

# Publications-2010

Harikrishnan, K.P., Mishra, R., **Ambika, G.** and Amritkar, R.E. (2010). Parametric characterisation of a chaotic attractor using two scale Cantor measure. *Physica D*, 239:420-427.\*

Resmi, V., **Ambika, G.** and Amritkar, R.E. (2010). Synchronized states in chaotic systems coupled indirectly through a dynamic environment. *Physical Review E*, 81:046216.\*

**Ananth, S.** (2010). LC(2) formulation of supergravity. *Journal of High Energy Physics*, 1002:001.\*

**Ananth, S.** (2010). Gravity and Yang-Mills theory. *International Journal of Modern Physics D* (Special edition on "Gravity"), 19:2379.\*

Curran, S.J., Tzanavaris, P., Darling, J.K., Whiting, M.T., Webb, J.K., Bignell, C., **Athreya, R.** and Murphy, M.T. (2010). New searches for HI 21 cm in damped Lyman alpha absorption systems. *Monthly Notices of the Royal Astronomical Society*, 402:35.

**Balasubramanian, N.**, Meier, J.A., Scott, D.W., Norambuena, A., White, M.A. and Schwartz, M.A. (2010). RaLA-exocyst complex regulates integrin-dependent membrane raft exocytosis and growth signaling. *Current Biology*, 20:75-79.

**Bhattacharyay, A.** (2010). Exploring modulated amplitudes in the resistive regime of a one-dimensional superconductor. *European Physical Journal B*, 77:109-113.\*

**Bhattacharyay, A.** (2010). Volume exclusion and elasticity-driven directional transport: a model inspired by bacterium motility. *Journal of Physics A: Mathematical and Theoretical*, 43:315003.

Hong, S.Y., Borchert, G.L., Maciag, A.E., Nandurdikar, R.S., Saavedra, J.E., Keefer, L.K., Phang, J.M. and **Chakrapani, H.** (2010). The Nitric Oxide prodrug V-PROLI/NO inhibits cellular uptake of proline. *ACS Medicinal Chemistry Letters*, 1:386-389.\*

Kumar, V., Hong, S.Y., Maciag, A.E., Saavedra, J.E., Adamson, D.H., Prud'homme, R.K., Keefer, L.K. and

**Chakrapani, H.** (2010). Stabilization of the nitric oxide (NO) prodrugs and anticancer leads, PABA/NO and Double JS-K, through incorporation into PEG-protected nanoparticles. *Molecular Pharmaceutics*, 7:291-298.\*

Nandurdikar, R.S., Maciag, A.E., Hong, S.Y., **Chakrapani, H.**, Citro, M.L., Keefer, L.K. and Saavedra, J.E. (2010). Glycosylated PROLI/NO derivatives as nitric oxide prodrugs. *Organic Letters*, 12:56-59.\*

**Chatterji, A.** and Horbach, J. (2010). The role of effective charges in the electrophoresis of highly charged colloids. *Journal of Physics: Condensed Matter*, 22:494102.

Pande, S., Pawashe, A., Sant, N., Mahabal, A. and **Dahanukar, N.** (2010). Metropolitan garbage dumps: possible winter migratory raptor monitoring stations in peninsular India. *Journal of Threatened Taxa*, 2:1214-1218.\*

Lucchese, R.R., Montuoro, R., Kotsis, K., Tashiro, M., Ehara, M., Bozek, J.D. **Das, A.**, Landry, A., Rathbone, J.D. and Poliakoff, E.D. (2010). The effect of vibrational motion on the dynamics of shape resonant photoionization of  $\text{BF}_3$  leading to the  $E^2A_1'$  state of  $\text{BF}_3^+$ . *Molecular Physics*, 108:1055-1067.\*

Jayani, R.S., Praveena, L.R. and **Galande, S.** (2010). Studying Histone modifications and their genomic functions by employing chromatin immunoprecipitation and immunoblotting. *Methods in Cell Biology*, 98:35-56.

Reddy, C.N.L., Vyjayanti, V.N., Notani, D., **Galande, S.** and Kotamraju, S. (2010). Down-regulation of the global regulator SATB1 by statins in COLO205 colon cancer cells. *Molecular Medicine Reports*, 3:857-861.\*

Vempati, R.K.\*, Jayani, R.S.\*, Notani, D., Sengupta, A., **Galande, S.** and Haldar, D. (2010). p300 mediated acetylation of histone H3 lysine 56 functions in DNA damage response in mammals. *Journal of Biological Chemistry*, 285:28553-28564.

