

Bharathiar University State University I "A<sup>++</sup>" Grade by NAAC I 26<sup>th</sup> Rank in MoE-NIRF Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr G SHANMUGAVELAYUTHAM Associate Professor Department of Physics Bharathiar University Coimbatore, 641048 Tamil Nadu E-mail: sgsvelu@buc.edu.in Phone: 9551282965 Office Number: 0422 2428541 Research Area	Courses Teaching	
<ul> <li>DC Plasma Spray TBC Coatings</li> <li>Low-Temperature Plasma</li> <li>Surface Modification, coatings</li> </ul>	<ul> <li>Electromagnetic Theory</li> <li>Advanced Physics</li> <li>Atomic Physics &amp; Molecular Spectroscopy</li> <li>Plasma Physics</li> </ul>	
Research Experience: 24	Teaching Experience: 13	
Research Credentials(as on June 2024 – SouH-index: 625Citations: 16PublicationsBooks/Chapter	rce: Google scholar) i10-index: 24 rs: 1 Conferences: 6	
Caroor		
Other Institutes <ol> <li>Designation : Assistant Professor</li> <li>Institution Name : PSG Institute of Advanced Studies (PSGIAS), Coimbatore India</li> <li>Period : August 2010 - February 2011</li> <li>At Bharathiar University</li> <li>Designation : Associate Professor</li> <li>Period : March 2011 - Till Date</li> </ol>		
Education Ph. D. Subject : Physics Institution : Bharathiar University Affiliated University : Bharathiar University Year of Award : November 2005 M. Sc. Subject : Physics Institution : P.S.G.College of Arts and Science Affiliated University : Bharathiar University Year of Award : November 1998 B. Sc. Subject : Physics Institution : P.S.G.College of Arts and Science		
Affiliated University : Bharathiar University Year of Award : June 1996		



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### Dr G SHANMUGAVELAYUTHAM , Associate Professor , Department of Physics

Projects National Level	Research Guidance Completed
Ongoing - completed - 4	Ph.D 8 M.Phil 15 PG - 32 On Going
	Ph.D 3 PG - 2

## **Programs organized**

1. Co-ordinator of "A scientific Outreach Activity of THE FOURTH STATE PLASMA EXHIBITION" in the state of Tamilnadu, 10 – 14 July 2023 at Bharathiar Univesity. Coimbatore, Tamilnadu, India - )

2. Secretary of National Conference on Recent Developments and Evolving Trends in Plasma Science and Technology & Pre-Conference Workshop on Modelling and Simulation of Industrial Plasmas, 22-24 September 2022 organized by Department of Physics, Bharathiar University and Beam Technology Development Group, Bhabha Atomic Research Centre, Mumbai. - )

3. Organizing Secretary of DST –PURSE Sponsored National Conference on Advanced Materials for Energy Applications (NCAMEA-2020), 5-6 March 2020, Department of Physics, Coimbatore-641 046. - )

4. Served as Course Co-Ordinator for the UGC- Sponsored Refresher Course in Physics conducted by UGC- Human Resource Development Centre, Bharathiar University, Coimbatore - 641 046 from 22.01.2020 to 04.02.2020. - )

5. Convener of 31st National Symposium on Plasma Science & Technology (PLASMA- 2016), Dec 6-9, 2016, Department of Physics, Bharathiar University, Coimbatore - 641 046. - )

6. Convener of Workshop on Atmospheric Plasma Processing (WAPP-2012), 31st Oct 2012-3rd Nov 2012, Department of Physics, Bharathiar University, Coimbatore - 641 046. - )

### Collaborations

1. Prof. Akira Kobayashi, Professor, Department Physics, Faculty of Science, Chulalongkorn University Phayathai Road, Pathumwan, Bangkok -10330 Thailand. - )

2. Shrikant Joshi, Professor, Production Technologies Center, Department of Engineering ScienceUniversity WestGustava Melins Gata 246186 Trollhattan, SWEDEN. - )

3. Prof. Yasutaka Ando, Professor, Division of Renewable Energy and Environment, Ashikaga Institute of Technology, 268-1 Omae, Ashikaga Tochigi, 326-8558, JAPAN. - )

