INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI **SHORT ABSTRACT OF THESIS**		
Name of the Student	:	Kumari Ruby
Roll Number	:	156107025
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Thesis Title: Characterization of Mineral-Based Colloidal Microbubble and Its Subsequent Application in Separation of Fine Mineral Particles		
Name of Thesis Supervisor(s)	:	Prof. Subrata Kumar Majumder
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SHORT ABSTRACT

Ionic Microbubbles are miniature gas bubbles of less than 100 µm in diameter, which are surrounded by charged ions. Fine bubbles are used in many environmental and industrial processes for solid-liquid separations. They have been used for treatment techniques, removal of pulp fiber, separation of fine particles, protein recovery, deinking of waste water, etc. The important characteristics of microbubbles are their large specific area and small buoyancy; therefore, effective dissolution of gas-phase and high adsorption rate is expected. Microbubbles are the type of bubbles, which consists of gas inside their core, they are separated from each other, so they cannot agglomerate, having a size range of micrometers, usually 1-100 micrometer. There is a lack of research to explore the characteristics of microbubbles in the presence and absence of micro-nano particles and their efficiency in removing them. This work aimed to examine the stability of microbubbles generated with surface-active agents with and without particles. The drainage kinetic study was done for the microbubbles generated in the presence of particles with and without salt for assessing the stability of the microbubble. The effects of some primary parameters on entrainment of particles of ZnO, Al_2O_3, etc., in a flotation column using microbubbles for enunciating the feasibility of the microparticle separation by microbubble.