

Dr M Y Khaladkar CV:

Name : Dr Manisha Yogesh Khaladkar.

Working at: Govt. College of Engineering Yavatmal

Designation: Associate Professor of Chemistry

Contact : 9822504230; Email id : khaladkar.manisha165@gmail.com;

Birth date: 19/04/1969

- Major Strengths:
 - 1) Sound subject knowledge,
 - 2) Build and lead teams from multi disciplines on long term project,
 - 3) Enthusiasm and willingness to work in competitive and changing world.

- Current Designation: Associate Prof. of Chemistry
- Date of joining: 24/12/1998 (at GCOE Karad)
- Experience: 22 yrs Teaching, 25 years Research.
- **Educational qualification:** B.SC (Chemistry), I Class, 1990, M Sc (Analytical Chemistry) Ist class with distinction 1992 UOP, Ph.D. (Chemistry) Dec 1997 UOP.
- Faculty coordinator Student satellite team 2008 till June 2018.
- F Y B Tech coordinator 2005-2018.
- **Head of the Dept Applied Science:** 1March 1999 till 30 June 2012, 1Nov 2017 till 30 May 2018.
- Astronomy club faculty coordinator 2009-2018, Member Gymkhana working committee.
- **Recipient of Innovative Teacher Award December 2016 by CEDA (Centre for Educational Development Administration)**
- Academic Coordinator of Indian Institute of Information Technology Pune Since May 2016- July 2018
- Invited speaker VEDH Pune 2016
- **Recipient of GYTI award (Gandhiyan Young Technological Innovation) for 2017 as Guide for COEP's passively stabilized nano satellite SWAYAM.**
- **Felicitated by Pune Municipal Corporation on 15th August 2017 for 20 years active service in Teaching and Innovative Research.**
- Delivered Special Keynote address at 9th National Space Science Symposium, 30 Jan 2019, IUCAA Pune.
- **Felicitated by DRDO on IWD, SMILES , 10th March 2019 at DRDO Pune.**
- **Recipient Sant Eshwar Seva Samman by Sant Eshwar foundation in category for Vishesh Yogdan for Women and Youth, 17th November 2019 at New Delhi**
- Patent Published with title "Use Of Cost Effective Catalyst For Enhancement Of Fuel Fractions During Thermoplastic Municipal Waste Recycle" co-workers , Dr M Y Khaladkar, Dr. Mahesh R Shindikar, Dr Yogeshwari Sonawane.

Application number: 201921009968, Date of Publication: 07/06/2019

•Patent published with title 'Process for synthesis of diesel oil by catalytic pyrolysis of thermo-softening plastic wastes' co-authors; S H Deshpande, J A Kher, N V Iyer, G L Agawane, M Y Khaladkar, K V Ghamande. Application no.

202021023096, Date of Application; 02/06/2020, Date of Publication: 03/07/2020

- Research experience: Working in the field of Chemistry, Materials Science, energy generation from thermoplastic waste since Sept 1992.
- Number of Publications: **19** papers in International Journals, **1** Natl. Journal
8 papers presented in National Conf.
5 papers presented in int. natl. symp. (Total -32)

Research

Sponsored projects:

Successfully completed projects in stipulated time (July 2007- Jan 2014) and 1 DRDO Project. Two ongoing Research projects **Total grant received- 65.61 lakh**

- Preparation of micro crystalline powders of $ZnNb_2O_6$, $ZnTa_2O_6$, $Mg Nb_2O_6$, $MgTa_2O_6$ for microwave dielectric applications.(Rs 7.75 Lakh) as PI 2007-10
- Design and fabrication of hydrogen gas leak sensor array using neural network. (Rs.7.75 lakh) as Co-PI, 2007-10
- Improvement of working time and Tg of VARTM resin system and toughening of RFI resin system'(Rs. 4.49 lakh) CARS project by DRDO as PI, 2008 - 09.
- Preparation of Barium Magnesium Tantalate (BMT) and Barium Zinc Tantalate(BZT) with and without dopants for microwave dielectric application' (Rs 10 Lakh) as PI, 2011-13.
- Stabilization of zirconia for thermal barrier coating and indigenization of the product. (Rs 15.02 lakh) as PI, 2014 - 16
- Fabrication of a small satellite for monitoring radiations in different orbits of outer atmosphere where orbit maneuvering will be controlled by solar sail.ISRO_UOP_STC,(Rs. 20.6 Lakh) as PI, 2016-18

Recognized guide for supervising M.Phil and Ph.D. in Chemistry by Pune University.

