Biodata

Name	Dr. Milind V. Kulkarni 
Designation	Scientist 'E' & Group Head, Nanocomposite Laboratory
Educational qualification	• M.Sc. (Polymer Chemistry) with 'First Rank' from Shivaji University, Kolhapur. • Ph.D. from University of Pune, Pune.
Research area	Conducting/Electroactive polymers, Nanostructured advanced materials, Polymer nanocomposites, Humidity/Gas/VOCs/pH sensor materials and devices, Ink-jet printable conducting polymers and Nanometal based ink, Flexible and Wearable electronics devices, Li- ion, Na-ion, Flexible batteries, X-ray Shielding/Attenuating nanostructured materials for Biomedical garments, Polymer Swab for COVID19 and other viral diseases.
Recognised Awards/Honors/Fellow	• Young Associate of Maharashtra Academy of Sciences • Fellow of Maharashtra Academy of Sciences. • Life Member of the Society for Polymer Science India • Life Member of the Materials Research Society of India
Projects	Ongoing: 1. Development of Flexible Li-ion Batteries (PN/SP/68) (Sponsored by MeitY, Outlay: **Rs. 454.10 lakhs** DoS: 05.06.2018; DoC: 04.06.2021) 2. Development of Anode materials for Na-ion Batteries (PN/SP/64) (Sponsored by DST, Outlay: **Rs. 68.27 lakhs** DoS:30.11.2017 DoC: 29.11.2020) 3. Centre of Excellence in Rechargeable Battery Technology (Pre Cell) (Sponsored by MeitY, Outlay: **Rs. 1287.67 lakhs** DoS: 13.09.2019; DoC: 12.09.2024) Completed: 1. Development of Cathode & Anode for Li ion battery with prototype cells (PN/SP/49) (Sponsored by MeitY, Outlay: **Rs. 498.05 lakhs** DoS: 15.10.2013; DoC: 14.10.2016)
Publications/Patents (**Past 5 years**)	1. Effect of composition zinc: cobalt in $ZnCo_2O_4$ spinel on highly selective liquefied petroleum gas sensor at low and high temperature conditions Kalpana B. Gawande, Sandeep B. Gawande, Sanjay R Thakare, Vivek Ramkrushna Mate, Sunil R Kadam, Bharat Kale and **Milind Vyankatesh Kulkarni,** RSC Adv., 2015,5, 40429-40436. 2. Controlled Synthesis of Nanosized Polyaniline via Unstirred,

	Liquid - Liquid Interfacial Polymerization Process: Advantage of Solution Chemistry for Nanostructuring of the Macromolecules, Sangita M. Thorat, **Milind V. Kulkarni*** and Gaurav M. Thorat, Chemistry and Chemical Technology Vol. 9, No. 2, (2015) 143-148. 3. Tuning of morphology of conducting polyaniline via static, liquid-liquid interfacial polymerization process and its application for optical pH sensing, Sangita M. Thorat and **Milind V. Kulkarni,** International Polymer Processing 2 (2015) 243-247. 4. Spectroscopic and Morphological Studies of Polyaniline (PANI) – Carbon nanotubes (CNTs) Nanocomposites Synthesized via Dynamic, Liquid-Liquid Interfacial Polymerization Process and Its Application as Optical pH Sensor, Sangita M. Thorat, **Milind V. Kulkarni*** and Bharat B. Kale, IEEE `Online` 'IEEE Explore` (2015) 133-137. 5. Magnetically Separable $Ag_3PO_4/NiFe_2O_4$ composites with Enhanced Photocatalytic Activity, Santosh S. Patil, Mohaseen S. Tamboli, Virendrakumar G. Deonikar, Govind G. Umarji, Jalindar D. Ambekar, Sonali D. Naik, **Milind V. Kulkarni,** Sanjay S. Kolekar Bharat B. Kale and Deepak R. Patil, Dalton Transactions, 2015, 44, 20426-20434. 