

CURRICULAM VITAE

Dr. U. Devarajan

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GoogleScholarID:<https://scholar.google.com/citations?user=CN6qXDkAAAAJ&hl=en>, Citations: 229, h-Index: 8

Research Experience:

Currently, I am working as Associate Professor in Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College since 7th February 2022 at Avadi, Chennai.

I have Ph.D Research Supervision approval from Anna University, Chennai.

I completed Dr. D.S. Kothari Post Doctoral Fellow at Department of Nuclear Physics, University of Madras, and Chennai (28th December 2018 – 27th December 2021).

I accomplished SERB National Post-Doctoral Fellowship at Department of Physics, Indian Institute of Science Education and Research, Pune (29th August 2016- 28th August 2018).

Academic details:

1. Ph.D accomplished in Physics at Bharathidasan University, Tiruchirappalli on August 2016 (Highly commented).
2. M.Phil completed in Nuclear Physics at University of Madras, Chennai on August 2009.
3. M.Sc completed in Materials Science at University of Madras, Chennai on April 2008.
4. B.Sc completed in Physics at Thiruvalluvar University, Vellore on April 2006.

Teaching Experience:

Computational techniques and programming in C⁺⁺, Error analysis for Physical Sciences, Condensed Matter Physics are taught to PG students during my DSKPDF, Engineering Physics, Physics Laboratory Course and Environmental

Science to UG Students.

Project Mentorship for M.Phil and M.Sc students:

1. Student name: **Mrs. S. Sinduja**
M.Phil Project Title: **“Effect of Annealing on structural, morphological and vibrational properties of spinel oxides $[\text{Fe}_{1-x}\text{X}_x\text{Cr}_2\text{O}_4$ ($x=\text{Cu}, \text{Ni}, \text{Co}$)]”**
Duration: **March –December 2020**
2. Student name: **Ms. M. Sruthi**
M.Sc Project Title: **“Investigation of Structural and Thermal properties of YVO_3 ”**
Duration: **November 2020 –April 2021**
3. Student name: **Ms. G. S. Vinitha**
M.Sc Project Title: **“Investigation of Structural, Morphological, Optical and Vibrational properties of PANI reinforced SrTiO_3 ”**
Duration: **January –May 2021**

Curious research topics:

2D quantum magnetism, Spin Caloritronics, Spin- Seebeck effect, Anomalous Nernst effect (ANE), Spintronics, Topological insulator, Majorana fermions.

Subject area of interest:

Materials science, High pressure and low temperature physics, Solid state Physics and magnetism, Superconductivity, Crystal Growth, thin films, Nano Magnetism and Multi ferroics.

Expertise and specific topic of interest:

1. Structural, magnetic and transport properties of Heusler alloys, Superconductors and manganites at ambient and under multi extreme conditions (high pressure, low temperature and high magnetic field).
2. Structural, magnetic and transport properties of strongly correlated magnetic systems (colossal magneto resistance materials, magneto caloric materials, heavy and Fermion compounds and spin ladder systems) at ambient and under multi extreme conditions.
3. Investigations on structural, transport, Optical properties of transparent conducting oxide (TCO) thin films.
4. Development of new material with novel magnetic and superconducting properties.

List of Book chapter Published / Accepted in National / International Publishers:

1. **U. Devarajan**, S. Arumugam. Book chapter on “*Tunable Multifunctionality in Heusler alloys*“ published in the open access book on “*Recent Advances in Perovskite Materials*“ in IntechOpen Publishers, England on April 2022. DOI: <http://dx.doi.org/10.5772/intechopen.104960>

List of papers Published / Accepted in National / International Journals:

