Curriculum Vitae

Name: Balaji Padya
Address: Scientist-D, Centre for Carbon Materials, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Balapur Post, RCI Road, Hyderabad-500 005.
Email: balaji@arci.res.in, balajipadya@gmail.com
Phone: 040-24452438
Fax : 040-24442699

Education:

- Doctor of Philosophy (Pursuing)
- Bachelor of Technology (Mech. Engg.)

Research Experience:

- **Scientist-D** (2015- present), ARCI, Hyderabad
- **Scientist-C** (2010-2015), ARCI, Hyderabad.
- **Scientist-B** (2006-2010), ARCI, Hyderabad.

Research Interests:

- Current research includes synthesis, characterization and applications of low-dimensional materials (carbon nanotubes with aligned arrays and doped arrays, carbon onions, carbon spheres, graphene oxide and graphene nanosheets, graphene nanoplatelets), conducting polymers, spinel metal oxide/sulfides nanostructures, electroactive nanocomposites for energy storage, carbon nanomaterials for nanofluids and aligned carbon nanotube arrays for field emission , phase change materials, solar-thermal energy storage and so on

Publication Details and Other Overview:

Journal Publications:

1. Synthesis of vertically aligned carbon nanotube arrays by injection method in CVD
   Balaji Padya, K.V.P.Prabhakar, P.K.Jain
   Journal of Nanoscience and Nanotechnology 10 (8), 4960-4966, (2010).
2. Purification of multi-walled carbon nanotubes synthesized by arc discharge set-up
   Y.Malathi, *Balaji Padya*, K.V.P Prabhakar, P.K. Jain
   Carbon Letter: 11 (3), 184-191 (2010).
3. Mechanical properties of multi-walled carbon nanotubes reinforced polymer nanocomposites
   G. Venkata Ramana, *Balaji Padya*, R. Naresh Kumar, K.V.P. Prabhakar, P.K. Jain
   Indian Journal of Advanced Engineering and Materials Sciences: 17, 331-337, (2010).
4. Production of hydrogen and carbon nanofibers through the decomposition of methane
   over activated carbon supported Pd catalysts.
   J. S. Prasad, V. Dhand, V. Himabindu, Y. Anjaneyulu, P.K. Jain, *Balaji Padya*.

International Journal of Hydrogen Energy: 35, 10977-10983, (2010).

5. Thermal and mechanical properties of multiscale carbon nanotubes and carbon fiber
   reinforcement in epoxy hybrid nanocomposites
   P.K. Jain, *Balaji Padya*, P.S. Rao, K Mohana Krishna Chowdary, B. Ashwani Kumar, G.Anusha
   *Journal of Nanostructured Polymer and Nanocomposites***:** 7/3, 81-86, (2011).
6. Surface Modification Effect on the Thermal and Mechanical Properties of Multi-Walled Carbon Nanotubes / Epoxy Nanocomposites
   G.Venkata Ramana, *Balaji Padya*, P.K.Jain
   IEEE proceedings, 978-1-4673-0074-2/11, 110-113, 2011.
7. Electrically conductive carbon nanopipe-graphite nanosheet/polyaniline composites
   G. Venkata Ramana, *Balaji Padya*, Vadali V.S.S. Srikanth , P.K. Jain,
   G. Padmanabham, G. Sundararajan
   Carbon 49 ,5239 –5245, (2011).
8. Self organized growth of bamboo like carbon nanotube arrays for the field emission properties
   Balaji Padya, Dipankar Kalita, P.K. Jain, G.Padmanabham, M.Ravi, K.S. Bhat
   Applied Nanoscience: 2, 253–259, (2012).
9. Carbon nanotubes-graphite nanosheets/ polyaniline conducting polymer nanocomposites
   P.K. Jain, Balaji Padya, G.Venkata Ramana, G. Padmanabham
   Nanotech Insight, 3(1), 21-22 (2012).
10. Nitrogen incorporated highly aligned carbon nanotube arrays thin film grown from single feedstock for field Emission
    Balaji Padya, Dipankar Kalita, P.K. Jain, G.Padmanabham, M.Ravi, K.S. Bhat,
    Journal of Nanoelectronics and Optoelectronics. 8 (2), 177-181, (2013).
11. Characterization of Intermediates in the Synthesis of Reduced Graphene-oxide Through Sequential De-oxygenation
    A.K. Mishra, C. Srinath, P.K. Jain, *B. Padya*, M. Chopkar
    Nano Trends: A Journal of Nanotechnology and Its Applications: 14(2), 1-9, 2013.
12. Influence of nitrogen doping concentration on morphology and microstructure of nitrogen doped super-aligned carbon nanotube forest
    AVB Subramanyam, *Balaji Padya*, PK Jain
    Journal of Advanced Microscopy 8, 300-304 (2013).
13. Highly ordered nitrogen doped carbon nanotube novel structures of aligned carpet for enhanced field emission properties

