

BIO - DATA

1	Name	:	Dr. Bharat Bhanudas Kale
2	Date of Birth	:	01/06/1963
3	Current Position	:	Emeritus Professor and Director Materials Science (CoE), MIT World Peace University (MITWPU), Pune and Emeritus Scientist and Former Director General/Scientist-G of C-MET, Gov. of India, Pune -8, India
4	Address	:	MITWPU University, Poud Road Kothrud, Pune -38 and Centre For Materials For Electronics Technology (C-MET), Ministry of Electronics & Information Technology (MeitY), Panchawati, Off Pashan Road, Pune 411008. Mobile +91 9423014560
5	Email	:	bbkale1@gmail.com , bharat.kale@mitwpu.edu.in

6. Educational Qualification:

Sr. No	Degree/Certificate	Year of Passing	University /Institute	Subjects
1	B. Sc.	1984	University of Pune, Pune	Chemistry
2	M. Sc.	1986	University of Pune, Pune	Physical Chemistry
3	Ph. D	1992	CSIR-National Chemical Laboratory, Pune (Affiliation to Shivaji University Kolhapur)	Materials Reaction Engineering

7. Academic / Research Experience / Employment

S. No	From	To	Name Of Organization	Position Held
1	1986	1987	CSIR-National Chemical Laboratory, Pune	Research Assistant
2	1987	1991	CSIR-National Chemical Laboratory, Pune	JRF through sponsored project
3	18/01/91	1995	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - B
4	1995	1998	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - C
5	2003	2011	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - D
6	2003	2011	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - E
7	Feb 2011	2018	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - F
8	Dec 2016	March 2018	Centre For Materials For Electronics Technology (C-MET), Pune	Director
9	April 2018	Till date	Centre For Materials For Electronics Technology (C-MET), Pune	Scientist - G
10	June 2020	February 2022	Centre For Materials For Electronics Technology (C-MET)	Additional Charge of Director General
11	February 2022	Till date	Centre For Materials For Electronics Technology (C-MET)	Director General

International Appointment				
S. No	From	To	Name Of Organization	Position Held
1.	1996	1997	University of Leeds, Leeds, UK	Boyscast Fellow, DST
2.	2004	2005	Korea Research Institute of Chemical Technology, Daejon, KRICT, South Korea	Brain pool Scientist (Awarded by Brain Pool Fellowship)
3.	2011 (8 Days)	2012 (8 Days)	University of Nova Garcia, Garcia, Slovenia	Visiting fellow under collaboration
4.	Sept 2011	2011	Hitachi (15 days)	Training FESEM
5.	2012 (8 days)		Hitachi Japan	FESEM training
6.	2014	2015	Materials Department, Chonnam National University, Gwannju	Brainpool fellow Korea
7.	2013 (8 Days)	2018 (8 days)	Korea Research Institute of Chemical Technology, Daejon, KRICT, South Korea	Visiting fellow
8.	2016 (8 days)	2016	University College of London	Visiting fellow under collaboration
9.	2017 (8 days)	2017	University College of London	Visiting fellow under collaboration
10.	(2018) 20 days	2018	University of Leeds, Leeds, UK	The Royal Society of London Project
11.	(2019) 8 days	2019	Korea Research Institute of Chemical Technology, Daejon, KRICT, South Korea	Seminar on "Hydrogen production using nanostructured glass photocatalyst".
12.	(2019) July-August	2019 (30 days)	University of Leeds, Leeds, UK	Project Co-Investigator

8. Area of Specialization:

Advanced functional materials, nanomaterials, nano-composites (Glass and polymer), organic semiconductors. Glass ceramics for the advanced applications for Photonic devices/Electronics, Optical Sensors, Lithium/Sodium ion battery as well air batteries, Supercapacitors, thermoelectric solar cells, Photocatalyst for solar hydrogen production/storage and Radiation based devices.

Summary of Biodata:

1	Name	Dr. Bharat Bhanudas Kale
2	Present position	Emeritus Professor and Director Materials Science (CoE), MIT World Peace University (MITWPU), Pune and Emeritus Scientist and Former Director General/Scientist-G of C-MET, Gov. of India, Pune -8, India
3	Qualifications	Master in Physical Chemistry, Pune University Ph. D in (Chemistry) Materials reaction Engineering (Advanced materials) in CSIR-National Chemical Laboratory, Pune, Chemical Engineering Division
4	Expertise (Research Experience)	34 years: Nanostructured advanced Materials, Photonic materials, Solar cells, Thermoelectric solar cells, Lithium ion, Lithium air Battery, Na-ion, Na-air Batteries, LiS/Na-s batteries, Hydrogen production from Semiconductors, Quantum dots in glasses, polymers, Nanocomposites,

		Chalcogenide materials and glasses. Magnetic materials, Super capacitor materials, Hydrogen storage materials, fuel cells materials etc.
5	Administrative Experience (Leadership)	Handled the research group of 20-30 people since 20 years. Responsibilities as a Director, C-MET, Pune lab since March 2014. Vast experience of PRSG review committee as a member, Purchase committee chairman, Selection committee member of C-MET, Pune University, Shivaji, Jalgaon, National Chemical laboratory ETC.
6	Google Scholar Research Index	h-index: 55 (https://scholar.google.co.in/citations?user=pRskAv4AAAAJ&hl=en)
7	No. Publications In Int. Journals	285 (Advanced functional Materials, Small, Nanoscale, J. Mat Chem, Chem com, Green Chem, Energy Environ Technology etc I.F. 4 to 12) Most of papers in RSC Journals
8	Patents	28 (4 US applied 2 PCT granted)
9	No of Ph. D students	22 Awarded (13 awarded as a guide and 9 as co-guide). 9 Registered (4 as a guide and 5 as a co-guide)
10	Post graduate Students	06 completed (PPR) and 25 have done last year projects
11	No. of projects completed	[Total Budget: Rs. 20 Cr]: MeitY, DST, MNRE, BRNS, ISRO, etc 04 International Project: INDO-UK, INDO-SLOVENIA AND INDO-JAPAN
12	Projects in Hand	[Total Budget: Rs. 95 Cr]: MeitY, DST, DRDO, ISRO, etc
13	Foreign Collaboration	05 Collaborative Projects: INDO-Slovenia, INDO-JAPAN, INDO-UK, Indo-Korea, Royal Society, UK Other Collaborations: University of Leeds, UK, TN TECH University, USA, Utah University, USA,
14	Technology Transfer	3
15	No. of Inter. Confer. Organized	3
16	Invited Talks	More than 150
17	Awards	1. Ranked in worlds material scientist 2. Ranked in 2% world scientist List published by Stanford. 3. MRSI-ICSC Materials Science Annual Prize Winners 2021 4. AICTE-INAE Distinguished Visiting Professor, Symbiosis Institute of Technology, Pune 5. VASVIK Industrial Research Award 2019 6. Fellow of Royal Society of Chemistry (FRSC), London 2020 7. Life Fellow, Indian Chemical Society, Kolkata, India 2020 8. APAM, Academician, (Asia Pacific Academy of Materials) 2019 9. Royal Society of Chemistry International collaboration 2017 proposal award with University of Leeds 10. Sr. Brainpool fellowship award South Korea 2014 (Selected in Top 10 Brain pool). 11. Award of the Year 2013 on Photocatalysis by KRICT, Daejeon South Korea 12. Editorial board member of Metals and Materials International – Springer. 13. MRSI Gold Medal Award 2010, Bangalore.

	14. Secretary, Maharashtra Academy of Science (FMASc). 15. Fellow of Maharashtra Academy of Science (FMASc). 16. Vice Chairman, MRSI (Pune Chapter). 17. Life Member of Materials Research Society of India (MRSI). 18. Brainpool fellowship award South Korea (2004). 19. Young Scientist Boyscast Fellowship Award (1996).
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9. Book Chapter:

B. B. Kale*, M. A. Mahadadalkar, A. P. Bhirud, *Book Chapter entitled "Glassy Photocatalysts: New Trend in Solar Photocatalysis"* in book *Visible Light-Active Photocatalysis: Nanostructured Catalyst Design, Mechanisms, and Applications*, Wiley-VCH Verlag GmbH & Co. KGaA Online ISBN: 9783527808175, **2018**.

510. Number of Research Publications: 282 h-index: 55

<https://scholar.google.co.in/citations?user=pRskAv4AAAAJ&hl=en>

List of Best Publications:

1. S. R. Kadam, U. V. Kawade, R. B. Ziv, S. W. Gosavi, M. B. Sadan, **B. B. Kale*** Porous MoS₂ Framework and Its Functionality for Electrochemical Hydrogen Evolution Reaction and Lithium Ion Batteries, *ACS Appl. Energy Mater.* **2019**, 2, 5900-5908
2. M. A. Mahadadalkar, S. W. Gosavi, **B. B. Kale**, Interstitial charge transfer pathways in a TiO₂/CdIn₂S₄ heterojunction photocatalyst for direct conversion of sunlight into fuel, *J. Mater. Chem. A* **2018**, 6 (33), 16064-16073, (Impact Factor = 10.773)
3. R. P. Panmand, P. Patil, Y. Sethi, S. R. Kadam, M. V. Kulkarni, S. W. Gosavi, N. R. Munirathnam, **B. B. Kale***, Unique perforated graphene derived from Bougainvillea flowers for high-power supercapacitors: a green approach *Nanoscale*, **2017**, 9, 4801-4809. (IF: 6.97)
4. T. C. Nirmale, I. Karbhal, R. S. Kalubarme, M. V. Shelke, A. J. Varma, and **B. B. Kale*** "Facile Synthesis of Unique Cellulose Triacetate Based Flexible and High Performance Gel Polymer Electrolyte for Lithium Ion Batteries." *ACS Appl. Mater. Interfaces*, **2017**, 9 (40), pp 34773-34782 .(IF: 8.456)
5. S. S. Patil, D. R. Patil, S. K. Apte, M. V. Kulkarni, J. D. Ambekar, C. J. Park, S. W. Gosavi, S. S. Kolekar, **B. B. Kale***, Confinement of Ag₃PO₄ nanoparticles supported by surface plasmon resonance of Ag in glass: efficient nanoscale photocatalyst for solar H₂ production from waste H₂S *Applied Catalysis B: Environmental*, **2016**, 190, 75-84. (IF: 14.229)
6. S. S. Patil, D. P. Dubal, M. S. Tamboli, J. D. Ambekar, S. S. Kolekar, P. G. Romero, **B. B. Kale***, D. R. Patil, "Ag: BiVO₄ dendritic hybrid-architecture for high energy density symmetric supercapacitors" *J. Mater. Chem. A*, **2016**, 4, 7580-7584.(impact factor = 10.77)
7. A. Bhirud, S. Sathaye, R. Waichal, J. D. Ambekar, C. J. Park, **B. B. Kale*** "In-situ preparation of N-TiO₂/graphene nanocomposite and its enhanced photocatalytic hydrogen production by H₂S splitting under solar light " *Nanoscale*, **2015**, 7, 5023-503(impact factor = (6.97).

8. V. U. Pandit, S. S. Arbuj, R. R. Hawaldar, P. V. Kshirsagar, U. P. Mulik, S. W. Gosavi, J. Park, **B. B. Kale*** In-situ Preparation of Novel Organo-Inorganic (6, 13-Pentacenequinone: TiO₂) coupled Semiconductor Nanosystem: A new Visible Light active Photocatalyst for Hydrogen Generation. *J. Mater. Chem. A*, **2015**, 3, 4338-4344.(impact factor = 10.77)
9. A. Bhirud, S. Sathaye, R. Waichal, C. J. Park, **B. B. Kale*** “In situ preparation of N–ZnO/graphene nanocomposites: excellent candidate as a photocatalyst for enhanced solar hydrogen generation and high performance supercapacitor electrode “*J. Mater. Chem. A*, **2015**, 3, 17050-17063(impact factor = 10.77)
10. S. R. Kadam, D. J Late, R. P. Panmand, M. V. Kulkarni, L. K. Nikam, S. W. Gosavi, C. J. Park, **B. B. Kale*** Nanostructured 2D MoS₂ honeycomb and hierarchical 3D CdMoS₄ marigold nanoflowers for hydrogen production under solar light *J. Mater. Chem. A*, **2015**, 3, 21233-21243 (impact factor = 10.77).
11. S. K. Apte, S. N. Garaje, S. D. Naik, R. P. Waichal, J. O. Baeg, **B. B. Kale***, Quantum confinement controlled solar hydrogen production from hydrogen sulfide using a highly stable CdS_{0.5} Se_{0.5}/CdSe quantum dot–glass nanosystem, *Nanoscale*, **2014**, 6, 908-915 (Impact Factor =6.97)
12. N. S. Chaudhari, S. S. Warule, S. A. Dhanmane, M. V. Kulkarni, M. Valant, **B. B. Kale***, Nanostructured N-doped TiO₂ marigold flowers for an efficient solar hydrogen production from H₂S, *Nanoscale*, **2013**, 5, 9383-9390 (Impact Factor = 6.97).
13. N. S. Chaudhari, S. S. Warule, S. A. Dhanmane, M. V. Kulkarni, M. Valant, **B. B. Kale*** Nanostructured N-doped TiO₂ marigold flowers for an efficient solar hydrogen production from H₂S, , *Nanoscale*, **2013**, 5, 9383-9390 (impact factor =6.97)
14. S. K. Apte, S. N. Garaje, S. D. Naik, R. P. Waichal, **B. B. Kale*** H₂S using size tuneable cubic bismuth (Bi⁰) quantum dots–GeO₂ glass photocatalyst under solar light, *Green Chem.*, **2013**, 15, 3459-3467 (impact factor = 9.405)
15. S. A. Mahapure, P. K. Palei, L. K. Nikam, R. P. Panmand, J. D. Ambekar, S. K. Apte, **B. B. Kale***, Novel nanocrystalline zinc silver antimonate (ZnAg₃SbO₄): an efficient & ecofriendly visible light photocatalyst with enhanced hydrogen generation, *J. Mater. Chem. A*, **2013**, 1, 12835-12840. (IF: 10.77)
16. S. K. Apte, S. N. Garaje, S. D. Naik, R. P. Waichal, **B. B. Kale***, Environmentally benign enhanced H₂ production from abundant copious waste H₂S using size tuneable cubic bismuth (Bi⁰) quantum dots–GeO₂ glass photocatalyst under solar light, *Green Chem.*, **2013**, 15, 3459-3467 (Impact Factor = 9.405)
17. R. S. Diggikar, M. V. Kulkarni, G. M. Kale, **B. B. Kale*** Formation of multifunctional nanocomposites with ultrathin layers of polyaniline (PANI) on silver vanadium oxide (SVO) nanospheres by in situ polymerization, *J Mater. Chem. A*, **2013**, 1, 3992-4001(impact factor = 10.77)
18. S. K. Apte, S. N. Garaje, M. Valant, **B. B. Kale*** Eco-friendly solar light driven hydrogen production from copious waste H₂S and organic dye degradation by stable and efficient orthorhombic CdS quantum dots–GeO₂ glass photocatalyst, *Green Chem.*, **2012**, 14, 1455-1462(impact factor =9.405)

19. A. P. Bhirud, S. D. Sathaye, R. P. Waichal, L. K. Nikam, **B. B. Kale***, An eco-friendly, highly stable and efficient nanostructured p-type N-doped ZnO photocatalyst for environmentally benign solar hydrogen production, *Green Chem.*, **2012**, *14*, 2790-2798 (Impact Factor = 9.405).
20. N. S. Chaudhari, A. P. Bhirud, R. S. Sonawane, L. K. Nikam, S. S. Warule, V. H. Rane, **B. B. Kale***, Ecofriendly hydrogen production from abundant hydrogen sulfide using solar light-driven hierarchical nanostructured ZnIn₂S₄ photocatalyst, *Green Chem.*, **2011**, *13*, 2500-2506. (Impact Factor = 9.405)
21. S. K. Apte, S. N. Garaje, G. P. Mane, A. Vinu, S. D. Naik, D. P. Amalnerkar, **B. B. Kale***, A Facile Template-Free Approach for the Large-Scale Solid-Phase Synthesis of CdS Nanostructures and Their Excellent Photocatalytic Performance, *Small*, **2011**, *7*, 957-964. (Impact Factor = 8.6).
22. C. B. Park, S. H. Lee, E. Subramanian, **B. B. Kale***, S. M. Lee, J. O. Baeg, Solar energy in production of L-glutamate through visible light active photocatalyst—redox enzyme coupled bioreactor, *Chem. Commun*, **2008**, 5423–5425. (Impact Factor = 6.37)
23. T. C. Jagadale, S. P. Takale, R. S. Sonawane, H. M. Joshi, S. I. Patil, **B. B. Kale***, S. B. Ogale, N:TiO₂ nanoparticle based visible light photo-catalyst by modified peroxide sol-gel method, *J. Physical Chem. C* **2008**, *112*, 14595-14802. (Impact Factor = 4.8)
24. **B. B. Kale**, J. O. Baeg, S. M. Lee, H. Chang, S. J. Moon, C. W. Lee, CdIn₂S₄ Nanotubes and “Marigold” Nanostructures: A Visible-Light Photocatalyst, *Advanced Functional Materials*, **2006**, *16*, 1349-1354 (Impact Factor = 15.621).

11. Brief Experience:

Ph.D at CSIR-National Chemical Laboratory, Pune

The Research work is concerned with the experimental studies on high temperature gas-solid and solid-solid reactions (proceeding through gaseous intermediates) for **preparation of Multifunctional Advanced Materials**. The reaction of this type involves coupling of two gas-solid reactions in which one of them is the rate controlling reaction. (1) Synthesis of cheaper **Barium carbonate for ferrite** using barite ore via gas solid reactions: **The 5 kg batch level reactor has been designed and developed and patented. The further consultancy was given to Kores India Ltd. Cuddapa.** (2) Cheap **Iron oxide (Hematite)) synthesis for ferrite** from Iron ore using gas – solid reactions. To increase the efficiency novel and cheaper catalyst in reduction process have been developed. (3) **The pure Iron oxide (Hematite)** has also been synthesized using pyrite ore using solid –solid and gas solid reaction approach. (4) The novel advanced material i.e. **Calcium cyanamide (CaCN₂)** has been developed for JK industries. It is used in **nitrogen doping in steel and other metals/alloys required for highly specific applications**. Kinetic models have been used for all reactions. **The calcium cyanamide process has been demonstrated on 5kg batch level.** Studies on gas solid reactions involving structural changes were also carried out by using modern techniques such X-ray diffractions, Thermogravimetry and Mercury Porosimetry etc. Using this system gasification of carbon in carbon dioxide, decomposition reactions, carbon dioxide and Sulphur dioxide capture reactions with CaO were also studied. **(Energy Storage)**

Other Research work along with Ph.D work (1986-88)

- (1) Ethanol Project sponsored by UNDP (Continuous Fermentation process). At National Chemical Laboratory, Pune: The research activities included (I) Ethanol from molasses by continuous fermentation process. (ii) Ethanol from molasses using baker yeast by matrix immobilization methods (Continuous process), (iii) Ethanol from molasses by Using baker yeast (Batch process), (iv) Ethanol from molasses by using flocculent yeast (continuous process), (v) Yeast growth (Flocculent type) techniques. **Worked as a team member and demonstration of TOT was given to All Sugar factories.** (Sponsored project)
Total cost of the project was around 100 Lakhs.
- (2) Ethylene Oxide project sponsored by Engineers India Ltd. New Delhi, India. At National Chemical Laboratory, Pune **(1988- 90)**, : The research activities included : **Novel advanced reduction Catalyst Ni doped alumina, Ni impregnated Zeolites preparation and testing on Berty Reactor.** (i) Preparation of Ethylene gas by oxidation of Ethanol (ii) Ethylene Oxide preparation by oxidation of ethylene gas in a single type pilot reactor. The pilot plant has been set up and ethylene oxide has been prepared by using different catalysts. (iii) **The Project cost was 110 lakhs and worked as a team member. Deeply involved in reactor system design and development.**

Table.1 Research Experience from 1991-2004

1	Optical fibre grade Silicon Tetrachloride – In C-MET as a Chief Investigator	The project was sponsored by the OPTEL Telecommunication Ltd. And the project has been completed successfully. This project was funded by Optel Bhopal and NPC, MIT Delhi jointly (Rs.16.74 Lakhs). (1991-93)	This sponsored project was handled interdependently as a project investigator. TOT was transferred to Optel, Bhopal. (Lead the team of 21 researchers)
2	Electronic grade barium carbonate and Strontium carbonate for ferrite (sponsored project) In C-MET as a Chief Investigator	RS. 17.44 lakhs were received from EMDC, DoE, Delhi for development of these products. The process for high purity Barium carbonate and Strontium carbonate from their respective ore have been developed successfully (5 kg batch). 1992-94	The Project was sponsored project and handled as a Chief Project Investigator. (Lead the team of 5 researchers)
3	Development of MOS Chemicals In C-MET as a Chief Investigator	Electronic Industry needs some MOS and SEMI grade chemicals. The MOS grade/semi grade Hydrochloric acid and acetone have been developed upto pilot plant level (1994-95); (Rs. 20 lakhs)	The Project was sponsored project and handled as a Chief Project Investigator.
4	Electro ceramics In C-MET as a Chief Investigator	Barium Titanate for thermistors has been developed using Hydrothermal route and by precipitation route. This material has also been developed by Solid State reaction route (1995- 96)	The Project was sponsored project and handled as a Chief Project Investigator.

