Savitribai Phule Pune University

Dr. Arun Gulabrao Banpurkar

Professor in Physics

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Birth Date:	19th Feb. 1968
Edu. Qualifications:	M. Sc. Ph.D. (Physics)
Teaching Exp.	22 years (Master of Physics)
Research Exp.	28 years, including doctoral research experience in the University Department.
Postdoctoral Research:	*9. Physics of Complex Fluid, University of Twente, The Netherlands.*(13 June-30 June 18) *8. Physics of Complex Fluid, University of Twente, The Netherlands.*(17 May-30 June 17) *7. Physics of Complex Fluid, University of Twente, The Netherlands.* (9 June-31 July 15) *6. Physics of Complex Fluid, University of Twente, The Netherlands.* (1 June-31 July 14) *5. Physics of Complex Fluid, University of Twente, The Netherlands.* (1 June-31 July 13) *4. Physics of Complex Fluid, University of Twente, The Netherlands.* (1 June-31 July 12) 3. *Physics of Complex Fluid, University of Twente, The Netherlands.* (20 May-14 Aug 10) 2. *Physics of Complex Fluid, University of Twente, The Netherlands.* (21May –18 July09) 1. *Physics of Complex Fluid, University of Twente, The Netherlands.* (25/6/07 to 22/6/08)
Awards and Achievements:	**BOYSCOST fellowship** (Department of Science and Technology, Govt. of India) (2007-2008) (Host Institute: PCF-Univ. Twente, The Netherlands)
Research areas:	Wetting and Spreading, Electrowetting, Microfluidics, Experimental Study of the Pattern Formation in Hele-Shaw Flows and Growth Models.
International Collaborations:	Physics of Complex fluids (PCF), University of Twente, Enschede, The Netherlands (www.utwente.nl/tnw/pcf)
National Collaborations:	National Chemical Laboratory (NCL) Pune and IISER, Pune, IIT Bombay

Research Schemes: (as PI)

6. Developing High-Performance Insulators for Electrowetting-driven Liquid Lens and Beam-steering Device
SERB, approved (June (2017) [30.98 Lakh], funding received July, 2018)
(July 2018 to Oct 2021) Complete

5. Electrowetting on Dielectric (EW) for Mechanical Energy harvesting
(BCUD, Savitribai Phule Pune University Rs 2.40 Lakh) 2014-2016
(Complete)

4. Droplet Actuation by Electrowetting on Dielectric (EW) for Lab on Chip Applications
(BCUD, SPPU, Rs 3.00 Lakh) 2011-2013)

3. Study of hydrodynamic resistance in a rectilinear micro-fluidic channel
(BCUD, SPPU, Rs 3.00 Lakh, 2009-2011)

2. Growth and Characterization of Magnetotactic Bacteria and Magnetic-nanoparticles (BCUD, SPPU, Rs 3.00 Lakh,) (2006-2008)

1. SERC fact track project for young scientists titled 'Studies of the Formation of Patterns for Various Liquids in Hele-Shaw Cell and Taylor-Couette Flows' (Rs. 5.40 Lakh, Funding from: **DST** Gov. of India)
(2001-2003)

Conducted Refresher course: UGC-Academic Staff-College, University of Pune
"Soft-Condensed Matter Physics" (11/11/2013 to 01/12/2013)
11 November to 1 December 2013.

Elective course Coordinator: Soft Condensed Matter (I and II) for SEM (III) and (IV) M. Sc. Physics

Workshop organized: One day workshop on "**Driven soft matter and Biological systems**", 18th March 2015 and 11th March 2017

Research Publications International and National:

	Title	**Authors**	**Journal**	**Impact factor ISSN no.**
66.	Polymethyl Methacrylate (PMMA)/Fluoropolymer Bilayer: A Promising Dielectric for Electrowetting Applications	Pranjali G. Yedewar, Sandip M. Wadhai, Yogesh B. Sawane and Arun G. Banpurkar	Journals of Materials Science (Accepted)	**3.442** 1573-4803

