

Dr. (Mrs) NASEEMA. K

*Assistant Professor, Department of Physics,
Nehru Arts and Science College, Kanhangad.P.O,
Kasaragod District, Kerala, India.*



Date of Joining : September 10, 1996
Professional Experience: 24 Years

Contact Details

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Academic Background:

Ph.D, Mangalore University, Mangalore, Karnataka (2010).

M.Phil. (Physics) Bharatidasan University, Tiruchirappally (2004)

M.Sc (Physics) Calicut University, Kerala(1988)

B.Ed (Physical Science) Calicut University (1992)

Areas of Interest

- Growth, characterization and applications of nonlinear optical single crystals and materials
- Solar cells

Supervision of Ph.D

- 01 (awarded)
- 02(submitted)
- 02(On-going)

Membership in Scientific bodies :

- *Member, PG Board of studies, Kannur University (2013-17)*
- *Member, PG Board of examination, Department of Physics, Kannur University*
- *Member, UG Board of examination, Department of Physics, Kannur University*

Positions held at the college :

- *Convener, Development and Beautification committee,2018-20*
- *Convener, Research and Publication Committee, 2019-20*
- *Chief Superintendent of Kannur University Examinations, March/April 2019*
- *Chief Superintendent of Kannur University Examinations (SDE), March/April 2016*

- *Additional Chief Superintendent at C K Nair Arts and Management College, Kanhangad, October/November 2017*
- *Additional Chief Superintendent at Sanathana Arts and Science College, Paraklayi, Kanhangad, March/April 2018*
- *Elected member of the college council(2016-19)*
- *Member, IQAC (2012-17)*
- *Co-ordinator, Women's Cell(2013-16),*
- *Co-ordinator, Counseling centre(2016-18),*
- *Member, Science Club(2014-15)*
- *Member, PTA(2017-18)*
- *Mentor, Walk With a Scholar programe(2015-17)*
- *Vice-chairman of Reception Committee, Kannur University Kalolsavam,2016*
- *Chairman of Accommodation Committee, Kannur University Kalolsavam,2019*
- *Treasurer, Alumni , NAS College Kanhangad(2016-19)*

Extension activities

- Subject expert of staff selection committee for the selection of Teaching staff in the Department of Physics, Nirmalagiri College, Nirmalagiri.P.O. , Kannur District, Kerala(2017)
- Subject expert of staff selection committee for the selection of Teaching staff in the Department of Physics, SirSyed College, Taliparamba,Kannur District, Kerala(2016)
- Subject expert of staff selection committee for the selection of Teaching staff in the Department of Physics, X Pious college, Rajapuram, Kasargod District, Kerala (2016).
- Subject expert for Screening cum Evaluation committee (2016), M. G. College, Iritty, Kannur District, Kerala (2016).
- Question paper setter of Calicut University(2015)

Books

1. ***“Nonlinear Optics, an Introduction”*** by Dr. Naseema. K (2018) , ISBN: 978-93-88743-00-6 ;Manjusha Publications.
2. ***“Solid State Physics”*** by Dr. Naseema. K (2020), ISBN: 978-93-88743-90-7 ; Manjusha Publications.

Chapters in books

1. **Advances in Materials Science Research. Volume 10** , Nova Publishers

Growth, Characterization, Nonlinear Optical Properties and Electron Irradiation Effects on 4-Amino-5-Mercapto-3-[1-(4-Isobutylphenyl) Ethyl]-1,2, 4-Triazole and N'-[(Z)-(4-Methylphenyl) Methylidene]-4-Nitrobenzo Hydrazide Single Crystals;pp. 211-248 (Vijayalakshmi Rao, K.Naseema, Materials Science Department, Mangalore University, Mangalagangothri, Mangalore, Karnataka, India).

2. **Advances in Materials Science Research. Volume 11**, Nova Publishers

Third Order Nonlinear Optical Properties of Hydrazones (K. Naseema, Vijayalakshmi Rao , Materials Science Department, Mangalore University, Mangalagangothri, Mangalore, Karnataka, India).