5	Award of Boyscast fellowship from Department of Science and Technology (DST) in 1996 (At University of Leeds, UK)	Boyscast fellowship training has been undergone in School of Materials at University of Leeds, UK. Under this scheme the work on GeS₂ based Optical Fibre glasses have been prepared. The non-linearity of these glasses have been studied for the devices.	Project On Chalcogenide Glasses For Optical Fibre Applifiers
6	Removal of arsenic and Fluoride from ground / waste water.(1998)	Project was sponsored by the DST (8.00Lakhs). The 200 lit capacity models was developed and demonstrated.	The Project was sponsored project and handled as a Chief Project Investigator.
7	Nanocrystalline optical glasses In C-MET as a Chief Investigator (1999-2006)	CdS and CdSSe doped glasses for the space and defense have been developed. The project was sponsored by ISRO (12 Lakhs) and DST (10.00 Lakhs). The project has been completed successfully	The Project was sponsored project and handled as a Chief Project Investigator.
8	Development of cathode materials for Lithium Rechargeable battery In C-MET as a Chief Investigator (2000- 2004)	The cathode materials like LiMn ₂ O ₄ and Li-cobaltate, LiNiO ₂ were prepared by solution route and sol gel method. The process was optimized at 100gm batch scale. The cathode materials prepared by these process shown good charge discharge capacity. The prototype Lithium ion cells have been fabricated using cathode materials and demonstrated. The project was funded by the Ministry of Non Conventional and Energy Source (MNES) of Rs. 16.57 Lakhs. (2000-2004)	The Project was sponsored project and handled as a Chief Project Investigator.
9	Visit to South Korea under Brain pool Fellowship 2004-05	Visible light driven photocatalyst for water and hydrogen sulfide splitting: Hydrogen generation for fuel cell. : Oxide semiconductors and 8halcogenides. 50 catalyst have been developed and few have been patented	Project On Hydrogen Generation Using Nanostructured Semiconductors
10	Development of Nanocrystalline semiconductor oxides and other oxides	Mn₃O₄, MnO₂, ZnO, ZrO₂, TiO₂, Fe₂O₃, CdS, ZnS have been developed for electronic applications (1999-2004)	The Project was Core project and handled as a Chief Project Investigator.
11	Electroless Nickel plating for electronics	Process for coating pure Ni and Ni-P on SS and MS has been developed.	The Project was core project and handled as a Chief Project Investigator.

12. Research Experience from 2004-till date.

12.1. Number of Projects as a Chief Investigator:

Research Experience from 1991-2004

1	Optical fibre grade Silicon Tetrachloride – In C-MET as a Chief Investigator	The project was sponsored by the OPTEL Telecommunication Ltd. And the project has been completed successfully. This project was funded by Optel Bhopal and NPC, MIT Delhi jointly (Rs.16.74 Lakhs). (1991-93)	This sponsored project was handled interdependently as a project investigator . TOT was transferred to Optel, Bhopal. (Lead the team of 21 researchers)
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6	Removal of arsenic and Fluoride from ground / waste water. (1998)	Project was sponsored by the DST (8.00 Lakhs). The 200 lit capacity models was developed and demonstrated.	The Project was sponsored project and handled as a Chief Project Investigator.
7	Nanocrystalline optical glasses In C-MET as a Chief Investigator (1999-2006)	CdS and CdSSe doped glasses for the space and defense have been developed. The project was sponsored by ISRO (12 Lakhs) and DST (10.00 Lakhs). The project has been successfully completed	The Project was sponsored project and handled as a Chief Project Investigator.

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9	Visit to South Korea under Brain pool Fellowship 2004-05	Visible light driven photocatalyst for water and hydrogen sulfide splitting: Hydrogen generation for fuel cell. : Oxide semiconductors and 10halcogenides. 50 catalyst have been developed and few have been patented	Project On Hydrogen Generation Using Nanostructured Semiconductors
10	Development of Nanocrystalline semiconductor oxides and other oxides	Mn_3O_4, MnO_2, ZnO, ZrO_2, TiO_2, Fe_2O_3, CdS, ZnS have been developed for electronic applications (1999-2004)	The Project was Core project and handled as a Chief Project Investigator.
11	Electroless Nickel plating for electronics	Process for coating pure Ni and Ni-P on SS and MS has been developed.	The Project was core project and handled as a Chief Project Investigator.

12.2. Research Experience from 2004-till date.

▪ Number of Projects as a Chief Investigator:

S. No.	Funding agency	Nature of project	Duration of Project	Amount of grant (in Lakhs Rupees)
1	MeitY-NPC, New Delhi	Development of optical fiber grade SiCl_4	1992-1995	16.74
2	MeitY-EMDC, New Delhi	Development of electronic grade $\text{BaCO}_3/\text{SrCO}_3$	1992-1995	17.44
3	MNRE, New Delhi	Development of cathode materials for lithium rechargeable batteries	1999-2003	16.00
4	ISRO	Development of optical cut off filters	2000-2002	10.00
5	DST, New Delhi	Growth of CdS/Se wide band gap semiconductor in glass matrix	2004-2007	10.00
6	BRNS, Mumbai	TiO_2 –Phosphate Glass Nanocomposite for Nonlinear Optical Application	2004-2007	16.41
7	EMDC, MeitY, New Delhi	Development of Lead-Free X-ray Absorbing Materials	2007-2010	112.00

8	ISRO, Bangalore	Development of nanostructured binary spinel sulphide for hydrogen generation using solar energy	2007-2009	10.21
9	DST, New Delhi	Development of solar light driven nanostructured ZnIn ₂ S ₄ photocatalyst for hydrogen generation	2009-2012	20.00
10	MNRE, New Delhi	Development of nanostructured semiconductor chalcogenide spinels visible light photocatalyst for hydrogen generation	2009-2012	22.40
11	MeitY under Nano-initiative Program, MeitY, New Delhi	Q-semiconductor-glass nanocomposites for optical and energy (using solar light) applications.	2010-2014	451.00
12	MeitY, New Delhi	Development of Prototypes Aprons, Glass Sheets and Curtains from Lead free X-Ray absorbing Materials	2011-2014	112.58
13	MeitY, New Delhi	Development of Optical isolators Using Quantum Dots based Photonic Glasses	2012-2015	156.08
14	ISRO, Bangalore	Development of stable Pt and Ni doped nanostructured ternary semiconductor catalysts for solar hydrogen production by water splitting.	2012-2014	10.98
15	MNRE, New Delhi	Development of the prototype photoreactor for the hydrogen production from H ₂ S under natural sunlight	2014-2017	23.90
16	DST, New Delhi	Novel solar light driven Bismuth sulfide quantum dot-glass nanocomposite photocatalyst for hydrogen generation	2014-2017	27.00
17	MeitY, New Delhi	WS ₂ -glass nanocomposite for gamma shielding.	2014-2015	53.00
18	MeitY, New Delhi	Development of active materials (cathode and anode) and electrolytes for high energy density lithium-ion cell/ battery with fabrication of prototype cell.	2013-2016	498.00
19	BRNS, Mumbai	Development of Nanostructured PdTe powder for Thermoelectric Application.	2014-2016	18.00
20	DRDO, New Delhi	Development of visible light Active Titanium oxynitride and Titanumoxynitride Photo catalysts for H ₂ O	2014-2017	44.00
21	MeitY, New Delhi	Development glass microspheres for hydrogen storage	2014-2015	31.00
22	MeitY, New Delhi	Development of mono dispersed Copper and Aluminum nanoparticles using Plasma with OES attachment	2014-2015	57.00
23	MeitY, New Delhi	Prototype Development of Fuel Cell using nano functional materials. (In Collaboration with NIT, Warangal)	2014-2017	31.00
24	Modison Metals Ltd. Vapi	Development of microcrystalline silver powder for photovoltaic cells and EMI shielding applications	2016-2017	26.44
25	DST, New Delhi	Flexible solid-state supercapacitor device	2017-2020	18.60

26	DST, New Delhi	Novel Nanostructured HighPerformance Anode materials for High Energy Na-ion Batteries	2017-2020	68.27
27	MOIL India Ltd, Nagpur	Development of Manganese Ferrite	2018-2020	24.77
28	ISRO, Bangalore	Synthesis of nano sized AlN ceramic powder by Transferred Arc Plasma Reactor for electronic packaging applications	2018-2020	28.77
29	ISRO, Bangalore	Nanostructure NMC As A Cathode Material for Rechargeable Lithium Ion Batteries	2018-2021	25.54
30	BEL, Pune	Development of Reserve Battery (Ongoing Project)	2020-2022	20.60
31	MeitY, New Delhi	Development of hybrid battery power module with indigenously developed Super capacitor and Li-ion Cell (Ongoing Project)	2019-2020	69.70
32	MeitY, New Delhi	Three-Dimensional Nanostructure based Miniaturized and Flexible rechargeable lithium batteries for flexible electronics. (Ongoing Project)	2018-2002	456.05
33	MeitY, New Delhi	Creation of Research Facility and Training to SC/ST and women (Ongoing Project)	2019-2022	141.00
34	MeitY, New Delhi	Centre of Excellence on Additive Manufacturing (CoE-AM) (Ongoing Project)	2020-2023	896.55
35	MeitY, New Delhi & Industry	Centre of Excellence in Rechargeable Batteries (Ongoing Project)	2019-2024	2085.00
36	MeitY, New Delhi & Industry	National Centre on Quantum Materials Technology (NCQMT) (Ongoing Project)	2022-2027	5100.00
37	DST, New Delhi	Nanoscience& Q-Dot Systems: A Bridge Between Energy & Environment for Sustainable Development (Ongoing Project)	2022-2025	150.00
38	MOIL India Limited, Nagpur	Development of Nanostructured LiMn ₂ O ₄ as a Cathode Material for Lithium-Ion Batteries (Ongoing Project)	2022-2024	24.96
39	Graphite India Limited	Development of battery grade graphite (Ongoing Project)	2022-2022 (6 months)	18.00
40	MeitY, New Delhi	COE-AM: Additive manufacturing-based cost-effective optical computing chips (Ongoing Project)	2021-2025	484.13
International Projects				
1	DST, New Delhi	Solar hydrogen production using Nanostructured Fe:TiO ₂ and N:TiO ₂ thin film sand powders. Prof. Dr. Matjaz Valant Head of Materials Research Laboratory Dean of School of Environmental Sciences University of Nova Gorica Vipavska 11c, 5270 Ajdovscina, Slovenia	2010-2013	9.14
2	DST, New Delhi	Nanotechnology: Synthesis and Sensing applications. (Indo-Japan)	2014-2016	8.50
3	DST, New Delhi	Efficient wastewater treatment using novel catalyst. (Indo-UKIERI)	2014-2017	4.91

4	The Royal Society of London, United Kingdom	“Engineering of a Q-dot Based Solar Radiation Harvester for Enhanced Water Evaporation and Nano Filtration” (Royal Society International Collaboration Award) (Indo-UK)	2018-2022	30.75 (£225,000.00)
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13. Significant Achievements with Innovations:

- 1. Polymeric materials were designed for the testing of the swab for Covid 19**
- 2. Nanomaterial coated antibacterial face mask were prepared for protecting from Covid 19 infection**
3. The process for Optical fibre grade SiCl_4 (99.99%) for optical fiber cables have been developed and process has been given to Optel, Bhopal. 500Liters of SiCl_4 supplied and tested in optical fiber cables.
4. Process for High surface area Mn_3O_4 for ferrite: Transferred to Sterling Oxide, Delhi (2.24 lakhs): Demonstrated 5 kg batch process.
5. Process for Arsenic and Fluoride removal from drinking water: 200 litres capacity model has been established under DST program.
6. Process for Electro-ceramic Grade BaCO_3 and SrCO_3 for ferrite (2kg batch) has been developed. Demonstration has been given to Permanent magnets, Mumbai
7. Process for making optical cut off filters (475nm, 575nm and 715nm) for remote sensing camera of Satellite. **The CdS and CdSe semiconductor quantum dots** in silica and germanium glasses have been grown with specific compositions. The TOT has been ready and ISRO will use it at any time (Exclusively for ISRO).
8. The process for hydrogen production under sunlight using the Q-CdS and CdSe-glass from H_2S has been optimized on pilot scale (innovative process). He has invented that quantum dots in glasses confer good hydrogen production under natural sunlight using waste H_2S . The patent has been filed and the conceptual process has also been demonstrated to Excel India Ltd. Mumbai. Recently, IOCL has also shown interest in this process and they are conducting the feasibility of this concept. The TOT is ready for transfer.
- 9. Ag_3PO_4 Quantum dots of size 2-5nm developed in glass (Invention).** Dr. Kale has demonstrated for the first time that glass with quantum dots of Ag_3PO_4 can be used as a photocatalyst for hydrogen production under natural sunlight from H_2S and water. **These nanostructures also used for water purification under natural sunlight (Innovative process).**
- 10. The Hierarchical nanostructures (TiO_2 , N@TiO_2 , N@ZnO , N@ZnWO_4 , MoS_2 , etc) have been developed for the production of hydrogen from water under natural sunlight.**
- 11. New nanostructured Lead free X-ray absorption materials have been developed which showed 0.25 Pb equivalence.** The prototype light weight biomedical apron has been developed using these materials. The TOT is under progress for this product. Two parties have shown interest in this technology. (TOT cost Rs. 33 lakhs)
- 12. Lead Free X-ray absorbing transparent glass has been developed and shows 0.5 Pb lead equivalence.** These will be used as X-ray windows and in X-ray machines. Dr Kale has shown that Bismuth quantum dots in glass absorb X-Rays 100% (Innovation). The U.S patent has been filed. TOT is ready for transfer.

13. Developed conducting polymer based inks and made circuit patterns on simple transparency. The highly efficient humidity sensors have also been made using these flexible circuits. **Also, developed silver-conducting polymer nanocomposite ink** for sensor applications (patent is filed).
14. **Conducting fabrics of Multiwall carbon nanotubes-conducting polymer** has been developed and can be used for variety of applications.
15. **Developed Pt/Ni alloy nanoparticles** as catalyst for fuel cell application. The catalyst is 20 % cheaper than pure Pt catalyst. The TOT is ready.
16. **Lithium and sodium ion battery fabrication facility has been established.** The cathode materials such as LiCOO_2 , LiFePO_4 , LiMnO_4 and LiNiO_2 have been developed indigenously. The anode materials such as $\text{Li}_4\text{Ti}_5\text{O}_{12}$ and hard carbon have been developed indigenously. Large pouch and Button cells have been demonstrated. The TOT document has been made and now the TOT is announced.
17. **Honeycomb MoS_2 nanostructure** investigated for the first time. It has been showing extremely good capacity for Na-ion battery. The full cell will be developed very soon.
18. Investigated perforated graphene from biomass for battery and supercapacitors applications. (Invention). It shows very high capacity for Sodium ion battery.
19. **Solid state glass electrolyte and polymer electrolyte has been developed. (Invention). Solid state battery has been demonstrated using polymer electrolyte.**
20. Highly porous carbon from potato and banana has been investigated which shows good super capacitive as well as Li-ion battery performance. (Applied for the patent)
21. **The process for CdS based photopatternable silver paste has been developed. TOT has been transferred to Ant Ceramics , Mumbai (Rs. 15 lakhs)**
22. **Flexible and rollable Li-ion cell has been demonstrated. The performance on different bending position is also demonstrated.**
23. **CdIn_2S_4 and ZnIn_2S_4 nanostructures developed for hydrogen production**
24. **Glass and polymer electrolyte (Novel approach) for flexible and Li-ion and Na-ion battery**
25. **Organic cathodes and anodes for Li ion battery have been developed**
26. **The Bi-Sn and Sn-Sb alloy nanopowder (20nm) have been developed which showed good X-ray absorption. The patent writing of the same is in progress**
27. NaFeMoO_4 is a new compound investigated with crystal structure for Sodium ion battery. (Invention)

14. OTHER ACTIVITIES:

- Prepared Nanosized Conducting Polypyrrole and its nanocomposites with silver *via* in-situ polymerization completed its physico-chemical characterization with various analytical techniques.
- The synthesized polypyrrole nanofibers were tested for antibacterial/antimicrobial activities and for the Urea biosensor application.
- Prepared ZnO-Polyaniline nanocomposite for sensor application.

- Prepared Silver/Gold/Cobalt - Polyaniline nanocomposite for sensor application
- Optimized Synthesis of Polyaniline- V_2O_5 Nanocomposite for battery applications.
- In-situ synthesis of MWCNT – PMMA nanocomposite.
- Synthesis and characterization of Graphene Oxide – Polyaniline nanocomposite
- CdS-polyamide nanocomposite
- Fluorine doped conducting polymers
- Synthesis of carbon dot
- Synthesis of ZnO/N-ZnO, TiO_2 , N- TiO_2 –graphene nanocomposites.
- Synthesis of graphene in glass matrix
- PbTe nanoparticles for thermoelectric
- $BaSrBi_2S_4$ and $SrBi_2S_4$ nanorods for Field emission.
- Development of Sonochemical reactor
- Development of $BaBi_2S_4$ on reaction calorimeter.
- Development of stable Copper nanoparticles using co-precipitation method.
- Growth of $LiVO_3$ nanoparticles in Polyaniline
- Synthesis of $LiVO_3$ by hydrothermal.
- Synthesis of CdS/ZnS core shell by solid state method.
- $ZnIn_2S_4$ by microwave
- CdS quantum dots for magneto-optical application.
- Cu@ZnO for sensors.

15. ADMINISTRATIVE RESPONSIBILITIES:

- Overall in charge of FESEM and XRD characterization.
- Chairman Purchase committee
- Member Laboratory Management committee.
- Writing publications, papers, report, patents and proposals.
- Guidance to all projects (Project staff) mentioned above and Ph.D students (22 No.)

