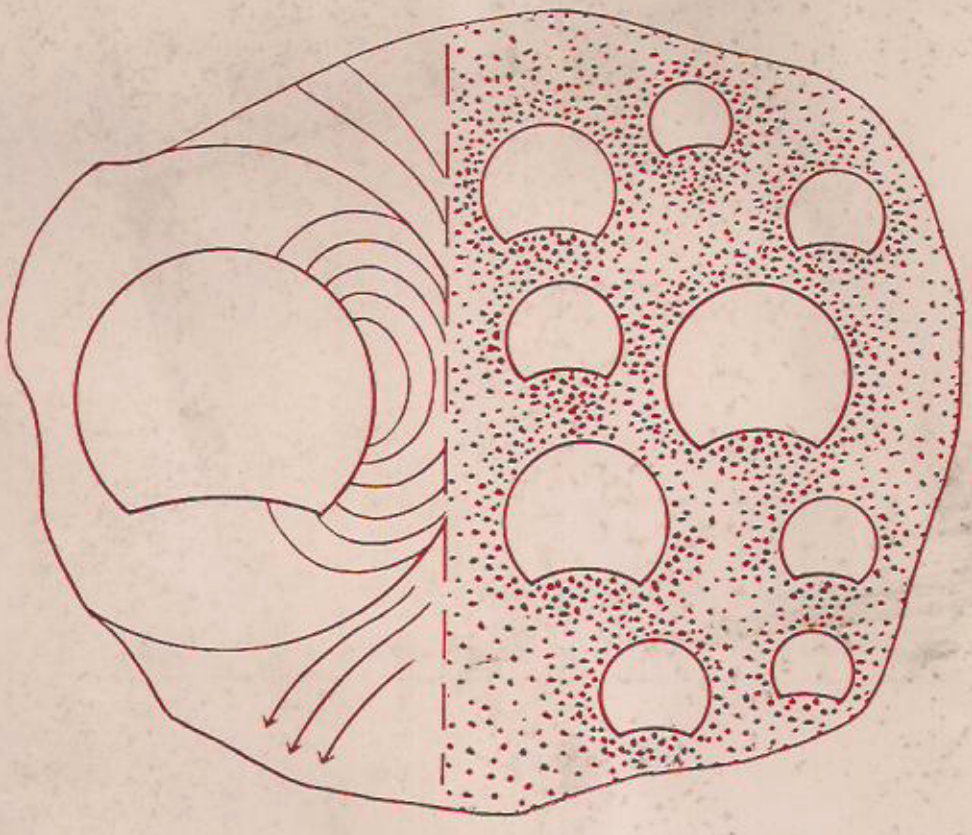
SILVER JUBILEE SOUVENIR

SYMPOSIUM ON
CHEMICAL REACTION ENGINEERING
DECEMBER 22 - 23, 1976



1951 Silver Jubilee 1976

DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF SCIENCE
BANGALORE-560 012

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Silver Jubilee Souvenir

DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF SCIENCE
BANGALORE – 560 012

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Prof. N. R. KULOOR
1917 – 1970

Of Professor Kuloor's brilliant professional career spanning three decades, his two achievements of bringing the fledgelings of two organizations to their present state of pre-eminence in the country stand out as glorious testimony to his foresight and pragmatism. The first is the Sri Ram Institute for Industrial Research, Delhi, and the second is the Department of Chemical Engineering, Indian Institute of Science, Bangalore, the former dedicated to the field of applied research and the latter to that of basic studies in chemical engineering. Under his stewardship these centres of research attained illustrious all India character. By this achievement alone Professor Kuloor earned for himself a permanent niche in the roll-call of honour amongst the educators of the country. As a person he was frail and delicate in health but exuded a vigorous attitude towards basic research in his specialized area of chemical reaction engineering. All those who came in contact with him were impressed by his geniality, sense of humor and above all sense of humanity. The Silver Jubilee Committee, with a deep sense of humility, takes this opportunity to dedicate this Souvenir to the sacred and fond memory of Professor Kuloor.

about ourselves . . . .

The Department of Chemical Engineering, Indian Institute of Science, Bangalore, completes twentyfive years of existence in 1976. From a modest beginning in 1951, when an undergraduate diploma course in chemical engineering and research facilities for research conferments of the Institute and other universities were being offered, the Department has now grown to a full fledged department, offering post-graduate teaching and research programmes leading to M.E., M.Sc., and Ph. D. degrees of the Indian Institute of Science, Bangalore, participating in the continuing education programmes at advanced level for university teachers, and collaborating with industry in designing process equipment and transfer of technical knowhow.

The growth of this Department runs parallel to the emergence of chemical engineering as a separate discipline in the country. Rightly, the Department evolved as an outgrowth of the Department of Chemistry. Thus, in the early years, the areas of research corresponded with the interface between the established areas of chemistry and the emerging areas of chemical engineering. At a time when other schools in the country were concerned about training students in chemical engineering at the undergraduate level, this Department was deeply involved in basic and applied research in the then emerging areas in chemical engineering. The Department was far ahead of times in that in the fifties it was conducting research in coal gasification, Fischer-Tropsch synthesis, chemicals from coal—areas which are attracting attention of others in the seventies. In addition to this process development work, basic chemical engineering studies on fluidised beds, flotation and unconventional separation processes were also being carried out.