3. Recent Advances in Material Science and Biophysics proceedings of international conference **Nonlinear optical studies of L-threonine L-threoninium picrate**, K.M. Athira, **K. Naseema**, RAMSB, (2018)18-21, ISBN: 978-93-5291-953-6.

Papers published

1. **Naseema K**, Ribin K K, Navya N and Prasoon prasannan, “Thermal conversion of CBD grown ZnS thin films to ZnO, **Zeitschrift fur Naturforschung A (ZNA)** (accepted, November 2020)

2. Sarath Ravi, Rakhi Sreedharan, K. R. Raghi, T. K. Manoj Kumar, Naseema.K, “Linear - Nonlinear optical and Quantum chemical studies on Quinolinium 4-aminobenzoate: a third order non-linear optical material for optoelectronic applications”, **Crystal Research & Technology** (November 2020).
3. **K. Naseema**, Rakhi Sreedharan, Sarath Ravi, K. R. Raghi, T. K. Manoj Kumar, “Experimental and Computational studies on optical properties of a promising N-benzylideneaniline derivative for non-linear optical applications”, *Zeitschrift für Naturforschung - Section A: Journal of Physical Sciences* (2020). (doi no: org/10.1515/zna-2020-0047; accepted in April 2020)
4. Sarath Ravi, Rakhi Sreedharan, K. R. Raghi, T. K. Manoj Kumar, **K. Naseema**, “Experimental and computational perspectives on linear and non-linear optical parameters of an orthorhombic crystal for optical limiting applications”, **Applied Physics A: Materials Science & Processing**, 126 (2020) 56.
5. Rakhi Sreedharan, Sarath Ravi, K. R. Raghi, T. K. Manoj Kumar, **K. Naseema**, “Growth, linear-nonlinear optical studies and quantum chemistry formalism on an organic NLO crystal for opto-electronic applications: experimental and theoretical approach”, **S. N. Applied Sciences**, 2 (2020) 578.
6. Ribin K K, Navya N and **Naseema K**, “Comparative studies on the properties of pure and dye sensitized ZnS thin films synthesized by chemical bath deposition method”, *Journal of Applied Science and Computations* ., Vol.VI,pp.1-8, Issue III, March. 2019. ISSN Online Number: 1076-5131
7. Navya N, Ribin K K and **Naseema K**, “Effect of Chlorophyll Pigment on CBD Grown ZnO Thin Film,” *Journal of Applied Science and Computations* ., Vol.VI,pp.9-16, Issue III, March. 2019. ISSN Online Number: 1076-5131.
8. Navya N, Ribin K K and **Naseema K**, “.Structural, optical and morphological studies of SILAR grown ZnO thin film and double coated CBD grown ZnO thin film”, *IOP Science : Journal of Physics (JPCS)* (2020) ISSN: 1742-6596(Online).
9. Ribin K K , Navya N and **Naseema K**, “Effect of IR irradiation on the various properties of chemically prepared zinc sulphide thin films”, *IOP Science : Journal of Physics (JPCS)* (2020) ISSN: 1742-6596 (Online).
10. **K. Naseema**, Sarath Ravi, Rakhi Sreedharan, “Studies on a novel organic NLO single crystal: L-asparaginium oxalate”, *Chinese Journal of Physics* 60 (2019) 612–622.
11. **K. Naseema**, K. M. Athira, K. V. Sujith, and Nithinchandra, ‘Growth and Characterisation of 5-nitro-2-furaldehyde diacetate Single Crystals’, *Journal of Materials Science: Materials in Electronics*, 29.18(2018)16074–16079.
12. K.M. Athira, **K. Naseema**, ‘Growth, Optical, Thermal and Mechanical Studies of Picric Acid Doped L-Threonine Single Crystals’, *International Research journal of Engineering and Technology*, 5.9(2018)893-898.
13. K.M. Athira, **K. Naseema**, ‘Non-linear optical studies of a new amino compound L-hydroxyproline picrate’, *Indian Journal of Scientific Research*, 18.1(2018) 37-40, ISSN: 2250-0138.
14. **K. Naseema**, K. V. Sujith, “Growth and Characterization of N’-[(E)-4-Bromobenzylidene]-2-(4-isobutylphenyl) Propanohydrazide”, *Academia* 2 (2017) 32-35, ISSN 2395-7050.
15. **K. Naseema**, V. Rao, K. B.Manjunatha, K. V. Sujith, $\chi(3)$ Measurement and optical limiting studies of Benzhydrazides. *Academia* 1 (2015) 50-54, ISSN 2395-7050.
16. **K.Naseema**, K.B.Manjunatha, K.V.Sujith, G.Umesh , BalakrishnaKalluraya, VijayalakshmiRao, “Third order optical nonlinearity and optical limiting studies of propane hydrazides”**Optical materials** 34 (2012) 1751–1757.
17. **K. Naseema**, M.Shyma, K.B. Manjunatha, A. Muralidharan, G. Umesh, Vijayalakshmi Rao, “ $\chi^{(3)}$ measurement and optical limiting studies of urea picrate”, **Optics & Laser Technology** 43 (2011) 1286–1291.
18. **K.Naseema**, K.B.Manjunatha, K.V Sujith, Vijayalakshmi Rao, G.Umesh , Balakrishna Kalluraya, “Synthesis, characterization and third order nonlinear optical parameters of 4-amino-5-(4-nitrophenyl)-1, 2, 4-triazole-3-thione”, **Journal of Optics**, 39 (2010)143–148.
19. **K. Naseema**, K.V.Sujith , K.B.Manjunatha, BalakrishnaKalluraya, G.Umesh, Vijayalakshmi Rao, “Synthesis, Characterization and Studies on the Nonlinear Optical Parameters of Hydrazones”, **Optics&LaserTechnology**, 42 (2010) 741–748.
20. **K.Naseema**, Vijayalakshmi Rao, K.V Sujith, Balakrishna Kalluraya, “Crystal Growth and Characterization of an NLO Organic Crystal: N'-[(Z)-(4-methylphenyl)methylidene]-4-nitrobenzohydrazide”, **Current Applied Physics** 10 (2010)1236-1241.