4. Dr. Bingang Guo, Chief Scientist, CREVIA Tower Kobe Harborland 201Hy?go-ken, K?be-shiCh??-ku, Higashikawasakich?1 Chome-5-8650-0044, Japan. - )

5. Prof. Jialiang Zhang, Professor, Plasma Physics4th Building, the Key Lab for Material ModificationDalian University of Technology, Dalian, 116024, China. - )

6. Dr.C.Balasubramian, Scientist – SDFacilitation Centre for Industrial Plasma Technologies (FCIPT)Institute for Plasma Research, Gandhinagar, INDIA. - )

7. Dr.G.Sivakumar, Centre for Engineered Coatings, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad 500005, Telangana, India. - )

### Publications

## International Journals - 63

63. Development of robust dual-functional NiX (X: Fe, TiO2) electrocatalysts via atmospheric plasma spray for

### efficient water splitting applications

International Journal of Hydrogen Energy, Volume 95, Pages 255-266. (November 2024) Bharani Narayanan, M.H. Vijay Dhanabal, Gurusamy Shanmugavelayutham

## 62. Ultrahydrophobic Properties of Plasma Surface Modified Cotton Fabric

Proceedings of the Asian Research Association, Vol. 1 (2024), 1-11. (November 2024) Anupriyanka T, Shanmugavelayutham G



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## 61. Plasma surface treatment for enhanced supercapacitor and oxygen evolution reaction: Single-step

### preparation of carbon-coated nickel nanoparticles

Journal of Alloys and Compounds, Vol.1008 (2024) pp. 176644- (November 2024) Kumaresan Lakshmanan, Bharani Narayanan, Vijay Dhanabal M.H, Shanmugavelayutham Gurusamy

60. Plasma Assisted Single-Step Synthesis of Carbon-Coated SrFe2O4 Electrodes for Enhancing

### Supercapacitor and Oxygen Evolution Reaction

Surfaces and Interfaces, Vol.55 (2024), pp.105339 (October 2024)

Kumaresan Lakshmanan, Amarnath Pasupathi, Bharani Narayanan, Yugeswaran Subramaniam, Shanmugavelayutham 59. Effeet to pressure glow discharge cold plasma on the quality characteristics of button mushroom

### (Agaricus biporous)

IEEE Transactions on Plasma Science (2024), pp(99):1. (August 2024)

Pragalyaa Shree M.M, Arun Joshy, Freeda Blessie Rajendran, Tirouchelvame Deivanayagam, Gurusamy 58. Singleasterpsyntaxestisrof MgAl2O4/MgO nanocomposites from MgAl scraps by thermal plasma technique

### for bi-functional applications of supercapacitor and waste-water treatment

Ceramics International (June 2024)

L Kumaresan, G Shanmugavelayutham

57. High-Performance Supercapacitor with Plasma-Assisted AIN and Graphitic Carbon Nitride Composite

### Electrode

Applied Electronic Materials (June 2024)

Kumaresan Lakshmanan, Selvakumar Chidambaram, and Shanmugavelayutham Gurusamy

## 56. Atmospheric Pressure Cold Plasma on Aflatoxin Mitigation of Groundnut

Eur. Chem. Bull., Vol.13(Regular Issue 2) (2024) pp.118-123 (June 2024)

K. L. Claudia, S. Ganapathy, G. Shanmugavelayutham, V. Paranisharan, M. Balakrishnan, S.Karthikeyan and G.Amuthaselvi **55. Fabrication of highly efficient FeNi-based electrodes using thermal plasma spray for electrocatalytic** 

### oxygen evolution reaction

Surfaces and Interfaces, Vol. 46, pp. 104091 - 104100. (March 2024)

Bharani Narayanan, Lakshmanan Kumaresan, Shanmugavelayutham Gurusamy .

