Name : Dr. Smita Zinzarde

Designation : Professor

Department/centre : Institute of Bioinformatics and Biotechnology, University of pune, pune 411007

Contact no. : 020 02601385

Experience : 15 years (Post doctoral)

Specialization : Microbiology

Research interests : Marine Microbiology, Environmental Biotechnology, Nanobiotechnology

Honors & awards : 1987 award for standing 1st at B.Sc. Microbiology.
1989 ward for standing 2nd at M.Sc. Microbiology.
2003 young scientist award from Department of Science and Technology, Ministry of Science and Technology.

Publications :

Book chapters

1. **Zinjarde s.**, ghosh m**.** (2010) production of surface active compounds by biocatalyst technology. In: biosurfactants (r.k. Sen ed.) Landes biosciences usa & springer pp. 289-303.

2. Thevenieau f., beopoulos a., besfougeres t., sabirova j., albertin k., **zinjarde s.,** nicaud j.m. (2010) fungi-yeast-*yarrowia* uptake and assimilation of hydrophobic substrates by the oleaginous yeast *yarrowia lipolytica*. Chapter 48. In: handbook of hydrocarbons and lipid biology. (k.n. Timmis ed.) Springer-verlag berlin heidelberg, part 15, pp. 1513-1527.

3. Beopoulos a., desfougeres t., sabirova j., **zinjarde s.,** nicaud j.m. (2010) the hydrocarbon degrading oleaginous yeast *yarrowia lipolytica* chapter 35. In: handbook of hydrocarbons and lipid biology. (k.n. Timmis ed.) Springer-verlag berlin heidelberg, part 19, pp. 2111-2121.

4. Bankar a.v., **zinjarde s. S**. Kapadnis, b.p. (2012) management of heavy metal pollution by using yeast biomass. In: microorganisms in environmental management (t. Satyanarayana, b.n. Johri and anil prakash ed.) Springer pp. 335-363.

Reviews

1. **Zinjarde, s.s.** (2012) bio-inspired nanomaterials and their applications as

antimicrobial agents. Chronicles of young scientists 3:74-81.

2. Devendra h. Dusane, **smita s. Zinjarde**, vayalam p. Venugopalan, robert j.c. Mclean, mary m. Weber, pattanathu k.s.m. Rahman (2010) quorum sensing: implication in rhamnolipid biosurfactant production biotechnology and genetic engineering reviews 27:1–26. . **Citations: 3**

3. Bankar, a.v., kumar, a.r., **zinjarde, s.s.** (2009) environmental and industrial applications of *yarrowia lipolytica.* Applied microbiology and biotechnology 84:847–865.

Research papers

1. Ponnusamy s, **zinjarde s.**, bhargava s., kumar a.r. (2012) discovering bisdemethoxycurcumin from *curcuma longa* rhizome as a potent small molecule inhibitor of human pancreatic alpha-amylase, a target for type-2 diabetes. Food chemistry. (in press).

2. Devendra h. Dusane, sushovan dam, y. V. Nancharaiah, ameeta ravi kumar, vayalam p. Venugopalan, **smita s. Zinjarde**. Disruption of *yarrowia lipolytica* biofilms by rhamnolipid biosurfactant. Aquatic biosystems.

3. Gouri katre, chirantan joshi, mahesh khot, **smita zinjarde** and ameeta ravi kumar (2012) evaluation of single cell oil (sco) from a tropical marine yeast yarrowia lipolytica 3589 as a potential feedstock for biodiesel. Amb express doi:10.1186/2191-0855-2-36

4. Khot m, kamat s., **zinjarde s**, pant a., chopade b., kumar a.r. (2012) single cell oil of oleaginous fungi from the tropical mangrove wetlands as a potential feedstock for biodiesel. Microbial cell factories 11:71.

5. Shinde, n.r., bankar, a.v., kumar, a.r., **zinjarde, s.s.** (2012) equilibrium and kinetic studies on biosorption of ni (ii) ions by two marine isolates of *yarrowia lipolytica.* Journal of environmental management journal of environmental management 102:115-124.

6. Rao a, bankar a, ravi kumar a, gosavi s., **zinjarde, s.s.** (2012) phyto-inspired silica nanowires: characterization and application in lipase immobilization. Acs applied materials and interfaces. 4:871- 877.

7. Pawar v.s., shinde a., kumar, a.r., **zinjarde, s.s**., gosawi, s.w. (2012) tropical marine microbe mediated synthesis of cadmium nanostructures. Science of advanced materials 4:1-8.

