Holy-wood Academy, Kolhapur

Sanjeevan Group of Institutions,

Sanjeevan Knowledge City, Panhala, Tal. Panhala, Dist. Kolhapur

Department of Basic Science and Humanities

STAFF PROFILE INFORMATION

Name of Staff:	Dr. Sambhaji Shivaji Kumbhar
Designation:	Assistant Professor
Qualification:	M.Sc., Ph.D (Physics)
Area of Specialization:	Material Science
Experience:	4 years (Research)
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➢ PAPER PUBLICATIONS:

Sr. No	TITLE	JOURNAL / CONFERENCE	VOLUME
1.	Growth dynamics-dependent chemical approach to accomplish nanostructured cobalt vanadium oxide thin film electrodes with controlled surface area for high-performance solid-state hybrid supercapacitor devices	Energy Technology	11
2.	Chemical Synthesis of Binder-Free Nanosheets Like Cobalt Vanadium Oxide Thin Film Electrodes for Hybrid Supercapacitor Devices	Sustainable Energy & Fuels	8
3.	Harnessing morphological alteration from microflowers to nanoparticles and cations synergy (Co:Ni) in binder-free cobalt nickel vanadate thin film cathodes synthesized via SILAR method for hybrid supercapacitor devices	Journal of Colloid and Interface Science	666

4.	Impact of Co:Fe cations composition in amorphous and mesoporous cobalt iron phosphate electrocatalysts synthesized by SILAR method on durable electrochemical water splitting	International Journal of Hydrogen Energy	61
5.	Chemical synthesis of manganese ferrite thin films for energy storage application	Journal of Materials Science: Materials in Electronics	35
6.	Morphology modulation of $MnFe_2O_4$ thin film electrode for enhanced performance of hybrid supercapacitor	Journal of Energy Storage	7
7.	Development of binder-free, amorphous nickel vanadate cathodes by SILAR method for hybrid supercapacitors: Exploiting surface area by monitoring growth rate	Journal of Energy Storage	19
8.	SILAR synthesized binder-free, hydrous cobalt phosphate thin film electrocatalysts for OER application: annealing effect on the electrocatalytic activity	International Journal of Energy Research	10
9.	Dielectric behavior and phase transition of $La_2Mo_2O_9$ thin films synthesized by spray pyrolysis technique	Journal of Materials Science: Materials in Electronics	74
10.	Hydrothermally synthesized nickel copper phosphate thin film cathodes for high-performance hybrid supercapacitor devices	Journal of Energy Storage	129
11.	A binder-free facile synthetic approach for amorphous, hydrous nickel copper phosphate thin film electrode preparation and its application as a highly stable cathode for hybrid asymmetric supercapacitors	Sustainable Energy & Fuels	960
12.	Hydrous and amorphous cobalt phosphate thin-film electrodes synthesized by the SILAR method for high-performing flexible hybrid energy storage devices	ACS Energy & Fuels	48
13.	Synthesis and Characterization of MnS Thin Film at Room Temperature for Supercapacitor Application	Macromolecular Symposia	33
14.	Amorphous, Binder-free Cobalt Manganese Phosphate Cathodes Prepared by SILAR Method for Asymmetric Supercapacitors: Harnessing Cationic Synergy	Synthetic Metals	424

15.	Chemical Bath Synthesis of Binder-Free Nickel Vanadate Cathodes for Hybrid Supercapacitor Systems: Tailoring Morphology and Surface Area via Monitoring Hydrolyzing Agent	Advanced Sustainable Systems	57
16.	SILAR Synthesis of Binder-Free, Nanosheets-like Manganese Phosphate Electrodes for Mg-Ion Supercapacitors	Solid State Communications	432
17.	Three-Dimensional Controlled Growth of Binder-Free Manganese Ferrite Electrodes for High-Performance Hybrid Supercapacitor Device	Advanced Sustainable Systems	48
18.	Binder-free, Hetreostructured 1D Cobalt Hydroxide Decorated 2D Cobalt Phosphate Cathodes for Hybrid Supercapacitors: Optimizing Heterostructures Synergy	Journal of Power Sources	24
19.	Yoking Compositional Synergy Among 2-D Nanohybrids of Cobalt Vanadium Oxide Nanoplates and Reduced Graphene Oxide Nanosheets Based Cathode Material for Hybrid Supercapacitors	Journal of Energy Storage	5
20.	Chemical Engineering of Nickel Cobalt Hydroxide Anchored Nickel Cobalt Phosphate Cathodes in 1D@2D Nano-Micro Architecture: Enhancing Hybrid Supercapacitor Performance via Mott-Schottky Junctions and Morphological Synergy	Chemical Engineering Journal	352

