

Publications Related to MECR Research

Journal Papers (Refereed)

1. Ramakrishnan, V., Panchalan, R.K., and **Bang, S.S.** 2005. "*Bacterial Concrete – A Concrete for the Future*," In "Serviceability of Concrete," American Concrete Institute, SP-225: 37-54.
2. Bachmeier, K., Williams, A.E., Warmington, J., and **Bang, S.S.** 2002. "*Urease Activity in Microbiologically-Induced Calcite Precipitation*," Journal of Biotechnology, 93: 171-181.
3. **Bang, S.S.**, Galinat, J.K., and Ramakrishnan, V. 2001. "*Calcite Precipitation Induced by Polyurethane-Immobilized Bacillus pasteurii*," Enzyme and Microbial Technology, 28: 404-409.
4. Ramachandran, S.K., Ramakrishnan, V., and **Bang, S.S.** 2001. "*Remediation of Concrete Using Microorganisms*," American Concrete Institute Materials Journal, 98: 3-9.
5. Stocks-Fischer, S., Galinat, J.K., and **Bang, S.S.** 1999. "*Microbiological Precipitation of CaCO₃*," Soil Biology and Biochemistry, 31: 1563-1571.
6. Gollapudi, U.K., Knutson, C.L., **Bang, S.S.**, and Islam, M.R. 1995. "*A New Method for Controlling Leaching through Permeable Channels*," Chemosphere, 30: 695-705.

Conference Proceedings Papers

1. Yerra, U., Ramakrishnan, V., and **Bang S.S.** 2007. "*Concrete Remediation with a Novel Technique*," Proceedings of the 9th CANMET/ACI International Conference on Fly Ash, Silica Fume, Slag, and Natural Pozzolans in Concrete, Warsaw, Poland.
2. **Bang S.S** and Ramakrishnan, V. 2006. "*Performance of Biosealant in Concrete Crack Remediation*," Proceedings of the 1st California conference on Recent Advances in Engineering Mechanics, Fullerton, CA.
3. **Bang, S.S.**, Elliott, T.J., Hassan, S., Roth, J.K. 2005. "*Development of Genetically Engineered Biosealant for Crack Remediation*," Proceedings of the International Conference on Concrete Repair, Rehabilitation and Retrofitting, Cape Town, South Africa.
4. **Bang, S.S.** and Lippert, J.J. 2005. "*CaCO₃ precipitation by SiranTM-Immobilized Bacillus pasteurii*," Proceedings of the 26th International Conference on Cement Microscopy, Victoria, Canada.
5. Ramakrishnan, V., Panchalan, R.K., and **Bang, S.S.** 2005. "*Improvement of Concrete Durability by Bacterial Mineral Precipitation*," Proceedings of the 11th International Conference on Fracture, Turin, Italy.
6. Vemuri, S.L., Panchalan, R.K., Rapolu, R., Ramakrishnan, V., and **Bang, S.S.** 2004. "*Experimental Investigation of the Plastic Shrinkage Crack Reduction Potential of Bacteria in Concrete*," Proceedings of the International Conference on Advances in Concrete and Construction, (ICACC), pp. 125-139, Hyderabad, India.
7. Vemuri, S.L., Panchalan, R.K., Rapolu, R., Ramakrishnan, V., and **Bang, S.S.** 2004. "*SEM Investigation of Microbiologically Remediated Plastic Shrinkage Cracks in Concrete*," Proceedings of the 26th International Conference on Cement Microscopy, San Antonio, TX.
8. **Bang, S.S.** 2004. "*The present and future of biosealant in crack remediation*," Proceedings of the ICFRC International Conference on Fibre Composites, High Performance Concretes and Smart Materials, pp991-1001, Chennai, India.
9. Rapolu, R., Panchalan, R.K., Ramakrishnam, V., and **Bang, S.S.** 2004. "*Durability Characterization of Bacterial Concrete – a Smart Biomaterial*," Proceedings of the ICFRC International Conference on Fibre Composites, High Performance Concretes and Smart Materials, pp1047-1056, Chennai, India.
10. Vemuri, S.L., Panchalan, R.K., Ramakrishnan, V. **Bang, S.S.** 2004. "*Plastic Shrinkage Crack Remediation Capacity of Bacterial Concrete – a Smart Biomaterial*," Proceedings of the ICFRC International Conference on Fibre Composites, High Performance Concretes and Smart Materials, pp1057-1067, Chennai, India.

11. Day, J.L., Ramakrishnan, V., and **Bang, S.S.** 2003. "*Microbiologically Induced Sealant for Concrete Crack Remediation*," Proceedings of the 16th Engineering Mechanics Conference, Seattle, WA.
12. Ramakrishnan, V., **Bang, S.S.**, Neelamegam, S., and Panchalan, R.K. 2003. "*Durability of Cement Mortar with Different Concentrations of Bacteria*," Proceedings of the 25th International Conference on Cement Microscopy, Richmond, VA.
13. Lippert, J.J. and **Bang, S.S.** 2002. "*Kinetic Analysis of CaCO₃ Precipitation by SiranTM Immobilized Bacillus pasteurii*," Proceedings of the 32nd Annual Biochemical Engineering Symposium, pp27-35, Ames, IA.
14. Roth, J.K. and **Bang, S.S.** 2002. "*Development of Bacillus pasteurii Urease-Negative Mutants*," Proceedings of the 32nd Annual Biochemical Engineering Symposium, Ames, IA, pp45-52.
15. Ramakrishnan, V., **Bang, S.S.**, Panchalan, R.K., and Mulukutla, S. 2002. "*Performance of Bacterial Concrete*," Proceedings of the 24th International Conference on Cement Microscopy, San Diego, CA.
16. **Bang, S.S.** and Ramakrishnan, V. 2001. "*Microbiologically-Enhanced Crack Remediation (MECR)*," Proceedings of the International Symposium on Industrial Application of Microbial Genomes, pp. 3-13, Daegu, Korea.
17. Ramakrishnan, V., **Bang, S.S.**, and Panchalan, R.K. 2001. "*Bacterial Concrete – A Self-Repairing Biomaterial*," Proceedings of the 10th International Congress on Polymers in Concrete and ICPI/ICRI International Concrete Repair Workshop, Honolulu, HI.
18. Galinat, J.K., Ramakrishnan, V., and **Bang, S.S.** 2001. "*Concrete Crack Remediation by Polyurethane-Immobilized Bacillus pasteurii*," Proceedings of the 23rd International Conference on Cement Microscopy, pp165-177, Albuquerque, NM.
19. Ramakrishnan, V., Ramesh, K.P., and **Bang, S.S.** 2000. "*Bacterial Concrete*," Proceedings of SPIE's 2000 Symposium on Smart Materials, 4234:168-176, Melbourne, Australia.
20. Santhosh, K.R., Ramakrishnan, V., Duke, E.F., and **Bang, S.S.** 2000. "*SEM Investigation of Microbial Calcite Precipitation in Cement*," Proceedings of the 22nd International Conference on Cement Microscopy, pp 293-305, Montreal, Canada.
21. Ramakrishnan, V., Deo, K.S., Duke, E.F., and **Bang, S.S.** 1999 "*SEM Investigation of Microbial Calcite Precipitation in Cement*," Proceedings of the 21st International Conference on Cement Microscopy, pp 406-414, Las Vegas, NV.
22. Ramakrishnan, V., **Bang, S.S.**, and Deo, K.S. 1998. "*A Novel Technique for Repairing Cracks in High Performance Concrete Using Bacteria*," Proceedings of International Conference on High Performance High Strength Concrete, pp 597-617, Perth, Australia.