1. **U. Devarajan**, Sunil Nair and C. Venkateswaran, “*Transformation of magnetic ordering in $MnCo_{1-x}Ni_xGe$ ($x=0-0.6$) alloys, its investigations on structural, transport, magnetic, and magnetocaloric properties*“ *Materials Today Proceedings*, 65 168-175 (2022).
2. **U. Devarajan**, P. Sivaprakash, C. Venkateswaran, P. Hariharan, Y. Kawamura, C. Sekine, and S. Arumugam, “*Induced triplet transitions by the effect of antiferromagnetic (Sm) substitution and investigations on structural, magnetic, magnetocaloric properties of $Mn_{1-x}Sm_xCoGe$ Heusler alloys*” *J. Magn.Magn.Mater.*, **529** 167912 (2021). [I.F: 2.993].
3. D. Paul Joseph, **U. Devarajan**, M. Kovendan, Jean Maria Fernandes, R. Ramarajan, and C. Venkateswaran, “*Lithium-Antimony Co-Doping Induced Morphology Transition in Spray Deposited SnO_2 Thin Films*”. *J. Surfaces and interfaces*, **23** 100918 (2021). [I.F: 4.837].
4. **U. Devarajan** and Sunil Nair, “*Investigations on Cu induced Couple-decoupled magneto-structural transition in $MnCoGe$ alloys.*” *Materials Research Express*, **6**, 106117 (2019). [I.F: 1.609].
5. S. Arumugam, **U. Devarajan**, S. Esakki Muthu, Sanjay Singh, R. Thiyagarajan, M. Manivel Raja, N. V. Rama Rao, Alok Banerjee, “*Structural, transport, magnetic, magnetocaloric properties and critical analysis of Ni-Co-Mn-Ga Heusler alloys*” *J. Mag. Mag. Mater.* **442** 460-467 (2017). [I.F: 2.993].
6. S. Arumugam, Subrata Ghosh, Arup Ghosh, **U. Devarajan**, M. Kannan, L. Govindaraj and Kalyan Mandal., “*Effect of hydrostatic pressure on the magnetic, exchange bias and magnetocaloric properties of $Ni_{45.5}Co_2Mn_{37.5}Sn_{15}$* “ *J. All. Comp.* **712** 714-719 (2017). [I.F: 5.316].
7. **U. Devarajan**, M. Kannan, R. Thiyagarajan, M. Manivel Raja, N. V. Rama Rao, Sanjay Singh, D. Vengateswaralu, V. Ganesan, M. Ohashi and

- S. Arumugam., “Coupled magneto-structural transition in Ni-Mn-V-Ga magnetic shape memory alloys and its effect on the magnetocaloric and transport properties” *J. Phys. D: Appl. Phys.* **49** 065001 (2016). [I.F: **3.207**].
8. **U. Devarajan**, Sanjay Singh S. Esakki Muthu, G. Kalai Selvan, P. Siva prakash, S.R. Barman and S. Arumugam, “Investigation on the electronic transport and piezo-resistance properties of $Ni_{2-x}Mn_{1+x}Ga$ ($x=0, 0.15$) Heusler alloys under hydrostatic pressure”, *Appl. Phys. Lett.* **105**, 252401 (2014). [I.F: **3.791**]
 9. S. Esakki Muthu, N. V. Rama Rao, R. Thiyagarajan, **U. Devarajan**, M. Manivel Raja, and S. Arumugam, “Influence of chemical substitution, magnetic field, and hydrostatic pressure effect on martensitic and inter martensitic transition in bulk $Ni_{49-x}Cu_xMn_{38}Sn_{13}$ ($0.5 \leq x \leq 2$) Heusler alloys” *Appl. Phys. Lett.* **104**, 092404 (2014). [I.F: **3.791**]
 10. **U. Devarajan**, S. Esakki Muthu, S. Arumugam, Sanjay Singh and S. R. Barman, “Investigation of the influence of hydrostatic pressure on the magnetic and magnetocaloric properties of $Ni_{2-x}Mn_{1+x}Ga$ ($x=0, 0.15$) Heusler alloys”, *J. Appl. Phys.* **114**, 053906 (2013). [I.F: **2.546**]
 11. S. Esakki Muthu, **U. Devarajan**, S. Arumugam, N. V. Rama Rao and M. Manivel Raja, “Magnetic properties of NiMnSn Heusler alloy”, *Indian journal of Cryogenics.* **37**, 1-4 (2012). [I.F: **0.0**]
 12. B. Munirathinam, M. Krishnaiah, **U. Devarajan**, S. Esakki Muthu, and S. Arumugam, “Synthesis, structural, electrical and Magnetic studies of $La_{0.5}Ca_{0.45-x}Sr_xBa_{0.05}MnO_3$ ”, *Journal of Physics and Chemistry of Solids* **73**, 925-930 (2012). [I.F: **3.995**]
 13. S. Esakki Muthu, N. V. Rama Rao, D. V. Sridhara Rao, M. Manivel Raja, **U. Devarajan**, and S. Arumugam, “Effect of Ni/Mn concentration on exchange bias properties in bulk $Ni_{50-x}Mn_{37+x}Sn_{13}$ Heusler alloys”, *J. Appl. Phys.* **110**, 023904 (2011). [I.F: **2.546**]
 14. R. Thiyagarajan, Guochu Deng, S. Arumugam, D. Mohan Radheep, **U. Devarajan**, A. Murugeswari, P. Mandal, Ekaterina Pomjakushina, and Kazimierz Conder, “Effect of magnetic field and pressure on charge- orbital ordering in $Pr(Sr_{1-x}Ca_x)_2Mn_2O_7$ ($X= 0.4$ and 0.9) single crystals”, *J. Appl. Phys.* **110**, 093905 (2011). [I.F: **2.546**]

