TRIBUTES TO Dr.H.V.K.UDUPA

Dr.H.V.K.UDUPA
(1921 – 2002)

H. V. K. UDUPA (1921-2002
Biological Electrochemistry

DATE OF BIRTH: 18.10.1921

QUALIFICATIONS

B.A. in Chemistry (Madras University) (1942)
Diploma in Modern European Languages (German) (Madras University) (1943)
B. Sc. (Hons) (Madras University) (1944)
M.A. (Madras University) (1946), M.Sc. (Madras University (1947)
A.M.degree in Industrial Chemistry with specialization in electrochemistry (Columbia University) Ph. D. (Ohio University) (1950)

PPROFESSIONAL CAREER:

1944-47 Research Assistant to Dr.B.B.Dey in the Presidency College, Madras, on the CSIR sponsored scheme 'Electrolytic reduction of nitro-compounds leading to the manufacture of direct cotton colours'.

1947-48 Worked under Prof.Colin G.Fink, Columbia University in the City of New York on 'Co-deposition of tin and indium'.

1948-50 Conducted research under the guidance of Christopher L.Wilson (Ohio State University) on 'Electro-organic chemistry'.

1951-53 Worked in the Chemistry Department of Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad.

July 1953 Joined CECRI as Senior Scientific Officer
Oct 1957 Promoted as Assistant Director
Aug 1965 Deputy Director on Merit Promotion
Aug 1967 Deputy Director-in-Charge, CECRI
Jan 1970 Director, Central Electrochemical Research Institute, (CECRI) Karaikudi

MEMBERSHIPS

Fellow of the Indian National Science Academy (FNA)
Associate of the Royal, Institute of Chemistry London (C. Chem. M.R.I.C.)
Fellow of Institution of Chemists (FIC)
Fellow of the Society for the Advancement of Electrochemical Science and Technology
Member of Phi Lambda Upsilon, the National Honorary Chemical Society of USA
Member of Electrochemical Society of USA
Member of International Society of Electrochemistry (formerly CITCE)

Member, Indian Science Congress Association

AREAS OF SPECIALIZATION

Organic chemicals of industrial importance
Inorganic chemicals of industrial importance
Development of insoluble anodes
Development of new battery systems
Direct electrochemical reduction of metal oxides and hydroxides to the corresponding metal powders

PUBLICATIONS

Dr.H.V.K.Udupa and his team had several research publications in National and International Journals. 318 research papers and 140 patents are to his credit. The list is an exhaustive. To site a few the following are considered to be his special contributions.

1. Author of a Chapter on 'Niobium and Tantalum' jointly in the Encyclopedia of Electrochemistry of the Elements'. Vol. II-III Pp. 53-123 published by Marcel Dekker Inc., New York (1974).

2. Author of a Chapter on 'Electrothermal Industries' in CHEM-THECH II, Vol. II of the Manual of Chemical Technology published by the Chemical Engineering Education & Development Centre, Indian Institute of Technology, Madras (1977)

3. Prepared a Status Report on 'Fluidized Bed Electrodes, and sent to the Department of Science and Technology, New Delhi (1974).

4. Author of a Chapter on 'The Use of Rotating Electrode in small scale Electro-organic Synthesis' for publication in the series on 'Technique of Electro-organic Synthesis' by John Wiley & Sons Inc., New York.

AWARDS

FICCI AWARD 1973

Dr.H.V.K.Udupa was awarded cash prize of Rs 10,000 in science and technology (individual scientists) jointly with Dr.M.R.N.Prasad, Professor of Zoology, University of Delhi, Delhi for the year 1973 by the Federation of Indian Chambers of Commerce and Industry (FICCI), New Delhi with the following citation

Dr.H.V.K.Udupa, Director, Central Electrochemical Research Institute, Karaikudi, has made significant contributions to electrochemistry. He has been responsible for the development of rotating electrodes for organic reactions, insoluble anodes for the production of inorganic chemicals and electrolytically regenerated inorganic reagents for controlled oxidation of organic compounds etc. Recipient of Inventions Promotion Board Award. He and his colleagues have been responsible for producing a variety of chemicals for strategic purposes, particularly electrochemicals. Dr.Udupa's researches have far-reaching significance and merit wide recognition.

H.K.Sen MEMORIAL MEDAL 1979

He was the recipient of the H.K.Sen memorial Medal for the year 1979 by the Institution of Chemists (India). This award is presented annually to an eminent and most distinguished industrial chemist for his contribution in the advancement of technology and techniques in industrial applications and the awardee is selected by the Council of the Institution.

