

Name : Suresh GOSAVI
Qualification : M.Sc. Ph.D
Designation : Reader
Specialization : Electronics and Material Science
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1. Education:

Sr. No	Course	Institution	Year	Details
1	Ph.D	Department of Electronic-Science University of Pune	1996	Synthesis, Characterization and Lithographic Evaluation of Plasma Polymerized α -Methylstyrenes and Chlorinated α -Methyl styrene as E-Beam Resist.
2	M.Sc.	Department of Electronic-Science	1990	Electronic-Science
3	B.Sc.	N. M. College, Jalgaon, (Affiliated to Pune University)	1988	Electronics

2. Career Profile:

Sr. No	Organization/Institution	Designation	Duration
1	Department of Physics, University of Pune	Lecturer	Feb. 2003 Onwards (On Lien from S.P. College Pune till August 2006)
2	Department of Physics, University of Pune	Reader	2003 onwards
3	Department of Electronic-Science University of Pune	Lecturer	February 1998 - June 1998. June 2000- Feb 2003 (On Lien from S.P College Pune)
4	Department of Electrical and Computer Engineering, Oregon Graduate Institute of Science and Technology, Portland, OR, 97291-1000, USA.	Post-Doc Research Fellow	June 1998 - June 2000 (On lien from S.P. College Pune)
5	S.P Collage, Pune	1990	Feb. 1992 - August 2006

3. Teaching Experience (Subject/Course Taught): 17 Years

- Electronics (Dept. of Physics, UoP)
- Nanotechnology (Dept. of Physics, UoP)
- Material Science (Dept. of Physics, UoP)
- Physics of Semiconductor Devices (Dept. of Electronic-Sci., UoP)

- Semiconductor Science and Technology (Dept. of Electronic-Sci., UoP)
- Optoelectronics (Dept. of Electronic-Sci., UoP)
- Computer Organization (Dept. of Computer Sci., UoP)
- VLSI Design and Technology (PICT, Pune)
- Microelectronics (Bharati Vidyapeeth, Pune)

4. Research Interest/Specialization

- Lithography and pattern transfer, using Plasma Polymerization
- Dry electron beam resist synthesis and characterization
- Multi-electron beam Lithography System design and developments
- Nanomaterials and Nanotechnology
- Microfluidics/ Nanofluidics
- Soft Lithography
- Photo imagable thick film technology

5. Honors & Awards:

6. Publications –Books, Journals, Articles

Sr. No.	Year of Publication	Title	Co-Author	Book/Journal/Article
1	2009	“Field Emission Properties of Al-doped ZnO Nanostuctures”	Shalaka C. Navale, Farid Jamali Sheini, Sandip S. Patil, Intiaz S. Mulla, Dilip S. Joag Mahendra A. More and Suresh W.GOSAVI	Journal of Nano Research, Accepted for Publication
2	2008	“Controlled synthesis of ZnO nanospheres to micro-rods and its gas sensing studies”	Shalaka C.Navale, S.W.Gosavi , and I.S.Mulla,	<i>Talanta, Volume 75, Issue 5, 15, Pages 1315-1319</i>
3	2008	Preparation, characterization and electrical properties of spinel type environment friendly thick film NTC thermistors”,	Shweta Jagtap, Sunit Rane, Suresh Gosavi and Dinesh Amalnerkar	<i>Journal of the European Ceramic Society, Volume 28, Issue 13, Pages 2501-2507</i>
4	2008	“XPS and AFM investigations on silver-based photoimageable thick film systems”	Govind Umarji, Supriya Ketkar, Ranjit Hawaldar, Suresh Gosavi , Kashinath Patil, Uttam Mulik, Dinesh Amalnerkar	<i>Microelectronic International, Vol. 25, No. 1, pp46-57</i>
5	2008	“EPR and DRS evidence for NO ₂ sensing in Al-doped ZnO	Shalaka C. Navale, V. Ravi, D. Srinivas, I.S. Mulla, S.W. Gosavi , and S.K. Kulkarni	<i>Sensors and Actuators B: Chemical, Volume 130, Issue 2, 28 Pages 668-673</i>
6	2008	“Substrate bias effects during diamond like carbon film deposition by microwave ECR plasma CVD	R.M. Dey, S.B. Singh, A. Biswas, R.B. Tokas, N. Chand, S. Venkateshwaran, D. Bhattacharya, N.K. Sahoo, S.W. Gosavi , S.K. Kulkarni and D.S. Patil	<i>Current Applied Physics, Volume 8, Issue 1, Pages 6-12</i>
7	2007	“Plasmon Assisted Photonics at	Suchita A. Kalele, Neha	<i>Journal of Nanophotonics,</i>