65.	Optical trapping of cord blood and adult blood: RBC	Sarika Hinge, A. G. Banpurkar, G. R. Kulkarni	SPIE Proceeding Vol. 11964 119640B (2022)	1996756X, 0277786X **0.45**
64.	Characterization and cytotoxicity assessment of biosurfactant derived from Lactobacillus pentosus NCIM 2912	V Sharma, D Singh, M Manzoor, A G Banpurkar, SK Satpute, D Sharma	Brazilian Journal of Microbiology (2021). https://doi.org/10.1007/s42770-021-00654-5	1678-4405 **2.476**
63.	Numerical simulations of growth dynamics of breath figures on phase change materials: The effect of accelerated coalescence due to droplet motion	R D Narhe, Nilesh D. Pawar, M.D. Khandkar, A.G. Banpurkar and A.V. Limaye	EPL in press https://doi.org/10.1209/0295-5075/ac130f (2021)	1286-4854 **1.957**
62.	Large tuning in the electrowetting behaviour on ferroelectric PVDF-HFP/Teflon AF bilayer	Sandip M. Wadhai, Yogesh B. Sawane, Abhay. V. Limaye & Arun G. Banpurkar	Journal of Materials Science volume 56, pages16158–16166 (2021)	1573-4803 **3.442**
61.	Luminescent behavior of pulsed laser deposited Pr doped ZnO thin films	A. Mandal, S.K. Adhi, B.P. Joshi, S.D. Shinde, A.G. Banpurkar, A.V. Limaye, K.P. Adhi, T. Sant, S.M. Jejurikar	Physica B: Physics of condensed matter 618 (2021) 413202	**2.41** 9214526
60.	Contact Process on Fractal Clusters Simulated by Generalized Diffusion-Limited Aggregation (g-DLA) Model	Ashwini V Mahajan, Abhay V Limaye, Arun G Banpurkar, Prashant M Gade	Fractals 28, 7, 2050137 (2020)	3.154 1793-6543
59.	Electrowetting behaviour of thermostable liquid over wide temperature range	SM Wadhai, YB Sawane, AG Banpurkar	Journal of Materials Science 55 (6), 2365-2371, (2020)	1573-4803 **3.442**
58.	Pseudomonas aeruginosa RTE4: A Tea Rhizobacterium With Potential for Plant Growth Promotion and Biosurfactant Production	A Chopra, S Bobate, P Rahi, A Banpurkar, PB Mazumder, S Satpute	Frontiers in Bioengineering and Biotechnology, 8 (2020)	
57.	A novel fatty alkene from marine bacteria: A thermo stable biosurfactant and its applications	Hari Ram, Amit Kumar Sahu, Madhukar S Said, **Arun G Banpurkar**, Jayant M Gajbhiye, Syed G Dastager	Journal of hazardous materials. **380**, 120868 (2019)	
56.	UV-Resistant Superhydrophobic Surface on Copper Foil	Sandip Wadhai, Anurag Kanase, Rajashree Deokar, Pranjali Yedewar and **Arun Banpurkar**	AIP conference proceeding **2104**, 030037 (**2019**)	1551-7616
55.	Inhibition of pathogenic bacterial biofilms on PDMS based implants by L. acidophilus derived biosurfactant	Satpute, S. K. Mone, N. S. Das, P. Banat, I. M. **Banpurkar, A. G.**	BMC Microbiology 19(1),39, **(2019)**.	**3.066** 1471-2180
54.	Assessment of biosurfactant-producing bacteria from oil contaminated soils and their hydrocarbon degradation potential	Tayebeh Soltanighias, Athoiba EA Singh, Surekha K Satpute, **Arun G Banpurkar**, Ali Koolivand, Praveen Rahi	Environmental Sustainability Pg 1-12(**2019**)	2523-8922

53.	Genomic Insights of Halophilic Planococcus maritimus SAMP MCC 3013 and Detail Investigation of Its Biosurfactant Production	Mangesh Vasant Suryavanshi, Laxmikant Dama, Shraddha Kansara, Vikas C Ghattargi, Parijat Das, **Arun G Banpurkar**, Dr Satpute, K Surekha	Frontiers in microbiology 10 (235), 2019	**4.259** 1664-302X
52.	Lactobacillus acidophilus derived biosurfactant as a biofilm inhibitor: A promising investigation using microfluidic approach	Satpute, S. K. Mone, N. S. Das, P. **Banpurkar, A. G.** Banat, I. M.	Applied Sciences (Switzerland) 8(9),1555, **(2018)**.	**1.855** 2076-3417
51.	Dye-sensitized solar cells based on Al-doped ZnO photoelectrodes sensitized with rhodamine	Tyona, M. D. Jambure, S. B. Lokhande, C. D. **Banpurkar, A. G.** Osuji, R. U. Ezema, F. I.	Materials Letters 220, pp. 281-284 **(2018)**.	**2.687** 0167-577X
50.	Aqueous Dispersions of Lipid Nanoparticles Wet Hydrophobic and Superhydrophobic Surfaces	Manoj Kumar, Mayuresh A. Kulkarni, Narendiran G. Chembu, **Arun Banpurkar** and Guruswamy Kumaraswamy	Soft Matter 14, 205-215 **(2018)**.	**3.889** 1744-6848
49.	Biosurfactant from a marine bacterium disrupts biofilms of pathogenic bacteria in a tropical aquaculture system	Faseela Hamza1, Surekha Satpute, **Arun Banpurkar,** Ameeta Ravi Kumar and Smita Zinjarde	FEMS Microbiology Ecology, 93, **(2017)**, 140	**3.495**
48.	Facile Synthesis and Self-Cleaning Application of Bimetallic (CuSn, CuNi) Dendrites	*Anupam Biswas, Mayuresh A. Kulkarni, Rangarajan Bakthavatsalam, Sourik K. Mondal, Pravin K. Dwivedi, Manjusha V. Shelke, Radhamonyamma N. Devi,* ***Arun G. Banpurkar*** *and Janardan Kundu*	Chemistry Select, **2** 5552 **(2017)**.	2365-6549
47.	Biosurfactants' Production from Renewable Natural Resources: Example of Innovativeand Smart Technology in Circular Bioeconomy	*SK Satpute, GA Płaza,* ***AG Banpurkar***	Management Systems in Production Engineering 25 (1), 46-54 **(2017)**	**0.8** 2299-0461
46.	Hausmannite Manganese oxide cathodes for supercapacitors: Surface Wettability and Electrochemical Properties	*S Kulkarni, D Puthussery, S Thakur,* ***A Banpurkar****, S Patil*	**Electrochimica Acta** 231, 460 **(2017)**	**4.803** 0013-4686.
45.	Spontaneous electrification of fluoropolymer-water interfaces probed by electrowetting	***Arun G. Banpurkar*** *Yogesh B. Sawane, Sandip M. Wadhai, C. U. Murade, Igor Siretanu, D. van den Ende and F. Mugele*	**Faraday discussion** 199, 29 **(2017)**	**3.544** 1359-6640
44.	Why patchy diffusion-limited aggregation belongs to directed percolation universality class	Moses J. Kartha and **Arun G. Banpurkar**	**Physical review** E **94,** 062108 **(2016)**	**2.288** 2470-0053