Manuscript Under review/ preparation:

1. **U. Devarajan**, S. Mohan and C. Venkateswaran, “Enhancement of Curie transition by Substituting Sb in $MnCo_xSb_{1-x}Ge$ ($x=0-0.6$) alloys and its structural,

morphological, magnetic, magnetocaloric investigations” (Under Review, *J.All.Comp*).

2. R. Rajkumar, G. Anbalagan, M. Arivanandhan, **U. Devarajan**, S. Mohan and C. Venkateswaran, “Enhanced Magnetic properties of La and Ga co-doped BiFeO₃ nano particles” (to be communicated).
3. **U. Devarajan**, G. S. Vinitha, C. Venkateswaran “Investigation of structural, morphological, optical and vibrational properties of PANI reinforced SrTiO₃“(to be communicated).
4. **U. Devarajan**, S. Sinduja, C. Venkateswaran “Effect of annealing on structural, morphological and vibrational studies in spinel oxides [Fe_{1-x}X_xCr₂O₄ (X=Cu, Ni, Co)] “ (to be communicated).
5. **U. Devarajan**, M. Sruthi, C. Venkateswaran “Investigation of structural and thermal properties of yvo₃“(to be communicated).
6. **U. Devarajan**, M. Manivel Raja, M. Ohashi, and S. Arumugam, “*Transport and piezo resistivity behaviour of Ni_{2.2}Mn_{0.6}V_{0.12}Ga_{1.08} Heusler alloy under 8 GPa pressure*”. (Under review, *J. Magn,Magn.Mater*)
7. **U. Devarajan**, S. Arumugam, Alga. B. Garg, “*Effect of magnetic field in Spin polarization behavior of Co₂FeSi Heusler alloy*” (to be communicated).
8. **U. Devarajan**, S. Arumugam, A.B. Garg, “*Structural, magnetic and pressure effect on transport properties of Fe₂TiSn Heusler alloy*”. (to be communicated)”

International / National conference attended:

1. “International Virtual Conference on Advances in Science and Technologies-INCAST’23 held on 6-7 February, 2023 Organized by Karpaga Vinayaga Collage of Engineering and Technology, Chinnakolambakkam-603 308.
2. “5 days Online Faculty Development Program on Innovation & Entrepreneurship” held on 4-8th April 2022 from Entrepreneurship & carrier hub RUSA 2.0 University of Madras, Chennai.
3. Webinar on “Advanced Material Characterization 2021” held on 22nd December, 2021 organized by Nano Manufacturing Technology Centre, CMTI, Bangalore.
4. “Oral Presentation by Virtual mode in International Conference on Advanced Material and Mechanical Characterization (ICAMMC 2021) on 2-4 December 2021, organized by the Department of Physics & Nanotechnology and the Department of Mechanical Engineering, SRM Institute of Science and Technology (SRM-IST),Kattankulathur, Chennai.