### 54. Porosity measurement by Image Analysis for the composite coatings by gas tunnel type plasma spraying

Plasma Applications and Hybrid Functionally Materials, Vol.14 (2005) pp. 79-82. (January 2024)

G. Shanmugavelayutham and Akira Kobayashi

### 53. Atmospheric pressure cold plasma treatment on quality attributes of groundnut

Eur. Chem. Bull., Vol.12, Iss.10 (2023) pp.7079-7088. (September 2023)

K. L. Claudia, S. Ganapathy, G. Shanmugavelayutham, M. Balakrishnan, S. Karthikeyan and V. Paranidharan

52. Fabrication of carbon-coated chromium nitride (CrN@C) and chromium oxynitride (CrON) nanoparticles by

### a thermal plasma technique for supercapacitor applications

New Journal of Chemistry, Vol. 47, pp.17080-17091 (August 2023) L Kumaresan, C Selvakumar, G Shanmugavelayutham, K Jayasankar

51. Thermal cycling performance assessment of double-layered lanthanum titanium aluminate thermal barrier

### coatings developed using plasma spheroidized powders

Surface and Coatings Technology, Vol. 465, pp.129588 (July 2023) K Praveen, G Shanmugavelayutham, D Srinivasa Rao, G Sivakumar

### 50. Ecofriendly surface modification of cotton fabric to enhance the adhesion of CuO nanoparticles for

### antibacterial activity

Materials Technology, Vol.37, pp.3222-3230 (December 2022) SB Tharchanaa, T Anupriyanka, G Shanmugavelayutham



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### 49. Single-phase ferromagnetic iron nitride (?-Fe3N) nanoparticles synthesized by thermal plasma method for

### oxygen evolution and supercapacitor applications

Applied Physics A, Vol. 128, pp.1073 (November 2022) L Kumaresan, G Shanmugavelayutham, P Saravanan

48. Plasma assists titanium nitride and surface modified titanium nitride nanoparticles from titanium scraps

### for magnetic properties and supercapacitor applications

Ceramics International, Vol.48, pp.30393-30406 (October 2022) L Kumaresan, H Amir, G Shanmuqavelayutham, C Viswanathan

### 47. Single-step synthesis of Mn3N2, MnxON and Mn3O4 nanoparticles by thermal plasma arc discharge

### technique and their comparative study as electrode material for supercapacitor application

Journal of Alloys and Compounds, Vol.942, pp.169121 (May 2022) L Kumaresan, KS Harshini, H Amir, G Shanmugavelayutham, C Viswanathan

### 46. Thermal plasma arc discharge method for high-yield production of hexagonal AIN nanoparticles: synthesis

### and characterization

Journal of the Korean Ceramic Society, pp.1-12 (May 2022)

Lakshmanan Kumaresan, Gurusamy Shanmugavelayutham, Subramani Surendran, Uk Sim

### 45. Development of lanthanum cerate based thermal barrier coatings with enhanced resistance to ingestion by

#### volcanic ash particles

Corrosion Science, Vol. 195, pp.109948 (January 2022)

K Praveen, G Shanmugavelayutham, D Srinivasa Rao, G Sivakumar

44. Synthesis of magnetic and superhydrophobic nickel nanoparticles by plasma arc discharge method,

### application for efficient recoverable and repeatable oil separation from oily-water

Applied Physics A, Vol.128, pp.5 (December 2021)

S Sivakumar, L Kumaresan, D Maria Sherin Bertilla, MH Vijay Dhanabal, G Shanmugavelayutham, Jianguo Zhu 43. Plasma Surface Modification of Cotton Fabric by Using Low Pressure Plasma

IEEE Transactions on Plasma Science (2021)Special Issue - Selected papers from First International Conference on Advances in Plasma Science and Technology (November 2021)

G. Shanmugavelayutham, T. Anupriyanka; P. Bhagyashree; P. Premasudha

### 42. Surface Roughness Analysis of Cotton Fabric by Laser Speckle Technique

Frontiers in Advanced Materials Research, Vol.3, Iss.1 (2021), pp.1-9. (May 2021)