43.	Low voltage Electrowetting on ferroelectric PVDF-HFP insulator with highly tunable contact angle range	Y. B. Sawane, S. B. Ogale and **A. B. Banpurkar**	**ACS Applied Materials & Interfaces 8**, 24049-24056 **(2016)**	**7.145** 1944-8252
42.	Biosurfactant/s from Lactobacilli species: Properties, challenges and potential biomedical applications	S. K. Satpute, G. R. Kulkarni, **A. G. Banpurkar**, R. H. Patil and S S Cameotra	**Journal of Basic Microbiology**, **56**, 1140 **(2016)**	**1.585** 1521-4028
41.	Electrolyte concentration effects on DC voltage electrowetting	Y. B. Sawane, S. M. Wadhai, A. V. Limaye, and **A G. Banpurkar**	**Sensors and Actuators**, A: Physical, **240**, pp. 126 **(2016)**.	**1.903** 0924-4247
40.	Hierarchical nanostructures of Au@ZnO: antibacterial and antibiofilm agent	H. Gholap, S. Warule, J. Sangshetti, G. R. Kulkarni, **A. Banpurkar**, S. Satpute, and R. Patil	**Applied Microbiology and Biotechnology 100**, 5894 **(2016)**.	**3.672** 0175-7598
39	Multiple Roles of Biosurfactants in Biofilms	S K Satputea, A G Banpurkar, I M Banat, J N Sangshetti, R H Patil	**Current pharmaceu-tical Design 22** (11), 1429 **(2016)**	**3.452** 1381-6128
38.	Solution chemistry-based nano-structuring of copper dendrites for efficient use in catalysis and superhydrophobic surfaces	R. Bakthavatsalam, S. Ghosh, R. K. Biswas, A. Saxena, A. Raja,M. O. Thotiyl, S. Wadhai,a **A. G. Banpurkar**, and J. Kundu,	**RSC Advances**, 6 (10) 8416 **(2016)**.	**3.289** 2046-2069
37.	Hysteretic DC electrowetting by field-induced nano-structurations on polystyrene films	Yogesh B. Sawane, Suwarna Datar, Satishchandra B. Ogale and **Arun G. Banpurkar**	**Soft Matter**, 11, 2655–2664 (2015)	**3.798** 1744-6848
36.	Quantum dots conjugated zinc oxide nanosheets: Impeder of microbial growth and biofilm	Rajendra Patil, Haribhau Gholap, Sambhaji Warule, **Arun Banpurkar**,Gauri Kulkarni and Wasudeo Gade	**Applied Surface Science** 326, 73 (2015).	**2.099** 0169-4332
35.	Basics and Applications of Electrowetting on Dielectric (EW)	Dineshkumar Y. Turkar, Sandip M. Wadhai, Yogesh B. Sawane and **Arun G. Banpurkar**	**Physics Education 29**, 5 (2014).	**ISSN 0970-5953**
34.	ZnO(N)-Spiro-MeOTAD hybrid photodiode: an efficient self-powered fast-response UV (visible) photosensor	Onkar Game, U. Singh, T. Kumari, **Arun Banpurkar** and Satishchandra Ogale	**Nanoscale 6**, 503 (2014)	**7.760** 2040-3364
33.	Electrically tunable wetting defects characterized by a simple capillary force sensor	Dieter 't Mannetje, **Arun Banpurkar**, Helmer Koppelman, Michel Duits, Dirk van den Ende, Frieder Mugele	**Langmuir 29**, 9944 (2013)	**3.993** 1520-5827
32.	CdTe-TiO_2 nanocomposite: an impeder of bacterial growth and biofilm	Haribhau Gholap, Rajendra Patil, Prasad Yadev, **Arun Banpurkar** Satishchandra Ogale and Wasudeo Gade,	**Nanotechnology** 24, 195101 (2013).	**3.573** 0957-4484
31.	Use of Electrowetting to Measure Dynamical Interfacial Tension of a Microdrop	Riëlle de Ruiter, Peter Wennink, **Arun G. Banpurkar**, Michèl H. G. Duits, and Frieder Mugele	***Lab Chip***, **12**, 2832 (2012)	**5.586** 1473-0197
30.	A Quasi-Liquid Iontronic-Electronic Light-Harvesting Hybrid Photodetector with Giant Response	L. Mandal, M. Deo, A.Yengantiwar, **A.Banpurkar**, J. Jog, and S. Ogale,	**Advanced Matterials 24** 3686 (2012).	**18.960** 1521-4095
29.	Quantum dot bio-conjugate: as a western blot probe for highly	S. Kale, A. Kale, H. Gholap, A. Rana, R. Desai, **A.**	**Journal of Nanoparticle**	**2.278** 1388-0764

