

# Curriculum Vitae



## ***Personal Information***

Name	Jafar Meethale Parakkandy
Nationality	Indian
Date of Birth	31-05-1984
Place of Birth	Kerala (India)
Marital Status	Married
Present Address	Department of Physics PG Department of Physics Sir Syed College Taliparamba, Kerala, India
Permanent Address	Fathima Manzil, Meethale Parakkandy Ayancheri (PO), Vatakara Calicut, Kerala, India -673541
Phone Number	Mobile: +918281160448 +919544160448
Email	jafar@sirsyedcollege.ac.in
Languages	Malayalam (Mother Tongue) English (Fluent) Hindi, Arabic (Moderate)

## ***Educational Qualifications***

---

**Ph.D. (Physics)** from King Saud University, Riyadh, Kingdom of Saudi Arabia, during 2010 to 2016. First Class (**CGPA: 4.46 out of 5, Very Good**).

(Thesis Title: “*Modification of Electric and Magnetic Properties of Magnesium Diboride Superconductor for Large Current and High Magnetic Field Applications*”)

(*Equivalence Certificate issued by Association of Indian Universities, New Delhi, India*)

(*Recognition Certificate issued by Kannur University, Kerala, India*)

**Master of Science (Physics)** from Cochin University of Science and technology (CUSAT), Kerala, India during 2005 to 2007. First Class (**CGPA: 7.62 out of 10, Very Good**).

**B.Sc. (Physics)** from Government College Madappally, Calicut University, Kerala, India during 2002 to 2005. First Class (**88%, Superior**)

## **Achievements**

---

- **Research Supervisor** in Kannur University
- **GATE Score:** Qualified GRADUATE APTITUDE TEST IN ENGINEERING (GATE) in 2007.
- **UGC-Research Fellowships in Sciences for Meritorious Students (UGC-RFSMS)** from Cochin University of Science and Technology
- A *certificate of appreciation* received from **Dean of College of Science and Humanity studies, Prince Sattam bin Abdulaziz University, Alkharj, KSA** for the academic year 2016/2017

## *Experience*

---

1. **Assistant Professor of Physics** at PG Department of Physics, Sir Syed College, Taliparamba, Kerala, India from **2018 January to Present**
2. **Assistant Professor of Physics** at Department of Physics, College of Science and Humanities studies, Prince Sattam bin Abdulazeez University, Alkharj, Saudi Arabia from **2016 September to 2018 January**

*Teaching courses for under graduate students*

- *Solid State Physics(2), Thermodynamics, General physics for BSc physics*

3. **Researcher cum teaching assistant** at Department of Physics and Astronomy, College of Science, King Saud University, Riyadh, Saudi Arabia from **2009 January to 2016 March**.

- *Teaching physics lab courses phy101, phy102, phy103, phy104 and phy145 for Engineering and science students.*
- *Assisting Master and Bachelor students for their thesis work.*
- *Carried out several scientific project works*

4. **Full time research scholar (under UGC-RFSMS fellowship)** at Cochin University of Science and Technology from **2007 September to 2008 December**.

- *Worked under the guidance of Prof. K. P. Vijayakumar on the topic “Low temperature Photoluminescence studies on semiconductor thin films.*
- *Synthesis and characterization of thin films solar cell materials, Defects analysis using low temperature photoluminescence.*

### ***Positions Held:***

1. **Nodal officer**, NIRF Sir Syed College, Taliparamba (2018-2020)
2. **Convener**, Documentation Committee, Sir Syed College (2020-2022)

3. Convener, *Feathers* Monthly bulletin Sir Syed College (2020-2022)
4. Convener, Health Club, Sir Syed College, Sir Syed College ( 2022-2023)
5. Convener, Anti Drugs Club, Sir Syed College, Sir Syed College ( 2022-2023)
- 6.
7. **Secretary Nature Club** at Govt. College Madappally during Under Graduate level
8. NCC member at Govt. College Madappally during Under Graduate level

5.

