<table>
<tr><td>Name:

Dr. S. Prabhakaran</td><td colspan="4">Photo
  </td></tr>
<tr><td>Designation:</td><td colspan="4">Associate Professor,
Head of Sustainable Materials Processing and Technologies (SMPT) Lab &
Liaison officer, Office of International Affairs</td></tr>
<tr><td>Qualification:</td><td colspan="4">Ph.D., Postdoc (France and UK), MIMMM</td></tr>
<tr><td>Area of specialization:</td><td colspan="4">Lasers, Solid State Physics, Materials Engineering, Quantum Technologies, Machine Learning and Data Science</td></tr>
<tr><td rowspan="2">Experience:</td><td>Industrial Experience</td><td>Postdoctoral Experience</td><td colspan="2">Teaching Experience</td></tr>
<tr><td>1 year</td><td>3 years</td><td colspan="2">2 years 5 months</td></tr>
<tr><td rowspan="3">Publications:</td><td colspan="2">Conference</td><td colspan="2">Journal</td></tr>
<tr><td>National</td><td>International</td><td>National</td><td>International</td></tr>
<tr><td>-</td><td>5</td><td>1</td><td>30</td></tr>
<tr><td>Books / Book Chapters</td><td colspan="4">01</td></tr>
<tr><td rowspan="2">Patents:</td><td colspan="2">National</td><td colspan="2">International</td></tr>
<tr><td colspan="2">4 Indian Patents (Granted)</td><td colspan="2">1 (EU & US Patents Filed)</td></tr>
<tr><td>Research:</td><td colspan="4">Google Scholar ID: 6ftv-d4AAAAJ
Researcher ID: AEU-1558-2022
ORCID ID: 0000-0001-7110-688X
Scopus ID: 37039727800
Anna University Guideship: Yes</td></tr>
<tr><td>Ph.D. Scholars</td><td colspan="4">Full-Time Scholars - 5 (On going)</td></tr>
<tr><td>Projects and Consultancy</td><td colspan="4">UGC-DAE; Govt of India; 12.72 Lakhs (On going)
Bright-Beams Laser Technology; Consultancy;
30.5 Lakhs (On going)</td></tr>
</table>

Educational Qualifications:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
UG	B. Sc.	Physics	2012	St. Joseph's College	Bharathidasan University	74.9	First
PG	M. Sc.	Physics	2014	St. Joseph's College	Bharathidasan University	74.1	First
	PGDCSA	Computer Science and Applications	2013	St. Joseph's College	Bharathidasan University	73.5	First
Doctorate	Ph.D.	Physics	2019	VIT Vellore	VIT Vellore	Highly Commended and Received Best Thesis Young Scientist Award by DST, India	

Academic Experience:

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Sri Sairam Engineering College, Chennai	Associate Professor	01-11-2024	Till date	1	4	0
Sri Sairam Engineering College, Chennai	Assistant Professor	22-09-2023	31-10-2024	1	1	0
University of Malta, jointly with Coventry University, UK	Senior Research Officer (Grade-III) (PDF)	1-3-2021	23-11-2022	1	8	23
CNRS, Paris, France Jointly with ENSAM, Paris	Postdoctoral Scientist (PDF)	1-11-2019	28-2-2021	1	4	0
Total				5	5	23

Patents:

1. S Kalainathan, **S Prabhakaran** "Optimized Method for Manufacturing Automotive Spring Steel with Enhanced Fatigue Properties". Indian patent filed on 23/02/2016 Application Number: 201641006199 Status: Patent Granted by Govt. of India; Patent no.: 386198;
2. S Kalainathan, **S Prabhakaran** "Process for Treating Material Surfaces using Warm Laser Shock Peening

without a Coating". Indian patent filed on 23/02/2016 (Application no.: E-101/13164/2016-CHE). Patent Granted by Govt. of India; Patent no.: 505589;