	sensitive detection of cellular proteins	**Banpurkar**, S. Ogale, and P. Shastry	**Research 14** (3) (2012).	
28.	Concurrent synthetic control of dopant (nitrogen) and defect complexes to realize broadband (UV-650 nm) absorption in ZnO nanorods for superior photo-electrochemical performance	O. Game, U. Singh, A. A. Gupta, A. Suryawanshi, **A. Banpurkar**, and S. Ogale	**Journal of Material Chemistry 22,** 17302 (2012).	**6.626** 1364-5501
27.	High sensitivity low field magnetically gated resistive switching in $CoFe_2O_4/La_{0.66}Sr_{0.34}MnO_3$ heterostructure	Vishal Thakare, Guozhong Xing, Haiyang Peng, Abhimanyu Rana, Onkar Game, Anil Kumar, **Arun Banpurkar**, Yesappa Kolekar, Kartik Ghosh, Tom Wu, D. D. Sarma, and Satishchandra B. Ogale	**Applied Physics Letters**, **100** 172412 (2012)	**3.142** 1077-3118
26.	Growth of aligned ZnO nanorods array on ITO for dye sensitized solar cell	Ashish Yengantiwr, Ramakant Sharma, Onkar Game and **Arun Banpurkar**	**Current Applied Physics 11,** S113 (2011).	**2.144** 15671739
25.	Study of functional properties of *Sapindus mukorossi as* a potential bio-surfactant	Rupeshkumar Ghagi, Surekha K. Satpute, Balu A. Chopade and **Arun G. Banpurkar**	**Indian Journal of Science and Technology 4,** 19 (2011).	**1.63** 0974-5645
24.	Strong photo-response in a flip-chip nanowire p-Cu_2O/n-ZnO junction	M. Deo, S. Mujawar, O. Game, A. Yengantiwar, **A. Banpurkar**, S. Kulkarni, J. Jog, and S. Ogale	**Nanoscale 3,** 4706 (2011).	**7.760** 2040-3364
23.	Biosurfactant, bioemulsifier and exopolysaccharides from marine microorganism	Surekha K. Satpute, Ibrahim M. Banat, P. K. Dhakephalkar, **Arun. G. Banpurkar** and Balu A. Chopade	**Biotechnology Advance 28**, **436** (2010).	**9.599** 1873-1899
22.	Methods for investigating biosurfactants and bioemulsifiers: a review	Surekha K. Satpute, **Arun G. Banpurkar**, Prashant K. Dhakephalkar, Ibrahim M. Banat, and Balu A. Chopade	**Critical Reviews in Biotechnology 30, 127 (2010).**	**7.178** 1549-7801
21.	Hydrodynamic resistance of single confined moving drops in rectangular microchannels	Siva A. Vanapalli, **Arun G. Banpurkar**, Dirk van den Ende, Michel H. G. Duits and Frieder Mugele	**Lab. Chip, 9, 983** (2009).	**5.586** 1473-0197
20.	Electrowetting of Complex Fluids: Perspectives for Rheometry on Chip	**A. G. Banpurkar**, M. H. G. Duits, D. van den Ende, and F. Mugele	**Langmuir 25,** ***1245*** **(2009).**	**3.993** 1520-5827
19.	On the change in bacterial size and magnetosome features for *Magnetospirillum magnetotacticum* (MS-1) under high concentrations of zinc and nickel	S. Kundu, A.A. Kale, **A.G. Banpurkar**, G.R. Kulkarni and S.B. Ogale	**Biomaterials 30,** 4211 (2009).	**8.387** 0142-9612
18.	Electrowetting-based micro drop tensiometer	**Arun G. Banpurkar**, Kevin P. Nichols and Frieder Mugele	**Langmuir 24,** 10549 (2008).	**3.993** 1520-5827
17.	Electrowetting-A versatile tool for controlling microdrop generation	F. Malloggi, H. Gu, **A. G. Banpurkar**, S. A. Vanapalli, and F. Mugele	**European Physical Journal** E**, 26,** 91 (2008).	**1.755** 1292-895X

