5. **N. Narayana Moorthy**, A. John Peter and Chang Woo Lee, Electronic and optical properties of a hydrogenic impurity in Boron based group-III nitride based coupled quantum wells, **Journal of Nanophotonics**.

9) Other Publications (Proceedings): 4

1. **N. Narayana Moorthy** and A. John Peter, Optical susceptibility of third order harmonic generation in a strained  $B_xGa_{1-x}N/BN$  nano-well, **International Journal of Innovative Research in Science & Engineering**, ISSN (online) 2347-3207.
2. **N. Narayana Moorthy** and A. John Peter, Hydrogenic donor binding energy in a strained  $B_xGa_{1-x}N/BN$  quantum well, International Conference on Nanoscience and Engineering Applications (ICONSEA–2014), Centre for Nano Science and Technology, Jawaharlal Nehru Technological University (JNTU), **Hyderabad**.
3. **N. Narayana Moorthy** and A. John Peter, Effects of internal electric fields on Raman differential cross section in a  $B_xGa_{1-x}N/BN$  quantum well, **Journal of Atomic, Molecular, Condensate and Nano Physics**.
4. **N. Narayana Moorthy** and A. John Peter, Intraband Raman laser gain in a Boron Nitride coupled quantum well, **60<sup>th</sup> Solid State Physics symposium 2015**, Department of Atomic Energy (DAE), **Amity University, Noida**.

10) Presentation in Seminar / Conference:

1. **N. Narayana Moorthy** and A. John Peter, Excitonic properties in a quantum well, National Conference on Recent Developments in Physics, Department of Physics, Govt. Arts and Science College, **Melur**, during January 30 and 31, 2013.
2. **N. Narayana Moorthy** and A. John Peter, Non-linear optical properties in a  $GaN/BN$  narrow quantum well, One Day International Seminar on Recent Advances in Nano Semiconductors, Department of Physics, G.T.N.Arts College, **Dindigul**, on February 24, 2014.
3. **N. Narayana Moorthy** and A. John Peter, Optical gain in a Boron based Group-III nitride quantum well, One Day State Level Conference on Recent Trends in Material Science and Energy Science Department of Physics, Arulmigu Palaniandavar Arts College for Women (Autonomous), **Palani**, on March 7, 2014
4. **N. Narayana Moorthy** and A. John Peter, Third order susceptibility of third harmonic generation in a wide band gap Group-III nitride quantum well, 3<sup>rd</sup> National Conference on Advanced Functional Materials and Applications (NCAFMA – 2014), Department of Chemistry, Kalasalingam University, **Srivilliputhur**, during March 21 and 22, 2014. [ISBN: 978 – 81 – 921319 – 2 – 4]

5. **N. Narayana Moorthy** and A. John Peter, Optical susceptibility of third order harmonic generation in a strained  $B_xGa_{1-x}N/BN$  nano-well, International Conference on Advances in New Materials (ICAN- 2014), Department of Inorganic Chemistry, University of Madras, **Chennai**, during June 20 and 21, 2014 .
6. **N. Narayana Moorthy** and A. John Peter, Hydrogenic donor binding energy in a strained  $B_xGa_{1-x}N/BN$  quantum well, International Conference on Nanoscience and Engineering Applications (ICONSEA–2014), Centre for Nano Science and Technology, Jawaharlal Nehru Technological University (JNTU), **Hyderabad**, during June 26, 27 and 28, 2014.
7. **N. Narayana Moorthy** and A. John Peter, Investigation on optical gain in a  $BN/GaN$  quantum well, P.G Department of Physics, Govt. Arts and Science College, **Melur**, on September 5, 2014.
8. **N. Narayana Moorthy** and A. John Peter , Effects of internal electric fields on Raman differential cross section in a  $B_xGa_{1-x}N/BN$  quantum well, 4<sup>th</sup> International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications (CDAMOP–2015), Department of Physics and Astrophysics, **University of Delhi, New Delhi**, during March 11 to 14, 2015 .
9. **N. Narayana Moorthy** and A. John Peter, Optical gain in a  $B_xGa_{1-x}N/BN$  quantum well, P.G and Research Department of Chemistry, G.T.N. Arts College **Dindigul**, U.G.C. Sponsored One Day National Level Seminar on Recent Advances in Chemistry (RAC – 2015) on March 18, 2015.
10. **N. Narayana Moorthy** and A. John Peter , Electric field induced Raman scattering in a semiconductor quantum well , Department of Physics, Arulmigu Palaniandavar Arts College for Women (Autonomous), **Palani**, One day National Level Seminar on Semiconductor Materials and Device Processing for Energy Applications, March 25, 2015.
11. **N. Narayana Moorthy** and A. John Peter, Effects of internal electric fields on Raman differential cross section in a  $B_xGa_{1-x}N/BN$  quantum well, One day state level seminar on smart materials, Department of Physics, Sacred Heart College of Arts and Science , **Dindigul**, on October 6, 2015.
12. **N. Narayana Moorthy** and A. John Peter, Optical susceptibility of third order harmonic generation in  $B_xGa_{1-x}N/BN$  semiconductor nanostructure, ICNFA 2015, Department of Physics, Coimbatore Institute of Technology, **Coimbatore**, December 4 – 6, 2015.

13. **N. Narayana Moorthy** and A. John Peter, Intraband Raman laser gain in a Boron Nitride coupled quantum well, 60<sup>th</sup> Solid State Physics symposium 2015, Department of Atomic Energy (**DAE**), **Amity University, Noida**, December 21 – 25, 2015 (Accepted).

14. **N. Narayana Moorthy** and A. John Peter, Pressure induced Raman gain in a GaN/B<sub>0.2</sub>Ga<sub>0.8</sub>N coupled quantum well, MATCON 2016, Department of Applied Chemistry, **Cochin University of Science and Technology, Kochi**.

11) Participation in Conference:

1. National Conference on Latest Trends in Physics for Inter-Disciplinary Advancements, P.G Department of Physics, Jayaraj Annapackiam College for Women (Autonomous), Periyakulam, during February 6 and 7, 2014.
2. One Day National Level Seminar on X – Ray Crystallography, organized by P.G and Research Department of Physics, S.V.N. College, **Madurai**, on February 14, 2014.
3. One Day International Symposium on Nano-structures for photo voltaic applications, organized by Department of Physics, Fatima College (Autonomous), **Madurai**, on February 19, 2014.
4. One Day National Level Seminar on Computational physics using Gaussian, organized by P.G and Research Department of Physics, S.V.N. College, **Madurai**, on February 13, 2015.

12) Participation in Seminar:

1. Presented a one day seminar on “Electronic and optical properties of Boron based Group III nitride semiconductors”, P.G Department of Physics, Rama Prabha College of Arts and Science, **Dindigul** , on December 24 , 2014.
2. Presented a one day seminar on “Potential applications of Boron based Group-III nitride semiconductors for fabricating novel devices”, P.G Department of Physics, Sakthi College of Arts and Science for Women, **Oddanchatram** on February 21, 2015.
3. Presented a one day seminar on “Potential applications of Boron nitride material over carbon nanotube”, P.G Department of Physics, Arulmigu Palaniandavar College of Arts and Culture, **Palani** on February 24, 2015.

12) Participation in Orientation Programme/ Induction Programme/ Short term Courses: 1

13) Participation in Faculty Development Programme: 3

14) Invited Speaker/ Session Chair – Conference/ Seminar/ Workshop: one

15) Membership in Professional Bodies: MRSI MATERIALS RESEARCH SOCIETY OF  
INDIA

16) Awards received: ORANGE BEST TEACHER AWARD