    Balaji Padya, P.K. Jain, G.Padmanabham, M Ravi, K.S.Bhat

    AIP Conf. Proc. 1538, 196-199 (2013).
14. Role of buffer gas pressure on the synthesis of carbon nanotubes by arc discharge Method.
    Manikantan Kota, *Balaji Padya*, G. Venkata Ramana, P.K. Jain, G. Padmanabham

AIP Conf. Proc. 1538, 200-204 (2013).

15. Thermal properties of Multi-walled carbon nanotube-graphite nanosheets/epoxy nanocomposites.
    G. Venkata Ramana, ***Balaji Padya***, Vadali V.S.S. Srikanth, P.K. Jain.
    AIP Conf. Proc. 1538, 205-208 (2013).
16. Synthesis of amorphous carbonnanofiber using iron nanoparticles as catalyst.
    Mokhtar ali, G.Venkata Ramana, ***Balaji Padya***, VVSS Srikanth, PK Jain
    AIP Conf. Proc. *1538, 237 (2013)*
17. Morphological, structural and phase characteristics of conventionally sintered MWCNT/Cu composites
    R.Naresh Kumar, ***Balaji Padya***, SB Chandrasekhar, PK Jain VVSS Srikanth, K.Bhanushankara Rao
    IEEE Conf. Proc. 978-1-4799-4/13, 190-192 (2013).

18. Rapid mixing chemical oxidative polymerization: An easy route to prepare PANI coated small diameter CNTs/PANI nanofibers composite thin film.
    G. Venkata Ramana, ***Balaji Padya***, V.V.S.S Srikanth, P.K. Jain.
    Bulletin of material science 37 (3), 585-588, 2014.
19. Carbon nanotube-polyaniline nanotube core-shell structure for electrochemical applications
    Venkata Ramana G, Srikanth VVSS, Balaji Padya, PK Jain
    European Polymer Journal 57,137-142 (2014).
20. Nanoelectron emitters for vacuum electron devices
    K.Santosh Kumar, Meduri Ravi, K.S. Bhat, Lalit Kumar, J.S. Rawat, P.K. Chaudary
    P.K. Jain and Balaji Padya
    Nanotech Insights 5 (3 and 4), 94-97 (2014).
21. Preparation and characterization of graphene nano-platelets integrated polyaniline based conducting nanocomposites
    Mamata Reddy Tokala , Balaji Padya, P.K. Jain, C.H. Shilpa Chakra

    Superlattices and Microstructures 82, 287–292 (2015)

22. Ni nanoparticles prepared by simple chemical method for the synthesis of Ni/NiO-multi-layered graphene by chemical vapour deposition
    Mokhtar Ali , Nagarjuna Remalli, Venkataramana Gedela, Balaji Padya, Pawan Kumar Jain, Ahmed Al-Fatesh, Usman Ali Rana, Vadali V.S.S. Srikanth

    Solid State Sciences 64, 34-40 (2017)

23. Effect of One-Dimensional Carbon Nanotube Loading on Dispersion and Mechanical Properties of Epoxy Nanocomposite Materials
    International Journal of Modern Engineering and Research Technology
    S.Pochaiah, B.Padya, A. Krishnaiah 5, 5-10 (2018)

24. Ultra-thin 2D Carbon Material as Engine Oil Additive for Studying Anti-Friction and Anti-Wear Behaviour
    International Journal of Modern Engineering and Research Technology 5, 19-30 (2018)

25. A facile co-solvent strategy for preparation of graphene nanoplatelet powder: An industrially viable innovative approach
Balaji Padya, N. Narasaiah, P.K. Jain, T.N. Rao

Ceramics International 45 (2019) 13409–13413

Professional Memberships

- Life member of Indian Carbon Society (LM-249), 2009.
- Life member of Materials Research Society of India (LMB-2373), 2014.
- Materials Research Society-Singapore (2015-16)

List of Projects ongoing/completed

S.No	Project title	Funding agency	Amount (Lacs)	Duration (years)	Remarks
1	To develop pattern growth of vertically aligned carbon nanotubes for field emission applications	DRDO	22.25	2	Completed
2	Graphene-polyaniline composites for energy storage	DST-SERB	12	2	Completed
3	Graphite based seals for cryo-engine applications	ISRO	4.3	1.5	Completed