8. Vatsal a, **zinjarde s.**, ravi kumar a (2011). Growth of a tropical marine yeast *yarrowia lipolytica* ncim 3589 on bromoalkanes: relevance of cell size and

cell surface properties. Yeast 28:721–732.

9. Rao a., pimprikar p., bendigiri c., kumar a.r., **zinjarde s.s.** (2011) cloning and expression of tyrosinase from *aspergillus oryzae* in *yarrowia lipolytica*: application in l-dopa biotransformation. Applied microbiology and biotechnology 92:951–959.

10. Dusane, d.h. Pawar v.s., nancharaiah y.v., venugopalan v.p., kumar a.r. , **zinjarde s.s.** (2011) anti-biofilm potential of a glycolipid surfactant produced by a tropical marine strain of *serratia marcescens.* Biofouling: the journal of bioadhesion and biofilm research 27:645-654.

11. Kazemi pour. N., dusane, d.h., dhakephalkar, p.k., zamin, f.r., **zinjarde, s.s.** Chopade, b.a. (2011) biofilm formation by *acinetobacter baumannii* strains isolated from urinary tract infection and urinary catheters. Fems immunology and medical microbiology. Microbiol 62:328–338.

12. Rokhbakhsh-zamin, f., sachdev, d., kazemi-pour n., engineer a., pardesi k.r., **zinjarde s.s**.,dhakephalkar, p.k., chopade, b.a. (2011) characterization of plant growth promoting traits of *acinetobacter* species isolated from rhizosphere of *pennisetum glaucum*. Journal of microbiology and biotechnology 21(6):556–566.

13. Nagpal, u.m.k., bankar, a.v., kapadnis, b.p., pawar, n.j., **zinjarde, s.s.** (2011) equilibrium and kinetic studies on biosorption of heavy metals by green leaf powder of *brossounetia papyfera.* Water air and soil pollution 215:177-188.

14. Dusane d.h., matkar p., venugopalan v.p., kumar a.r., **zinjarde s.s.** (2011) cross species induction of antimicrobial compounds, biosurfactants and quorum-sensing inhibitors in tropical marine epibiotic bacteria by pathogens and biofouling microorganisms. Current microbiology 62:974–980.

15. Ponnusamy s, **zinjarde s.**, bhargava s., kumar ar (2011) potent alpha-amylase inhibitory activity of indian ayurvedic medicinal plants. Bmc complementary and alternative medicine 11:5. Ponnusamy s., ravindran r., **zinjarde s**., bhargava s.,

16. Kumar a.r. (2010) evaluation of traditional indian anti-diabetic medicinal plants for human pancreatic amylase inhibitory effect in vitro. Evidence based complementary & alternative medicine (doi:10.1155/2011/515647)

17. Bankar a.v., joshi b.s, kumar a.r., **zinjarde s.s.** (2010) banana peel extract mediated novel route for the synthesis of silver nanoparticles. Colloids and surfaces a: physicochemical & engineering aspects 368:58-63.

18. Dusane d.h., nancharaiah y.v., **zinjarde, s.s**., venugopalan v.p. (2010)

rhamnolipid mediated disruption of marine *bacillus pumilus* biofilms. Colloids and surfaces b: biointerfaces 81:242-248.

19. Bankar a.v., joshi b.s., kumar a.r., **zinjarde s.s.** (2010) banana peel extract mediated novel route for the synthesis of palladium nanoparticles. Materials letters 64:1951-1953.

20. Bankar a.v., joshi b.s, kumar a.r., **zinjarde s.s.** (2010) banana peel extract mediated synthesis of gold nanoparticles. Colloids & surfaces b: biointerfaces 80:45–50.

21. Dhara sachdev, preeti nema, prashant dhakephalkar, **smita zinjarde,** balu chopade. (2010) assessment of 16s rrna based phylogenetic diversity and promising plant growth promoting traits of *acinetobacter* community from the rhizosphere of wheat. Microbiological research. 165:627–638.

22. Bankar, a.v., kumar, a.r., **zinjarde,s.s.** (2009) removal of chromium (vi) ions from aqueous solution by adsorption onto two marine isolates of *yarrowia lipolytica*. Journal of hazardous materials 170: 487–494.

23. Agnihotri, m., joshi, s., kumar, a.r., **zinjarde,s.**, kulkarni s. (2009) biosynthesis of gold nanoparticles by the tropical marine yeast *yarrowia lipolytica* ncim 3589. Materials letters 63:1231–1234.