6. Nanostructured 2D MoS_2 Honeycomb and Hierarchical 3D Marigold Nanoflower of $CdMoS_4$ for Hydrogen Production under Solar Light, Sunil R. Kadam, Dattatray J. Late, Rajendra P. Panmand, **Milind V. Kulkarni**, Latesh K. Nikam, Suresh W. Gosavi, Chan J. Park, Bharat B. Kale, Journal of Materials Chemistry A, 3, (2015) 21233-21243. 7. Influence of Dodecylbenzene Sulfonic Acid Doping on Structural, Morphological, Electrical and Optical Properties on Polypyrrole/3C-SiC Nanocomposites Sacchidanand Shrikrushna, Jayant A Kher and **Milind V Kulkarni**, J Nanomed. Nanotechnol. Vol. 6, Issu. 5, (2015) 1-5. 8. Green Approach for Hierarchical Nanostructured Ag- ZnO and their photocatalytic performance under sunlight, Santosh S. Patil, Mukund G. Mali, Mohaseen S. Tamboli, Deepak R. Patil, **Milind V. Kulkarni**, Hyun Yoon, Ha-Yong Kim, Salem S Al-Deyab, Sam S. Yoon, Sanjay S. Kolekar and Bharat B. Kale Catalysis Today, 260 (2016) 126-134. 9. Confinement of Ag_3PO_4 Nanoparticles Supported by Surface Plasmon Resonance of Ag in Glass: Efficient Nanoscale Photocatalyst for Solar H_2 Production from Waste H_2S. Santosh S. Patil, Deepak R. Patil, Sanjay K. Apte, **Milind V. Kulkarni**, Jalindar D. Ambekar, Chan-Jin Park, Suresh W. Gosavi, Sanjay S. Kolekar, Bharat B. Kale, Applied Catalysis B: Environmental, 190, (2016) 75–84. 10. Architecture of $CdIn_2S_4$/graphene Nano- heterostructure for Solar Hydrogen Production and Anode for Lithium Ion Battery, Manjiri A Mahadadalkar, Sayali B Kale, Ramchandra S Kalubarme, Ashwini Bhirud, Jalindar D. Ambekar, Suresh W

	Gosavi, **Milind V Kulkarni**, Chan-Jin Park, Bharat Kale, RSC Adv., 2016, 6, 34724–34736. 11. Graphene-wrapped $Ag_3PO_4/LaCO_3OH$ heterostructures for water purification under visible light", Santosh S. Patil, Mukund G. Mali, Animesh Roy, Mohaseen S. Tamboli, Virendrakumar G. Deonikar, Deepak R. Patil, **Milind V. Kulkarni**, Salem S. Al-Deyab, Sam S. Yoon, Sanjay S. Kolekar, Bharat B. Kale, Journal of Energy Chemistry 25 (2016) 845-853. 12. Optimization of Ni:Mn compositional ratio in MCo_2O_4(M=Ni and/or Mn) resulting in outstanding supercapacitors electrode material, Mohaseen S. Tamboli, Santosh S. Patil, Asiya F. Shaikh, **Milind V. Kulkarni,** Deepak R. Patil and Bharat B. Kale, Proc. of the Intr. Conf. on Nanotechnology for Better Living , Vol.3, No.1 (2016) pg., 234. 13. Synthesis and characterization of Sn-Bi nanoparticles for X-ray absorption/ attenuation, Anuradha A. Ambalkar, Gaurav M. Thorat, Sonali D. Naik, Sanjay K. Apte, **Milind V. Kulkarni*** and Bharat B. Kale, Proc. of the Intr. Conf. on Nanotechnology for Better Living, Vol.3, No.1 (2016) pg., 239. 14. Template free architecture of hierarchical nanostructured $ZnIn_2S_4$ rose-like flowers for solar hydrogen production, Bharat B. Kale, Ashwini P. Bhirud, Jin Ook-Baeg, **Milind V. Kulkarni,** Journal of Nanoscience and Nanotechnology (2017) Volume 17, Number 2, pp. 1447-1454(8). 