

**Name** : Dr. N. Ravikumar

**Designation** : Assistant Professor

**Department** : Physics

**Qualification** : M. Sc., Ph. D.

**Experience** : Teaching: 2.10 Years Research: 7.4 Years

**Area of Specialization(s)** : Spin Trapping Nanomaterials and Radiation Dosimetry

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#### Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph. D.	Physics	PSG College of Technology, Coimbatore Anna University, Chennai	2019
M. Sc. (Int.)	Physics	School of Physics, Bharathidasan University, Trichy	2014

#### Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University / Agency Name	Year
Postdoctoral Researcher	Energy Independent Dosimeter for Radiotherapy	University of Oslo, Oslo, Norway	2020 to till date

#### Research Publications (Indexed)

##### International

- 1) Nattudurai, Ravikumar; Arous, Delmon; Edin, Nina Frederike Jeppesen, Malinen, Eirik, (2021). **Alanine dosimeters for determining linear energy transfer in proton beams**, Radiotherapy and Oncology, Vol. 161, p.229, ISSN 0167-8140, (Indexed in SCOPUS).
- 2) V. Gopala Krishnan, N. Ravikumar, R. Dilip, P. Elango, **Gas sensing nature and characterization of Zr doped TiO<sub>2</sub> films prepared by automated nebulizer spray pyrolysis technique**, Optik, Vol. 206, p.164347, 2020 (Indexed in SCOPUS).

- 3) N. Ravikumar, R. Arun Kumar, B.S. Panigrahi, U. Madhusoodanan, C.B. Palan, S.K. Omanwar, **Spectral Properties And Thermoluminescence Characteristics Of DY Doped LiKB<sub>4</sub>O<sub>7</sub> Single Crystals Grown By Czochralski Technique**, Nuclear Instruments and Methods in Physics Research Section B, Vol. 436, pp. 203-210, 2018, (Indexed in SCOPUS).
- 4) N. Ravikumar, R. Arun Kumar, U. Madhusoodanan, B.S. Panigrahi, C.B. Palan, S.K. Omanwar, **Luminescence Properties Of Europium Doped Lithium Potassium Tetraborate (Eu: LiKB<sub>4</sub>O<sub>7</sub>) Single Crystal For Dosimetry Applications**, Journal of Materials Science: Materials in electronics, Vol. 29 pp. 18511-18518, 2018, (Indexed in SCOPUS).
- 5) N. Ravikumar, R. Arun Kumar, C.B. Palan, S.K. Omanwar, **Thermoluminescence Characteristics Of Biological Tissue-Equivalent Single Crystal - Europium Doped Lithium Tetraborate For Dosimetry Applications**, Journal of Materials Science: Materials in electronics, Vol. 29, pp. 14427–14434, 2018, (Indexed in SCOPUS).
- 6) A. Kumaresh, R. Arun Kumar, N. Ravikumar, U. Madhusoodanan, B.S. Panigrahi, K. Marimuthu, M. Anuradha, **Structural And Photoluminescence Studies On Europium Doped Lithium Tetraborate (Eu: Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>) Single Crystal Grown By Microtube Czochralski ( $\mu$ T-CZ) Technique**, Chinese Physics B, Vol. 25, p.058105, 2016, (Indexed in SCOPUS).
- 7) G. Thilakavathi, R. Arun Kumar, A. Kumaresh, N. Ravikumar, **Growth And Characterization Of L-Threonine Doped Thiourea Single Crystals: An Optical Material**, Materials Research Innovations, Vol. 20, pp. 254-258, 2016, (Indexed in SCOPUS).
- 8) N. Ravikumar, R. Arun Kumar, **Synthesis And Thermoluminescence Properties Of Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>: SM Phosphor For Dosimetry Applications**, Materials Today Proceedings, Vol. 18, pp.1716-1723 (Scopus).

#### Other Publications: International / National Journals

- 1) N. Ravikumar, R. Arun Kumar, **Growth And Characterization Of Pure, L-Alanine, L-Valine And L-Threonine Doped Ammonium Sulphate Single Crystals Grown By A Slow Evaporation Method**, ISBN: 978-81-903321-7-0 (NLS-25 Identifier: CP-1.27), pp. 110-116, 2016.