3. S Kalainathan, **S Prabhakaran** "Process for severe laser shock peening using low energy Nd: YAG laser". Indian patent filed on 12/09/2016 (Application no.: 201641031003). Patent Granted by Govt. of India; Patent no.:482914;
4. S Kalainathan, **S Prabhakaran**, Prashantha Kumar H.G, Anthony Xavior, "Method for surface modification in graphene-aluminium alloy nanocomposites using low energy laser shock peening", Indian Patent Application No. 201741034931 dated 03/10/2017. Patent Granted by Govt. of India; Patent no.: 483040;

Journal Publications:

1. **S Prabhakaran**, S Kalainathan: Warm laser shock peening without coating induced phase transformations and pinning effect on fatigue life of low-alloy steel. Materials and Design, 107 (2016): 98-107.
2. **S Prabhakaran**, S Kalainathan: Compound technology of manufacturing and multiple laser peening on microstructure and fatigue life of dual-phase spring steel. Materials Science and Engineering A, 674 (2016): 634-645.
3. **S Prabhakaran**, Aniket Kulkarni, G. Vasanth, S. Kalainathan, Pratik Shukla, and Vijay K. Vasudevan. "Laser shock peening without coating induced residual stress distribution, wettability characteristics and enhanced pitting corrosion resistance of austenitic stainless steel." Applied Surface Science 428 (2018): 17-30.
4. **S Prabhakaran**, S. Kalainathan: Process Optimization of Warm Laser Shock Peening without Coating for Automotive Spring Steel. International Conference on Materials Processing and Applications; laser 2, no. 3: 4.
5. **S Prabhakaran**, H.G. Prashantha Kumar, S Kalainathan, Kaustav Chakraborty: Laser shock peening on microwave sintered aluminium alloy nanocomposites. 2nd ICAMST, INDIA; 01/2018; Mechanics, Materials Science & Engineering MMSE Journal. Open Access.
6. **S Prabhakaran**, H.G. Prashantha Kumar, Anthony M. Xavior, S. Kalainathan, Dong Lin, Pratik Shukla, Vijay K. Vasudevan: Enhanced surface and mechanical properties of bioinspired nanolaminate graphene-aluminium alloy nanocomposites through laser shock processing for engineering applications. Materials Today: Communications, 16 (2018): 81-89.
7. **S Prabhakaran,** S. Kalainathan, Pratik Shukla, and Vijay K. Vasudevan: Residual Stress, Phase, Microstructure and Mechanical Property Enhancement of Ultrafine Bainitic Steel through Laser Shock Processing. Optics and Laser Technology, 115 (2019): 447-458.

