

Faculty Profile of Dr.K.Ramachandran



Dr.K.Ramachandran
UGC - Professor
Department of Physics

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Phone No:0422-2428445

Mobile No:9994337145

Research Area

- Plasma Material Processing
- CFD Modelling & Simulation
- Heat Pipes

Education & Career

Education

Ph. D.

Subject : Physics

Institution : Bharathiar University

Affiliated University : Bharathiar University

Year of Award : 1997

M.Phil.,

Subject : Physics

Institution : Bharathiar University

Affiliated University : Bharathiar University

Year of Award : 1992

M. Sc.,

Subject: Physics

Institution : Bharathiar University

Affiliated University : Bharathiar University

Year of Award : ****

B. Sc.,

Subject: Physics

Institution: SRKV Arts & Science College

Affiliated University: Bharathiar University

Year of Award: ****

Career**At Bharathiar University (Reverse Order)**

2. UGC - Professor : (12/07/2016 to Till date)

1. UGC - Associate Professor : (01/07/2013 to 11/07/2016)

Past Experience

Professor: 06/2009 to 07/2013 at Karunya University

Associate Professor: 01/2009 to 04/2009 at VIT University

Assistant Professor: 11/2005 to 12/2008 at VIT University

Lecturer: 05/1998 to 10/2005 at VIT University

Awards

Membership

Professional Bodies

Member

Member: Plasma Science Society of India

Period: Life Member

Member

Member: Power Beam Society of India

Period: Life Member

Visits

Country Visited : Germany

Duration of Visit : March - 2004 to August - 2005.

Purpose of Visit : Visiting Scientist

Country Visited : Japan

Duration of Visit : April - 2002 to June - 2003.

Purpose of Visit : Research Associate & Junior Faculty

Country Visited : Japan

Duration of Visit : May - 2001 to March - 2002.

Purpose of Visit : Visiting Lecturer

Country Visited : Japan

Duration of Visit : December - 1998 to December - 2000.

Purpose of Visit : STA Post Doctoral Fellow

Collaborators

1. Institute for Plasma Research, Gandhinagar (numerical simulation of nanoparticle synthesis in thermal plasma evaporation)

2. The University of Queensland, Brisbane, Australia (Modelling and simulation of plasma torch)

Others

1. Member – Board of Studies, Selection committee for Ph.D. & M.Phil., Department Swayam Coordinator.
2. University Coordinator for implementing National Innovation and Startup Policy (NISP).
3. Technical Expert in **IPR Cell** evaluation committee in Bharathiar University.

Projects

Funded Projects(National Level)

- [Ongoing - 02](#)
- [Completed - 07](#)

1. DRDO - ER & IPR

Title of the project: Synthesis of magnetic nanopowders by plasma arc discharge

Funding Agency: DRDO – ER & IPR

Amount: Rs. 13.4 Lakhs

Duration: October 2017 – October 2020

2. ISRO-RESPOND

Title of the project: Modeling and simulation of hall effect thruster

Funding Agency: ISRO-RESPOND

Amount: Rs. 22.86 Lakhs

Duration: June 2017 to May 2020

3. BRNS - DAE

Title of the project: Simulation of plasma transferred arc characteristics during material processing

Funding Agency: BRNS - DAE

Amount: Rs. 29.11 Lakhs

Duration: August 2016 to March 2019

4. BRNS - DAE

Title of the project: Simulation studies on solution plasma spraying of ceramic materials

Funding Agency: BRNS - DAE

Amount: Rs. 22.75 Lakhs

Duration: January 2015 to December 2018

5. BRFST-DAE

Title of the project: Numerical prediction of high heat flux to plasma facing material using thermal plasma jet impingement model

Funding Agency: BRFST-DAE

Amount: Rs. 33.14 Lakhs

Duration: May 2011 to March 2015

6. BRNS- DAE

Title of the project: Prediction of substrate and deposit temperatures during plasma spraying

Funding Agency: BRNS- DAE

Amount: Rs. 29.29 Lakhs

Duration: February 2011 to December 2014

7. BRNS- DAE

Title of the project: Three dimensional numerical study of DC plasma spray torch

Funding Agency: BRNS- DAE

Amount: Rs. 7.86 Lakhs

Duration: February 2007 to February 2009

1. DST-AMT

Title of the project : Development of prototype of a metal 3d printer suitable for orthopaedic and knee implants