- **Director, C-MET, Pune (since March 2014)**
- **Director General (A) (since 1st June 2020) Additional Charge.**
- **Director General, Centre for Materials for Electronics Technology**

16. TECHNOLOGIES COMPLETED AND STATUS

Technology Transferred/Patents, If any.

a) Technologies Completed and Transferred:

1. Alcohol by continuous fermentation process (NCL) : Transferred
2. Optical Fibre Grade Silicon Tetrachloride (99.999): Transferred to Optel , Bhopal
3. Electronic Grade Barium and Strontium carbonate for ferrite : Cosmo ferrite and ACC Thane (demonstrated)
4. Removal of Arsenic and fluoride from ground/waste water: 200 liter prototype model. Demonstrated
5. MOS grade Isopropyl alcohol : Transferred to Local Industry (Sharad Gore)
6. Characterization of H₂O₂ for Asian peroxide - (1.00 lac)
7. Chlorination of Organic compounds by NCL / GE (0.25 lakhs)
8. BET Improvement of Manganese oxides from M/S Sterling oxide- (2.25 Lacs) : Consultancy
9. Development of Lead Free X-ray shielding nanomaterials and Nanocrystalline glasses (TOT announced in newspapers)
10. Development of Lead free light weight X-ray protective Biomedical apron. (TOT announced in newspapers)
11. Hydrogen production from H₂S using Semiconductor glass Nanocomposites under solar light (Interest shown by IOCL and ONGC)
12. Large Scale synthesis of CdS nanoparticles – Technology ready
13. Large scale synthesis of ZnS Nanoparticles – Technology ready
14. Development of N-TiO₂ and N- ZnO for Hydrogen production - Technology ready
15. Development of Nanostructured Spinel's, CdIn₂S₄ and ZnIn₂S₄ for Hydrogen production under solar light - Technology ready
16. Optical cut off filters for ISRO: Demonstrated (50 mm diameter)
17. Lithium ion battery electrode materials (TOT ready)
18. Lithium ion battery fabrication (TOT ready)
19. Fuel cell nanocatalyst, PtNi, PtCoNi, PtNiC (TOT ready)
20. PEM fuel cell fabrication process (TOT ready)

21. Magneto optical glasses (Novel product)
22. Perforated graphene (Novel product)
23. Quantum dot glasses (new products)
24. Honey comb structured MoS₂ for battery (new product)
25. Nanohetrostructures such as CdS@ZnWO₄, CdS@MoS₂

b) Patents: 22

- 1 Barium Zirconium Oxide (BaZrO₃.BaCO₃) Nanoparticles. **Bharat B. Kale**,* Milind V. Kulkarni, Rajendra P. Panmand, Ujjwala V. Kawade, Sanjay K. Apte, Sonali D. Naik, Jalindar D. Ambekar, Ravindra S. Sonawane, R. Marimuthu, Dinesh P. Amalnerkar, Nilofer Shroff, Sandip Chatterjee, US Pat No 20140170088 Dated 19.06.2014. (Granted)
- 2 X-Ray Shielding Materials And Method Of Preparation Thereof, **Bharat B. Kale**,* Milind V. Kulkarni, Rajendra P. Panmand, Ujjwala V. Kawade, Sanjay K. Apte, Sonali D. Naik, Jalindar D. Ambekar, Ravindra S. Sonawane, R. Marimuthu, Dinesh P. Amalnerkar, Nilofer Shroff, Sandip Chatterjee, US 2015/0287485 A1, Dated 8.10.2015. And Wo/2014/097316 Published Date 26/6/2014 (Granted)
- 3 Solar Light Driven Hydrogen Production By Novel Orthorhombic CdS Qds GeO₂, Glass Nanocomposite. Sanjay K. Apte, **Bharat B. Kale**,* Sunil N. Garaje, Milind V. Kulkarni, Ravindra S. Sonawane, Sonali D. Naik, Jalindar D. Ambekar, G. V. Ramaraju And Ramesh Chanda Submitted To Meity: Dec 2011. (Indian Patent Filed No. 3529/Mum/2012)
- 4 A Process For Preparing ZnIn₂S₄ Nanoparticles And Uses Thereof. Kale Bharat B., Sonawane Ravindra S., Chaudhari Nilima S., Bhirud Ashwini P., Kulkarni Milind V, Naik Sonali D., Apte Sanjay K And Ambekar Jalindar D. Jan 2014 (Application No 352/Mum/2014)
- 5 Barium Zirconium Oxide (BaZrO₃.BaCO₃) Nanoparticles, **Bharat B Kale***, Milind V. Kulkarni, Rajendra P. Panmand, Ujjwala V Kawade, Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane And Dinesh P. Amlanerkar, Sandip Chatterji , Nilofer Shroff (Indian Patent Filed No. 3550/Mum 2012)
- 6 X-Ray Shielding Materials And Methods Of Preparation Thereof. **Bharat B Kale***, Milind V. Kulkarni, Rajendra P. Panmand, Ujjwala V Kawade, Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane, Dinesh P. Amlanerkar, Sandip Chatterji , Nilofer Shroff (Indian Patent Filed No. 3551/Mum 2012)
- 7 Cadmium Sulfide In GeO₂ Based Glass Nanocomposite, Sanjay K. Apte, **Bharat B. Kale***, Sunil N. Garaje, Milind V. Kulkarni, Ravindra S. Sonawane, Sonali D. Naik, Jalindar D. Ambekar, G. V. Ramaraju And Ramesh Chand (Indian Patent Filed No. 3529/Mum/2012)
- 8 Development Of Polyaniline Multi Wall Carbon Nanotubes Coated Electrically Conductive Fabrics, Milind V. Kulkarni, **Bharat B Kale***, Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane , Dinesh P. Amlanerkar. (Filed An Indian Patent) (Patent Application No. 2141/Mum/2011).
- 9 Development of Ink Jet Printable Conducting Polyaniline Based Ink For Flexible Electronic Application. Milind V. Kulkarni, **Bharat B Kale***, Sanjay K Apte, Sonali D Naik, Jalindar D

- Ambekar, Ravindra S Sonawane, (Filed An Indian Patent) (Patent Application No. 2140/Mum/2011).
- 10 Method for Preparing Magneto-Optical Glass Comprsing Bi_2Te_3 Nanocrystals. **Bharat B Kale***, Milind V. Kulkarni, Rajendra P Panmand , Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane , Dinesh P. Amlanerkar. Sandip Chatterji And Nelofer Shroff (Filed An Indian Patent) (Patent Application No. 242/Mum/2013). Publication Date 14/11/2014.
 - 11 Method For Fabrication Of Bi_2S_3 Glass Nanocompiste Comprsing Mn^{2+} , **Bharat B Kale***, Milind V. Kulkarni, Rajendra P Panmand , Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane, Dinesh P. Amlanerkar, Sandip Chatterji And Nelofer Shroff (Filed An Indian Patent) (Patent Application No. 467/Mum/2013).
 - 12 A Process Of Preparation Of Cadmium Sulphide/Glass Nanocomposite Containing CdS Quantum Dots Sanjay K Apte, **Bharat B Kale***, Milind V. Kulkarni, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane (Patent No 255381) (**Granted 2013**)
 - 13 Glass Composite And Method Of Preparation Thereof, **Bharat B Kale***, Milind V. Kulkarni, Ravindra S Sonawane, Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Suresh W. Gosavi, (Patent Application No.1504/Mum/2014, Dated, 30.04.2014).
 - 14 Partial Replacement of Pt Catalyst Using Non-Noble Functional Nanomaterials, S. H. Sonawane, Prashant L. Suryawanshi And P. Rajesh Kumar, **Bharat B. Kale***, Milind Kulkarni (Granted 2015) Application No.: 5619/Che/2015 A, Publication Date: 19/10/2015
 - 15 Shirish Sonawane Prashant, Surywanshi, Rajesh Kumar, **Bharat B Kale*** “Constructive Design and Fabrication of Polymer Electrolyte Membrane (Pem) Fuel Cell Stack and Its Components”. Application No E-101/22190/2017-Che 201741033677 Dated 09/22/2017
 - 16 Q-Cds /Glass Nanocomposite Conating CdS Quantum Dots. **Bharat B. Kale***S. K. Apte, R. S. Sonawane, S. D. Naik Patent No. 255382
 - 17 Development of New Claus Process for Photocatalytic Decomposition Of H_2S Using Novel Metal Oxide Photocatalyst. J. S. Yoo, J. O. Baeg, C. W. Lee, **Bharat B Kale***, and W. Dong, Korea Patent No 04-0083366 (Oct. 19, 2004).
 - 18 Improvement In Process Related To Preparation Of High Surface Area Hausmannite (Mn_3O_4) Powder: **Bharat B Kale***, S.K. Apte, R.S. Sonawane, A.V. Murugan And B.K. Das: Registered No. 942/Del/ 2002 –; Patent. No 248285
 - 19 A Novel Process for the Preparation of Nano-Structured Organo-Inorganic Hybrid Materials as High Energy Density Cathode for Rechargeable Lithium Battery: A. V. Murugan, **Bharat B Kale***, B. K. Das and Vijayamohan: **Registered No. 915/Del/2002.**
 - 20 An Improved Process for the Production of Calcium Cynamide **Bharat B. Kale***, S. B. Jagtap, A.R. Pande, V.G. Neurgaonkar and A.N. Gokarn Indian Patent Filed (CSIR Patent No. 705/Del/91).
 - 21 Proposed Complete Application for "Synthesis of lithium nickel Manganese cobalt oxide $\text{LiNi}_{0.36}\text{Mn}_{0.33}\text{Co}_{0.31}\text{O}_2$ as a cathode material for high energy density lithium ion batteries" **Bharat B Kale***, Milind V. Kulkarni, Rajendra P Panmand , Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane.

- 22 Synthesis of Lithium Iron phosphate and carbon coated LiFePO_4 as a cathode material for high energy Density lithium ion batteries. **Bharat B Kale***, Milind V. Kulkarni, Rajendra P Panmand , Sanjay K Apte, Sonali D Naik, Jalindar D Ambekar, Ravindra S Sonawane. Submitted on February 2019.
- 23 Solvate Ionic Liquid Incorporated CTA Nanofibre as an Electrolytic System for Rechargeable Li-ion Batteries **Bharat B. Kale**, Dr. Milind V. Kulkarni, Dr. Ramchandra S. Kalubarme, Dr Nageshwar Khupse, Rushikesh Kale, Sahebrao S More, (Submitted for Indian Patent).
- 24 Ionic Liquid based Solid Polymer Electrolyte for All solid-state Flexible Lithium-ion Batteries **Bharat B. Kale**, Milind V. Kulkarni, Ramchandra S. Kalubarme, Nageshwar Khupse, Ms. Reshma S Ballal, Rushikesh Kale, (Submitted for Indian patent).
- 25 Sol-gel synthesized $\text{Na}_3\text{V}_2(\text{PO}_4)_3$ as stable cathode material for sodium-ion batteries: A bulk synthesis approach **Bharat B. Kale**, Dr. Ramchandra S. Kalubarme, Dr Ravidra Sonavane, Ranjiot Kate, " (Submitted for Indian Patent).

17. List of Publications: 274

	All
Citations	9820
h-index	54
i10-index	182

S. No.	TITLE	Cited	YEAR
1.	R S Kate, H M Pathan, R Kalubarme, B B Kale , R J Deokate, Spray pyrolysis: Approaches for nanostructured metal oxide films in energy storage application, <i>J Energy Storage</i> , 2022 , 54, 105387		2022
2.	K. M. Joshi, A. Shelar, U. Kasabe, L. K. Nikam, R. A. Pawar, J. Sangshetti, B. B. Kale, A. V Singh, R. Patil, M. G. Chaskar, Biofilm inhibition in <i>Candida albicans</i> with biogenic hierarchical zinc-oxide nanoparticles <i>Biomaterials Advances</i> 2022 , 134, 112592		2022
3.	S. Kanade, M. Gautam, A. Ambalkar, Y. Sethi, M. O. Thotiyl, B. B Kale,* A. B. Gambhire*, Multilayered Vanadium Carbide-Reduced Graphene Oxide (VC@ rGO) Nanocomposite as an Ultrahigh-Capacity Anode Material for Li-and Na-Ion Batteries, <i>ACS Appl. Energy Mater.</i> 2022 , 5, 1972–1983		2022
4.	T. C. Nirmale, N. D. Khupse, R. S. Kalubarme, M. V. Kulkarni, A. J. Varma, B. B. Kale* Imidazolium-Based Dicationic Ionic Liquid Electrolyte: Strategy toward Safer Lithium-Ion Batteries, <i>ACS Sustainable Chem. Eng.</i> 2022 , 10, 8297–8304		2022
5.	S. S. More, N. D. Khupse, J. D. Ambekar, M. V. Kulkarni, B. B. Kale* Ionic Liquid Supported Interpenetrating Polymer Network Flexible Solid Electrolytes for Li-Ion Battery <i>Energy & fuel</i> . 2022 , 36, 4999-5008.		2022
6.	M. S. Tamboli, S. A. Patil, A. M. Tamboli, Santosh S Patil, N. T. N. Truong, K. Lee, C. S. Praveen, N. K. Shrestha, C. Park, B. B. Kale* Polyaniline-wrapped MnMoO ₄ as an active catalyst for hydrogen production by electrochemical water splitting, <i>Dalton Trans.</i> , 2022 , 51, 6027-6035		2022
7.	S. Salunke, S. T. Salunke, R. J. Deokate, B. B. Kale* Tuning of photoluminescence behavior of gold coated chitosan-polyvinyl alcohol binding with graphene quantum dots, <i>Materials Proceedings</i> , 2022 , 62, 1752-1757.		2022

S. No.	TITLE	Cited	YEAR
8.	S. C. Kanade, A. A. Ambalkar, Y. A. Sethi, M. O. Thotiyl, B. B. Kale , A. B. Gambhire, A Nanostructured Mo ₂ C-rGO Heterostructure as a stable Anode with ultra-high capacity for Lithium-Ion Battery, <i>ChemistrySelect</i> , 2022 , 7, e202104252		2022
9.	T. Patil-Bhole, A. Wele, R. Gudi, K. Thakur, S. Nadkarni, R. Panmand, B. B. Kale* , Nanostructured gold in ancient Ayurvedic calcined drug 'swarnabhasma' <i>J. Ayurveda Integrative Medicine</i> 2021, 12, 640-648.		2021
10.	A. M. Tamboli, M. S. Tamboli, P. K. Dwivedi, C. S. Praveen, I. Karbhal, M. V. Shelke, B. Kim, C. Park and B. B. Kale* , Engineering microstructure of LiFe(MoO ₄) ₂ as an advanced anode material for rechargeable lithium-ion battery, <i>J Mater Sci: Mater Electron</i> , 2021 , 32, 24273–24284		2021
11.	A. M. Tamboli, M. S. Tamboli C. S. Praveen, P. K. Dwivedi, I. Karbhald, S. W. Gosavi, M. V. Shelke, B. B. Kale* , Architecture of NaFe(MoO ₄) ₂ as a novel anode material for rechargeable lithium and sodium ion batteries <i>Applied Surface Science</i> , 2021 , 559, 149903		2021
12.	S. Jadhav, R. S. Kalubarme, N. Suzuki, C. Terashima, B. Kale , S. W. Gosavi, M. Ashokkumar, A. Fujishima, Probing electrochemical charge storage of 3D porous hierarchical cobalt oxide decorated rGO in ultra-high-performance supercapacitor <i>Surface and Coatings Technology</i> , 2021 , 419, 27287		2021
13.	P. R. Dusane, D. S. Gavhane, P. S. Kolhe, P. K. Bankar, B. R. Thombare, G. S. Lole, B. B. Kale , M. A. More, S. I. Patil, Controlled decoration of palladium (Pd) nanoparticles on graphene nanosheets and its superior field emission behavior <i>Materials Research Bulletin</i> , 2021 , 140, 111335		2021
14.	S. B. Kale, U. P. Chothe, B. B. Kale , M. V. Kulkarni, S. Pavitran, S. W. Gosavi Synergetic Strategy for the Fabrication of Self-Standing Distorted Carbon Nanofibers with Heteroatom Doping for Sodium-Ion Batteries, <i>ACS Omega</i> , 2021 , 6, 15686–15697.		2021
15.	U. Chothe, C. Ugale, M. Kulkarni, B. B. Kale* Solid-State Synthesis of Layered MoS ₂ Nanosheets with Graphene for Sodium-Ion Batteries, <i>Crystals</i> , 2021 , 11, 660		2021
16.	T. Patil, S. Varghese, R. Sonavane, B. B. Kale* , Estimation of mercury levels in blood by GFAAS after administration of two variants of Shwasakuthara Rasa in human volunteers, <i>IP International Journal of Comprehensive and Advanced Pharmacology</i> , 2021 , 6, 31.		2021

S. No.	TITLE	Cited	YEAR
17.	N. Nasani, Z. Shakel, F. JA Loureiro, B. B. Panigrahi, B. B. Kale* , D. P. Fagg, Exploring the impact of sintering additives on the densification and conductivity of BaCe _{0.3} Zr _{0.55} Y _{0.15} O _{3-δ} electrolyte for protonic ceramic fuel cells, <i>J. Alloys and Compounds</i> , 2021 , 862, 158640.		2021
18.	R. Kate, S. Khore, R. Chauhan, U. Kawade, S. Naik, B. B. Kale* , S. Apte, Solid state low temperature synthesis approach for ZnO-ZnS nanoheterostructure with functionality as a photocatalyst for H ₂ production and for DSSC, <i>J. Alloys and Compounds</i> , 2021 , 858, 158348.		2021
19.	S. M. Jadhav, R. S. Kalubarme, N. Suzuki, C. Terashima, J. Mun, B. B. Kale* , S. W. Gosavi, A. Fujishima, Cobalt-Doped Manganese Dioxide Hierarchical Nanostructures for Enhancing Pseudocapacitive Properties, <i>ACS Omega</i> 2021 , 6, 5717.		2021
20.	R. S. Kalubarme, C. -J. Park, B. B. Kale , S. W. Gosavi, Highly crystalline antimony oxide octahedron: an efficient anode for sodium-ion batteries <i>J Mater Sci: Mater Electron</i> , 2021 , 32, 3809		2021
21.	S. B. Kale, T. C. Nirmale, N. D. Khupse, B. B. Kale , M. V. Kulkarni, S. Pavitran, S. W. Gosavi, Cellulose-Derived Flame-Retardant Solid Polymer Electrolyte for Lithium-Ion Batteries, <i>ACS Sustainable Chem. Eng.</i> 2021 , 9, 1559.		2021
22.	Y. A. Sethi, A. K. Kulkarni, A. A. Ambalkar, R. P. Panmand, M. V. Kulkarni, S. W. Gosavi, B. B. Kale* Efficient solar light-driven hydrogen generation using an Sn ₃ O ₄ nanoflake/graphene nanoheterostructure, <i>RSC Adv.</i> , 2021 , 11, 29877.		2021
23.	S. Jadhav, R. S. Kalubarme, N. Suzuki, C. Terashima, B. Kale , S. W. Gosavi, M. Ashokkumar, A. Fujishima, Probing electrochemical charge storage of 3D porous hierarchical cobalt oxide decorated rGO in ultra-high-performance supercapacitor <i>Surface and Coatings Technology</i> , 2021 , 419, 27287		2021
24.	P. R. Dusane, D. S. Gavhane, P. S. Kolhe, P. K. Bankar, B. R. Thombare, G. S. Lole, B. B. Kale , M. A. More, S. I. Patil, Controlled decoration of palladium (Pd) nanoparticles on graphene nanosheets and its superior field emission behavior <i>Materials Research Bulletin</i> , 2021 , 140, 111335		2021
25.	S. R. Damkale, S. S. Arbuj, G. G. Umarji, S. B. Rane, B. B. Kale Highly crystalline anatase TiO ₂ nanocuboids as an efficient photocatalyst for hydrogen generation, <i>RSC Adv.</i> , 2021, 11 , 7587-7599.		2021

S. No.	TITLE	Cited	YEAR
26.	R. P. Panmand, S. P. Tekale, K. D. Daware, S. W. Gosavi, A. Jha, B. B. Kale* Characterisation of spectroscopic and magneto-optical faraday rotation in Mn ²⁺ - doped CdS quantum dots in a silicate glass, <i>J. Alloys Comp.</i> 2020, 152696		2020
27.	S. P. Takle, O. A. Apine, D. B. Bankar, A. S. Tarlekar, N. N. Bhujbal, B. B Kale,* Ravindra S Sonawane Sunlight mediated degradation of spent wash using hydrothermally synthesized orthorhombic shaped Cu–TiO ₂ nanoparticles, <i>New J. Chem.</i> , 2020, 44 , 17724-17734		2020
28.	S. K. Khore, S. R. Kadam, B. B. Kale , R. S Sonawane, A green approach: scalable dry media synthesis of a γ -TaON photocatalyst for solar H ₂ production and rhodamine B degradation, <i>Sustainable Energy & Fuels</i> , 2020, 4, 4671-4678		2020
29.	M. S. Tamboli, H. S. Jadhav, D. R. Patil, A. F. Shaikh, S. S. Patil, J. G. Seo, H. Choi, S. W. Gosavi, B. B. Kale, Hierarchical novel NiCo ₂ O ₄ /BiVO ₄ hybrid heterostructure as an advanced anode material for rechargeable lithium ion battery, <i>Int J Energy Res.</i> 2020 , <i>144</i> , 12126-12135		2020
30.	G. Kale, S. Arbuj, U. Chothe, S. Khore, L. Nikam, B. B. Kale* Highly Crystalline Ordered Cu-dopedTiO ₂ Nanostructure by Paper Templated Method: Hydrogen Production and Dye Degradation under Natural Sunlight, <i>J. Composites Sci.</i> 2020, 4 , 48		2020
31.	S. D. Naik, S. K. Apte, S. N. Garaje, Y. A. Sethi, M. D. Shinde, S. S. Arbuj, B. B. Kale , R. Sonawane, Facile Template Free Approach for the Large Scale Solid Phase Synthesis of Nanocrystalline XIn ₂ S ₄ (X= Cd/Zn) and it's Photocatalytic Performance for H ₂ Evolution. <i>New J. Chem.</i> , 2020, 44 , 9634-9646		2020
32.	S. Balgude, Y. Sethi, A. Gaikwad, B. B. Kale , D. Amalnerkar, P. Adhyapak, Unique N doped Sn ₃ O ₄ nanosheets as an efficient and stable photocatalyst for hydrogen generation under sunlight, <i>Nanoscale</i> , 2020, 12 , 8502-8510		2020
33.	A. R. Gunjal, A. K. Kulkarni, U. V. Kawade, Y. A. Sethi, R. S. Sonawane, J. Ook-Baeg, A. V. Nagawade, B. B Kale* A hierarchical SnS@ ZnIn ₂ S ₄ marigold flower-like 2D nano-heterostructure as an efficient photocatalyst for sunlight-driven hydrogen generation, <i>Nanoscale Adv.</i> , 2020, 2 , 2577-2586		2020
34.	B. B. Kale* , S. Chatterjee* , Electrochemical energy storage systems: India perspective, <i>Bulletin of Materials Science</i> 2020, 43 , 1-15.		2020
35.	S. More, N. Khupse, M. Bhosale, J. Ambekar, M. Kulkarni. B.		2020

