# CURRICULUM VITAE

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**Dr. Nagamalleswari Katragadda**

PhD

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# Profile

Seeking and maintaining a full-time position offers professional challenges, utilizing interpersonal skills, excellent time management, and problem-solving skills.

# Work experience

## Lecturer (2017-2019) in Vignan Degree College, Palakaluru Road, Guntur, AP

* Used a variety of learning modalities and support materials to facilitate the learning process and accentuate presentations.
* Developed and implemented innovative teaching strategies to engage students in lectures and coursework.
* Used PowerPoint to give presentations to student classrooms.
* **Courses Taught:** Mechanics & Properties of Matter, optics, Basic Electronics, Renewable Energy.
* **Assistant Professor (2024 - Present) at DRK Institute of Science And Technology, Bowrampet, Hyderabad**
* **Courses Taught**: Applied Physics
* **Education & Qualifications**

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| --- | --- | --- | --- | --- |
| S.No | Qualification | % of Marks | Year | University/ College |
| 1. | PhD | 83 | 2019-2024 | SRM University, Guntur, AP |
| 2. | MSc (Physics) | 84 | 2015-2017 | TJPS College, Guntur, AP |
| 3. | BSc (MPC) | 86 | 2012-2015 | JKC College, Guntur, AP |
| 4. | Inter (MPC) | 73 | 2010-2012 | JKC College, Guntur, AP |
| 5. | SSC | 82 | 2009-2010 | AGH School, Guntur, AP |

* **PhD Thesis Title:** Design of Pb-free Perovskite Oxides for Multiferroics and Flexible Hybrid Nanogenerators
* **Publications**

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1. **KN Malleswari**, P. Tulasirao, and P. Mandal “*A measurement set-up for characterization of temperature dependence of impedance dielectric permittivity, and pyroelectric current under controlled environment*” **J. Electron. Mater**. **52, 1625 (2022). IF = 2.04** <https://doi.org/10.1007/s11664-022-09875-2>.
2. **KN Malleswari**, P. Mandal, P. Yanda, A. Sundaresan, S. D. Kaushik, W. Zhang, P. Shiv Halasyamani, A. M. Manjón-Sanz “*Room temperature Polar and Weak-ferromagnetic Oxide with Low Dielectric Loss*”  **Mater. Sci. Eng. B. 298, 116869 (2023). IF = 3.407** <https://doi.org/10.1016/j.mseb.2023.116869>
3. **KN Malleswari,** Soham Kumar, and P. Mandal "*Carbon Nanotube Assisted Improved Device Performance in a Piezoceramic–Polymer Flexible Hybrid Nanogenerator.*” **ACS Appl. Electron. Mater (2023). IF = 4.49** <https://doi.org/10.1021/acsaelm.3c01341>
4. **KN Malleswari,** Soham Kumar, P. Tulasirao, and P. Mandal "*The Structural and Electrical Properties of BiFeO3 – Bi0.5K0.5TiO3 – BaTiO3 based Solid Solutions at the Morphotropic Phase Boundary.*” **Mater. Today Commun. 45, 113030 (2025). IF = 4.5** https://doi.org/10.1016/j.mtcomm.2025.113030

* **Other Publications**

1. Shahnaz Kossar, R. Amiruddin, Asif Rasool, M.C. Santhosh Kumar, **KN Malleswari**, Pranab Mandal, and Nafis Ahmed, “*Study on ferroelectric polarization induced resistive switching characteristics of neodymium-doped bismuth ferrite thin films for random access memory applications.*” **Curr. Appl. Phys., 39, 221 (2022)**. **IF = 2.85** <https://doi.org/10.1016/j.cap.2022.04.013>
2. P. Tulasirao, **KN Malleswari**, and Pranab Mandal “*Probing oxide ion conductivity in Na0.5Bi0.5TiO3-BiFeO3-BaTiO3-based ferroelectric materials.*” **ACS Appl. Energy Mater. 6, 9, 5009 (2023)**. **IF = 6.95** <https://doi.org/10.1021/acsaem.3c00594>
3. Achal Brigade; **KN Malleswari**; Pranab Mandal; R V K Mangalam “*Improved pyroelectric effect in PVDF/BaTiO3 composite flexible films mediated by enhanced β – PVDF phase formation.”* ***J. Polym. Res. 288, (2023). IF = 3.06***

