

Name: Dr. Arun G. Banpurkar
Qualification: Ph. D. (Physics)
Designation: Lecturer in Physics
Specialization: Soft Condensed matter
Email: agb at physics.unipune.ernet.in
 arunbanpurkar at gmail.com
Phone: +91 20 25692678 Ext. 303, 409



Education:

	Institutions	Details	Year
M. Sc. (Physics)	Nagpur University	Solid state Physics	1992
Ph. D. (Physics)	University of Pune	Pattern formation in confined fluid flow systems	2002

Career Profile:

	Organisation / Institution	Designation	Duration
1	Department of Physics, University of Pune, Pune	Lecturer	Since 2001
2	Physics of Complex Fluids, University of Twente, The Netherlands	BOYSCAST (DST) fellow	2007-2008

Teaching Experience (Subjects/Courses Taught):

- Nuclear Physics (Tutorial)
- Electrodynamics (Tutorial)
- Statistical Mechanics (Tutorials)
- Classical Mechanics (Tutorials and Theory lectures)
- Basic Physics Laboratory (BPL- I and II)
- Computer laboratory

Research Interests / Specialization:

- Experimental study of the pattern formation in confined Hele-Shaw flow systems, Simulation studies on kinetic growth model DLA, Scaling studies on surface growths, Wetting and spreading, Electro-wetting, Micro-fluidics

Honors & Awards

1. BOYSCAST fellow (2007-2008)
2. Senior Research Fellow, CSIR
3. Junior Research Fellow, (UGC)
4. Junior Research Fellow (DST)

Research Publication (International and National Journals)

16. [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, 2009 DOI: 10.1039/b815002h
15. [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).
14. [Electrowetting-based micro drop tensiometer](#)
[Arun G. Banpurkar](#), Kevin P. Nichols and Frieder Mugele
Langmuir (Letters), **24**, 10549 (2008).
13. [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).
12. [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).
11. [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).
10. [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).
9. [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).
8. [Growth temperature and N₂ 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)
7. [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)
6. [Structural, morphological and electrical characterization of hetroepitaxial ZnO thin films deposited on Si \(100\) by pulsed laser deposition: Effect of annealing \(800 °C\) 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).
5. [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).
4. [Growth and properties of pulsed laser deposited Fe₃O₄ / La_{0.7}Ca_{0.3}MnO₃ 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 (JMMM) **286**, 450 (2005).
3. [Room- Temperature synthesis of Aragoite crystal at an Expanding liquid-liquid interface In a radial Hell – Shaw cell](#)
Debbrat Rautaray, [Arun Banpurkar](#), Sudhakar R. Sainkar, Abhay V. Limaye, Neela R. Pavaskar, Satish B. Ogale and Muraly Sastry

- Advanced materials **15**, 1273 (2003).
2. [BaSO₄ 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).
 1. [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).

Publication - Conference Presentations:

5.	Electrowetting based microliter-drop rheometer and interfacial tensiometer Arun Banpurkar , Michel H. Duits, Dirk van der Ende and Mugele Frieder <i>The XVth International Congress on Rheology, Monterey California (USA).</i> [oral presentation]
4.	1 st Training School, Physico-chemical and flow behavior of droplet-based systems Villa Orlandi Capri (Italy) (May 2008). [poster presentation]
3.	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 [oral presentation]
2.	Hydrodynamic resistance of drop in a rectilinear microfluidic channel Foundation for Fundamentals on Matter (FOM) meeting, Veldhoven, The Netherlands (Jan 2008) [poster presentation]
1.	Electrowetting on dielectric as a microdrop tensiometer Arun Banpurkar, Michel H. Duits and Mugele Frieder Bijeenkomst CW-studiegroep Vloeistoffen& Grensvsvlakken, Luntern, The Netherlands (Feb. 2008) [oral presentation]

National and International Collaborations:

1. Physics of Complex fluids, University of Twente, Enschede, The Netherlands
2. National Chemical Laboratory, Pune

Professional Societies Memberships:

- Life member: Indian Physics Association and MRS society of India

Public Service / University Service / Consulting Activity:

- Active member of AADHAAR (**A**n **A**ssociation for the **D**evelopment of **H**ealth and **A**cademic **A**wareness in **R**ural India) a NGO based in The Netherlands.
- Faculty secretary, Scholarship and library committee member and students counseling committee member

Projects (Major Grants):

Project Title	Funding Agency	Duration
3. Study of Magnetotactic bacteria. [PI]	University of Pune	2006-2008
2. Upgradation of existing single beam optical trap technique to study magnetotactic bacteria and metal oxide particles [coPI]	Board of Research in Nuclear Sciences: BRNS, Department of Atomic Energy (DAE) Govt. of India.	2004-2007
1. Studies of the Formation of Patterns for Various Liquids in Hele-Shaw Cell and Taylor-Couette Flows [SERC fast track]	<i>Department of Science and Technology (DST). Gov. of India.</i>	2002 - 2005