S. No.	TITLE	Cited	YEAR
	B. Kale,* Hierarchical Nanostructured Benzoic Naphthalene Tetracarboxylic Di-imide Organic Cathode for Lithium Ion Battery, <i>Chemistry Select</i> 2020, 5 , 2157-2163		
36.	A. A. Ambalkar , R. P. Panmand , U. V. Kawade , Y. A. Sethi , S. D. Naik , M. V. Kulkarni , P. V. Adhyapak , B. B. Kale* Facile synthesis of SnO ₂ @carbon nanocomposite for lithium ion battery, <i>New J. Chem.</i> , 2020, 44 , 3366-3374		2020
37.	U. V. Kawade, S. R Kadam, M. V. Kulkarni, B. B Kale* Synergic effect of decoration of Nickel Oxide nanoparticles on Silicon for enhanced electrochemical performance in LIBs <i>Nanoscale Adv.</i> , 2020, 2 , 823-832		2020
38.	A. K. Kulkarni, M. S. Tamboli, D. Y. Nadargi, Y. A. Sethi, S. S. Suryavanshi, A. V. Ghule, B. B. Kale* , Bismuth molybdate (α -Bi ₂ Mo ₃ O ₁₂) nanoplates via facile hydrothermal and its gas sensing study, <i>J. Solid State Chem.</i> 2020, 281 ,121043.		2020
39.	A. R. Gunjal, U. P. Chothe, Y. A. Sethi, R. P. Panmand, J. D. Ambekar, M. V. Kulkarni, M. A. More, B. B. Kale* Micro Flowers of SrS/Bi ₂ S ₃ Nanocomposite and Its Field Emission Properties <i>J. Composites Sci.</i> 2019 , 3 , 105		2019
40.	Y. A. Sethi, A. K. Kulkarni, S. K. Khore, R. P. Panmand, S. C. Kanade, S. W. Gosavi, M. V. Kulkarni*, B. B Kale*, Plasmonic Ag decorated CdMoO ₄ as an efficient photocatalyst for solar hydrogen production, <i>RSC Adv.</i> , 2019, 9 , 28525–28533		2019
41.	S. R. Kadam, S. W. Gosavi, B. B. Kale* , N. Suzuki, C. Terashima, A. Fujishima, Unique CdS@MoS ₂ Core Shell Heterostructure for Efficient Hydrogen Generation Under Natural Sunlight <i>Scientific reports</i> , 2019, 9 , 1-10.		2019
42.	K. M. Samb-Joshi, Y. A Sethi, A. A. Ambalkar, H. B. Sonawane, S. P. Rasale, R. P. Panmand, R. Patil, B. B Kale* , M. G. Chaskar Lignin-Mediated Biosynthesis of ZnO and TiO ₂ Nanocomposites for Enhanced Antimicrobial Activity <i>J. Compos. Sci.</i> 2019, 3 , 90		2019
43.	S. R. Kadam, U. V. Kawade, R. B. Ziv, S. W. Gosavi, M. B. Sadan, B. B. Kale* Porous MoS ₂ Framework and Its Functionality for Electrochemical Hydrogen Evolution Reaction and Lithium Ion Batteries, <i>ACS Appl. Energy Mater.</i> 2019, 2 , 5900-5908		2019
44.	S. Thawarkar, T. Nirmale, S. More, J. D. Ambekar, B. B. Kale* , N. D. Khupse, Ionic Liquid Responsive Phase Transfer of Gold Nanoparticles: Anionic Metathesis, <i>Langmuir</i> , 2019, 35 , 9213-9218.		2019

S. No.	TITLE	Cited	YEAR
45.	S. B. Kale, M. A. Mahadadalkar, C. H. Kim, Y. A. Kim, M. S. Jayswal, K. S. Yang, B. B. Kale* , N-Enriched carbon nanofibers for high energy density supercapacitors and Li-ion batteries , <i>RSC Adv.</i> , 2019 , 9, 36075-36081		2019
46.	S. R. Damkale, S. S. Arbuj, G. G. Umarji, R. P. Panmand, S. K. Khore, R. S. Sonawane, S. B. Rane, B. B. Kale* , Two-dimensional hexagonal SnS ₂ nanostructures for photocatalytic hydrogen generation and dye degradation, <i>Sustainable Energy Fuels</i> , 2019 , 3, 3406-3414		2019
47.	A. F. Shaikh, M. S. Tamboli, R. H. Patil, A. Bhan, J. D. Ambekar, B. B. Kale* , Bioinspired Carbon Quantum Dots: An Antibiofilm Agents, <i>J. Nanosci. Nanotech.</i> 2019 , 19, 2339–2345.		2019
48.	S. Jadhav R. S. Kalubarme, C. Terashima, B. B. Kale* , V. Godbole, A. Fujishima, S. W. Gosavi, Manganese dioxide/reduced graphene oxide composite an electrode material for high-performance solid state supercapacitor, <i>Electrochimica Acta</i> , 2019 , 299, 34-44.		2019
49.	S. P. Takle, O. A. Apine, J. D. Ambekar, S. L. Landge, N. N. Bhujbal, B. B. Kale* , R. S. Sonawane, Solar-light-active mesoporous Cr–TiO ₂ for photodegradation of spent wash: an in-depth study using QTOF LC-MS, <i>RSC Adv.</i> , 2019 , 9, 4226-4238		2019
50.	G. Kale, S. Arbuj, U. Kawade, S. Kadam, L. Nikam, B. B. Kale* , Paper templated synthesis of nanostructured Cu–ZnO and its enhanced photocatalytic activity under sunlight, <i>J. Mat Sci: Materials in Electronics</i> , 2019 , 30, 7031–7042.		2019
51.	S. D. Balgude, Y. A. Sethi, B. B. Kale* , D. P. Amalnerkar, P. V. Adhyapak*, ZnO decorated Sn ₃ O ₄ nanosheet nano-heterostructure: a stable photocatalyst for water splitting and dye degradation under natural sunlight, <i>RSC Adv.</i> , 2019 , 9, 10289-10296.		2019
52.	U. V. Kawade, A. A. Ambalkar, R. P. Panmand, R. S. Kalubarme, S. R. Kadam, S. D. Naik, M. V. Kulkarni, B. B. Kale* Silicon Nanoparticles Sandwiched Ultrathin MoS ₂ -Graphene Layers as an Anode Material for Li-Ion Battery, <i>Mater. Chem. Front.</i> , 2019, 3, 587-596.		2019
53.	Y. A. Sethi, R. P. Panmand, A. Ambalkar, A. K. Kulkarni, D. R. Patil, A. R. Gunjal, S. W. Gosavi, M. V. Kulkarni, B. B. Kale* In situ preparation of CdS decorated ZnWO ₄ nanorods as a photocatalyst for direct conversion of sunlight into fuel and RhB degradation. <i>Sustainable Energy Fuels</i> , 2019, 3, 793-800.		2019
54.	K. M. Joshi, D. R. Shinde, L. K. Nikam, R. P. Panmand, Y. A.		2019

S. No.	TITLE	Cited	YEAR
	Sethi, B. B. Kale* , M. G. Chaskar Fragmented lignin-assisted synthesis of a hierarchical ZnO nanostructure for ammonia gas sensing. <i>RSC Adv.</i> , 2019, 9 , 2484-2492.		
55.	M. H. Moulavi, B. B. Kale* , D. Bankar, D. P. Amalnerkar, A. Vinu, K. G. Kanade, Green synthetic methodology: An evaluative study for impact of surface basicity of MnO ₂ doped MgO nanocomposites in Wittig reaction, <i>J. Solid State Chem.</i> , 2019, 269 , 167-174.	1	2019
56.	A. N. Vyas, M. A. Desai, D. M. Phase, R. G. Saratale, J. D. Ambekar, B. B. Kale* , H. M. Pathan, S. D. Sartale*, Nickel nanoparticles grown by successive ionic layer adsorption and reaction method for ethanol electrooxidation and electrochemical quartz crystal microbalance study <i>New J. Chem.</i> , 2019, 43 , 2955-2965	1	2019
57.	G. Lakhotiya, N. Belsare, S. Arbuj, B. B. Kale* , A. Rana Enhanced performance of PTB7-Th: PCBM based active layers in ternary organic solar cells. <i>RSC Advances</i> 2019, 9 , 7457-7463		2019
58.	S. Balgude, Y. Sethi, B. B. Kale* , D. Amalnerkar, P. Adhyapak, Sn ₃ O ₄ microballs as highly efficient photocatalyst for hydrogen generation and degradation of phenol under solar light irradiation. <i>Materials Chemistry and Physics</i> , 2019, 221 , 493-500.		2019
59.	A. P. Alegaonkar, M. A. Mahadadalkar, P. S. Alegaonkar, B. B. Kale* , S. K. Pardeshi, High performance tellurium-reduced graphene oxide pseudocapacitor electrodes <i>Electrochimica Acta</i> , 2018, 291 , 225-233.	1	2018
60.	A. K. Kulkarni, R. P. Panmand, Y. A. Sethi, S. R. Kadam, S. P. Tekale, G. H. Baeg, A. V. Ghule, B. B. Kale* , In situ preparation of N doped orthorhombic Nb ₂ O ₅ nanoplates/rGO composites for photocatalytic hydrogen generation under sunlight <i>Int. J. Hydro. Ener.</i> 2018, 43 , 19873-19884.		2018
61.	B. B. Kale , M. A. Mahadadalkar, A. P. Bhirud, <i>Book Chapter entitled "Glassy Photocatalysts: New Trend in Solar Photocatalysis" in book Visible Light-Active Photocatalysis: Nanostructured Catalyst Design, Mechanisms, and Applications</i> , Online ISBN: 9783527808175, 2018 .		2018
62.	S. R. Kadam, R. S. Kalubarme, S. P. Deshmukh, R. P. Panmand, U. V. Kawade, M. V. Kulkarni, S. S. Deo, S. W. Gosavi, B. B. Kale* Facilitated Lithium Storage in Hierarchical Microsphere of Cu ₂ S-MoS ₂ Ultrathin Nanosheets, <i>Chemistry Select</i> 2018, 3 , 11020-11026.		2018

S. No.	TITLE	Cited	YEAR
63.	T. Nirmale, N. D. Khupse, R. Gore, J. Ambekar, M. Kulkarni, A. Varma, B. B. Kale* Ethoxy-Ester Functionalized Imidazolium based Ionic Liquids for Lithium Ion Batteries. <i>Chemistry Select</i> 2018, 3 , 6255-6261.	1	2018
64.	B. B. Kale* , M. A. Mahadadalkar, A. P. Bhirud. Glassy Photocatalysts: New Trend in Solar Photocatalysis Visible Light-Active Photocatalysis: Nanostructured Catalyst Design		2018
65.	R. S. Kalubarme, S. M. Jadhav, B. B. Kale* , S. W. Gosavi, C. Terashima, A. Fujishima, Porous Mn-doped cobalt oxide@ C nanocomposite: a stable anode material for Li-ion rechargeable batteries <i>Nanotechnology</i> 2018, 29 , 285705.		2018
66.	C. Kanade, S. Arbuj, K. Kanade, K. Seok Kim, G. Y. Yeom, T. Kim, B. B. Kale* , Hierarchical nanostructures of nitrogen-doped molybdenum sulphide for supercapacitors <i>RSC Adv.</i> , 2018, 8 , 39749-39755		2018
67.	U. V. Kawade, M. S. Jayswal, A. A. Ambalkar, S. R. Kadam, R. P. Panmand, J. D. Ambekar, M. V. Kulkarni, B. B. Kale* Surface modified $\text{Li}_4\text{Ti}_5\text{O}_{12}$ by paper templated approach for enhanced interfacial Li^+ charge transfer in Li-ion batteries <i>RSC Adv.</i> , 2018, 8 , 38391-38399.		2018
68.	A. K. Kulkarni, R. P. Panmand, Y. A. Sethi, S. R. Kadam, D. R. Patil, A. V. Ghule, B. B. Kale* , 3D Hierarchical heterostructures of $\text{Bi}_2\text{W}_{1-x}\text{Mo}_x\text{O}_6$ with enhanced oxygen evolution reaction from water under natural sunlight, <i>New J. Chem.</i> , 2018, 42 , 17597-17605		2018
69.	M. A. Mahadadalkar, S. W. Gosavi, B. B. Kale* Interstitial charge transfer pathways in a $\text{TiO}_2/\text{CdIn}_2\text{S}_4$ heterojunction photocatalyst for direct conversion of sunlight into fuel <i>J. Mater. Chem. A</i> , 2018, 6 , 16064-16073	3	2018
70.	S. P. Takle, S. D. Naik, S. K Khore, S. A. Ohwal, N. M Bhujbal, S. L. Landge, B. B. Kale* , R. S. Sonawane, Photodegradation of spent wash, a sugar industry waste, using vanadium-doped TiO_2 nanoparticles <i>RSC Adv.</i> , 2018, 8 , 20394-20405.		2018
71.	S. K. Khore, S. R. Kadam, S. D. Naik, B. B. Kale* , R. S. Sonawane Solar light active plasmonic $\text{Au}@ \text{TiO}_2$ nanocomposite with superior photocatalytic performance for H_2 production and pollutant degradation <i>New J. Chem.</i> , 2018, 42 , 10958-10968	4	2018
72.	Y. A. Sethi, C. S. Praveen, R. P. Panmand, A. Ambalkar, ^a A. K.	5	2018

S. No.	TITLE	Cited	YEAR
	Kulkarni, ^c S. W. Gosavi, M. V. Kulkarni, B. B. Kale* , Perforated N-doped monoclinic ZnWO ₄ nanorods for efficient photocatalytic hydrogen generation and RhB degradation under natural sunlight, <i>Catal. Sci. Technol.</i> , 2018, 8 , 2909-2919		
73.	S. R. Kadam, R. P. Panmand, S. Tekale, S. Khore, C. Terashima, S. W. Gosavi, A. Fujishima, B. B. Kale* , Hierarchical CdMoO ₄ nanowire-graphene composite for photocatalytic hydrogen generation under natural sunlight, <i>RSC Adv.</i> , 2018, 8 , 13764-13771		2018
74.	G. Kale, S. Arbuj, U. Kawade, S. Rane, J. Ambekar, B. B. Kale* Synthesis of porous nitrogen doped zinc oxide nanostructures using a novel paper mediated template method and their photocatalytic study for dye degradation under natural sunlight, <i>Mater. Chem. Front.</i> , 2018, 2 , 163-170	1	2018
75.	T. C. Nirmale, B. B. Kale* , A. J. Varma, A review on cellulose and lignin based binders and electrodes: Small steps towards a sustainable lithium ion battery, <i>Int. J. Bio. Macro.</i> 2017, 103 , 1032-1043	10	2017
76.	A. F. Shaikh, S. S. Arbuj, M. S. Tamboli, S. D. Naik, S. B. Rane, B. B. Kale* , ZnSe/ZnO Nano-Heterostructures for Enhanced Solar Light Hydrogen Generation, <i>ChemistrySelect</i> , 2017, 2 , 9174-9180		2017
77.	T. C. Nirmale, I. Karbhal, R. S. Kalubarme, M. V. Shelke, A. J. Varma, B. B. Kale* Facile Synthesis of Unique Cellulose Triacetate Based Flexible and High Performance Gel Polymer Electrolyte for Lithium Ion Batteries <i>ACS Appl. Mater. Interfaces</i> 2017, 9 , 34773-34782	7	2017
78.	R. S. Kalubarme, B. B. Kale* , S. W. Gosavi, Stannic oxide spherical nanoparticles: an anode material with long-term cyclability for Li-ion rechargeable batteries, <i>Materials Research Express</i> 2017, 4 , 085026.	2	2017
79.	A. F. Shaikh, R. S. Kalubarme, M. S. Tamboli, S. S. Patil, M. V. Kulkarni, D. R. Patil, S. W. Gosavi, C. J. Park, B. B. Kale* , Nanowires of Ni Substituted MnCo ₂ O ₄ as an Anode Material for High Performance Lithium-ion Battery, <i>ChemistrySelect</i> 2017, 2 , 4630-4637	3	2017
80.	P. A. Jadhav, R. P. Panmand, D. R. Patil, H. Fouad, S. W. Gosavi, B. B. Kale* , Triangular CdS nanostructure: effect of Mn doping on photoluminescence, electron spin resonance, and magneto-optical properties <i>J. Nanopart. Res.</i> 2017, 19 , 218	3	2017

S. No.	TITLE	Cited	YEAR
81.	A. K. Kulkarni, Y. A. Sethi, R. P. Panmand, L. K. Nikam, J. O. Baeg, N. R. Munirathnam, A. V. Ghule, B. B. Kale* , Mesoporous cadmium bismuth niobate (CdBi ₂ Nb ₂ O ₉) nanospheres for hydrogen generation under visible light, <i>J. Energy Chem.</i> 2017, 26 , 433-439.	4	2017
82.	B. Pandit, D. P. Dubal, P. G. Romero, B. B. Kale* , B. R. Sankapal, V ₂ O ₅ encapsulated MWCNTs in 2D surface architecture: Complete solid-state bendable highly stabilized energy efficient supercapacitor device <i>Scientific reports</i> 2017, 7 , 43430	<u>41</u>	2017
83.	B. B. Kale* , A. P. Bhirud, J. O. Baeg, M. V. Kulkarni, Template Free Architecture of Hierarchical Nanostructured ZnIn ₂ S ₄ Rose-Like Flowers for Solar Hydrogen Production, <i>J. Nanoscience and Nanotechnology</i> 2017, 17 , 1447-1454	<u>1</u>	2017
84.	Y. A. Sethi, R. P. Panmand, S. R. Kadam, A. K. Kulkarni, S. K. Apte, S. D. Naik, N. Munirathnam, M. V. Kulkarni, B. B. Kale* , Nanostructured CdS sensitized CdWO ₄ nanorods for hydrogen generation from hydrogen sulfide and dye degradation under sunlight, <i>J. Coll. Inter. Sci.</i> 2017, 487 , 504-512.	<u>11</u>	2017
85.	A. K. Kulkarni, C. S. Praveen, Y. A. Sethi, R. P. Panmand, S. S. Arbuj, S. D. Naik, A. V. Ghule, B. B. Kale* Nanostructured N-doped orthorhombic Nb ₂ O ₅ as an efficient stable photocatalyst for hydrogen generation under visible light, <i>Dalton Trans.</i> , 2017, 46 , 14859-14868 .	<u>11</u>	2017
86.	S. K. Khore, N. V. Tellabati, S. K. Apte, S. D. Naik, P. Ojha, B. B. Kale* , R. S. Sonawane*, Green sol-gel route for selective growth of 1D rutile N-TiO ₂ : a highly active photocatalyst for H ₂ generation and environmental remediation under natural sunlight, <i>RSC Adv.</i> , 2017, 7 , 33029-33042	<u>3</u>	2017
87.	V. G. Deonikar, S. S. Patil, M. S. Tamboli, J. D. Ambekar, M. V. Kulkarni, R. P. Panmand, G. G. Umarji, M. D. Shinde, S. B. Rane, N. R. Munirathnam, D. R. Patil, B. B. Kale* , Growth study of hierarchical Ag ₃ PO ₄ /LaCO ₃ OH heterostructures and their efficient photocatalytic activity for RhB degradation, <i>Phys. Chem. Chem. Phys.</i> , 2017, 19 , 20541-20550 .	<u>6</u>	2017
88.	H. S. Jadhav, G. M. Thorat, B. B. Kale* , J. G. Seo Mesoporous Mn ₂ O ₃ /reduced graphene oxide (rGO) composite with enhanced electrochemical performance for Li-ion battery, <i>Dalton Trans.</i> , 2017, 46 , 9777-9783	<u>5</u>	2017
89.	N. M. Qureshi, M. D. Shinde, J. O. Baeg, B. B. Kale* Engendering 0-D to 1-D PbCrO ₄ nanostructures and their visible light enabled photocatalytic H ₂ S splitting, <i>New J. Chem.</i> , 2017, 41 , 4000-4005		2017