21. Vijayalakshmi Rao, **K. Naseema**, “Electron Irradiation Effects on 4-Amino-5-Mercapto-3-[1-(4-Isobutylphenyl) Ethyl]-1, 2, 4-Triazole Single Crystal”, **Pramana**, 75(2010) 513-522.
22. **K. Naseema**, Vijayalakshmi Rao, “A Phase-Matchable Nonlinear Optical Crystal 4-Amino-5-Mercapto-3-[1-(4-Isobutylphenyl)Ethyl]-1,2,4-Triazole: Synthesis, Crystal Growth and Characterization”, K. V. Sujith, Balakrishna Kalluraya, **Pramana**, 73(2009)719 – 729.

Papers presented at conferences/Seminars

1. **K.Naseema**, Vijayalakshmi Rao, “*Electron irradiation effects on SHG of a new NLO organic crystal: 4-Amino-5-Mercapto-3-[1-(4-Isobutylphenyl Ethyl)-1, 2, 4-Triazole*”, - **International** conference on materials for advanced technologies-2009 (ICMAT-2009) Suntec Singapore International Convention and Exhibition Centre, **Singapore**, 28 June-3 July, 2009.
2. **K.Naseema**, K.B.Manjunatha, K.V Sujith , Vijayalakshmi Rao, G.Umesh , Balakrishna Kalluraya , “*Synthesis, Characterization and Studies on the Nonlinear Optical Parameters of Propane Hydrazides*”, **International** conference on recent trends in materials and characterization (RETMAC-2010), NITK, Suratkal, February 14-15, 2010.
3. **K.Naseema**, Vijayalakshmi Rao, K.V.Sujith and Balakrishna Kalluraya , “*Synthesis, crystal growth and characterization of N'-(Z)-(4Methylphenyl) Methylidene]-4 Nitrobenzohydrazide*”, - **International** conference on frontiers in chemical research (ICFCR-2008) Mangalore University, Mangalore, Dec 29-31, 2008.
4. **K.Naseema**, Vijayalakshmi Rao, K.V Sujith, Balakrishna Kalluraya, “*Synthesis, Growth, characterization and irradiation effects of 4-amino-5-mercapto-3-[1-(4 isobutylphenyl) ethyl]-1, 2, 4-triazole single crystal*”, National conference on Nanophotonic materials (NCNM-2008) Cochin university, Cochin, Oct 9-11, 2008.
5. **K.Naseema**, Vijayalakshmi Rao, G.Umesh, K.V Sujith and Balakrishna Kalluraya, “*Synthesis, characterization and studies on nonlinear optical parameters of 4-Amino-5-(4-Nitrophenyl)-1, 2, 4-Triazole-3-Thione*”, National conference on Advances in Physical and Theoretical Chemistry (APTChem-2009)University of Calicut, Calicut, March 19-20,2009.
6. **K.Naseema**, K.V Sujith, K.B.Manjunatha, Vijayalakshmi Rao, Balakrishna Kalluraya, G.Umesh, “ $\chi^{(3)}$ measurement and optical limiting studies of acethydrazides”, 22nd Kerala Science Congress, Peechi, Thrissur, January 28-31, 2010.
7. **K.Naseema**, Vijayalakshmi Rao, M.Shyma, A.Muralidharan, “*Synthesis, Crystal growth, Spectral and Optical Studies of Urea-Picrate*”, National Seminar on Physics and Evolution of Technology in the 21st Century [PET-2010], The Zamorin’s Guruvayurappan College, Calicut, January 07-08, 2010.
8. **K.Naseema**, Vijayalakshmi Rao, K.B.Manjunatha, K.V.Sujith, G.Umesh , Balakrishna Kalluraya, “ $\chi^{(3)}$ measurement and optical limiting studies of Benzhydrazides”, 23rd Kerala Science Congress, Thiruvananthapuram, January 29-31, 2011.

