

Curriculum Vitae

A. Ramesh Kumar,
M.Tech (Chemical Engineering),
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Objective : To make a career in an environment that promotes and encourages excellence, adaptability and commitment and allows faster growth and advancement.

Name : Ramesh Kumar Ausula
Date Of Birth : 15-04-1980
Sex : Male
Marital Status : Unmarried
Permanent Address : H. No. 8-44,
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ACADEMIC DETAILS:

Degree	University	Year of Passing	year	CPI or %
M.Tech (Chem .Engg)	IIT Bombay	May, 2002	1	9.08
			2	
B.Tech (Chem. Engg)	Nagarjuna University	1998	1	76.2
		1999	2	78.4
		2000	3	82.7
		July,2001	4	86.7
Intermediate (10+2)	Board of Intermediate Education, Andhra Pradesh.	May,1997	-	88.7
S.S.C (10th)	Board of Secondary Education, Hyderabad,	April,1995	-	90.0

Important courses taken during postgraduate and undergraduate tenure:

1. Colloidal and Interfacial Science
2. Chemical Process Equipment Design
4. Computer Aided Design and Engineering
3. Process Control and Instrumentation

4. Heat and Mass Transfer Operations
5. Optimization
6. Mathematical and Statistical Methods in Chemical Engineering.
7. Advanced Transport Phenomena
8. Chemical Reaction Engineering
9. Computational Methods in Chemical Engineering
10. Natural and Synthetic Polymers

SOFTWARE SKILLS:

Languages : C, C++ and FORTRAN
Operating Systems : Windows NT, Linux, Unix
Packages : Design-II, GAMS, Pinch Software, ODEPACK(LSODE),
Computational Fluid Dynamics (Fluent, GAMBIT),HYSIS, MATLAB.

IMPORTANT PROJECTS UNDERTAKEN:

1. B.Tech: "*Manufacture of Aniline*"

This dealt with different aspects of the processes available for the manufacture of Aniline, selection of an optimal process, material and energy balances and design of distillation column for the separation of aniline from the other bi-products and unreacted reactants. The cost estimation for the plant and a well-designed layout for the plant have been developed.

Guide: Prof. M. Venkateshwararao

(Head of the Department R.V.R & J.C. College of Engg.)

2. M.Tech: "*Modeling Nanoparticles Formation in Reverse Micellar Systems*".

The electronic, optical and magnetic properties of nanometer-sized particles differ from those of bulk materials as well as single atoms, thereby opening the possibilities for novel applications. The challenge lies in synthesis of chemically homogeneous and monodisperse particles, having uniform size and shape. In meeting the primary need of various applications, we need to have a precise control over the mean particle size and PSD. This necessitates the prediction of particle size and particle size distributions through the formulation of mathematical models or simulations and to determine the various parameters to obtain the targeted size. As the formation process is stochastic in nature, Monte-Carlo simulation is a natural choice, but it is computationally intensive as the number of micelles is very large. Stochastic population balance models describing the nanoparticles formation and growth in reverse micelles considering the finite nucleation and exchange rates, instantaneous reaction and growth of nuclei, for gas-liquid and liquid-liquid mode have been developed. Though the precipitation process involves mass transfer, reaction, collision, nucleation and growth of nuclei, time scale analysis of these processes and considerations gives different models. The population balance equations describing all possible combinations of state of micelle using fusion fission mechanism have been developed and solved by using the ODE solver LSODE (ODEPACK) and R-K fourth order method in case of liquid-liquid mode of reaction. The effect of various parameters like nucleation rate, water to surfactant molar ratio and collision rate on the particle size distribution and terminal particle size has been investigated. The model predictions show consistent results and qualitatively good agreement with experimental data

CdS and Ag₂S nanoparticles have been prepared by simple addition and two microemulsions mixing methods using AOT/heptane/water microemulsion. And the particles were characterized using Transmission Electron Microscopy and UVVIS-Absorption Spectroscopy. And it is observed that the particle size in case of simple addition is larger than in case of two microemulsion addition method.

Guide: Prof. Kartic. C. Khilar

Department of Chemical Engineering, IIT Bombay.

ACADEMIC ACHIEVEMENTS:

1. Stood first throughout the school education and received state level merit scholarship. Stood amongst top 25 in S.S.C at the state level.
2. Stood first in college (1/200) during intermediate. Received merit scholarship.
3. Stood amongst the top 3% in engineering entrance examination.
4. Stood amongst top three (3/80) at university level during undergraduation.
5. Achieved All India Rank 33 in GATE -2001. Received Gold Medal from Nagarjuna Educational Society for being top in GATE at university level.
6. Participated in workshop on “Surfactants: Theory and Practice -2002”, held at M.S. University, Baroda, Gujarat.

EXTRA CURRICULAR ACTIITIES:

1. I was the member of Interaction-Committee, which acts as an interface between students and faculty during undergraduation.
2. Elected as the Joint Secretary for RAJChEA, the Chemical Engineering. Association of our college during undergraduation.
3. I was the member of our college cricket team during undergraduation. I participated in cultural activities and state level science fare and received second prize during my school education. I play games like Table Tennis, cricket, swimming and caroms.
4. Organized state level chemical engineers meet CHECK-99 in our college during my undergraduation.
5. Organized South India Industrial Tour during my undergraduation.

REFERENCES:

1. Prof. Kartic C. Khilar,
Dept. of Chemical Engineering,
Indian Institute of Technology
Bombay, Powai, Mumbai-400076
Email: kartic@che.iitb.ac.in
Phone: +91.22.5727230.

2. Prof. M. Venkateshwararao,
Head of the Department,
Dept. of Chemical Engineering,
R.V.R & J.C. Engg. College
Guntur,
Andhra Pradesh-

DECLARATION

I hereby declare that the information given above is true to the best of my knowledge.

Place: Mumbai
Date :

AUSULA RAMESH KUMAR