

## **PREFACE**

The Thesis entitled To study the effect of bubble properties on gas liquid mass transfer in bubble column, uses an efficient, cheap and alternative technique viz. image processing technique for hydrodynamic study of bubble columns.

In most of the conventional methods, local hydrodynamics of the bubble column can not be analysed without disturbing the inside flow regime. Local hydrodynamics of a bubble column can be studied using this technique.

To carryout the experiments, a rectangular bubble column made up of perspex was used. The videos were captured for analysis using MATLAB program. A model for estimating mass transfer coefficient was proposed.

I express my deep sense of gratitude and indebtedness to my esteemed supervisors Prof. Ashok Kumar Verma, for his guidance and encouragement during the PhD dissertation work.

It is hoped that this PhD work will help to overcome the difficulties to study hydrodynamics of Bubble columns. For ease of understanding to the readers, this thesis has divided in five chapters.

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