Dr. K. Umadevi, M. Sc., Ph. D
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ABOUT MYSELF

Dr. K. Umadevi is an Assistant Professor at the Department of Physics, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, India. She has more than 7 years of teaching and research experience. Her research interest lies in the area of magnetic anisotropy, magnetostriction of Rare Earth based alloys and soft magnetic alloys. She has published her research findings in 13 International peer reviewed journals (SCI and SCOPUS indexed journals) and 2 AIP conference proceedings. She has presented her work in various International and national conferences. She also has hands on experience with several thin film processing characterization techniques such as electron beam evaporation, sputtering, surface profilometer, AFM, MFM, Vibrating Sample Magnetometer (VSM), Magnetostriction measurement by employing Position Sensitive Detector, and Longitudinal Magneto-Optic Kerr Effect Microscope (LMOKE).

ACADEMIC EDUCATION

- **B. Sc (M. P. C)** from Dr. B.V. Raju Institute of Computer Education, Bhimavaram. (2008-2011)
- **M. Sc (Physics)** from G. Pulla Reddy Degree & PG College, Hyderabad (2011 - 2013)
- **Ph. D (Physics)** with specialization in magnetic thin films from National Institute of Technology Warangal, Warangal (2015 - 2019).

PROFESSIONAL EXPERIENCE

- **July 2022 – till date:** Assistant Professor, Gokaraju Rangaraju Institute of Engineering andTechnology, Hyderabad, Telangana
- **March 2020 – July 2022:** Assistant Professor, Malla Reddy Engineering College (A), Hyderabad, Telangana
- **June, 2014 – Sep, 2018:** JRF & SRF, Defence Metallurgical Research laboratory - DRDO, Hyderabad, Telangana.
- **June, 2013 – June, 2014**: Lecturer, G. Pulla Reddy Degree & PG College, Hyderabad.

COURSES TAUGHT

- Engineering Physics
- Semiconductor Physics
- Applied Physics
- Engineering Physics Lab
- Semiconductor Physics Lab
- Applied Physics Lab

PUBLICATIONS
International

1. Tailoring magnetic anisotropy in TbFeCo thin films by rapid thermal annealing
K. Umadevi, Sandip Bysakh, J. Arout Chelvane, S.V. Kamat and V. Jayalakshmi
Journal of Alloys Compounds 663, 430 (2016)

2. Role of processing parameters on the structural and magnetic properties of Tb-Fe-Co thin films
K. Umadevi, J. Arout Chelvane, Himalay Basumatary, M. Ramudu, S.V. Kamat and V. Jayalakshmi
Journal of Magetism and Magnetic Materials 418, 163 (2016)

3. Effect of wheel speed on the structure, microstructure, magnetic and electrical properties of Tb-Fe-Co ribbons
K. Umadevi, Mithun palit, J. Arout Chelvane, D. Aravindha Babu, A. P, Srivastava, S.V. Kamat and V. Jayalakshmi
Journal of Superconductivity and Novel Magnetism 29, 2455 (2016)

4. Magnetic anisotropy and microscopy studies in magnetostrictive Tb-(Fe,Co) thin films
J. Umadevi, A. Talapatra, J. Arout Chelvane, Mithun palit, J. Mohanty, S.V. Kamat and V. Jayalakshmi
Journal of Applied Physics 122, 065108 (2017)

5. Magnetic domains in Tb-Fe-Co thin films under anisotropy tilt
A. Talapatra, K. Umadevi, J. Arout ChelvaneJ. Mohanty and V. Jayalakshmi
Journal of Magetism and Magnetic Materials 452, 108 (2018)

6. Magnetostriction and Magnetic Microscopy studies in Fe-Co-Si-B Thin Films
K. Umadevi, J. Arout Chelvane and V. Jayalakshmi
Materials Research Express 5, 036102 (2018)

7. Interlayer coupling in symmetric and asymmetric CoFeB based trilayer films with different domain structures: Role of spacer layer and temperature
Anabil Gayen, Perumal Alagarasamy, Arout Chelvane Jeyaramane and Kosuri Umadevi
Journal of Magetism and Magnetic Materials 462, 29 (2018)

8. Tuning magnetic properties of thick CoFeB film by interlayer coupling in trilayer structured thin films
Anabil Gayen, Kosuri Umadevi, Arout Chelvane J and Perumal Alagarasamy
Journal of Material Sciences & Engineering 7(2), 1 (2018)

