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SUMMARY OF RESEARCH ACTIVITIES AND ACHIEVEMENTS:

- ✿ One of the 21 selected from all over the world to participate in the Joint IAEA-ICTP workshop on Nuclear Structure and Decay Data: Theory and Evaluation at Trieste, Italy in March 2014.
- ✿ Designed and developed with the help of IGCAR, Kalpakkam, the first **mini-orange electron spectrometer** in any Indian University for electron spectroscopy.
- ✿ Participated in the Indian National Gamma Array (INGA) experiment at TIFR in May-June 2011.
- ✿ Directly responsible for setting up and making functional the **electron-gamma spectroscopy** laboratory for the University (SSSU, Prasanthinilayam).
- ✿ Expertise with **HPGe, Si(Li), NaI(Tl) and Si-PIN** detectors, high vacuum **turbo molecular pumps**, oil diffusion vacuum pumps, radioactive sources and X-ray sources and NIM **based nuclear spectroscopy modules**.
- ✿ Designed and commissioned the Radio Isotope laboratory for the University (SSSU, Prasanthinilayam) with AERB, Government of India, approved design.
- ✿ Establishing an X-ray Fluorescence (**XRF**) laboratory with X-ray detector and X-ray source in the Department of Physics of the University (SSSU, Prasanthinilayam).
- ✿ Actively used the **1.7 MeV Tandetron** facility at IGCAR, Kalpakkam, for **PIXE** studies.

- ✿ Incorporated into regular use the latest data analysis software from **IAEA**, Vienna and **NNDC**, Brookhaven National Laboratory, USA.
- ✿ Research results are included in international nuclear data bases and compilations like Nuclear Data Sheets (**NDS**), **ENSDF**, **XUNDL** and **NSR**.

CURRENT RESEARCH INTERESTS:

- ✿ Initiated a research group at RGUKT to undertake ab-initio studies of pressure effects on several crystal families.
- ✿ Undertaking research activities to determine elemental speciation of selected material samples by using XRD and Electron microscopy coupled with EDS.
- ✿ Member of a group of international researchers involved with analyzing Nuclear data of various mass chains (ENSDF Project). Project is coordinated by IAEA, Vienna and involves several institutions like BARC, NPDCI, IIT-R etc.
- ✿ Since March 2014, have completed evaluation of $A = 219$ and $A = 227$ mass chain nuclei as a part of an international group of evaluators. Mass chain $A = 227$ has recently been published while mass chain $A = 219$ is now awaiting publication as reports in *Nuclear Data Sheets* published by Elsevier.
- ✿ To study the nuclear structures of exotic nuclei using alpha-gamma spectroscopy.
- ✿ Working in studying the systematics of nuclei in the super-heavy trans-uranic regions.
- ✿ Trace element analysis of soil, water and air samples for geological relation to diseases.

RESEARCH PUBLICATIONS:

I currently have over 70 **research publications and symposia communications** to my credit in International and National journals and seminars. I am an active contributor to the annual **DAE-BRNS** Nuclear Physics symposium. The list of my publications is appended at the end of this CV for reference.

CONSULTANY:

1. Since June 2012, I had been an academic consultant for Rajiv Gandhi University of Knowledge Technologies (RGUKT). I ceased the contract by choice in December 2012, after laying a strong foundation for the task I was hired for.

SUMMARY OF EXPERIENCE IN ACADEMIC ADMINISTRATION:

My experience in designing, implementation, examination and evaluation protocols of academic programs and pedagogy is spread over 20 years. I wish to bring this experience into practice at a senior level in an organization:

AT RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES, BASAR (Since 2015 to present):

- ✓ As Dean, specifically charged with Innovation, Incubation and Entrepreneurial Development programs.
- ✓ Was instrumental in signing an MOU with NCRI (National Council of Rural Institutes) – an MHRD institution - and RGUKT, Basar). Under the MOU, RGUKT, Basar, will be conducting FDPs and also offer Electives in Rural Innovation and Entrepreneurship, Rural Disaster Management and other related topics.
- ✓ Headed the committee that prepared the University's proposal for inclusion under section 12(b) of AICTE.
- ✓ Heading the University's Training and Placement section and the University's outreach programs.
- ✓ Got an **Intel Intelligent Laboratory** to in the campus. The lab is equipped with sophisticated sensors technology leading to Internet of things (IoT).