5. Webinar on Asia-Pacific Conference on Condensed Matter Physics 2021 (DCMP-AC²MP 2021) on 1-3 December 2021 organized by division of condensed matter physics associated with Asia pacific physical societies, POSTECH, South Korea.
6. Webinar on Light Matter Interaction and Characterization Techniques 2021” delivered by Dr. Bharathi Rajeswaran, Post-Doctoral Fellow, Bar-Ilan University, Ramat Gan, Israel on 19th August 2021 Organized by Department of Physics, St. Xavier’s College, Palayamkottai.
7. 2 - Week International Workshop On "Emerging Trends in the field of Science and Technology" to be held between 16th – 28th August 2021, through virtual mode Organized by Department of Physics, Sathyabama Institute of Science and Technology, Chennai.
8. One day webinar on “Nano indentation from Metals, Ceramics, Composites and Space Sciences- A Path Head” delivered by Dr. Sudarshan Phani, Scientist from ARCI, Hyderabad on 13th August 2021 Organized by Sathyabama Institute of Science and Technology, Chennai.
9. “International Virtual Conference on Frontiers in Materials for Technological Applications (FIMTA-2021)”, 4-6th August 2021, CSIR-IMMT, Bhubaneswar, Odissa.
10. International webinar on Astronomy and Astrophysics “The Magnificent Sun – Our Star“ on 8th July 2021 delivered by Dr. E. Ebenezer Chellasamy, Scientist, Kodaikanal Solar Observatory, organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
11. International webinar on Astronomy and Astrophysics “The Dark Side of the Universe“ on 1th July 2021 delivered by Mr. S. Unnikrishnan, Jagiellonian University, Poland, organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
12. International webinar on “Current status and future prospects of Perovskite solar cells“ on 30th June 2021 organized by Centre of Excellence for Energy Research, Sathyabama Institute of Science and Technology, Chennai.
13. International webinar on Astronomy and Astrophysics “The Sun“ on 28th June 2021 delivered by Prof. Nat. Gopalswamy, Scientist, NASA, organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
14. Special lecture on “Quantum Computing“ delivered by Dr. Baladitya Suri, Indian Institute of Science, Bangalore, on 26th June 2021 organized by The Academic of Sciences, Chennai.

15. Virtual Webinar on “ Hydrogen Fuel cells- The Future energy“ on 24th June 2021 delivered by Dr. L. Moorthi, University of Concepcion, Chile organized by Bharath Institute of Higher Education and Research (BIHER), Chennai.
16. International webinar on Astronomy and Astrophysics “Next generation planetary Hunters“ on 24th June 2021 delivered by Mr. G. Sridhar, National Tsing Hua University, Taiwan organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
17. Webinar discussion meeting on "Neutron Scattering at Dhruva Reactor and Prospects for Future" on 24th June 2021 organized by UGC-DAE-CSR-Mumbai.
18. Special lecture on “Quantum Entanglement“ delivered by Prof. Anil Shaji, Indian Institute of Science Education and Research, Thiruvananthapuram, on 19th June 2021 organized by The Academic of Sciences, Chennai.
19. A National webinar “Future of Lithium based Batteries in Indian Scenario – thought provoking ideas by a Physicist “delivered by Prof. Yogesh Kumar Sharma, IIT-Roorkee, on 18th June 2021 organized by Karunya Deemed University, Coimbatore.
20. "International Webinar Series on Indian Nuclear Power Programme" delivered by Prof. G. Vaidyanathan, Former Director of IGCAR, Kalpakkam, on 15th June 2021 Organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
21. Special lecture on “Superconductivity and Josephson Junctions “ delivered by Dr. T.S. Radha Krishnan, Former Scientist, Materials Science Division, IGCAR- Kalpakkam, on 12th June 2021 organized by The Academic of Sciences, Chennai.
22. IAU Meet the Astronomer Programme, Topic of “Introduction to the Sun“ delivered by Dr. Clementia Sasso, on 10th June 2021 organized by open space foundation.
23. "International Webinar Series on Indian Nuclear Power Programme" delivered by Prof. G. Vaidyanathan, Former Director of IGCAR, Kalpakkam, on 8th June 2021 Organized by Department of Physics, Karunya Institute of Technology and Sciences, Coimbatore.
24. One day seminar on “Energy materials” on 4th June 2021 Organized by Centre for Nano Science and Nano technology, Centre of Excellence for Energy Research, Sathyabama Institute of Science and Technology, Chennai.