https://doi.org/10.1007/s10965-023-03669-8

1. Achal Brigade; **KN Malleswari**; Pranab Mandal; R V K Mangalam “*Studies on PVDF/Ferrite composite films on flexible substrate for pyroelectric energy conversion*.” **New J. Chem. 09, 28, (2023). IF = 3.92** <https://doi.org/10.1039/D3NJ02649C>
2. Achal Brigade; **KN Malleswari**; Pranab Mandal; R V K Mangalam “*Flexible multiferroic PVDF/CoFe2O4 composite films for pyroelectric energy conversion*.” **J. Mater. Sci. 1 (2023).** **IF = 4.5** <https://doi.org/10.1007/s10853-023-09149-0>
3. Thara Prasannan, **KN Malleswari** Achal Bhiogade, Pranab Mandal, Vengadesh Kumara Mangalam Ramakrishnan “*Revealing Pyroelectric Capabilities: Filler‐Enhanced PVDF/PbTiO3 Films for Improved Flexibility and Energy Conversion.”* **Polym. Adv. Technol. (2025).****IF = 3.69** https://doi.org/10.1002/pat.70345

1. P. Tulasirao, **KN Malleswari**, and Pranab Mandal *“Influence of Mg2+ doping on the oxide ion conductivity of layered ferroelectric SrBi2Ta2O9”* **Ceram. Int. 50, 24 (2025).** **IF = 5.6** https://doi.org/10.1016/j.ceramint.2024.10.233

* **Under Communication**

1. P. Prasad V, **KN Malleswari** Non-Invasive In-Vivo Detection of Random Blood Glucose using Photoacoustic Spectroscopy" has been sent back for the following reasons (Under Review).
2. P. Prasad V**, KN Malleswari** “Design of a Lead-Free Transducer for Non-Invasive Continuous Glucose Monitoring using Photoacoustic Spectroscopy.” (Under preparation).

* **Patents**

1. P. Mandal, P. Tulasirao, **KN Malleswari**, “A method and set-up for characterization of temperature dependence of impedance, relative dielectric permittivity, piezoelectric coefficients and pyrocurrent under controlled gas environment” Application no: **202141051103, 2021** (Published, granted).
2. P. Prasad V, **KN Malleswari** et. al. “Piezoelectric sensor and a method for its preparation” Application no: **202241034906, 2022** (Published, Examination pending)

* **Prototype**
* **KN Malleswari**, P. Tulasi Rao, and Pranab Mandal “A Low-cost set-up for temperature dependence measurement of impedance, relative dielectric permittivity, piezoelectric coefficients, and pyrocurrent under a controlled gas environment up to 1000 °C.” **(Built and operational).**
* **Conferences**

1. **KN Malleswari**, P. Mandal. “Room temperature multiferroics.” International Conference on Advances in Chemical and Materials Sciences (ACMS), Indian Institute of Chemical Engineers, Kolkata (Virtual), 14-16th 2022.
2. **KN Malleswari**, P. Mandal “Design of flexible hybrid nanogenerators” International Conference on Electronic & photonic Integration Circuits (EPIC-2022), SRM University AP, December 15- 17, 2022.
3. **KN Malleswari**, P. Mandal. “ A Polar and weak ferromagnetic oxide with low dielectric loss” National conference on Status and Opportunities in Functional Energy and Electronic Materials (SOFEEM), SRM University, AP, March 2-3rd 2024.

# Research Experience

# Expertise in synthesizing Pb-free Piezoelectric ceramic Oxides using solid-state reaction (SSR) and Molten Salt Synthesis (MSS) techniques.

# Specialize in making pellets for measuring Dielectric and Piezoelectric properties in Pb-free Piezoelectric ceramic oxide materials for sensor applications.

# I specialize in the preparation of nanomaterials for flexible hybrid nanogenerators.

# During my Ph.D. tenure, I had the opportunity to be the student in charge of operating the PANalytical Empyrean X-ray Diffractometer (XRD).

# I specialize in making custom-made furnaces and measuring probes.

* **Guest Lecturer – Introduction to Data Analytics**  
  TJPS college | January 2025
* Delivered a 1-hour lecture on “Material science.”
* **Awards**
  + - A silver award for presenting "Design Pb-free flexible hybrid nanogenerators" during Research Day. 2022, September.
* **Technical Skills**
* MS Office
* Origin
* WinPLOTR
* **Skills**
* Problem solving
* Effective Communication
* Self-motivation and teamwork

# Languages

# English …………………… Fluent

# Telugu ……………………. Fluent

# Hindi ……………………. Basic

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