- ✓ Obtained **IBM** to commence their Career Education Program in campus.
- ✓ Started **NASSCOM's QP** and FS programs in campus.
- ✓ Coordinated to initiate **ARM technologies** (One of the World's leading smart chips manufacturers) offering their University Education Programs in leading areas of Electronics and Communications.
- ✓ Established a language skill development program for the students of RGUKT so as to enhance their communication skills.

AT BEARYS INSTITUTE OF TECHNOLOGY, MANGALORE (2013-2015):

- ✓ Since taking over as the Director of Campus of Bearys Institute of Technology in July 2013, I was charged with the responsibility of streamlining the administration of the Institute. I documented a manual for various administrative functions of the Institute.
- ✓ **NASSCOM collaboration:** As the Director of campus and Head of outreach programs, I could negotiate and obtain the help of NASSCOM to offer their FS training programs at Bearys Institute of Technology in Industry skills through their FSIT program.
- ✓ **North Dakota State University:** As the head of Outreach program, I was instrumental in getting an MOU signed with North Dakota State University, USA for joint program implementation. The main thrust area of this MOU was to set up a Global Research Center at the Bearys campus that would operate under the umbrella theme of **"Sustainable Urban Development"**
- ✓ **Launching of BEADS:** BEADS is Bearys Enviro-Architectural Design School which is the B. Arch college of the Bearys Group. Starting with the filing of applications, coordinating with various agencies like CoA, AICTE and Government of Karnataka, I was instrumental at every critical stage and successfully had the college of Architecture launched on time in 2015 to start their operations from the academic year 2015-2016, just before I left. While I was on their Executive committee, I was also slated to hold the dual responsibility of Director of Both Bearys Institute of Technology and BEADS.
- ✓ **Corporate to College Initiatives (C2C):** Under my direct dealing, I could bring IBM and Infosys to conduct their Corporate to College type initiatives to BIT campus. Both the reputed companies planned active

- year-long activities for BIT students under this program. Such programs help both students and faculty to immensely develop their skills and knowledge with current technologies apart from helping them interact with highly experienced industry professionals.
- ✓ **IETE Student chapter:** I facilitated Institution of Electronics and Telecommunications Engineers (IETE) to open a student's chapter in BIT. The forum has successfully organized expert lectures and workshops to benefit the students of not only BIT but also several other neighbouring colleges.
 - ✓ **Indian Air Force Regional Center:** I could successfully bring the Indian Air Force to identify BIT as a regional center for their Fast Track Selection (FTS) program.
 - ✓ **Industry Internships:** As the head of Outreach program, I could obtain Airtel, Canadian Standards Association (CSA), Boston Scientific, Stokes Networks etc. to offer internship opportunities to our students. At the time of leaving, I was on the verge of obtaining similar programs with several other industry houses like Schneider Electric, Sobha Developers, Goodrich Aerospace etc.
 - ✓ **Launching of project BLESS:** During my stay at Bearys Institute of Technology, I engineered the launching of Project BLESS (BIT-Life Bridge Enterprising Student Scheme) which enables to select BPL engineering graduates, put them through a finishing school and give them positive leads to employment - all free of cost.
 - ✓ **Launching of project BSSF:** Bearys Siksha-Suraksha Foundation was coordinated and launched by me at Bearys Institute of Technology. Under this social initiative, children of the lower income group of the college get support for paying the fees to enable them continue their studies upto whichever level they wish.
 - ✓ Set up a process by which a procedure came into existence regarding the critical component of purchases and billing for the college. I was responsible for introducing the system by which the entire process - from the raising of indent to the submission of bills to headquarters - was streamlined, with individuals made responsible for the process at various steps. I even introduced a system by which the movement of bills

- between various sections and departments in the college could be tracked easily and the bottleneck spotted.
- ✓ Was also handling the entire responsibility of the I year programs till the date I relinquished my role as the Director of Campus. Under my stewardship, important procedures like remedial classes, conversion of spare hours to tutorials, detention classes for those with poor attendance etc., came into being and were being implemented. Efforts to ensure that students attendance and all marks (weekly to end semester) were put online for students and teachers to access and reckon with were put in place under my directions.
 - ✓ I brought in greater vigour to the concept of Mentoring. Am a strong believer that the mentor needs to be empowered to the maximum extent possible if student management at micro-level is to succeed. To this effect, each mentor maintained a diary of each of the 20 to 25 students under his/her mentorship which I would monitor at regular intervals. All information and decision relating to a particular student would mandatorily be routed through the mentor - including counseling sessions in presence of parents.
 - ✓ As the Chief Warden of the hostels of Bearys Institute of Technology, I have documented and streamlined the functioning of the hostels. Also succeeded in bringing down the per day expenditure of the hostels on consumables like groceries, vegetables etc.