25. Special lecture on “Magnetic materials and its applications“ delivered by Dr. R. Gopalan, Regional Director, ARCI-Chennai, on 29th May 2021 organized by The Academic of Sciences, Chennai.
26. Special lecture on “Microstructure with modelling“ delivered by Prof. M. Gururajan, Associate Professor, IIT-Bombay, on 22nd May 2021 organized by The Academic of Sciences, Chennai.
27. Special lecture on “Fiber reinforced Composites for structural applications “ delivered by Dr. M. Kumar, Engineering Consultant, Bangalore on 15th May 2021 organized by The Academic of Sciences, Chennai.
28. Special lecture on “Fiber Bragg Gratings-Sensor which can sense almost anything”, delivered by Prof. S. Asokan, IISc, Bangalore on 8th May 2021 organized by The Academic of Sciences, Chennai.
29. Webinar on “Advance Materials Characterization 2021” 18-19 March 2021, Central Manufacturing Technology Institute (CMTI), Bangalore.
30. One Day International Seminar on “Recent Advances in Nonvolatile Memory for High-end Application “13th March 2021, Madanapalle Institute of Technology & Science (MITS), Andhra Pradesh.
31. Virtual webinar on “Physics- A Global Science “26th February 2021, Aryabhata and Einstein Club, PSG Collage of Arts and Science, Coimbatore.
32. Virtual seminar on “Application of DFT to calculations of phase diagram, diffusion coefficient and phase field simulation” 24th December 2020, Bharath Institute of Higher Education and Research (BIHER), Chennai.
33. “International winter school 2020 on Frontiers in Materials Science- A virtual event” 7-11th December 2020, Organized by JNCASR, Bangalore.
34. “International e-Conference on Structural Materials for Nuclear and Space Applications (SNSA20)” 3-6th December 2020, Organized by Bhabha Atomic Research Centre, Mumbai.
35. “Online seminar on Special Techniques in Electron Microscopy for Materials Science Applications (STEM-2020)” 6-7th November 2020, Organized by CSIR-IMMT-Bhubaneswar, IIT-Bhubaneswar and EMSI- Kolkata.
36. “International Virtual Conference on Supercapacitors and Batteries for Future Avenues (ICSBFA-2020)” 8-9th September 2020, Organized by Bharathidasan University, Tiruchirappalli.
37. “International webinar on Frontiers in Materials for Technological Applications (FIMTA-2020)”, 4-6th August 2020, CSIR-IMMT, Bhubaneswar, Odissa.