At present supervising work for 2 students; 4 student have been awarded Ph.D.

Organizing Research Conferences:

- **Co-Convenor** 35th Annual Conference of the Indian Counsel of Chemists, 22-24 Dec 2016 at Pune
- **Organizing Secretary**- National Conference 'WE MEET'- Sept 2010, National Conference on Materials for Electronic Applications **NCMEA14**.
- Chaired Session at-Bioengineering Sciences -National Conference March 2013, ISAMPE - National Conference conducted by R&D Engineers, DRDO, Pune 2011
- **Member Executive committee** – Sharada Shakti- A National movement for women(NGO working for the spread of Science and Technology among Women and children)
- Delivered TEDx talk at NIT Raipur on 25 March 2017 (Available on You tube)

- Delivered special Plenary session at NSSS-2019, on 30 Jan 2019 at SPPU: 'Swayam a success story of team work and Interdisciplinary research'.
- Felicitation in IWD by DRDO on 9 March 2019.
- Delivered a talk on 'Plan and grow as a teacher' on 5th Sept 2020 at Shakti National saturday talk series.
- Co-ordinated felicitation of Shanti Swarup Bhatnagar awardees for the year 2020 through Sharda Shakti
- Organized 1week STTP on Sustainable Plastic Management Jan 2021.
- Completed MS DEED stage one course during 4-7 March 2022, conducted by MSFDA and IISER Pune.
- Completed 2 weeks MS DEED Master trainer program of MSFDA
- Participated in National Conference on Energy and Environment for Sustainable Development (NCEESD-2022) July 5-6, 2022, Government College of Engineering and Research Avasari(Kh) and authored paper entitled CATALYTIC PYROLYSIS OF THERMOPLASTIC WASTE FOR ENHANCEMENT OF GASOLINE FRACTION

Faculty Adviser COEP Satellite Initiative

On 22nd June 2016, India's PSLV C34 mission launched record number of satellites (21) and one of them was SWAYAM (developed by the students of College of Engineering, Pune) for 2-way communication using HAM band. India is at the cusp of technological leap in such technologies which can catapult it into a leadership role at global level. It is imperative that we have the necessary talent, skill and interest in young students who are doing research at undergraduate level. My contribution to this field is acting as a change agent, stimulating and challenging young students in satellite technologies and serving as mentor.

My noteworthy contribution can be summarized as:

- Ramped up 8 consecutive batches of students ensuring smooth progress from proposal stage to launch of SWAYAM and the work still continues total 176 students participated in the mission.
- Played active role in deciding on the specifications of various components, payload, trials, quality control, building functional ground station and maintaining error free documentation.
- My role also included clearing all administrative and logistical hurdles, providing technical assistance, acting as a single point contact between students and ISRO scientists and researchers.
- All of this was done while serving my job of teaching, research in addition to social work through an NGO (Shakti- Women's wing of Vigyan Bharati) for woman empowerment using Science and Technology.
- After successful launch and stabilization of SWAYAM work for another satellite has been initiated.
- I am spreading the success story to students, citizens through talks, open interviews and magazine articles so as to kindle the spirit of research among young students.
- I dream of India as a leader not only in technology but a society that strives for equality and empowerment of all including women.

Work Highlights

Academic:

Expert talk: STTP, Recent advances in Analytical Instrumentation at Department of Applied Science June 2015

Keynote speaker: G H Raisoni college of Engineering at national Conference ACCNET-2016,10 Feb 2016; Guest speaker at AISSMS COE Pune March 2016.

Invited speaker at : Women Scientist Association Seminar, John Deere Innovation centre, CII, ACMA, EATON, Tech Mahindra, Marathi Vigyan parisad, J C Bose Anniversary Celebration at MIT College Pune By Vigyan Bharati, Adarsha Shikshan Mandali Alumni Association, Bharatiya Stree Shakti- 9th Maharashtra Prant Adhiveshan.