## Presentations in Conference / Seminar

- 1) **Estimating linear energy transfer in proton beams using alanine/EPR dosimetry**, BiGART 2021 - Biology-Guided Adaptive radiotherapy – Acta Oncologica conference, DCCC - Danish Comprehensive Cancer Center, Denmark, 5 to 6-Oct-21.
- 2) **Alanine dosimeters for determining linear energy transfer in proton beams**, European Society for Therapeutic Radiology and Oncology (ESTRO 2021), Madrid, Spain, 27 to 31-Aug-21.
- 3) **Tissue Equivalent Borate Single Crystals For Radiation Sensors Applications**, National Conference on Innovations in Bio Chemical and Food Technology – 2020 (IBCFT'20), Kumaraguru College of Technology, Coimbatore, 14-Mar-2020.
- 4) **TL Studies of Solid-State Reaction Derived and  $\gamma$ -Irradiated Eu Doped Lithium Zinc Borate Phosphor**, National Conference on Empowerment of Rural Communities Through Innovations in Science and Technology, Kongunadu Arts and Science College, Coimbatore, 21 to 22-Feb-2020.
- 5) **Growth And Characterization Of Borate Single Crystals With Near-Biological Tissue Equivalency For Dosimetric Applications**, 23<sup>rd</sup> National Seminar on Crystal Growth and Applications (NSCGA 2019), Bharathiar University, Coimbatore, 28 to 30-Jan-19.
- 6) **Thermoluminescence Characteristics Of Eu: LKBO Single Crystal Irradiated With The Co-60 gamma rays**, 22<sup>nd</sup> National Seminar on Crystal Growth and Applications (NSCGA 2018), Sacred Heart College, Tirupattur, 29 to 31-Jan-18.
- 7) **Synthesis And Thermoluminescence Properties Of  $\text{Li}_2\text{B}_4\text{O}_7$ : Sm Phosphor For Dosimetry Applications**, International Conference on Advanced Materials for Technological Applications (ICAM 2018), PSGR Krishnammal College for Women, Coimbatore, 3 to 5-Jan-18.
- 8) **Thermoluminescence Studies On Biological Tissue-Equivalent Material-Dysprosium Doped Lithium Potassium Tetraborate (Dy:LKBO) Single Crystal Grown By Czochralski Technique**, International Conference on Advanced Materials Science and Technology (ICAMST-2017), Bannari Amman Institute of Technology, Sathyamangalam, 17to 19-Aug-17.
- 9) **Growth And Characterization Of Europium Doped Lithium Tetraborate Single Crystals For Thermoluminescence Dosimetry (TLD) Applications**, 21<sup>st</sup> National Seminar on Crystal Growth and Applications (NSCGA 2017), National College, Tiruchirappalli, 6 to 8-Mar-17.

- 10) **Growth And Characterization Of Pure, L-Alanine, L-Valine And L-Threonine Doped Ammonium Sulphate Single Crystals Grown By Slow Evaporation Method**, National Laser Symposium (NLS-25), KIIT University, Bhubaneswar, 20 to 23-Dec-16.
- 11) **Synthesis, Growth And Characterization Of Rare Earth Doped  $\text{Li}_2\text{B}_4\text{O}_7$  and  $\text{LiKB}_4\text{O}_7$  Single Crystals For NLO And Dosimetry Applications**, National Level Conference on Developing Scenario in Applied Sciences and Communicative English (PRAYAG-2016), Kumaraguru College of Technology, Coimbatore, 21 & 22-Apr-16.
- 12) **Growth Of Amino Acids Doped Inorganic Single Crystals**, 19<sup>th</sup> National Seminal on Crystal Growth, VIT University, Vellore, 12 to 14-Mar-15.

### Participation in Conference

#### International

- 1) **International Conference on Solution Grown Crystals and Their Useful Applications (SGCA-2021)**, Organized by SSN Research Centre, Chennai, 13 to 15-Sep-21.
- 2) **International e-Conference on Frontiers of Energy Efficient Materials & Devices**, Organized by Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore, 13-Mar-2021.
- 3) **International Conference on Recent Trends in Applied Science and Technology (ICRTAST-2020)**, Organized by Department of Physics, Bharathidasan University, Tiruchirappalli, 26 to 29-Dec-20.
- 4) **International Virtual Conference on Advances in Nanomaterials and It's Recent Applications (ANMRA – 2020)**, Organized by Department of Science and Humanities – Physics at Dr.N.G.P. Institute of Technology, Coimbatore, 15 to 17-Jul-20.

#### National

- 1) **National Conference on Nanophotonics**, Bharathidasan University, Tiruchirappalli, 6 & 7-Mar-14.

### Participation in Seminars

- 1) **National Seminar on Basics and Beauty of Quantum Mechanics**, Department of Physics, Kongunadu Arts and Science College, Coimbatore, 26-Feb-20.
- 2) **National Seminar on Recent Advancements in Frontier Areas of Material Science**, Alagappa University, Karaikudi, 23 & 24-Mar-16.
- 3) **National Seminar on Recent Advances in Materials Science**, Bharathidasan University, Tiruchirappalli, 3 & 4-Feb-14.
- 4) **Special Seminar on Recent Trends in Novel Materials**, Bharathidasan University, Tiruchirappalli, 20-Feb-13.