S. No.	TITLE	Cited	YEAR
90.	R. P. Panmand, P. Patil, Y. Sethi, S. R. Kadam, M. V. Kulkarni, S. W. Gosavi, N. R. Munirathnam, B. B. Kale* , Unique perforated graphene derived from Bougainvillea flowers for high-power supercapacitors: a green approach, <i>Nanoscale</i> , 2017, 9 , 4801-4809.	<u>12</u>	2017
91.	M. S. Tamboli, D. P. Dubal, S. S. Patil, A. F. Shaikh, V. G. Deonikar, M. V. Kulkarni, N. N. Maldar, A. M. Asiri, P. G. Romero, B. B. Kale* , D. R. Patil, Mimics of microstructures of Ni substituted Mn1– xNixCo2O4 for high energy density asymmetric capacitors, <i>Chemical Engineering Journal</i> , 2017, 307 , 300-310	<u>18</u>	2017
92.	S. S. Patil, D. P. Dubal, V. G. Deonikar, M. S. Tamboli, J. D. Ambekar, P. G. Romero, S. S. Kolekar, B. B. Kale* , D. R. Patil Fern-like rGO/BiVO4 Hybrid Nanostructures for High-Energy Symmetric Supercapacitor, <i>ACS Appl. Mater. Interfaces</i> 2016, 8 , 31602-31610	<u>30</u>	2016
93.	M. T. Sarode, Y. B. Kholam, S. R. Jadkar, B. B. Kale* , K. C. Mohite Eosin-Y and Rose Bengal sensitized solar cell characteristics of N-doped nanocrystalline TiO2films, <i>International Conference on Automatic Control and Dynamic Optimization Techniques (ICACDOT)</i> 2016, 1193-1198		2016
94.	S. S. Patil, M. G. Mali, A. Roy, M. S. Tamboli, V. G. Deonikar, D. R. Patil, M. V. Kulkarni, S. S. Al-Deyab, S. S. Yoon, S. S. Kolekar, B. B. Kale* Graphene-wrapped Ag3PO4/LaCO3OH heterostructures for water purification under visible light, <i>J. Energy Chem.</i> 2017, 25 , 845-853	<u>4</u>	2016
95.	S. S. Patil, D. R. Patil, S. K. Apte, M. V. Kulkarni, J. D. Ambekar, C. J. Park, S. W. Gosavi, S. S. Kolekar, B. B. Kale* , Confinement of Ag3PO4 nanoparticles supported by surface plasmon resonance of Ag in glass: efficient nanoscale photocatalyst for solar H2 production from waste H2S <i>Appl. Catal. B: Environ.</i> 2016, 190 , 75-84	<u>16</u>	2016
96.	P. L. Suryawanshi, S. P. Gumfekar, P. R. Kumar, B. B. Kale* , S. H. Sonawane Synthesis of ultra-small platinum nanoparticles in a continuous flow microreactor <i>Colloid and Inter. Sci. Commun.</i> 2016, 13 , 6-9	<u>8</u>	2016
97.	L. I. Bhagawat, V. S. Patil, B. B. Kale* , S. H. Sonawane, B. A. Bhanvase, D. V. Pinjari, M. Ashokkumar Sonoprocessing of LiFePO4 nanoparticles and nanocomposites for cathode material in lithium ion batteries <i>Polymer Composites</i> 2016, 37 , 1874-1880	<u>2</u>	2016
98.	S. R. Kadam, S. R. Suryawanshi, R. P. Panmand, V. R. Mate, M.	<u>2</u>	2016

S. No.	TITLE	Cited	YEAR
	A. More, D. J. Late, B. B. Kale* Architecture of 2D MoS ₂ nanosheets and 3D CdMoS ₄ marigold flowers: Consequence of annealing on field emission performance, <i>Microporous and Mesoporous Materials</i> 2016, 225 , 573-579		
99.	M. T. Sarode, Y. B. Kholam, S. D. Gunjal, P. N. Shelke, B. B. Kale* , P. M. Koinkar, K. C. Mohite, Structural and Optical Studies of Sol–Gel Dip Coated Nano-Crystalline TiO ₂ Films, <i>Adv. Sci. Lett.</i> 2016, 22 , 1089-1092		2016
100.	N. Qureshi, R. Chaudhari, P. Mane, M. Shinde, S. Jadakar, S. Rane, B. B. Kale* , A. Bhalerao, D. Amalnerkar, Nanoscale Mo-Entrapped in Engineering Thermoplastic: Inorganic Pathway to Bactericidal and Fungicidal Action <i>IEEE Transactions on Nanobioscience</i> 2016, 15 , 258-264.	<u>2</u>	2016
101.	S. Balasubramanian, R. Panmand, G. Kumar, S. M Mahajan, B. B. Kale* , Magneto-optic evaluation of antiferromagnetic α -Fe ₂ O ₃ nanoparticles coated on a quartz substrate, <i>Proceedings Volume 9758, Quantum Dots and Nanostructures: Growth, Characterization, and Modeling XIII; 975800</i> (2016)	<u>1</u>	2016
102.	N. Qureshi, M. Shinde, S. Jadkar, A. Bhalerao, B. B. Kale* , D. P. Amalnerkar Sub-Micron/Nano-Scale Polymorphs of Molybdenum Oxide with Tuned Structural and Morphological Features Embedded in Engineering Thermoplastic, <i>Materials Focus</i> , 2016, 5 , 17-23		2016
103.	S. S. Patil, M. G. Mali, M. S. Tamboli, D. R. Patil, M. V. Kulkarni, H. Yoon, H. Kim, S. S. Al-Deyab, S. S. Yoon, S. S. Kolekar, B. B. Kale* Green approach for hierarchical nanostructured Ag-ZnO and their photocatalytic performance under sunlight, <i>Catalysis Today</i> 2016, 260 , 126-134	<u>80</u>	2016
104.	S. D. Balgude, Y. A. Sethi, B. B. Kale* , N. R. Munirathnam, D. P. Amalnerkar, P. V. Adhyapak Nanostructured layered Sn ₃ O ₄ for hydrogen production and dye degradation under sunlight, <i>RSC Adv.</i> , 2016, 6 , 95663-95669	<u>5</u>	2016
105.	S. S. Patil, D. P. Dubal, M. S. Tamboli, J. D. Ambekar, S. S. Kolekar, P. G. Romero, B. B. Kale* , D. R. Patil, Ag: BiVO ₄ dendritic hybrid-architecture for high energy density symmetric supercapacitors, <i>J. Mat. Chem. A</i> 2016, 4 , 7580-7584	<u>23</u>	2016
106.	M. A. Mahadadalkar, S. B. Kale, R. S. Kalubarme, A. P. Bhirud, J. D. Ambekar, S. W. Gosavi, M. V. Kulkarni, C. J. Park, B. B. Kale* Architecture of the CdIn ₂ S ₄ /graphene nano-heterostructure for solar hydrogen production and anode for lithium ion battery, <i>RSC Adv.</i> , 2016, 6 , 34724-34736	<u>10</u>	2016
107.	R. P. Panmand, Y. A. Sethi, R. S. Deokar, D. J. Late, H. M.	<u>11</u>	2016

S. No.	TITLE	Cited	YEAR
	Gholap, J. Baeg, B. B. Kale* In situ fabrication of highly crystalline CdS decorated Bi ₂ S ₃ nanowires (nano-heterostructure) for visible light photocatalyst application, <i>RSC Adv.</i> , 2016, 6 , 23508-23517		
108.	S. S. Arbuj, B. B. Kale* , D. P. Amalnerkar, A Special Issue on Functional Nanomaterials for Environmental Remediation, <i>J. Nanoengineering and Nanomanufacturing</i> , 2015, 5 , 167-169.		2015
109.	N. Qureshi, M. Shinde, R. Ratheesh, A. Bhalerao, B. B. Kale* , U. Mulik, D. P. Amalnerkar, Superior Dielectric Performance of Engineering Thermoplastic as a Result of In situ Embedding of Nanoscale Mixed-Phase Molybdenum Oxide, <i>J. Electronic Materials</i> 2015, 44 , 2269-2275.	<u>1</u>	2015
110.	S. A. Vanalakar, S. A. Vhanalakar, V. L. Patil, N. S. Harale, B. B. Kale* , P. S. Patil, J. H. Kim Synthesis and characterization of chemically deposited ZnO nanorods for NO ₂ gas sensing applications, <i>Proceeding of 2nd International Symposium on Physics and Technology of Sensors (ISPTS)</i> , 2015.		2015
111.	S. M. Thorat, M. V. Kulkarni, B. B. Kale* , Spectroscopic and morphological studies of polyaniline (PANI) — Carbon nanotubes (CNTs) nanocomposite synthesized via dynamic, liquid-liquid interfacial polymerization process and its application as optical pH sensor., <i>Proceeding of 2nd International Symposium on Physics and Technology of Sensors (ISPTS)</i> , 2015.		2015
112.	S. B. Kale, R. S. Kalubarme, M. A. Mahadadalkar, H. S. Jadhav, A. P. Bhirud, J. D. Ambekar, C. J. Park, B. B. Kale* Hierarchical 3D ZnIn ₂ S ₄ /graphene nano-heterostructures: their in situ fabrication with dual functionality in solar hydrogen production and as anodes for lithium ion batteries. <i>Phys. Chem. Chem. Phys.</i> , 2015, 17 , 31850-31861	<u>20</u>	2015
113.	S. S. Patil, M. S. Tamboli, V. G. Deonikar, G. G. Umarji, J. D. Ambekar, M. V. Kulkarni, S. S. Kolekar, B. B. Kale* , D. R Patil, Magnetically separable Ag ₃ PO ₄ /NiFe ₂ O ₄ composites with enhanced photocatalytic activity, <i>Dalton Trans.</i> , 2015, 44 , 20426-20434.	<u>27</u>	2015
114.	S. R. Kadam, D. J. Late, R. P. Panmand, M. V. Kulkarni, L. K. Nikam, S. W. Gosavi, C. J. Park, B. B. Kale* , Nanostructured 2D MoS ₂ honeycomb and hierarchical 3D CdMoS ₄ marigold nanoflowers for hydrogen production under solar light. <i>J. Mater. Chem. A</i> , 2015, 3 , 21233-21243	<u>17</u>	2015
115.	A. Bhirud, S. Sathaye, R. Waichal, C. J. Park, B. B. Kale* In situ preparation of N–ZnO/graphene nanocomposites: excellent candidate as a photocatalyst for enhanced solar hydrogen	<u>43</u>	2015

S. No.	TITLE	Cited	YEAR
	generation and high performance supercapacitor electrode, <i>J. Mater. Chem. A</i> , 2015, 3 , 17050-17063		
116.	S. R. Kadam, R. P. Panmand, R. S. Sonawane, S. W. Gosavi, B. B. Kale* , A stable Bi ₂ S ₃ quantum dot–glass nanosystem: size tuneable photocatalytic hydrogen production under solar light, <i>RSC Adv.</i> , 2015, 5 , 58485-58490	<u>16</u>	2015
117.	M. T. Sarode, Y. B. Kholam, S. R. Jadkar, B. B. Kale* , K. C. Mohite, Effect of Temperature on Optical and Photovoltaic Properties of nc-TiO ₂ Thin Films for Dye Sensitized Solar Cell, <i>Adv. Mat. Res.</i> 2015, 1110 , 207-210		2015
118.	J. D. Ambekar, R. P. Panmand, R. S. Sonawane, S. K. Apte, D. G. Hundiware, B. B. Kale* , Preparation and magneto-optical properties of stable bismuth phosphate nanoparticles in phosphate glass, <i>RSC Adv.</i> , 2015, 5 , 48112-48117.	<u>2</u>	2015
119.	K. B. Gawande, S. B. Gawande, S. R. Thakare, V. R. Mate, S. R. Kadam, B. B. Kale* , M. V. Kulkarni, Effect of zinc: Cobalt composition in ZnCo ₂ O ₄ spinels for highly selective liquefied petroleum gas sensing at low and high temperatures, <i>RSC Adv.</i> , 2015, 5 , 40429-40436.	<u>19</u>	2015
120.	L. Nikam, R. Panmand, S. Kadam, S. Naik, B. B. Kale* , Enhanced hydrogen production under a visible light source and dye degradation under natural sunlight using nanostructured doped zinc orthotitanates, <i>New J. Chem.</i> , 2015, 39 , 3821-3834	<u>14</u>	2015
121.	A. P. Bhirud, S. D. Sathaye, R. P. Waichal, J. D. Ambekar, C. J. Park, B. B. Kale* , In-situ preparation of N-TiO ₂ /graphene nanocomposite and its enhanced photocatalytic hydrogen production by H ₂ S splitting under solar light, <i>Nanoscale</i> , 2015, 7 , 5023-5034.	<u>65</u>	2015
122.	V. U. Pandit, S. S. Arbuj, R. R. Hawaldar, P. V. Kshirsagar, A. J. Deshmukh, J. D. Ambekar, U. P. Mulik, S. W. Gosavi, B. B. Kale* , Hierarchical CdS nanostructure by Lawesson's reagent and its enhanced photocatalytic hydrogen production. <i>RSC Adv.</i> , 2015, 5 , 13715-13721	<u>8</u>	2015
123.	V. Pandit, S. Arbuj, R. Hawaldar, P. Kshirsagar, U. Mulik, S. Gosavi, C. J. Park, B. B. Kale* In situ preparation of a novel organo-inorganic 6, 13-pentacenequinone–TiO ₂ coupled semiconductor nanosystem: a new visible light active photocatalyst for hydrogen generation, <i>J. Mater. Chem. A</i> , 2015, 3 , 4338-4344.	<u>2</u>	2015
124.	V. U. Pandit, S. S. Arbuj, Y. B. Pandit, S. D. Naik, S. B. Rane, U. P. Mulik, S. W. Gosavi, B. B. Kale* , Solar light driven dye degradation using novel organo–inorganic (6, 13-	<u>9</u>	2015

S. No.	TITLE	Cited	YEAR
	pentacenequinone/TiO ₂ nanocomposites, <i>RSC Adv.</i> , 2015, 5, 10326-10331		
125.	R. P. Panmand, Y. A. Sethi, S. R. Kadam, M. S. Tamboli, L. K. Nikam, J. D. Ambekar, C. J. Park, B. B. Kale* Self-assembled hierarchical nanostructures of Bi ₂ WO ₆ for hydrogen production and dye degradation under solar light. <i>CrystEngComm</i> , 2015, 17 , 107-115.	<u>22</u>	2015
126.	S. S. Warule, N. S. Chaudhari, R. T. Shisode, K. V. Desa, B. B. Kale* , M. A. More, Decoration of CdS nanoparticles on 3D self-assembled ZnO nanorods: a single-step process with enhanced field emission behaviour <i>CrystEngComm</i> , 2015, 17 , 140-148	<u>24</u>	2015
127.	H. H. Harianawala, M. G. Kheur, S. K. Apte, B. B. Kale* , T. S. Sethi, S. M. Kheur, Comparative analysis of transmittance for different types of commercially available zirconia and lithium disilicate materials, <i>J. Adv. Prosthodontics</i> , 2014, 6 , 456-461	<u>45</u>	2014
128.	S. S. Patil, R. H. Patil, S. B. Kale, M. S. Tamboli, J. D. Ambekar, W. N. Gade, S. S. Kolekar, B. B. Kale* , Nanostructured microspheres of silver@ zinc oxide: an excellent impeder of bacterial growth and biofilm, <i>J. Nanopart. Res.</i> 2014, 16 , 2717	<u>13</u>	2014
129.	M. T. Sarode, Y. B. Kholam, S. R. Jadkar, B. B. Kale* , K. C. Mohite, Thickness dependent optical and eosin-Y sensitized solar cells characteristics of nc-a TiO ₂ films. <i>Solar Energy</i> , 2014, 106 , 48-55	<u>5</u>	2014
130.	J. H. Thorat, P. D. Chaudhari, M. S. Tamboli, S. S. Arbuj, D. B. Patil, B. B. Kale* , Architecture of ZnO nanosheets and nanochips via zinc oxalato-hydrazinate complex. <i>J. Nanopart. Res.</i> 2014, 16 , 2450.	<u>1</u>	2014
131.	V. U. Pandit, S. S. Arbuj, U. P. Mulik, B. B. Kale* Novel functionality of organic 6, 13-pentacenequinone as a photocatalyst for hydrogen production under solar light. <i>Environ. Sci. Technol.</i> 2014, 48 , 4178-4183.	<u>10</u>	2014
132.	S. C. Yadav, B. B. Kale* , M. D. Uplane, Effect of film thickness on H ₂ S gas sensing properties of boron doped zinc oxide nanocrystalline films <i>J. Shivaji Univ. Sci. Technol.</i> 2014, 41 , 1-2	<u>2</u>	2014
133.	S. R. Kadam, V. R. Mate, R. P. Panmand, L. K. Nikam, M. V. Kulkarni, R. S. Sonawane, B. B. Kale* , A green process for efficient lignin (biomass) degradation and hydrogen production via water splitting using nanostructured C, N, S-doped ZnO under solar light. <i>RSC Adv.</i> , 2014, 4 , 60626-60635	<u>29</u>	2014

S. No.	TITLE	Cited	YEAR
134.	U. V. Kawade, R. P. Panmand, Y. A. Sethi, M. V. Kulkarni, S. K. Apte, S. D. Naik, B. B. Kale* , Environmentally benign enhanced hydrogen production via lethal H ₂ S under natural sunlight using hierarchical nanostructured bismuth sulfide. <i>RSC Adv.</i> , 2014, 4 , 49295-49302	<u>21</u>	2014
135.	M. S. Tamboli, P. K. Palei, S. S. Patil, M. V. Kulkarni, N. N. Maldar, B. B. Kale* , Polymethyl methacrylate (PMMA)–bismuth ferrite (BFO) nanocomposite: low loss and high dielectric constant materials with perceptible magnetic properties, <i>Dalton Trans.</i> , 2014, 43 , 13232-13241.	<u>31</u>	2014
136.	N. S. Shinde, S. S. Khot, R. M. More, B. B. Kale* , N. Basavaiah, S. C. Watawe, M. M. Vaidya, Cation distribution of Cu ²⁺ substituted nzn ferrite <i>Inter. J. Chem. and Phys. Sci.</i> 2014, 3 , 27-36		2014
137.	R. S. Diggikar, D. J. Late, B. B. Kale* , Unusual morphologies of reduced graphene oxide and polyaniline nanofibers-reduced graphene oxide composites for high performance supercapacitor applications, <i>RSC Adv.</i> , 2014, 4 , 22551-22560	<u>24</u>	2014
138.	N. Kantharia, S. Naik, S. Apte, M. Kheur, S. Kheur, B. B. Kale* , Nano-hydroxyapatite and its contemporary applications, <i>Bone</i> 2014, 34 , 1.71	<u>27</u>	2014
139.	N. S. Chaudhari, S. S. Warule, B. B. Kale* , Architecture of rose and hollow marigold-like ZnIn ₂ S ₄ flowers: structural, optical and photocatalytic study, <i>RSC Adv.</i> , 2014, 4 , 12182-12187	<u>21</u>	2014
140.	R. P. Panmand, R. H. Patil, B. B. Kale* , L. K. Nikam, M. V. Kulkarni, D. K. Thombre, W. N. Gade, S. W. Gosavi, Self assembly of nanostructured hexagonal cobalt dendrites: an efficient anti-coliform agent, <i>RSC Adv.</i> , 2014, 4 , 4586-4595.	8	2014
141.	S. K. Apte, S. N. Garaje, S. D. Naik, R. P. Waichal, J. O. Baeg, B. B. Kale* Quantum confinement controlled solar hydrogen production from hydrogen sulfide using a highly stable CdS 0.5 Se 0.5/CdSe quantum dot–glass nanosystem, <i>Nanoscale</i> , 2014, 6 , 908-915.	<u>22</u>	2014
142.	N. Chaudhari, S. Warule, S. Agrawal, V. Thakare, S. Jouen, B. Hannoyer, B. B. Kale* K. Paknikar, S. Ogale, A hollow nanogold/meso-magnetite composite: pulsed laser synthesis, properties, and biosensing application, <i>J. Nanoparti. Res.</i> 2013, 15 , 2081.		2013
143.	M. V. Kulkarni, B. B. Kale* , Studies of conducting polyaniline (PANI) wrapped-multiwalled carbon nanotubes (MWCNTs) nanocomposite and its application for optical pH sensing,	<u>38</u>	2013