With the changing shift towards chemical engineering, the Department came into its own in the early sixties as the strongest school in chemical engineering research in the country. The problems tackled in the sixties covered the entire spectrum of chemical engineering activity. Kinetics of catalysed reactions in fixed and fluidised beds, computation of thermodynamic properties of hydrocarbons, basic studies in bubble and drop formation, and fluid flow and heat transfer studies in coiled pipes were some of the main problems investigated. Because of the major contributions made, the Department came to be known as a centre of excellence in these areas.

In the seventies the emphasis is changing, and rightly so. Thus, we now find a change in emphasis from reactions to reactors, from computation to experimental determination of thermodynamic and transport properties. Further, the Department is taking interest in the newly emerging areas like Process Dynamics and Control, Bioengineering and Environmental Engineering. Work has been initiated in these areas and is moving ahead at a fast pace.

The teaching in the fifties was restricted to the undergraduate level. This was discontinued in 1959 when the diploma course was abolished. With increase in the tempo of research in the sixties it was realised that the research interests of the department can help train students at the postgraduate level. Thus an M.E. degree course was started in 1963 offering specialisation in Equipment Design and Transfer Processes. With the introduction of the Unit System at the Institute in 1971, the M. E. degree course has been completely reorganised. Recently some changes have been made in the requirements for research conferments of the Institute which require the research students to undergo some course work. Many advanced level courses are being offered which cater to the research students. Besides the regular students, the Department offers research facilities for research conferments of the Institute to university teachers under the faculty improvement programme and to research workers in other organisations under the scheme of external registration. In recent times, the Department, under the continuing education programme of the Institute, is actively involved in conducting short-term courses sponsored by UGC, ISTE, Ministry of Education, etc., for university teachers.

With the passage of time, the Department has generated and assimilated expertise in a few unique areas. This is being made available increasingly to solve problems of industrial relevance.

The Department owes its growth to the contribution of several of its past members of faculty. The main thrust was provided during the sixties by the brilliant leadership of the Late Professor N. R. Kuloor as a consequence of which the Department gained recognition as a major school of chemical engineering research in the country. It is but appropriate that the Department is commemorating Professor Kuloor in the Silver Jubilee Year by instituting a 'Kuloor Memorial Fund'. This fund would be utilised in a suitable manner.

Summing up, this Department can look back with pride and look ahead with confidence for providing leadership in chemical engineering education, research and practice in the country.

PRESENT FACULTY

Name	*Areas of Interest*
R. KUMAR, Ph. D. (Punjab), Professor and Chairman of the Department.	Bubble Dynamics, Chemical Engineering Modelling, Environmental Engineering.
D. S. VISWANATH, Ph. D. (Rochester) Professor.	Thermodynamics and Transport Properties, Chemical Kinetics.
G. NARSIMHAN, Ph. D. (Nagpur) Professor.	Reactor Dynamics, Heterogeneous Reaction Systems, Biosystems Modelling.
P. K. DESHPANDE, Ph. D. (I.I. Sc.) Assistant Professor.	Reaction Engineering, Process Development, Environmental Engineering, Catalysis.
V. M. H. GOVINDARAO, Ph. D. (I.I. Sc.) Assistant Professor.	Process Dynamics, and Control Multiphase Reactors, Process Systems Modelling and Simulation.
MANAS CHANDA, Ph. D. (I.I. Sc.) Assistant Professor.	Reaction Engineering, Polymer Science and Technology.
M. S. MURTHY, Ph. D. (I.I. Sc.) Assistant Professor.	Reaction Engineering, Heat and Mass Transfer, Environmental Engineering.
M. RAVINDRAM, Ph. D. (I.I. Sc.) Assistant Professor.	Reaction Engineering, Catalysis, Environmental Engineering.
VENUGOPALA KUBAIR, Ph. D. (I.I. Sc.) Assistant Professor.	Heat Transfer, Fluid Dynamics, Bioengineering, Chemical Process Development.
D. N. SESHADRI, Ph. D. (I.I. Sc.) Lecturer.	Thermodynamics, Numerical Analysis and Computer Programming, Reaction Engineering.
A. K. MUKHERJEE, D. Phil. (Calcutta) Lecturer.	Solution Thermodynamics, Reaction Kinetics.
N. V. S. SASTRI, Ph. D. (I.I. Sc.) Lecturer.	Bioengineering, Rheology, Reaction Engineering, Process Development.
S. S. LOKRAS, Ph. D. (I.I. Sc.) Lecturer.	Reaction Engineering, Environmental Engineering.
T. R. DAS, Ph. D. (I I. Sc.) Lecturer.	Thermodynamics and Transport Properties.

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ACHIEVEMENTS OF THE DEPARTMENT