8. **S Prabhakaran**, Prashantha Kumar H,G, S. Kalainathan, Pratik Shukla, Vijay K. Vasudevan "Laser shock peening modified surface texturing, microstructure and mechanical properties of graphene dispersion strengthened aluminium nanocomposites", Surfaces and Interfaces, 14 (2019): 127-137.
9. S. Kalainathan, **S Prabhakaran**: Recent development and future perspectives of low energy laser shock peening. Optics & Laser Technology, 81 (2016): 137-144.
10. S.A. Nithin Joseph Reddy, **S Prabhakaran**, S. Kalainathan, N. Arivazhagan, M. Manikandan: "Laser Shock Peening (LSP) to Improve the Metallurgical and Mechanical Properties of Gas Tungsten Arc Welding (GTAW) Joints in Hastelloy C-276." Lasers in Engineering (Old City Publishing) 42 (2019).
11. S.A. Nithin Joseph Reddy, **S Prabhakaran**, S. Kalainathan, N. Arivazhagan, M. Manikandan: Surface modification technique to enhance metallurgical and mechanical properties of alloy C-276 weldment by laser shock peening without coating, Indian Journal of Metals, Sādhanā 43 (2018): 1-8.
12. S. Thiruvenkadam, **S Prabhakaran**, Sujay Chakravarty, V. Ganesan, Vasant Sathe, M.C. Santhosh Kumar, A. Leo Rajesh: Effect of Zn/Sn molar ratio on the microstructural and optical properties of Cu2Zn1-xSnxS4 thin films prepared by spray pyrolysis technique. Physica B Condensed Matter, 533 (2018): 22-27.
13. Aniket Kulkarni, **S Prabhakaran,** Siddarth Chettri, S. Kalainathan: Effect of laser shock peening without coating on surface morphology and mechanical properties of nickel alloy, International Journal of Peening science and technology, Open Access 9 (2017).
14. Jain, Y., Varin, S., **S Prabhakaran**, & Kalainathan, S. (2017). Effect of Multiple Laser Shock Peening without Coating on Al-2024-O Alloy for Automotive Applications. Mechanics, Materials Science & Engineering MMSE Journal. Open Access, 9 (2017).
15. Varin, S., Jain, Y., **S Prabhakaran**, & Kalainathan, S. (2017). Influence of Multiple Laser Shock Peening without Coating on Ti-6Al-4V Alloy for Aircraft Applications. Mechanics, Materials Science & Engineering MMSE Journal. Open Access, 9(2017).
16. Kulkarni, A., Chettri, **S Prabhakaran**, S., & Kalainathan, S. (2017). Effect of Laser Shock Peening Without Coating on Surface Morphology and Mechanical Properties of Nickel-200. Mechanics, Materials Science & Engineering MMSE Journal. Open Access, 9 (2017).
17. K. Devendranath Ramkumar, Shiva Goutham Kumar, Radhakrishna, Aditya Chandrasekhar, Sidharth Dev, Winston Sunny Abraham, **S Prabhakaran,** S. Kalainathan: Influence of laser peening on the tensile strength and impact toughness of dissimilar welds of Inconel 625 and UNS S32205. Materials Science and Engineering A 676 (2016): 88-99.
18. Ayush Bhattacharya, Siddharth Madan, Chirag Dashora, **S. Prabhakaran,** V.K. Manupati, S. Kalainathan, K.P.K. Chakravarthi: Effect of Multiple Laser Shock Peening on the Mechanical Properties of ETP Copper. International Conference on Materials Processing and Applications; Open Access, 9 (2017).
19. Karthik, M., Parthibavarman, M., Kumaresan, A., **S. Prabhakaran**, Hariharan, V., Poonguzhali, R., &

Sathishkumar, S. (2017). One-step microwave synthesis of pure and Mn-doped WO3 nanoparticles and its structural, optical and electrochemical properties. Journal of Materials Science: Materials in Electronics, 28(9), 6635-6642.

20. M Parthibavarman, S Sathishkumar, **S. Prabhakaran**: Enhanced visible light photocatalytic activity of tin oxide nanoparticles by different microwave optimum conditions. Journal of Materials Science Materials in Electronics, 29 (2018): 2341-2350.
21. G Ranjith Kumar, K Sowmya Joshi, G Rajyalakshmi, S Kalainathan, **S. Prabhakaran**: Investigation of Mechanical, Microstructural and Corrosion behaviour of Titanium subjected to Laser Peening with and without Ablation. IOP Conference Series: Materials Science and Engineering, 02/2018; 310(1):012015.
22. S. Thiruvenkadam, P.Sakthi, **S. Prabhakaran,** Sujay Chakravarty, V. Ganesan, A. Leo Rajesh: Deposition and characterization of spray pyrolysed p-type Cu2SnS3 thin film for potential absorber layer of the solar cell. Physica B Condensed Matter 03/2018; 538.
23. M Karthik, M. Parthibavarman, **S. Prabhakaran**, "Facile and one step synthesis of WO3 nanorods and nanosheets as an efficient photocatalyst and humidity sensing material" Vacuum, 155 (2018): 224-232.
24. Sandeep Varin, Mayank Agarwal, Aditya chugh, Manikandan Mano, **Prabhakaran Subramaniyan**, S. Kalainathan, Pratik Shukla, Jonathan Lawrence, Arivazhagan N: Effect of laser shock peening on commercial pure Titanium-1 weldment fabricated by gas tungsten arc welding technique. Transactions of the Indian Institute of Metals 02/2019;
25. Y. F Ogbekene,, Pratik Shukla, Y. Zhang,, X. Shen, **Prabhakaran Subramaniyan**, S. Kalainathan, K. Gulia, J. Lawrence: Laser Cleaning of Grey Cast Iron Automotive Brake Disc: Rust Removal and Improvement in Surface Integrity. International Journal of Peening Science and Technology.
26. Parthibavarman, M., M. Karthik, and **S. Prabhakaran**. "Role of microwave on structural, morphological, optical and visible light photocatalytic performance of WO3 nanostructures." Journal of Cluster Science 30, no. 2 (2019): 495-506.
27. Jayashree, M., M. Parthibavarman, and **S. Prabhakaran**. "Hydrothermal-induced α-Fe2O3/graphene nanocomposite with ultrahigh capacitance for stabilized and enhanced super capacitor electrodes." Ionics 25, no. 7 (2019): 3309-3319.
28. Shen, Xiaojun, Pratik Shukla, Philip Swanson, Zhibin An, **S. Prabhakaran**, David Waugh, Xiangfan Nie, Christopher Mee, Soheil Nakhodchi, and Jonathan Lawrence. "Altering the wetting properties of orthopaedic titanium alloy (Ti–6Al–7Nb) using laser shock peening." Journal of Alloys and Compounds 801 (2019): 327-342.
29. Kumar, N. Navin, Aditya Chandrakant Yadav, K. Raja, C. D. Naiju, **S. Prabhakaran,** and S. Kalainathan. "Laser Shock Peening on Al-Si10-Mg Produced by DMLS Technique." Materials Today: Proceedings 22 (2020): 2916-2925.