Funding Agency : DST-AMT

Amount : Rs. 56.56 Lakhs

Duration : August 2020 – August 2022

2. CARS-DRDO

Title of the project : Prediction of particle behavior in RF plasma and spheroidization reactors using CFD

Funding Agency : CARS-DRDO

Amount : Rs. 9.5 Lakhs

Duration : October 2020 to September 2021

Department Level Projects

1. RUSA

Title of the project: Installation of solar power plants at the University campus

Funding Agency: RUSA

Amount: Rs. 2.7 Crores

Duration: 2017 to 2020

Consultancy Projects

- [Ongoing](#)
 - [Completed - 04](#)
-

1. M/s Shree Babaji Chemicals Pvt Ltd., Kolhapur

Description: General consultancy on Feasibility studies on development of zirconium spherical powders by plasma technology

Agency: M/s Shree Babaji Chemicals Pvt Ltd., Kolhapur

Amount: Experimental set-up equivalent to Rs.100,000

Duration: April 2019 to July 2019

2. M/s Emerald Jewel Industry India Ltd., Coimbatore

Description: General consultancy on Feasibility studies on metal recovery from gold bearing waste by plasma technology

Agency: M/s Emerald Jewel Industry India Ltd., Coimbatore

Amount: Rs. 75,000

Duration: December 18 to February 2019

3. M/s 3D Plasma Tech Chennai

Description: General consultancy to on CFD simulation of 25 kW DC plasma jet and 3×25 kW plasma reactor

Agency: M/s 3D Plasma Tech Chennai

Amount: Rs. 50,000

Duration: June 2016 - 3 months

4. M/s Ion Arc Technologies Pvt Ltd, Coimbatore

Description: Advisory consultancy on Plasma separation of invisible gold from iron ore

Agency: M/s Ion Arc Technologies Pvt Ltd, Coimbatore

Amount: Rs. 12,000

Duration: May 2015 - Two weeks

Research Guidance

- [Post Doc.](#)
- [Ph.D.](#)
- [M.Phil.](#)
- [M.Sc.](#)

Ongoing

Completed

Ongoing-05

Ms. M S. Janarthini

Field of Research: Numerical Modelling of Plasma Under Magnetic Field

Date of Registration: 01.12.2021

Mr. J. Mohamed Apsar

Field of Research: Plasma Material Processing

Date of Registration: 01.12.2021

Ms. M. Priyadarshini

Field of Research: Plasma Material Processing

Date of Registration: 01.12.2021

Mr. C.V. Dinesh Rajan

Field of Research: Numerical Modelling of Plasma

Date of Registration: 01.07.2023

Ms. S. Shanmugapriya

Field of Research: Numerical Modelling

Date of Registration: 01.07.2023

Completed-11

Dr. R. Abiyazhini

Title of the thesis: Numerical investigation on CO₂ plasma arc and its characteristics under external magnetic field and with anode evaporation

Year of award: 2023

Dr. Lintu G Laly

Title of the thesis: Numerical Studies On the Behaviour of Transferred Arc Inside the Crucible With Gas Injection Through Hollow Cathode

Year of award: 2022

Dr. K. Sowmiya

Title of the thesis: Numerical Evaluation on the Performance of CO₂ Plasma in Material Processing Applications

Year of award: 2022

Dr. R. Saravanakumar

Title of the thesis: Thermal Plasma Processing of Waste Aluminium Dross and Chromium Bearing Solid Waste

Year of award: 2021

Dr. S. Emerald Ninolin

Title of the thesis: Studies on the heat transfer characteristics of compact loop heat pipe with nanofluid

Year of award: 2020

Dr. V. Yugesh

Title of the thesis: Studies on gas shrouded dc non-transferred arc plasma torch

Year of award: 2019

Dr. A. Pragatheeswaran

Title of the thesis: Synthesis and investigation of plasma sprayed lanthanum phosphate coatings for molten metal corrosion barrier applications

Year of award: 2016

Dr. V. K. Karthikeyan

Title of the thesis: Studies on operational characteristics and performance evaluation of multi-turn closed loop pulsating heat pipes (viva voce was not completed due to sudden demises)

Year of award: 2015

Dr. A . Brusly Solomon

Title of thesis: Studies on heat pipes using nanofluids and coated surfaces

Year of award: 2014

Dr. B. Selvan

Title of thesis: Numerical simulation of plasma arc and plasma-substrate interaction