AT RAJIV GANDHI UNIVERSITY FOR KNOWLEDGE TECHNOLOGIES (RGUKT), HYDERABAD (2010 - 2012)

- ✓ As the **Controller of Examinations of RGUKT**, I was involved with the formulating of rules related to examination and evaluation for the budding University (it started in 2008), catering to student strength of above 15000, spread across three campuses in three districts of the then united state of Andhra Pradesh.
- ✓ Successfully implemented the protocols and procedures approved by the RGUKT's Governing Council and even prepared manuals and guide video lectures to help faculty understand the same.

AT SRI SATHYA SAI UNIVERSITY (SSSU) (1995-2008):

- ✓ As lecturer of Physics at Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam, I was responsible for framing and modifying syllabi for some PG and UG courses to keep them in tune with the current status of the subjects.
- ✓ Was a member of the moderation board of Sri Sathya Sai University for both PG and UG examinations.
- ✓ Was involved with employing unique learning processes at Sri Sathya Sai University that saw students' performance at national competitive exams like GATE and UGC-JRF jump by almost 50%.
- ✓ Designed the Radiation safety laboratory at Sri Sathya Sai University with AERB approved design and performed the duty of Radiation Safety officer.
- ✓ Coordinated with Central DAE Institutions like BARC, IGCAR, VECC etc to establish collaborative programs and research at Sri Sathya Sai University.
- ✓ Implemented IAEA approved coding and evaluation techniques at the Nuclear Physics laboratory in Sri Sathya Sai University.

SUMMARY OF TEACHING AND ACADEMIC ACTIVITIES:

- Setting up the University approved Physics Research Center at Bearys Institute of Technology. Successfully completed one project under the international research project ENSDFP from this research center, the report of which was published in February 2016.
- **20 years** of experience of teaching courses and handling laboratory sessions at post-graduate (**PG**) level.
- **21 years** of experience of teaching courses and handling laboratory sessions at under-graduate (**UG**) level.
- **2 years** of teaching Physics to Intermediate students.
- Qualified Radiation Safety Officer (**RSO, Level-1**) having cleared the necessary courses and exams conducted by **AERB**, Government of India.
- Familiar with operation of **MATLAB, LABVIEW** and specialized data analysis and spectroscopic software like **GAMMAVISION and QXAS**.
- Was member of the Examinations moderation board for both the UG and PG boards of the Sri Sathya Sai University.

- A regular resource person for the annual workshop on Value-based education for in-service teachers, organized by the Sri Sathya Sai University.
- Actively implement **web-based** facilities to conduct on-line quizzes, tutorials, tests, disseminate lecture handouts and link to other web-based resources.
- Active member of the body for regularly upgrading syllabi of UG and PG courses of the Sri Sathya Sai University as per the latest guidelines of the Government of India.
- Assumed active and key roles for organizing and conducting academic workshops organized by the Department of Physics of the Sri Sathya Sai University.

SUMMARY OF TALKS GIVEN AT INSTITUTIONS:

- Given a talk at the PSG Institute of Management, Coimbatore on *Values at Workplace*, December 2008.
- Given a talk at the University of Hyderabad (UOH) on *Value Orientation in Education* at the UGC sponsored Orientation Program for University and College faculty; September 2008.
- Given a talk at the Emergency Management Research Institute (EMRI) on *Values for effective supervision*; July 2008.
- Invited talks on *NMR Spectroscopy* at Department of Physics, Sri Sathya Sai University, August 2012.
- Am regularly invited to give talks on Human Values and Personality Development by organisations in India as well as abroad.

SPONSORED RESEARCH PROJECTS:

S.No	Name of	Title of Project	Period
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	Sponsoring Agency		
1.	DAE-BRNS	Spectroscopic Studies of Medium weight and heavy nuclei	2002-2006
2.	UGC	Trace Element studies on water, Soil and Environmental samples with specific reference to Anantapur district of Andhra Pradesh, India	2007-2010
3	DAE-BRNS	Precision measurements of internal conversion coefficients of high multipole transitions	2007-2010
4	UGC-DAE CSR	PIXE analysis of blood serum from diabetic patients - mapping the elemental speciation of the disease to rural life styles and habits.	2009-2012

- ✓ Guided PG students on their project work for more than 6 years.
- ✓ Some of the areas of specialization worked in include electron-gamma spectroscopy, critical review and analysis of some semi-empirical formulae in studying nuclear structures of the actinides, unique structures of nuclei in the actinide region, EDXRF and PIXE.

