

SARUN P. M. | Curriculum Vitæ

Assistant Professor, Functional Ceramics Laboratory, Department of Applied Physics,
IIT (ISM), Dhanbad, Jharkhand, INDIA – 826 004.

☎ +91-8294405950 • ☎ +91-326-2235887 • 📠 +91-326-2296563.

✉ sarun@iitism.ac.in • Dated : 10th January, 2019.

Qualifications

Academic.....

Ph. D. (Faculty of Science) **2007–2011 (4 Years)**

Cochin University of Science & Technology (CUSAT) *Kalamassery, Cochin, Kerala State, INDIA*

M. Sc. Physics (First class) **2001–2003 (2 Years)**

Sree Narayana College, (Affiliated to Kannur University) *Thottada, Kannur, Kerala State, INDIA*

B. Sc. Physics (First class) **1997–2000 (3 Years)**

S. N. College, (Affiliated to Kannur University) *Thottada, Kannur, Kerala State, INDIA*

Technical.....

Hardware :-: Computer hardware course, Lakothia Computer Center (LCC), Kannur, Kerala State, INDIA - 670 001.

Typewriting :-: Lower (30 wpm) and Higher (50 wpm), Board of Technical Education, Kerala State, INDIA.

Ph.D Thesis

Title :-: Studies on development of novel rare earth doped (Bi,Pb)-2212 superconductors with enhanced properties

Supervisor :-: Dr. U. Syamaprasad, Senior Deputy Director, Scientist 'G',

Phone : +91-471-2515373. E-mail : syamcsir@gmail.com.

Institution :-: National Institute for Interdisciplinary Science and Technology (CSIR), Trivandrum– 695019.

Post Ph.D. Experience (7 Years & 1 months)

Academic & Research.....

Assistant Professor (IIT payscale) **Mar. 2014 – Till date**

Department of Applied Physics, IIT(ISM), Dhanbad – 826 004.

Assistant Professor (UGC payscale) **Dec. 2011 – Mar. 2014**

Department of Applied Physics, Indian School of Mines, Dhanbad – 826 004.

Research.....

CSIR Senior Research Fellow (Extended) **Apr. – Dec. 2011**

National Institute for Interdisciplinary Science and Technology, Trivandrum – 695 019.

Council of Science & Industrial Research (CSIR)

Pre Ph.D. Experience (Academic and Research)

Research.....

CSIR Senior Research Fellow

Apr. 2007 – Mar. 2010

National Institute for Interdisciplinary Science & Technology, Trivandrum – 695 019.

Council of Science & Industrial Research (CSIR)

CSIR Diamond Jubilee Research Intern

Jun. 2004 – Jun. 2007

Regional Research Laboratory (CSIR), Trivandrum, Kerala – 695 019.

Academic.....

Lecturer in Physics

Dec. 2003 – Mar. 2004

Sree Narayana College (Affiliated to Kannur University), Kerala – 670 007.

Thottada, Kannur,

Administrative and/or Academic responsibilities)

Institute level.....

★ Warden, Diamond Hosten (Since, June, 2018)

★ Exhibitor Member, International Seminar and Exhibition, Exploration of Oil, Gas, Coal, Minerals and Ground Water (EXOCMING-2018), ISMAA Kolkata Chapter, Kolkata (Feb. 2018)

★ Exhibitor Member, DISHA Expo organized by Directorate of Higher Secondary Education, Govt. of Kerala (Jan. 2018)

★ Member, JRF admission committee (From 2017-18 Phase-1 to 2018-19)

★ Member, ISM-JRF admission committee (From 2012-13 Phase-2 to 2016-17 Phase-2)

★ Member, Anti-Ragging Squad (Monsoon Semesters of 2012-13 and 2013-14).

★ Examiner, M.Sc. Entrance examination (For 2012-13 and 2013-14).

★ Judge, Mime & Half-Face painting at SRIJAN – 2013.

Department level.....

★ Secretary & Member, Departmental Assessment Committee (DAC), Applied Physics (From 2012-13, Winter Semester to Till date).

★ Faculty-In-Charge, I & II B. Tech. Common Physics Practicals (From 2012-13, Monsoon Sem to Till date).

★ Co-coordinator, DST-FIST Project (Rs. 215 Lakhs), 2014-18.

★ Member, New Academic building committee, 2014-15.

★ Tabulation Duty (From Monsoon Semester of 2012-13 to Winter Semester of 2014-15).

★ Member, Board of courses & studies, Applied Physics. (2013-14, 2018-19)

★ Member, Placement Co-ordination committee.

★ Member, Organising committee of conferences, ALS-2012, SPPS-2013, NCLC-2016, RAMSE-2018, ASTM-2018.

★ Treasurer, International conference: *q*-PACE-2016.

★ External Member, Departmental Purchase assesement Committee (DPAC)/ Tender Assesement Committee (TAC) Applied Chemistry.

★ Member, Company visit team (2017-18), Bangalore city to enhance the visibility among the prospective companies for placement & internship of B.Tech. Engg. Physics and M.Sc. students of the department.