		the Nanoscale”	R. Tiwari, Suresh W. Gosavi , and Sulabha, K. Kulkarni,	<i>Vol. 1, p12501</i>
8	2007	“Low temperature synthesis and Nox sensing properties of nanostructured Al-doped ZnO	S.C. Navale, V. Ravi, I.S. Mulla, S.W. Gosavi , and S.K. Kulkarni	<i>Sensors and Actuators B: Chemical, Volume 126, Issue 2, , Pages 382-386</i>
9	2007	Titania nanoparticles synthesis in mesoporous molecular sieve MCM-4	N.B. Lihitkar, Majid Kazemian Abyaneh, V. Samuel, R. Pasricha, S.W. Gosavi and S.K. Kulkarni	<i>Journal of Colloid and Interface Science, Volume 314, Issue 1, 1, Pages 310-316</i>
10	2007	"Nitrate reductase-mediated synthesis of silver nanoparticles from AgNO ₃ "	S. Anil Kumar, Majid Kazemian Abyaneh, S.W. Gosavi , Sulabha. K. Kulkarni, Renu pasricha, Absar Ahmad and M.I. Khan	<i>Biotechnology Letters, 29, pp439-445</i>
11	2007	"Sulphite reductase-mediated synthesis of gold nanoparticles capped by phytochelatins";	Suresh Anil Kumar, Majid Kazemian Abyaneh, Suresh W. Gosavi , Sulabha. K. Kulkarni, Absar Ahmad and M.Islam Khan	<i>Biotechnology and Applied Biochemistry. 47, , pp191-195</i>
12	2007	“Formation of gold nanoparticles in polymethylmethacrylate by UV irradiation”	Majid Kazemian Abyaneh, D Paramanik, S Varma, S W Gosavi and S K Kulkarni	<i>J. Phys. D: Appl. Phys. 40 No 12, 3771-3779</i>
13	2007	“Soft Lithography: Inexpensive route for mass scale nanopatterning”, Review Article	Akanksha Singh, S.W. Gosavi , Chantal Khan Malek, and S.K. Kulkarni,	<i>National Academy Science Letters, Vol. 30, No. 1-2, pp15-30</i>
14	2006	Thermally assisted semiconductor-like to insulator transition in gold–poly(methyl methacrylate) nanocomposites”,	Majid Kazemian Abyaneh, Renu Pasricha, S W Gosavi and S K Kulkarni	<i>Nanotechnology 17 No 16, 4129-4134</i>
15	2006	“Rapid detection of <i>Escherichia Coli</i> using Antibody-Conjugated silver nano-shells”	Suchita A. Kalele, Anita A. Kundu, Suresh W. Gosavi , Dilip N. Deobagkar, Deepti D Deobagkar Sulabha K. Kulkarni	<i>Small, Vol. 2, No. 3, 335-338</i>
16	2006	Effect of field emission from chemically grown ZnO nanoparticles of different morphologies”,	S.K. Marathe, P.M. Koinkar, S.S. Ashtaputre, M.A. More, S.W. Gosavi , D.S. Joag, and S.K. Kulkarni	<i>Nanotechnology, Vol. 17, No. 8, pp1932-1936</i>
17	2006	Multiferroic TbMnO ₃ nanoparticles	Sharmin Kharrazi, Darshan C. Kundaliya, S.W. Gosavi , S.K. Kulkarni, T. Vankatesan, S.B. Ogale, J. Urban, S. Park, S. W. Cheong	<i>, Solid State Communication, 138, pp395-398</i>
19	2006	“Field emission from oriented tin oxide rods”	A.C. Deshpande, P.M. Koinkar, S.S. Ashtaputre, M.A. More, S.W. Gosavi , P.D. Gosbole, D.S. Joag, and S.K. Kulkarni	<i>Thin Solid Film, Vol 515, Issue 4, pp1450</i>
20	2006	“Immobilization of	Sulabha Karandikar,	<i>Research Journal of</i>