S. No.	TITLE	Cited	YEAR
	<i>Sensors and Actuators B: Chemical</i> 2013, 187 , 407-412.		
144.	R. S. Diggikar, R. H. Patil, S. B. Kale, D. K. Thombre, W. N. Gade, M. V. Kulkarni, B. B. Kale* Silver-decorated orthorhombic nanotubes of lithium vanadium oxide: an impeder of bacterial growth and biofilm, <i>Appl. Microbio. and Biotech.</i> , 2013, 97 , 8283-8290	12	2013
145.	M. T. Sarode, Y. B. Kholam, S. R. Jadkar, B. B. Kale* , K. C. Mohite Effect of Thickness and Dye on Optical and Photovoltaic Properties of Nanocrystalline TiO ₂ Thin Film for Dye Sensitized Solar Cell Application. <i>Asian J. Chem.</i> 2013, 25 ,		2013
146.	L. Nikam, R. Patil, R. Panmand, S. Kadam, K. Sivanandan, B. B. Kale* Novel Ag@ Zn ₂ TiO ₄ Nanocomposite and Its Enhanced Antibacterial Activity, <i>Adv. Sci. Eng. Med.</i> 2013, 5 , 688-692	12	2013
147.	M. V. Kulkarni, N. A. Charhate, K. V. Bhavsar, M. A. Tathe, B. B. Kale* , Development of polyaniline–multiwalled carbon nanotube (PANI–MWCNT) nanocomposite for optical pH sensor, <i>Materials Research Innovations</i> 2013, 17 , 238-243.	<u>9</u>	2013
148.	S. N. Garaje, S. K. Apte, S. D. Naik, J. D. Ambekar, R. S. Sonawane, M. V. Kulkarni, A. Vinu, B. B. Kale* , Template-Free Synthesis of Nanostructured Cd _x Zn _{1-x} S with Tunable Band Structure for H ₂ Production and Organic Dye Degradation Using Solar Light, <i>Environ. Sci. Technol.</i> 2013 47 6664-6672	<u>45</u>	2013
149.	M. S. Wagh, R. H. Patil, D. K. Thombre, M. V. Kulkarni, W. N. Gade, B. B. Kale* , Evaluation of anti-quorum sensing activity of silver nanowires <i>Appl. Micro. and Biotech.</i> 2013, 97 , 3593-3601	<u>21</u>	2013
150.	M. V. Kulkarni, S. K. Apte, S. D. Naik, J. D. Ambekar, B. B. Kale* , Ink-jet printed conducting polyaniline based flexible humidity sensor <i>Sensors and Actuators B: Chemical</i> 2013, 178 , 140-143.	<u>70</u>	2013
151.	S. S. Mali, R. S. Devan, Y. R. Ma, C. A. Betty, P. N. Bhosale, R. P. Panmand, B. B. Kale* , S. R. Jadkar, P. S. Patil, J. H. Kim, C. K. Hong, Effective light harvesting in CdS nanoparticle-sensitized rutile TiO ₂ microspheres, <i>Electrochimica Acta</i> , 2013, 90 , 666-672.	<u>52</u>	2013
152.	S. S. Dhasade, S. Patil, B. B. Kale* , S. H. Han, M. C. Rath, V. J. Fulari Synthesis of hollow spheres of copper sulfide by electron irradiation, <i>Materials Letters</i> , 2013, 93 , 316-318	<u>15</u>	2013

S. No.	TITLE	Cited	YEAR
153.	R. P. Panmand, M. V. Kulkarni, M. Valant, S. W. Gosavi, B. B. Kale* Quantum confinement of Bi ₂ S ₃ in glass with magnetic behavior, <i>AIP Advances</i> , 2013, 3 , 022123	<u>4</u>	2013
154.	M. S. Tamboli, M. V. Kulkarni, S. P. Deshmukh, B. B. Kale* , Synthesis and spectroscopic characterisation of silver– polyaniline nanocomposite <i>Materials Research Innovations</i> , 2013, 17 , 112-116	<u>5</u>	2013
155.	S. N. Garaje, S. K. Apte, G. Kumar, R. P. Panmand, S. D. Naik, S. M. Mahajan, R. Chand, B. B. Kale* , Ferric oxide quantum dots in stable phosphate glass system and their magneto-optical study, <i>Materials Research Bulletin</i> , 2013, 48 , 901-906	<u>10</u>	2013
156.	P. A. Yadav, A. V. Deshmukh, K. P. Adhi, B. B. Kale* , N. Basavaih, S. I. Patil, <i>Role of grain size on the magnetic properties of La_{0.7}Sr_{0.3}MnO₃</i> <i>J. Magn. Magn. Mater.</i> 2013, 328 , 86-90	<u>20</u>	2013
157.	S. K. Apte, S. N. Garaje, S. D. Naik, R. P. Waichal, B. B. Kale* , Environmentally benign enhanced H ₂ production from abundant copious waste H ₂ S using size tuneable cubic bismuth (Bi ₂ O ₃) quantum dots–GeO ₂ glass photocatalyst under solar light, <i>Green Chemistry</i> , 2013, 15 , 3459-3467.	<u>9</u>	2013
158.	S. A. Mahapure, P. K. Palei, L. K. Nikam, R. P. Panmand, J. D. Ambekar, S. K. Apte, B. B. Kale* , Novel nanocrystalline zinc silver antimonate (ZnAg ₃ SbO ₄): an efficient & ecofriendly visible light photocatalyst with enhanced hydrogen generation, <i>J. Mater. Chem. A</i> , 2013, 1 , 12835-12840	<u>8</u>	2013
159.	N. S. Chaudhari, S. S. Warule, S. A. Dhanmane, M. V. Kulkarni, M. Valant, B. B. Kale* , Nanostructured N-doped TiO ₂ marigold flowers for an efficient solar hydrogen production from H ₂ S, <i>Nanoscale</i> , 2013, 5 , 9383-9390	<u>40</u>	2013
160.	R. S. Diggikar, J. D. Ambekar, M. V. Kulkarni, B. B. Kale* , Nanocrystalline silver vanadium sulfide (SVS) anchored polyaniline (PANI): new nanocomposite system for supercapacitor, <i>New J. Chem.</i> , 2013, 37 , 3236-3243	<u>4</u>	2013
161.	S. S. Warule, N. S. Chaudhari, R. T. Khare, J. D. Ambekar, B. B. Kale* , M. A. More, Single step hydrothermal approach for devising hierarchical Ag–ZnO heterostructures with significant enhancement in field emission performance, <i>CrystEngComm</i> , 2013, 15 , 7475-7483	<u>23</u>	2013
162.	S. Khot, N. S. Shinde, B. P. Ladgaonkar, B. B. Kale* , S. C. Watawe Effect of Temperature of Synthesis on X-Ray, Infrared Spectroscopic Study and Magnetic Properties of Magnesium		2013

S. No.	TITLE	Cited	YEAR
	Zinc Ferrites, <i>Key Engineering Materials</i> , 2013, 547 , 57-69		
163.	R. S. Diggikar, M. V. Kulkarni, G. M. Kale, B. B. Kale* , Formation of multifunctional nanocomposites with ultrathin layers of polyaniline (PANI) on silver vanadium oxide (SVO) nanospheres by in situ polymerization, <i>J. Mater. Chem. A</i> , 2013, 1 , 3992-4001.	<u>14</u>	2013
164.	R. P. Panmand, G. Kumar, S. M. Mahajan, M. V. Kulkarni, B. B. Kale* , S. W. Gosavi, Novel and stable $Mn^{2+}@ Bi_2S_3$ quantum dots–glass system with giant magneto optical Faraday rotations, <i>J. Mater. Chem. C</i> , 2013, 1 , 1203-1210	<u>13</u>	2013
165.	S. S. Warule, N. S. Chaudhari, B. B. Kale* , S. Pandiraj, R. T. Khare, M. A. More, Controlled synthesis of aligned Bi_2S_3 nanowires, sharp apex nanowires and nanobelts with its morphology dependent field emission investigations, <i>CrystEngComm</i> , 2013, 15 , 890-896	<u>17</u>	2013
166.	A. B. Nawale, N. S. Kanhe, K. R. Patil, V. R. Reddy, A. Gupta, B. B. Kale* , S. V. Bhoraskar, V. L. Mathe, A. K. Das, Magnetic properties of nanocrystalline $CoFe_2O_4$ synthesized by thermal plasma in large scale <i>Materials Chemistry and Physics</i> , 2012, 137 , 586-595	<u>14</u>	2012
167.	R. H. Bari, R. S. Khadayate, S. B. Patil, A. R. Bari, G. H. Jain, L. A. Patil, B. B. Kale* , Preparation, characterization, and H_2S sensing performance of sprayed nanostructured SnO_2 thin films, <i>ISRN Nanotechnology</i> 2012	<u>7</u>	2012
168.	S. S. Warule, R. V. Kashid, D. R. Shinde, N. S. Chaudhari, B. B. Kale* , M. A. More, Architected Bi_2S_3 nanoflowers: photoenhanced field emission study, <i>J. Nanoparti. Res.</i> 2012, 14 , 889	<u>12</u>	2012
169.	M. V. Kulkarni, B. B. Kale* , P1. 3.2 Development of Optical pH Sensor using Conducting Polyaniline-Wrapped Multiwalled Carbon Nanotubes (PANI-MWCNTs) Nanocomposite, <i>Proceedings IMCS</i> 2012, 934-937		2012
170.	M. V. Kulkarni, S. K. Apte, S. D. Naik, J. D. Ambekar, B. B. Kale* P1. 8.3 Ink-Jet Printed Conducting Polyaniline based Flexible HumiMeitYy Sensor, <i>Proceedings IMCS</i> 2012, 1112-1115		2012
171.	M. S. Tamboli, M. V. Kulkarni, R. H. Patil, W. N. Gade, S. C. Navale, B. B. Kale* , Nanowires of silver–polyaniline nanocomposite synthesized via in situ polymerization and its novel functionality as an antibacterial agent <i>Colloids and Surfaces B: Biointerfaces</i> , 2012, 92 , 35-41.	<u>94</u>	2012

S. No.	TITLE	Cited	YEAR
172.	M. T. Sarode, S. W. Gosavi, Y. B. Kholam, B. B. Kale* , S. R. Jadkar, K. C. Mohite, Sol-gel deposition of nanocrystalline TiO ₂ thin films useful for hydrogen gas sensing application, 2012 1st International Symposium on Physics and Technology of Sensors (ISPTS-1)		2012
173.	M. V. Kulkarni, S. K. Apte, S. D. Naik, J. D. Ambekar, B. B. Kale Processing and formulation of inkjet printable conducting polyaniline based ink for low cost, flexible humidity sensors using untreated polymeric substrate, Smart Materials and Structures, 2012, 21 , 035023.	<u>7</u>	2012
174.	J. H. Thorat, K. G. Kanade, L. K. Nikam, P. D. Chaudhari, R. P. Panmand, B. B. Kale* , Self-aligned nanocrystalline ZnO hexagons by facile solid-state and co-precipitation route, <i>J. Nanoparti. Res.</i> 2012, 14 , 657.	<u>1</u>	2012
175.	R. D. Bolade, S. D. Naik, S. K. Apte, J. D. Ambekar, S. S. Arbuj, M. V. Kulkarni, U. P. Mulik, B. B. Kale* Synthesis of ZnS Nanowire Bundles and their Photocatalytic Activity for Dye Degradation, Advanced Science, Engineering and Medicine, 2012, 4 , 1-9.		2012
176.	D. Bauskar, B. B. Kale* , P. Patil, Synthesis and humidity sensing properties of ZnSnO ₃ cubic crystallites, <i>Sensors and Actuators B: Chemical</i> 2012, 161 , 396-400.	<u>32</u>	2012
177.	S. Mahapure, R. Marimuthu, B. B. Kale* , Synthesis and characterization of zinc indium vanadate: a novel photocatalyst, <i>Proceedings of the second international conference on advanced oxidation processes</i> , 2012		2012
178.	R. P. Panmand, G. Kumar, S. M. Mahajan, N. Shroff, B. B. Kale* , S. W. Gosavi. Growth of Bi ₂ Te ₃ quantum dots/rods in glass: a unique highly stable nanosystem with novel functionality for high performance magneto optical devices. <i>Phys. Chem. Chem. Phys.</i> , 2012, 14 , 16236-16242.	<u>12</u>	2012
179.	A. P. Bhirud, S. D. Sathaye, R. P. Waichal, L. K. Nikam, B. B. Kale* , An eco-friendly, highly stable and efficient nanostructured p-type N-doped ZnO photocatalyst for environmentally benign solar hydrogen production, <i>Green Chemistry</i> , 2012, 14 , 2790-2798	<u>90</u>	2012
180.	S. S. Warule, N. S. Chaudhari, B. B. Kale* , K. R. Patil, P. M. Koinkar, M. A. More, R. Murakami, Organization of cubic CeO ₂ nanoparticles on the edges of self assembled tapered ZnO nanorods via a template free one-pot synthesis: significant cathodoluminescence and field emission properties, <i>J. Mater. Chem.</i> , 2012, 22 , 8887-8895	<u>53</u>	2012

S. No.	TITLE	Cited	YEAR
181.	M. T. Sarode, P. N. Shelke, S. D. Gunjal, Y. B. Kholam, M. G. Takwale, S. R. Jadkar, B. B. Kale* , K. C. Mohite, P. Koinkar, Effect of annealing temperature on optical properties of titanium dioxide thin films prepared by sol-gel method. <i>International Journal of Modern Physics: Conference Series</i> , 2012, 6 , 13-18	<u>9</u>	2012
182.	S. K. Apte, S. N. Garaje, M. Valant, B. B. Kale* , Eco-friendly solar light driven hydrogen production from copious waste H ₂ S and organic dye degradation by stable and efficient orthorhombic CdS quantum dots-GeO ₂ glass photocatalyst. <i>Green Chem.</i> , 2012, 14 , 1455-1462	<u>36</u>	2012
183.	R. S. Diggikar, V. M. Dhavale, D. B. Shinde, N. S. Kanbargi, M. V. Kulkarni, B. B. Kale* Morphology controlled synthesis of LiV ₂ O ₅ /Ag nanocomposite nanotubes with enhanced electrochemical performance <i>RSC Adv.</i> , 2012, 2 , 3231-3233	<u>8</u>	2012
184.	S. S. Khot, N. S. Shinde, B. P. Ladgaonkar, B. B. Kale , S. C. Watawe, Effect of temperature of synthesis on X-ray, IR properties of Mg-Zn ferrites prepared by oxalate co-precipitation method. <i>International Journal of Advances in Engineering & Technology</i> , 2011, 1 , 422.	<u>9</u>	2011
185.	A. Bhirud, N. Chaudhari, L. Nikam, R. Sonawane, K. Patil, J. O. Baeg, B. B. Kale* . Surfactant tunable hierarchical nanostructures of CdIn ₂ S ₄ and their photohydrogen production under solar light. <i>Inter. J hydrogen Ener.</i> 2011, 36 , 11628-11639	<u>54</u>	2011
186.	S. S. Warule, N. S. Chaudhari, J. D. Ambekar, B. B. Kale* , M. A. More Hierarchical nanostructured ZnO with nanorods engendered to nanopencils and pin-cushion cactus with its field emission study. <i>ACS Appl. Mater. Interfaces</i> , 2011, 3 , 3454-3462	<u>37</u>	2011
187.	N. S. Shinde, S. S. Khot, B. P. Ladgaonkar, B. B. Kale* , S. Apte, P. M. Tamhankar, S. C. Watawe, Effect of Oxalate Precursor Formation Temperature on Magnetic Properties of NiCuZn Ferrites. <i>Materials Sciences and Applications</i> , 2011, 2 , 1097.		2011
188.	S. A. Mahapure, J. D. Ambekar, L. K. Nikam, R. Marimuthu, M. V. Kulkarni, B. B. Kale* Nanocrystalline Zinc Indium Vanadate: A Novel Photocatalyst for Hydrogen Generation, <i>J. Nanoscience and Nanotechnology</i> , 2011, 11 , 6959-6962.	1	2011
189.	S. A. Mahapure, V. H. Rane, J. D. Ambekar, L. K. Nikam, R. Marimuthu, M. V. Kulkarni, B. B. Kale* , Novel solar light driven photocatalyst, zinc indium vanadate for photodegradation of aqueous phenol, <i>Materials Research Bulletin</i> , 2011, 46 , 635-638	7	2011

S. No.	TITLE	Cited	YEAR
190.	S. K. Apte, S. N. Garaje, G. P. Mane, A. Vinu, S. D. Naik, D. P. Amalnerkar, B. B. Kale* , A Facile Template-Free Approach for the Large-Scale Solid-Phase Synthesis of CdS Nanostructures and Their Excellent Photocatalytic Performance, <i>Small</i> , 2011, 7 , 957-964	64	2011
191.	J. H. Thorat, K. G. Kanade, L. K. Nikam, P. D. Chaudhari, B. B. Kale* Nanostructured ZnO hexagons and optical properties, <i>Journal of Materials Science: Materials in Electronics</i> 2011, 22 , 394-399.	16	2011
192.	S. K. Biswas, J. O. Baeg, B. B. Kale* , R. K. Yadav, S. J. Moon, K. J. Kong, W. W. So, An efficient visible-light active photocatalyst CuAlGaO ₄ for solar hydrogen production, <i>Catalysis Communications</i> , 2011, 12 , 651-654	15	2011
193.	R. P. Panmand, G. Kumar, S. M. Mahajan, M. V. Kulkarni, D. P. Amalnerkar, B. B. Kale* , S. W. Gosavi, Functionality of bismuth sulfide quantum dots/wires-glass nanocomposite as an optical current sensor with enhanced Verdet constant, <i>J Appl. Phys.</i> 2011, 109 , 03310.	17	2011
194.	N. S. Chaudhari, S. S. Warule, S. Muduli, B. B. Kale* , S. Jouen, B. Lefez, B. Hannoyer, S. B. Ogale, Maghemite (hematite) core (shell) nanorods via thermolysis of a molecular solid of Fe-complex, <i>Dalton Trans.</i> , 2011, 40 , 8003-8011	43	2011
195.	S. S. Khot, N. S. Shinde, B. P. Ladgaonkar, B. B. Kale* , S. C. Watawe Magnetic and structural properties of magnesium zinc ferrites synthesized at different temperature, <i>Adv Appl Sci Res</i> 2011, 2 , 460-71.	35	2011
196.	M. Kulkarni, B. B. Kale* , S. Apte, S. Naik, U. Mulik, D. Amalnerkar Synthesis and characterization of polyaniline nanofibres by rapid liquid-liquid interfacial polymerization method, Publishing House of Lviv Polytechnic National University, 2011	15	2011
197.	S. K. Apte, S. N. Garaje, S. S. Arbuj, B. B. Kale* , J. O. Baeg, U. P. Mulik, S. D. Naik, D. P. Amalnerkar, S. W. Gosavi, A novel template free, one pot large scale synthesis of cubic zinc sulfide nanotriangles and its functionality as an efficient photocatalyst for hydrogen production and dyedegradation <i>J. Mater. Chem.</i> , 2011, 21 , 19241-19248	32	2011
198.	N. S. Chaudhari, A. P. Bhirud, R. S. Sonawane, L. K. Nikam, S. S Warule, V. H. Rane, B. B. Kale* , Ecofriendly hydrogen production from abundant hydrogen sulfide using solar light-driven hierarchical nanostructured ZnIn ₂ S ₄ photocatalyst , <i>Green Chem.</i> , 2011, 13 , 2500-2506	82	2011

S. No.	TITLE	Cited	YEAR
199.	B. B. Kale* , J. O. Baeg, K. Kong, S. J. Moon, L. K. Nikam, K. R. Patil Self assembled CdLa2S4 hexagon flowers, nanoprisms and nanowires: novel photocatalysts for solar hydrogen production, <i>J. Mater. Chem.</i> , 2011, 21 , 2624-2631.	29	2011
200.	G. G. Nakhate, V. S. Nikam, K. G. Kanade, S. Arbuj, B. B. Kale* , J. O. Baeg Hydrothermally derived nanosized Ni-doped TiO2: a visible light driven photocatalyst for methylene blue degradation, <i>Materials Chemistry and Physics</i> , 2010, 124 , 976-981.	48	2010
201.	R. P. Panmand, U. V. Kawade, M. V. Kulkarni, S. K. Apte, B. B. Kale* , S. W. Gosavi. Synthesis and characterization of Bi2S3 nanocrystals in glass matrix, <i>Materials Science and Engineering: B</i> 2010 , 168 (1-3), 161-163	11	2010
202.	M. V. Fuke, P. Kanitkar, M. Kulkarni, B. B. Kale* , R. C. Aiyer, Effect of particle size variation of Ag nanoparticles in Polyaniline composite on humidity sensing, <i>Talanta</i> 2010, 81 , 320-326	49	2010
203.	M.A. Jagtap, M.V. Kulkarni, S.K. Apte, S.D. Naik, B.B. Kale* , Microwave-assisted hydrothermal synthesis and characterization of tremella-like polyaniline–vanadium oxide nanocomposite nanosheets, <i>Mater. Sci. Eng., B.</i> , 2010, 168 , 199-203.	12	2010
204.	B. B. Kale* , J.O. Baeg, K. Kong, S.J. Moon, S.M. Lee, W.W. So, Synthesis and structural analysis of visible light photocatalyst, ZnBiGaO ₄ for photocatalytic solar hydrogen production, <i>Int. J. Energy Res.</i> ,2010, 34 , 404-411	22	2010
205.	G. Kumar, S.K. Apte, S.N. Garaje, M.V. Kulkarni, S.M. Mahajan, B.B. Kale* Magneto-optic characteristics of ferric oxide quantum-dot-phosphate glass nanocomposite. <i>Appl Phys A</i> ,2010, 98 , 531-535.	13	2010
206.	S. K. Apte, S. N. Garaje, R. D. Bolade, J. D. Ambekar, M. V. Kulkarni, S. D. Naik, S. W. Gosavi, J. O. Baeg, B. B. Kale* . Hierarchical nanostructures of CdIn ₂ S ₄ via hydrothermal and microwave methods: efficient solar-light-driven photocatalysts, <i>J. Mater. Chem</i> , 2010, 20 , 6095-6102.	47	2010
207.	G. Kumar, S.M. Mahajan, R.P. Panmand, B. B. Kale* , S.W. Gosavi Bismuth Sulfide nanoparticle doped optical current sensors with enhanced Verdet constant, <i>Emerging Trends in Electronic and Photonic Devices & Systems</i> , 2009.		2009
208.	K. G. Kanade, D. P. Amalnerkar, H. S. Potdar, B. B. Kale* , Nanocrystalline Mn–Zn–ferrite by novel oxalato-hydrazinated complex method. <i>Mater Chem Phys</i> , 2009, 117 , 187-191.	34	2009