38. “International Conference on Advanced Materials for Energy and Environmental Applications (ICAMEA-2020)”, 20-21th February 2020, Organized by Thiru Kolanjiapar Govt. Arts College, Vriddhachalam, Tamilnadu.
39. “Physics at Low Temperature and High Magnetic Field”, 29-30 May 2019, UGC-DAE-CSR, Indore.
40. “International Conference on Advances in Materials Research (ICAMR’19)” 12th February 2019, Sacred Heart College, Tirupattur, India. *Investigations on Cu induced Coupled-decoupled magneto-structural transition in MnCoGe alloys*, **U. Devarajan**, Sunil Nair.
41. “QMAT-National Conference on Quantum Condensed Matter”, 25-27 July 2018, IISER- Mohali, *Study on Magnetocaloric and Critical analysis of Ni doped MnCoGe*, **U. Devarajan**, Sunil Nair.
42. “MRSI-National Symposium on advances in functional and exotic materials”, 14-16 February 2018, MRSI- Trichy Chapter, SRM Hotel, Tiruchirappalli, *Evidence of multicaloricity in intermetallics*, **U. Devarajan**, Sunil Nair.
43. “Silver Jubilee National Conference on Study of Matter Using Intense Radiation Sources and Under Extreme Conditions”, 3-6 November 2016, UGC-DAE-CSR, Indore. *Structural, Magnetic, Magnetocaloric, Critical exponents studies, Transport, Hydrostatic pressure on martensitic transition and Piezoresistivity of NiMnVGa Heusler alloys*, S. Arumugam, **U. Devarajan**, V. Ganesan, B. Wang , Y. Uwatoko and M. Manivel Raja.
44. “MRSI-Symposium, Advanced Materials for Sustainable Applications”, 18-20 February-2016, CSIR-North East Institute of Science and Technology, Jorhat. *Effect of pressure on martensitic transition and piezoresistivity in Ni_{2.2}Mn_{0.6}V_{0.12}Ga_{1.08} Heusler alloy under cubic anvil press upto 8 Gpa*, S. Arumugam, **U. Devarajan**, B. Wang , Y. Uwatoko M. Manivel Raja and N. V. Rama Rao.
45. “ICMAGMA-2015”, 2-4 December 2015, VIT University, Vellore. *Structural, Transport, Magnetic, Magnetocaloric and critical exponents studies of Ni-Co-Mn-Ga Heusler alloys*, **U. Devarajan**, M. Manivel Raja, N.V. Rama Rao, and S. Arumugam.
46. “8th Conference on Aperiodic Crystals -Aperiodic 2015”, 30th August- 4 September 2015, Brevnov monastery, Prague, Czech Republic. *Single crystal growth and study of decagonal Al-Co-Cu and Al-Co-Ni quasicrystals*, D. Shulyatev, M. Chernikov, M. Klyueva, N. Kozlovskaya, A. Shakin, A. Suslov, **U. Devarajan**, S. Arumugam.
47. “International workshop on strongly correlated materials (IWSCM’15)”, 20th January 2015, Centre for High Pressure Research, School of Physics, Bharathidasan University, Tiruchirappalli, India.

48. "ICMAGMA-2014", 15-17 September 2014, Central University, Pondicherry. *Structural, Transport, Magnetic, Magnetocaloric and critical exponents studies of V-doped NiMnGa Heusler alloys*, **U. Devarajan**, R. Thiyagarajan, N.V. Rama Rao, M. Manivel Raja, V. Ganesan, D. Vengateswaralu, S. Arumugam.
49. "CSR Lecture Series", 1-12 September 2014, UGC-DAE-CSR, Indore. India.
50. "Strongly Correlated Electron Systems (SCES 2014)" July 7-11, 2014, Grenoble, France, "Exchange Bias effect in bulk $Ni_{49-x}Cu_xMn_{38}Sn_{13}$ ($x = 0.5$ and 2) Heusler alloys", S. Esakki Muthu, N.V. Rama Rao, M. Manivel Raja, **U. Devarajan** and S. Arumugam.
51. "Special Seminar on recent trends in Novel Materials", Centre for High Pressure Research, School of Physics, Bharathidasan University, Tiruchirappalli- 620 024, February 20, 2013.
52. "5th IEEE Magnetics Society Summer School", SRM University, Chennai, July (22-27), 2012, "Hydrostatic pressure effect on Ni_2MnGa and $Ni_{1.85}Mn_{1.15}Ga$ Heusler alloy". **U. Devarajan**, S. Esakki muthu, S. Arumugam, Sanjay Singh, and S.R. Barman.
53. "MAGMA 2011", IIT Madras, Chennai, March (12-13), 2011, "Hydrostatic pressure effect on $Ni_{1.84}Mn_{1.17}Ga_{1.01}$ Heusler alloy". **U. Devarajan**, G. Kalai Selvan, S. Esakki muthu, S. Arumugam, Sanjay Singh and S.R. Barman.
54. "AIRAPT-23 Conference", BARC, Mumbai, September (25-30), 2011 "Pressure effect on $Ni_{48}Mn_{39}Sn_{13}$ alloy" S. Esakki Muthu, **U. Devarajan**, S. Arumugam, N. V. Rama Rao, M. Manivel Raja, K. Matsubayashi, and Y. Uwatoko.
55. "National Conference on Recent Trends in Materials", Science-2011 (NCRTMS-2011), K.S.Rangasamy College of Technology (Autonomous), Tiruchengode-637215, Namakkal District, Tamilnadu, India. "Synthesis and Characterization of New Magnetic Materials $CaFe_2Sb_2$ and $CaFe_{2-x}Zn_xSb_2$ ($x=0.5$)" R.Amiruddin, M. Kanagaraj, **U. Devarajan**, G. Kalaiselvan and S. Arumugam.
56. "23rd National Symposium on Cryogenics", NIT Rourkela, October (28-30) 2010 "Magnetic properties of Ni-Mn-Sn Heusler Alloys". S.Esakki Muthu, **U. Devarajan**, S. Arumugam, N.V. Rama Rao, M. Manivel Raja.
57. National Symposium on Crystal Growth & Characterization. College of Engineering Guindy (Autonomous), Anna University, Chennai, India.
58. National Conference on Non Linear Optics. College of Engineering Guindy (Autonomous), Anna University, Chennai, India.
59. National Seminar on Nano Science & Nano Technology. College of Engineering Guindy (Autonomous), Anna University, Chennai, India.

