

Projects Guided during 2000-2001

1. Study Oriented Projects (BITS C323/BITS C324): 5 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Mass Exchange Network Design using Pinch Analysis.	01-08-2000	28-11-2000
2.	Stochastic Optimization for Heat Exchanger Network Synthesis.	01-08-2000	28-11-2000
3.	Optimal Design of Shell-and-Tube Heat Exchangers.	06-01-2001	03-05-2001
4.	Optimization of Thermal Cracker using Genetic Algorithms and Differential Evolution.	06-01-2001	03-05-2001
5.	Removal of metals from Waste water.	06-01-2001	03-05-2001

2. Computer Projects (BITS C331 & BITSC335): 16 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Energy and Resource Analysis of Distillation, Evaporation, and Reaction Processes.	01-08-2000	28-11-2000
2.	Differential Evolution for Mass Exchange Network Design.	01-08-2000	28-11-2000
3.	Retrofit Targeting on Energy Integration.	01-08-2000	28-11-2000
4.	Interfacing Network Synthesis with Detailed Heat Exchanger Design.	01-08-2000	28-11-2000
5.	Artificial Neural Networks for Modeling of Chemical Processes.	01-08-2000	28-11-2000
6.	Case studies on Specific Purpose Simulation.	06-01-2001	28-04-2001
7.	Simulation of Process Plants using Decomposition of Networks.	06-01-2001	28-04-2001
8.	Alkylation Reaction Optimization using Differential Evolution.	06-01-2001	28-04-2001
9.	Optimization of Thermal Cracker using Genetic Algorithms & Differential Evolution.	06-01-2001	28-04-2001
10.	Optimization of the Design of Compact Heat Exchangers.	06-01-2001	28-04-2001
11.	Optimal Design of Ammonia Synthesis Reactor using Genetic Algorithms and Differential Evolution.	06-01-2001	28-04-2001
12.	Optimal Network of Piping Systems.	06-01-2001	28-04-2001

13.	Optimization of Batch Distillation Process using Genetic Algorithms and Differential Evolution.	06-01-2001	28-04-2001
14.	Evolutionary Computation for Optimization of Heat Exchanger Networks.	06-01-2001	28-04-2001
15.	Optimization of Ammonia Synthesis Reactor using Differential Evolution.	06-01-2001	28-04-2001
16.	Evolutionary Computation for Energy Integration Analysis.	06-01-2001	28-04-2001

3. Special Projects (CHE C491/ET C491): 5 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Design and Troubleshooting aspects of a Distillation Column.	01-08-2000	28-11-2000
2.	Process Synthesis and Analysis for the large-scale production of a Petrochemical Product.	01-08-2000	28-11-2000
3.	Continuous Targeting for Energy Integration Analysis.	01-08-2000	28-11-2000
4.	Optimal Heat Exchanger Network Using Transshipment Model.	01-08-2000	28-11-2000
5.	Heat Exchanger Network Synthesis Using Differential Evolution.	01-08-2000	28-11-2000

4. Projects for Process Plant Simulation Course (CHE G541): 14 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Differential Evolution for Scenario Integrated Modeling and Optimization of Dynamic Systems.	01-08-2000	28-11-2000
2.	Optimization of Shell-and-Tube Heat Exchangers under Milk Fouling Using Differential Evolution.	01-08-2000	28-11-2000
3.	Control of a Continuous Crystallization Process Using Back Propagation Algorithm of Artificial Neural Networks.	01-08-2000	28-11-2000
4.	Differential Evolution for Optimization of Batch Distillation Processes.	01-08-2000	28-11-2000
5.	Optimization of Steam Reformer by Differential Evolution.	01-08-2000	28-11-2000
6.	Periodic Operation of Trickle Bed Reactor.	01-08-2000	28-11-2000
7.	Control of a Continuous Crystallization	01-08-2000	28-11-2000

	Process Using Radial Basis Function Networks.		
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5. Projects for Reaction Engineering Course (CHE G641): 16 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Absorption Kinetics for CO ₂ in Methyl-di-ethanolamine.	06-01-2001	28-04-2001
2.	Modeling of Hydrodynamics in Gas-Lift-Reactors.	06-01-2001	28-04-2001
3.	Liquid Distribution in Trickle Bed Reactors.	06-01-2001	28-04-2001
4.	Rate Enhancement in Periodically Operated Trickle Bed Reactors.	06-01-2001	28-04-2001
5.	Hydrodynamics in Multi-stage Turbulent Bed Contactors.	06-01-2001	28-04-2001
6.	Optimization of Fluidized Catalytic Cracking Reactor.	06-01-2001	28-04-2001
7.	Micro-channel Heat Exchanger for Chemical Reactors.	06-01-2001	28-04-2001
8.	Temperature & Pressure effects on Cracking of Coal Tar.	06-01-2001	28-04-2001

6. Projects for Professional Assistants: 4 Students

S.No.	Title of the Project	Date of Commencement	Date of Submission
1.	Computerization of Workshop Stores & Office with Java as front-end and Oracle as back-end.	01-08-2000	08-12-2000
2.	EDD Notes Preparation for Process Plant Simulation Course (CHE G541).	06-01-2001	28-04-2001