T. Anupriyanka, G. Shanmugavelayutham, R. Prakasam, R. Balamurugan

### 41. SPECIAL ISSUE ON SELECTED PAPERS FROM FIRST INTERNATIONAL CONFERENCE ON ADVANCES IN

### PLASMA SCIENCE AND TECHNOLOGY

IEEE Transactions on Plasma Science , Vol.49 (February 2021)

V Janakiram, KL Bhaskar, K Jayasankar, NRMR Bhargava, PS Mukherjee, G Shanmugavelayutham, T Anupriyanka, P Bhagyashree, P Premasudha, J Ananthanarasimhan, AM Shivapuji, P Leelesh, L Rao, R Dakshayani, A Paul, R Mahendran, R Abiyazhini, K Sowmiya, K Ramach

### 40. Facile synthesis of Cu and CuO nanoparticles from copper scrap using plasma arc discharge method and

### evaluation of antibacterial activity

Materials Technology, Vol.36, pp.97-104 (January 2021)

SB Tharchanaa, K Priyanka, K Preethi, G Shanmugavelayutham

39. Volcanic ash infiltration resistance of new-generation thermal barrier coatings at 1150 °C

Surface and Coatings Technology, Vol.410, pp.126226 (November 2020)

Praveen Kandasamy, Sivakumar Govindarajan, Shamnugavelayutham Gurusamy

### 38. Surface roughness characterization of plasma textured polycrystalline silicon solar wafer with the laser

### speckle technique

AIP Conference Proceedings, Vol.2270 (November 2020) R Balamurugan, R Prakasam, B Jeeva, T Anupriyanka, G Shanmugavelayutham



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# 37. Fabrication of nickel-yttria stabilized zirconia 3D micro-pattern by atmospheric plasma spray as a dualfunctional electrocatalyst for overall water splitting applications in alkaline medium Journal of Power Sources, Vol.473, pp.228526 (October 2020) Sankaran Sivakumar, Subramaniam Yugeswaran, Kalimuthu Vijaya Sankar, Lakshmanan Kumaresan, Gurusamy Shanmugavelayutham, Yoed Tsur, Jianguo Zhu 36. A single step approach of fabricating superhydrophobic PET fabric by using low pressure plasma for oilwater separation Colloids and Surfaces A: Physicochemical and Engineering Aspects, Vol.600, pp.124949 (September 2020) T Anupriyanka, G Shanmugavelayutham, Bornali Sarma, M Mariammal 35. Plasma Surface Modification of Cotton Fabric by Using Low Pressure Plasma IEEE Transactions on Plasma Science, Vol.49,pp.497-501 (August 2020) Gurusamy Shanmugavelayutham, Thirumalaisamy Anupriyanka, Ponmudi Bhagyashree, Paramasivam Premasudha 34. Characteristics of anodic glow pulsed plasma Physics Letters A, Vol.384, pp.126040 (January 2020) Matheswaran Kiruthika, Gurusamy Shanmugavelayutham 33. Physical and mechanical properties of surface modified poly ethylene terephthalate films through low pressure plasma and ultra-violet light Materials Research Express, Vol.6, pp.115350 (November 2019) M Kiruthika, K Nivetha, G Shanmugavelayutham 32. Hot corrosion behaviour of atmospheric and solution precursor plasma sprayed (La0.9Gd0.1)2Ce2O7 coatings in sulfate and vanadate environments Journal of the European Ceramic Society, Vol.39, pp.4233-4244 (November 2019) K Praveen, Nalla Sravani, Rahul Jude Alroy, G Shanmugavelayutham, G Sivakumar 31. Influence of He and N2 plasma on in situ surface passivated Fe nanopowders by plasma arc discharge Journal of Physics: Condensed Matter, Vol.31, pp.475302 (August 2019) EM Koushika, C Balasubramanian, P Saravanan, G Shanmugavelayutham 30. Rapid synthesis of nano-magnetite by thermal plasma route and its magnetic properties Materials and Manufacturing Processes, Vol.33, pp.1701-1707 (November 2018) EM Koushika, G Shanmugavelayutham, P Saravanan, C Balasubramanian 29. Synthesis of zirconium nitride from zircon sand by transferred arc plasma assisted carbothermal reduction and nitridation process Ceramics Internationa, Vol.44, pp.14789-14796 (August 2018) S Yugeswaran, PV Ananthapadmanabhan, L Kumaresan, A Kuberan, S Sivakumar, G Shanmugavelayutham, K Ramachandran 28. Plasma Surface Modified Polystyrene and Grafted with Chitosan Coating for Improving the Shelf Lifetime of Postharvest Grapes Plasma Chemistry and Plasma Processing, Vol. 38 (21 May 2018) pp.1151-1168 (May 2018) A. Suganya, G. Shanmugvelayutham and J. Hidalgo-Carrillo 27. Lanthanum cerate thermal barrier coatings generated from thermal plasma synthesized powders Ceramics International, Vol.44, pp. 6417-6425 (April 2018) K Praveen, S Sivakumar, PV Ananthapadmanabhan, G Shanmugavelayutham 26. Influence of water vapour on structural and thermal conductivity of post-heat treated plasma sprayed LZ and YSZ coatings Journal of Alloys and Compounds, Vol.740, pp.212-221 (April 2018) S Sivakumar, G Shanmugavelayutham, S Yugeswaran, J Mostaghimi 25. Preparation and thermophysical properties of plasma sprayed lanthanum zirconate Materials Chemistry and Physics, Vol.204, pp.67-71 (January 2018) S Sivakumar, K Praveen, G Shanmugavelayutham