		Thermotolerant Kluyveromyces marxianus on Silica Aerogel for Continuous Production of Invert Syrup”,	Asmita Prabhune, Suchita A. Kalele, S.W. Gosavi , and S.K. Kulkarni,	<i>BioTechnology, Voll (2), pp16-19</i>
21	2006	“Nanoshell particles: synthesis, properties and applications”, <i>Review article</i>	Suchita Kalele, S.W. Gosavi , J. Urban and S.K. Kulkarni	<i>Current Science, Vol. 91, No. 8, 1038-105</i>
22	2006	“Integrating nano and microparticles	Shriwas Ashtaputre, Aparna Deshpande, Mousa Ali Ahmad, Sonali Marathe, Suchita Kalele, J. Chimanpure, J. Urban, S.W. Gosavi , and S.K. Kulkarni”,	<i>Indian Journal of Pure and Applied Physics, Vol. 44, No. 2, p107</i>
23	2005	“Synthesis and analysis of ZnO and CdSe Nanoparticles	Shriwas S. Astaputre, Aparna Deshpande, Sonali Marathe, M.E. Wankhede, Jayashree Chimanpure, Renu Paricha, J. Urban, S.K. Haram, S.W. Gosavi , S.K. Kulkarni,	<i>Journal of Physics, 65, 4, (2005) 615-620.</i>
24	2005	, “Synthesis and Characterization of Silica-Titania Core –Shell Particles	Suchita Kalele, Ravi,Dey, Neha Hebalkar, S.W. Gosavi , J. Urban, and S.K. Kulkarni,	<i>Pramana, Journal of Physics, Vol. 65, No. 5, 787-791</i>
25	2005	“Optical detection of antibody using silica-silver core-shell particles”	S. A. Kalele, S. S. Astaputre, N. Y. Hebalkar, S.W. Gosavi , D.N. Deobagkar, D. D. Deobagkar, S. K. Kulkarni,	<i>Chemical Physics Letters, 404, 136-141</i>
26	2005	M. Bangal S. Astaputre, S. Marathe, A. Ethiraj, N. Hebalkar, S.W. Gosavi , J. Urban, and S.K. Kulkarni	Semiconductor nanoparticles”.	<i>J. Hyperfine Interactions, Vol. 160, No. 1-4, pp81-94.</i>
27	2001	“Stability Improvement at High Emission Densities for Gild Thin-Film Photocathodes Used in Advance Electron Beam lithography”,	Suresh. Gosavi , J.M McCarthy, J.L. House, B.G. Scholte van Mast, G. Janaway, and C.N. Berglund	<i>J. Vac. Sci. and Technol., 19, 6, p2591.</i>
28	1998	Electrochemical polymerization of Poly (o-anisidine) thin films: Effect of synthesis temperature studied by Cyclic Voltammetry”,	Sharmila Patil, J. R. Mahajan, M. A. More, P.P. Patil, S. W. Gosavi , and S. A. Gangal	<i>Polymer International, 46, p99.</i>
29	1997	"Characterization of SnO ₂ -based H ₂ gas sensors fabricated by different deposition techniques"	S.G. Ansari, S. W. Gosavi , S.A. Gangal, R. N. Karekar, and R.C. Aiyer	<i>J. Mat. Sci. Materials in Electronics, 8, p23</i>
30	1995	, "Plasma Polymerized Chlorinated α -MethylStyrene (PP-C- α -MS): A High Performance Negative Electron Resist”	Suresh Gosavi , S.A. Gangal, Beena Annie Kuruvilla, and S. K. Kulkarni	<i>Jpn. J. Appl. Phys., 34, p630.</i>
31	1994	,"Analysis of PPMMA films from oxygen plasma using X-ray Photoelectron	Beena Annie Kuruvilla, Madhukar Zambare, Suresh Gosavi , Sucheta	<i>J. Polym. Sci. Polym. Chem., 32, p2275</i>