### ***Thesis Supervised***

---

- *Several MSc and BSc students projects at Sir Syed College and at Prince Sattam bin Abdulaziz University, Alkahrij, KSA.*

### ***Major Project works (Undertaken/Involved)***

---

1. **“Modification of Electric and Magnetic Properties of Magnesium Di-Boride Superconductor for Large Current and High Magnetic Field Applications” (PhD thesis work, King Abdulaziz City for Science and Technology (KACST) through the National Plan for Science & Technology (NPST), under the project (AT-34-0149), (Amount: 100,000 SAR), (2013-2016, completed).**
2. **Research Group Project (RGP-VPP-290) by Deanship of Scientific Research (DSR) at King Saud University, Riyadh, Kingdom of Saudi Arabia, (Amount: 150,000 SAR), (2014-2015).**
3. **“Development and Fabrication of MgB<sub>2</sub> Based Superconducting Wires”.** National Plan for Science and Technology, KACST, Riyadh, Kingdom of Saudi Arabia **(Amount: 1.75 Million SAR), (Jan. 2010- 2015).**
4. **“Modification and electromagnetic Properties of MgB<sub>2</sub> Superconductors by Nano materials doping for high magnetic field application”.** National Plan for

Science and Technology (NPST), KACST, Riyadh, Kingdom of Saudi Arabia (Amount: 1.993 Million SAR), (Sep 2010-2015).

5. “Synthesis and magnetic and electrical properties measurement of CNT- MgB<sub>2</sub> nano composites” King Abdullah Institute of nano Technology (KAIN) KSU, Riyadh, (Amount: 678,000 SAR), (2008-2010, completed).
6. “Enhancement of critical current density and Mechanical strength of MgB<sub>2</sub> superconductors by doping hydrocarbon / carbon hydrate”. Center of Excellence Research in Engineering Materials (CEREM), King Saud University, Riyadh, (Amount: 321,000 SAR) (2008-2009, completed).

## *Areas of Research Interest*

---

Semiconductor Physics, Solar Cells, Low Dimensional Physics and Thin Films.

## *Technical Skills*

---

### **Material Preparation techniques:**

Synthesis of superconducting Bulk and Wire samples, Solid state reaction techniques through dry and wet methods, thin film deposition by thermal evaporation and spray pyrolysis techniques, Chemical Bath Deposition technique (CBD), hydrothermal synthesis of nano particles

### **Characterization technique handled and other material processing techniques:**

Physical Property Measurement System (PPMS-Quantum Design Model 6000) with 14T magnet, Vibrating Sample Magnetometer (VSM) attached with PPMS, Four Probe Resistivity Measurement with PPMS and homemade system, Specific Heat Measurement from PPMS, Transport Measurement system with 14T magnet and 200Ampere current supply, Scanning Electron Microscopy (SEM), X-Ray Diffractometer (XRD), Maud and Powder-X analysis for XRD data, UV VIS NIR Spectrophotometer (Jasco), Stylus Profiler (Dektak 6M), Photoluminescence set up  
Fluorimeter (Jobin Yuon, USA), Source Measure Unit (SMU, Keithley K 1236), Hall Effect Measurements System, Closed Cycle Liquid Helium Cryostat, Thermally Stimulated Current Measurement System, Laser Systems (He-Ne, Nd-YAG, Ar<sup>+</sup> and He-Cd)

Expert in Liquid Helium transferring for 14Tesla Magnet, Expert for Liquid Nitrogen transfer, Ball milling, Cutting, Polishing, Four Probe contact making, Furnace making, High Vacuum Pump, Turbo Pump