Awards and Fellowships

2011: CSIR Senior Research Fellowship (Extended)

2007: CSIR Senior Research Fellowship
2004: CSIR Diamond Jubilee Research Interns Award
2000: NCC 'C' Certificate for Leadership
1999: NCC 'B' Certificate for Leadership

Skills & Techniques

Research Skills

- (a).: Preparation of Superconducting, Dielectric materials in bulk and long length tape forms, thin films, etc.
- (b).: Materials characterisation techniques: PXRD, FE-SEM, EDXS, AFM, DTA, TGA, HRTEM, PPMS+VSM, XPS.
- (c).: Electronic transport properties, AC/DC magnetic and superconductivity measurements at cryogenic temperatures and high-magnetic fields, Complex Impedance Spectroscopy of dielectric materials.
- (c).: Fabrication of superconducting devices, namely, magnetic shielding vessels and conduction cooled current leads.

Computer skills (Level:– Intermediate; Operating systems:– Debian Linux, Windows).....

Typesetting :–: L^AT_EX 2_ε, T_EX, LyX, HTML, Open Office, Microsoft Office.

Graphics :–: GIMP, Imagemagik, Coral Draw, Adobe Photoshop, Inkscape.

Analysis :–: X'pert Highscore, Topas, Fullprof, Fityk, EIS-analyser, ICDD PDF4+ and PDF2 database.

Programming :–: VB, C, BASIC, Fortran, Python.

Research :–: LabView, MATLAB, Origin, SigmaPlot.

Research Supervision - Ph.D.

Completed: Two.....

(1). Tanusree Mondal (2013DR0207, Full-time, Aug. 2013 – Mar. 2018):

Investigations on the structural, dielectric and electrical properties of iso- and alio-valent elements substituted BaZr_{0.1}Ti_{0.9}O₃ perovskite

(2). Jasabanta S. Hansdah (2012DR0044, Full-time, Feb. 2012 – Mar. 2017):

Studies on the fluxpinning properties of MgB₂ superconductor by chemical doping and ion implantation for high field magnet applications

Ongoing: Seven.....

(1). Snigdha Paramita Mantry (2015DR0240, Full-time, Aug. 2015 – Jul. 2019):

Studies of low loss dielectric materials for microwave application

(2). Abhinav Yadav (2015DR0289, Full-time, 2015– Aug. 2019):

Synthesis of low temperature co-fired ceramics and their applications in microwave communications

(3). Shashikant Pandey (2015DR1168, Part-time, Nov. 2015 – Dec. 2019):

Design of fractal based microstrip antenna for modern wireless systems

(4). Irshad Ahmad (2016DR0038, Full-time, Feb. 2016 – Jan. 2020):

Studies on the development of multifilamentary MgB₂ superconducting wires with enhanced critical current density

(5). Mohd. Fahad (16DR000113, Full-time, Sep. 2016 – Aug. 2020):

Development of novel dielectric material with ultra high dielectric constant for capacitor application

(6). Sukhnidhan Singh (17DR000586, Full-time, Jan. 2018 – Dec. 2022):

Development of novel dielectric materials for energy harvesting applications

(7). Soubhik Battacharyya (18DR0113, Full-time, Sep. 2018 – Aug. 2023):

Development of novel functional perovskite ceramics for energy harvesting applications

Not Completed/Resigned: Two.....

(1). Soumen Ash (2013DR0054, Full-time, Feb. 2013 – Jul. 2014) – Resigned on 10.07.2014:

Studies on development of MgB₂ based high performance conduction cooled superconducting current leads for cryogenic application.

(2). Himanshu Bhushan Nayak (2014DR0176, Full-time, Aug. 2014 – Sep. 2016) – Resigned on Sep. 2016:

Investigations on MgB₂ based superconducting conduction cooled current leads for cryogenic applications.

Research Supervision - M. Sc. Physics/Applied Physics

Completed: Eleven.....

(1). Smriti Mosel (16MS000404, 2017–18): *A journey towards clean water.*

(2). Amalesh Kumar (15MS000197, 2016–17): *Structural and dielectric behaviour of SrTiO₃ ceramics.*

(3). Soumyarup Hait (15MS000193, 2016–17): *A theoretical studies on the current transfer length of superconducting wires.*

(4). Bishnu Pada Majee (14MS000057, 2015–16): *Investigation on the structural and dielectric properties of praseo- dymium substituted Ba_{1-x}Pr_{2x/3}Zr_{0.1}Ti_{0.9}O₃ (0.00 ≤ x ≤ 0.04).*

(5). Anisha Bilung (14MS000065, 2015–16): *Effect of calcium substitution on the dielectric relaxation of Ba_{1-x}Ca_xZr_{0.1} Ti_{0.9}O₃ ceramics.*

(6). Rohit Kandulna (2013MS0002, 2014–15): *Synthesis and characterization of zinc oxide (ZnO) aerogel.*

(7). Ravi Kumar (2013MS0065, 2014–15): *Theoretical investigations of semiconductor solar cells with solar cell capacitance simulator.*

(8). Suman Kundu (2012MS0065, 2013–14): *Structural and dielectric characterisation of NdTiO₃.*

(9). Adrish Ghosh (2011MS0104, 2012–13): *Investigations on the flux pinning properties of n-SiO₂ doped MgB_{2-x}C_x (x = 0.1 & 0.2) superconductor.*

(10). Smarajit Sarkar (2011MS0103, 2012–13): *Investigations on current penetration depth in MgB₂ superconducting wires.*

(11). Moutushi Banerjee (2011MS0113, 2012–13): *Theoretical investigation on iron chalcogenides : A first principle study.*

Ongoing: Two.....