S. No.	TITLE	Cited	YEAR
209.	M.V. Fuke, A.Vijayan, P. Kanitkar, M. Kulkarni, B.B. Kale* , R.C. Aiyer Ag-polyaniline nanocomposite clad planar optical waveguide based humidity sensor, <i>Journal of Materials Science: Materials in Electronics</i> , 2009, 20 , 695-703.	22	2009
210.	S. Hatamie, V. Dhas, B.B. Kale* , I.S. Mulla, S.N. Kale, Polymer-embedded stannic oxide nanoparticles as humidity sensors, <i>Mater. Sci. Eng. C</i> , 2009, 29 , 847-850.	16	2009
211.	S.S. Warule, N.S. Chaudhari, B.B. Kale* , M.A. More, Novel sonochemical assisted hydrothermal approach towards the controllable synthesis of ZnO nanorods, nanocups and nanoneedles and their photocatalytic study, <i>CrystEngComm</i> , 2009, 11 , 2776-2783	60	2009
212.	K. G. Kanade, J. O. Baeg, K. Kong, B. B. Kale* , S. M. Lee, S. J. Moon, C. W. Lee, S. Yoon, A new layer perovskites $Pb_2Ga_2Nb_2O_{10}$ and $RbPb_2Nb_2O_7$: An efficient visible light driven photocatalysts to hydrogen generation, <i>Inter. J. hydro. energy</i> 2008, 33 , 6904-6912	20	2008
213.	Y. S. Sonawane, K. G. Kanade, B. B. Kale* , R. C. Aiyer, Electrical and gas sensing properties of self-aligned copper-doped zinc oxide nanoparticles, <i>Materials Research Bulletin</i> , 2008, 43 , 2719-2726	71	2008
214.	K. G. Kanade, J. O. Baeg, K. Kong, B. B. Kale* , S. M. Lee, S. J. Moon A novel nanostructured semiconductor photocatalyst for solar hydrogen production, <i>Solar Hydro. Nano.</i> 2008, III , 704400	1	2008
215.	T. C. Jagadale, S. P. Takale, R. S. Sonawane, H. M. Joshi, S. I. Patil, B. B. Kale* , S. B. Ogale N-Doped TiO_2 Nanoparticle Based Visible Light Photocatalyst by Modified Peroxide Sol-Gel Method, <i>J. Phys. Chem. C</i> 2008, 112 , 14595-14602	377	2008
216.	R. S. Sonawane, S. D. Naik, S. K. Apte, M. V. Kulkarni, B. B. Kale* CdS/CdSSe quantum dots in glass matrix, <i>Bull. Mater. Sci.</i> 2008, 31 , 495-499.	20	2008
217.	R. S. Sonawane, S. K. Apte, S. D. Naik, D. B. Raskar, B. B. Kale* Preparation and optical study of CdS nanocrystals embedded phosphate glass, <i>Mater. Res. Bull.</i> 2008, 43 , 618-624.	20	2008
218.	K. G. Kanade, J. O. Baeg, S. K. Apte, T. L. Prakash, B. B. Kale* , Synthesis and characterization of nanocrystalline zirconia by hydrothermal method <i>Mater. Res. Bull.</i> 2008, 43 , 723-729.	63	2008
219.	S. D. Naik, T. C. Jagadale, SK Apte, RS Sonawane, MV	33	2008

S. No.	TITLE	Cited	YEAR
	Kulkarni, SI Patil, S. B. Ogale, B. B. Kale* , Rapid phase-controlled microwave synthesis of nanostructured hierarchical tetragonal and cubic β -In ₂ S ₃ dandelion flowers <i>Chem. Phys. Lett.</i> 2008, 452 , 301-305.		
220.	Y. S. Sonawane, M. V. Kulkarni, B. B. Kale* , R. C. Aiyer, Electrical and humidity sensing properties of synthesized hydrophosphoric acid doped polyaniline, <i>Poly. Advan Tech.</i> 2008, 19 , 60-65.	17	2008
221.	C. B. Park, S. H. Lee, E. Subramanian, B. B. Kale* , S.M. Lee, J. O. Baeg Solar energy in production of l-glutamate through visible light active photocatalyst—redox enzyme coupled bioreactor, <i>Chem. Comm.</i> 2008, 5423-5425	20	2008
222.	K. G. Kanade, J. O. K Baeg, B. B. Kale* , S. M. Lee, S. J. Moon, K. Kong Rose-red color oxynitride Nb ₂ Zr ₆ O ₁₇ -xNx: A visible light photocatalyst to hydrogen production, <i>Inter. J. Hydro. Ener.</i> 2007, 32 , 4678-4684	<u>37</u>	2007
223.	J. Baeg, B. B. Kale* , E. Subramanian, S. J. Moon, K. J. Kong, A Novel Nanostructured Photocatalyst for Solar Hydrogen Production from Hydrogen Sulfide <i>AIChE 2008 Annual Meeting Conference Proceedings, Madison: Omnipress</i> 428	<u>1</u>	2007
224.	K. G. Kanade, B. B. Kale* , J. O. Baeg, S. M. Lee, C. W. Lee, S. J. Moon, H. Chang. Self-assembled aligned Cu doped ZnO nanoparticles for photocatalytic hydrogen production under visible light irradiation, <i>Materials Chemistry and Physics</i> 2007, 102 , 98-104.	<u>160</u>	2007
225.	S. K. Apte, S. D. Naik, R. S. Sonawane, B. B. Kale* , J. O. Baeg Synthesis of Nanosize-Necked Structure α - and γ -Fe ₂ O ₃ and its Photocatalytic Activity. <i>J. Am. Ceramic Soc.</i> 2007, 90 , 412-414	<u>120</u>	2007
226.	K. G. Kanade, R. R. Hawaldar, U. Mulik, B. B. Kale* , D. Amalnerkar Synthesis of CdS nanocrystallites in polymer matrix: sui-generis approach <i>Solid State Phenomena</i> 2007, 119 , 21-26.	<u>3</u>	2007
227.	J. W. Dadge, K. G. Kanade, B. B. Kale* , D. P. Amalnerkar, R. C. Aiyer Hyper Rayleigh scattering in CdS nanoparticles grown in PPS polymer <i>J. Optoelectr. Advan. Mater.</i> 2007, 9 , 2200-2204	<u>2</u>	2007
228.	E. Subramanian, J. O. Baeg, B. B. Kale* , S. M. Lee, S. J. Moon, K. Kong	<u>11</u>	2007

S. No.	TITLE	Cited	YEAR
	Visible light driven ZnFe ₂ Ta ₂ O ₉ catalyzed decomposition of H ₂ S for solar hydrogen production, <i>Bull. Korean Chem. Soc.</i> 2007, 28 , 2089-2092.		
229.	B. B. Kale* J. O. Baeg, S. K. Apte, R. S. Sonawane, S. D. Naik, K. R. Patil Confinement of nano CdS in designated glass: a novel functionality of quantum dot-glass nanosystems in solar hydrogen production, <i>J Mater. Chem.</i> 2007, 17 , 4297-4303	<u>50</u>	2007
230.	K. G. Kanade, J. O. K. Baeg, U. P. Mulik, D. P. Amalnerkar, B. B. Kale* Nano-CdS by polymer-inorganic solid-state reaction: visible light pristine photocatalyst for hydrogen generation, <i>Materials Research Bulletin</i> 2006, 41 , 2219-2225	<u>50</u>	2006
231.	B. B. Kale,* J. O. Baeg, S. M. Lee, H. Chang, S. J. Moon, C. W. Lee CdIn ₂ S ₄ nanotubes and “Marigold” nanostructures: a visible-light photocatalyst. <i>Adv. Funct. Mater.</i> 2006, 16 , 1349–1354	<u>270</u>	2006
232.	K. G. Kanade, B. B. Kale* , R. C. Aiyer, B. K. Das, Effect of solvents on the synthesis of nano-size zinc oxide and its properties, <i>Materials Research Bulletin</i> , 2006, 41 , 590-600	<u>146</u>	2006
233.	S. K. Apte, S. D. Naik, R. S. Sonawane, B. B. Kale,* N. Pavaskar, A. B. Mandale, B. K. Das, Nanosize Mn ₃ O ₄ (Hausmannite) by microwave irradiation method, <i>Materials Research Bulletin</i> 2006, 41 , 647-654	<u>94</u>	2006
234.	J. W. Dadge, S. K. Apte, S. D. Naik, B. B. Kale* , R. C. Aiyer, Temperature dependent nonlinear coefficients and second harmonic generation in quaternary glass system doped with TiO ₂ , <i>J. Optoelectr. Adv. Mat.</i> 2006, 8 , 368	<u>3</u>	2006
235.	A. V. Murugan, B. B. Kale* , L. B. Kunde, A. V. Kulkarni, Comparison of different soft chemical routes synthesis of nanocrystalline LiMn ₂ O ₄ and their influence on its physicochemical properties, <i>J Solid State Electrochem.</i> 2006, 10 , 104-109	<u>10</u>	2006
236.	S. K. Apte, B. B. Kale* , R. S. Sonawane, S. D. Naik, S. S. Bodhale, B. K. Das Homogeneous growth of CdS/CdSSe nanoparticles in glass matrix, <i>Materials Letters</i> 2006, 60 , 499-503	<u>30</u>	2006
237.	K. G. Kanade, J. O. Baeg, B. B. Kale* , S. M. Lee, S. J. Moon, C. W. Lee, H. J. Chang, The Synthesis of Nb ₂ Zr ₆ O _{17-x} N _x : A New Visible Light Oxynitride Photocatalyst, <i>Transactions of the Korean hydrogen and new energy society</i> 2006, 17 , 55-61.	<u>1</u>	2006

S. No.	TITLE	Cited	YEAR
238.	R. Hawaldar, S. Jadkar, B. B. Kale* , U. Mulik, S. Sathaye, D. Amalnerkar Self-assembled Nanocages of Anthracene by Liquid–Liquid Interface Recrystallization Technique, <i>Chemistry letters</i> . 2005, 35 , 26-27.	<u>4</u>	2005
239.	S. D. Naik, S. K. Apte, R. S. Sonawane, U. P. Mulik, B. B. Kale* , Nanostructured CdS/CdSSe glass composite for photonic application <i>Pramana</i> 2005, 65 , 707-712	<u>8</u>	2005
240.	B. B. Kale* , J. O. Baeg, J. S. Yoo, S. M. Lee, C. W. Lee, S. J. Moon, H. Chang Synthesis of a novel photocatalyst, ZnBiVO ₄ , for the photodecomposition of H ₂ S, <i>Canadian J Chem</i> . 2005, 83 , 527-532.	<u>27</u>	2005
241.	A. V. Murugan, B. B. Kale* , A. V. Kulkarni, L. B. Kunde, V. Saaminathan Novel approach to control CdS morphology by simple microwave-solvothermal method, <i>J Mater. Sci.: Materials in Electronics</i> 2005, 16 , 295-299	<u>28</u>	2005
242.	K. G. Kanade, R. R. Hawaldar, R. Pasricha, S. Radhakrishnan, T. Seth, U. P. Mulik, B. B. Kale* , D. P. Amalnerkar, Novel polymer-inorganic solid-state reaction for the synthesis of CdS nanocrystallites. <i>Materials Letters</i> 2005, 59, 554-559	<u>21</u>	2005
243.	B. B. Kale* , J. O. Baeg, S. J. Moon, H. J. Chang, C. W. Lee, Monoclinic ZnBiVO ₄ : A photocatalyst for photohydrogen production, <i>Trans. Korean Hydrogen N. Ener. Soc.</i> 2005, 16, 269-276.		2005
244.	B. B. Kale* , J. O. Baeg, S. M. Lee, S. J. Moon, H. Chang, C. W. Lee, Structure, Morphology and Photocatalytic Activity of Novel Hydrothermal ZnBiVO ₄ . <i>MRS Online Proceedings Library Archive</i> 2005, 878	<u>1</u>	2005
245.	A. V. Murugan, C. W. Kwon, G. Campet, B. B. Kale* , A. B. Mandale, S. R. Sainker, C. S. Gopinath, K. Vijayamohanan, A novel approach to prepare poly (3, 4-ethylenedioxythiophene) nanoribbons between V ₂ O ₅ layers by microwave irradiation, <i>J. Phys. Chem. B</i> 2004, 108 , 10736-10742	<u>63</u>	2004
246.	R. S. Sonawane, B. B. Kale* M. K. Dongare, Preparation and photo-catalytic activity of FeTiO ₂ thin films prepared by sol–gel dip coating, <i>Materials Chemistry and Physics</i> 2004, 85 , 52-57	<u>290</u>	2004
247.	A. V. Murugan, B. B. Kale* L. B. Kunde, A. V. Kulkarni, B. K. Das, N. Pavaskar , Novel Microwave Solvothermal Synthesis Of Layered (Lixmn!. Ycoyo ₂) As A High Capacity Cathode For Rechargeable Lithium Batteries		2004

S. No.	TITLE	Cited	YEAR
	<i>Inorganic Materials: Recent Advances, 173</i>		
248.	K. G. Kanade, B. B. Kale* A. V. Murugan, B. K. Das, Effect Of Solvents On Synthesis Of Nanosize Zinc Oxide, <i>Inorganic Materials: Recent Advances, 177</i>		2004
249.	B. K. Das, P. Sasidharan, B. B. Kale* A. V. Murugan , Inorganic Materials For Use In High Energy Density Batteries And Capacitors For Electronic Applications, <i>Inorganic Materials: Recent Advances, 53</i>		2004
250.	S. D. Naik, S. K. Apte, B. B. Kale* , Thermal And Optical Properties Of Pbo-Zno-B2o3 Glasses. <i>Inorganic Materials: Recent Advances, 472</i>		2004
251.	B. B. Kale*, A. Jha, S. K. Apte, P. V. Adhyapak, D. P. Amalnerkar, Removal of OH impurities from GeS2 by reactive atmosphere and its glass preparation, <i>Materials Chemistry And Physics, 2003, 78, 330-336.</i>	<u>17</u>	2003
252.	R. A. Babhale, R. S. Sonawane, S. S. Bodhale, S. K. Apte, B. B. Kale* , Electroless nickel deposition on mild steel by using a new bath formulation and its characterization. <i>Indian J. Chem. Technol 2003, 10, 154-158.</i>		2003
253.	A. V. Murugan, B. B. Kale* , B. K. Das, A. V. Kulkarni, L. B. Kunde, N. Pavaskar. Spinel LiMn ₂ O ₄ Cathode Material Prepared By A Citric Acid Assisted Sol-Gel Method For Renewable Energy Storage Technology, <i>Advances in Renewable Energy Technologies, 2003, 174</i>		2003
254.	C. W. Kwon, S. J. Hwang, M. H. Delville, C. Labrugère, A. V. Murugan, B. B. Kale* , K. Vijayamohanan, G. Campet, Electrochemistry of inorganic nanocrystalline electrode materials for lithium batteries. <i>Active And Passive Electronic Components, 2003, 26, 23-29</i>	<u>4</u>	2003
255.	A. V. Murugan, C. W. Kwon, G. Campet, B. B. Kale* , Synthesis and characterization of novel organo-inorganic hybrid material of poly (3, 4-ethylene dioxythiophene) and phosphomolybdate anion, <i>Active And Passive Electronic Components 2003, 26, 81-86</i>	<u>6</u>	2003
256.	C. W. Kwon, G. Campet, B. B. Kale* , Structure of Thin Films of Poly (3, 4-ethylenedioxythiophene)[J], <i>Active and Passive Electronic Components 2003, 26, 81-86</i>	<u>12</u>	2003
257.	C. W. Kwon, A. V. Murugan, G. Campet, J. Portier, B. B. Kale* , K Vijaymohanan, J. H. Choy, Poly (3, 4-ethylenedioxythiophene) V2O5 hybrids for lithium batteries <i>Electrochemistry Communications, 2002, 4, 384-387</i>	<u>41</u>	2002

S. No.	TITLE	Cited	YEAR
258.	A. V. Murugan, C. W. Kwon, G. Campet, B. B. Kale* , T. Maddanimath, K. Vijayamohanan. Electrochemical lithium insertion into a poly (3, 4-ethylenedioxythiophene) PEDOT/V2O5 nanocomposite, <i>J. power sources</i> 2002, 105 , 1-5	<u>48</u>	2002
259.	P. Andre, P. Baca, J. Bouet, S. B. Mauduit, R. Brec, M. Calabek, G. Campet, F. Cardellini, A. Cemmi, Y. C. Chang, S. Dallek, M. D. Francesco, P. Deniard, P. Denton, J. F. Fauvarque, L. Giorgi, M. Hattori, Z. Hou, T. Ikeya, K. Ishihara, K. S. Jeong, K. Kajiyama, B. B. Kale* , H. Katz, W.P Kilroy, D. W. Kim, V. Klouz, J. M. Ko, K. Kobayashi, S. Lascaud, Z. Lin, J. P. Lisse, T. Maddanimath, K. Micka, C. Mirodatos, Y. Mita, M. Morita, J. I. Murakami, N. Murotani, A. V. Murugan, H. Narisoko, H. Nasu, B. S. Oh, A. Pozio, J. Qiao, N. Sawada, Y. Tomaki, S. Ujiie, K. Vijayamohanan, B. Yi, W. H. Yo, N. Yoshimoto, H. Yu, J. Zaykosk, <i>J Power Sources</i> 2002, 105 , 99		2002
260.	B. B. Kale* , A. N. Gokarn, Effect of particle size on thermal decomposition of lime shells: Suitability of calcined lime shell for pollution control and energy storage, <i>Indian J.Chem. Technol</i> 2002, 9 , 137-140.		2002
261.	C. W. Kwon, A. Poquet, S. Mornet, G. Campet, J. Portier, A. V. Murugan, B. B. Kale* , K. Vijayamohanan, J. H. Choy, Conductive Polymer/Transition Metal Oxide Hybrid Materials for Lithium Batteries. <i>MRS Online Proceedings Library Archive</i> 2002, 726	<u>1</u>	2002
262.	V. Murugan, B. B. Kale* , V. Swaminathan, R. S. Sonawane, Novel microwave-solvothermal synthesis of nanocrystalline cadmium sulphide for photonics applications. <i>Design, Fabrication, and Characterization of Photonic Devices II</i> 2001, 4594 , 440-447		2001
263.	A. V. Murugan, R. S. Sonawane, B. B. Kale* , S. K. Apte, A. V. Kulkarni Microwave-solvothermal synthesis of nanocrystalline cadmium sulfide <i>Materials Chemistry and Physics</i> 2001, 71 , 98-102	<u>134</u>	2001
264.	U. Rambabu, D. P. Amalnerkar, B. B. Kale* , S. Buddhudu, Optical properties of $\text{LnPO}_4: \text{Tb}^{3+}$ (Ln= Y, La and Gd) powder phosphors <i>Materials Chemistry and Physics</i> 2001, 70 , 1-6	<u>70</u>	2001
265.	A. V. Murugan, B. B. Kale* , V. Swaminathan, R. S. Sonawane, Novel microwave-solvothermal synthesis of nanocrystalline cadmium sulphide for photonics applications. <i>Proceedings-Spie The International Society For Optical Engineering</i> , 2001, 440-446.		2001