**Computer Related:** Networking, Origin Lab, Maud Analysis, Powder-X analysis, Excel, Sigma Scan

## *International Journal Publications*

---

1. **Jafar M. Parakkandy**, M. Aslam Manthrammel, Fahad Saad Alghamdi, Mohammed Shahabuddin, Nasser S. Alzayed, “Enhancement of critical current density of MgB<sub>2</sub> by glutaric acid doping: A simultaneous improvement on the intrinsic and extrinsic properties”, *J Supercond Nov Magn*(First online 14 Aug-2017). **ISSN: 1557-1939**
2. V. Ganesh, Mohd. Shkir, I.S. Yahia, **Jafar M. Parakkandy**, S. AlFaify, “Phenol red dyed Bis thiourea Zinc acetate crystal growth and characterization for electro-optic applications”, *Optik* **158** (2018) 997–1005
3. Fahad Saad Alghamdi, M. Shahabuddin, Nasser S. Alzayed, Niyaz Ahamad Madhar, **Jafar M. Parakkandy**, M.A. Majeed Khan, Aslam Khan, Md. Shahriar Al Hossain, “Mechanism of Enhanced Carbon Substitution in CNT-MgB<sub>2</sub> Superconductor Composite using Ball Milling in a Methanol Medium: Positive Role of Boron Oxide”, *J Supercond Nov Magn* (First online 12 Aug-2017). **ISSN: 1557-1939**
4. **Jafar M. Parakkandy**, M. Shahabuddin, M.S. Shah, N.S. Alzayed, S.A.S. Qaid, N.A. Madhar, S.M. Ramay, M.A. Shar, “Effects of glucose doping on the MgB<sub>2</sub> superconductors using cheap crystalline boron”, *Physica C: Superconductivity and its Applications*, **519** (2015) 137-141. **ISSN: 0921-4534**

5. **Jafar M. Parakkandy**, M. Shahabuddin, M.S. Shah, N.S. Alzayed, N.A. Madhar, “Effect of Ball Milling Time on Critical Current Density of Glucose-Doped MgB<sub>2</sub> Superconductors”, *J Supercond Nov Magn*, **28** (2015) 475-479. ISSN: 1557-1939
6. I. Ansari, **Jafar M. Parakkandy**, M.S. Shah, M. Shahabuddin, N.S. Alzayed, “Fluctuation Induced Conductivity of Carbon in Glucose Doped MgB<sub>2</sub> Superconductor”, *Arabian Journal for Science and Engineering*, **42** (2017) 383-388. ISSN: 2191-4281
7. M. Shahabuddin Shah, M. Shahabuddin, **Jafar M. Parakkandy**, S. Qaid, N.S. Alzayed, “Enhanced critical current density in un-doped MgB<sub>2</sub> prepared by in situ/ex situ combination technique”, *Solid State Commun*, **218** (2015) 31-34. ISSN: 0038-1098
8. Gaurav Vats, Manish Sharma, Rahul Vaish, Vishal S. Chauhan, Niyaz A. Madhar, Mohammed Shahabuddin, **Jafar M. Parakkandy** and Khalid M. Batoo, “Application oriented selection of optimal sintering temperature from user perspective: A study on K<sub>0.5</sub>Na<sub>0.5</sub>NbO<sub>3</sub> ceramics”, *Ferroelectrics* **481** (2015) 64–76. ISSN: 0015-0193
9. N.S. Alzayed, S. Soltan, M. Shahabuddin, A. El-Naggar, I.V. Kityk, S.E. Qaid, **Jafar M. Parakkandy**, M.S. Shah, N.A. Madhar, “Growth of Stable Bilayer CrO<sub>2</sub>/MgB<sub>2</sub> Films by Pulsed Laser Deposition”, *J Supercond Nov Magn*, **28** (2015) 387-390. ISSN: 1557-1939
10. S. Barua, D. Patel, N. Alzayed, M. Shahabuddin, **Jafar M. Parakkandy**, M.S. Shah, Z.Q. Ma, M. Mustapic, M.S. Al Hossain, J.H. Kim, “Correlation between in-field J(c) enhancement and grain connectivity in co-doped MgB<sub>2</sub> superconductor”, *Mater. Lett.* **139** (2015) 333-335. ISSN: 0167-577X
11. M.S. Shah, M. Shahabuddin, **Jafar M. Parakkandy**, N.S. Alzayed, N.A. Madhar, K.M. Batoo, “Effects of High Pressure Using Cold Isostatic Press on the Physical Properties of Nano-SiC-Doped MgB<sub>2</sub>”, *J Supercond Nov Magn*, **28** (2015) 481-485. ISSN: 1557-1939