Ahlfors, H., Limaye, A., Elo, L.L., Tuomela, S., Burute, M., Gottimukkala, K., Notani, D., Rasool, O., **Galande, S.\*** and Lahesmaa, R.\* (2010). SATB1 dictates expression of multiple genes including IL-5 involved in human T helper cell differentiation. *Blood*, 116:1443-1453.

Devi, G. and **Ganesh, K.N.** (2010). 1,4-linked 1,2,3-Triazole des-peptidic analogues of PNA (TzNA): Synthesis of TzNA oligomers by “click” reaction on solid phase and stabilization of derived triplexes with DNA. *Artificial DNA: PNA & XNA*, 1:68-75.\*

Sharma, N.K. and **Ganesh, K.N.** (2010). Base dependent pyrrolidine ring pucker in *aep*-PNA monomers: NMR and PSEUROT analysis. *Tetrahedron*, 66:9165-9170.\*

Sharma, N.K. and **Ganesh, K.N.** (2010). Enhanced stability of G-Tetraplexes from conformationally constrained *aep*-PNA backbone. *Organic Biomolecular Chemistry*, 9:725-729.\*

Raman, V.B. and **Ganesh, K.N.** (2010). 8-Substituted adeninyl peptide nucleic acid (PNA): In-situ, on-resin synthesis of 8-Br/NH<sub>2</sub> adeninyl PNA oligomers and their complementation studies with DNA. *Tetrahedron Letters*, 51:6560-6564.\*

Bhattacharya, A.K., Kaur, T. and **Ganesh, K.N.** (2010). Synthesis of the antibacterial benzoquinone primin and its water-soluble analogue, primin acid. *Synthesis*, 2010(7):1141-1144.\*

Sonar, M.V. and **Ganesh, K.N.** (2010). Switching structures by H-bond rearrangement: Transformation of  $\beta$ -structure in poly-4S-Aminoproline to PPII conformation. *Organic Letters*, 12:5390-5394.\*

Patwa, A.N., Gonnade, R.G., Kumar, V.A., Bhadbhade, M.M. and **Ganesh, K.N.** (2010). Ferrocene – bis(thymine/uracil) conjugates: Base pairing directed, spacer dependent self assembly and supramolecular packing. *Journal of Organic Chemistry*, 75:8705-8708.\*

**Ghosh, P.** and Gebauer, R. (2010). Computational approaches to charge transfer excitations in a ZnTPP-C70 complex. *Journal of Physical Chemistry*, 132:104102 (Featured on the cover).

Borghetti, P., Goldoni, A., Castellarin-Cudia, C., Casalis, L., Herberg, F., Floreano, L., Cossaro, A., Verdini, A., Gebauer, R., **Ghosh, P.** and Sangaletti, L. (2010).

Effects of potassium on the supramolecular structure and electronic properties of eumelanin thin films. *Langmuir*, 26:19007.

**Ghosh, S.K.** and Kitagawa, S. (2010). Surface pore engineering of porous coordination polymers. In L. R. MacGillivray (Ed.), *Metal-Organic Frameworks: Design and Application*, John Wiley & Sons.

Bandyopadhyay, A., Agrawal, N., Mali, S.M., Jadhav, S.V. and **Gopi, H.N.** (2010). Tin(II) Chloride assisted synthesis of N-protected  $\gamma$ - amino  $\beta$ -keto esters through semipinacol rearrangement. *Organic and Biomolecular Chemistry*, 8:4855-4860.\*

Sengupta, A. and **Hazra, P.** (2010). Solvation dynamics of Coumarin 153 in SDS dispersed single walled carbon nanotubes (SWNTs). *Chemical Physics Letters*, 501:33-38.

