Projects Guided during 2002-2003

1. Study Oriented Projects (BITS C323/BITS C324): 9 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Mass Integration Analysis.	01-08-2002	29-11-2002
2.	Studies on Proton Exchange Membrane in Fuel Cells.	01-08-2002	29-11-2002
3.	Hydrogen Production via Water Splitting for use in Fuel Cells.	01-08-2002	29-11-2002
4.	Electrolysis Methods for Hydrogen Production by Water Splitting.	01-08-2002	29-11-2002
5.	Studies on Catalyst and Proton Exchange Membrane in Fuel Cells.	01-08-2002	29-11-2002
6.	Hydrogen Storage in Fuel Cells.	01-08-2002	29-11-2002
7.	Studies on Problem Areas in Fuel Cells.	01-08-2002	29-11-2002
8.	Continuous Hydrogen Production by Water Splitting using Photolysis.	01-08-2002	29-11-2002
9.	Modeling, Simulation and Experimental Validation of Biomass Gasification.	07-01-2003	28-04-2003

2. Computer Projects (BITS C331 & BITSC335): 11 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Fault Diagnosis and Process Control via Artificial Neural Networks.	01-08-2002	29-11-2002
2.	Neural Networks for Modeling of Liquid-Liquid Equilibria.	01-08-2002	29-11-2002
3.	Heat Exchanger Network Synthesis using Pinch Technology.	01-08-2002	29-11-2002
4.	Process Modeling using Artificial Neural Networks.	01-08-2002	29-11-2002
5.	Sequencing of Distillation Columns using Evolutionary Computation.	07-01-2003	28-04-2003
6.	Optimal Heat Exchanger Network Synthesis using Differential Evolution.	07-01-2003	28-04-2003
7.	Tabu Search Approach for the Optimal Design of Reactor Networks.	07-01-2003	28-04-2003
8.	Optimization of Reactive Distillation using Differential Evolution.	07-01-2003	28-04-2003
9.	Ant Colony Optimization for Energy Integration Analysis.	07-01-2003	28-04-2003

10.	Tabu Search and Differential Evolution Strategies for Engineering Applications.	07-01-2003	28-04-2003
11.	Genetic Algorithms and Memetic Algorithms for Optimization Problems in Engineering.	07-01-2003	28-04-2003

3. Special Projects (CHE C491/ET C491): 2 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Nanotechnology in the Chemical Process Industries.	07-01-2003	28-04-2003
2.	Distillation Column Sequencing via Memetic Algorithms Approach.	07-01-2003	28-04-2003

4. Projects for Process Plant Simulation Course (CHE G541): 19 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Evolutionary Computation for Multi-Objective Optimization of Steam Reformer Performance.	01-08-2002	29-11-2002
2.	Optimal Design of Heat Exchanger Networks Using Differential Evolution.	01-08-2002	29-11-2002
3.	Modeling and Simulation of a Gas-Liquid Catalytic Micro-Reactor.	01-08-2002	29-11-2002
4.	Modeling and Simulation of a Moving Bed Chromatographic Processes	01-08-2002	29-11-2002
5.	Dynamic Optimization of Membrane Separation Process for Waste Water Treatment.	01-08-2002	29-11-2002
6.	Modeling, Control, and Simulation of a Chemical System using ANN.	01-08-2002	29-11-2002
7.	Computational Fluid Dynamics for the Modeling of Aerated Stirred Vessel.	01-08-2002	29-11-2002
8.	Optimal Design for Penicillin Fermentation Unit.	01-08-2002	29-11-2002
9.	Differential Evolution and Artificial Neural Networks for Global Optimization of a Dryer.	01-08-2002	29-11-2002
10.	Modeling and Simulation of NOx Absorption.	01-08-2002	29-11-2002

5. Projects for Reaction Engineering Course (CHE G641): 10 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Modeling and Simulation of Solid-Liquid Phase Transfer Catalysis.	07-01-2003	28-04-2003
2.	Modeling and Simulation of Pressure Drop and Liquid Holdup in Packed Bed Bubble Reactors.	07-01-2003	28-04-2003
3.	Modeling and Simulation of Reactive Distillation.	07-01-2003	28-04-2003
4.	Modeling and Simulation of Three-Phase Air-Lift Reactor.	07-01-2003	28-04-2003
5.	Modeling and Simulation of Monolith Reactor.	07-01-2003	28-04-2003
6.	Modeling Enzymatic Hydrolysis of Penicillin-G in Biphasic Systems.	07-01-2003	28-04-2003
7.	Modeling, Simulation and Design of Gas-Liquid Suspended Solid Reactors.	07-01-2003	28-04-2003

6. Projects for Professional Practice-I: 1 Student

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	(a) Teaching Skills: • Design of Shell-and-Tube Heat Exchanger (b) Research Methodology: • Differential Evolution for Optimal Design of Heat Exchanger Network (c) Laboratory Skills & Professional Development: • Experiments on Shell-and-Tube Heat Exchanger • Experiments on Double Pipe Heat Exchanger • Software available for Heat Exchanger Design	07-01-2003	28-04-2003