Year of award: 2010

Dr. KS. Shanmukharadhya

Title of thesis: The Simulation and experimental investigation of combustion of bagasse in an industrial furnace

Year of award: 2007

Ongoing

Completed-05

C. Subashini

Title of the thesis: Parametric investigation of the behaviour of dielectric barrier discharge – Numerical study

Year of award: 2020

S. Suganthalakshimi

Title of the thesis: Plasma assisted aluminothermic reduction of chromium oxide

Year of award: 2018

R. Abiyazhini

Title of the thesis: Numerical investigation of CO₂ plasma arc

Year of award: 2015

K. Sowmiya

Title of the thesis: Modelling and simulation of CO₂ plasma jet

Year of award: 2015

V. Vinodhini

Title of the thesis: Thermal plasma processing of aluminium dross

Year of award: 2014

Ongoing - 02

Completed - 23

N. Dharshana

Title of the thesis: Numerical evaluation on the behaviour of DBD like Plasma jet for varying operating parameters

Year of award: 2023

M. Sam Kamalesh

Title of the thesis: Synthesis of Mn and Mn-Al by Plasma assisted aluminothermic reduction of MnO₂

Year of award: 2023

G. Sangavi

Title of the thesis: Synthesis of graphitic carbon by plasma processing of methane

Year of award: 2022

C.V. Dinesh Rajan

Title of the thesis: Plasma assisted synthesis of graphitic carbon from the coconut shell

Year of award: 2022

M S. Janarthini

Title of the thesis: Simulation of the characteristics of the dc glow discharge plasma with an application of external magnetic field – Numerical study

Year of award: 2021

J. Mohamed Apsar

Title of the thesis: Recovery of metals from spent zinc-carbon battery

Year of award: 2021

R. Thirumoorthy

Title of the thesis: A review of recent literature on the recycling of spent batteries

Year of award: 2021

K. Muhsina

Title of the thesis: Simulation of the behaviour of argon arc inside the crucible with central gas injection through hollow cathode including evaporation from the crucible

Year of award: 2020

M.K Gopika

Title of the thesis: Numerical study on effect of external magnetic field on argon plasma arc

Year of award: 2020

Mega Chandran

Title of the thesis: Particle in cell modelling of interaction of solar wind with a charged plate

Year of award: 2020

J. Bharat

Title of the thesis: Numerical simulation of electron and positron driven plasma wake field accelerations- A hybrid approach

Year of award: 2019

M. Pavithra

Title of the thesis: Thermal plasma treatment of Fly ash and synthesis of aluminium, titanium and zirconium nitrides

Year of award: 2019

A. Vimalraj

Title of the thesis: Numerical modelling and analysis of traffic flow

Year of award: 2019

T. Muthuraj

Title of the thesis: Trajectories of electron in cusped magnetic field

Year of award: 2018

K. Raghavi

Title of the thesis: Trajectories of positive ion in cusped magnetic field

Year of award: 2018

D. Shanmuga priya

Title of the thesis: Synthesis of Silicon Carbide through the plasma treatment of fly ash

Year of award: 2017

J. Indhurani

Title of the thesis: Prediction of Radiative Heat transfer in Plasma Heating of Materials

Year of award: 2017

C. Kokila

Title of the thesis: Determination of thermal conductivity by lee's disc method- Revisited

Year of award: 2016

C. Karthika

Title of the thesis: Potential use of ultrasonic interferometer and experimental verification of the reliability

Year of award: 2016

G. Mangaiyarkarasi

Title of the thesis: Modelling and simulation of Supersonic plasma jet

Year of award: 2015

K. S. Sivaranjini

Title of the thesis: Prediction of Magnetic field generated around a current carrying wire

Year of award: 2015

K. Sowmiya

Title of the thesis: Analysis of slag obtained from plasma treatment of stainless steel (SS) scrap

Year of award: 2014

R. Abiyazhini

Title of the thesis: Analysis of Melt obtained from plasma treatment of

stainless steel (SS) scrap

Year of award: 2014

Research Publication

- [International](#)
- [National](#)
- [Patent](#)
- [Conference](#)
- [Books/Chapter](#)
- [Database](#)