### Participation in Workshop

- 1) **e - Workshop titled 'Phase Identification of Polycrystalline Materials using XRD data in Softwares'**, organized by Panorama association, Department of Physics, Dr. N.G.P. Arts and Science College, Coimbatore, 25-Sep-21.
- 2) **International Workshop on Energy Storage Technologies for E-Mobility (IWESTE – 2021)**, Department of Chemistry, SRM Institute of Science and Technology, Chennai, 25 to 27-Mar-21.
- 3) **TEQIP III sponsored National Workshop on 'Nano Materials and Their Applications'**, PSG College of Technology, Coimbatore, 28-Apr-18.
- 4) **National Workshop on Luminescence Materials Devices and Applications (LMDA-15)**, Indira Gandhi Centre for Atomic Research, Kalpakkam, 19-Aug-15 to 20-Aug-15.

### Participation in Orientation Programme / Short Term Courses

- 1) **One week online Certificate Course on Digital Teaching Techniques**, Organized by ICT Academy, 10 to 15-Aug-20.
- 2) Participated in the IIC Online Sessions conducted by Institution's Innovation Council (IIC) of MHRD's Innovation Cell, New Delhi to promote Innovation, IPR, Entrepreneurship, and Start-ups among HEIs Apr to 22-May-20.
- 3) Participated in the **Indian Summer School on Crystal Growth (ISSCG 2020)**, Organized by SSN Research Centre, Chennai, 14 to 23-May-20.

- 4) **NAAC Online Certification Course**, Selection of Nanomaterials for Energy Harvesting and Storage Application, Jul-Aug 2019 (4 Week Course).
- 5) **Summer Research Internship Programme 2017 (SRIP 17)**, PSG College of Technology, Coimbatore, 12 to 22-Jun-17.
- 6) **DST-SERC School on Single Crystal of Functional Materials & Their Applications**, SSN College of Engineering, Chennai, 2 to 22-Sep-15.

#### **Participation in Faculty Development Programme**

- 1) **Three days online FDP Programme on Emerging Trends in Material Frontiers**, Conducted by Department of Physics, Mohamed Sathak A J College of Engineering, Chennai, 27 to 29-May-2020.
- 2) **Faculty Development Program on “Remarkable Structural, Magnetic and Microwave Adsorption Properties of Rare Earth-Doped Mn-Cu Ferrites. & In-situ characterization of Materials at Elevated Temperatures**, Organised by the Department of Physics, Kristu Jayanti College (Autonomous) Bengaluru, 4-May-20.
- 3) **One week FDP Programme on Quality Initiatives In Higher Education**, organized by Dr. N.G.P. Arts and Science College, Coimbatore, 13 to 20-Apr-20.
- 4) **NAAC Revised Accreditation Framework & OBE Assessment Methodaology**, Dr. N.G.P. Arts and Science College, Coimbatore, 27-May-19 to 02-Jun-19.

#### **Conference / Seminar / Workshop Organized**

- 1) Organizing secretary, Summer Research Internship Programme 2017 (SRIP 17), PSG College of Technology, Coimbatore, 12 to 22-Jun-17.
- 2) Organizing secretary, National Workshop on Luminescent Materials (NWLM 2016), PSG College of Technology, Coimbatore, 26-Feb-16.
- 3) Committee Member, National Conference on Recent Trends in Basic and Applied Sciences, Dr. N.G.P. Arts and Science College, Coimbatore, 02-Mar-20 to 03-Mar-20.

### Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
Indian Association for Crystal Growth (IACG)	Life-time	-
Indian Laser Association (ILA)	Life-time	-
Materials Research Society of India (MRSI)	Life-time	-
European Society for Radiotherapy and Oncology	Full Member - Active	2021

### Awards / Honors

Awards / Honors	Agency / Institute	Year of Award
Best Ph.D. thesis award	Dr.NGPASC Nalla Gounder Research & Innovative awards, Dr. N.G.P. Arts and Science College, Coimbatore.	2020
Best crystal display award	23 <sup>rd</sup> National Seminar on Crystal Growth and Applications (NSCGA 2019), Bharathiar University, Coimbatore	2019
Best crystal display award	22 <sup>nd</sup> National Seminar on Crystal Growth and Applications (NSCGA 2018), Sacred Heart College, Tirupattur	2018
Best oral presentation award	21 <sup>st</sup> National Seminar on Crystal Growth and Applications (NSCGA 2017), National College, Tiruchirappalli	2017
Project Fellow	UGC-DAE-CSR, India	2014-2017
Winner of the Project Report Writing	DST-SERC Sponsored School on Single Crystal of Functional Materials & Their Applications at SSN College of Engineering, Kalavakkam, Chennai	2015
First rank holder in M.Sc. (Five year integrated programme)	School of Physics, Bharathidasan University, Tiruchirappalli.	2014
Second prize for Essay Competition	26 <sup>th</sup> National Science Day Celebration, Bharathidasan University, Tiruchirappalli	2012
Third prize for Essay Writing	25 <sup>th</sup> National Science Day Celebration, Bharathidasan University, Tiruchirappalli	2011

