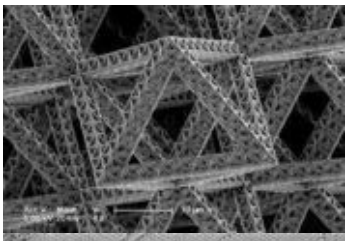
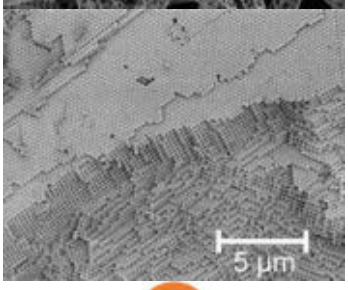
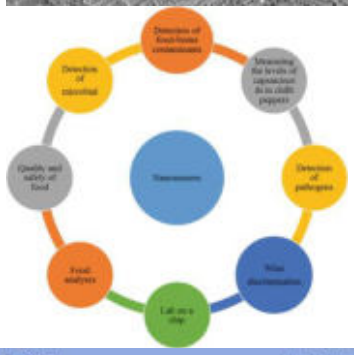
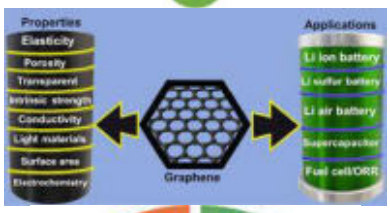








Curriculum Vite

Dr Annasaheb V. Moholkar,
M.Sc.,Ph.D.,
BOYSCAST Fellow, F.M.A.Sc.,
Top 2% World's Scientsts,,
National Young Scientists,
Department of Physics,
TFNML Group,
Shivaji University, Kolhapur - 416004

https://www.youtube.com/watch?v=7hQ3zIQTwoY

https://www.youtube.com/watch?v=Zi4OBWPH3qI

https://public.app/video/sp_y3jn50p1entp9

Academic Identity

Orcid Id
0000-0002-5564-3957

Scopus Id
14822311700

Researcher Id
AAE-4170-2021

Google Scholar Id
Jt6J73QAAAAJ

Microsoft Acdemic Search Id
1523752145

VIDWAN
Expert Database & National Researcher's Network

CURRICULUM VITAE

Orcid Id : 0000-0002-5564-3957
Scopus Id: 14822311700
UGC IRINS Id: 100675
Google Scholar Id: Jt6J73QAAAAJ
Researcher: AAE-4170-2021
Microsoft Academic Search Id: 1523752145

Full Name

Dr. Annasaheb Vitthal Moholkar

M.Sc., Ph.D.

BOYSCAST Fellow (2009), F.M.A.Sc. (2014)
Rashtriya Yuva Shastradnya (2019),
Adarsh Shishak Purshkar (2016),
World's Top 2% Scientists (2020),
University and World Ranker (2021),
Excellence in Research (2021),
Distinguished Faculty in Materials (2021),
The Best Teacher Award (2021),
Fellow Of Engineered Science Award (2023)

Correspondence address:

Associate Professor,

Thin Film Nano Materials Laboratory,

Department of Physics,Shivaji University,

Kolhapur-416 004, Maharashtra, India.

Email(s) and contact number(s):

avmoholkar@gmail.com,

avm_phy@unishivaji.ac.in

(M): +91 9960337556, +91 9423802430

(O): +91-231-2609229, Fax: +91-231-260233

Institution: Shivaji University, Kolhapur.

Date of Birth: 01/06/1968

Gender (M/F/T): M

Research Specialization: Nano Materials Thin Films, Nanostructured Photoelectrochemical, Photocatalytic, Photoelectric Devices, Fuel Cells, Dye Sensitized and Solid-State Junction Solar Cells, Transparent Conductive Oxides, Bio and Gas Sensors, Supercapacitors, Green Energy

1)Academic Qualification (Undergraduate Onwards)

Sr. no.	Degree	Year of Passing	Subject	University/Institution	% of marks
1	B.Sc.	1992	Physics	Shivaji University	55.81
2	M.Sc.	1994	Physics	Shivaji University	55.93
3	M.Phil.	1995	Physics	Shivaji University	A Grade
4	D.C.P.	2003	Computer	Shivaji University	68.35
5	Ph.D.*	2007	Physics	Shivaji University	Awarded

2) Ph. D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Ph. D thesis title: **"The Preparation and characterization of Sprayed Fluorine Doped Tin oxide (FTO) and Tin Doped Indiumoxide (ITO) Thin films"**

Guide's Name: Prof. Dr. C. H. Bhosale

Institute/Organization/University: Shivaji University, Kolhapur, (M.S.)

Year of Award: 2007

3) Work experience

Sr. No.	Positions held	Name of the institute	From	To	Pay Scale
1.	Assistant Professor	G.K.G. College, Kolhapur	25/06/1994	10/01/2011	15600-39100
2.	Visiting Professor	Chonnam National University, Gwangju, South Korea	10/03/2009	09/03/2010	G.P. 6000/- 300000 Won's
3.	Associate Professor	Shivaji University	11/01/2011	Till to date	As above

4) Professional Recognition/ Award/ Prize/ Certificate, Fellowship Received

Sr. No	Name of Award	Awarding Agency	Year

1.	First Rank holder of the First Star Competition	Govt. of Maharashtra	1983
2.	Best Poster Presentation Award	Indian Council of Chemists, ICC-25, Birla College, Mumbai	2006
3.	Better Opportunities for Young Scientist in Chosen Areas of Science and Technology" (BOYSCAST) Fellowship	DST, New Delhi, GOI, SR/BY/P-02, 2008,21/01/2009	2009
4.	Fellow of Maharashtra Academy of Sciences	M.A.S. ALF-990, 20 11. 2014	2014
5.	Member of Indian Science Congress Association	ISCA, Koltakata L35020	2018
6.	Rashtriya Yuva Shastradnya	Avishkar Foundation, Amaravati	2019
7.	Top 2% World Scientists (Plos Biology USA, 2020).	Stanford University, USA	2021
8.	Best Poster Presentation Award (Second Prize)	Qatar University, Qatar	2021
9.	Members of Professional Bodies	(ISC, AIP, ES, SUTA, MAS, IAPT, IP)	From 1994

5) Minor / Major Projects completed/ongoing/submitted: Completed: 05, Minor-02 Major-03, Ongoing: 01, Submitted: 01

A) Details of Projects under implementation:

Sr. No.	Title	Cost in Lakh	Duration	PI and CO-PI	Your Role (PI/Co-PI)	Agency
1.	A synergetic strategy to detect hazardous gases using nanostructured MoO_3-V_2O_5 composites by chemical route	26.75	27/07/2018 To 26/07/2021	A.V. Moholkar	PI	SERB, New Delhi

B) Details of Projects Completed during last 5 years

Sr. No.	Title	Cost in Lakh	Duration	PI and CO-PI Name	Your Role (PI/Co-PI)	Agency
1.	Studies on spray deposited CZTS thin films for solid state junction solar cells	13.998	01/06/2012 and 31/05/2015	A.V. Moholkar	PI	UGC, New Delhi

2.	Photoelectrocatalytic performance of spray depositednanocrystalline stratified oxide semiconductor thin films	10.16	23/05/2013 To 22/05/2016	C.H. Bhosaleand A.V. Moholkar	Co-PI	DST, New Delhi
3.	Development of Porous Nanocarbon Electrodes for Alkaline Fuel Cells	23.11	26/11/2013 To 25/11/2016	C.H. Bhosale and A.V. Moholkar	Co-PI	BRNS-DAE, Mumbai

C) Previous Projects Details

Sr. No.	Project Title	PI Name	Co-PI Name	Amount Rs. (in lakhs)	Status	Date of Start	Date of Completion	Agency
.1	Preparation and characterization of spray deposited fluorine dopedtin oxide (FTO) and indium doped tin oxide (ITO) and their use as gas sensors	A.V. Moholkar	PI	0.78	Completed	1st June 2012	31st May 2015	UGC, New Delhi
2	Synthesis of Cu_2ZnSnS_4 (CZTS) thin films by spray pyrolysis technique	A.V. Moholkar	PI	1.15	Completed	1st April 2009	31st March 2011	UGC, New Delhi

D) Submitted Projects Details

Sr. No.	Project Title	PI Name	Co-PI Name	Amount Rs. (in lakhs)	Status	Date of Start	Date of Completion	Agency
.1	Novel Development Of Photoelectrochemical, Dye Sensitized and Solid State Hetero-Junction Solar Cells Based On Ultrasonically Sprayed	A.V. Moholkar	PI	54.41	Submitted on 09th Oct. 2020	-	-	SERB, New Delhi

$Cu_2CoSn(S,Se)_4$ Thin Films

6) Patent granted:

Sr. No.	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/ Country	Status
1	Green Process for Preparing Earth-abundant Copper Chalcogenide Nanocrystals and Uses There of.	Jin Hyeok Kim, Mahesh P. Suryawanshi, Jong Ha Moon, **Annasaheb V. Moholkar**, Myeng Gil Gang	(Patent filed – 2016/02/09)	-	South Korea	Filed

7) Books/Reports/Chapters/General articles etc. Books (06) and Chapters (03):

Sr. No	Title of the Book	Author's Name	Publisher	Year of Publication
1	Transparent Conductors: Studies on Sprayed Fluorine Doped Tin Oxide (FTO) and Tin Doped Indium Oxide (ITO) thin films	Annasaheb V. Moholkar	LAP LAMBERT Academic Publishing, Germany ISBN No. 978-3-659-74854-7	2011
2	Thin Film Deposition Methods and Characterization Techniques	Annasaheb V. Moholkar	1,15,000/-	2012
3	Solution processing of CZTS thin films for solar cells: Layer-by-layer synthesis of CZTS thin films by Modified-SILAR green-route for Photoelectrochemical solar cells	Mahesh Suryawanshi Annasaheb Moholkar	LAP LAMBERT Academic Publishing, Germany 978-3-659-92340-1	2016
4	Studies on sprayed $(M_oO_3)_1$-$X(V_2O_5)$ X films for gas sensor application	Amol Mane, Annasaheb Moholkar	LAP LAMBERT Academic Publishing, Germany 918-613-9-92784-5	2018
5	Earth-abundant Nanomaterials for Photovoltaic Applications: Synthesis of $Cu_2ZnSn(S,Se)_4$ nanoparticles	Mahesh Suryawanshi, Annasaheb Moholkar	LAP LAMBERT Academic Publishing, Germany 978-3-659-92340-1	2018

6	Green route synthesis of metal oxides for dye sensitized solar cell	Mayur Gaikwad, Annasaheb Moholkar	LAP LAMBERT Academic Publishing, Germany 978-613-9-96574-8	2018
7	**Back Cover A Synergetic Effect T Detect Hazardous Gases By MoO_3 V_2O_5 Composites Transition Metal based Oxide Semiconductor gas sensor**	**Amol Mane, Annasaheb Moholkar Senhal Nikam**	**LAP LAMBERT Academic Publishing, Germany 978-613—9-92784-5**	**2019**

8) Book chapters

1) Chapter on "Synthesis of $Cu_2ZnSn(S,Se)_4$ nanoparticles" "Earth-abundant Nanomaterials for Photovoltaic Applications, by writing the World Scientific Publishing Co. Pvt. Ltd." , M.P. Suryavansi, A.A. Mane, V.R. Reddy, C.M. Park, A.V. Moholkar, **ISSN** (print): 2529-7864 **ISSN** (online): 2529-7872 (Accepted 2020)

2) "Macroporous carbon-based materials for electrochemical Supercapacitors " in the book Nanostructured Materials for Supercapacitors", S.D. Dhas, M.D. Patil, A.v. Moholkar, Springer Publishing Company, USA, **ISSN.** 0739-6686(Print) **ISBN**. 0-8261-4135-8 (Paperback).

3) "Green Synthesis of Nanocomposites: A Greener Approach for a Cleaner" in Green Synthesis and Applications of Nanomaterials, M.D. Patil, S.D. Dhas, A.V. Moholkar, IGI Global, USA**, ISSN**: 1935-2700, **EISSN**: 1935-2719, Accepted 2021)

4) "Earth Abundant Quaternary CMTS (M=Zn, Co, Mn, Ni, Fe, S=S,Se) Absorber Layers or Thin Film Solar Cells" entitled "Renewable Energy: An Independent Sustainable Future", P.S. Maldar, A,A. Mane, S.D. Dhas, A.V. Moholkar, Palgrave Macmillan, 2014, **ISBN** 978-1137279248, (Revised Submitted)

5) "Recent Progress in Transparent Conducting Oxides: Doping, Performance, and Processing TCOs (FTO, ITO, ZnO and CdO) Thin films, S.D. Desai, P.S. Maldar, M.D. S.D. Dhas, A.V. Moholkar, World Scientific Publishing Co. Pvt. Ltd." **, ISSN** (print): 2529-7864 **ISSN** (online): 2529-7872 (Revised Submitted)

6) "Perspectives of MoO_3 :V_2V_5 composite thin films beneficial for detection of hazardous gaseous using chemical routes" entitled "Chemical Gas Sensor Development: Past, Present, Future with perspectives nanostructured composite materials" A.A.Mane, P.S. Maldar, M.D. Patil,S.D. Dhas, A.V. Moholkar, IGI Global, USA, **ISSN**: 1935-2700, **EISSN**: 1935-2719 (Submitted)

9) Reviewer of Scientific Research International Journals: -

1) Journal of Applied Surface Science,
2) Journal of Materials Science and Eng. B,
3) Journal of Alloys and Compounds,

4) Journal of Colloidal Suspension,
5) Journal of Thermal Spray Technology,
6) Journal of Experimental Nanoscience,
7) Journal of Electronic Nanoscience,
8) Materials letters,
9) Materials express,
10) Advances in Colloid and Interface Science,
11) Journal of Alloys and Compounds
12) Materials Chemistry and Physics.