2021

55. [Research progress on performance enhancement of heat pipes: a review](#)
A.L.S. Sudhan, K. Ramachandran, A.B. Solomon, and C.P. Jawahar
Journal of Thermal Analysis and Calorimetry 1-37 (2021)
54. [Conversion of chromium-containing solid wastes into value-added products through a plasma-assisted aluminothermic process](#)
R. Saravanakumar, K. Ramachandran and P.V.A. Padmanabhan
Environmental Science and Pollution Research 1-8 (2021)
53. [Plasma assisted aluminothermic reduction of Cr and Fe oxides from chromium bearing waste,](#)
R..Saravanakumar, K. Ramachandran and P.V.A. Padmanabhan
Plasma Chemistry and Plasma Processing 41, 155-169 (2021)
52. [Numerical comparison between characteristics of CO₂ and Ar plasma arcs with anode evaporation,](#)
R. Abiyazhini, K. Sowmiya, K. Ramachandran and C. Balasubramanian
IEEE Transactions on Plasma Science 49, 513 – 521 (2021)

2020-2011

51. Application of environment-friendly refrigerants in anodized grooved thermosyphon at high heat loads

A.B. Solomon, K. Ramachandran, and C.P. Jawahar
Materials Today: Proceedings (2020)

50. [Numerical characterization of the plasma arc with various Ar-CO₂ mixtures](#)

A. Rajendran, S. Krishnaraj, R. Kandasamy, B.C. Thanupillai
Environmental Science and Pollution Research 1-9 (2020)

49. [Numerical studies on the effects of operating parameters on the behavior of transferred arc inside the crucible with gas injection through the cathode at different operating pressures](#)

L.G. Laly and K. Ramachandran
Plasma Research Express 2, 025005 (2020)

48. [Numerical evaluation on the performance of CO₂ plasma in material processing applications](#)

K. Sowmiya, K. Ramachandran, R. Abiyazhini, V.R. Barath
Materials and Manufacturing Processes 34, 1775-1782 (2019)

47. [Experimental investigation on the critical heat flux of Cu-water, Al-water nanofluids for precise cooling of electronic systems](#)

RC Joy, AA Rajan, AB Solomon, K Ramachandran, BC Pillai
IOP Conference Series: Materials Science and Engineering 561, 012036 (2019)

46. [Plasma assisted synthesis of \$\gamma\$ -alumina from waste aluminum dross](#)

R.Saravanakumar, K. Ramachandran, L.G.Laly,
P.V.Ananthapadmanabhan, and S.Yugeswaran
Waste Management 77, 565-575 (2018)

45. [Synthesis of zirconium nitride from zircon sand by transferred arc plasma-assisted carbothermal reduction and nitridation process](#)

S.Yugeswaran, P.V.Ananthapadmanabhan, V. Kumaresan, A.Kuberan,
G.Shanmugavelayutham, K.Ramachandran
Ceramic International 44, 1489-96 (2018)

44. [Influence of the shroud gas injection configuration on the characteristics of a dc non-transferred arc plasma torch](#)

V.Yugesh, G.Ravi, K.Ramachandran, V.Goyal and K.C.Meher

43. [Prediction of operational characteristics of a dc non-transferred arc plasma torch using similarity criteria](#)

V.Yugesh, G. Ravi, and K.Ramachandran

European Physical Journal D, 70, 247 (2017)

42. [Performance enhancement of a two phase closed thermosiphon with a thin porous copper coating](#)

A. Brusly Solomon, V.Arul Daniel, K.Ramachandran, B.C.Pillai, R.Renjith Singh, M.Sharifpur and J.P.Meyer,

International Communications in Heat and Mass Transfer 82, 9-19 ((2017)

41. [Characterization of a grooved heat pipe with an anodized surface](#)

A.Brusly Solomon, A.M.Ram Kumar, K. Ramachandran, B.C.Pillai, C.Senthil Kumar, M.Sharifpur, and J.P.Meyer

Heat and Mass Transfer 53,753-63 (2017)

40. [Plasma spray deposition of lanthanum phosphate and phase structure of the resultant coatings](#)

A.Pragatheeswaran, P.V.Ananthapadmanabhan, Y.Chakravarthy, V.Chaturvedi, S.Bhandari, and K.Ramachandran

Journal of Thermal Spray Technology 24, 1377-84 (2015)

39. [Plasma dissociation of zircon with concurrent in-flight removal of silica](#)

