

## BIO DATA



Name : KARTHIKEYAN. N

Designation : A.P. (Sr.Gr.)

Department : Physics

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Google Scholar link :

<https://scholar.google.com/citations?user=CSpLYOcAAAAJ&hl=en>

### 1. Educational Qualification

| Degree   | Branch / Specialization | Institute/University | Year of Passing                       |
|----------|-------------------------|----------------------|---------------------------------------|
| U.G.     | PHYSICS                 | MADURAI KAMARAJ      | 1993                                  |
| P.G.     | PHYSICS                 | MADURAI KAMARAJ      | 1995                                  |
| M. Phil. | PHYSICS                 | BHARATHIDASAN        | 2005                                  |
| Ph.D.    | PHYSICS                 | MADURAI KAMARAJ      | Completed the viva-voce on 29.07.2021 |
| M.C.A.   | COMPUTER APPLICATION    | MADURAI KAMARAJ      | 2003                                  |

### 2. Professional/ Industry Experience

: (in chronological order)

| S.No. | Designation           | Institution/Organization     | Period     |            |
|-------|-----------------------|------------------------------|------------|------------|
|       |                       |                              | From       | To         |
| 1.    | Customer Care Officer | BPL-CONNECT Paging division. | 11-05-1997 | 23-04-1999 |

Updated as on 31.08.2021

### 3. Research Interest: Semiconductor Physics & Energy Sciences

#### 4 Publications

##### 4.1 JOURNAL PUBLICATIONS

1. **N. Karthikeyan**, A. John Peter and Chang Woo Lee, Interband optical Raman gain in a strained oxide quantum dot with Hylleraas co-ordinates, *Optical and Quantum Electronics* 52 (2020) 358, Publisher: *Springer*
2. **N. Karthikeyan**, A. John Peter and Chang Woo Lee, Electrostatic built-in internal fields in a strained polar quantum dot, *Chemical Physics Letters* 760 (2020) 138021, Publisher: *Elsevier*.
3. John Peter, **N. Karthikeyan**, Chang Woo Lee, Effects of External Magnetic Fields on Optical Properties of an Oxide Quantum Dot Using the Smorodinsky–Winternitz Potential, *Journal of Electronic Materials*, 49 (2020) 2257–2264. Impact Factor: **1.676**, Publisher: *Springer*.
4. **Nagarajan Karthikeyan**, John Peter A, (2019) “Effects of built-in fields on the optical gain in a CdO/ZnO quantum dot with the Smorodinsky–Winternitz potential,” *J. Nanophoton.* Vol. No.13(3), pp: 036008-1 to 036008-11, impact factor : 1.429, doi:10.1117/1.JNP.13.036008
5. John Peter A, **Karthikeyan N** and Chang Woo Woo(2018) "Optical rectification coefficient in an oxide quantum dot with different confinement potentials", *Optical and Quantum Electronics* Vol. No. 50 pp:250-262, impact factor: 1.547 doi:10.1007/s11082-018-1497-x
6. **Karthikeyan N**, John Peter A "Non-linear optical properties in an II-VI oxide quantum dot nanostructure 10.30799/jnst.sp206.18040204, *J. Nanosci. Tech.* - Volume 4 Issue 2 (2018) pp 353–354. Impact factor: 1.354.

##### 4.2 CONFERENCE PUBLICATIONS

1. N. Karthikeyan, and A. John Peter presented a paper entitled “Oscillator strength in a wide band gap oxide semiconductor quantum dot” in the National web conference on Recent Advances in Science and Technology(NCRAST 2020), Assam University under TEQIP-III Project of World bank and MHRD, New Delhi during 17th -19th Aug’ 2020.
2. N. Karthikeyan , presented a paper “Transition life time of a confined exciton in a ZnO / ZnMgO quantum dot”, International Conference on Advanced Nanomaterials for Energy, Engineering, Biological and Medical Applications (ICAN2019), Chettinad College of Engineering and Technology, Karur during 12th -13th Dec’2019
3. Karthikeyan N and JohnPeter A, (2019) “Radiative life time of an exciton in a Cd<sub>1-x</sub>Zn<sub>x</sub>O/ZnO semiconductor quantum dot”, International Conference on Advanced Materials for Sustainable Energy & Sensors (INCAMSES-2019) pp 70, Dr. Mohan, Educational Publication Trust, Alagappa university, Karaikudi, ISBN: 9 788192 046235.