10) Consultancy:

13) Business Process Outsourcing (BPO) Trainer, Shri. Venkatesh Mahavidyalaya, Ichalkaranji.
14) Monad Nano-tech Pvt. Limited, Powai, Mumbai.

11) Work supervised to M.Sc. project students: 66

12) List of Ph. D. students: (Awarded- 11, Working- 05, Submitted- 01)

Sr. No.	Name of the student	Title of Ph.D. Thesis	Awarded/ Submitted/ Working	Year of Award
1)	Dr M. P. Suryawanshi	Development of Screen Printed Cu_2ZnSnS_4 (CZTS) Films Based Flexible Solar Cell	Awarded	2011
2)	Dr S. M. Bhosale	Synthesis and Characterization of CZTS Thin Films for Photovoltaic Applications	Awarded	2011
3)	Dr A. A. Mane	Studies on Sprayed $(MoO3)_{1-x}(V2O5)_x$ Thin Films for Gas Sensor Application,	Awarded	2017
4)	Dr M.A. Gaikwad	Studies on ZnO and TiO_2 Based Dye Sensitized solar cells,	Awarded	2018
5)	Dr S. P. Desai	Studies on Synthesis and Characterization of Cadmium Based Transparent ConductiveOxide (CdO) Thin Films	Awarded	2018
6)	Dr. S.S. Nikam	Studies on Chemical Synthesis and Characterization of PbS and ZnS Thin Films	Awarded	2018

7)	Dr. P. S. Maldar	Studies on sprayed Cu_2CoSnS_4 thin films and their use in SILAR cell application	Awarded	2019
8)	Dr. S. B. Abitkar	Synthesis and Characterization of Nickel Hydroxide Activated Carbon Composite Thin films for Supercapacitor Application	Awarded	2020
9)	Miss. A.B. Nagare	Studies on gas sensing properties of graphene conducting polymer thin films	Awarded	2022
10)	Dr. S.D. Dhas	Synthesis and Characterization of $NiMn_2O_4$ (NMO) thin films by chemical techniques and its super capacitor applications	Awarded	2022
11)	Mr. M. N. Padvi,	Synthesis and characterization of gold and palladium synthesized Zinc oxide thin films for gas sensing application	Submitted	2021
12)	Miss. M. D. Patil	Chemical Synthesis and Characterization of MoO_3-V_2O_5 Composite or Gas Sensor Application	Working	2018
13)	Mr. U.S. Shembade,	Synthesis and characterization of Graphene oxide, Tungsten oxide and their composite by chemical method for supercapacitor application.	Working	2020
14)	Mr. Y.D. Shinde	Photoelectrochemical cell performance of cadmium selenide thin films	Working	2016
15)	Miss. N.B. Chougale	"Synthesis and characterization of PANI/rGO for electrochemical biosensor	Working	2022
16)	Mr. T.T.Bhosale	Synthesis and characterization of bismuth oxide, manganese oxide and their composites for oxygen evolution reaction	Working	2022

13) Guest Lectures

1) Invited talk on "Nano-materials the historical developments: New concepts or already existing around us?" at Hanyang University, Seoul, South Korea. (27 September ,2011)

2) Invited talk on "Optoelectronic devices, Thin film Characterization techniques, Deposition techniques: Vacuum & Non-Vacuum approaches" at ECPC, Gwangju, South Korea from (03-04 October, 2011)

3) Invited talk on "Development of Kieserite based Cu2ZnSnS4 (CZTS) thin film: PLD Approach" at Hanyang University, Ansan, South Korea. (06 October, 2011)

4) Invited talk on "Current status of Thin Film Solar cells (TFSC) technologies" at Korea Institute

of Technology (KITECH) Honnam Province, Gwangju, South Korea. (21 November, 2012)

5) Invited talk on "Development of quaternary CZTS absorber layer for TFSC by non-vacuum approaches" at Chonnam National University, Gwangju, South Korea. (23 November, 2012)
6) Business Process Outsourcing (B.P.O) center, Venkatesh Mahavidyalaya, Ichalkaranji.
7) Resource person in National conference on Advanced Functional Materials: Synthesis, Characterization and Applications (NCAFM-2020) organized by P. G. department of physics, VPASC college, Baramati, Dist. Pune and Boards of student's development, SPPU Pune. (03-04 January, 2020)
8) Resource person in One day Workshop on 'Non-conventional Energy Resources Conversation' organized by department of physics, VPASC college, Baramati, Dist. Pune and Boards of student's development, SPPU Pune. (30 January, 2020)

14) Academic Staff College Orientation / Refresher Course/ ISTE – AICTE Sponsored STTP/SBP Attended

Sr. No.	Name of the Course/ Summer School	Place	Duration	Sponsoring Agency
1	53rd, Orientation Course	Academic Staff College, Goa	03-11-1999 30-11-1999.	U.G.C., New Delhi
2	Frontiers in Physics	Shivaji University, Kolhapur	08-03-2000 29-03-2002.	U.G.C., New Delhi
3	Synthesis of advanced Materialsand Their Applications	Shivaji University, Kolhapur	19-11-2002 11-12-2002.	U.G.C., New Delhi.
4	8th Refresher Course in Physics	Shivaji University, Kolhapur	17-11-2003 08-12-2003.	U.G.C., New Delhi.

15) Faculty Development Programme (FDP)/Short Term Courses (STC)

Sr. No.	Name the Course	Place	Duration	Sponsoring authority
1	Faculty Development Program	Kolhapur	19-11-2008	ICFAI University, Hyderabad

2	Faculty Development Program in Entrepreneurship	Pune	14-01-2008 to 25-01-2008	MITCON, Consultancy Services Ltd. Pune
3	Global Skills Enhancement Programme	Mysore	11-06-2007 to 23-06-2007	INFOSYS- BPO, Mysore
4	Short Term Course (Faculty Development Programme on Innovative Teaching and Research)	Shivaji University, Kolhapur	06-03-2018 to 12-03-2018	UGC-MHRD, New Delhi
5	Value added course based on Instrumentation in Physical Sciences	Kolhapur	09-07-2018 to 13-07-2018	Department of Physics Shivaji University, Kolhapur, UGC-MHRD New Delhi
6	Faculty Development Program in Cyber Security and Data Science,	Kolhapur	16-01-2019 to 22-01-2019	Department of Computer Science, Shivaji University, Kolhapur, UGC-MHRD, New Delhi
7.	Faculty Development Programme on “Leadership For Change: A Participatory Programme for Academic Leaders	Panchgani	15-02-2019 to 17-02-2019	Faculty Development Centre of Savitribai Phule Pune University, Pune, in collaboration with the Bahá’í Academy, Panchgani, UGC-MHRD, New Delhi

16)Membership/Academic Agencies/Research Institutes/Official Organizations:

1. World Academy of Science, Engineering and Technology (USA) , 2020
2. Associate Member of ‘Institute of Physics’ London (U.K.), (2007)
3. Member of ‘African Institute of Physics’.(2007)
4. Member of ‘Electrochemical Society (ES), India’, 2010
5. Member of the Environmental Association, (MEA), Kolhapur.
6. Member of Shivaji University Teachers Association, (SUTA, From 1194 to 2011) Kolhapur
7. Shivaji University Post-Graduate Teachers Organization (SUPTA, Since 2011), Kolhapur
8. Maharashtra Academy of Sciences, (MASc), 2014
9. Indian Association of Physics Teachers (IAPT)

10. United States-Israel Binational Science Foundation, (US-IBSF)
11. Indian Science Congress Association, (ISCA) L35020
12. Global Management Council, Gujrat
13. Venus International Foundation, Chennai

17)COVID-19Awarness Program

1. Completed COVID-19 Awareness Program organized by National Service Scheme and Shiv Shayata Disaster Management Center, Shivaji University, Kolhapur on 28/04/2020 with Score of 95%.
2. Participated in Pledge against for demonstrating his commitment to promote safety against COVID-19. He made pledge to follow best practices on prevention on Corona Virus Disease as specified by World Health Organization (WHO) www.injtu.com
3. Research Paper entitled "Impact of COVID-19 on Education in India" Meenal D. Patil, Rasika B. Ghadge, Suprimkumar D. Dhas, Annasaheb V. Moholkar" has been accepted by Open Access International Journal of Science & Engineering (OAIJSE) ISSN: 2456-3293 28-31, ***(I.F.) 5.856***
4. Periodically, writing articles regarding the prevention of Covid in Newspapers, from August 2019 onwards

18) Academic, Research, Administration, Extension, Curricular and Extra-Curricular Activities

1. Head of Physics Department, G.K.G. College, Kolhapur
2. Coordinator of the Computer Science Department, G.K.G. College, Kolhapur
3. Coordinator of the Bachelor of Computer Application (B.C.A.), G.K.G. College, Kolhapur
4. Coordinator of the Business Process Outsourcing (B.P.O), G.K.G. College, Kolhapur
5. Research Project and Core Committees, G.K.G. College, Kolhapur, SUK
6. Co-ordinator, Discipline Committee, GKG College, Kolhapur
7. Co-ordinator of Extra-Curricular activities like, Radio Mirchi, Mahila Din, Computer Literecy,GKG
8. Participation in Youth Festival, Social Work, Cultural Activities, College, Kolhapur
9. Co-ordinator, NAAC, DOP, SUK (2021)
10. Co-ordinator, Student Counseling, Department of Physics, (From 2011 onwards) SUK
11. Coordinator of Seismographic Observatory, (2011 to 2018) SUK
12. Coordinator, NSS, Department. Of Physics, (2011 Onwards) SUK

13. Member of Scrutiny Committee, Department. Of Physics, (2014 Onwards) SUK
14. Chairman of Building Renovation and Construction committee, Department. Of Physics, SUK
15. Member of Ph. D Scrutiny Committee, Department. Of Physics, SUK
16. Member of Revaluation and Redressal Committee, Department. Of Physics, SUK
17. Co-ordinator, Bhabha Atomic Research Center (BARC), Mumbai, (2020) SUK
18. Member of Student Counselling Committee, Department. Of Physics, (2011) SUK
19. Chairman of Plantation Committee, Department of Physics, (2012) SUK
20. Co-ordinator of Planetarium Committee, (2012-2016) SUK
21. Member Co-ordinator of Space Research Centre, Panhala, (2012 onwards) SUK
22. Member of Remedial Coaching Classes, Department of Physics, (2011 onwards) SUK
23. Nodal Officer, Election Commission, Project Plan- SVEEP 3, 2016-20
24. Organizing Committee Member, International conference on Multidisciplinary Approaches in Applied Geology (MAAG-2012) held on 20th and 21st Jan. 2012.
25. Chairman, Session-I (Plenary Talk) International Conference on Advanced and Applied Material Science (ICAAMS-2014, Jan. 15-16th, G.K.G. College, Kolhapur-416012, (MS) India
26. Organizing Committee Member, International Conference on Advanced and Applied Material Science (ICAAMS-2014, Jan. 15-16th, G.K.G. College, Kolhapur-416012, (MS) India
27. Chairman of Accommodation Committee, International conferences, Department of Physics, SUK
28. Member of Travel Committee, Travel, Stage Decoration (1 to 4 ICPMDF Conferences, SUK)
29. Member of Discipline, Admission Committee, Planning, Committees
30. Co-ordinator-Annual Meet of Physics Students, 1st January 2014 (AMPS-2014)
31. Counsellor to graduate and postgraduate students, SUK
32. Life member: Marathi Vidnyan Parishad Kolhapur region (2010), Kolhapur
33. In-Charge Teacher of M.Sc. Part I, (2018 onwards) SUK
34. M.Sc. Admission Committee Member, (From 2012 onwards) SUK
35. Departmental Ph.D. Scrutiny committee member, SUK
36. Member of Various Departmental Organizing Committees, (From 2011 onwards)

19) Research achievements:

1) Fabrication, Installation Homemade Spray Pyrolysis Technique of depositing efficient TCO Films
2) Modified chemical SILLAR method as M-SILLAR for thin films-based Fuel Cells
3) Reported FIRST Time CZTS based Solar Cells by Pulse Laser Deposition (3.14%)

4) Reported FIRST Time CCTS based Solar Cells by Spray Pyrolysis Technique (1.8%)
5) Reported Efficient TCOs having factor of merit ~ 10–2 □/┐ with highest transparency of 94%
6) The V_2O_5 Supercapacitors with highest Specific power and higher energy density
7) Maximum Sensitivity of NO, N_2, SO, SO_2, CO,CO_2,N_2, N_2S and NH3 gases by SPT using Molybdenum trioxide, Vanadium Pentoxide and Their Composites
8) Studied Synergetic Effect of Molybdenum trioxide, Vanadium Pentoxide and Their Composites by Facile SILLAR Method

20) Fields of Research Interest:

1) Transparent Conductive Oxide Thin Films
2) Electrochemical Cells and Supercapacitor
3) Green Energy Synthesis Routes and Nano-Materials
4) Semiconductor thin films: Preparation and Characterization
5) Electronic Transport in Nanostructured Materials,
6) Nanostructured Materials and Nanotechnology
7) Semiconductor Structure/Growth,
8) Nano Material for Sensing applications,
9) Thin Film Technology and Thin Film Solar Cells
10) Nano-Materials and Thin Film Characterization for different Energy Conversion Devices
11) Dye Sensitized Solar Cells and Fuel Cells
12) Nano-structured materials for Photoelectrochemical, photocatalytic, photoelectric cells