S.Yugeswaran, P.V.Ananthapadmanabhan, T.K.Thiyagarajan, and K.Ramachandran

Ceramic International 41, 9585-9592 (2015)

38. [Understanding thermo-fluidic characteristics of a glass tube closed-loop pulsating heat pipe: flow patterns and fluid oscillations](#)

V.K.Karthikeyan, K.Ramachandran, B.C.Pillai, and A. Brusly Solomon

Heat Mass Transfer 51,1669-1680 (2015)

37. [Plasma spray-deposited lanthanum phosphate coatings for protection against molten uranium corrosion](#)

A.Pragatheeswaran, P.V.Ananthapadmanabhan, Y.Chakravarthy, S.Bhandari, V.Chaturvedi, A.Nagaraj,

K.Ramachandran

Surface & Coating Technology 265, 166-173 (2015)

36. [Development of heat flux sensor based on heat pipe as thermal sink](#)

A.Brusly Solomon, H.Gavisiddaya, K.Ramachandran, P.K.Sharma and B.C.Pillai

Heat Pipes Science and Technology, An International Journal 5, 655-662 (2014)

35. [Numerical analysis of a screen mesh wick heat pipe with Cu/water nanofluid](#)

A.Brusly Solomon, K.Ramachandran, L.Godson Asirvatham, and B.C.Pillai
International Journal of Heat and Mass Transfer 75, 523-533 (2014)

34. [Numerical analysis of a screen mesh wick heat pipe with Cu/water nanofluid](#)

A.Brusly Solomon, K.Ramachandran, L.Godson Asirvatham, and B.C.Pillai
International Journal of Heat and Mass Transfer 75, 523-533 (2014)

33. [Plasma spray deposition and characterization of strontium zirconate coatings](#)

A.Pragatheeswaran, P.V. Ananthapadmanabhan, Y.Chakravarthy, S.Bhandari, T.K.Thiyagarajan, N.Tiwari, T.K.Saha and K.Ramachandran
Ceramic International I40, 10441-10446 K. (2014)

32. [Plasma spray deposition and characterization of strontium zirconate coatings](#)

A.Pragatheeswaran, P.V. Ananthapadmanabhan, Y.Chakravarthy, S.Bhandari, T.K.Thiyagarajan, N.Tiwari, T.K.Saha and K.Ramachandran
Ceramic International I40, 10441-10446 K. (2014)

31. [Effect of nanofluids on thermal performance of closed loop pulsating heat pipe](#)

V.K.Karthikeyan, K.Ramachandran, B.C.Pillai, and A.Brusly Solomon
Experimental Thermal and Fluid Science 54, 171-178 (2014)

30. [Effect of number of turns on the temperature pulsations and corresponding thermal performance of pulsating heat pipe](#)

V.K.Karthikeyan, K.Ramachandran, B.C.Pillai and A.Brusly Solomon
Journal of Enhanced Heat Transfer 20, 443-452 (2013)

29. [Thermal performance of anodized two phase closed thermosyphon \(TPCT\)](#)

A.Brusly Solomon, A.Mathew, K.Ramachandran, B.C.Pillai and
V.K.Karthikeyan
Experimental Thermal and Fluid Science 48, 49-57 (2013)

28. [Carbothermal reduction of sillimanite in a transferred arc thermal plasma reactor](#)

M.Vijay, P.V.Ananthapadmanabhan, K.Ramachandran, G.Hiremath,
C.B.Mathai, B. Pillai
International Journal of Refractory Metals and Hard Materials 36, 174-178
(2013)

27. [Photocatalytic inactivation of Gram-positive and Gram-negative bacteria by reactive plasma processed nanocrystalline TiO₂ powder](#)

M.Vijay, K. Ramachandran, P.V.Ananthapadmanabhan, B.Nalini, B.C.Pillai,
F.Bondioli, A. Manivannan, R.T.Narendhirakannan
Current Applied Physics 13, 510-16 (2013)

26. [Experimental and simulation approach to plasma spray deposition of yttrium oxide](#)

T.K.Thiyagarajan, P.V. Ananthapadmanabhan, K.P.Sreekumar,
Y.Chakravarthy, A.K.Das, L.M.Gantayet, B.Selvan
and K.Ramachandran
Surface Engineering, 28, 646-656 (2012)

25. [Thermal performance of a heat pipe with nanoparticles coated wick](#)