Special Awards / Honors:

1. Research Associate in High Pressure Physics Division, Bhabha Atomic Research Centre, (HPPD-BARC) Mumbai on February 2022. **(Not Availed)**
2. Post-Doctoral Fellow at Advanced Institute of Powder Metallurgy and New

Materials-Centre for Automotive Energy Materials (ARCI-CAEM), Chennai on January 2019. **(Not Availed)**

3. Dr. D.S. Kothari Post Doctoral Fellow on December 2018 funded by MHRD Empower committee and University Grant Commission, New Delhi, India.
4. Outstanding contribution award in reviewing “journal of magnetism and magnetic materials” in June 2017 recognized by Elsevier, Amsterdam, Netherland.
5. Reviewing award “journal of magnetism and magnetic materials” in May 2017 recognized by Elsevier, Amsterdam, Netherland.
6. SERB-National Post-Doctoral Fellow, Department of Science & Technology, Science and Engineering Research Board from August 2016 to August 2018 at Indian Institute of Science Education and Research, Pune.
7. Research Associate in Materials Science Division, Bhabha Atomic Research Centre, (MSD-BARC) Mumbai on July 2016. **(Not Availed)**
8. Research Fellowship in Science for Meritorious students, (UGC-RFSMS-SRF) from 2012 to 2015, University Grant Commission, New Delhi, India.
9. Research Fellowship in Science for Meritorious students, (UGC-RFSMS-JRF) from 2010 to 2012, University Grant Commission, New Delhi, India.
10. Acceptance of Beam time allotment for thin film samples by Accelerator User Committee from Inter University Accelerator Centre, New Delhi, India.

Invited Talks:

1. ICAMMC, 2021 on 2-4 December 2021 in the topic of “**Transformation of magnetic ordering in $MnCo_{1-x}Ni_xGe$ ($x=0-0.6$) alloys, its investigations on structural, transport, magnetic, magnetocaloric properties, and study of critical exponents**“

Life member in National Scientific / Technical bodies:

1. Magnetic Society of India (MSI) – (Life Member: LM537)
2. Materials Research Society of India (MRSI)
3. Institute of Scholars (InSc)

Foreign Scientific laboratory visits:

1. National University of Science and Technology, MISIS, Moscow, Russia,

September 22nd to October 6th, 2014 (under DST-RFBR Project).

Indian Scientific Laboratory visits:

1. SEM-EDAX measurements, IUC, Kalpakkam, 18th July, 2019 for surface & composition analysis.
2. Transport Laboratory, IUC, Indore, 1-18 June, 2012 for high pressure transport measurements.
3. Magnetism and low temperature Laboratory, Inter University Accelerator Centre, New Delhi, 1-8 July, 2013 for AC susceptibility measurements.
4. Advanced Magnetic Groups, Defence Metallurgical Research Laboratory, Kanchanbagh, Hyderabad, 22nd October to 28th November 2013 for the preparation of magnetic alloys and thin films.
5. Bhabha Atomic Research Centre, Mumbai, 17-27 February 2014, for magnetic measurements.
6. Advanced Magnetic Groups, Defence Metallurgical Research Laboratory, Kanchanbagh, Hyderabad, 11th June to 3rd July 2014 for the preparation of magnetic alloys and thinfilms and its characterization.
7. Magnetism Laboratory, IUC, Indore, 25th August–4th September 2014, for magnetic measurements.
8. Magnetism Laboratory, IUC, Kolkata, 28th December 2014– 2nd January 2015, for high pressure transport measurements.