9. **K Naseema**, *Nithin Chandra, Balakrishna kalluraya*, “Growth and characterization of nitrofurane diacetate”, *National Seminar on Emerging trends in Optoelectronic and Solar energy Nanomaterials (EOSN-2011) at PAZHASSI RAJA N.S.S. College, Mattannur, 23-24 September, 2011.*
10. K.M. Athira, **K. Naseema**, “Nonlinear optical studies of L-threonine L-threoninium picrate”, , International conference on Recent Advances in Material Science and Biophysics(RAMSB) held at Department of studies in Physics, Mangalore University, Mangalore, Karnataka, from 23-25 January 2018.
11. K.M. Athira, **K. Naseema**, ‘Nonlinear optical studies of Picric acid doped L-serine Single crystals, National conference on Recent Advances in Chemical and Material Science(RACMS-18) held at School of Engineering and Technology, Jain University, Bengaluru, Karnataka on 3-02-2018
12. K.M. Athira, **K. Naseema**, ‘ Thermal, Mechanical and Nonlinear optical studies of Picric Acid doped L-hydroxyproline single crystals’, National Conference on Processing and Fabrication of Advanced Materials(NCPFM-2018) held at Department of Physics, SSN College of Engineering, Kalavakkam, Tamilnadu, from 1-03-2018 to 2-03-2018
13. K.M. Athira, **K. Naseema**, ‘Thermal, Mechanical and Nonlinear optical studies of Picric Acid doped L-serine single crystals’, National conference on Contemporary Trends in Physics Research(CTPR-2018) held at Department of Physics, Swami Anandatheertha Campus, Kannur University, Payannur, Kannur, Kerala on 19-03-2018.
14. K.M. Athira, **K. Naseema**, ‘Thermal and Optical Studies of 5-Nitro-2-furaldehyde diacetate Single Crystals’, International Seminar on Processing Technology and Advanced Materials(ISTAM-2018) held at Department of Physics and Research Centre, Muslim Arts College, Azhagiemandapam, Thiruvithancode, Tamilnadu, on 29-9-2018.
15. K.K.Ribin, N.Navya, **K.Naseema**, “Influence of chlorophyll pigment on the CBD grown ZnS thin film”, *National level conference on Recent Advances in Material Science*, 5th Feb.2019,Field Marshal K.M.Cariappa College, Madikeri, Mangalore University.
16. K.K.Ribin, N.Navya, **K.Naseema**, “Comparative studies on the properties of pure and dye sensitized zinc sulphide thin films synthesized by chemical bath deposition method” *Two Day National Conference on Nanostructured Materials*, 25th and 26 Feb 2019, M.A.M.O.College, Manassery, Mukkam, Kozhikode.
17. N.Navya, K.K.Ribin, **K.Naseema**, “Effect of chlorophyll pigment on chemically prepared ZnO thin films,” *National level conference on Recent Advances in Material Science*, 5th Feb 2019,Field Marshal K.M.Cariappa College, Madikeri, Mangalore University.
18. N.Navya, K.K.Ribin, **K.Naseema**, “Effect of chlorophyll pigment on CBD grown ZnO thin film” *Two Day National Conference on Nanostructured Materials*, 25th and 26 Feb 2019, M.A.M.O.College, Manassery, Mukkam, Kozhikode