Articles in magazines: Vidyarthi, Samatol, Rutugandha- Diwali 2016, Srushtidnyan April 2016, Edusearch (ISSN 2278-2370, Vol- 1, Number-04- December 2016

Interviews on: Akashwani Pune, AIR, Akashwani Indoor, Radio Mirchi, Podcast on Vishwa-wani on 1 Jan 2018.

Social and cultural:

- Working as secretary sharada Shakti- A national movement for women
- Edited a magazine issue for PRAMA -
- Member organizing committee: National conference on Women health challenges and solutions.
- Organized inter-college Pathnatya competition: On status of woman in society
- Gave an expert talk at Vigyan katta on carbon footprint reduction
- Working as member secretary women cell/ICC of COEP.

1)ORCID identifier is 0000-0003-1929-9009, and your full ORCID iD and the link to your public record is <http://orcid.org/0000-0003-1929-9009> (primary email: myk.appsci@coep.ac.in).

Books Published:

1.Applied Science-I , Nirali Publication, (A textbook of Applied Science for First Year Degree Courses in Engineering)- In print since 2004 till 2009

2. Applied Science-II , Nirali Publication, (A textbook of Applied Science for First Year Degree Courses in Engineering)- In print since 2004 till 2009

3. Engineering Chemistry Nirali Publication (First Part of Applied Science -I for First year degree course in Engineering) In print since 2010 till present year every year new revised edition is printed

4. A textbook of Engineering Chemistry for BATU, July 2018, Nirali Publication.

Publications: Less recent publications

- 1) "Reactivity of oxalates of La (III), Ba (II) and Cu (II) in ternary mixtures", Journal of Thermal Analysis, (L. Bapat, M. Bhide and J. Kher), Vol. 48 (1997) 819 – 834.
- 2) "Reactivity of oxalates of La (III) and Cu (II) in binary mixtures", Journal of Thermal Analysis, (L. Bapat, G. N. Natu, M. Bhide and J. Kher), Vol. 48, 1997, 1337 – 1349.
- 3) "Thermal behavior of quaternary mixtures of oxalates of Bi (III), Sr (II), Ca (II) and Cu (II)", Proceedings of 10th National Symposium of Thermal Analysis, held at Kanpur, India, ITA95, (Eds. Mukherjee, Bhardwaj, Sudarasanan, Dharadwarkar). p.p. 110 – 112 (L. Bapat, G. N. Natu, M. Bhide and J. Kher). (1995)
- 4) "Preparation of binary composites of Cu (II) oxalate with La (II) oxide", Proceedings of 10th National Symposium on Thermal Analysis, held at Kanpur, India, ITA95, (Eds. Mukherjee, Bhardwaj, Sudarasanan, Dharadwarkar). p.p. 112 – 113 (L. Bapat, G. N. Natu, M. Bhide and J. Kher). (1995)
- 5) "Reactivity of binary mixtures of La (III) oxide and Cu (II) oxalate and synthesis of a La (III) cuprate. (L. Bapat, G. N. Natu, M. Bhide and J. Kher). Journal of Thermal Analysis and Calorimetry. Vol 62 (2000) 285 – 294.
- 6) Analytical Instrumentation at a glance Presented at the International conference of Instrumentation Dec 2004
- 7) A Novel design of catalytic converter for control of automobile exhaust gases: Presented in 16th AGM of the Materials Research society of India 2005 at NCL Pune

Ph.D. Thesis supervised

- 1) Ms Namrata Saraf: Co-Guide: Title: Synthesis and Performance of pure and doped barium Zinc Tantalate and Barium Zinc Niobate ceramics for Dielectric Applications Dec. 2014
- 2) Mrs. Yogeshwari Sonawane: Co-guide: Studies on Recycling of Thermoplastic waste for Enhancing Gasoline fractions In Liquid Fuel By Catalytic Pyrolysis. Feb. 2018
- 3) Mrs Rucha Purandare: Guide: Synthesis of Translucent Zirconia and its selected applications for Sensors for VOCs and Explosives. June 2018
- 4) Mr. Omkar Pawar: Guide: Synthesis and characterization of Transition Metal Complexes of 2,3-substituted-1,4-Naphthoquinones: Biological Studies with Sensor Applications" 24 Dec 2019.