Updated as on 31.08.2021

4. Karthikeyan N and JohnPeter A, (2019) “Size effects of an exciton its nonlinear optical properties in II- VI related oxide materials”, National Conference on Materials for Sustainable Development, Ramco Institute of Technology, Rajapalayam.
5. Karthikeyan N and JohnPeter A, (2018) “Second Harmonic generation in a Cdo/Zno core shell quantum dot using Smorodinsky-Winternitz potential”, National Conference on Advancement and Innovations in Materials Research, PG & Research Dept. of Physics, Govt. Arts College, Melur, Madurai.
6. Karthikeyan N,(2017) “Thermal Conductive concrete using slags”, National Conference on Innovations in Engineering, Science and Technology-(NCIEST), Ramco Institute of Technology, Rajapalayam.

#### 4.3 Book/Book chapter publications

**Author(s) Initial(s). Title of the Book, xth ed. Publisher, Year of Publication, pp. xxx–xxx.**

#### 5. Funded Projects

| S.No. | Title of the project | Funding Agency | Duration | Amount | Status |
|-------|----------------------|----------------|----------|--------|--------|
| -     | -                    | -              | -        | -      | -      |

#### 6. Ph.D. guidance

| Sl.No | Scholar name | University | Topic | Status |
|-------|--------------|------------|-------|--------|
| -     | -            | -          | -     | -      |

#### 7. Short term Courses / Seminars /FDP/Workshop/ConferenceAttended:

| Sl.No | Title of the event  | Organized by                                     | Date       |            |
|-------|---|--|------------|------------|
|       |   |  | From       | To         |
| 1.    | Faculty Development Program on “Fundamentals of Novel Materials” hosted by <b>AICTE Training And Learning Academy(ATAL)</b> | Tripura University, Tripura                      | 24.08.2021 | 28.08.2021 |
| 2.    | One day Webinar on "Light-Matter Interactions and Characterization Techniques"  | St. Xavier's College (Autonomous), Palayamkottai | 19.08.2021 | 19.08.2021 |
| 3.    | National Webinar on “ The Dynamic Sun”  | St. Xavier's College (Autonomous), Palayamkottai | 16.08.2021 | 16.08.2021 |

Updated as on 31.08.2021

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|-----|--|---|------------|------------|
| 4.  | One week short term course on “Journey from Semiconductor Physics to Smart Devices to Intelligent Automation”,                         | NIT Srinagar & Semiconductor Society of India                   | 01.05.2021 | 05.05.2021 |
| 5.  | One day national level workshop on “Intellectual property rights”  | AMET University, Chennai in association with TNSCST             | 25.05.2021 | 25.05.2021 |
| 6.  | Three day International e-Workshop on Science and Technology of emerging materials eSTEM21,  | Chettinad college of Engineering and Technology, Karur          | 19.04.2021 | 21.04.2021 |
| 7.  | One day workshop on “India’s National Educational Policy, 2020”  | CIT Coimbatore  | 26.03.2021 | 26.03.2021 |
| 8.  | Eight day Online FDP Program on “Nanomaterials: Experimental Design & Theoretical Modelling  | E & ICT Academy, NIT Warangal in association with IITDM Kurnool | 13.02.2021 | 20.02.2021 |
| 9.  | online workshop on “Virtual Tools for Teaching & Learning Process  | Ramco Institute of Technology, Rajapalayam                      | 27.09.2020 | 27.09.2020 |
| 10. | Webinar on Publishing Ethics. (Webinar)  | Taylor & Francis Group, India                                   | 05.08.2020 | 05.08.2020 |
| 11. | Super Session on Change is the Essence of Life. (Webinar)  | ICT   | 25.05.2020 | 25.05.2020 |
| 12. | Two week online refresher course on “Recent innovations in Electrical, Electronics, Instrumentation, Automation and Teaching Pedagogy” | Sairam Engineering College, Chennai                             | 18.05.2020 | 30.05.2020 |
| 13. | How to formulate a Research Problem? (Webinar)   | Ramco Institute of Technology                                   | 13.05.2020 | 13.05.2020 |
| 14. | Effective use of LMS. (Webinar)  | Ramco Institute of Technology                                   | 09.05.2020 | 09.05.2020 |