15. Mimics of microstructures of Ni substituted $Mn_{1-x}Ni_xCo_2O_4$ for high energy density asymmetric capacitors, Mohaseen S Tamboli, Deepak P Dubal, Santosh S Patil, Asiya F Shaikh, Virendrakumar G Deonikar, **Milind V Kulkarni**, Noormahamad N Maldar, Abdullah M Asiri Inamuddin, Pedro Gomez-Romero, Bharat B Kale, Deepak R Patil, Chemical Engineering Journal (2017) 307, 300-310. 16. Nanomaterials and polymer nanocomposites for multifunctional applications, **Milind V. Kulkarni,** J Nanomed Nanotechnol (2017), 8:5 (Suppl). 17. Nanostructured CdS sensitized $CdWO_4$ nanorods for hydrogen generation from H_2S and dye degradation under Sunlight, Yogesh A Sethi, Rajendra P Panmand, Sunil R Kadam, Anirudh K Kulkarni, Sanjay K Apte, Sonali D Naik, N Munirathnam, **Milind V Kulkarni**, Bharat B Kale, Journal of Colloid and Interface Science (2017) 487, 504-512 18. Unique perforated graphene derived from Bougainvillea flowers for high-power supercapacitors: a green approach, Rajendra P. Panmand, Purnima Patil, Yogesh Sethi, Sunil R. Kadam, **Milind V. Kulkarni**, Suresh W. Gosavi, N. R. Munirathnam and Bharat B. Kale*, Nanoscale, (2017) 9, 4801. 19. Nanowires of Ni substituted $MnCo_2O_4$ as an anode material for high-performance lithium-ion battery, Mohaseen S Tamboli, Deepak P Dubal, Santosh S Patil, Asiya F Shaikh, Virendrakumar G Deonikar, **Milind V Kulkarni**, Noormahamad N Maldar, Abdullah M Asiri Inamuddin, Pedro Gomez-Romero,

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	Aniruddha K. Kulkarni, Suresh W. Gosavi, **Milind V. Kulkarni**, Bharat B. Kale. Sustainable Energy & Fuels, 2019, 3, 793-800. 29. Plasmonic Ag decorated $CdMoO_4$ as an efficient photocatalyst for solar hydrogen production, Y. A. Sethi, A. K. Kulkarni, S. K. Khore, R. P. Panmand, S. C. Kanade, S. W. Gosavi, **M. V. Kulkarni,** B. B Kale, RSC Advances, 2019, 9, 28525–28533. (IF: 3.049) 30. Micro flowers of SrS/Bi_2S_3 nanocomposite and its Field Emission properties, Gunjal, Aarti, Kawade, Ujjwala, Sethi, Yogesh, Panmand, Rajendra, Ambekar, Jalindar, **Kulkarni, Milind**, More, Mahendra, Kale, Bharat, Journal of Composites Science 2019, 3(4), 105**.** 31. Synergic effect of decoration of nickel oxide nanoparticles on silicon for enhanced electrochemical performance in LIBs, U.V. Kawade, S. R Kadam, **M. V. Kulkarni,** B. B. Kale, Nanoscale Advances, 2020, 2, 823-832. (IF: 6.23) 32. Facile synthesis of SnO_2@ carbon nanocomposites for lithium-ion batteries, AA Ambalkar, RP Panmand, UV Kawade, YA Sethi, SD Naik, **MV Kulkarni**, New Journal of Chemistry, 2020, 44 (8), 3366-3374. (IF: 3.069) 33. Hierarchical Nanostructured Benzoic Naphthalene Tetracarboxylic Di-imide Organic Cathode for Lithium Ion Battery, S. More, N. Khupse, M. Bhosale, J. Ambekar, **M. Kulkarni**, B. B. Kale, Chemistry Select, 2020, 5, 2157-2163.
Patents	**20** (Including 1 U.S. & 1 PCT)
Google Scholar Link	https://scholar.google.co.in/citations?user=bQ1ZYcIAAAAJ&hl=en **h-index =32, Citations=3470**