19. Sarath Ravi, Rakhi Sreedharan, **K. Naseema**, “Synthesization, Growth and Characterization on an organic NLO single crystal: 4-dimethylaminopyridinium 3,5-dinitrobenzoate ”, *International Conference- Nanotechnology 2019, Opportunities and Challenges*, 10-11 January 2019, St.Aloysius College, Mangaluru, Karnataka.
20. Sarath Ravi, Rakhi Sreedharan, **K. Naseema**, “Growth and Characterization of p-nitrobenzylidene-p-phenylamineaniline: an organic nonlinear optical crystal for nonlinear optical applications”, *MESMAC International Conference on People First? Man, Machine, Milieu*, 15-17 January 2019, MES Mampad College, Malappuram, Kerala.
21. Sarath Ravi, Rakhi Sreedharan, **K. Naseema**, “Growth and Optical studies on an organic non-linear Photonic crystal”, *National Conference on Materials Science and Nanotechnology*, 18-20 March 2019, MES Ponnani College, Malappuram, Kerala.
22. Sarath Ravi, **K. Naseema**, “Studies on growth and characterizations of a Non-linear Optical material for Photonic applications”, *National Seminar on Contemporary Trends in Physics*”, 19-20 November 2019, Sir Syed College, Taliparamba, Kannur, Kerala.
23. Rakhi Sreedharan, Sarath Ravi, **K. Naseema**, “Studies on a Novel Organic NLO Crystal: L-Asparaginium Oxalate”, *22nd National Seminar on Crystal Growth and Applications*, 29-31 January 2018, Sacred Heart College, Tirupattur, Tamilnadu.

24. Rakhi Sreedharan, Sarath Ravi, **K. Naseema**, “ Studies on p-nitrobenzylidene-p-phenylamineaniline: an organic nonlinear optical crystal for nonlinear optical applications”, *International Conference-Nanotechnology 2019, Opportunities and Challenges*, 10-11 January 2019, St.Aloysius College, Mangaluru, Karnataka.
25. Rakhi Sreedharan, Sarath Ravi, **K. Naseema**, “Crystal Growth and Physical studies on 4-dimethylaminopyridinium 3,5-dinitrobenzoate: an organic NLO single crystal”, *MESMAC International Conference on People First? Man, Machine, Milieu*, 15-17 January 2019, MES Mampad College, Malappuram, Kerala.
26. Rakhi Sreedharan, Sarath Ravi, **K. Naseema**, “Synthesization and Characterization of an organic NLO crystal”, *National Conference on Materials Science and Nanotechnology*, 18-20 March 2019, MES Ponnani College, Malappuram, Kerala.
27. Rakhi Sreedharan, Sarath Ravi, **K. Naseema**, “Prediction of Non-linear activity of a photonic crystal for laser assisted applications”, *National Conference on Frontiers in Theoretical and Experimental Physics*, 09-10 January 2020, Nehru Arts and Science College, Kanhangad, Kasaragod, Kerala.
28. Sarath Ravi, Rakhi Sreedharan, **K. Naseema**, “Studies on Non-linear behavior of a photonic crystal for optical limiting applications”, *National Conference on Frontiers in Theoretical and Experimental Physics*, 09-10 January 2020, Nehru Arts and Science College, Kanhangad, Kasaragod, Kerala.