POSITIONS HELD:

1994-2007	Assistant Professor, Department of Physics, Sri Sathya Sai University, Prasanthinilayam.
December 2007 to June 2008	Asst. Professor (SG), Department of Physics, Sri Sathya Sai University, Prasanthinilayam
July 2008 to June 2009	Professor of Physics, ASTI, Hyderabad.

July 2009 – November 2010	Professor of Physics, Methodist College of Engineering and Technology, Hyderabad.
November 2010 to May 2012	Controller of Examinations, Rajiv Gandhi University of Knowledge Technologies
May 2012 to June 2013	Professor and Director of Research Programs, Mahaveer Institute of Science and Technology, Hyderabad.
July 2013 to June 2015	Director of Campus, Bearys Institute of Technology, Mangalore
June 2015 to Present	<ol style="list-style-type: none"> 1. Dean, (Innovation, Incubation and Entrepreneurial Development) 2. Professor of Physics, RGUKT, Basar Campus. 3. Associate Professor of Physics, RGUKT, Nuzvid Campus

STRENGTHS:

- ✓ Skill for effective communications and negotiations. Organised workshops in public speaking for students. Have won several prizes at Elocution and Debate. My feedbacks rate me very high on capability to communicate effectively and ably.
- ✓ Leadership traits, capacity to lead and also be led where necessary. I have been repeatedly entrusted with responsibilities by my University and Organization that require me to use these strengths.
- ✓ Capacity to work and adjust in a group. I have the strength to understand group dynamics and can tailor my style accordingly.
- ✓ Accommodating to different viewpoints and needs of the group without compromising on personal principles.
- ✓ Have a reputation for being good at planning, organizing and executing projects and tasks. I am always entrusted with the responsibility of being a

team/group leader for all University activities in the academic, service and social spheres.

- ✓ Ability to understand and influence the mindset and psyche of students, having lived in a Hostel environment for close to 25 years and dealing with issues relating to students and student welfare.

EDUCATION:

Course	Year	Institution	Major subjects	Rank/Class
High School	1983	Nirmala High School, Vijayawada.		Distinction
Intermediate	1985	Chaitanya Junior College, Hyderabad	MPC	I class
Under-graduation	1988	Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam	Physics	I class
Post-graduation	1990	Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam	Physics	I class
Ph.D	1994	Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam	Nuclear electron-gamma Spectroscopy	

MEMBERSHIP IN PROFESSIONAL BODIES:

Life member of the Indian Physics Association.

Life member, Indian Nuclear Society.

Life member, Indian Association of Physics Teachers.

Fellow, Institute of Electronics and Telecom Engineers.

HOBBIES:

- Elocution, Debate and Quiz. I was the Quiz master for the annual sports and cultural meet at Sri Sathya Sai University for 5 years.
- Cricket, Shuttle badminton and Lawn Tennis.
- Hiking and outdoor cycling for exercise.
- Reading books and listening to soft music.
- Traveling and sight seeing.

Articles published in refereed journals:

1. *Level structures in ^{147}Pm from ^{147}Nd decay.*
M.Sainath, K.Venkataramaniah and P.C.Sood; Physical Review. **C56** (1997) 2468.
2. *Measurement of ICCs of the 109 keV M4 transition in ^{125}Te .*
M.Sainath, K.Venkataramaniah; Nuovo Cimento **A111** (1998) 223.
3. *Measurement of Gamma-ray and Conversion Electron Spectra following ^{125}Sb decay.*
M.Sainath, K.Venkataramaniah and P.C.Sood; Physical. Review. **C58** (1998) 3730.
4. *Measurement of α_K, α_L and α_M of the hindered E3 transition in ^{103}Rh .*
M.Sainath and K.Venkataramaniah; Ind. J. Pure and Appl. Phys. **37** (1999) 87.
5. *Beta decay of ^{125}Sb and level structures in ^{125}Te .*
M.Sainath, K.Venkataramaniah and P.C.Sood; PRAMANA' J. Phys. **53** (1999) 289.
6. *Exceptional Structures in the odd-odd nucleus ^{250}Md .*
M.Sainath, K.Venkataramaniah and P.C.Sood; Int. J. Mod. Phys.– **E9** (2000) 309.
7. *Structure of the Lowest Octupole states in $N = 82$ Magic Nuclei*
M.Sainath, K.Venkataramaniah, B.Singh and P.C.Sood; Current Science **82** (2002) 990.
8. *Observation of high spin levels in ^{131}Cs from ^{131}Ba decay*
M.Sainath, Dwaraka Rani Rao, K.Venkataramaniah, and P.C.Sood; Pramana J. Phys, **61** (2003) 1157.
9. *Spin-Parity Assignments to Levels in the Very-Neutron-Rich Nucleus ^{113}Rh .*