Mahima, G. and **Jayakannan, M.** (2010). Supramolecular liquid crystalline p-conjugates: The role of aromatic p-stacking and van der Waals forces on the molecular self-assembly of oligo-phenylenevinyls. *Journal of Physical Chemistry B*, 114:12508-12519 (Appeared as cover page).\*

Shekhar, S. and **Jayakannan, M.** (2010). Probing the molecular interactions at conducting polyaniline nanomaterial surface via a pyrene fluorophore. *Journal of Physical Chemistry C*, 114:15491-15498.\*

Antony, J. and **Jayakannan, M.** (2010). Molecular template approach for evolution of conducting polymer nanostructures: Tracing the role of morphology on conductivity and solid state ordering. *Journal of Physical Chemistry B*, 114:1314-1324.\*

Anilkumar, P. and **Jayakannan, M.** (2010). A novel supramolecular organogel nanotubular template approach for conducting nanomaterials. *Journal of Physical Chemistry B*, 114:728-736.\*

**Mahalanobis, A.** (2010). The discrete logarithm problem in the group of non-singular circulant matrices. *Groups Complexity Cryptology*, 2:83-89.

Roy, S.S. and **Mahesh, T.S.** (2010). Density matrix tomography of singlet states. *Journal of Magnetic Resonance*, 206:127.\*

Roy, S.S. and **Mahesh, T.S.** (2010). Initialization of NMR Quantum registers using long-lived singlet

states. *Physical Review A*, 82:052302.\*

**Maity, S.**, Chrisil, A. and Kezhasono, M. (2011). A new construction of resilient Boolean functions with high nonlinearity. *Ars Combinatoria* (in press).

Khan, S.H., Matei, G., **Patil, S.** and Hoffmann, P.M. (2010). Dynamic solidification of nanoconfined water film. *Physical Review Letters*, 105:106101- 106104.\*

**Patil, S.** (2010). Dynamic solidification of the nanoconfined water. *Physical Review Letters*, 105:106101.

**Pavan Kumar, G.V.** (2010). Near field optical properties of silver nanocylinders arranged in Pascals triangle. *Applied Optics*, 49:6872-6877.\*

Misra, S.C., Shinde, S., Geerts, S., **Rao, V.S.** and Monneveux, P. (2010). Relationship between carbon isotope discrimination, ash content, grain yield and water use efficiency components in durum wheat (*T. turgidum ssp durum*) under different water regimes in India. *Agricultural Water Management*, 97:57-65.

Pal, H. and **Santhanam, M.S.** (2010). Dynamics of kicked particles in a double-barrier structure. *Phys. Rev. E*, 82:056212.

Fishler, T., Li, Y.Y., Wang, R. H., Kim, H.S., **Sengupta, K.**, Vassilopoulos, A., Lahusen, T., Xu, X., Lee, M.H., Liu, Q., Elledge, S.J., Ried, T. and Deng, C.X. (2010). Genetic instability and mammary tumor formation in mice carrying mammary-specific disruption of Chk1 and p53. *Oncogene*, 29:4007-4017.

Usha, N. and **Shashidhara, L.S.** (2010). Interaction between Ataxin-2 Binding Protein 1 and Cubitus-interruptus during wing development in *Drosophila*. *Developmental Biology*, 341:389-399.\*

Gurudatta, B.V., **Shashidhara, L.S.** and Parnaik., V.K. (2010). Lamin C and chromatin organization in *Drosophila*. *Journal of Genetics*, 89:37-49.\*

Berger, C., Ramakrishnan, K., Myneni, S., Renner, S., **Shashidhara, L.S.** and Technau, G.M. (2010). Cell cycle independent role of Cyclin E during neural cell fate specification in *Drosophila* is mediated by its regulation of Prospero function. *Developmental Biology*, 337:415-424.\*

Ramakrishnan, K., Berger, C., Myneni, S., Technau, G.M. and **Shashidhara, L.S.** (2010). Abdominal-A

mediated repression of Cyclin E expression during cell-fate specification in the *Drosophila* central nervous system. *Mechanism of Development*, 127:137-145.\*

Alleno, E., **Singh, S.**, Dhar, S.K. and André, G. (2010). Interplay between magnetism and superconductivity in HoNi<sub>2</sub>B<sub>2</sub>C revisite. *New Journal of Physics*, 12:043018.