12. Dipak Patel, Minoru Maeda, Seyong Choi, Seong Jun Kim, Mohammed Shahabuddin, **Jafar Meethale Parakandy**, Md Shahriar Al Hossain and Jung Ho Kim, “Multiwalled carbon nanotube-derived superior electrical, mechanical and thermal properties in MgB<sub>2</sub> wires”, *Scripta Materialia*, **88** (2014) 13–16. ISSN: **1359-6462**
13. Gaurav Vats, Himmat Singh Kushwaha, Rahul Vaish, Niyaz Ahamad Madhar, Mohammed Shahabuddin, **Jafar M. Parakkandy** and Khalid Mujasam Batoo, “Giant energy harvesting potential in (100)-oriented 0.68PbMg<sub>1-3</sub>Nb<sub>2-3</sub>O<sub>3</sub>0.32PbTiO<sub>3</sub> with Pb(Zr<sub>0.3</sub>Ti<sub>0.7</sub>)O<sub>3</sub>/PbO<sub>x</sub> buffer layer and (001)-oriented 0.67PbMg<sub>1-3</sub>Nb<sub>2-3</sub>O<sub>3</sub>–0.33PbTiO<sub>3</sub> thin films”, *Journal of advanced dielectrics*, Vol. **4**, No. 4 (2014) 1450029. ISSN: **2010-135X**
14. M.S. Shah, M. Shahabuddin, N.S. Alzayed, **Jafar M. Parakkandy**, “Flux pinning mechanism and H<sub>c2</sub>-anisotropy in melanin doped bulk MgB<sub>2</sub>”, *Physica C: Superconductivity and its Applications*, **501** (2014) 19-23. ISSN: **0921-4534**
15. M. Shahabuddin, N.S. Alzayed, **M.P. Jafar**, M. Asif, “Effect of ball milling time on the substitution of carbon in glucose doped MgB<sub>2</sub> superconductors: Dispersion behavior of glucose”, *Physica C: Superconductivity and its Applications*, **471** (2011) 1635-1642. ISSN: **0921-4534**

### ***Conference Presentations***

---

16. Mohammed Shahabuddin, **Jafar M Parakandee** and Nasser S. Alzayed “Nature of Pinning Mechanism in Al and Nano C Co-doped MgB<sub>2</sub> Superconductors” **Conference**, Alaska, USA ( 17/06/2013)
17. M. Shahabuddin Shah , Mohammad Shahabuddin, **Jafar M. Parakkandy**, Nasser S Alzayed, Niyaz Ahmad Madhar, Khalid Mujasam Batoo “ Effects of High Pressure Using Cold Isostatic Press on the Physical Properties of Nano-SiC-Doped MgB<sub>2</sub>” **ICSM 2014**, Antalya, Turkey
18. **Jafar M. Parakkandy**, Mohammed Shahabuddin, M. Shahabuddin Shah, Nasser S. Alzayed, Niyaz Ahmad Madhar “Effect of Ball Milling Time on Critical



Current Density of Glucose-Doped MgB<sub>2</sub> Superconductors” **ICSM 2014**, Antalya, Turkey

19. N. S. Alzayed, S. Soltan, M. Shahabuddin, A. El -Naggar, I. V. Kityk, S. E. Qaid, **Jafar M. Parakkandy**, M. S. Shah and Niyaz Ahmad Madhar “Growth of Stable Bilayer CrO<sub>2</sub>/MgB<sub>2</sub> Films by Pulsed Laser Deposition” **ICSM 2014**, Antalya, Turkey