16.	Segregation of fractal aggregates grown from two seeds	Deepak N. Bankar, P. M. Gade, A. V. Limaye and **A. G. Banpurkar**	**Physical Review E 75, 051401 (2007).**	**2.288** 2470-0053
15.	Impact of orientational distribution of adsorbing objects on dynamics of Random Sequential Ballistic Adsorption (RSBA) dynamics	P. B. Shelke. **A. G. Banpurkar**, S. B. Ogale SB, and A. V. Limaye	**Surface Science 601,** 5010 (2007).	**1.931** 0039-6028
14.	Effect of swift heavy ion irradiation on the surface morphology of highly c-axis oriented LSMO thin films grown by pulsed laser deposition	M. S. Sahasrabudhe, Deepak. N. Bankar, **A. G. Banpurkar**, and S. I. Patil, K. P. Adhi, Ravi Kumar	**Nuclear Instruments and Methods 263,** 407 (2007).	**1.2** 0168-9002
13.	Universality of the power-law approach to the jamming limit in random sequential adsorption dynamics	P. B. Shelke, M. D. Khandkar, **A. G. Banpurkar**, S. B. Ogale and A. V. Limaye	**Physical Review** E **75,** 06060 (2007).	**2.288** 2470-0053
12.	Growth temperature and N_2 ambient pressure-dependent crystalline orientations and band gaps of pulsed laser-deposited AlN/(0001) sapphire thin films	S. M. Jejurikar, **A. G. Banpurkar**, D. N. Bankar, K. P Adhi, L. M. Kukreja, V. G. Sathe	**Journal of Crystal Growth 304,** 257 (2007).	**1.698** 0022-0248
11.	Blocking effects in irreversible adsorption of linear macromolecules	P. B. Shelke, **A G. Banpurkar**, S. B. Ogale and A. V. Limaye	**Surface Science 601,** 274 (2007).	**1.931** 0039-6028
10.	Structural, morphological and electrical characterization of hetroepitaxial ZnO thin films deposited on Si (100) by pulsed laser deposition: Effect of annealing (800 ^oC) in air	S.M. Jejurikar, **A. G. Banpurkar,** A.V. Limaye, S.K. Date, S.I. Patil and K.P.Adhi, P.Mishra and L.M. Kukreja	**Journal of applied Physics 99,** 014907 (2006).	**2.183** 1089-7550
09.	Boundary effects on the stability of thin submerged granular piles	S.B. Ogale, R.N. Bathe, R.J. Choudhary, S.N. Kale, Abhijit S. Ogale, **A.G. Banpurkar**, A.V. Limaye	**Physica A, 354,** 49 (2005).	**1.785** 0378-4371
08.	Growth and properties of pulsed laser deposited Fe_3O_4 / $La_{0.7}Ca_{0.3}MnO_3$ bilayers	S. N. Sadakale, R. J. Choudhary, M. S. Sahasrabudhe, **A. G. Banpurkar**, K. P Adhi, S. I. Patil and S. K. Date.	**J. Magnetism and Magnetic Materials 286, 450 (2005).**	**2.357** 1873-4766
07.	Room- Temperature synthesis of Aragotnite crystal at an Expanding liquid-liquid interface in a radial Hele –Shaw cell	Debabrat Rautaray, **Arun Banpurkar**, Sudhakar R. Sainkar, Abhay V. Limaye, Neela R. Pavaskar, Satish B. Ogale and Muraly Sastry	**Advanced Materials 15,** 1273 (2003).	**18.960** 1521-4095
06.	$BaSO_4$ crystal grown at an expanding liquid-liquid interface in a Radial Hele-Shaw cell show spontaneous large -scale assembly	Debabrat Rautaray, **Arun Banpurkar**, Sudhakar R. Sainkar, Abhay V. Limaye, Satish B. Ogale and Muraly Sastry	**Crystal Growth and Design 3,** 449 (2003).	**4.425** 1528-7583

05.	Variation in Viscous Fingering Pattern Morphology due to Surfactant-Mediated Interfacial Recognition Events	Murali Sastry, Anand Gole, **A.G. Banpurkar**, A.V. Limaye and S.B. Ogale	**Current Science, 81,** 191 (2001).	**0.833** 0011-3891
04.	Magnetic properties of nano-sized powders of magnetic oxides synthesized by pulsed laser ablation	S.R. Shinde, S.D. Kulkarni, **A.G. Banpurkar**, Rashmi Nawathey-Dixit, S.K. Date, and S.B. Ogale	**Journal of Applied Physics, 88,** 1566 (2000).	**2.183** 1089-7550
03	Occurrence of coexisting dendrite morphologies: Immiscible fluid displacement in an anisotropic radial Hele- Shaw cell under a high flow rate regime	**A. G. Banpurkar**, A. V. Limaye and S. B. Ogale	**Physical Review** E **61,** 5507 (2000).	**2.288** 2470-0053
02.	Viscous Fingering of miscible fluids in an Anisotropic Radial Hele-Shaw cell: Coexistence of Kinetic and Surface-tension dendrite morphology types and an exploration of small scale influences.	**A. G. Banpurkar**, Abhijit S. Ogale, A. V. Limaye and S. B. Ogale.	**Physical Review** E **59**, 2188 (1999).	**2.288** 2470-0053
01.	Synthesis of Ultrafine/Nanosize Powders of Iron Oxide by Pulsed Laser Ablation and Cold Condensation.	S. R. Shinde, **A. G. Banpurkar**, K. P. Adhi, A. V. Limaye, S. B. Ogale, S. K. Date and G. Marest	**Modern Physics Letters** B**. 10,** 1517 (1996).	**0.687** 1793-6640