21) Collaborations with Indian and Foreign Institutes/Laboratories:

1. Indian Institute of Technology (I. I. T.) Powai, Mumbai
2. National Centre for Scientific Research (C.N.R.S.) France
3. Birla College, Kalyan (W), Mumbai, India
4. IUC, Indore, India
5. Taibah University, Saudi Arabia
6. Chonnam National University, South Korea
7. Osmania University, Hyderabad
8. BARC, Mumabi
9. Manav Rachna International Institute of Research & Studies, Faridabad
10. School of Nano Science and Nano Technology, Kolhapur
11. Punyashlok Ahilyadevi Holkar Solapur University, Solapur

22) Details of Training Courses Conducted:

1)Annual meet for New Millennium, Shivaji University Kolhapur, Kolhapur, 1st Jan. 2000

2)4th annual meet of Shivaji University Physics student, Shivaji University Kolhapur, Kolhapur, 1st Jan. 2001

3)5th annual meet of Shivaji University Physics student and Noble Prize Celebrations, ShivajiUniversity Kolhapur, Kolhapur, 1st Jan. 2002

4)Lecture series on Solid State Physics, Dept. of Electronics, The New College Kolhapur,Kolhapur, 17th Dec. 2006

5)One day Workshop on Nuclear Radiation Detection Technique, Vivekananda College,Kolhapur, Kolhapur, 11th Dec. 2006

6)Workshop on Frontiers in Physics and Chemistry, Vision to 21st Century, Shivaji University Kolhapur, Kolhapur, 6-10th Jan. 2007

7)Distance education

8)One Day Workshop for 'Coordinators of 'Avishkar Research Competitions' organized by Department of Technology, Shivaji University, Kolhapur on 2nd September

9)One day workshop on Prime Minister's Fellowship Scheme for Doctoral Research Organized by DST-SREB, CII and D.Y. Patil, Education Society Deemed University, Kolhapur, On 25th November 2016.

10) One day workshop on "Chhatrapati Sahu's Code of Sexual Violence Prevention and Today'sReality" organized by Smt. Sharabai Govidrao Pawar Study Center, Shivaji University, Kolhapur on 02nd August 2018.

11) Workshop on LEADERSHIP for Change conducted at Development center of SPPU, Punein collaboration with Bahai Academy, Shivajinagar, MHRD's Faculty Panchgani, 15-17 Feb.201

23) Review articles published •

1) CZTS based thin film solar cells: A status review
M. P. Suryawanshi, G. L. Agawane, S. M. Bhosale, S. W. Shin, P. S. Patil, J. H. Kim, **A. V. Moholkar** Materials Technology , Advanced Performance Materials, Volume 28, 2013 – Issue 1-2, https://doi.org/10.1179/1753555712Y.0000000038

2) A Critical Review on Design and Development of Gas Sensing Materials
M. N. Padvi, **A. V. Moholkar,** S. R. Prasad and N. R. Prasad, Engineered Science, 2021, 10.30919/es8d431

24) The Role played in Organizing the International Conferences

Sr.No	Name of Seminar / Conference / Workshop	Date	Responsibility

1.	National Seminar on Physics of Materials and Materials based Device Fabrication (NSPM-MDF-2011)	16-17 February,2011	Accommodation Chairman
2.	1st International Conference on Physics of Materials and Materials Based Device Fabrication (ICPM-MDF-2012)	17-19 January,2012	Prof. V.J. Fulari
3.	2nd National Seminar on Physics of Materials Based Device Fabrication (NSPM-MDF-2013)	04-05 January,2013	Treasurer
4.	2nd International Conference on Physics of Materials and Materials Based Device Fabrication-2014 (ICPM-MDF-2014)	13-15 January,2014	Secretary
5.	3rd National seminar on physics of material and material-based device fabrication (NSPM-MDF-2014)	19-20 December,2014	Accommodation Chairman
6.	International Conference on Materials Science and Ionizing Radiation Safety & Awareness (ICMSIRSA-2016)	28-30 January,2016	Accommodation Chairman
7.	4th International Conference on Physics of Materials and Materials Based Device Fabrication-2019 (ICPM-MDF-2019)	10-11 January,2019	Convenor

.

25) International Advisory Committee Member of National/International Conferences:

1. 1st International Conference on Multidisciplinary Approaches in Applied Geology (MAAG-2012), Gopal Krishna Gokhale College, Kolhapur, 20-21st January, 2012
2. 2nd International Conference on Advanced and Applied Material Science (ICAAMS- 2014, Gopal Krishna Gokhale College, Kolhapur,15-16th January 2014.
3. 3rd International Conference Innovative Research in Science and Technology (ICIRST-2017), Gopal Krishna Gokhale College, Kolhapur, 7-8th November, 2017
4. Intellectual Society of Scio-Techno Welfare, Uttar Pradesh, India (2017)

26) Co-ordinator and Major Role Played in MOU'S Between:

1. Shikshan Prasarak Mandal, GKG, College, Kolhapur and Chonnam National university, Gwangju, South Korea, 7 October 2017
2. Shikshan Prasarak Mandal, GKG, College, Kolhapur and Institute of Clean Energy Yeungam University Gyeongbuk, Republic of Korea ,11 October 2017
3. DKTE Society's Textile and Engineering Institute, Dist: Kolhapur (MAHARASHTRA) INDIA and Chonnam National university, Gwangju, South Korea, 7 October 2017
4. Establishment of Framework for Education and Research Between Sanjay Ghodawat

University Kolhapur and Chonnam National University, Chonnam National university, Gwangju, South Korea, 8 October 2017

5. Establishment of Framework for Education and Research Between Sanjay Ghodawat University Kolhapur and Yeungam University, Gyeongbuk, Republic of Korea

.

27) Worked as Resource Person/Chairperson for national and International Conference:

1) Worked as **Chairman for Lecture session at national Conference on "Emerging Trends in Chemical and Material Sciences (ETCMS- 2020) 6th and 7th March, 2020** at Department of Physics, Shivaji University, Kolhapur

2) Presented the poster presentation entitled "Efficient Fabrication CCTS thin films by a facile spray pyrolysis for photovoltaic application" at **National Conference on "Advanced Functional Materials: Synthesis, Characterization and Applications (NCAFM-2020),** Department of Physics, Arts, Science College, Baramati, **3-4 January**, 2020

3) Worked as **Resource person for the National Conference on "Advanced Functional Materials: Synthesis, Characterization and Applications (NCAFM-2020),** Department of Physics, Arts, Science College, Baramati, **3-4 January**, 2020

4) Worked as **a Resource person at One Day Workshop on Non-conventional Energy Resources Conservation** jointly organized by Board of Students Development, Savitribai Phule Pune University Pune and Department of Physics, Arts, Science and Commerce, Baramati, **30/01/2020**

5) Worked as an **Examiner for Oral session at the Fifth International Conference on Advances in Materials Science (Online) (ICAMS –2020)** organized by Post –Graduate Department of Physics and IQAC of Raje Ramrao Mahavidyalaya, Jath –416 404, Dist –Sangli, Maharashtra, India **06th-07thJune** 2020.

6) Worked as a Chair Person in the 'Fourth International Conference on Advances ***in Materials Science (ICAMS –2020)*** on 20 -21January 2020" organized by Post –Graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath, Sangli, Maharashtra, India.

7) Worked as a **Chairperson for oral session "International Conference on Advances in Chemical Sciences (ICACS 2018)",** organized by Department of Chemistry, Shivaji University, Kolhapur, **February 1-3, 2018**

8) Worked as an **Examiner for oral session in the "*SECOND INTERNATIONAL CONFERENCE ON ADVANCES IN MATERIALS SCIENCE on 22 – 23 December 2017*"** organized by Post – Graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath – 416 404, Maharashtra, India.

9) Worked as a Chair Person in *INTERNATIONAL CONFERENCE ON ADVANCES IN MATERIALS SCIENCE on 7 – 8 December 2016* organized by Post graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath.

28) Science Direct Hottest Top 25 Articles (Separate Annexure of the Elsevier Certificate's is attached):

Out 166 research articles 24 articles have been appeared as Hottest Top 25 Articles and 35 Articles have appeared in BUTTER Publications during different durations.

Sr.No.	Article Name	Journal, Volume and Issue	Period	Rank in TOP 25
1.	Physical Properties of Transparent and Conducting Sprayed Fluorine Doped Zinc Oxide thin Films S.S.Shinde, P.S.Shinde, S.M.Pawar, A.V. Moholkar, C.H.Bhosale, K.Y.Rajpure	Solid State Sciences,Volume 10, Issue 9, September 2008, Pages 1209-1214	October to December 2008	13
2.	Effect of laser incident energy on the structural, morphological and optical properties of Cu_2ZnSnS_4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	*Current Applied Physics, Volume 10, Issue 2, March 2010, Pages 565-569*	January to March 2010	8
3.	Single step electrosynthesis of Cu_2ZnSnS_4 (CZTS) thin films for solar cell application Pawar, S.M.; Pawar, B.S.; Moholkar, A.V.; Choi, D.S.; Yun, J.H.; Moon, J.H.; Kolekar, S.S.; Kim, J.H.	*Electrochimica Acta, Volume 55, Issue 12, April 2010, Pages 4057-4061*	April to June 2010	16
4.	Effect of laser incident energy on the structural, morphological and optical	*Current Applied Physics, Volume 10,*	April to June	15

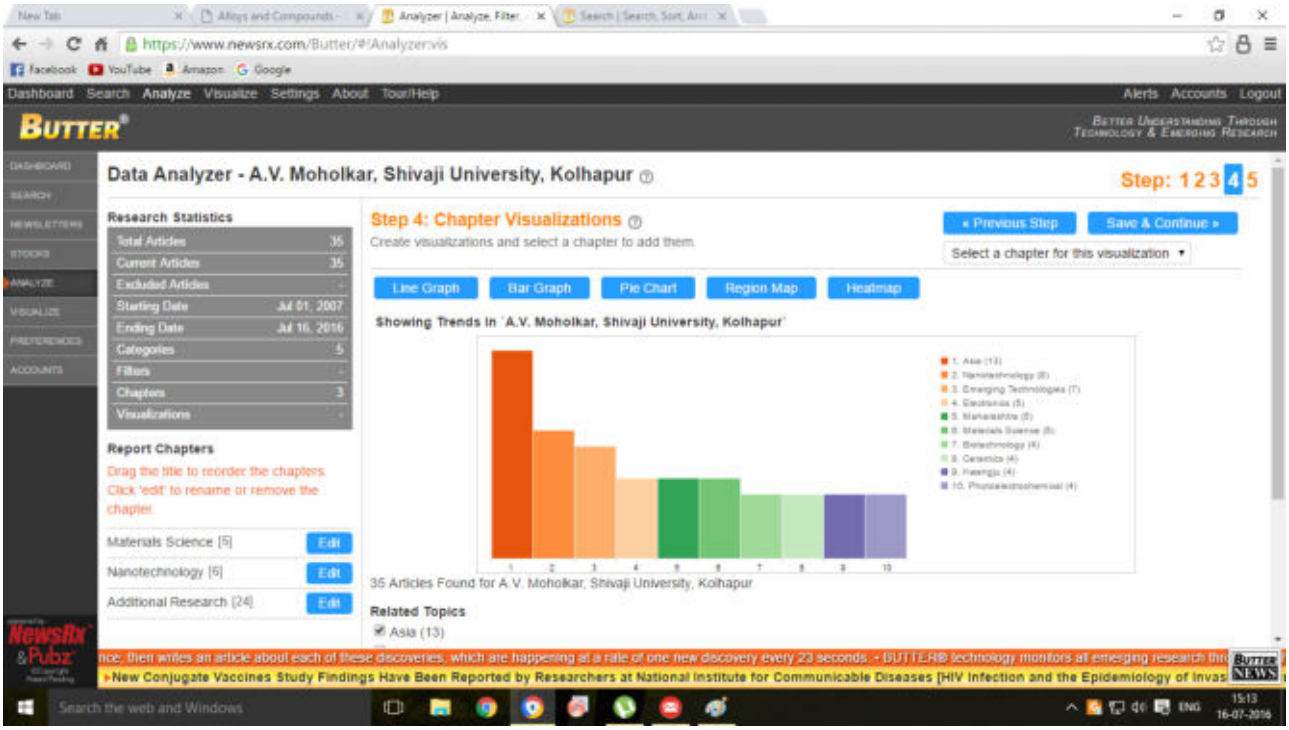
	properties of Cu_2ZnSnS_4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	*Issue 2, March 2010, Pages 565-569*	2010	
5.	Single step electrosynthesis of Cu_2ZnSnS_4 (CZTS) thin films for solar cell application Pawar, S.M.; Pawar, B.S.; Moholkar, A.V.; Choi, D.S.; Yun, J.H.; Moon, J.H.; Kolekar, S.S.; Kim, J.H.	*Electrochimica Acta, Volume 55, Issue 12, April 2010, Pages 4057-4061*	July to September 2010	8
6.	Effect of laser incident energy on the structural, morphological and optical properties of Cu"2ZnSnS"4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	*Current Applied Physics, Volume 10, Issue 2, March 2010, Pages 565-569*	July to September 2010	8
7.	Effects of dopant (Al, Ga, and In) on the characteristics of ZnO thin films prepared by RF magnetron sputtering system Sim, K.U.; Shin, S.W.; Moholkar, A.V.; Yun, J.H.; Moon, J.H.; Kim, J.H.	*Current Applied Physics, Volume 10, Issue 3, May 2010, Pages S463-S467*	July to September 2010	20
8.	Effects of dopant (Al, Ga, and In) on the characteristics of ZnO thin films prepared by RF magnetron sputtering system Sim, K.U.; Shin, S.W.; Moholkar, A.V.; Yun, J.H.; Moon, J.H.; Kim, J.H.	*Current Applied Physics, Volume 10, Issue 3, May 2010, Pages S463-S467*	July to September 2010	23
9.	Effect of laser incident energy on the structural, morphological and optical properties of Cu_2ZnSnS_4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	*Current Applied Physics, Volume 10, Issue 2, March 2010, Pages 565-569*	April to June 2011	23
10.	Synthesis and characterization of Cu_2ZnSnS_4 thin films grown by PLD: Solar cells Moholkar, A.V.; Shinde, S.S.; Babar, A.R.; Sim, K.U.; Lee, H.K.; Rajpure, K.Y.; Patil, P.S.; Bhosale, C.H.; Kim,	*Journal of Alloys and Compounds, Volume 509, Issue 27, July 2011, Pages 7439-7446*	July to September 2011	16