24. Pimprikar, p.s., joshi, s.s., kumar, a.r., **zinjarde, s.s.**, kulkarni s.k. (2009) influence of biomass and gold salt concentration on nanoparticle synthesis by the tropical marine yeast *yarrowia lipolytica* ncim 3589. Colloids and surfaces b: biointerfcaces 74:309–316.

25. Rajput, j. K., kumar, a.r., **zinjarde, s.s.** (2009) a simple microemulsion based method for the synthesis of gold nanoparticles. Materials letters 63:2672–2675.

26. **Zinjarde,s.s.**, kale, b.v., vishwasrao, p.v., kumar a.r. (2008) morphogenetic behavior of tropical marine yeast *yarrowia lipolytica* in response to hydrophobic substrates. J. Microbiol. Biotechnol. 18:1522–1528.

27. Dusane, d. H., rajput, j. K., kumar, a. R., nancharaiah, y. V., venugopalan, v.p., **zinjarde, s.s.** (2008) disruption of fungal and bacterial biofilms by lauroyl glucose. Letters in applied microbiology 47: 374–379.

28. Dusane d., nancharaiah y., venugopalan v., kumar a., **zinjarde s.** (2008) biofilm formation by a biotechnologically important tropical marine yeast isolate, *yarrowia lipolytica* ncim 3589. Water science and technology 58:1221–1228.

29. Bhat m., **zinjarde s.s.**, bhargava s.y., kumar a.r., joshi b.n. (2008) antidiabetic indian plants: a good source of potent amylase inhibitors. Evidence-based complementary and alternative medicine (ecam) ecam doi:10.1093/ecam/nen040.

30. Kelkar, d.s., kumar, a.r., **zinjarde, s.s.** (2007) hydrocarbon emulsification and enhanced crude oil degradation by lauroyl glucose ester. Bioresource technology 98:1505–1508.

31. Jain, m.r., **zinjarde s.s.**, deobagkar, d.d and deobagkar, d.n. (2004). Transformation of 2,4,6-trinitro toluene by a tropical marine yeast, *yarrowia lipolytica* ncim 3589. Marine pollution bulletin 49:783–788.

32. **Zinjarde s.s.**, pant, a. (2002) hydrocarbon degraders from a tropical marine environment. Marine pollution bulletin 44: 118–121.

33. **Zinjarde s.s.**, pant, a. Emulsifier from a tropical marine yeast *yarrowia lipolytica* ncim 3589 (2002) journal of basic microbiology 42: 67–73.

34. Oswal, n., sarma, p. M., **zinjarde s.s.,** pant a. (2002) palm oil mill effluent treatment by a tropical marine yeast. Bioresource technology 85: 35–37.

35. Tupe, s. G, jadhav. R. S., **zinjarde, s.s.,** gunale, v.r., patwardhan, b.k. (2001) a short term study on the bacteriological quality of the mula-mutha riverine systems, pune, india. Journal of environment and pollution 8: 1–6.

36. **Zinjarde s.s.**, pant, a. Crude oil degradation by free and immobilized cells of *yarrowia lipolytica* ncim 3589 (2000) journal of environmental science & health, part a-toxic /hazardous substances and environmental engineering. 35: 765–773.

37. Dambal, a., garbhe, s., **zinjarde, s.**, gunale, v., patwardhan, b. (1999) a study on the ambient air lead levels in pune city. Journal of environment and pollution 6 :295–299.

38. **Zinjarde s.s.**, deshpande, m.v., pant, a. (1998) dimorphic transition in y*arrowia lipolytica* isolated from oil polluted sea water. Mycological research 102: 553–558.

39. **Zinjarde s.s**., deobagkar, d.d., pant, a. (1997) double stranded rna from a marine yeast, *yarrowia lipolytica* ncim 3589. World journal of microbiology and biotechnology 14: 299–300.

40. **Zinjarde s.s.**, sativel, c., lachke, a.h., pant, a. (1997) isolation of an emulsifier from *yarrowia lipolytica* ncim 3589 using a modified mini

isoelectric focusing unit. Letters in applied microbiology 24:117–121.

41. **Bhide, s. S.,** kembhavi, a.a., pant, a. (1994) a novel biosurfactant by a known oil degrader. *In* ocean technology perspectives (ed. Kumar, s. Agadi, v.v., keshavdas and desai, b.n.) Publications and information directorate, new delhi. Pp 929-939.

Patent

1. **Zinjarde s.s**., sativel, c., lachke, a.h., pant, a. (1997) an improved process for the preparation of thermostable emulsifier. Indian patent. (patent number: 195176 date of issue 2006-11-24).