Programs attended during 2019-June 2020

1				
1	Opportunities and Challenges in Materials for Energy Generation and Storage for E - Vehicles	National Symposium	03,04-01-2020	COEP
2	Synthesis, Characterization, applications of Nanomaterials	1 week TEQIP sponsored STTP	16-20 December 2019	COEP Metallurgy
3	Certification Course on Digital Teaching Techniques.	1 Week STTP	29 June -4 July 2020	ICT Academy
4	Water, sanitation, hygiene, and waste management for the COVID-19 virus	2 day webinar	15,16 June 2020	Chitkara university
5	CO-PO Attainment Computation and Outcomes Analysis	1 day workshop	13 June 2020	Inpods, ED Tech
6	Certificate course in Environmental Sustainability	12 Weeks	1 Jan - April 2020	IGNOU-SWAYAM
7	Streamlining Engineering curriculum for NEP 2020 and management of teaching learning in on line education	3 days	11-13 September 2020	IIT Kharagpur
8	MS DEED level 1 Innovative Teaching Pedagogy	3days	4-7 March 2022	IISER Pune-MSFDA – online
9	MS DEED 2 week Master Trainer Program	2 weeks	16-28 May 2022	IISER Pune

Research Projects: under SIPO-PS4-OP- Submitted on 27 Dec 2019, Presented on 28 May 2020.

- 1) Demonstration of Solar Sail deployment system in space - Approved

List of Publications: Dr Manisha Yogesh Khaladkar (Maiden Name M. B. Bhide)

International Journal Papers:

- 1) Reactivity of oxalates of La (III), Ba (II) and Cu (II) in ternary mixtures, **Journal of Thermal Analysis**, (L. Bapat, M. Bhide and J. Kher), Vol. 48 (1997) 819 – 834.
- 2) Reactivity of oxalates of La (III) and Cu (II) in binary mixtures”, **Journal of Thermal Analysis**, (L. Bapat, G. N. Natu, M. Bhide and J. Kher), Vol. 48, 1997, 1337 – 1349.

3) "Reactivity of binary mixtures of La (III) oxide and Cu (II) oxalate and synthesis of a La (III) cuprate. (L. Bapat, G. N. Natu, M. Bhide and J. Kher). **Journal of Thermal Analysis and Calorimetry**. Vol 62 (2000) 285 – 294.

4) Effect of B₂O₃ Addition on physical and dielectric Properties of Barium Magnesium Tantalate Ba(Mg_{0.33}Ta_{0.66})O₃, M Y Khaladkar, Namrata Saraf, I S Mulla, R V Kashalkar, International Journal of advance studies in computers, Science and engineering (IJASCSE) Vol. 1 Issue 2, Oct 2012, **International Journal**,

5) Low Temperature Synthesis of Ba₃Ta₂ZnO₉ (BZT) and Ba₃Nb₂ZnO₉ (BZN) by Wet Chemical Route, M Y Khaladkar, Namrata Saraf, I S Mulla, R V Kashalkar, International Journal of advance studies in computers, Science and engineering (IJASCSE) Vol. 1 Issue 2, Oct 2012, **International Journal**

6) Electrical Conductivity of Binary Lanthanum Cuprates. M Y Khaladkar, J A Kher, N V Iyer, **IJRSET**, Vol. 2 Issue: 8, August 2013, Page no-3473-3478. ISSN 2319-8753

7) Systematic study of reactions involved in formation of Barium Magnesium Tantalate when synthesized by solid state route, N saraf, R V Kashalkar, M Y Khaladkar, I S Mulla, R Purandare, **IJRSET** Vol 3, Issue 6, June 2014, pp, 14079-82, ISSN 2319-8753.

8) Effect of addition of B₂O₃ on dielectric properties of BMN,BZN,BMNT and BZNT,

M Y Khaladkar, N S Saraf, R R Purandare, **IJRSET** Vol 3, Issue 6, June 2014, pp 14072-78, ISSN 2319-8753.