Seminars / workshops attended

1. *Two day Work shop on Strategies on “Reaccreditaton” held from 4th to 5th July 2011 at Nehru Arts and Science College, Kanhangad, sponsored by National Accreditation Council, Bangalore.*
2. *Lecture Workshop on “Statistical Mechanics” held from 15th to 17th July 2011 at Nehru Arts and Science College, Kanhangad, jointly organized by Academy of science Bangalore, National Academy of Sciences Allahabad, INSA Newdelhi at NAS College Kanhangad.*
3. *Three day Work shop on “General Informatics” held from 23rd to 25th August, 2011 at Nehru Arts and Science College Kanhangad, sponsored by the Kerala State Higher Education Council, Thiruvananthapuram.*
4. *Work shop on “Intellectual Property Rights” held on 25th October 2011 at Nehru Arts and Science College Kanhangad, jointly organized by NAS College Kanhangad & PIC-Kerala/ KSCSTE.*
5. *Special lectures on “Thermal analysis and NMR spectroscopy” conducted by the School of Chemical Sciences, Kannur University on 29th November, 2012.*
6. *National Seminar on “Recent Trends in condensed matter physics “ conducted by the Physics department, Government Brennen College, Tellicherry on 25th January, 2013.*
7. *National Colloquim on “Hundred Years of Crystallography” held at the Kannur University, Thalassery Campus, Palayad on 23rd March 2015.*
8. *National Seminar on “Optics and Photonics” organized by the Department of Studies and research in Physics, Payyannur College on 6th and 7th August, 2015.*

9. *Capacity building workshop for Coordinators and Internal mentors of the Walk With a Scholar Programme of the Department of Collegiate Education, Government of Kerala, held at NAS College Kanhangad on 2nd February 2016.*

Seminars organised

1. *National Seminar on “Frontiers in Materials Science” organized by the PG Department of Physics, NAS College Kanhangad on 15th February 2016.*
2. *National Seminar on “Frontiers in Theoretical and Experimental Physics”, organized by the PG Department of Physics, NAS College, Kanhangad on 09-10 January 2020.*

Orientation/Refresher courses Participated

1. *16th Orientation Programme from 10th October 2011 to 8th November 2011, conducted by Academic Staff College, Kannur University.*
2. *Attended a two weeks refresher course in “ Statistical Physics” sponsored by Indian Academy of Sciences, Bangalore , Indian National Science Academy, New Delhi the National Academy of Sciences, India, Allahabad in collaboration with Nehru Arts and Science College, Kanhangad from April 29 to May 12, 2012.*
3. *Attended a two weeks refresher course in “ Statistical Physics” sponsored by Indian Academy of Sciences, Bangalore , Indian National Science Academy, New Delhi the National Academy of Sciences, India, Allahabad in collaboration with Nehru Arts and Science College, Kanhangad from May08 to May 21, 2013.*
4. *Attended a three weeks Refresher Course in Materials Science sponsored by UGC, organized by ASC, Kannur University from 13-08-2014 to 02-09-2014.*
5. *Attended a short term course in Disaster Management organized by UGC-HRDC, kannur University from 25-09-2019 to 01-10-2019.*
6. *Attended a two weeks Refresher Course, ‘Winter School in Basic Sciences’ organized by UGC-HRDC, kannur University from 28-11-2019 to 11-12-2019*