		Spectroscopy"	Gorwadkar, S.A. Gangal and S.K. Kulkarni	
32	1992	"Improvement in the Sensitivity of PPMMA electron beam resist by S and F atom doping"	Zambare Madhukar, Gosavi Suresh , Gorwadkar Sucheta, Kuruvilla Beena, Kulkarni Sulbha and Gangal Shashikala,	<i>Jpn. J. Appl. Phys.</i> , 31 , p2640.
33	1992	"Investigations on Dry Electron Beam Resist Prepared by Plasma Polymerization of Methyl Methacrylate	Madhukar Zambare, Suresh Gosavi , Sucheta Gorwadkar and Shashi A. Gangal	<i>CSIO Communication</i> , 19 , p52.

7. Publication –Conference Presentations

Sr. No.	Year of Publication	Title	Co-Author	Book/Journal/Article
1	1993	"Electron Beam Resist Preparation by Plasma Polymerization	M. S. Zambare, S. W. Gosavi and S.A. Gangal	IEEE Int. Conf. on Plasma Sci. Vancouver, Canada., (1993).
2	1993	"Dependance of Electron Beam Sensitivity of PPMMA Films on Plasma Parameters	M.S. Zambare, S. W. Gosavi , S.M. Gorwadkar and S.A. Gangal,	Proc. 10 th Int. Symp. Plasma Chem., Bochum., Germany, (1991), p 2.3-19, 1993
3	1993	"Synthesis and Characterization of PlasmaPolymerized Electron Beam Resist	Zambare M. S., Gosavi S. W. , Gorwadkar S. M., B. A. Kuruvilla, Kulkarni S. K., Gangal S. A	11 th Int. Symp. Plasma Chem., Loughborough, UK, Aug (1993).
4	1994	"Structural Characterization and Lithographic Evaluation of Plasma Polymerized α -MethylStyrene and its Plasma Chemical Amplification by Chlorination",	Suresh Gosavi and S.A. Gagnal	<i>Tenth Int. Conf. On Photopolymers, IBM, New York, Oct 31-Nov-2,</i>
5	1997	"Sunthesis and Structural Characterization of PPMMA Films and its Application as Humidity Sensor	Suresh Gosavi , Bhaskar Jadhav, and S.A. Gangal,	Int. Conf. on Recent Trends in Monitoring Environmental Quality, IIT Kharagpur, INDIA, 1997
6	1998	"Anisotropic Etching for Fabrication of Si-Microstructures: Diaphragms and Cantilevers	Ruta Ghoshalkar, S.W. Gosavi , and S.A Gangal	5 th National Seminar on Physics and Technology of Sensors, University of Pune, India, (1998), pC44-1.
7	1998	"A Comparitive Study of Plasma Deposited (PPMMA) and Spin Coated Poly Methylmethacrylate (PMMA) Capacitive Humidity Sensor	R.V. Dhabade, B. Jadhav, S.W. Gosavi and S.A. Gangal,	5 th National Seminar on Physics and Technology of Sensors, University of Pune, India, (1998), pC28-1.
8	1999	"Practical gold thin-film photocathodes for advance electron-beam lithography	S. Gosavi , J.M McCarthy, C.N. Berglund, W.A. Mackie, L.A Southall,	19 th Annual BACUS symposium On Photomask Technol. and Management, Frank E. Abboud, Brian J.