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# Dr G SHANMUGAVELAYUTHAM , Associate Professor , Department of Physics

24. Synthesis of Plasma Spray Grade Lanthanum Titanium Aluminate by Plasma Processing for Thermal	
Barrier Coatings	
Frontier of Applied Plasma Technology Vol.11 No.1 pp.27-30 (January 2018) Gurusamy SHANMUGAVELAYUTHAM, Kandasamy PRAVEEN, Sankaran SIVAKUMAR 23. Thermo-physical behavior of atmospheric plasma sprayed high porosity lanthanum zirconate coatings	
Surface and Coatings Technology, Vol.326, pp.173-182 (October 2017) S Sivakumar, K Praveen, G Shanmugavelayutham, S Yugeswaran, J Mostaghimi 22. Study on plasma pre-functionalized PVC film grafted with TiO2/PVP to improve blood compatible and	
antibacterial properties	
Journal of Physics D: Applied Physics, Vol. 50, pp.145402 (March 2017) Arjunan Suganya, Gurusamy Shanmugavelayutham, Carmen Serra Rodríguez <b>21. Study on structural, morphological and thermal properties of surface modified polyvinylchloride (PVC) film</b>	
under air, argon and oxygen discharge plasma	
Materials Research Express, Vol.3, pp.095302 (September 2016) Arjunan Suganya, Gurusamy Shanmugavelayutham, Carmen Serra Rodríguez 20. Analytical study of electrothermal efficiency of plasma jet in plasma spray torch	
International Journal of Chemical and Physical Sciences, Vol.4 Special issue:6, (2015), pp.112-121 (June 2015) T. Mahalingam, T. Venkatachalam and G. Shanmugavelayutham <b>19. Charactrisation of DC plasma spray torch and synthesis of lanthanum zirconate for</b> thermal barrier	
coatings by ball milling method	
International Journal of Chemical and Physical Sciences, Vol.4 Special issue:6, (2015) pp.61-65. (December 2014) S. Sivakumar, K. Praveen and G. Shanmugavealyutham <b>18. Performance study of wear resistance and solid lubricant surface coatings on textile machinery</b>	
components	
Composite interfaces, Vol.19, pp.239-249 (June 2012) G Shanmugavelayutham, V Selvarajan, S Yugeswaran, M Vijay, K Suresh, S Vijeyakumar, L Markkandan, PVA Padmanabhan 17. Characterisationand performance study of solid lubricant and wear resistant surface coatings	
Plasma Application & Hybrid Functionally materials, Vol.21, (2012) pp.31-32. (June 2012) G. Shanmugavelayutham, V. Selvarajan and S. Yugeswaran 16. Study on Improvement of Oxide Layer and Properties of Plasma Sprayed Alumina in Thermal Barrier	
Coatings	
Solid State Phenomena, Vol.127, pp.313-318 (August 2007) Akira Kobayashi, G Shanmugavelayutham, S Yano 15. Lifetime Improvement of Eu-doped BAM by Plasma Treatment	
SID Symposium Digest of Technical Papers, Vol.38. pp.1321-1324 (July 2007) Hiroshi Kajiyama, Hiroaki Tanno, Tsutae Shinoda, Takayuki Fukasawa, Raju Ramasamy, Gurusamy Shanmugavelayutham, Tohru Yasuda	
14. Mechanical properties and oxidation behaviour of plasma sprayed functionally graded zirconia-alumina	
thermal barrier coatings	
Materials chemistry and physics, Vol.103, pp.283-289 (June 2007) Gurusamy Shanmugavelayutham, Akira Kobayashi 13. Effect of powder loading on the excitation temperature of a plasme jet in DC thermal plasme sprav terch	
Current Applied Division Viel 7, on 400 400 (Enhance 2007)	
G Shanmugavelayutham, V Selvarajan, PVA Padmanabhan, KP Sreekumar, NK Joshi 12. Effect of Annealing on Plasma Sprayed Zirconia/Alimina Composite Coating	
TRANSACTIONS-JWRI, Vol.35, pp.17 (November 2006) Akira Kobayashi, Shanmugavelayutham Gurusamy, Yasutaka Ando	