A. Brusly Solomon, K.Ramachandran, and B.C.Pillai
Applied Thermal Engineering, 36, 106-112 (2012)

24. [Modeling of the plasma-substrate interaction and prediction of substrate temperature during the plasma heating](#)

B.Selvan, K.Ramachandran, B.C.Pillai, and D.Subhakar
The European Physical Journal, 61, 663-675 (2011)

23. [Numerical modeling of Ar-N₂ plasma jet impinging on a flat substrate](#)

B.Selvan, K.Ramachandran, B.C.Pillai, and D.Subhakar

2010-1991

22. [Simulation studies to optimize the process of plasma spray deposition of yttrium oxide](#)
T.K.Thiyagarajan, K.P.Sreekumar, B.Selvan, K.Ramachandran and P.V.Ananthapadmanabhan
Journal of Physics: Conference Series, 208, 012116 (2010)
21. [Numerical modelling of plasma spray process](#)
K.Ramachandran
Journal of Physics: Conference Series 208 012052 (2010)
20. [Modelling of non-transferred argon-nitrogen plasma arc](#)
B.Selvan, K. Ramachandran, T.K. Thiyagarajan, K.P.Sreekumar, and P.V.Ananthapadmanabhan
Journal of Physics: Conference Series 208, 012047 (2010)
19. [Numerical and experimental studies on DC plasma spray torch](#)
B.Selvan, K.Ramachandran, K.P.Sreekumar, T.K.Thiyagarajan. and P.V.Ananthapadmanabhan
Vacuum 81, 444-452 (2009)
18. [Comparisons between two different three-dimensional arc plasma torch simulations](#)
B.Selvan, and K.Ramachandran
Journal of Thermal Spray Technology 18, 846-857 (2009)
17. [Numerical and experimental investigations for the optimization of plant capacity for a bagasse fired furnace](#)
K.S.Shanmukha Aradhya and K.Ramachandran
Journal of the Energy Institute 82, 69-75 (2009)
16. [Thermal degradation behaviour of bagasse particles](#)
K.S.Shanmukha Aradhya and K.Ramachandran
Journal of the Energy Institute 82, 120-22 (2009)
15. [Modelling of arc behaviour inside a F4 APS torch](#)
K.Ramachandran, J.-L. Marques, R.Vaßen, and D.Stöver

14. [Statistical optimization of a DC-RF hybrid plasma flow system for in-flight particle treatment](#)
K.Kawajiri, K.Ramachandran and H. Nishiyama
International Journal of Heat and Mass Transfer 48, 183-190 (2005)
13. [Fully coupled 3D modeling of plasma-particle interactions in a plasma jet](#)
K.Ramachandran and H. Nishiyama,
Thin Solid Films 457, 158-167 (2004)
12. [3D modeling of plasma-particle interactions in a plasma jet under dense loading conditions](#)
K.Ramachandran, N. Kikukawa, and H.Nishiyama,
Thin Solid Films 435, 298-306 (2003)
11. [Structural analysis of converging jet in a triple torch plasma system](#)
K.Ramachandran and H. Nishiyama
Journal of Physics D: Applied Physics 36, 1198-1120 (2003)
10. [Co-spraying of alumina-titania: correlation of coating composition and properties with particle behaviour in the plasma jet](#)
P.V.Ananthapadmanabhan, T.K.Thiyagarajan, K.P.Sreekumar,
R.U.Satpute, N.Venkatramani, and K.Ramachandran
Surface & Coating Technology 168, 231-240 (2003)
9. [3D modeling of evaporation of water injected into a plasma jet](#)
K.Ramachandran, T.Sato, and H.Nishiyama
International Journal of Heat Mass and Transfer 46, 1653-1663 (2003)
8. [Thermal plasma in-flight treatment of electroplating sludge](#)
K.Ramachandran and N.Kikukawa
IEEE Transactions on Plasma Science 30 , 310-317 (2002)
7. [3D effects of carrier gas and particle injections on the thermo-fluid fields of plasma jets](#)
K.Ramachandran, and H. Nishiyama
Journal of Physics D: Applied Physics 35, 307-317(2002)