	J.H.			
11.	A Facile Low-Cost Synthesis of earth abundant element Cu_2ZnSnS_4 (CZTS) nanocrystals: Effect of Cu Concentrations Seung Wook Shin,Jun Hee Han,Chan Yeong Park,Sae-Rok Kim,Yeon Chan Park, G.L .Agawane, A.V. Moholkar,Jae Ho Yun,Chae Hwan Jeong, Jeong Yong Lee,Jin Hyeok Kim	*Journal of Alloys and Compounds* *Volume 541, 15 November 2012, Pages 192-197*	July to September 2012	6
12.	A facile and low-cost synthesis of earth abundant element Cu_2ZnSnS_4 (CZTS) nanocrystals: Effect of Cu concentrations Shin, S.W.; Han, J.H.; Park, C.Y.; Kim, S.R.; Park, Y.C.; Agawane, G.L.; Moholkar, A.V.; Yun, J.H.; Jeong, C.H.; Lee, J.Y.; Kim, J.H.	*Journal of Alloys and Compounds, Volume 541, November 2012, Pages 192-197*	October to December 2012	23
13.	Studies of compositional dependent CZTS thin film solar cells by pulsed laser deposition technique: An attempt to improve the efficiency Moholkar, A.V.; Shinde, S.S.; Agawane, G.L.; Jo, S.H.; Rajpure, K.Y.; Patil, P.S.; Bhosale, C.H.; Kim, J.H.	Journal of Alloys and Compounds, Volume 544, December 2012, Pages 145-151	October to December 2012	13
14.	Quaternary Cu_2ZnSnS_4 nanocrystals: Facile and low cost synthesis by microwave-assisted solution method Shin S.W., Han J.H., Park C.Y., Moholkar A.V., Lee, J.Y., Kim, J.H.	Journal of Alloys and Compounds, Volume 516, March 2012, Pages 96-101	October to December 2012	23
15.	Effect of laser incident energy on the structural, morphological and optical properties of Cu_2ZnSnS_4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	Current Applied Physics, Volume 10, Issue 2, March 2010, Pages 565-569	January to December 2013 Full Year	25

16.	Green route fast synthesis and characterization of chemical bath deposited nanocrystalline ZnS buffer layers , G.L.Agawane, Seung Wook Shin, Min Sung Kim, M.P.Suryawanshi ,K.V.Gurav, A.V.Moholkar, Jeong Yong Lee, Jae Ho Yun, P.S.Patil, Jin Hyeok Kim	*Current Applied Physics* *Volume 13, Issue 5, July 2013, Pages 850-856*	*January to March 2013*	13
17.	CZTS based thin film solar cells: a stat us review M P Suryawanshi; G L Agawane; S M Bhosale; S W Shin; P S Patil; J H Kim2; A V Moholkar*	Thin Solid Films Volume 28, Issue 1/2 (March 2013), pp. 98-109	April to June 2013	3
18.	Green route fast synthesis and characterization of chemical bath deposited nanocrystalline ZnS buffer layers Agawane, G.L.; Shin, S.W.; Kim, M.S.; Suryawanshi, M.P.; Gurav, K.V.; Moholkar, A.V.; Lee, J.Y.; Yun, J.H.; Patil, P.S.; Kim, J.H.	*Current Applied Physics, Volume 13, Issue 5, July 2013, Pages 850-856*	January to December 2013 Full Year	19
19.	Effect of laser incident energy on the structural, morphological and optical properties of Cu_2ZnSnS_4 (CZTS) thin films Pawar, S.M.; Moholkar, A.V.; Kim, I.K.; Shin, S.W.; Moon, J.H.; Rhee, J.I.; Kim, J.H.	Current Applied Physics, Volume 10, Issue 2, March 2010, Pages 565-569	January to December 2013 Full Year	25
20.	Visible light catalysis of rhodamine B using nanostructured Fe_2O_3, TiO_2 and TiO_2/Fe_2O_3 thin films M A Mahadik, S S Shinde, V S Mohite, S S Kumbhar, A V Moholkar, K Y Rajpure, V Ganesan, J Nayak, S R Barman, C H Bhosale	*Journal of Photochemistry and Photobiology B, Biology Volume 133, 5 April 2014, Pages 90-98*	*January To December 2014 Full Year*	22
21.	Visible light catalysis of rhodamine B using nanostructured Fe_2O_3, TiO_2 and TiO_2/Fe_2O_3 thin films M A Mahadik, S S Shinde, V S Mohite,	*Journal of Photochemistry and Photobiology B, Biology Volume 133,*	*April to June 2014*	25

	S S Kumbhar, A V Moholkar, K Y Rajpure, V Ganesan, J Nayak, S R Barman, C H Bhosale	*5 April 2014, Pages 90-98*		
22.	Simplistic surface-active agents mediated morphological tweaking of CdS thin films for photoelectrochemical solar cell performance S.A.Vanalakar, M.P.Suryawanshi ,S.S.Mali, A.V. Moholkar ,J.Y.Kim, P.S.Patil, J.H.Kim	*Current Applied Physics, Volume 14, Issue 12, December 2014, Pages 1669-1676*	October to December 2014	25
23.	A Chemical approach for synthesis of photoelectrochemically active Cu_2ZnSnS_4 (CZTS) thin films M.P.Suryawanshi,S.W.Shin,U.V.Ghorpade,K.V.Gurav,G.L.Agawane,Chang WooHong,Jae HoYun, P.S.Patil, Jin Hyeok,Kim, A.V. Moholkar	*Solar Energy* *Volume 110, December 2014, Pages 221-230*	*October to December 2014*	15
24.	Photoelectrocatalytic Degradation of Benzoic using Au doped TiO_2 thin films V.S.Mohite, M.A.Mahadik, S.S.Kumbhar, Y.M.Hunge, J.H.Kim, A.V. Moholkar, K.Y.Rajpure, C.H.Bhosale	*Journal of Photochemistry and Photobiology B, Biology Volume 142, January 2015, Pages 204-211*	*January to March 2015*	24

29) Details Of The News Reported By Different Journal's NEWS EDITOR represented as Data Analyzer of A.V. Moholkar by Better Understanding Trough Technology & Emerging Research (Butter)



BETTER UNDERSTANDING THROUGH TECHNOLOGY & EMERGING RESEARCH

Current Results: 35 of 35 Matching Articles

Generated Input String: `Moholkar AND "A.V. Moholkar" `

Current Filters: None

Date Range: 07/01/2007 **–** 07/16/2016

Categories: Company And Organization News, News From Peer-Reviewed Research SEC Regulatory News, Patent Research News, Trademark Research News

Sr.No Name of the research Articles with brief summary as reported by Vertical Lines Editor

1) New findings reported from Shivaji University describe advances in solids (Properties of highly oriented spray-deposited fluorine-doped tin oxide thin films on glass substrates of different thickness)

.. is obtained for a typical sample deposited on 4 mm thick substrate," wrote **A.V. Moholkar** and colleagues ...), respectively." Moholkar and colleagues published their study in the Journal of Physics and Chemistry ...

2) New thermal spray technology research reported from A.V. Moholkar and co-authors (Temperature-Dependent Properties of Spray-Deposited ITO Thin Films)

The highest figure of merit of film is 4.4 x 10(-3) Omega(-1)," wrote **A.V. Moholkar** and colleagues ...). For additional information, contact A.V. Moholkar, Gopal Krishna Gokhale College, Dept. of Phys, Kolhapur 416012 ..legion and band gap increases with substrate temperature owing to Moss-Burstein effect." Moholkar ...

3) New metals study findings reported from Chonnam National University (Structural, optical and electrical properties of chemically sprayed nanosized gallium doped CdO thin films)

, contact **A.V. Moholkar**, Chonnam National University, Dept. of Materials Science & Engineering, 300 Yongbong ...

4) New applied surface science data have been reported by researchers at Chonnam National University (Influence of deposition temperature on morphological, optical, electrical and opto-electrical properties of highly textured nano-crystalline ...)

udy is 9.58x10(-3) Omega(-1) and shows improvement than our previous reports," wrote A.V. Moholkar ..I**.V. Moholkar**, Chonnam National University, Dept. of Materials Science & Engineering, 300 Yongbong ..Idge of a degenerate n-type semiconductor is shifted towards higher energy." Moholkar and colleagues ...

5) Researchers from Chonnam National University detail findings in metals (Temperature dependent structural, luminescent and XPS studies of CdO: Ga thin films deposited by spray pyrolysis)

r green emission in CdO thin films," wrote A.V. Moholkar and colleagues, Chonnam National University ... , contact **A.V. Moholkar**, Chonnam National University, Dept. of Materials Science & Engineering, 300 Yong ..Ihat CdO:Ga films are cadmium-rich." Moholkar and colleagues published their study in the Journal of Alloys ...

6) New Solar Energy Study Findings Have Been Published by Scientists at Shivaji University (Development of CZTS thin films solar cells by pulsed laser deposition: Influence of pulse repetition rate)

nd gap energy of the deposited CZTS thin films are in the solar energy range," wrote A.V. Moholkar ... , contact **A.V. Moholkar**, Shivaji University, Dept. of Physics, Electrochem Materials Laboratory, Kolhapur ..Ibsorber layer has been tested and the efficiency is about 2%." Moholkar and colleagues published ...

7) New Findings in Alloys and Compounds Described from Shivaji University (Studies of compositional dependent CZTS thin film solar cells by pulsed laser deposition technique: An attempt to improve the efficiency)

obtained by contacting **A.V. Moholkar**, Shivaji Univ, Dept. of Phys, Thin Film Mat Lab, Kolhapur 416004 ...

8) Study Results from KIER Update Understanding of Clinical Trials and Studies (Preparation and characterization of chemical bath deposited nanocrystalline ZnSe thin films using Na-3-citrate and hydrazine hydrate: A comparative study)

Gurav, A.V. Moholkar, J.Y. Lee, P.S. Patil, J.H. Yun and J.H. Kim. Our reports deliver fact-based news ...

9) Reports from Institute for Basic Sciences Provide New Insights into Ceramics (Novel reduced toxic route synthesis and characterization of chemical bath deposited ZnSe thin films)

nclude S.W. Shin, M.P. Suryawanshi, K.V. Gurav, **A.V. Moholkar**, J.Y. Lee, P.S. Patil, J.H. Yun and J.H ...

10) Studies from Chonnam National University in the Area of Applied Physics Reported (Electrochromic performance of the mixed V2O5-WO3 thin films synthesized by pulsed spray pyrolysis technique)

. Jadhav, P.S. Shinde, H.P. Deshmukh, M.M. Karanjkar**, A.V. Moholkar**, M.G. Gang, J.H. Kim and P.S. Patil ...

11) Findings from Chonnam National University in the Area of Materials Engineering Described (Structural, Optical, Electrical, and Dielectric Properties of the Spray-Deposited WO3 Thin Films)

, Kwangju 500757, South Korea. Additional authors for this research include G.L. Agawane, **A.V. Moholkar**, J.H .Kim..

12) Study Data from Gwangju Institute of Science and Technology (GIST) Provide New Insights into Photoelectrochemicals (Photoluminescence and photoelectrochemical properties of the spray deposited copper doped zinc oxide thin films)

. Additional authors for this research include K.V. Gurav, S.H. Mujawar, S.B. Sadale, K.W. Nam, W.R. Bae, **A.V ... . Moholkar**, J.H. Kim, P.S. Patil and J.H. Jang. Our reports deliver fact-based news of research ...

13) Findings on Photocatalytics Discussed by Investigators at UGC DAE Consortium of Scientific Research (Visible light catalysis of rhodamine B using nanostructured Fe2O3, TiO2 and TiO2/Fe2O3 thin films)

. Additional authors for this research include S.S. Shinde, V.S. Mohite, S.S. Kumbhar, **A.V. Moholkar**, K.Y ...

14) Data on Ceramics Reported by Researchers at Shivaji University (Photoelectrocatalytic activity of ferric oxide nanocatalyst: A synergestic effect of thickness)

. Rajpure**, A.V. Moholkar** and C.H. Bhosale. Our reports deliver fact-based news of research and discoveries ...