9) Study of Carbon Materials and Effect of Its Ball Milling, on Capacitance of supercapacitor, L.S.Godse , Dr. P.B. Karandikar, Dr. M.Y. Khaladkar, 4th International Conference on Advances in Energy Research 2013, ICAER 2013, **Elsevier Energy Procedia** 54 (2014) 302 – 309.

10) Onsite Conversion of Thermoplastic Waste into fuel by catalytic Pyrolysis, Y B Sonawane, M R Shindikar,M Y Khaladkar, International Journal of Innovative Research in Science, Engineering and Technology, Vol3, Issue 9, Sept 2014, pg 15903-15907, ISSN 2319-8753

11) Use of Catalyst in Pyrolysis of Polypropylene Waste into Liquid Fuel, Y B Sonawane, M R Shindikar,M Y Khaladkar, **International Research Journal** of Environment Sciences, Vol. 4(7), 24-28, July (2015), ISSN 2319–1414.

12) High Density Polyethylene Waste Treatment By Using Catalytic Pyrolysis To Recover Liquid Fuel, Y B Sonawane, M R Shindikar,M Y Khaladkar, **International Journal** of Science, Environment and Technology, 5(3):1421 – 1425.2016, ISSN 2278-3687

13) Comparative Study of Ytria Stabilized Zirconia Prepared by Co-precipitation Method using Various Precursors and its Potential as Gas Sensor, M Y Khaladkar , Rucha Purandare, **International Journal of . Res. Chem. Environ.** Vol. 6 Issue 2 (14-17) April 2016, ISSN 2248- 9649

14) Transforming Low Density Polyethylene Waste into Diesel Grade Fuel by

Catalytic Pyrolysis, Y.B.Sonawane, M.R. Shindikar, M.Y.Khaladkar, **International Journal of Research Chemistry Environment** Vol. 6, Issue 4 (10-15). October 2016; ISSN 2248- 9649.

15) The Synthesis and Characterization of Metal Oxide Nanoparticles and Its Application for Photo catalysis, M Y Khaladkar and Deepali Butala, **IJSRP**, Vol-7, Issue-3, page no. 499-504, March 2017, ISSN-2250-3153.

16) Gas Sensing Potential of Strontia Doped Ytria Stabilized Zirconia, Rucha Purandare & M Y Khaladkar, **International Journal of Engineering and Technology, IJET**, Vol- 9 no.2, April-May 2017, page no. 1187-1195, ISSN-2319-8613.

DOI: [10.21817/ijet/2017/v9i2/170902142](https://doi.org/10.21817/ijet/2017/v9i2/170902142)

17) High Calorific Value Fuel From Household Plastic Waste by Catalytic Pyrolysis, Y.B.Sonawane, M.R. Shindikar, M.Y.Khaladkar, *Nature Environment and Pollution Technology*, Volume 16, issue 3, 2017, page no. 879-882. ISSN no. 2395-3454.

18) Effects of Temperature on Hydrocarbon Fractions Obtained by Catalytic Pyrolysis of Low Density Polyethylene, Sangeetha Hanumant Ghamande, N. V. Iyer, M. Y. Khaladkar, G. L. Agawane, & J. A. Kher, *International Journal of Advanced Science and Technology International Journal of Advanced Science and Technology* ,Vol. 28, No. 19, (2019), pp. 1291- 1297. The ISSN 22076360, 20054238. Publisher: Science and Engineering Research. SCImago Journal Rank (SJR): 0.13

19) Antineoplastic Activity of Alkylaminolapachol Analogues and their Copper Complexes against MDA-MB-231 Human Breast Cancer Cell Lines, O.B. Pawar, K.V. Sanas, R.B. Patwardhan S.A. Waghmode and M.Y. Khaladkar, *Asian Journal of Chemistry*; Vol. 32, No. 4 March (2020), pp 887-895., ISSN :0970-7077

DOI: 10.14233/ajchem.2020. 22496

Publications in National Journal By Dr M Y Khaladkar

1) COEP-student satellite Initiative- A case study on Innovation by Student Faculty Participation, M Y Khaladkar, *Edusearch*, Volume 1, issue no.4, December 2016, Page no.56-61; ISSN2278-2370. National Journal.