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### 11. Development of uniform long-shaped plasma under long evanescent microwave(LWEM) for PDP

### processing

Proc.of ASID 06, 8-12 Oct, New Delhi(India), pp.328-331 (November 2006)

G. Shanmugavelayutham, R. Ramasamy, T. Fukasawa, H. Kajiyama, T. Shinoda,

### 10. Oxidation behaviour of plasma sprayed ZrO2/Al2O3 thermal barrier coatings by gas tunnel type plasma

### spraying

Plasma Applications and Hybrid Functionally Materials, Vol.15 (2006) pp. 77-78. (November 2006) G. Shanmugavelayutham and Akira Kobayashi

9. Mechanical properties and oxidation behaviour of plasma sprayed ZrO2/Al2O3 thermal barrier coatings

### by gas tunnel type plasma spraying

Smart Processing Technology, Vol.1 (2006), pp. 45-48. (November 2006) G. Shanmugavelayutham and A. Kobayashi

8. Microstructural characterization and properties of ZrO2/Al2O3 thermal barrier coatings by gas tunnel-type

### plasma spraying

Vacuum, Vol.80, pp.1336-1340 (September 2006) Gurusamy Shanmugavelayutham, Shoji Yano, Akira Kobayashi

7. In-flight particle behaviour and its effect on co-spraying of alumina-titania

Current Applied Physics, Vol.6, pp.41-47 (January 2006)

G Shanmugavelayutham, V Selvarajan, TK Thiyagarajan, PVA Padmanabhan, KP Sreekumar, RU Satpute

6. Effect of process parameters on microstructure and hardness of plasma sprayed Zirconia-Alumina

### composite coatings by gas tunnel type plasma spraying

Transaction of JWRI, Vol.34, No.1 (2005) pp.43-47. (September 2005)

G. Shanmugavelayutham and A. Kobayashi

5. Effect of Processing Parameters on Microstructural and Mechanical properties of Zirconia/Alumina

### Composite Coatings by Gas Tunnel type Plasma spraying

Surf. Coat. Technol, vol.195, pp.245-251 (July 2005)

Gurusamy Shanmugavelayutham, Akira Kobayashi, Vol.195, pp.