Invited talks (National and International):

12	Electrowetting and Magnetowetting: from basic to applications Invited talk (National Symposium on innovative materials and devices, SGB Amravati University, 24-25 June 2019)
11.	Are polymer surfacaes stable under long exposure to water? Arun Banpurkar et al. Inviated talk (AMDP8, Dept. of Phy sics, 12-15 July 2017) (International Conf.)
10.	Lecture demonstrration on Superconductivity and Wetting Phenenomen Muktaangan Exploratory Science Centre, 1 April **(2017)**
9.	Physics Laboratory Experiments Ahmeadnagar College, Ahmeadnagar, 9th Jan, 2017
8.	Electrowetting on Dielectric Surface: New Challenges Chemical Engineering, IIT Bombay, 25th Aug. **(2016)**
7.	Wetting of liquid on solid surfaces: Basic to Applications Recent trend in theoretical and experintmal physics, Ahmeadnagar College, A'nagar17 Feb. **(2016).**
6.	Light and light based technology Muktaangan Exploratory Science Centre, 19 Dec. **(2015)**
5.	Wetting on random-rough surface Mumbai-Pune Soft Matter Meeting, IISER Pune (India) 1 August **(2015)**.
4.	Oil Film Destabilization on Isotropic Random Rough Surface

	"British Petroleum Meeting" Sandton Resort Bad Boekelo, Oude Deldenerweg 203 7548 PM BOEKELO The Netherlands, November 18th **(2014) (International)**
3.	Wetting under Electric and Magnetic fields Mumbai Pune Soft Matter Meeting, BARC, Mumbai, (India) 25 Jan. **(2014).**
2.	Superhydrophobicity and wetting on demand Refeesher Program for Physics Teachers, Dept. Phy. SPPU Nov. (**2013)**.
1.	Wetting and Spreading: Basic to Applications Battelle India Ltd. Pune, Nov (**2011)**.

Conference Publications:

45 **Multiscale Hetero-Nanostructured Surface for Superhydrophobic Properties: Drop Impact, Enhanced Condensation and Pagophobicity**
Mayuresh A. Kulkarni, Ashish Yengantiwar and Arun Banpurkar
International Conference on Advanced Materials science and applications (Online)
(ICASMA-2020) 3-4 Sept. 2020.

44. **Electrowetting Droplet Manipulation at -30 to 80 ºC for Optical Applications**
Sandip M. Wadhai and Arun G. Banpurkar
Poster
12th Electrowetting conference, University of Twente, The Netherlands (June18-20, 2018)

43. **Low Voltage Electrowetting on Ferroelectric PVDF-HFP Insulator**
Sandip M. Wadhai, Yogesh B. Sawane, Anurag Kanse and Arun G. Banpurkar
Poster
12th Electrowetting conference, University of Twente, The Netherlands (June18-20, 2018)

42. **Breath Figures on Volatile Surface: Growth Dynamics**
Swirnim Shirke, Ramchandra Narhe and Arun Banpurkar
Raman memorial poster (March 2018)

41. **Copper based Superhydrophobic Surface and granulation for Liquid Marble**
Akshay Bankhele, Sandip Wadhai, Anurag Kanase and Arun Banpurkar
Raman memorial oral presentation (March 2018)

40. **Suppressing Coffee Stain by Changing Wetting Properties**
Amruta C. Kulkarni, Moutushi Dutta Choudhury and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, March (2017)

39. **Self assemble polymeric lens**
Sandip Wadhai, Vrashali Kal[2], Ramchandra Narhe, Arun Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, March (2017)

38. **Microporous Polymer Film by Breath Figure Pattern**
Rajashree Deokar and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, March (2017)

37. Wetting and spreading on random rough surface
Arun G. Banpurkar, Stephan Herminghaus and Frieder Mugele
Complex Fluids 2016 (CompFlu 2016), International meeting organized by Indian Society of Rheology, at IISER Pune (2- 4 Jan 2016)

36. Comparative analysis of evaporation of a sessile water microdrop on superhydrophobic surface

P. Shirke, S. Wadhi R. Narhe and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. Pg 132 (2016)

35. Microfluidic system basedanalysis for impeding effect of bacterial biofilm via biosurfactant derived from L. acidophilus
Surekha Satpute, Nishigandha S. Mone, Rajendra R. Patil, Ibraham M. Banat and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. Pg 101 (2016)

34. L. acidophilus derived buosurfactant as an excellent antiadhesive, antimicrobial agent and Impeder of bacterial biofilms
Surekha Satpute, Nishigandha S. Mone, Rajendra R. Patil, Ibraham M. Banat and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. Pg 48 (2016)

33. Growth of Thin film on Rough Substrates
Moses Kartha, AhmedSayeed and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. Pg 41 (2016)