- M.Sainath, K.Venkataramaniah and P.C.Sood; Ind. J. Pure and Appl. Phys. **42** (2004) 553.
10. *Precision electron-gamma spectroscopic measurements in ^{75}As .*
Dwaraka Rani Rao, K. Vijay Sai, M. Sainath and K. Venkataramaniah; European Physical Journal **A26** (2005) 41.
 11. *Precision measurements in ^{124}Te following the decay of ^{124}Sb .*
Amol Patil, D. Santosh, K. Vijay Sai, M. Sainath and K. Venkataramaniah; Appl. Rad. Isot. **64** (2006) 693.
 12. *Structure of long-lived nuclear species of Einsteinium*
M. Sainath, K. Venkataramaniah. O.S.K.S. Sastri, R.K. Jain and P.C. Sood; National Academy Science Letters **29** (2006) 65.
 13. *Low Lying Intrinsic Structures in ^{254}Es*
M. Sainath. K. Venkataramaniah and P.C. Sood; E. Phy. J **A31** (2007) 135.
 14. *Internal Conversion Coefficients on High Multipole transitions: Experiment and Theories.*
J. Gerl, K. Vijay Sai, M. Sainath, R. Gowri Shankar and K. Venkataramaniah. Accepted for publication in Atomic Data and Nuclear Data Tables **94** (2008) 701.
 15. *Characterization of two-quasiparticle levels in the odd-odd nucleus ^{252}Es .*
M. Sainath, K. Venkataramaniah and P.C. Sood. J. Phys. **G35** (2008) 095105;
[doi:10.1088/0954-3899/35/9/095105](https://doi.org/10.1088/0954-3899/35/9/095105)
 16. *Electron – gamma spectroscopic measurements in ^{131}Cs .*
Dwaraka Rani Rao, K. Vijay sai, M. Sainath, R. Gowrishankar and K. Venkataramaniah; Appl. Rad. Isot. **66** (2008) 377.
 17. *Characterisation of isomers in the neutron-rich odd-odd nucleus ^{156}Pm .*
P.C. Sood, M. Sainath, R. Gowrishankar and K. Vijay Sai. Phys. Rev. **C83** (2011) 027303. doi: 10.1103/PhysRevC.83.027303.
 18. *Structure of the yrast band in the odd-odd deformed nucleus ^{156}Pm .*
P.C. Sood, K. Vijay Sai, R. Gowrishankar and M. Sainath. Phys. Rev. **C83** (2011) 057302. doi: 10.1103/PhysRevC.83.057302.
 19. *Electron –gamma spectroscopic studies in the odd-mass nucleus ^{175}Lu*
S. Deepa, K. Vijay Sai, R. Gowri Shankar, M. Sainath and K. Venkataramaniah
(Manuscript under preparation for submission to Applied Radiation and Isotopes)
 20. *Level structures in ^{156}Pm from ^{156}Nd β decay*
P.C. Sood, M. Sainath, R. Gowri Shankar and B. Singh
European Physical Journal – A. (2012) **48**: 136.
 21. *Multiple anti-magnetic rotation bands in odd-A ^{107}Cd*

Deepika Choudhury, A.K. Jain, G. Anil Kumar, Suresh Kumar, Sukhjeet Singh, P. Singh, M. Sainath, T. Trivedi, J. Sethi, S. Saha, S.K. Jadav, B.S. Naidu, R. Palit, H.C. Jain, L. Chaturvedi, S.C. Pancholi.
Phy. Rev. C **87** (2013) 034304; doi: 10.1103/PhysRevC.87.034304.

22. *Nuclear Data Sheets for A = 227*

Philip Kondev et.al.

Nuclear Data Sheets **132**, 257 (2016) February.