6. [Plasma in-flight treatment of electroplating sludge](#)
K.Ramachandran and N.Kikukawa
Vacuum 59, 244-251 (2000)
5. [Microstructure, adhesion, microhardness, abrasive wear resistance and electrical resistivity of plasma sprayed alumina and alumina-titania coatings](#)
Ramachandran K.Ramachandran, V.Selvarajan, P.V.Ananthapadmanabhan and K.P. Sreekumar
Thin Solid Films 315, 144-152 (1998)
4. [Characterization of Al₂O₃, Al₂O₃ + TiO₂ powder mixture, and coatings prepared by plasma spraying](#)
K.Ramachandran, V.Selvarajan, P.V.Ananthapadmanabhan, K.P. Sreekumar, and N.Ananthasethan
Materials and Manufacturing Processes 12 , 863-875 (1997)
3. [Studies on spray efficiency and chemical analysis and density of the plasma sprayed Al₂O₃ and its mixtures with TiO₂ coatings](#)
K.Ramachandran, V.Selvarajan, P.V.Ananthapadmanabhan and K.P. Sreekumar
Plasma Devices and Operations 5 , 191-198 (1997)
2. [Characterization of dc plasma spray torch using energy balance technique and thermo-fluid dynamical consideration](#)
R.Ramasamy, V.Selvarajan, and K.Ramachandran
Plasma Devices and Operations 5, 161-180 (1997)
1. [Trajectory and temperature history of the particles of different sizes and their injection velocities in a thermal plasma](#)
K.Ramachandran, and V.Selvarajan
Computational Materials Science 6, 81-91 (1996)

Method for Recovery of Metals from Metal Bearing Solid Wastes

Name of the Inventors : Dr. K. Ramachandran, Mr. R. Saravanakumar, Dr. P.V. Ananthapadmanabhan

Department : Department of Physics, Bharathiar University

Patent Number : [366880](#)

Date of Grant : 01.10.2020

International Conferences Only

1. Janarthini, M.S., Barath, V.R. and **Ramachandran, K.** (2021) Numerical simulation of the characteristics of DC glow discharge confined by mirror and cusp magnetic fields International Conference on Advances in Plasma Science and Applications (ICAPST-2021) organized by Sri Shakthi institute of engineering and technology, Coimbatore, India, 27-29 May 2021.
2. Das, S.K., Satya Prakash, R.K., eddy Kandada, Abiyazhini, R., **Ramachandran, K.** and Balasubramanian, C. (2021) Computational modeling on Cu-Ni alloy evaporation in DC free burning arc plasma. 2nd International Conference on Advances in Plasma Science and Applications (ICAPST-2021) organized by organized by Sri Shakthi institute of engineering and technology, Coimbatore, India, 27-29th May 2021.
3. Jyothikrishna, P., Pradeep, S., Alexander, K., Victor, R. and **Ramachandran, K.** (2020): Effect of vortex gas on the anode arc attachment behaviour inside the plasma torch: Numerical study. Proceedings of 22nd Australasian Fluid Mechanics Conference (AFMC 2020) Brisbane, Australia, 7-10 December 2020. <https://doi.org/10.14264/ad450f4>
4. Abiyazhini, R., **Ramachandran, K.**, Sowmiya, K. and Barath, V.R. (2020) :Numerical comparison between characteristics CO₂ and Ar plasma arcs. First International Conference on Advances in plasma and science technology (ICAPST 2020) organized by Sri Shakthi institute of engineering and technology, Coimbatore, India, 12-14 Feb. 2020.
5. Barath, V.R., Subashini, C., **Ramachandran, K.**, Sowmiya, K. (2020): Numerical investigation of atmospheric Ar and He dielectric barrier discharges in symmetric and antisymmetric parallel plate configurations. First International Conference on Advances in plasma and science technology (ICAPST 2020) organized by Sri Shakthi institute of engineering and technology, Coimbatore, India, 12-14 Feb. 2020. (**Got best poster presentation award**)
6. Abiyazhini, R., **Ramachandran, K.**, Sowmiya, K. and Balasubramanian, C. (2020): Numerical characterization of the plasma arc operated with various Ar- CO₂ mixtures. 5th International Conference on Recent Advancements in Chemical, Energy and Environmental Engineering (RACEEE 2020) organized by SSN College of Engineering, Chennai, India, 13-14 Feb. 2020.
7. Lintu G Laly and **Ramachandran, K.**, (2020) : Numerical studies on the transferred arc formed inside the crucible with gas injection through hollow cathode at different operating pressures. 5th International Conference on

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