**Updated as on 31.08.2021**

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|-----|---|--|------------|------------|
| 15. | Three day FDP Program on “Team Building”  | ICT Academy, at Ramco Institute of Technology, Rajapalayam.  | 18.11.2019 | 20.11.2019 |
| 16. | One day National workshop on “The Excitement of college Physics 2019”                                 | VIT Chennai & Indian Association of Physics Teachers (IAPT)  | 06.07.2019 | 06.07.2019 |
| 17. | Yoga for Holistic Life course   | The World community Service Centre a affiliate trust of Temple of Consciousness , Aliyar, Pollachi | 12.06.2019 | 16.06.2019 |
| 18. | One day Training Workshop on “How to get Research Published in High Impact(Q1) Journals.              | SSN College of Engineering, Chennai.   | 16.02.2019 | 16.02.2019 |
| 19. | The future of Higher education Leadership conclave  | AICTE & Kumaraguru college of Engineering, Coimbatore.   | 13.02.2019 | 14.02.2019 |
| 20. | Two day Workshop Sponsored by BRNS, Mumbai on Materials Synthesis and Characterization (MSC 2019)     | Mepco Schlenk Engineering College, Sivakasi  | 03.01.2019 | 04.01.2019 |
| 21. | One day Workshop on “Recent Trends in Green Chemistry”  | Department of Chemistry, Ramco Institute of Technology   | 11.08.2018 | 11.08.2018 |
| 22. | Three day Workshop on “Art of Counseling”   | Ramco Institute of Technology  | 19.06.2018 | 21.06.2018 |
| 23. | Two day Workshop on Writing Research Papers, Citation Analysis, Plagiarism Getting Patent & Copyright | Ramco Institute of Technology  | 29.06.2018 | 30.06.2018 |
| 24. | Short term course on “Powder X-Ray Diffraction: Theory, Practical and Applications”                   | Indian Institute of Science, Bengaluru   | 14.05.2018 | 18.05.2018 |
| 25. | International Conference on “Advanced Nanomaterials (ICAN-2018)                                       | Department of Nanoscience and Technology, Alagappa University, Karaikudi.                          | 26.02.2018 | 27.02.2018 |

|     |   |  |            |            |
|-----|---|--|------------|------------|
| 26. | Completed a Self - paced training course "Matlab Onramp"                                  | Mathwork Training Services   | 22.11.2018 | 22.11.2018 |
| 27. | One day workshop on Advanced Functional Materials (FUNMAT-2017)                           | Society for Advancement of Electrochemical Sciences and Technology & CSIR-Central Electrochemical Research Institute, Karaikudi. | 22.05.2017 | 22.05.2017 |
| 28. | TEQIP-II sponsored two day workshop on Functional Nano-Materials for Energy Applications. | Thiagarajar College of Engineering, Madurai  | 01.04.2016 | 02.04.2016 |
| 29. | Course on Awareness & Internal Auditor Training on ISO 9001:2015                          | TUV Rheinland  | 18.12.2015 | 19.12.2015 |
| 30. | Bridge Course on Engineering Physics  | Anna University, Chennai   | 25.06.2014 | 26.06.2014 |
| 31. | International Conference on Frontiers in Materials Science for Energy and Environment     | Loyola Institute of Frontier Energy (LIFE), Loyola college, Chennai.   | 11.01.2012 | 13.01.2012 |
| 32. | One day workshop on "Labview and its Applications in Engineering"                         | Indian Association of Physics Teachers (IAPT) & United Institute of Technology, Coimbatore                                       | 06.01.2010 | 06.01.2010 |
| 33. | Two day, DST New Delhi sponsored seminar on 'Information Technology Vision 2010'          | Kongu Engineering College, Perundurai, Erode.  | 27.06.2008 | 28.06.2008 |

**8. Short term Courses / Seminars /FDP/Workshop/Conference organized:**

| Sl.No. | Title of the event  | Organized by   | Date       |            |
|--------|---|--|------------|------------|
|        |   |  | From       | To         |
| 1.     | One Week Online Faculty Development Program on “Synthesis, Characterization and Applications of Novel Materials” for the faculty members and research scholars            | Department of Physics & Chemistry RIT                                  | 02.08.2021 | 06.08.2021 |
| 2.     | International Web Conference On Smart Engineering Technologies-2020   | All branches in RIT  | 26.06.2020 | 27.06.2020 |
| 3.     | National Conference on Materials for sustainable Development (NCMSD)  | ISTE & RIT (Organized jointly by Department of chemistry and Physics ) | 11.01.2019 | 12.01.2019 |
| 4.     | Funritz- Fun-filled Science Quiz game show  | Physics and Chemistry department of RIT                                | 30.01.2019 | 30.01.2019 |
| 5.     | 2 days Orientation cum Lab demonstration for 130 students and 11 Higher secondary faculty members of Sri Ramana Vidyalaya Matric Hr. Sec. School, Rajapalayam.            | Physics department   | 24.09.2019 | 25.09.2019 |
| 6.     | One Day Orientation cum Refresher course for Higher Secondary school teachers of P.A.C.R. Ammani Ammal’s Girls Hr. Sec. School, and P.A.C.M. Hr. Sec. School, Rajapalayam | Physics department   | 20.12.2019 | 20.12.2019 |