### *Conferences/Symposium*

---

1. One day national seminar on National Education Policy (NEP) 2020 organized by NAAC and IQAC sir syed college on 3<sup>rd</sup> December 2022.
2. Hands on training workshop on sophisticated instruments for materials and device fabrication and characterization under the scheme of STUTI, government of INDIA fro November 14<sup>th</sup> to 20<sup>th</sup>, 2022 organized by NIT Calicut
3. Teacher Professional development program on mathematical modelling using technology enabled and student-centered learning systems jointly organized by HBCSE-TIFR and department of physics, university of Calicut, KSCSTE on October 11-12, 2021 at department of physics, Govt. Brennen College.
4. Two-day seminar on mathematical research in education and industries on 16,17January,2020 at Sir Syed College
5. NIUS teacher development workshop on thermal and statistical mechanics held between December 10-13, 2019 at homi Bhabha centre for science education (TIFR), Mumbai.
6. Chaired a session in Two-day national seminar on contemporary trends in Physics on19 and 20 November 2019 at Sir Syed College
7. National Workshop on Theoretical and Experimental Physics - NWEF 2019 held at Govt Brennen College, Thalassery on 15& 16 November 2019
8. Two-day national conference on Pedagogy and Andragogy- Teaching, Quality and Digitality held at Sir Syed College on 05,06 August,2019
9. One day international seminar on media and mediated interventions jointly organized by department of journalism and English, sir Syed college on 2<sup>nd</sup> august 2019
10. Workshop on UG Physics Experiment held at MG College, Iritty by APT Kerala on 8,9<sup>th</sup> September 2018
11. Socio-economic implications of transnational migration-a Malabar perspective organized by department of department of journalism, Sir Syed college on 9<sup>th</sup> February 2019.

12. One day workshop for teachers on New trends in higher education on 17<sup>th</sup> November 2018 at Sir Syed College
13. Two-day national seminar on Fundamentals of Nuclear and Particle Physics organized by physics department, CKGM Government college, Perambra on 13-14 November 2018.
14. Three-day national workshop on Formulation and approximation methods of quantum mechanics organized by physics department, Govt. Brennen College held on 22-24 October 2018.
  
15. Attended and Paper presented in “4<sup>th</sup> International Conference on Superconductivity and Magnetism ICSM-2014” held at Antalya, Turkey
16. Attended Conference on “Water Desalination Conference in Arab Countries” organized by arwadex 2009 at Riyadh Intercontinental Hotel, Riyadh (12-15 April 2009).
17. Attended “workshop on Multi stage and Multi effect Desalination” organized by arwadex 2009 at Riyadh Intercontinental Hotel, Riyadh (8-11, April 2012).
18. Attended Conference on “The International Conference for Nanotechnology industries” organized by King Abdullah Institute for Nanotechnology in 5-7 April 2009 King Saud University, Riyadh- Saudi Arabia.
19. Attended “International Conference on Solar Cells (IC-SOLACE 2008)” organized by Department of Physics, Cochin University of Science and Technology, Kerala, India
20. Attended “Tutorial session of International Conference on Solar Cells (IC-SOLACE 2008)” organized by Department of Physics, Cochin University of Science and Technology, Kerala, India
21. Attended the Seminar on “Atomic Energy for the Development of Nation” organized by Indian Nuclear Society, Mumbai and Department of Physics, CUSAT, Kerala, India
22. Participated in the “School on Optical Characterizations” held at Inter University Accelerator Centre, New Delhi from 30<sup>th</sup> June – 2<sup>nd</sup> July 2008.
23. Attended “National Workshop on Applied Physics & Information Technology” organized by P.G. Department of Physics, Govt. College Madappally & M. C. A Centre Vatakara, University of Calicut