Post-Doctoral, Ph.D, M. Phil and M. Sc projects:

Post-Doctoral Project (Completed) - Funded by DSKPDF Scheme, MHRD-UGC.

Total cost of project: **Rs. 25.32 Lakhs**

Title : **Synthesis, characterization and investigation of Oxides, alloys under extreme conditions for magnetic refrigeration applications.**

Research Mentor : **Dr. C. Venkateswaran, Professor & Head, Department of Nuclear Physics, University of Madras, Guindy Campus, Chennai- 600 025**

Post-Doctoral Project (Completed) -Funded by SERB-NPDF (August 2016-August 2018) as a Principle Investigator.

Total cost of project: **Rs. 19.2 Lakhs**

Title : **Synthesis, characterization and investigation of Heusler alloys under extreme conditions for magnetic refrigeration applications.**

Research Mentor : Dr. Sunil Nair, Associate Professor, Department of Physics, Indian Institute of Science Education and Research, Pune – 411 008

Ph.D thesis

Title : **Investigation on structural, transport magnetic and thermal properties of Heusler alloys under extreme conditions.**

Research Supervisor: Prof. S. Arumugam, Centre for High Pressure Research, School of Physics, Bharathidasan University, Tiruchirappalli – 24

M. Phil (Project and Thesis)

Title : **Investigation of structural, electrical, morphological, and optical studies of spray deposited Boron doped tin oxide thin films.**

Research Supervisor :Dr. C.Venkateswaran, Professor & Head, Dept. of Nuclear Physics, University of Madras, Guindy Campus, Chennai – 25.

M. Sc (Project and Thesis)

Title : **Synthesis and characterization of carbon nanotubes.**

Research Supervisor :Dr. N. Victor Jaya, Professor, Dept. of Physics, College of Engineering, Guindy Campus, Anna University, Chennai – 25.

Technical skills:

- ✓ Basic Knowledge in Computer (MS Office, Origin8.5, LABVIEW, LINUX).
- ✓ Searching Scifinder, collecting research articles from various journals.
- ✓ Reviewer for Journal of Magnetism and Magnetic Materials (JMMM).

Instruments Handled during lab work:

- ✓ Powder XRD (Bragg-Brentano Configuration using CuK α radiation)
- ✓ Spray pyrolysis set up.
- ✓ UV- VISIBLE Spectro photo meter (Shimadzu 8300-UV-VIS Perkin Elmer)
- ✓ Four probe resistivity set up.
- ✓ Physical property measurement system – Vibrating sample magnetometer (PPMS-VSM)
- ✓ Magnetic property measurement system – Vibrating sample magnetometer (MPMS-VSM),
- ✓ Closed cycle refrigerator system – variable temperature inserts (CCR- VTI)
- ✓ M-Cell (1 GPa) for magnetic measurements under pressure
- ✓ Model LPC-15 (1.25 GPa) & MLPC-15 (1.5 GPa) Pressures cells from Electro lab for magnetic and transport measurements under pressure.
- ✓ Hybrid clamp type Pressure cell (3 GPa) for transport measurements under pressure
- ✓ Ball milling
- ✓ Pulsed Laser Deposition
- ✓ DC- Magnetron Sputtering
- ✓ Arc- melting Furnace
- ✓ Floating zone furnace
- ✓ Diamond Anvil Cell
- ✓ Ball milling
- ✓ Chemical Vapour Deposition, Chemical Vapour Transport
- ✓ Optical Floating Zone furnace for single crystal growth

PERSONEL STRENGTHS

- ✓ Energetic, Positive Attitude and Hard Working.
- ✓ Willingness to take responsibility and complete dedication towards worship.
- ✓ Considering learning and professional development in Science as a lifetime passion.

PERSONAL PROFILE

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Declaration:

I hereby declare the above statements given by me are true to my knowledge and belief.

01.4.2023

Thanking you.

Yours sincerely

U. DEVARAJAN