30. Kumar, Nattudurai Navin, Aditya Chandrakant Yadav, Kumar Raja, **S. Prabhakaran**, Chooriyaparambil Damodaran Naiju, and Sivaperuman Kalainathan. Study on Effect of Laser Peening on Inconel 718 Produced by DMLS Technique. No. 2019-28-0146. SAE Technical Paper, 2019.
31. Chukwuike, V. I., O. G. Echem, **S. Prabhakaran**, S. Anand Kumar, and R. C. Barik. "Laser shock peening (LSP): Electrochemical and hydrodynamic investigation of corrosion protection pre-treatment for a copper surface in 3.5% NaCl medium." Corrosion Science 179 (2021): 109156.
32. Zammit, Ann, Marlon Attard, **Prabhakaran S**, Sebastian Levin, Lothar Wagner, Jack Cooper, Laurent Espitalier, and Glenn Cassar. "Investigations on the adhesion and fatigue characteristics of hybrid surface-treated titanium alloy." Surface and Coatings Technology 431 (2022): 128002.
33. Zammit, Ann, Marlon Attard, **Prabhakaran S**, Sebastian Levin, Lothar Wagner, Jack Cooper, Laurent Espitalier, and Glenn Cassar. "Enhancing surface integrity of titanium alloy through hybrid surface modification (HSM) treatments." Materials Chemistry and Physics (2022): 125768.
34. Xiaojun Shen, Pratik Shukla, Sunita Nayak, Vasanth Gopal, **Prabhakaran S**, Amy Sarah Benjamin, Sivaperuman Kalainathan. "Biological and Mechanical Response of Laser Shock Peening Orthopaedic Titanium Alloy (Ti-6Al-7Nb)". Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine 236, no. 8 (2022): 1169-1187.
35. Tamiridi, Rajesh Dora, Rajendra Goud, **Prabhakaran S,** Kalainathan Sivaperuman, Anand Kumar Subramaniyan, Indrajit Charit, and Srikant Gollapudi. "Contrasting Effects of Laser Shock Peening on Austenite and Martensite Phase Distribution and Hardness of Nitinol." Crystals 12, no. 9 (2022): 1319.
36. Bonnici, Luana, **Prabhakaran Subramaniyan**, Daniel Glaser, Glenn Cassar, Pratik Shukla, Pierluigi Mollicone, and Ann Zammit. "Effect of laser shock peening on austempered ductile iron." Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture 238, no. 1-2 (2024): 18-27.