32. Water-ion Induced Surface Nanostructuration on Hydrophobic Polymer
Sanam Thakur, Sandip M. Wadhai, Yogesh Sawane and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. (2016)

31. Aqueous Ethylene Glycol for Low Temperature Electrowetting Applications
Sandip Wadhai* and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. 12-13. Pg 7 (2016)

30. Electrowetting on Polymeric Dielectrics
Yogesh B. Sawane and Arun G. Banpurkar
Raman Memorial Conference, Dept. of Physics, SPPU, Feb. Pg 18 **(2015)**

29. AC Electrowetting at low temperature
Sandip Wadhai, Yogesh Sawane, Sanam Thakur and Arun Banpurkar
Mumbai-Pune Soft Condensed Matter Meeting, IISER, Pune Aug. **(2015)**

28. Electrowetting on Dielectric
Sharvari Kulkarni , Sonali Kawale , Sandip Wadhai and Arun Banpurkar
Mumbai-Pune Soft Condensed Matter Meeting, IISER, Pune Aug. **(2015)**

27. Antimicrobial and antiadhesive properties of biosurfactant produced from probiotic bacteria
Surekha K. Satpute, Arun G. Banpurkar and Ibrahim M. Banat
Journal of Proteins and Proteomics, Vol. **6**, 128 **(2015)**.

26. Analyzing Electrowetted-drop geometry using Spherical-cap model
Dinesh Turkar, Sandip Wadhai and Arun Banpurkar
Raman Memorial Conference, SPPU, **Feb. (2014)**.

25. ZnO Nanorod Based Ultraviolet Photoswitchable Device Configuration
Ashish Yengantiwar, Sadgopal Date and Arun Banpurkar
International Conference on Materials for Advanced technology
(ICMAT-2013), Singapore) (30th June – 5th July **2013**) (International)

24. Growth of ZnO-Cu2O Multiscale Hetero-nanostructures for Superhydrophobicity and Droplet Bouncing
Ashish Yengantiwar, Meenal Deo, Satishchandra Ogale and Arun Banpurkar
MRS Fall Meeting at Boston, Massachusetts, USA, from 1st to 6th December, **(2013)**
(International)

23. Electrowetting Approach for Breakdown property in Teflon AF Dielectric
Yogesh B. Sawane, Sachin Kumar, Abhay V. Limaye and Arun G. Banpurkar
International Conference on Materials for Advanced technology
(ICMAT-2013), Singapore) (30th June – 5th July **2013**). (International)

22. Growth of Zinc Oxide based nanostructures: Optoelectronic and hydrophobic properties
A. P. Yengantiwar and A. G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2013)**

21. Bifunctional nanoparticles based semiconductor quantum dots: synthesis and applications
H. M. Ghopal, G. R. Kulkarni and A. G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2013)**

20. Electrowetting on Polymer Dielectric Surface
Yogesh B. Sawane, Abhay V. Limaye and Arun G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

19. Effect of Magnetic field on the Aqueous Paramagnetic Drop
Ganesh K. Rahane, Abhay V. Limaye and Arun G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

18. Study of Viscous fingering in a linear Hele-Shaw cell
Sandip Wadhai, Arun G. Banpurkar and A. V. Limaye
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

17. Study of Wetting property on ZnO nanorods Deposited by Open-Aqueous Solution Method
A.S. Desai, R. R. Berge, A. P. Yengantiwar and A. G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

16. Interfacial Rheology of Microgel suspensions
O.S. Deshmukh, A. Banpurkar, D. van den Ende, M.H.G. Duits and F. Mugele
International Congress on Rheology at Lisbon, Portugal, August, **(2012)**
(International)

15. Effect of Surfactant on the Surface Tension of Water
Hrushikesh Khatri and Arun G. Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

14. Hierarchical Au-ZnO nanosystems as an excellent photocatalyst
Krishna Shirsodia, Haribhau Gholap, Sambhaji Warule, Arun Banpurkar
Raman Memorial Conference Dept. of Physics, SPPU **(2012)**

13. Study of Surface Roughening of Pulsed Laser Deposited Silver Thin Films
Deepak N. Bankar, Shashikant D. Shinde, K. P. Adhi, A. V. Limaye and Arun. G. Banpukar
DAE-BRNS 6th National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials, Materials Research Centre, IISc, Bengaluru Nov 1-11, **(2011)**.

12. Effect of Magnetic field on Biogenic nanoparticles from Magnetotactic Bacteria
Wasim Amin Sayyad, Srikanya Kundu, A. G. Banpurkar, G. R. Kulkarni
Joint ICTP-KFAS Conference on nano-technology for biological and Biomedical applications (Nano-Bio-Med) Trieste –Italy 14th Oct. **(2011)**
(International)

11. Growth Kinetics Study of Pulsed Laser Deposited ZnO Thin Films on Si (100) Substrate
Deepak N. Bankar, Suhas M. Jejurikar, K. P. Adhi, A. V. Limaye and A. G. Banpukar
Optics'11 Conference on Light Calicut India, May 23-25- (**2011**).