### 4. Relationship between coating porperties and structure of ZrO2-Al2O3 coatings by gas tunnel type plasma

### spraying

Annual Meeting of High temperature Society, May 27 (2005). (May 2005)

G. Shanmugavelayutham, S. Yano and A. Kobayashi

# 3. Plasma spheroidization of nickel powders in a plasma reactor

Bulletin of Materials Science, Vol.27, pp.453-457 (October 2004) G Shanmugavelayutham, V Selvarajan

2. Electrothermal efficiency, temperature and thermal conductivity of plasma jet in a DC plasma spray torch

Pramana, Vol.61, pp.1109-1119 (December 2003)

G Shanmugavelayutham, V Selvarajan

### 1. An attempt to develop relations for the arc voltage in relation to the arc current and gas flow rate

Vacuum, Vol.59, pp.118-125 (October 2000) R Ramasamy, V Selvarajan, K Perumal, G Shanmugavelayutham

# Books/Chapters - 1

### 1. Enanhencing the Adhesion of CuO Nanoparticles for Antibacterial Activity by Using Ecofriendly Surface

### Modification of Cotton Fabric

Surfaces and Interfaces, Vol. 46 pp. 104091 – 104100. (November 2023) G Shanmugavelayutham, SB Tharchanaa, T Anupriyanka

### Conferences - 6



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### 6. Study On Plasma Spraying And Oxidation Behaviour Of Ball Milled Zirconia/Alumina And Zirconia/Titania

### **Composite Powders**

29 th National Symposium on Plasma Science & Technology integrated with an "International Conference on Plasma & Nanotechnology"-(Plasma-2014) in Mahatma Gandhi University at Kottayam, in Kerala-the God's Own Country (December 2014) K Praveen, S Sivakumar, G Shanmugavelayutham

### 5. Analysis of Adhesive and Surface Properties on Poly Vinyl Chloride (PVC) Treated By Dc Glow Discharge

### Plasma

UGC Sponsored National Seminar on Emerging Trends in Plasma Technology and Its Applications (ETPTA-2014), Sri Vasavi College, Erode – 638316, India (August 2014)

Arjunan Suganya, Gurusamy Shanmugavelayutham

### 4. Performance evaluation of gas tunnel type plasma sprayed graded YSZ-La{sub 2}Zr{sub 2}O{sub 7}

### composite coatings in molten salt environment

PSSI national symposium on plasma science and technology on challenges of power generation and lighting 21st century, Puducherry (India), 10-13 Dec 2012; (July 2013)

S Yugeswaran, A Kobayashi, G Shanmugavelayutham, PV Ananthapadmanabhan

### 3. Stabilization of Eu?doped BAM by Plasma Processing

Asia Display 2007 International Conference (AD'07) Conference Location Shanghai, PEOPLES R CHINA, pp.802-806 (February 4077) and T Fukasawa, R Ramasamy, H Tanno, G Shanmugavelayutham, T Yasuda, T Shinoda

### 2. Development of uniform line-shaped plasma under long wavelength evanescent microwave (LWEM) for PDP

### processing

The 9th Asian Symposium on Information Display, ASID (October 2006)

G Shanmugavelayutham, R Ramasamy, T Fukasawa, H Kajiyama, T Shinoda

### 1. In-flight particle behaviour and its effect on co-spraying of Alumina-Titania

IEEE Conference Record-Abstracts. 2002 IEEE International Conference on Plasma Science (Cat. No. 02CH37340) (May 2002) G Shanmugavelayutham, V Selvarajan, TK Thiyagarajan, PVA Padmanabhan, KP Sreekumar, RU Satpute

# Projects

### **Completed - 4**

1. Measurement of electrothermal efficiency, deposition efficiency of the plasma spray torch and development of a nanostructure lanthanum zirconate thermal battier coatings DST – SERB 20,89,400 (September 2013 - August 2016)

2. DRDO (ER &IPR) funded project on Synthesis of Magnetic Nanopowders by Plasma Arc Discharge Others 13,38,600 (September 2017 - August 2020)

3. RUSA 2.0-BCTRC project on Dielectric Barrier Discharge (DBD) plasma for surface modification of polymers and drug delivery Others 21,88,000 (June 2020 - May 2023)

4. DC Glow Discharge Plasma Treated Zein / Chitosan/ ZnO Nanocomposite Blends for Active Packaging TANSCHE 28,70,500 (April 2021 - March 2024)