15) Data on Nanocrystals Reported by Researchers at KIER (Non-toxic novel route synthesis and characterization of nanocrystalline ZnSxSe1-x thin films with tunable band gap characteristics)

, South Korea. Additional authors for this research include S.W. Shin, S.A. Vanalakar, **A.V. Moholkar**, K.V ...

16) Reports from Chonnam National University Describe Recent Advances in Materials Science (Influence of growth temperatures on the properties of photoactive CZTS thin films using a spray pyrolysis technique)

r this research include M.P. Suryawanshi, M.A. Gaikwad, P.N. Bhosale, J.H. Kim and **A.V. Moholkar**. Our reports ...

17) Investigators at Shivaji University Report Findings in General Chemical Research (Thickness Dependent Photoelectrochemical Performance of Chemo-Synthesized Nanostructured CdS Thin Films)

. Agawane, K.V. Gurav, S.W. Shin, **A.V. Moholkar**, J.H. Kim and P.S. Patil. Our reports deliver fact-based ...

18) Findings on Nanoparticles Detailed by Investigators at Chonnam National University (Photoluminescence quenching of a CdS nanoparticles/ZnO nanorods core-shell heterogeneous film and its improved photovoltaic performance)

. Shin, **A.V. Moholkar**, J.Y. Kim, J.H. Kim and P.S. Patil. Our reports deliver fact-based news of research ...

19) Studies from Chonnam National University Reveal New Findings on Photoelectrochemicals (Simplistic surface active agents mediated morphological tweaking of CdS thin films for photoelectrochemical solar cell performance)

. Mali, **A.V. Moholkar**, J.Y. Kim, P.S. Patil and J.H. Kim. Our reports deliver fact-based news of research ...

20) Study Results from Chonnam National University Provide New Insights into Materials Science [Next generation promising Cu-2(ZnxFe1 (-) (x))SnS4 photovoltaic absorber material prepared by pulsed laser deposition technique]

, S.A. Vanalakar, **A.V. Moholkar** and J.H. Kim. Our reports deliver fact-based news of research ...

21) Studies from Chonnam National University Reveal New Findings on Photoelectrochemicals (Simplistic surface active agents mediated morphological tweaking of CdS thin films for photoelectrochemical solar cell performance)

. Mali, **A.V. Moholkar**, J.Y. Kim, P.S. Patil and J.H. Kim. Our reports deliver fact-based news of research ...

22) Findings on Nanoparticles Detailed by Investigators at Chonnam National University (Photoluminescence quenching of a CdS nanoparticles/ZnO nanorods core-shell heterogeneous film and its improved photovoltaic performance)

. Jadhav, G.L. Agawane, K.V. Gurav, A.S. Kamble, S.W. Shin, **A.V. Moholkar**, J.Y. Kim, J.H. Kim and P.S ...

23) Study Results from Chonnam National University Provide New Insights into Materials Science [Next generation promising Cu-2(ZnxFe1 (-) (x))SnS4 photovoltaic absorber material prepared by pulsed laser deposition technique]

. Vanalakar, **A.V. Moholkar** and J.H. Kim. Our reports deliver fact-based news of research and discoveries from ...

24) New Photoelectrochemicals Study Findings Have Been Reported by Researchers at Korea Institute of Energy Research [Improved photoelectrochemical performance of Cu2ZnSnS4 (CZTS) thin films prepared using modified successive ionic layer adsorption .]

, J.H. Yun, P.S. Patil, J.H. Kim and **A.V. Moholkar**. Our reports deliver fact-based news of research ...

25) New Solar Energy Data Have Been Reported by Researchers at Korea Institute of Energy Research [A chemical approach for synthesis of photoelectrochemically active Cu2ZnSnS4 (CZTS) thin films]

, K.V. Guray, G.L. Agawane, C.W. Hong, J.H. Yun, P.S. Patil, J.H. Kim and **A.V. Moholkar**. Our reports ...

26) Research Data from Shivaji University Update Understanding of Benzoic Acids (Photoelectrocatalytic degradation of benzoic acid using sprayed TiO2 thin films)
ıthors for this research include M.A. Mahadik, S.S. Kumbhar, V.P. Kothavale, **A.V. Moholkar**, K.Y. Rajpure ...

27) Studies from Chonnam National University Add New Findings in the Area of Carbocyclic Acids (Photoelectrocatalytic degradation of benzoic acid using Au doped TiO2 thin films)
. Kim, **A.V. Moholkar,** K. Rajpure and C.H. Bhosale. Our reports deliver fact-based news of research ...

28) Shivaji University Describes Findings in Carbocyclic Acids (Photoelectrocatalytic degradation of benzoic acid using Au doped TiO2 thin films)
. Kumbhar, Y.M. Hunge, J.H. Kim, **A.V. Moholkar**, K.Y. Rajpure and C.H Bhosale. Our reports deliver fact-based ...

29) Recent Findings from Chonnam National University Has Provided New Information about General Chemical Research (Investigations on Chemo-Mechano Stabilities of the Molybdenum Thin Films Deposited by DC-Sputter Technique)
. Vanalakar, M.P. Suryawanshi, **A.V. Moholkar** and J.H. Kim. Our reports deliver fact-based news of research ...

30) New Findings from Chonnam National University Update Understanding of Ceramics (Influence of growth temperature on the physico-chemical properties of sprayed cadmium oxide thin films)
. Suryawanshi, S.M. Bhosale, J.H. Kim and A**.V. Moholkar**. Our reports deliver fact-based news of research ...

31) Findings from Chonnam National University Broaden Understanding of Ceramics (Influence of copper concentration on sprayed CZTS thin films deposited at high temperature)
ıthors for this research include M.P. Suryawanshi, J.H. Kim and A.V. Moholkar. Our reports deliver fact ...

32) Findings on Materials Science Detailed by Investigators at Shivaji University (Fabrication of 3.01% power conversion efficient high-quality CZTS thin film solar cells by a green and simple sol-gel technique)
..Ior this research include A.S. Kamble, S.A. Vanalakar, S.W. Shin, M.G. Gang, J.H. Yun, J. Gwak, A.V. Moholkar ...

33) Reports from Shivaji University Provide New Insights into Applied Pyrolysis (Physicochemical properties of sprayed V2O5 thin films: Effect of substrate temperature)
. Nikam, K.Y. Rajpure and **A.V. Moholkar**. Our reports deliver fact-based news of research and discoveries ...

34) New General Chemistry Study Findings Have Been Reported by Researchers at Institute for Basic Science [A Promising Modified SILAR Sequence for the Synthesis of Photoelectrochemically Active Cu_2ZnSnS_4 (CZTS) Thin Films]
, J.H. Kim and A.V. Moholkar. Our reports deliver fact-based news of research and discoveries from ...

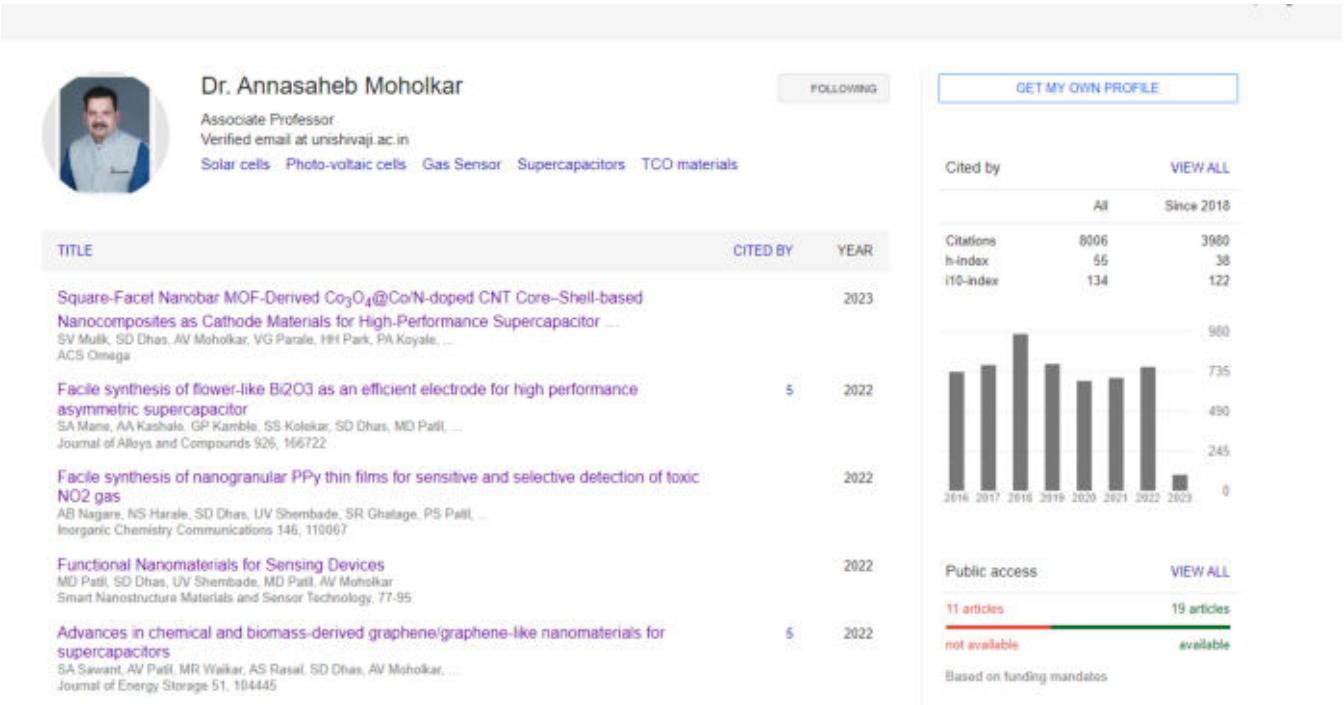
35) New Materials Science Study Results from Shivaji University Described (A Simple Aqueous Precursor Solution Processing of Earth-Abundant Cu2SnS3 Absorbers for Thin-Film Solar Cells)

. Hong, M. Wu, P.S. Patil, **A.V. Moholkar** and J.H. Kim.

30blications (List of papers published in SCI Journals, in year wise descending order).

30) Research Publications (166)