National & International Conference/ Symposium/ Workshop Papers: Dr M Y Khaladkar

- 1) Thermal behavior of quaternary mixtures of oxalates of Bi (III), Sr (II), Ca (II) and Cu (II), **Oral**, Proceedings of **10th National Symposium of Thermal Analysis**, held at Kanpur, India, **ITA95**, (Eds. Mukherjee, Bhardwaj, Sudarasanan, Dharadwarkar). p.p. 110 – 112 (L. Bapat, G. N. Natu, M. Bhide and J. Kher). (1995)
- 2) “Preparation of binary composites of Cu (II) oxalate with La (II) oxide”, **Oral**, Proceedings of **10th National Symposium on Thermal Analysis**, held at Kanpur, India, **ITA95**, (Eds. Mukherjee, Bhardwaj, Sudarasanan, Dharadwarkar). p.p. 112 – 113 (L. Bapat, G. N. Natu, M. Bhide and J. Kher). (1995)
- 3) Preparation of zinc niobate (AB₂O₃) Perovskite type structure for microwave dielectric applications. M.Y. Khaladkar, Namrata Saraf, R.P.Mudhalwadkar, Poster, 16th MRSI AGM at Thiruvananthapuram (India) , 14-16 Feb 2008- **National Conference**
- 4) Low temperature synthesis of Ba₃Ta₂ ZnO₉ (BZT) by wet chemical route; M.Y. Khaladkar, Namrata Saraf , ORAL presentation, NCMC 2008 **National conference** at Vishakahapattannm (India) during 28-30 August,2008
- 5) Preparation of LaCoO₃ by oxalate precursor method. **Poster** J. A. Kher, M. Y. Khaladkar and N. V Iyer, **International Symposium** on Advanced Materials and Polymers for Aerospace and Defense Applications (SAMPADA-2008),
- 6) Preparation of LaNiO₃ by oxalate precursor method **Poster**, J. A. Kher, M. Y. Khaladkar and N. V Iyer, **International Symposium** on Advanced Materials and Polymers for Aerospace and Defense Applications (SAMPADA-2008),
- 7) Low temperature synthesis of Ba₃Ta₂ ZnO₉ (BZT), Ba₃Nb₂ ZnO₉ (BZN) by wet chemical route, M .Y. Khaladkar, Namrata Saraf, R. P. Mudhalwadkar, Oral, **International Symposium** on Advanced Materials and Polymers for Aerospace and Defense Applications (SAMPADA-2008),
- 8) Effect of Sintering on surface morphology particle size of Binary oxides AB₂O₆ structure (M²⁺ (M= Zn/Mg) (Nb /Ta)₂O₆. M.Y. Khaladkar, Namrata Saraf, **Oral**, **International Symposium** on Material's Education (ISME) at Pune India. 26-28th March 2011.
- 9) Comparative study on crystal structure transformation in niobates and tantalates used in DR's. M.Y. Khaladkar, Namrata Saraf, **Oral**, INCCOM 10- ISAMPE 11 at R&D Engg. Pune, **National Conference**.
- 10) Development of low cost method of synthesis of materials for microwave dielectric application. M.Y. Khaladkar, Namrata Saraf, **Poster**, 4th International Congress on Ceramics.(ICC4) , 15-19 July 2012 Chicago USA, **International Conference**

11) Comparative Study of Ytria Stabilized Zirconia Prepared by Co-Precipitation Method Using Various Precursors and its Potential as Gas Sensor. M Y Khaladkar , Rucha Purandare, **National Conference on Inter- and intra- Disciplinary blend of Chemical Engineering**, Chemix-15, 28-29 March 2015, VNIT, Nagpur

12) CATALYTIC PYROLYSIS OF THERMOPLASTIC WASTE FOR ENHANCEMENT OF GASOLINE FRACTION M Y Khaladkar, M R Shindikar , Y B Sonawane, National Conference on Energy and Environment for Sustainable Development (NCEESD-2022) July 5-6, 2022, Government College of Engineering and Research Avasari (Kh),