				Grenon, Editors, <i>Proc. SPIE</i> , Vol. 3873, p501.
9	2001	“Stability Improvement at High Emission Densities for Gild Thin-Film Photocathodes Used in Advance Electron Beam lithography	Suresh. Gosavi , J.M McCarthy, J.L. House, B.G. Scholte van Mast, G. Janaway, and C.N. Berglund,	<i>45th International Conf. On Electron, Ion, and Photon Beam Technology & Nanofabrication, Washington DC, May 29th - June 1st, (2001)</i>
10	2005	“ Patterning of 1-D, 2-D, and 3-D structures of silica particle via micromoulding in capillaries and microcontact printing technique	Singh A, Kalele S, Gosavi S.W. , Kulkarni S.K	Material Research Society of India, 16 th Annul General Body Meeting, 2004, National Chemical Laboratory, Pune, INDIA. Feb. 10 th – 12 th , 2005
11	2005	“Nanoparticle –polymer composites and dependence of their resistivity on temperature”	Kazemian Abyanesh M, Purendare R.C., Gosavi S.W. , Kulkarni S.K.,	Material Research Society of India, 16 th Annul General Body Meeting, 2004, National Chemical Laboratory, Pune, INDIA. . Feb. 10 th – 12 th , 2005
12	2005	“Synthesis and characterization of Silica-Titania Core-Shell particles” (MRSI BEST POSER PRESENTATION AWARD)	Kalele S, Day R.H., Hebalkar N., Gosavi S.W. , Kulkarni S.K	Material Research Society of India, 16 th Annul General Body Meeting, 2004, National Chemical Laboratory, Pune, INDIA. . Feb. 10 th – 12 th , 2005
13	2005	“Synthesis and characterization of Cadmium Selenide nanoparticle	Deshpande A.C., Wankhade M., Thate A., Haram S., Gosavi S.W. , Kulkarni S.K	Material Research Society of India, 16 th Annul General Body Meeting, 2004, National Chemical Laboratory, Pune, INDIA. . Feb. 10 th – 12 th , 2005
14	2005	“Synthesis and characterization of Zinc oxide nanostructure”, (MRSI BEST POSER PRESENTATION AWARD)	Astaputre S. S, Marathe S, Gosavi S.W. , Kulkarni S.	Material Research Society of India, 16 th Annul General Body Meeting, 2004, National Chemical Laboratory, Pune, INDIA. . Feb. 10 th – 12 th , 2005
15	2006	“Magnetic and dielectric properties of multiferroic TbMnO ₃ nanoparticles	Darshan C. Kundallya, S.B. Ogale, Sharmin Kharrazi, S.W. Gosavi , S.K. Kulkarni, S. Park, S.W. Cheong, J. Urban, and T. Venkatesan	XIII International Workshop on Oxide Electronics October 8-11, 2006, Ischia, Italy.
16	2007	“Nanostructured multiferroic HoMnO ₃ “.	Sharmin Kharrazi, Darshan Kundaliya, S.W. Gosavi , S. K. Kulkarni, S. B. Ogale, T. Venkatesan, S. Park, S. – W. Cheong, Lianfeng Fu, N. Browning, Renu Pasricha,	International Workshop on Advanced Materials and Technologies for Nano and Oxide Electronics, New Delhi, India, Feb. 19-22, 2007.
17	2007	“Al Doped Porous ZnO Pellets As Gas Selective Nox Sensor	Shalaka C. Navale, S.W. Gosavi , I.S. Mulla	International Workshop on Advanced Materials and Technologies for Nano and Oxide Electronics, New

				Delhi, India, Feb. 19-22, 2007
18	2008	“Photoimaging: A novel down scale approach from macro to micro photoconductor fabrication	Govind G. Umarji, Suresh W. Gosavi , Uttam P. Mulik, Dinesh P. Amalnerkar	13 th National Seminar on Physics and Technology of Sensors, Department of Electronic-Science, University of Pune, Pune-411 007, INDIA., March 3-5, 2008
19	2008	“The effect of grain size on the properties of eco-friendly thick film NTC thermistors”	S. Jagtap, A. Jadhav, S. Rane, S. Gosavi , R. Aiyer, D. Amalnerkar	13 th National Seminar on Physics and Technology of Sensors, Department of Electronic-Science, University of Pune, Pune-411 007, INDIA., March 3-5, 2008

8. Professional Societies Memberships

- i. Council Member, MRSI Pune Chapter (2005-2008)
- ii. Elected Secretary Indian Physics Association Pune Chapter (2007-2009)

9. Public Service / University Service / Consulting Activity:

In-charge for XRD Facility established under Center for Nanoscience and Quantum System.