Total Citations: 8007, h-index:55, i-10 index: 134, R.G. Score: 39.18

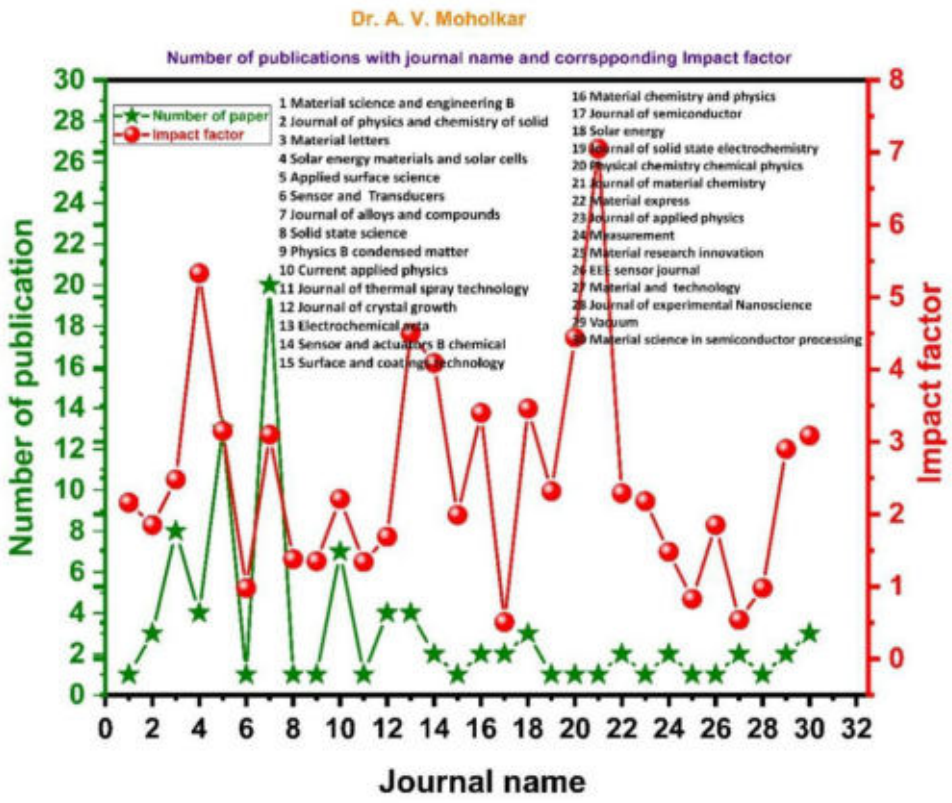


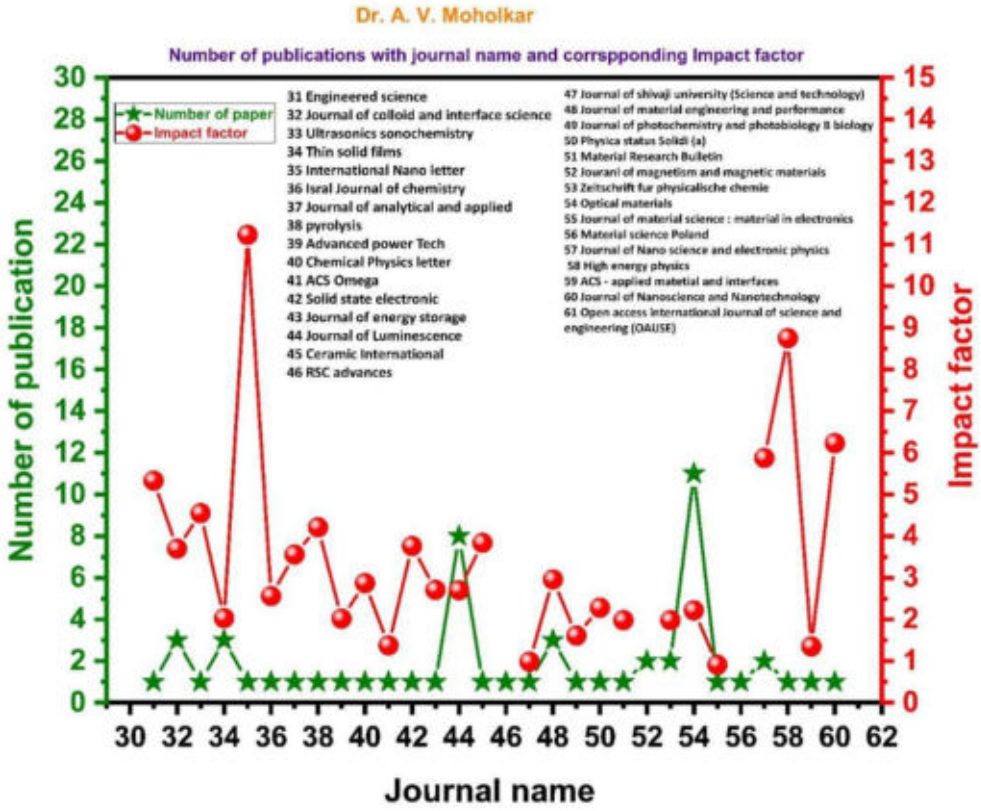
Journal wise papers with Impact Factor

Sr. No	Name of journal	Paper	Impact Factor
1)	Material science and engineering B	1	4.283
2)	Journal of physics and chemistry of solid	3	3.995
3)	Material letters	8	3.423
4)	Solar energy materials and solar cells	4	7.267
5)	Applied surface science	13	6.707
6)	Sensor and Transducers	1	7.26

7)	Journal of alloys and compounds	20	1.23
8)	Solid state science	1	1.38
9)	Physics B condensed matter	1	1.35
10)	Current applied physics	7	2.21
11)	Journal of thermal spray technology	1	1.34
12)	Journal of crystal growth	4	1.69
13)	Electrochemical acta	4	4.50
14)	Sensor and actuators B chemical	2	4.09
15)	Surface and coatings technology	1	1.99
16)	Material chemistry and physics	2	3.40
17)	Journal of semiconductor	2	0.51
18)	Solar energy	3	3.46
19)	Journal of solid state electrochemistry	1	2.32
20)	Physical chemistry chemical physics	1	4.44
21)	Journal of material chemistry	1	7.05
22)	Material express	2	2.29
23)	Journal of applied physics	1	2.18
24)	Measurement	2	1.48
25)	Material research innovation	1	0.83
26)	IEEE sensor journal	1	1.85
27)	Material and technology	2	0.54
28)	Journal of experimental Nanoscience	1	0.98
29)	Vacuum	2	2.90
30)	Material science in semiconductor processing	3	3.085
31)	Engineered science	1	5.33
32)	Journal of colloid and interface science	3	3.7
33)	Ultrasonics sonochemistry	1	4.55
34)	Thin solid films	3	2.03
35)	International Nano letter	1	11.23
36)	Isral Journal of chemistry	1	2.56
37)	Journal of analytical and applied pyrolysis	1	3.56

38)	Advanced power Tech	1	4.21
39)	Chemical Physics letter	1	2.02
40)	ACS Omega	1	2.87
41)	Solid state electronic	1	1.38
42)	Journal of energy storage	1	3.76
43)	Journal of Luminescence	1	2.71
44)	Ceramic International	8	2.7
45)	RSC advances	1	3.84
46)	Journal of shivaji university (Science and technology)	1	
47)	Journal of material engineering and performance	1	0.99
48)	Journal of photochemistry and photobiology B biology	3	2.96
49)	Physica status Solidi (a)	1	1.61
50)	Material Research Bulletin	1	2.28
51)	Jouranl of magnetism and magnetic materials	1	1.98
52)	Zeitschrift fur physicalische chemie	2	2.408
53)	Optical materials	2	1.98
54)	Journal of material science : material in electronics	11	2.22
55)	Material science Poland	1	0.911
56)	Journal of Nano science and electronic physics	1	5.875
57)	High energy physics	2	5.875
58)	ACS - applied matetial and interfaces	1	8.75
59)	Journal of Nanoscience and Nanotechnology	1	1.354
60)	Open access international Journal of science and engineering (OAIJSE)	1	6.228


Dr. A. V. Moholkar
Number of publications with journal name and corrspponding Impact factor
Number of paper
Impact factor
1 Material science and engineering B
2 Journal of physics and chemistry of solid
3 Material letters
4 Solar energy materials and solar cells
5 Applied surface science
6 Sensor and Transducers
7 Journal of alloys and compounds
8 Solid state science
9 Physics B condensed matter
10 Current applied physics
11 Journal of thermal spray technology
12 Journal of crystal growth
13 Electrochemical acta
14 Sensor and actuators B chemical
15 Surface and coatings technology
16 Material chemistry and physics
17 Journal of semiconductor
18 Solar energy
19 Journal of solid state electrochemistry
20 Physical chemistry chemical physics
21 Journal of material chemistry
22 Material express
23 Journal of applied physics
24 Measurement
25 Material research innovation
26 EEE sensor journal
27 Material and technology
28 Journal of experimental Nanoscience
29 Vacuum
30 Material science in semiconductor processing
Number of publication
Impact factor
Journal name


Dr. A. V. Moholkar
Number of publications with journal name and corrspponding Impact factor
Number of paper
Impact factor
31 Engineered science
32 Journal of colloid and interface science
33 Ultrasonics sonochemistry
34 Thin solid films
35 International Nano letter
36 Isral Journal of chemistry
37 Journal of analytical and applied
38 pyrolysis
39 Advanced power Tech
40 Chemical Physics letter
41 ACS Omega
42 Solid state electronic
43 Journal of energy storage
44 Journal of Luminescence
45 Ceramic International
46 RSC advances
47 Journal of shivaji university (Science and technology)
48 Journal of material engineering and performance
49 Journal of photochemistry and photobiology B biology
50 Physica status Solidi (a)
51 Material Research Bulletin
52 Jouranl of magnetism and magnetic materials
53 Zeitschrift fur physicalische chemie
54 Optical materials
55 Journal of material science : material in electronics
56 Material science Poland
57 Journal of Nano science and electronic physics
58 High energy physics
59 ACS - applied matetial and interfaces
60 Journal of Nanoscience and Nanotechnology
61 Open access International Journal of science and engineering (OAIJSE)
Number of publication
Impact factor
Journal name

Sr. No	Research Publications (Total No :166)
	2023
166	Square-Facet Nanobar MOF-Derived Co3O4@Co/N-doped CNT Core–Shell-based Nanocomposites as Cathode Materials for High-Performance Supercapacitor Studies Swapnajit V Mulik, Suprimkumar D Dhas, **Annasaheb V Moholkar**, Vinayak G Parale, Hyung-Ho Park, Pramod A Koyale, Vijay S Ghodake, Dillip K Panda, Sagar D Delekar ACS Omega *.(I. F.)*
	2022
165	Facile synthesis of flower-like Bi2O3 as an efficient electrode for high performance asymmetric supercapacitor SA Mane, AA Kashale, GP Kamble, SS Kolekar, SD Dhas, MD Patil, **Annasaheb V Moholkar,** Bhaskar R Sathe, Anil V Ghule Journal of Alloys and Compounds 926, 166722 (I.F.)
164	Facile synthesis of nanogranular PPy thin films for sensitive and selective detection of toxic NO2 gas Amruta B Nagare, Namdev S Harale, Suprimkumar D Dhas, Umesh V Shembade, Suhas R Ghatage, Pramod S Patil, **Annasaheb V Moholkar** Inorganic Chemistry Communications 146, 110067 (I.F.)
163	Functional Nanomaterials for Sensing Devices MD Patil, SD Dhas, UV Shembade, MD Patil, **AV Moholkar** Smart Nanostructure Materials and Sensor Technology, 77-95 (I.F.)
162	Advances in chemical and biomass-derived graphene/graphene-like nanomaterials for supercapacitors SA Sawant, AV Patil, MR Waikar, AS Rasal, SD Dhas, **AV Moholkar,** Journal of Energy Storage 51, 104445 (I.F.)
160	Sol-gel synthesized nickel oxide nanostructures on nickel foam and nickel mesh for a targeted energy storage application SD Dhas, PS Maldar, MD Patil, MR Waikar, RG Sonkawade, **AV Moholkar** Journal of Energy Storage 47, 10365 (I.F.)
159	Green Synthesis of Nanocomposites: A Greener Approach for a Cleaner Future MD Patil, SD Dhas, **AV Moholkar** Handbook of Research on Green Synthesis and Applications of Nanomaterials (I.F.)
	2021
158	Influence of Tin Doped TiO2 Nanorods on Dye Sensitized Solar Cells Sandeep B Wategaonkar, Vinayak G Parale, Sawanta S Mali, Chang-Kook Hong, Rani P

Pawar, Parvejha S Maldar, **Annasaheb V Moholkar**, Hyung-Ho Park, Balasaheb M Sargar, Raghunath K Mane

Materials 14 (21), 6282 (I.F.)

157 Fabrication of efficient electrochemical capacitors rooted in sol-gel derived NiMn2O4 nanoparticles
SD Dhas, PS Maldar, MD Patil, SA Mane, MR Waikar, RG Sonkawade, **AV Moholkar**
Journal of Electroanalytical Chemistry 897, 115548 (I.F.)

156 Structural, morphological, and optical studies of hydrothermally synthesized Nb-added TiO2 for DSSC application
SB Wategaonkar, VG Parale, RP Pawar, SS Mali, CK Hong, RR Powar, **AV Moholkar**

Ceramics International 47 (18), 25580-25592 (I.F.)

155 Probing the electrochemical properties of NiMn2O4 nanoparticles as prominent electrode materials for supercapacitor applications
SD Dhas, PS Maldar, MD Patil, MR Waikar, RG Sonkawade, Shiv K Chakarvarti, Surendra K Shinde, Dae Y Kim, **Annasaheb V Moholkar**
Materials Science and Engineering: B 271, 115298 (I.F.)

152 Clinker-like V2O5 nanostructures anchored on 3D Ni-foam for supercapacitor application

Meenal D. Patil, , Suprimkumar D. Dhas, Amol Mane, **Annasaheb V. Moholkar**

Materials Science in Semiconductor Processing. (Accepted, 25 May 2021)

151 Polyaniline (PANI)-Manganese dioxide (MnO2) nanocomposites as efficient electrode materials for supercapacitors

Sushilkumar Jadhav, Suprimkumar D. Dhas; Komal T. Patil; Annasaheb V. Moholkar; Pramod S. Patil, CPLETT-20-3547R1 ***(I.F. 2.029)***

150 IMPACT OF COVID-19 ON EDUCATION IN INDIA

Meenal D. Patil, Rasika B. Ghadge, Suprimkumar D. Dhas, **Annasaheb V. Moholkar**

OAIJSE 6 (2021) ISO 3297:2007, ISSN (Online) 24 (***I.F.5.856)***

DOI 10.51397/OAIJSE05.2021.0006

149 Chemical synthesis and supercapacitive evaluation of polyaniline nanofibers (PANINFs) ***(I. F. 2.220)***

Suman A. Sawant, Maqsood R. Waikar, Akash S. Rasal, Gayatri R. Chodankar, Suprimkumar D. Dhas, **Annasaheb V. Moholkar**, Mahendra D. Shirsat, Shiv K. Chakarvarti & Rajendra G. Sonkawade

J Mater Sci: Mater Electron (2021). https://doi.org/10.1007/s10854-021-05816-7,

148 Hydrothermal synthesis of NO_2 gas-sensitive and hydrophobic zinc oxide thin films ***(I. F. 2.220)***

MN Padvi, NS Harale, PS Patil, SD Dhas, **AV Moholkar**

J Mater Sci: Mater Electron (2021). 32, 3140-3154,2021

147 Synthesis of mesoporous NiMnO3 nanostructures for supercapacitor application: Effect of electrolyte ***(I. F. 3.762)***

SD Dhas, PS Maldar, MD Patil, KM Hubali, UV Shembade, SB Abitkar, **AV Moholkar**

Journal of Energy Storage 35, 102277, 2021 https://doi.org/10.1016/j.est.2021.102277, https://doi.org/10.1016/j.est.2021.102277

146 Enhanced specific capacitance and electrochemical properties of nickel hydroxide-activated carbon (α-Ni$(OH)_2$–AC) nanocomposite for pseudocapacitor electrode material ***(I. F. 2.220)***.

Sachin B. Abitkar, Suprimkumar D. Dhas, N. P. Jadhav, Pravin R. Jadhav, Parvejha S. Maldar, C. E. Patil & **Annasaheb V. Moholkar**

Journal of Materials Science: Materials in Electronics 32 (2021) 8657–8667, DOIhttps://doi.org/10.1007/s10854-021-05529-x

145 A Critical Review on Design and Development of Gas Sensing Materials

NP Mukesh Padvi, **Annasaheb Moholkar**, Saurabh Prasad

Journal of Engineered Science, 2021,

ISSN: 2576-988X (Print Version) ISSN: 2576-9898 (Online Version), DOI:10.30919/es8d431

144 Hydrothermal synthesis of NO_2 gas-sensitive and hydrophobic zinc oxide thin filmsJournal of Materials Science: Materials in Electronics (2021) ***(I. F. 2.220)***.