Conference Contributions:

1. *The $h_{11/2}$ state in ^{147}Pm from the decay of ^{147}Nd .*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **39B** (1996) 34.
2. *53 keV transition and the $7/2^+$ anomalous state in ^{103}Rh .*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **39B** (1996) 36.
3. *Nuclear Species longer-living in excited states.*
P.C.Sood, B.Singh, M.Sainath and K.Venkataramaniah;
International Conference on Nuclear Data for Science and Technology, Trieste, May 1997.
4. *Unique features of transuranic odd-odd Nuclei.*
P.C.Sood and M.Sainath; Proc. DAE Symp. Nucl. Phys., **40B** (1997) 134.
5. *A mini-orange spectrometer for low energy electron spectroscopy.*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **40B** (1997) 420.
6. *Computer simulation of a mini-orange transporter.*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **40B** (1997) 462.
7. *Single particle and collective excitations in ^{103}Rh .*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **41B** (1998) 78.
8. *Mixing ratios and $B(E2)$ values of transitions in ^{125}Te .*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **41B** (1998) 80.
9. *M1-E2 measurement for transitions in ^{147}Pm .*
M.Sainath and K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **42B** (1999) 84.
10. *Precision Measurement of K/L ratios for the high multipole transition in ^{113}In .*
M.Sainath, K.Venkataramaniah and K.L.Narasimham;
Proc. DAE Symp. Nucl. Phys., **42B** (1999) 86.
11. *Search for New levels in ^{131}Cs*
Dwaraka Rani Rao, M.Sainath, K.Venkataramaniah and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **43B** (2000) 213.
12. *Level Structures in Neutron – rich Rh isotopes and Spin-Parity assignments to levels in ^{113}Rh*
M.Sainath, K.Venkataramaniah and P.C.Sood; Proc. DAE Symp. Nucl. Phys., **43B** (2000) 215

13. *Properties of the lowest negative parity states in $N=82$ Magic Nuclei.*
M.Sainath, K.Venkataramaniah, B.Singh and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **43B** (2000) 256.
14. *Location of the missing Octupole state in Magic Nucleus ^{134}Te .*
M.Sainath, K.Venkataramaniah, B.Singh and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **44B** (2001) 76.
15. *Level structures in ^{75}As .*
M.Sainath, Dwaraka Rani Rao, K.Venkataramaniah, and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **44B** (2001) 34.
16. *Precision Measurement of α_K , α_L and α_M for the 190.29 keV anomalous transition in ^{114}In .*
M.Sainath, B.Harikrishna, K.Venkataramaniah and P.C.Sood; **44B** (2001) 74.
17. *On the Conversion of the 88.04 keV E3 transition in ^{109}Ag .*
M.Sainath, S.Venkatesh, R.Gowrishankar, K.L.Narasimham, P.C.Sood and
K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **45B** (2002) 44
18. *Complementarity of Decay and Reaction Data on ^{131}Cs Transitions.*
M.Sainath, Dwaraka Rani Rao, R.Gowrishankar, K.L.Narasimham, K.Venkataramaniah and
P.C.Sood; Proc. DAE Symp. Nucl. Phys., **45B** (2002) 74
19. *Character of the lowest 4^+ state in $N = 82$ magic nuclei.*
M.Sainath, K.Venkataramaniah, B.Singh and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **45B** (2002) 76
20. *Level Structures in ^{131}Xe from the Decay of ^{131}I .*
M.Sainath, Debadatta Swain, M.K.Suresh, R.Gowrishankar, S.N.Sairam, P.C.Sood and
K.Venkataramaniah; Proc. DAE Symp. Nucl. Phys., **46B** (2003) 24.
21. *Comparative Study of Yrast Bands in Uranium Nuclei.*
M.Sainath, K.Venkataramaniah and P.C.Sood; Proc. DAE Symp. Nucl. Phys., **46B** (2003) 68.
22. *Study of Conversion Electron Spectra of ^{153}Eu from ^{153}Gd Decay.*
K.Vijay Sai, M.Sainath, K.Naresh, P.C.Sood, K.Venkataramaniah and K.L.Narasimham;
Proc. DAE Symp. Nucl. Phys., **46B** (2003) 70.
23. *Long Lived Isomeric Species around $N = 152$ Deformed Shell Gap*
M.Sainath, K.Vijay Sai, K.Venkataramaniah and P.C.Sood;
Int. Conf. on Nuclear Data for Science and Technology (ND2004)
24. *Long-lived isomers in $N = 150 \pm 1$ nuclei.*
M.Sainath, K.Vijay Sai, K.Venkataramaniah and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **47B** (2004) 32.
25. *Precision measurements of K, L and M conversion coefficients for low energy transitions in ^{169}Tm*
K.Vijay Sai, M. Sainath, K. Venkataramaniah, P. C. Sood and K. L Narasimham;