10. Optical Trapping of Megnetotactice bacteria and effect of magnetic field on trapping force
Vivek Jadhav, Srikanya Kundu, Arun G. Banpurkar, and Gauri R. Kulkarni
Microscopy and Microanalyais
Vol. 17 Supp S3, 270 (**2011)**
(International)

9. Determination of dynamic interfacial tension and interfacial rheological properties by electrowetting.
R. de. Ruiter, P. Wennink, A. G. Banpurkar, M.H.G. Duits, & F. Mugele
International Meeting on Electrowetting: Pohang, South Korea (23 -26 June **2010**).
(International)

8. Dynamical motion of DLA cluster in perspective to the anomalous diffusive motion
Anagha Karne, Deepak Bankar, A. V. Limaye and Arun G. Banpurkar
Discussion Meeting on Statistical and Condensed Matter Physics ,
Dept of Physics IIT Guwahati Nov-**2009**

7. Segregation of fractal aggregates grown from two seeds
   Deepak N. Bankar, P. M. Gade, A. V. Limaye, and A. G. Banpurkar
   Discussion Meeting on Statistical and Condensed Matter Physics ,
   Dept of Physics IIT Guwahati Nov-**2009**
6. Electrowetting based microliter-drop rheometer and interfacial tensiometer
   Arun Banpurkar, Michel H. Duits, Dirk van der Ende and Mugele Frieder
   The XVth International Congress on Rheology, Monterey California (USA). **Aug. 2008**
   (International)
5. 1st Training School, Physico-chemical and flow behavior of droplet-based systems
   Arun Banpurkar and Frieder Mugele
   Villa Orlandi Capri (Italy) (May **2008**).
   (International)
4. Controlling drop generation, size and traffic in microfluidic devices
   Siva A. Vanapalli, Arun Banpurkar, Dirk van den Ende, Florent Malloggi, Gu Hao, Michel Duits and Frieder Mugele,
   American Institute of Chemical Engineers, (AIChE- **2008**), USA
   (International)
3. Hydrodynamic resistance of drop in a rectilinear microfluidic channel
   Foundation for Fundamentals on Matter (FOM) meeting, Veldhoven, The Netherlands (Jan **2008**)
   (International)
2. Electrowetting on dielectric as a microdrop tensiometer
   Arun Banpurkar, Michel H. Duits and Mugele Frieder
   Bijeenkomst CW-studiegroup Vloeistoffen& Grensvsvlakken, Luntern, The Netherlands (Feb. **2008**)
   (International)
1. Effect of complexation on interface generated by the aqueous surfactant flows in Hele-Shaw channel
   Rupeshkumar Ghagi, A. V. Limaye and A. G. Banpurkar
   Proceeding of DAE Solid State Symposium Pg. 479 **(2006).**

Ph . D. and M. Phil. students:

Name	Degree (task)	Declaration year
Dr. Srikanya Kundu	Ph .D. (co-guide)	2009
Dr. Vivek Jadhav	Ph .D. (co-guide)	2011
Dr. Deepak Bankar	Ph .D. (guide)	2012
Dr. Ashish Yengantiwar	Ph .D. (guide)	2013
Dr. Haribhau Gholap	Ph .D. (guide)	2013
Dr. Onkar Game	Ph .D. (guide)	2014
Yogesh B. Sawane	Ph .D. (guide)	Aug. 2015
Sarika Hinge	Ph .D. (co-guide)	ongoing
Moses J. Kartha	Ph.D. (co-guide)	May, 2019
Ahswini Mahajan	Ph.D. (guide)	June, 2020
Sandip Wadhai	Ph.D. (guide)	March, 2021
Pranjali Yedewar	Ph.D. (Guide)	ongoing
Mayuresh Kulkarni	Ph.D. (Guide)	ongoing
Nilesh Pote	Ph D (Guide)	ongoing

Name	Degree (task)	Declaration year

Deepak Bankar	M. Phil. (guide)	2007
Yogesh B. Sawane	M. Phil. (guide)	2009
Ashiwini Mahajan	M. Phil (guide)	2015
Sanam Thakur	M. Phil (guide)	2016
Rajeshree Deokar	M. Phil (guide)	2019
Amruta Kulkarni	M. Phil (guide)	ongoing (incomplete)

Post. Doctoral fellows:

Name	Fellowship	Project
Dr. Surekha Satpute	DST Women Scientist	Design and development of anti-adhesion biological coatings from probiotic biosurfactant for bioimplant material (July 2014 till Sept. 2016)
Dr. Supriya Jambure	Dr. D. S. Kothari Post doctor fellow	Organic photovoltaic and light emitting device (Aug. 2015-2018)
Dr. Moutoshi Datta Chaudhury	SERB National Post doc fellow, DST Govt. of India	Drying process on hydrophobic polymer surfaces (Aug. 2016-Jan 2018)

Membership:

1. **American Chemical Society (ACS) USA**
2. **Indian Physics Association (Pune chapter) (India)**
3. **Material Research Society of India (MRSI, India)**

(Arun Banpurkar)