Klingeler, R., Leps, N., Hellmann, I., Popa, A., Stockert, U., Hess, C., Kataev, V., Grafe, H.-J., Hammerath, F., Lang, G., Wurmehl, S., Behr, G., Harnagea, L., **Singh, S.** and Büchner, B. (2010). Local antiferromagnetic correlations in the iron pnictide superconductors LaFeAsO<sub>1-x</sub>F<sub>x</sub> and Ca(Fe<sub>1-x</sub>Co<sub>x</sub>)<sub>2</sub>As<sub>2</sub> as seen via normal-state susceptibility. *Physical Review B*, 81:024506.\*

Pramanik, K., Harnagea, L., **Singh, S.**, Aswartham, S., Behr, G., Wurmehl, S., Hess, C., Klingeler, R. and Büchner, B. (2010). Critical current and vortex dynamics in single crystals of Ca(Fe<sub>1-x</sub>Co<sub>x</sub>)<sub>2</sub>As<sub>2</sub>. *Physical Review B*, 82:014503.\*

Upadhy, M.A., Dandekar, M.P., Kokare, D.M., Singru, P.S. and **Subhedar, N.K.** (2010). Evidence for the participation of cocaine- and amphetamine-regulated transcript peptide (CART) in the fluoxetine-induced anti-hyperalgesia in neuropathic rats. *Peptides*, 32:317-326.\*

Nakhate, K.T., Kokare, D.M., Singru, P.S. and **Subhedar, N.K.** (2010). Central regulation of feeding behavior during social isolation of rat: evidence for the role of endogenous CART system. *International Journal of Obesity*, 35:773-784.\*

Bharne, A.P., Upadhy, M.A., Kokare, D.M. and **Subhedar, N.K.** (2010). Effect of alpha-melanocyte stimulating hormone on locomotor recovery following spinal cord injury in mice: Role of serotonergic system. *Neuropeptides*, 45:25-31.\*

Nakhate, K.T., Kokare, D.M., Singru, P.S., Taksande, A.G., Kotwal, S.D. and **Subhedar, N.K.** (2010). Hypothalamic cocaine- and amphetamine-regulated transcript peptide is reduced and fails to modulate feeding behavior in rats with chemically-induced mammary carcinogenesis. *Pharmacology, Biochemistry and Behavior*, 97:340-349.\*

Barsagade, V., Mazumdar, M., Singru, P.S., Thim, L., Clausen, J.T. and **Subhedar, N.K.** (2010). Reproductive phase-related variations in cocaine- and

amphetamine-regulated transcript (CART) in the olfactory system, forebrain and pituitary of the female catfish, *Clarias batrachus* (Linn.). *Journal of Comparative Neurology*, 518:2503-2524.\*

Kokare, D.M., Dandekar, M.P., Singru, P.S., Gupta, G.L. and **Subhedar, N.K.** (2010). Involvement of  $\alpha$ -MSH in the social isolation induced anxiety- and depression-like behaviors in rat. *Neuropharmacology*, 58:1009-1018.\*

Deo, G.S., Dandekar, M.P., Kokare, D.M. and **Subhedar, N.K.** (2010). Neuropeptide Y Y1 receptors in the central nucleus of amygdala mediate the anxiolytic-like effect of allopregnanolone in mice: Behavioral and immunocytochemical evidences. *Brain Research*, 1318:77-86.

Dutta, S. and **Suneeta, V.** (2010). Investigating stability of a class of black hole spacetimes under Ricci flow. *Classical and Quantum Gravity*, 27:075012.

Kalle, A.M., Mallika, A., Badiger, J. Alinakhi, **Talukdar, P.** and Sachchidanand (2010). Inhibition of SIRT1 by a small molecule induces apoptosis in breast cancer

cells. *Biochemical and Biophysical Research Communications*, 401:13.\*

Pallavi, R., Roy, N., Nageshan, R.K., **Talukdar, P.**, Pavithra, S.R., Reddy, R., Venketesh, S., Goel, R.K., Gupta, A.K., Singh, R.K., Yadav, S.C. and Tatu, U. (2010). Heat shock protein 90 as a drug target against protozoan infections: Biochemical characterization of Hsp90 from *Plasmodium falciparum* and *Trypanosoma evansi* and evaluation of its inhibitor as a candidate drug. *Journal of Biological Chemistry*, 285:37964.

Devanathan, R., **Venkatnathan, A.**,\* Rousseau, R., Dupuis, M., Frigato, T., Gu, W. and Helms, V. (2010). Atomistic simulation of water percolation and proton hopping in Nafion fuel cell membrane. *Journal of Physical Chemistry B*, 114:13681.\*

Watve, M.M., **Dahanukar, N.** and **Watve, M.G.** (2010). Sociobiological control of plasmid copy number in bacteria. *PLoS One*, 5:e9328.\*

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