- Proc. DAE Symp. Nucl. Phys., **47B** (2004) 122.
26. *Distinctive Features of Low Energy Spectrum of $Z = 50$ Magic Nuclei.*
M. Sainath, K. Vijay Sai, K. Venkataramaniah and P.C.Sood;
Proc. DAE Symp. Nucl. Phys., **48B** (2005).
 27. *Missing Low-lying Structures in ^{254}Es .*
M. Sainath, K. Venkataramaniah and P.C.Sood; Proc. DAE Symp. Nucl. Phys., **48B** (2005).
 28. *High Multipole Electromagnetic Transitions: Experimental and Theories.*
K. Vijay Sai, M. Sainath, R. Gowri Shankar, K. L. Narasimham and K. Venkataramaniah;
Proc. DAE Symp. Nucl. Phys., **48B** (2005).
 29. *Anomalous Conversion in ^{197}Hg and ^{197}Au ?*
K. Vijay Sai, M. Sainath, R. Gowri Shankar, S. Deepa and K. Venkataramaniah;
Proc. DAE Symp. Nucl. Phys., **48B** (2005).
 30. *New Levels in ^{124}Te from the beta decay of ^{124}Sb .*
K. Vijay Sai, Dwaraka Rani Rao, Amol Patil, M. Sainath and K. Venkataramaniah;
Proc. DAE Symp. Nucl. Phys., **48B** (2005).
 31. *Characterisation of ^{252}Es ground state.*
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40. *Facility for characterization of segmented germanium detectors.*
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41. *The ground - state and low-lying isomeric state in ²⁵⁰Es.*
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S. Deepa, K. Vijay Sai, M. Sainath, R. Gowrishankar, S. Kailas and K. Venkataramaniah
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46. *Precision Internal Conversion Coefficient measurements in ¹⁹²Pt following ¹⁹²Ir beta-decay.*
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47. *Precision Electron-Gamma spectroscopic measurements in ¹⁶⁶Er.*
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50. *On the observation of the $3/2+[411]$ and $1/2+[420]$ rotational bands in the decay spectroscopy of ^{153}Sm*
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52. *An Island of long-lived isomers preceding $N = 152$ deformed shell closure*
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53. *Assessment of Bandgaps for Alkaline Earth Chalcogenides using improved Tran Blaha modified Becke Johnson potential.*
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54. *Low lying two-quasiparticle structures in odd-odd ^{182}Re*
S. C. Rakesh Roshan, Lavanya Kunduru, M. Sainath
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55. *Topological Semimetallic phase in SrTe*
Lavanya Kunduru, S. C. Rakesh Roshan, N, Yedukondalu, M, Sainath
AIP Proceedings (Accepted and in print) 2018
56. *Phase transition and dynamical stability of Calcium Chalcogenides under high pressure*
S. C. Rakesh Roshan, Lavanya Kunduru, N, Yedukondalu, M, Sainath
AIP Proceedings (Accepted and in print) 2018

COURSES TAUGHT

Course Number & Title	UG Level / PG Level	Year taught	Whether course developed by me
PHY 603, Atomic and Molecular Spectroscopy	UG	1996-2004	No
PHY 604, Nuclear Physics	UG	1995-2003	No
PHY 703, Classical Electrodynamics	PG	1998-2008	Yes
PHY 803, Nuclear Physics	PG	1999-2004	No

PHY 903(B), Nuclear Physics-I (Specialisatoin)	PG	2005-2007	Yes
PHY 1003(B), Nuclear Physics - II (Specialisation)	PG	2005-2007	Yes
PHY 1001, Molecular spectroscopy	PG	1997-2008	No
PHY 1002, Condensed Matter Physics	PG	1999-2008	Yes
Engineering Physics	B.Tech I year	2008-	No
Electromagnetic Theory	B.Tech II year	2008-2009	No
Electronic Devices and Circuits	B. Tech II Year	2012-2013	No
Electromagnetic Field Theory	B. Tech II Year	2012-2013	No
Engineering Physics	B.Tech I year	2014-2015	No
Intermediate Physics	XII class	2015-2016	No
Electronic materials and Devices	B.Tech IV year	2015-2016	No
Electromagnetic Field Theory	B.Tech II year	2015-2016	No

