

Curriculum Vitae

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Citations record:

Total citations	h-index	i10-index
100	6	4

Professional Experience:

Date	Position details
2022 – 2023	Research Associate at Bhabha Atomic Research Centre, Mumbai, India Major duties: Computational fluid dynamic simulation (CFD) of thermal plasma torches
2020 – 2022	Post-doctoral fellow at Institute for Plasma Research, Gujarat, India Major duties: CFD simulation of DC (Direct Current) arc plasma systems for applications of nanoparticle synthesis
2018 – 2019	Assistant professor at MKSSSS's Cummins College of Engineering for Women, Pune, India

Educational Qualification:

Date	Education
2013–2018	Ph. D (Physics) From Savitribai Phule Pune University, Pune, India Thesis title: 'Study of radio frequency plasma synthesis of ceramic oxides: simulation and characterization'
2009-2011	M.Sc. (Physics) , from Department of Physics, Savitribai Phule Pune University, India Specialization: Astronomy and astrophysics

Fields of expertise:

- Computational fluid dynamic simulation of thermal plasma devices i.e., Radio Frequency-Inductively Coupled Plasma torch, DC free burning arc, DC transferred and non-transferred arc plasma torches using ANSYS-FLUENT software
- Aerosol dynamic modelling of particle formation in thermal plasma
- Optical emission spectroscopy for thermal plasma diagnostics
- Hands on experience in operation of RF-ICP and direct current transferred arc thermal plasma devices
- Programming in FORTRAN 90/95, MATLAB
- Basic AUTO-CAD drawing

List of the publications

1. 2022 Modelling and experimental investigations of composition-dependent heat and mass transfer during Cu-Ni alloy nanoparticle synthesis in a transferred arc helium plasma

- G D Dhamale**, Subrat Das, Anthony B. Murphy, Satya PR Kandada, C. Balasubramanian, and S Ghorui *Journal of Physics D: Applied Physics* **55** 375203(2022)
2. 2022 Relationships between arc plasma jet properties and plasma/liquid interaction mechanisms for the deposition of nanostructured ceramic coatings
V Rat, M Bienia, **G D Dhamale**, F Mavier, C Ruelle and S Goutier. *Plasma Phys. Control. Fusion* **64** 024003(2022)
 3. 2021 Large scale synthesis of copper nickel alloy nanoparticles with reduced compressibility using arc thermal plasma process.
Das, S. K., Das, A., Gaboardi, M., Pollastri, S., **Dhamale, G. D.**, Balasubramanian, C., & Joseph, B. *Scientific reports*, *11*(1), 1-9 (2021)
 4. 2019 Dynamic Behavior of Arc Voltage and Electro-thermal Efficiency in Atmospheric Pressure Non-transferred Arc Plasma Torches under Different Degrees of Anode Cooling.
Tiwari, N., Nath, S., **Dhamale, G. D.**, & Ghorui, S. *Journal of Thermal Spray Technology*, *28*(7), 1606-1626. (2019).
 5. 2018 Nucleation and Growth of Y₂O₃ Nanoparticles in a RF-ICTP Reactor: A Discrete Sectional Study Based on CFD Simulation Supported with Experiments
G D Dhamale, A K Tak, V L Mathe and S Ghorui *J. Phys. D: Appl. Phys.* **51**, 255202(2018)
 6. 2018 Diagnostics of microwave assisted electron cyclotron resonance plasma source for surface modification of nylon 6
Supriya E. More, Partha Sarathi Das, Avinash Bansode, **Gayatri Dhamale**, S. Ghorui, S. V. Bhoraskar, S. N. Sahasrabudhe, and Vikas L. Mathe *Review of Scientific Instruments* **89**,013509 (2018)
 7. 2017 In situ probing of temperature in radio frequency thermal plasma using Yttrium ion emission lines during synthesis of yttria nanoparticles
G. D. Dhamale, N. Tiwari, V.L. Mathe, S.V. Bhoraskar and S. Ghorui *Journal of Applied Physics*, *122*(3), (2017) 023301(12pp)
 8. 2017 Neutral-neutral and neutral-ion collision integrals for Y₂O₃-Ar plasma system
Gayatri D. Dhamale, Swastik Nath, Vikas L. Mathe, and Srikumar Ghorui *Physics of Plasmas* **24**, (2017) 063514(11pp)
 9. 2016 Synthesis and characterization of Nd₂O₃ nanoparticles in a radiofrequency thermal plasma reactor
G D Dhamale, V L Mathe, S V Bhoraskar, S N Sahasrabudhe, S D Dhole and S Ghorui *Nanotechnology* **27**, (2016) 085603 (9pp)
 10. 2015 Synthesis of nanocrystalline Y₂O₃ in a specially designed atmospheric pressure radio frequency thermal plasma reactor
G. D. Dhamale, V. L. Mathe, S. V. Bhoraskar, S. N. Sahasrabudhe, S. Ghorui *Journal of Nanoparticle Research* **17**, (2015) 416(15pp)
 11. 2014 Characteristics of Synthesized Alumina Nanoparticles in a High-Pressure Radio Frequency Thermal Plasma Reactor
Srikumar Ghorui, Sunil Sahasrabudhe, **Gayatri Dhamale**, Nilesh Kanhe, Vikash Mathe, Sudha Bhoraskar, and Ashoka Das *IEEE TRANSACTIONS ON PLASMA SCIENCE*, *42*(3), (2014) 759(8pp)