10. Projects (Major Grants / Collaborations)

Sr. No.	Title of the Project	Name of the Funding Agency	Project Cost INR	Duration	Remark
1	“Simulation of optical properties of metal nanoparticles polymer composites” (PI)	DRDO-ISRO Cell under UoP-ISRO interaction programme	Rs. 1,25,000/-	2005-2006 1 year	Completed
2	“Nanoparticles polymer resistive composites” (Co-PI)	DRDO-ISRO Cell under UoP-ISRO interaction programme	Rs. 1,00,000/-	2005-2006 1 Year	Completed
3	“Microfluidic Systems Based on New Smart Polymers” (Co-PI)	Indo-French Center for the Promotion of Advance Research (IFCPAR), Centre Franco-Indien Pour la Promotion de la Recherche Avancee (CEFIPRA),	Rs. 87,53,000/-	3 years	Ongoing
4	Establishment of dual chamber Hot Wire Chemical Vapor Deposition (HW-CVD) technique and synthesis of intrinsic and doped hydrogenated microcrystalline silicon ($\mu\text{c-Si:H}$) and evaluation of	Department of Science and Technology, Govt. of India. New Delhi	Rs. 39,93,223/-	2007-2010 3 Years	Ongoing

	their opto-electronic properties for photovoltaic applications. (Co-PI)				
5	Synthesis and Characterization of hydrogenated nano-crystalline silicon (nc-Si:H) for solar cell fabrication (Co-PI)	Indo-Italian Executive Programme of Scientific and Technological Co operation for the years 2008-2010		3 Years	Sanctioned
6	Development of Multiple Emulsion Microfluidics System for the Synthesis of Core Shell Nano/Micro Particles (PI)	A program of Cooperation in Science and Technology cooperation between Department of Science and Technology, Govt. of India, and Ministry of Education, Science and Technology, Republic of Korea	Rs. 62,43,120/-	3 Years	Submitted for funding Under Evaluation

11. Other Details: Details of Visit to Other Institutes:

Sr. No	Institute	Period of Visit	Nature of Work
1	FEMTO-ST, Department of LPMO, Besancon, France, under the collaborative research project entitled, "Microfluidic System Based on New Smart Polymers" funded by Indo-French Centre for Promotion of Advanced Research, (IFCPAR)	20 th Nov. 2006 – 20 th Dec 2006 21 st May 2007 – 21 st June 2007.	Collaborative Research Work
2	ELETTRA Synchrotron Trieste, Italy, to carry our research work on project proposal no. 2006197, entitled, "Synthesis, Characterization and Lithographic evaluation of Plasma Polymerized Dry X-ray resist process for their use in Nanomater Pattern Fabrication",	29 th Oct. 2006 – 05 th Nov. 2006	Collaborative Research Work
3	University of Franche Comté 1 Rue Claude Goudimel – 25030- Besancon, Cedex, France	20 th May 2009 – 20 th June 2009	Visiting Professor

1. International Seminar/Conference/Workshop attended:

- Second International Symposium on Advanced Materials and Polymers for Aerospace and Defence Applications, (SAMPADA-2008), YASHADA,, MDC Center, Pune INDIA. December 8th-12th, 2008.
- NANOTECHNOLOGY: MAKING THE LEAP TOWARDS COMMERCIALISATION An India-UK workshop for nanoscientists to explore opportunities and routes to commercialization 7 - 10 January 2008. Venture Centre, 100, NCL Innovation Park, Pune – 411008, India.
- 7th International Workshop on High Aspect Ratio Micro-Structure Technology, CCI Doubs, Besancon, France. June 7-9 2007.
- Introduction to Nanofluidics, ICTP, Trieste Italy. Aug. 20th to Aug. 24th 2007
- International Workshop on Crystal Growth and Characterization of Advance Materials, Crystal Growth Centre, Anna University, Chennai. 9th – 13th January 2006
- Introduction to Microfluidics, ICTP, Trieste, Italy, Aug. 8th – Aug. 26th 2005.