(1). Jithin Babu (17MS000445, 2018–19):

(2). Shivam Singh (17MS000477, 2018–19):

Research Supervision - B. Tech. Engineering Physics

Completed: One.....

(1). Ritika Agarwal (14JE000893, 2017–18):

Ongoing: One.....

(2). Kashyap Kumar Patel (16JE002276, 2017–20):

Research funding

Proposal Sanctioned.....

DST Fast Track – 26,64,000/-

2014–2017

DST(94)/2013-2014/379/APH, 10.01.2014

Ongoing

Development of MgB₂ based conduction cooled superconducting leads with high critical current for cryogenic devices.

ISM FRS – 7,75,000/-

FRS(52)/2013-2014/APH, 20.12.2013

Development of novel rare earth doped (Bi,Pb)-2212 high temperature superconductors with enhanced properties.

2013–2016

Completed

Proposals Submitted.....

UGC Major Project – 21,80,000/-

2014

Project Defence: 06.01.2015, UGC Headquarters, New Delhi

Not recommended

Development of microwave dielectric resonator antenna from low loss dielectric materials

Research Collaborations

Ongoing.....

(1). **Dr. A. Asokan, IUAC, New Delhi:** Since 2013.

(2). **Prof. T. P. Sinha, Bose Institute, Kolkata:** Since 2014.

(3). **Dr. G. P. Pandey, DICT, Pandit Deendayal Petroleum University, Gandhinagar.:** Since 2016.

Academic and Research memberships

★ Associate Member, Indian Institute of Metals, Kolkata.

Reviewer of SCI Journals

★ Journal of Alloys & Compounds, Elsevier.

★ Synthetic Metals, Elsevier.

★ Journal of Materials Science: Materials in Electronics, Springer.

Examiner: Ph.D. Thesis

★ **J. Uma Maheswari** (Reg. No. 11481), Manonmanium Sundarnar University, Tirunelveli, Tamil Nadu (India), *Growth and studies of spectral, optical and electrical studies of some organic and semiorganic nonlinear optical crystals.* under the supervision of Dr. C. Krishnan, Department of Physics, Arignar Anna College, Aralvoymoli - 629321, Tamil Nadu (India).

Online presence:

Google Scholar : P M Sarun

Scopus: 9433884000

ResearcherID: B-7036-2014

facebook.com: Sarun Pallian Murikkoli

On Web: <https://www.iitism.ac.in/sarun/>

ORCID : 0000-0003-1925-7669

Mendeley: P. M. Sarun

researchgate.net: Dr. Sarun Pallian Murikkoli

Whatsapp: Not Available

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My Personal Profile

Date of Birth :-: 7th Januray, 1980

Parents :-: T. P. Chandramohan; Shylaja M

Siblings :-: Hashna P. M. (Sister); Lasin P. M. (Brother)

Nationality :-: Indian

Mother tongue :-: Malayalam

Sex :-: Male

Marital Status :-: Married to Nijina C. P.

Children :-: Sreenidha Sarun; Sreeniyukth Sarun

Religion :-: Hindu

Other Languages :-: English, Hindi (Read, Write, Speak); Tamil, Urdu (can understand)

Employer's Address.....

Present :- Functional Ceramics Laboratory,
Department of Applied Physics, Indian Institute of Technology (Indian School of Mines),
Dhanbad, Jharkhand State, INDIA – 826 004.

Past :- Superconducting and Magnetic Materials Laboratory,
National Institute for Interdisciplinary Science and Technology (NIIST),
Council of Scientific and Industrial Research (CSIR),
Trivandrum, Kerala State, INDIA – 695 019.

Personal Address.....

Residence :- Quarter No. 128, Block-9,
New Teacher's Colony, Opposite of IIT(ISM) campus,
Dhanbad, Jharkhand State, INDIA – 826 004.

Permanent :- Shylendram, Madapeedika,
P.O. Paral, Thalassery, Kannur Dist.,
Kerala State, INDIA – 670 671.

References

Dr. U. Syamaprasad:

Senior Deputy Director,
Superconducting and Magnetic Materials Section,
National Inst. for Interdisciplinary Science & Technology,
Council of Scientific and Industrial Research,
Trivandrum, INDIA. , PIN : 695019.
Phone : +91-471-2515373,
E-mail : syamcsir@gmail.com

Dr. R. P. Aloysius:

Scientist 'E-II',
National Physical Laboratory,
Council of Scientific and Industrial Research,
Dr. K.S. Krishnan Marg, Pusa,
New Delhi, INDIA. PIN : 110012.
Phone : +91-9868968775,
E-mail : alosrp@nplindia.org