9. Influence of Substrate Temperature Driven Magnetic Anisotropy on the Magnetostrictive Behavior of Tb-Fe-Co Thin Films

K. Umadevi, A. Talapatra, J. Arout Chelvane, J. Mohanty and V. Jayalakshmi
Journal of Magetism and Magnetic Materials 466, 333 (2018)

10. Interplay of magnetic anisotropies on the magnetostrictive behavior of Fe-Co thin films
K. Umadevi, J. Arout Chelvane A. Talapatra, J. Mohanty, and V. Jayalakshmi
Journal of Materials Sciences: Materials in Electronics 29(20), 17714 (2018)

11. A novel design of low-cost hearing aid devices using an efficient lifting filter bank with a modified variable filter
N Subbulakshmi, R Maimegalai, G Rajkumar, T Ananth Kumar, Umadevi Kosuri
Expert Review of Medical Devices: Volume 1, 2022-Issue 12 (Online)

International Conference Proceedings:

1. Thickness Dependent Structural and Magnetic Properties of Fe-Co-Si-B Thin Films
K. Umadevi, J. Arout Chelvane and V. Jayalakshmi
AIP Conference Proceedings 1953 B, 100026 (2018)

2. Magnetic anisotropy studies in magnetostrictive Fe-Co thin films
K. Umadevi, J. Arout Chelvane A. Talapatra, J. Mohanty, and V. Jayalakshmi
AIP Conference Proceedings 1942, 130018 (2018)

Presentations in the International / National Conferences

1. Role of processing parameters on the structural and magnetic properties of Tb-Fe-Co thin films
   International Conference on Magnetic Materials and Applications - 2015 held at Vellore during December 2-4, 2015.

2. Spin re-orientation transitions in rapid thermal annealed Tb-Fe-Co thin films
   First International conference on Coatings, Thin Films, Multilayer Devices & Systems- 2016 held at NFTDC, Hyderabad during December 14-16, 2016.

3. Magnetic Microscopy and Magnetostriction Studies in Tb-Fe-Co Films
   IUMRS ICYRAM 2016 held at Indian Institute of Science, Bangalore during December 11-15, 2016. [Received best poster award]

4. Temperature dependent magnetic behavior in sputtered Fe-Co-Si-B films
   International Conference on Magnetic Materials and Applications - 2017 held at Hyderabad during February 1-3, 2017.

5. Thickness Dependent Structural and Magnetic Properties of Fe-Co-Si-B Thin Films
   2nd International Conference on Condensed Matter and Applied Physics-2017 during 24-25, November 2017.

6. Magnetic Anisotropy Studies in Magnetostrictive Fe-Co Thin Films
   62nd DAE Solid State Physics Symposium-2017 held at BARC Mumbai during 26-30, December 2017.

7. Effect of Substrate Temperature Driven Magnetic Anisotropy on the Magnetostrictive Behavior of Tb-Fe-Co Thin Films
   INTERMAG-2018 Conference held at Singapore during 23-27, April 2018.

Workshops / Training programs / FDPs attended

1. Attended National seminar on "*Crystallography for Materials Scientists*" organized at DMRL-DRDO during September 1-2, 2014.

2. Attended *"International Conference on Magnetic Materials and Applications (ICMAGMA)-2014"* organized at Pondicherry University during September 15-17, 2014.

3. Attended DRDO's *"Targeted Training Program on Quantitative Electron Microscopy"* organized by DMRL, Hyderabad during December 15 – 17, 2014.

4. Attended "National Virtual Seminar on Role of Materials in Science and Engineering", organized by Materials research Society of India (MSRI) on 31 January, 2022.

5. Attended "Workshop on XRD Analysis & Data Interpretation" organized and conducted by Biodeavour Research Lab on April 10, 2022.

6. Participated in "National level online workshop on Origin Software", organized by BVRIT Womens on 28, May 2022.

7. Participated "A three day faculty development program", organized by BVRIT Womens during 8-10, June 2022.

8. Participated in "IP Awareness/Training program under NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION" organized by Intellectual Property Office and MoE's Innovation Cell, India on June, 13, 2022.

MEMBERSHIP

- Life Member at Magnetics Society of India.