PROJECT GUIDANCE MASTERS LEVEL

S.N o.	Name of Student	Year of Completion	Title of Thesis	Co-Supervisors (if any)
1	Y. Phaneendra Kumar	2001	<i>Precision measurements of energies and intensities of gamma transitions in the electron capture decay of ⁷⁵Se using a large volume HPGe detector</i>	NA
2	G. Rejeesh	2001	<i>Precision Measurements of Energies and Intensities of Gamma transitions in the beta decay of ¹⁰³Ru using a large volume HPGe detector</i>	NA

3	T. Sairam	2002	<i>A computer Simulation of Mini-orange electron transported: Development of an Algorithm for implementation</i>	NA
4	P. Pavan Kumar	2002	<i>Efficiency Calibration of a large volume HPGe detector</i>	NA
5	S. Murali Krishna	2002	<i>A computer Simulation of Mini-orange electron transported: Development of a Computer Code</i>	NA
6	N. Babu Rao	2002	<i>Efficiency Calibration of Si(Li) Detector</i>	NA
7	M. K. Suresh	2003.	<i>Electron Gamma Spectroscopic studies on ¹³¹Xe nucleus</i>	NA
8	K.V.S.K. Ganesh	2004	<i>Trace element analysis - a tool for material characterization</i>	NA
9	Shankar Kumar Jha	2006	<i>Trace element analysis of diabetic human blood serum using PIXE</i>	NA
10	Asutosh Kumar Jha	2008	<i>Elemental Analysis of Neem and Adhathoda using EDXRF Spectroscopy</i>	NA
11	S. Chand Rakesh Roshan	2008	<i>Elemental Analysis of Garika and Ashwagandha using EDXRF Spectroscopy</i>	NA
12	A Devarajan	2008	<i>Calibration and Standardisation of a Direct Excitation EDXRF Experimental Setup</i>	NA

PARTICIPATION IN COMMUNITY SERVICE PROGRAMS

While at the Sri Sathya Sai University at Prasanthinilayam for 23 years - both as a student and then as a faculty member, there were plenty of opportunities to be involved in community service programs.

1. Village Service activities:

The University as a policy would have a Village service program every year. This program, called "**Grama Seva**", saw my active involvement in planning and execution of this program. The program involved the students and faculty going to close to **300 villages** and distributing clothes and food to the villagers. This activity would take place **over a period of 10 days**. My responsibilities would involve logistics, route mapping, material and manpower distribution and also coordinating the supplies.

2. Blood Donation camps:

I am an active blood donor, having donated blood in the Sri Sathya Sai Seva camps, Red Cross camps and also to patients in need at hospitals in Hyderabad.

3. Free Medical camp:

As a member of the Alumnus group, I have had a few opportunities to participate in free medical camps for slums and economically deprived people of society.

4. Food Distribution camps:

Free food distribution or '**Narayana Seva**' was an activity in which I would participate from my student days. Serving food to close to **25,000 needy people** used to give plenty of satisfaction.

PARITICIPATION IN CORPORATE LIFE

- ❁ Was the Quiz master for University's annual Quiz contest held every year as a part of the Annual Sports and Cultural meet of Sri Sathya Sai University.
- ❁ Wrote and Directed several plays and skits while at Sri Satya Sai University.
- ❁ Conducted workshops for Effective Public Speaking for students of Sri Sathya Sai University.
- ❁ Involved actively in coordinating and planning the Annual Sports and Cultural Meet held every year for the Sri Sathya Sai University.
- ❁ Was a member of the Hostel core committee that looked into student welfare activities in the hostel at Sri Sathya Sai University.
- ❁ Headed the Student Cooperative Stores of the Hostel at Sri Sathya Sai University.

- ❁ Organised and Conducted several orientation programs for students.
- ❁ Organised and conducted self-improvement workshops for students at Sri Sathya Sai University.
- ❁ Organised and conducted debate and Elocution contests at Sri Sathya Sai University and also conducted training workshops for students in the same.

RESEARCH GUIDANCE

Name of student	Joining year	Area	Status
Mr. S. Rakesh Roshan	Registered in 2016	Characterisation of two - quasiparticle levels in transitional neutron rich Z = 67 Holmium nuclei.	Under process of registration with RGUKT.
Ms. S. Lavanya	Registered in 2016	Elemental Speciation of some commonly used food additives using novel XRD and Electron Microscopy coupled with Energy dispersive Spectroscopy.	Registered with JNTU-H/RGUKT.