M. N. Padvi, N. S. Harale, P. S. Patil, S. D. Dhas & **A. V. Moholkar**

2020

143 Synthesis of NiO nanoparticles for supercapacitor application as an efficient electrodematerial, Vacuum, **0042**-207X, (2020) **(I. F. 2.906)**

S. D. Dhas, P. S. Maldar, M.D. Patil, A.B. Nagare, M. R. Waikar, R.G. Sonkawade, **A.V.Moholkar**

https://doi.org/10.1016/j.vacuum.2020.109646.

142 Electrochemical Performance of Polyaniline Based Symmetrical Energy StorageDevice, Materials Science in Semiconductor Process, 1369-8001, (2020) **(I. F. 3.085)**

Maqsood Waikar, Akash rasal, S. D. Dhas, **Annasaheb Moholkar,** S.K. ChakarvartiRajendra Sonkawade.

141 Spray deposited Cu_2CoSnS_4 thin films for photovoltaic application: Effect of filmthickness
Thin Solid Films, 138236 (2020) **(I. F. 2.030)**
PS Maldar, AA Mane, SS Nikam, SD Dhas, **AV Moholkar**

2019

140 A facile synthesis of α-Ni (OH) $_2$-CNT composite films for supercapacitor application,Advanced Powder Technology 30 (10),(2019) 2285-2292,
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AB Nagare, NS Harale, SS Mali, SS Nikam, PS Patil, CK Hong, **AV Moholkar**

138 Effect of substrate temperature on physicochemical and gas sensing properties of sprayed orthorhombic V2O5 thin films, Measurement 131, (2019) 223-234 **(I. F.2.791)**
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2018

137 Palladium (Pd) sensitized molybdenum trioxide (MoO3) nanobelts for nitrogen dioxide(NO2) gas detection
Solid-State Electronics 139, (2018) 21-30 **(IF. 1.577)**
A.A. Mane and **A.V. Moholkar**

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Thin Solid Films 648, (2018) 50-61 **(IF. 1.939)**
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Optical Materials 78, (2018) 325-3341**(IF. 2.320)**
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133 NO2 gas sensing properties of sprayed composite porous MoO3-V2O5 thin films Materials
Chemistry and Physics 216, (2018) 294-304 **(I.F. 2.210)**
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2017

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130 Correction to: Temperature dependent properties of spray deposited Cu_2CoSnS_4(CCTS)thin films
Journal of Materials Science: Materials in Electronics 28 (24), (2017) 18897-18897
(IF. 2.324)
P.S. Maldar, A.A. Mane, S.S. Nikam, S.D. Giri, A. Sarkar, **A.V. Moholkar**

129 Fabrication of Cu_2CoSnS_4 thin films by a facile spray pyrolysis for photovoltaicapplication Solar Energy 158, (2017) 89-99 **(IF. 4.374)**
P.S. Maldar, M.A. Gaikwad, A.A. Mane, S.S. Nikam, S.P. Desai, S.D. Giri, A. Sarkar,
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Y. M. Hunge, M. A. Mahadik, R. N. Bulakhe, S. P. Yadav, J. J. Shim, A. V. Moholkar, C. H. Bhosale

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Y.M. Hunge, M.A. Mahadik, V.L. Patil, A.R. Pawar, S.R. Gadakh, **A.V. Moholkar**, P.S.Patil, C.H. Bhosale

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Applied Surface Science 420, (2017) 764-772 **(IF. 4.439)**

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124 Gas sensing properties of (MoO_3) 0.4 (V_2O_5) 0.6 microsheets: Effect of Pd sensitizationVacuum 144, 135-144(2017)

AA Mane, PS Maldar, SP Desai, **AV Moholkar**

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A. A. Mane and A. V. Moholkar

122 Template-free TiO_2 photoanodes for dye-sensitized solar cell via modified chemicalroute,

Journal of Colloid and Interface Science 488 (2017) 269–276 ***(IF. 3.782)***

M.A. Gaikwad, A. A. Mane, S. P. Desai, **A.V. Moholkar**

121 Effect of write voltage and frequency on the reliability aspects of memristor-basedRRAM

International Nano Letters 7 (3), (2017) 209-216 **(IF.6.012)**

T.D. Dongale, K.V. Khot, S.V. Mohite, N.D. Desai, S.S. Shinde, V.L. Patil, S.A.Vanalakar, **A.V. Moholkar**, K.Y. Rajpure, P. Bhosale, P. S. Patil, P. K. Gaikwad, R. Kamat

120 Superior selectivity and enhanced response characteristics of palladium sensitized vanadium pentoxide nanorods for detection of nitrogen dioxide gas

Journal of colloid and interface science 495, (2017) 53-60 **(IF. 5.091)**

A.A. Mane, M.P. Suryawanshi, J.H. Kim, **A.V. Moholkar**

119 Orthorhombic MoO_3 nanobelts based NO_2 gas sensor Applied Surface Science 405, (2017) 427-440 **(IF. 4.439)**
A.A. Mane and **A.V. Moholkar**

118 Fast response of sprayed vanadium pentoxide (V_2O_5) nanorods towards nitrogendioxide (NO_2) gas detection
Applied Surface Science 403, (2017) 540-550 **(IF.4.439)**
A.A. Mane, M.P. Suryawanshi, J.H. Kim, **A.V. Moholkar**

117 Investigations on the thickness dependent structural, morphological, and optoelectronicproperties of sprayed cadmium based transparent conducting oxide
Thin Solid Films 628, (2017) 196-202 **(IF. 1.939)**
S.P. Desai, M.P. Suryawanshi, M.A. Gaikwad, A.A. Mane, J.H. Kim, **A.V. Moholkar**

116 Photoelectrochemical performance of surfactant (polyvinyl alcohol) assisted PbS thinfilms grown by chemical route
Journal of Materials Science: Materials in Electronics 28 (7)(2017),5165- 5173**(IF.2.324)**
S.S. Nikam, M.P. Suryawanshi, M.A. Gaikwad, J.H. Kim, **A.V. Moholkar**

115 Photoelectrocatalytic degradation of oxalic acid using WO_3 and stratified WO_3/TiO_2photocatalysts under sunlight illumination
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Y.M. Hunge, M.A. Mahadik, **A.V. Moholkar**, CH Bhosale

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PS Maldar, AA Mane, SS Nikam, VS Mohite, SD Giri, A Sarkar, AV Moholkar

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Journal of Colloid and Interface Science, 483 (2016) 220–231. ***(IF. 3.782)***
A. A. Mane, M. P. Suryawanshi, J. H. Kim, **A.V. Moholkar**.

112 A Simple Aqueous Precursor Solution Processing of Earth-Abundant Cu_2SnS3 Absorbers for Thin-Film Solar Cells
MP Suryawanshi, UV Ghorpade, SW Shin, SA Pawar, IY Kim, CW Hong, Minhao Wu,Pramod S Patil, Annasaheb V Moholkar, Jin Hyeok Kim
ACS applied materials & interfaces 8 (18), 11603-11614

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Journal of Photochemistry and Photobiology A: Chemistry 329 (2016) 246–254. ***(IF.2.477)***
M.A. Gaikwad , M.P. Suryawanshi , S.S. Nikam, C.H. Bhosale, J.H. Kim, **A.V. Moholkar,**

110 Photoelectrocatalytic degradation of oxalic acid using WO_3 and stratified WO_3/TiO_2photocatalysts under sunlight illumination,
Ultrasonics Sonochemistry 35 (2016) 233-242. ***(IF.2.169)***
Y.M. Hunge , M.A. Mahadik , **A.V. Moholkar** , C.H. Bhosale

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Journal of Alloys and Compounds 671 (2016) 509–516. ***(IF.2.999)***
M. P. Suryawanshi, Seung Wook Shin, U. V Ghorpade, K. V. Gurava, C. W. Hong, P. S. Patil, **A.V. Moholkar**, Jin Hyeok Kim,

108 Investigating the Temperature Effects on ZnO, TiO_2, WO_3 and HfO_2 Based ResistiveRandom-Access Memory (RRAM) Devices
Journal of Nano and Electronic Physics, 8 (2016) 04030 ***(IF.0.41)***
T.D. Dongale, K.V. Khot, S.V. Mohite, S.S. Khandagale, S.S. Shinde, V.L. Patil, S.A. Vanalkar, **A.V. Moholkar**, K.Y. Rajpure, P.N. Bhosale, P.S. Patil, P.K. Gaikwad, R.K.Kamat

107 Investigating the Temperature Effects on Resistive Random-Access Memory (RRAM)Devices,
cond-mat.mtrl-sci arXiv:1602.08262V1, (2016) ***(IF. 0.41)***
T. D. Dongale, K. V. Khot, S. V. Mohite, S. S. Khandagale, S. S. Shinde, **A.V.Moholkar**, K. Y. Rajpure, P. N. Bhosale, P. S. Patil, P. K. Gaikwad, R. K. Kamat,

106 Investigating Reliability Aspects of Memristor based RRAM with Reference to Write Voltage and Frequency
Emerging Technologies, arXiv:1602.01947v1 [cs.ET] (2016) ***(IF. 0.41)***
T. D. Dongale, K. V. Khot, S. V. Mohite, N. K. Desai, S. S. Shinde, **A.V. Moholkar**, K. Y. Rajpure, P. N. Bhosale, P. S. Patil, P. K. Gaikwad, R. K. Kamat

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J Mater Sci: Mater Electron (2016) 27:1897–1900. ***(IF. 1.798)***

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32) Other Information

Dr. A. V. Moholkar, is currently working as an Associate Professor at Department of Physics, Shivaji University, Kolhapur, (M.S.), India, since, January 2011. From 1994 to 2011 he has worked at Gopal Krishna Gokhale, College, Kolhapur for UG courses and from 2011 onwards he is engaged in teaching at PG levels at Department of Physics, Shivaji University, Kolhapur. Besides this, he has 27 years and 11 months research experience on the different materials which are useful in various fields of Science and Technology and Engineering like TCO materials, different types of cell viz: solar cells, Fuel cell, electrochemical cell, gas sensor, Photoelectrochemical (PEC) detoxification of water and supercapacitor etc. Up to date he has guided twelve 12 students for their Ph.D. degree and 2 students have submitted their Ph. D. thesis and 4 are currently working with him. He has established scientific collaborations with C.N.R.S. France and I.I.T. Mumbai, Chonnam National University, South Korea and investigated various kinds of thin films for diverse applications. He has been awarded the prestigious '**Better Opportunities for Young Scientists in Chosen Areas of Science and Technology' [BOYSCAST]** Fellowship for the year 2009-2010, by the Department of Science and Technology, Govt. of. India, New Delhi, India. During this period, he worked at Department of Materials Science and Engineering, Chonnam National University, Gwangju South Korea for 12 months for conducting Post- Doctoral research on "Synthesis of Cu_2ZnSnS_4 (CZTS) thin films by PLDtechnique for solar cell applications".

In 2014, he has been elected as Fellow of Maharashtra Academy of Sciences (F.M.A.Sc.). His contribution to scientific research and societal work has been recognized by his achievements as **Adarsh Shishak (2014), Rashtriya Yuva Sastradnya (2019), Top 2% World Scientists (2020), Stanford University. According to a survey conducted by AD Scientific Index in 2021, Prof. Dr. Annasaheb Moholkar of the Department of Physics, Shivaji University has been ranked 657th in the world and 25132 in the world among the world-renowned scientists. In 2019, he was honored with the "National Young Scientist" award through the Sardar Ranjit Singh Sachdev Foundation, Mumbai.**

He has successfully completed six research projects of worth Rs. 1.15 cores funded by diverse agencies like, UGC, DST and DAE-BRNS, SERB. Additionally, one major research project of Rs. 27/- Lakhs funded by DST-SERB on composite gas sensor is ongoing. There are Six books to his credit published by LAP LAMBERT Academic Publishing, Germany. He has contributed to 6 Book chapters published by the publisher of International repute like, World Scientific Publishing Co. Pvt. Ltd." Springer Publishing Company, IGI Global, USA, Palgrave Macmillan, Publishing Co. Pvt. Ltd. and Elsevier

He is offering his services as a Referee for more than 30 International Journals and various project proposals of UGC and SERB funding agencies. He has organized the International Conference on Physics of Materials and Materials based Device Fabrication (ICPM-MDF- 2019) as a Convenor. Under his guidance 9 students have awarded their Ph.D. degree and 3 students have submitted their thesis and 3 are currently working for Ph.D.