- **Patents:**

Sr. No.	TITLE	Status	Grant no./ Application no.
1	Chemical method for growing a cobalt vanadium oxide thin film on solid substrate	Granted	459219
2	Cobalt vanadium oxide, preparation method for the same, and supercapacitor comprising the same	Granted	529322
3	Nickel cobalt phosphate thin-film electrodes: chemical method for preparation of the same, application for supercapacitor and electrocatalysis using the same	Granted	432303
4	A chemical synthesis process of manganese ferrite thin films on conducting substrates for energy storage	Granted	415578
5	A method of preparation of lanthanum strontium tungsten oxide composite electrode for supercapacitor application	Granted	471088
6	Nickel vanadate thin film on conducting substrate, preparation method for the same and supercapacitor comprising the same	Published	202221020652

7	Chemical synthesis of manganese ferrite/reduced graphene oxide composite thin film electrodes for energy storage application	Published	202421060274

- **Research Contribution:**

Research Grants:(Details of grants received)

S. No.	Funding Agency	Year	Title of the project	Amount in Rs.
1				

- **Research IDs:**

1	**Google Scholar ID**	https://scholar.google.com/citations?user=ZVVCRTcAAAAJ&hl=en
2	**Researcher ID**	
3	**ORCID ID**	0000-0003-4662-2481

- **Reviewer of**

1.
2.

- **Number of Ph. D. scholars guiding:**

- **Book Published**

Book Chapters:

S. No.	Title of Book	Year	Name of Publisher	ISBN
1	1D, 2D, and 3D Structured Metal Chalcogenides for Supercapacitor Application	2023	Springer International Publishing	978-3-031-23401-9

- **Member of Professional Bodies:**

- **Achievements**
  - Selected as Senior Research Fellow (SRF) (MAHAJYOTI, Government of Maharashtra, India).

- **Details of Faculty Development Programs (Workshop/Conference/Training Program)**

S.N.	Title of Conference	Oral/Poster	International/National	Date
1.	International Seminar Series on Nanotechnology for Environment and Sustainability	-	National	12th and 13th Jan. 2021
2.	Workshop on Good Laboratory Practices	-	National	06th Feb. 2021
3.	International Webinar on Nanomaterials for Energy Generation and Smart Storage	-	International	24th Jun. 2021
4.	Online Webinar on First International Lightning Safety Day	-	International	02nd July 2021
5.	Workshop & Hands on Training on XRD Organised by SAIF CFC Under Stride Programme	-	National	11th and12th Nov. 2021
6.	2nd Asian e-Conference on Engineered Science	-	International	5th to 6th Dec. 2021
7.	Dnyanshodh-2022	Poster	National	28th Feb. 2022
8.	International E-Conference on Emerging Trends in Nanoscience and Nanodevices (ICETNN-2022)	-	International	04th May 2022
9.	One Week Training Program on R & D Equipment Synergistic Training Program Utilizing the Scientific and Technological Infrastructure (STUTI)	-	National	25th to 31st July 2022
10.	Workshop on Awareness about Sharing R&D Resources Through I-Stem Portal	-	National	05th Aug. 2022

11.	National Intellectual Property Awareness Mission	-	National	12th Aug. 2022
12.	National Level One Day Online Workshop on "Intellectual Property Rights" under National IPR Awareness Mission	-	National	12th Aug. 2022
13.	One Week Training Program Hands on Training on Sophisticated Instruments for Materials Science	-	National	14th to 20th Sept. 2022
14.	Chip-Scale Photonic Devices for Optical Fiber Communication and Optical Interconnects	-	National	30th Sept. 2022
15.	International Conference on "Emerging Trends in Material Science"	Poster	International	10th Nov. 2022
16.	Emerging Nano Materials for Renewable Energy	-	National	26th Dec. 2022
17.	National Intellectual Property Awareness Mission	-	National	16th Jan. 2023
18.	Dnyanshodh-2023	Poster	National	09th March 2023
19.	One Day International Conference on Recent Trends in Fabrication of Nanomaterials and their Applications (ICRTFNA-2023)	-	International	15th March 2023
20.	International Conference on Recent Trends in Advanced Materials	-	International	02nd Sep. 2023
21.	International Conference on Advanced Materials Synthesis, Characterization and Applications-2023 (AMSCA-2023)	Poster	International	21st to 24th Nov. 2023
22.	International Conference on Nanotechnology Addressing the Convergence of Materials	Poster	International	12 to 14 Feb. 2024

	Science, Biotechnology and Medical Science (IC-NACMBM-2024)			
23.	National Conference on Recent Trends in Functional Materials and their Applications (RTFMA-2024)	Poster	National	13th to 14th March 2024
24.	Royal Society of Chemistry Yusuf Hamied Inspirational Science Programme under the Rural Science Education Training Utility Programme (RuSETUP) A Flagship Programme of INYAS	-	International	20th and 21st Sept. 2024