S. No.	TITLE	Cited	YEAR
266.	A. V. Murugan, R. S. Sonawane, B. B. Kale* , Synthesis and Characterization of High Specific Capacity of Ppy, <i>Transactions of the Saest 2001</i> , 36 , 49-50.		2001
267.	A. V. Murugan, B. B. Kale* , C. W. Kwon, G. Campet, K. Vijayamohan Synthesis and characterization of a new organo–inorganic poly (3, 4-ethylene dioxythiophene) PEDOT/V2O5 nanocomposite by intercalation, <i>J. Mater. Chem. 2000</i> , 11 , 2470-2475	<u>77</u>	2001
268.	U. Rambabu, D. P. Amalnerkar, B. B. Kale* , S. Buddhudu, The Effect of Zinc Ions on the Fluorescence Spectra of (Ln, Zn)of:Eu ³⁺ (Ln=Y, La and Gd) Powder Phosphors, <i>Spectroscopy Letters 2000</i> , 33 , 423-434	<u>10</u>	2000
269.	R. S. Sonawane, S. K. Apte, B. B. Kale* , M. K. Dongare, Effect of a catalyst on the kinetics of reduction of celestite (SrSO ₄) by active charcoal. <i>Metallurgical and Materials Transactions 2000</i> , B31 , 35-41	<u>15</u>	2000
270.	X. Liu, B. B. Kale* , V. K. Tikhomirov, A. Jha, Reduction of OH–related photoluminescence quenching in Pr ³⁺ -doped GeS ₂ -based glasses by means of purification. <i>J. Non-crystalline Solids 1999</i> , 256 , 294-298.	<u>9</u>	1999
271.	P. Somani, B. B. Kale* , D. P. Amalnerkar, Charge transport mechanism and the effect of poling on the current-voltage characteristics of conducting polyaniline–BaTiO ₃ composites, <i>Synthetic Metals 1999</i> , 106 , 53-58	<u>52</u>	1999
272.	B. B. Kale* , S. S. Kulkarni, A. N. Gokarn, Conversion of Natural Resources through Waste reduction at the Processing Step by Briquetting Technique, <i>NML Jamshedpur 1998</i> 137-142.		1998
273.	B. B. Kale* , A. R. Pande, A. N. Gokarn, Studies in the carbothermic reduction of phosphogypsum, <i>Metallurgical Transactions B 1992</i> , 23 , 567-572	<u>9</u>	1992
274.	S. B. Jagtap, B. B. Kale* , A. N. Gokarn, Carbothermic reduction of nickel oxide: Effect of catalysis on kinetics, <i>Metallurgical Transactions B 1992</i> , 23 , 93-96	<u>10</u>	1992

18. National /International conferences: (Total: 69)

1. Thermal, Mechanical and Electrical Properties of Poly (methyl methacrylate) /Multi-Walled Carbon Nanotubes (PMMA/MWCNTs) Nanocomposites, Mohaseen S.Tamboli, Milind V. Kulkarni and Bharat B. Kale, Second International Conference on nanomaterials: Synthesis, Characterizatuion and Applications (ICN-2012) 12 -15 January 2012, Kottayam, Kerala, India.
2. Effect Of Organic Media /Phase on the Morphology of the Interfacially Synthesized Nanopolyaniline, Sangita M. Thorat, Milind V. Kulkarni and Bharat B. Kale, International Conference on Frontiers of Nanoscience, Nanotechnology and their Applications (NanoSciTech 2012), February 15-18, 2012, Punjab University, Chandigarh, India.

3. Evaluation of Anti-Quorum Sensing Activity of Silver Nanowires in *Pseudomonas aeruginosa*, Mohini A. Jagtap, Rajendra H. Patil, Milind V. Kulkarni, Sarika Pawar, W. N. Gade and Bharat B. Kale, International Conference on Frontiers of Nanoscience, Nanotechnology and their Applications (NanoSciTech 2012), February 15-18, 2012, Punjab University, Chandigarh, India.
4. Development of Novel Conducting Polyaniline based Ink-Jet Printed, Flexible HumiMeitYy Sensor, Milind V. Kulkarni, Sanjay K. Apte, Sonali D. Naik, Jalindar D. Ambekar and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
5. Nano Structured Polyaniline: Challenging Material for Sensor Applications, Sangita M. Thorat, and Milind V. Kulkarni and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
6. Polyaniline - Multi Walled Carbon Nanotubes (MWCNT- PANI) Nanocomposite for Optical pH Sensor, Milind V. Kulkarni and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
7. Studies of Camphor Sulphonic Acid doped Conducting Poly (o-anisidine) and its Application as HumiMeitYy Sensor, Milind V. Kulkarni R. S. Sonawane, R. Marimuthu, A. D. Kandekar and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
8. Silver vanadium oxide/polyaniline (SVO-PANI) nanocomposite for humiMeitYy sensing, Rahul Diggikar, Milind Kulkarni, Rajendra Panmand, Dhanraj Shinde, Girish Kale and Bharat Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
9. HumiMeitYy Sensing Properties of Sulfonic Acid Doped Poly (N-Ethyl Aniline), Mohaseen Tamboli, Milind V. Kulkarni and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
10. Nanostructured Mn and Cu doped ZnO and its impressive gas sensing property, Jyoti H. Throat, Mohaseen S. Tamboli, Prasad D. Chaudhari, Milind V Kulkarni and Bharat B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
11. Ink-Jet Printed Conducting Polyaniline based Flexible HumiMeitYy Sensor, Milind V. Kulkarni, Sanjay K. Apte, Sonali D. Naik, Jalindar D. Ambekar and Bharat B. Kale, The 14th International Meeting on Chemical Sensors (IMCS-2012) May 20 – 23, 2012, Nuremberg, Germany.
12. Development of Optical pH Sensor using Conducting Polyaniline-Wrapped Multiwalled Carbon Nanotubes (PANI-MWCNTs) Nanocomposite, Milind V. Kulkarni and Bharat B. Kale, The 14th International Meeting on Chemical Sensors (IMCS-2012) May 20 – 23, 2012, Nuremberg, Germany.
13. Studies of Anti-Quorum Sensing Activity of Silver Nanowires, Mohini A. Jagtap, Rajendra H. Patil, Sarika Pawar, Milind V. Kulkarni, W. N. Gade, and Bharat B. Kale, 9th International Workshop on Nanomechanical Sensing 2012, June 6th to June 8th 2012, Mumbai, India.
14. Fabrication of Polyaniline Wrapped Multi Walled Carbon Nanotube (PANI-MWCNT) Nanocomposite for Optical pH sensor, Milind V. Kulkarni and Bharat B. Kale, 9th International Workshop on Nanomechanical Sensing 2012, June 6th to June 8th 2012, Mumbai, India.
15. Morphology controlled synthesis of LiV₂O₅/Ag nanocomposite nanotubes with enhanced electrochemical performance, R.S. Diggikar, V. M. Dhavale, D. B. Shinde, N. S. Kanbargi, M. V. Kulkarni and B. B. Kale, RSC Adv., 2012, 2, 3231-3233 (Royal Society of Chemistry Publications).

16. Development of novel conducting polyaniline based Ink-Jet printed, flexible HumiMeitY sensor, M. V. Kulkarni, S. K. Apte, S. D. Naik, J. D. Ambekar and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
17. Nano structured polyaniline: challenges material for sensor applications, S. M. Thorat, M. V. Kulkarni and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
18. Polyaniline-multi walled carbon nanotubes (MWCNT-PANI) nanocomposite for optical pH sensor, M. V. Kulkarni and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
19. Studies of Camphor Sulphonic Acid doped conducting Poly (O-anisidine) and its application as HumiMeitYy sensor, M. V. Kulkarni, R. S. Sonawane, R. Marimuthu, A. D. Kandekar and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
20. Silver vanadium oxide/polyaniline (SVO-PANI) nanocomposite for HumiMeitYy sensing, R.S. Diggikar, M. V. Kulkarni, R. Panmand, D. Shinde, G. Kale and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
21. HumiMeitYy sensing properties of sulfonic acid doped poly (N-Ethyl Aniline), M. V. Kulkarni and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
22. Nanostructured Mn and Cu doped ZnO and its impressive gas sensing property, J. H. Thorat, M. S. Tamboli, P. D. Chaudhari, M. V. Kulkarni and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
23. Ag-PANI nanocomposite: Novel functionality of Antibacterial Activity, M. S. Tamboli, M. V. Kulkarni and B. B. Kale, 1st International Symposium on Physics and Technology of Sensors (ISPTS-1) 8-10th March 2012, Pune.
24. Quantum confinement of CdS in glass and its use for solar hydrogen production, S. Patil, A. Shinde, Y. Sethi, S. Apte, M. Kulkarni, S. Naik, J. Ambekar and B. B. Kale, INDO-US workshop on nanostructured electronic materials: Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
25. Solar hydrogen production and waste degradation by visible light active nanocrystalline Zinc Indium Vanadate photocatalyst, S. A. Mahapure, R. Panmand, J. D. Ambekar, S. K. Apte, S. D. Naik, J. D. Ambekar, B. B. Kale, INDO-US workshop on nanostructured electronic materials: Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
26. Anti-Quorum sensing activity exhibited by silver nanowires, M. S. Wagh, C. K. Ugale, M. V. Kulkarni, R. H. Patil, W. N. Gade and B. B. Kale, INDO-US workshop on nanostructured electronic materials: Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
27. Magneto-Optical Faraday rotation in Bi₂S₃-glass nanosystem with high verdate constant for current sensor application, Rajendra S. Panmand, Satish S. Mahajan, Milind V. Kulkarni, Ravindra S. Sonawane and Bharat B. Kale, INDO-US workshop on nanostructured electronic materials: Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
28. Synthesis and characterization of Nanostructured ZnO from bistiourea zinc acetate (BTZA) complex and its photocatalytic activity, S. R. kadam, L. K. Nikam, R. P. Panmand, R. S. Sonawane and B. B. Kale, INDO-US workshop on nanostructured electronic materials:

Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.

29. Metal quinolet as organic phosphors, Pradnya V Kshirsagar, Milind V. Kulkarni and Bharat B. Kale, INDO-US workshop on nanostructured electronic materials: Challenges and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
30. Facile synthesis of uniform polyaniline nanofibers via Liquid-Liquid interfacial polymerization process, S. M. Thorat, M. V. Kulkarni and B. B. Kale, INDO-US workshop on nanostructured electronic materials: Chalences and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
31. Architecture of nanotubes, nano bipyramids and marigold flowers of CdIn₂S₄ by hydrothermal method and their photohydrogen production under solar light. Ashwini P. Bhirud, Manjiri A. Mahadadalkar, Ravindra S. Sonawane, Dinesh P. Amlanerkar and Bharat B. Kale, INDO-US workshop on nanostructured electronic materials: Chalences and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
32. Nanostructured P-type N-doped ZnO and its Photocatalytic activity for hydrogen generation, Ashwini P. Bhirud, Uttamrao P. Mulik, Latesh K. Nikam and Bharat B. Kale, INDO-US workshop on nanostructured electronic materials: Chalences and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
33. Studies of N-doped TiO₂ synthesized by sol-gel method, Milind V. Kulkarni, Neelima S. Chaudhari, Ujjwala V. Kawade, Matjaz Valant and Bharat B. Kale, INDO-US workshop on nanostructured electronic materials: Chalences and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
34. Synthesis of 6, 13 Pentacenequinone green chemistry approach for photovoltaic application, V. PanMeitY, S. Arbuj, U. Mulik and B. Kale, INDO-US workshop on nanostructured electronic materials: Chalences and relevance to electronics and energy research (IUSWNM-2013), Thrissur, India 8-11, March 2013.
35. Design and fabrication of Mn²⁺@Bi₂S₃ quantum dots–glass nanosystems and their advanced magneto optical properties, Rajendra Panmand, Vivek Mate, Satish Mahajan, Milind Kulkarni, Bharat Kale, “International Union of Material research Society-International Society in Asia” Dec 16-20, 2013, Indian Institute of Science, Bengaluru.
36. Invited talk on Hirarchical Nanostructured Materials for hydrogen production in International conference European Conference on Materials and Technologies for Sustainable Growth (EcoMaTech) Held from 19.9.-22.9.2013 at Bled, Slovenia.
37. Hierarchical RGO based polyaniline nano composites. Rahul Diggikar, Bharat Kale. International Union of Material research Society-International Society in Asia” Dec 16-20, 2013, Indian Institute of Science, Bengaluru.
38. Synthesis of LiCoO₂ as cathode material via combustion method for lithium-ion battery applications, U. Chothe, M. V. Kulkarni, B. B. Kale, National Conference on Advanced Materials and Applications (NCAMA- 2016), held at Fergusson College, Pune, 4th - 5th March 2016.
39. Solvent dependant preparation of Fe₂O₃/Fe₃O₄ nanoparticles and improved capacitance as a supercapacitor, P. R. Kulkarni, S. S. Jadhav, H. M. Gholap, R. P. Panmand, M. V. Kulkarni, B. B. Kale, National conference on Advanced Materials and Applications (NCAMA- 2016) held at Fergusson college, Pune on 4th - 5th March 2016.
40. Growth of the Bi₂X₃ (X=S and Te) quantum dots / rods in glass: An unique highly stable nanosystem with its novel functionality for high performance magneto optical devices, R. P. Panmand, B. B. Kale, S. W. Gosawi, International Conference on Functional Eco-friendly Smart

Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.

41. 2D MoS₂ honeycomb and 3D marigold CdMoS₄ for hydrogen production under visible light, S. R. Kadam, D. J. Late, R. P. Panmand, B. B. Kale, International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.
42. Sol-gel synthesis of titanium oxynitride for environmental remediation and H₂ generation under visible light, S. K. Khore, N. V. Tellabatti, S. P. Takle, S. Naik, S. K. Apte, J. D. Ambekar, B. B. Kale R. S. Sonawane, International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.
43. Synthesis of LiCoO₂ as cathode material with superior performance for lithium-ion battery applications, U. Chothe, M. V. Kulkarni, B. B. Kale, International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.
44. Synthesis and characterization of nanostructured lithium iron phosphate (LiFePO₄) as cathode material for Li-ion battery applications, A. Ambalkar, U. Chothe, A. Gunjal, B. B. Kale M.V. Kulkarni, International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.
45. Rapid synthesis of anode material, lithium titanium oxide (Li₄Ti₅O₁₂) for High Energy Li - ion Battery, S. S. Patil, M. V. Kulkarni, B. B. Kale, International Conference on Functional Eco-friendly Smart Emerging Materials (FESEM-2016), held at B. G. Gholap College, Sangavi, Pune, 10th - 12th March 2016.
46. Magneto-optic evaluation of antiferromagnetic α -Fe₂O₃ nanoparticles coated on a quartz substrate, S. Balasubramanian, R. Panmand, G. Kumar, S. M. Mahajan, B. B. Kale, Proc. SPIE 9758, Quantum Dots and Nanostructures: Growth, Characterization, and Modeling XIII, 97580O, San Francisco, California, United States, 15th March, 2016.
47. Hydrothermal synthesis of pristine and F-doped SnO₂ nanopowders, Shweta V. Mahale, B. B. Kale, Parag V. Adhyapak, Raman Memorial Conference, Department of Physics, Savitribai Phule Pune University, Pune March 3-4, 2017.
48. Spherical hard carbon (SHC) from potato (Root Vegetable) as anode materials for lithium ion battery M. S. Tamboli, A. F. Shaikh, M. R. Mulay, R. P. Panmand, J. D. Ambekar, S. K. Apte, S. D. Naik, R. S. Sonawane M. V. Kulkarni, B. B. Kale, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
49. Hydrothermally synthesized dendrite rGO/BiVO₄ hybrid nanostructures for high-energy symmetric supercapacitor, V. G. Deonikar, S. S. Patil, J. D. Ambekar, M. V. Kulkarni, B. B. Kale, D. R. Patil, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
50. N-ZnO/graphene nanocomposites for high performance supercapacitor; A. P. Bhirud, M. M. Mahadadalkar, S.V. Sadavar, J. D. Ambekar, B. B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
51. Nano-structured platinum loaded CdIn₂S₄ for photocatalytic solar hydrogen production M. M. Mahadadalkar, A. P. Bhirud, S. D. Naik, J. D. Ambekar, M. V. Kulkarni, B. B. Kale, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.

52. Sol-Gel prepared zinc oxide nanowires A. Bari, P. Bari, R. Bari, L. Patil, J. D. Ambekar, B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
53. Ellipsoidal high surface area CuO nanomaterial as an anode material for lithium-ion batteries, Govinda Lakhotiya, Aniket Balapure, Sudhir Arbuj, Mohaseen Tamboli, Bharat Kale, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
54. Hierarchical 3D metal chalcogenide/graphene nanostructures as an anode for li-ion batteries Sayali B. Kale, Manjiri M. Mahadadalkar, Ramchandra S. Kalubarme, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
55. Synthesis and characterization of lithium iron phosphate oxide (LiFePO₄) nanoparticles as cathode material in li-ion battery applications. Anuradha A. Ambalkar, Ujjwala Chothe, Chitra Ugale Sonali Naik, Sanjay Apte, Milind V. Kulkarni, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
56. Electrochemical evaluation of LiCoO₂ synthesized by sol gel method for lithium-ion battery applications Ujjwala Chothe, Anuradha Ambalkar, Sajay Apte, Sonali Naik, Milind V. Kulkarni, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
57. Synthesis of anode material (Li₄Ti₅O₁₂) for li ion battery Reshma Ballal, Santosh Patil, Ashwini Bhirud, Manish S. Jayswal, Milind Kulkarni, Bharat B. Kale, and International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
58. Electrochemical characterization of Li₄Ti₅O₁₂ as an anode for Li ion batteries, Manish S. Jayswal, Ashwini Bhirud, Reshma Ballal, M.V. Kulkarni, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
59. Li₂MoO₄/C: A novel and high-capacity anode material for a lithium-ion battery, Rajendra P. Panmand, Ashwinikumar Tiwari, Trupti Aher, Shamal Dhamale, Yogesh Sethi, Milind V. Kulkarni, N. R. Munirathnam, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
60. Synthesis of LiCoO₂ structures by spray pyrolysis technique for rechargeable li-ion battery Yogesh Sethi, Surendra Gotherwal, Rajendra Panmand, N Muniratham, Milind V. Kulkarni, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
61. Nanowires of Ni substituted MnCo₂O₄ as an anode material for high performance lithium-ion battery, Asiya F. Shaikh, Ramchandra S. Kalubarme, Mohaseen S. Tamboli, Santosh S. Patil, Milind V. Kulkarni, Deepak, R. Patil, Suresh W. Gosavi, Chan-Jin Park, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
62. Implementation of 3 To 6 series cell lithium-ion battery monitor and secondary, protection technique for EV & HEV applications, Deepak Kajale, Anil Kumar, Milind V. Kulkarni, Bharat B. Kale, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.

63. Highly flexible liquid-free supercapacitive device modulated through vanadium oxide encapsulated carbon nanotubes Bidhan PanMeitY, Bharat B. Kale, Babasaheb R. Sankapal, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
64. Hierarchal PANI-MnO₂ nanocomposite via dynamic interfacial polymerization, for electrochemical energy storage Sangita M. Thorat, Ujjwala V. Kawade, Gaurav M. Thorat, Bharat B. Kale, Milind V. Kulkarni, International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
65. Novel green synthesis of ternary metal oxides for energy storage applications, Manasi R. Mulay, Virendrakumar Deonikar, Deepak Dubal, Deepak Patil, Milind V. Kulkarni, Bharat B.Kale, International onference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
66. Synthesis and characterization of carbon supported pt catalyst for polymer, electrolyte membrane fuel cell Shashikant Tekale, Rajendra Panmand, Sunil Kadam, Prashant Suryawanshi, Rajesh Kumar, Shirish Sonawane, Bharat B. Kale International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held on March 8-10, 2017 at C-MET, Pune.
67. Combustion synthesis of porous ZnO nanostructures for lithium ion batteries, Shrinivas C. Motekar, Sudhir S. Arbuj, Govind Umarji, Sunit Rane, International Conference on Advanced Rechargeable & Allied Materials (ICARBM-2017) during March 8-10, 2017 at Pune.
68. Hexagonal SnS₂ nanoplates as anode material for rechargeable lithium ion batteries, Shubhangi Damkale, Sudhir Arbuj, Govind Umarji, Mohaseen Tamboli, Bharat Kale and Sunit Rane, International Conference on Advanced Rechargeable & Allied Materials (ICARBM-2017) during March 8-10, 2017 at Pune.
69. MoO₃-PPS nanocomposite: in-situ generation and superior dielectric performance, Nilam Qureshi, Manish Shinde, Milind Kukarni, Bharat Kale, Anand Bhalerao and Dinesh P. Amalnerkar, International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM-2017) held during March 8-10, 2017 at C-MET, Pune.