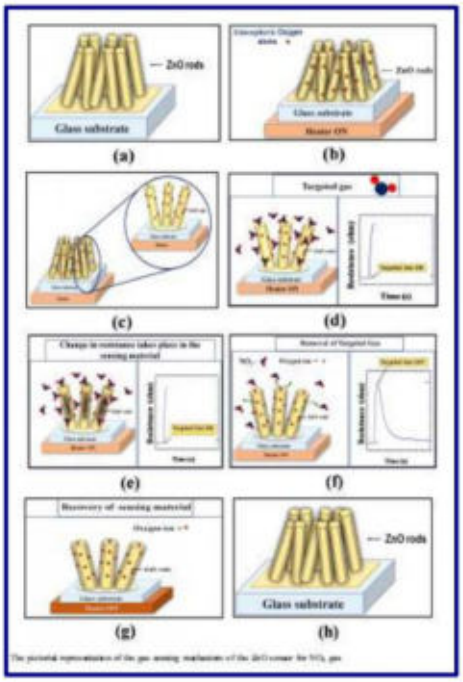
He has published more than 152 research papers in various reputed international with high impact factor His citation index is 6746, RG score is 39.12, h index is 51 and i-10 index is 121. Out of these 23 articles have been ranked among Science Direct Top 25 for different time periods. Based on the results, there are 35 articles

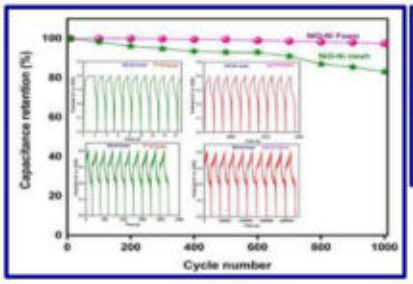
appeared in the 'BUTTER® Information Brochure which is devoted to Better Understanding Through Technology and Emerging Research. He has delivered more than 25 invited talks at national and international levels. The worked out so far has been discriminated through more than 105 various seminar/workshops/symposium and conferences. More than decade the various materials useful for supercapacitor, solar cells, fuel cells, detection of gas, water splitting, andpurification of water have been investigated.

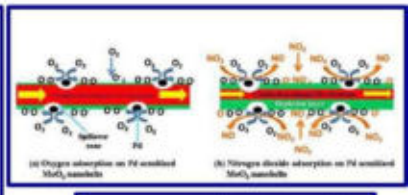
He has done extensive work the conducting transparent oxide layers coatings. The deposition of FTO and ITO was the topic for his Ph.D. degree. By tuning different parameters and changing the procedure, more than 15 papers have been reported. So far more than FTO, ITO, InO, CdO, Cd2In2S4 materials have been deposited to understand the science in the materials. We have worked on the p type absorber materials like based binary, ternary, and quaternary, semiconductor applications. The binary buffer layers like CdS, ZnS have been synthesized and the effect on the film properties have studied pursuit.

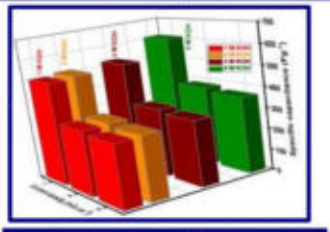
During the BOYSCAST Fellowship duration the he has prepared the actual solar cell fabrication having configuration Mo/CZTS/ZnS/i-ZnO/Al-ZnO. He has the experience of handling the PLD, Sputtering and E-Beam Evaporation systems, used for device fabrication. In addition, by our group CCTS material have been prepared for different types of solar cells using different physical and HD, DC sputtering CVD, E beam evaporations methods have been used. The publication list consists a good chemical techniques deposition method like spray pyrolysis, electrode position, CBD, SILAR, sol-gel. hydrothermal and more than 100 research articles from this category also published.

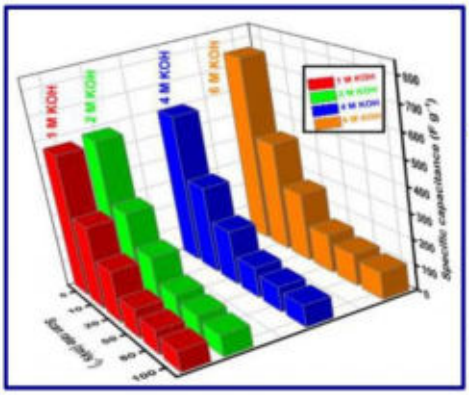
More than 60% papers out of 152 are dedicated to the materials of required for formation of PEC, DDSC, and SS Junctions solar cell and diverse methods. The work using spray pyrolysis for the deposition of oxide semiconductor thin films which includes different kinds of TCO thin film materials viz. SnO_2:F, In_2O_3:Sn, SnO_2:Sb, CdO, CdO:F, CdO:Ga, ZnO, ZnO:F, ZnO:In, ZnO:Ga, $CdInO_4$ and Zn_2SnO_4, by spray pyrolysis technique. Other materials investigated includes CdSe, Fe doped CdSe, F doped ZnO, CdIn2O4, CZTS, ZnO, Ga:ZnO, Al, Ga and In doped ZnO, ZnS, NiO, CdS, CdS sensitized ZnO, CuO-PAA, Al:Fe2O3, Zn_2SnO_4, Polyaniline ZnO nanocomposite, CuOPAA/ CNT, Silver:polyaniline, polypyrrole–ZnO nanocomposite, CuInS2, TiO2, ZnSe, αFe_2O_3, MoO_3, Pd sensitized MoO_3, V_2O_5, Pd sensitized V_2O_5 ,MoO_{31-X}-V_2O5_x, V_2O_5–WO_3, WO_3, Fe_2O_3, TiO_2/$Fe2O_3$, Cu:ZnO, ZnS_xSe_{1-x}, CdS, $NixZn_{1-x}Fe_2O_4$, CdS, nanoparticles/ZnO nanorods core–shell, Au:TiO_2, Molybdenum, Cu2O, CCTS etc. Recently he has been focused on detection of hazardous gases and preparation of supercapacitors, water splitting for production of hydrogen energy, Perovskites, PEC, DSSC and Solid State Hetero-Junction solar cells employing simple and cost-effective chemical routes..

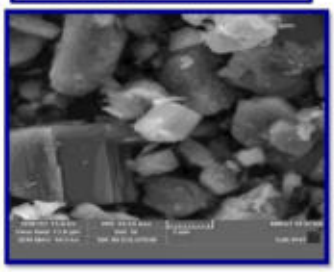

ZnO rods
Glass substrate
(a)
(b)
(c)
(d)
(e)
(f)
(g)
(h)

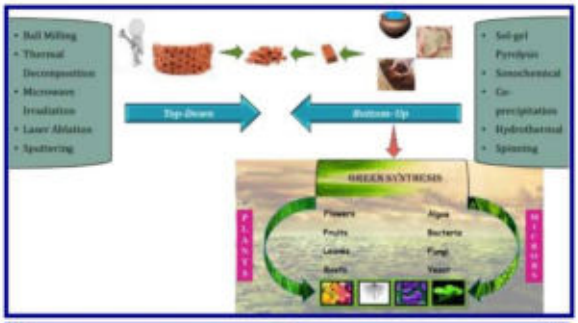

Capacitance retention (%)
Cycle number

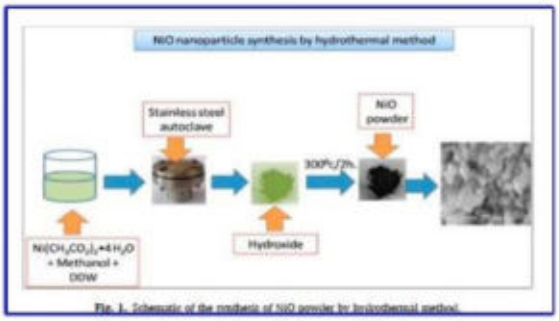


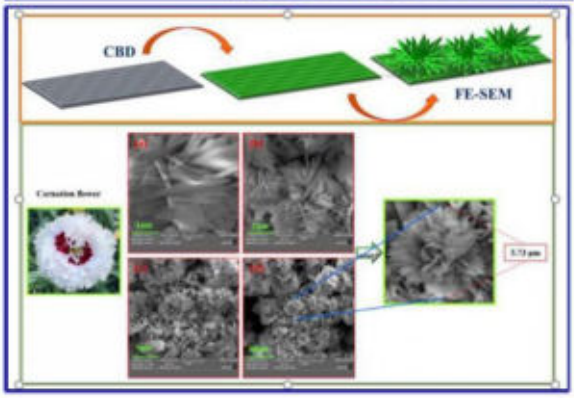


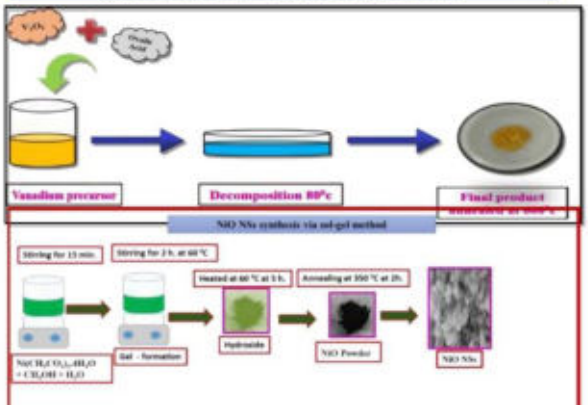

1 M KOH
2 M KOH
4 M KOH
6 M KOH

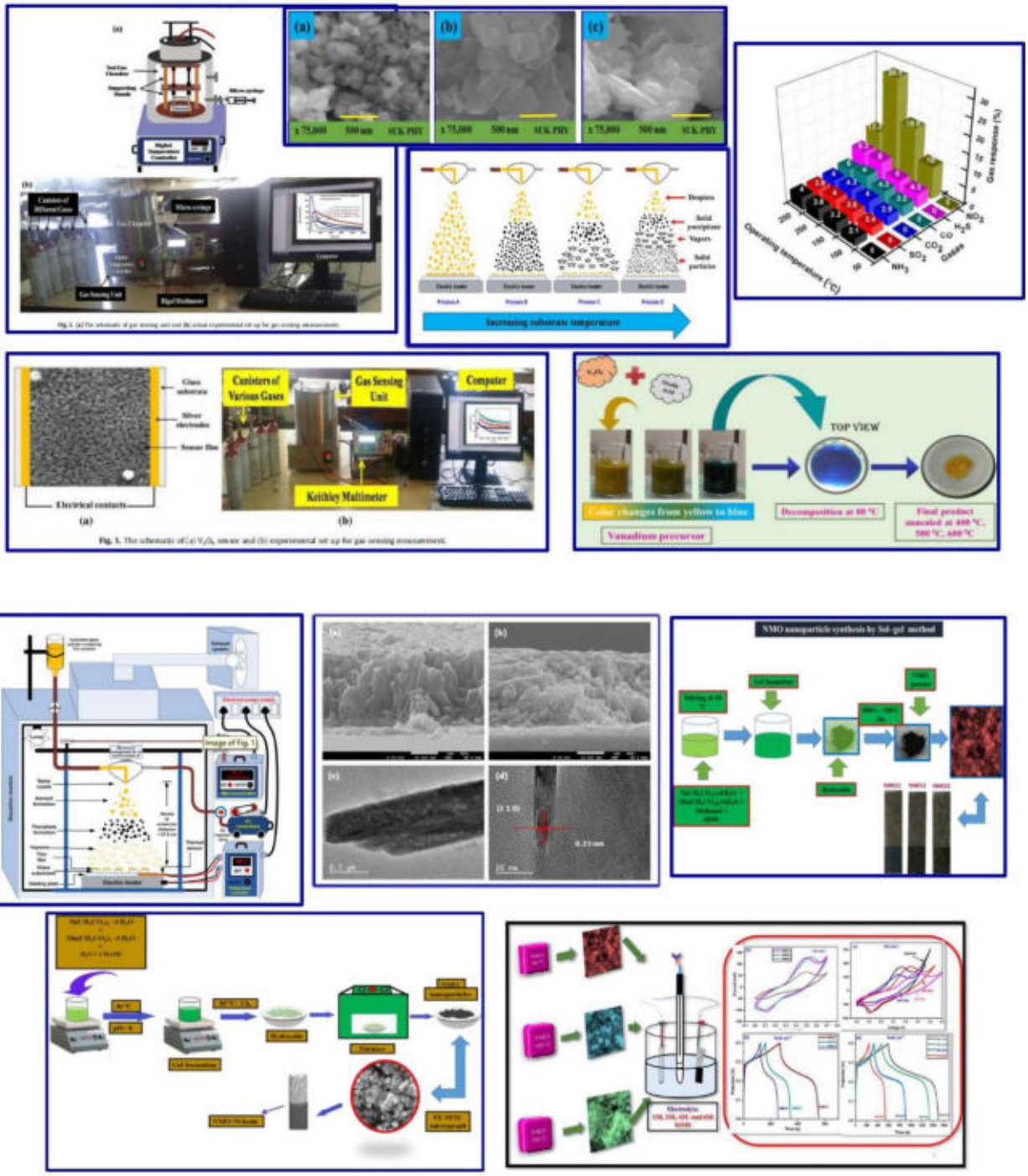



Ball Milling
Thermal Decomposition
Microwave Irradiation
Laser Ablation
Sputtering
Sol-gel
Pyrolysis
Sonochemical
Co-precipitation
Hydrothermal
Spinning
Top-Down
Bottom-Up
GREEN SYNTHESIS
Flowers
Fruits
Leaves
Roots
Algae
Bacteria
Fungi
Yeast


NiO nanoparticle synthesis by hydrothermal method
Stainless steel autoclave
NiO powder
Hydroxide
Methanol + DDW


CBD
FE-SEM


Vanadium precursor
Decomposition 80°c
Final product
NiO NSs synthesis via sol-gel method
Hydroxide
NiO Powder
NiO NSs


(a)
(b)
(c)
Canisters of Various Gases
Gas Sensing Unit
Computer
Keithley Multimeter
Electrical contacts
TOP VIEW
Vanadium precursor
NMO nanoparticle synthesis by Sol-gel method