|    |  |   |            |            |
|----|--|---|------------|------------|
| 7. | One day workshop on “HAPPY SCHOOLING”  | RIT (Organized jointly by Departments of chemistry and Physics. | 28.12.2018 | 28.12.2018 |
| 8. | One day Workshop on Recent Trends in Green Chemistry   | RIT (Organized jointly by Departments of chemistry and Physics. | 11.08.2018 | 11.08.2018 |
| 9. | Physics quiz- NEET foundation for Virudhunagar district schools on occount of NATIONAL SCIENCE DAY | Physics Department of RIT                                       | 28.02.2018 | 28.02.2018 |

### 9. Online Courses

| S.no. | Course title   | University                                  | Date                         |
|-------|--|---|------------------------------|
| 1.    | MATLAB-Onramp  | MATHWORKS Services                          | 2021-2022                    |
| 2.    | Problem Solving Using Computational Thinking               | University of Michigan                      | 2020-2021                    |
| 3.    | Basics of Transport Phenomenon Part-I                      | TU Delft Netherland                         | 2019-2020                    |
| 4.    | Electricity & Magnetism-Part-I                             | Rice University, USA                        | 2018-2019<br>(Even semester) |
| 5.    | Material Science-10 things that every engineer should know | University of California                    | 2018-2019<br>(Odd semester)  |
| 6.    | Introduction to Mechanics Part-1                           | Rice University, Houston, USA               | 2017-2018<br>(Even semester) |
| 7.    | Quantum Mechanics for everyone                             | Georgetown University, Washington D.C., USA | 2017-2018<br>(Odd semester)  |
| 8.    | How things work - Introduction to Physics                  | University of Virginia, USA                 | 2016-2017<br>(Even semester) |
| 9.    | Electronics Materials and Devices                          | MITx, USA                                   | 2016-2017<br>(Odd semester)  |

**10. Patents filed/awarded:** nil

**11. Membership in Professional societies:** Life member of ISTE from 2006.

**Updated as on 31.08.2021**



## **12. Awards, Recognition & Achievements:**

- N. Karthikeyan, presented an invited talk in a National webinar on “Low dimensional semiconducting systems for optoelectronic applications”, Rajapalayam Rajus college, Rajapalayam on 21.11.2020.
- N. Karthikeyan, presented an invited talk in a webinar on “Innovations in Semiconductor tech. for optoelectronic applications”, GVN College, Kovilpatti on 28.10.2020.
- N. Karthikeyan, presented a research scholar talk in a webinar on “Recent trends in Materials Science”, V. O. Chidambaram College Thoothukudi on 07.10.2020.
- Delivered a lecture at Chinmaya Vidyalaya P.A.C.R. Matric Hr. Sec. School, Rajapalayam, on the topic “Revisiting Kinematics” for Standard XII, on 26.08.2018.
- Achieved 100% pass percentage in December-January 2016 semester examinations.
- Achieved 100% pass percentage in May-June 2014-15 semester examinations.

### **Any others (Board of studies/Governing Council/Staff Selection/Reviewer/other duties)**

- HoDi/c Department of Physics.
- Certified ISO 9001:2015 Academic Auditor.
- Interview panel member for the post of Physics Teacher (PGT) in Chinmaya Vidyalaya P.A.C.Ramasamy Raja Matriculation Higher Secondary School, Rajapalayam on 29.07.2019.
- Interview panel member for PGT Physics Interview conducted at Chinmaya Vidyalaya P.A.C. Ramasamy Raja Matriculation Higher Secondary School, Rajapalayam, on 22.06.2019.
- Co-ordinator for School Connect Programme (Physics)
- Member for Criteria X for accreditations.
- Stock Verification Auditor.
- Department Advisory committee member for ECE department.
- Member – College Academic Council.
- Department news-letter in-charge
- Department -magazine in-charge.
- Member - College Library Advisory committee.
- Member S&H Magazine committee.