FICCI AWARD 1974

Under his Directorship, the Central Electrochemical Research Institute, Karaikudi got an award during 1974 in recognition of corporate initiative in research in science and technology from the FICCI with the following citation:

"Central Electrochemical Research Institute, Karikudi, has developed wide ranging processes for industrial products such as porous carbon electrode for AD cell, silver oxide-zinc accumulator, magnesium – silver and magnesium – cuprous chloride water activated batteries, titanium substrate insoluble anode etc. Its activities have resulted in foreign exchange savings and created employment opportunities directly as well as indirectly. The institute's achievements are of far-reaching significance to the electrochemical industry and hence call for appreciation".

INVENTIONS PROMOTION BOARD AWARDS TO Dr.H.V.K.UDUPA AND CO-WORKERS

1. Benzidines and substituted benzidines (1967) Rs.1000

2. Process for the Production of dialdehyde starch using electrolytically regenerated periodic acid (1968) Rs.1000

3. Single step process for the production of perchlorates directly from sodium chloride solutions (1970) Rs.1000

4. Recovery of zinc in the form of zinc powder from zinc hydroxide (1971) Rs.1000

5. Preparation of lead dioxide electrodes for electrolysis (1972) Rs.1500

6. Electrolytic preparation of succinic acid (1972) Rs.1500

7. Titanium substrate insoluble anode (TSIA) (1977) Rs.2000

INDIAN LEAD - ZINC POWAR 74 COMPETITION AWARDS

1. Power pack AD cells – first prize and a cash award of Rs.1500- shared by Dr.H.V.K.Udupa and co-workers

2. An improved low-temperature battery: Special commendation and cash prize of Rs.500 shared by Dr.Udupa and co-workers

INDIAN MERCHANTS' CHAMBERS DIAMOND JUBILEE AWARD 1971

Dr.Udupa and co-workers was awards with above prestigious award for the process on 'Electrochemical preparation of aniline from nitrobenzene'.

MEMBERSHIP OF COMMITTEES

1. Sub-committee of the Development Council for Alkalis and allied industries to report on norms of efficiency on caustic soda industry (Ministry of Commerce & Industry)

2. Study group of the battery development programme formed by the Electronics Development Panel of the Ministry of Defence.

3. Metallurgical and Chemical Engineering Sub-committee, Central Board of Railway Research, RDSO, Chittaranjan.

4. Signal & Telecommunication Research Sub-committee, Central Board of Railway Research, RDSO, Lucknow

5. Advisory Board for the Journal of Applied Electrochemistry

6. R&D cell of Chemicals and Allied Products Export Promotion Council, Calcutta

7. R&D cell of basic chemicals, pharmaceuticals and soaps, Export Promotion Council, Bombay

8. Honorary Council of 5^{th} International Congress on Metallic Corrosion, Tokyo

9. Working Group on Substitution of Non-Ferrous Metals by Aluminium, Department of Mines, Ministry of Steel & Mines, Govt. of India

10. Corrosion Advisory Bureau, CSIR

11. Panel of Experts for Industrial Clinic to help small-scale Battery Manufacturers, organized by SISI, New Delhi

12. Development Council for Inorganic Chemical Industries

13. A number of Committees constituted by ISI on Batteries, Chemicals and Electroplating

14. Member, Hydrogen Energy Task Force constituted by DST, New Delhi (1977)

15. President, SAEST (1971)

DIRECTORSHIP OF INDUSTRIES/MEMBERSHIP OF ACADEMIC INSTITUTIONS AND GOVERNMENT DEPARTMENTS

1. Director, Tamilnadu Alkaline Batteries Ltd., Madras
2. Board of Governors of Indian Institute of Technology, Madras
3. Member, Academic Council, American College, Madurai
4. Chairman, Co-ordination Council (Chemical Sciences Group) (Oct 78 – Sep 80)
5. Member, Governing Body, CSIR (Oct 78 – Sep 80)

GUIDE FOR Ph. D. DEGREE

He guided many students for research leading to Ph. D. degrees of Madras, Madurai, Sri Venkateswara and Banaras Hindu Universities. Eight candidates have obtained Ph.D. Degree

VISITING PROFESSOR TO JAPAN

Dr.H.V.K.Udupa visited Japan for a period of 2 months, Oct-Dec 1978, as visiting professor at the invitation of Tokyo Institute of Technology, Tokyo, Japan. During his stay at Japan he delivered lectures on the following topics

1) Organic Electrode Processes
2) Electrochemical Energy Conversion
3) Recent Topics of Electrochemistry. He also visited many academic institutions and laboratories in Japan.

INDO SOVIET SYSMPOSIUM

The Indian National Science Academy constituted a Steering Committee to organize the symposium, with Dr.H.V.K.Udupa, Fellow of the Academy and Director of CECRI as Convener. The symposium was held at Madras from December 4 to 7, 1979. Seven Soviet scientists headed by Prof.B.M.Grafov of the Institute of Electrochemistry, Academy of Sciences of USSR, Moscow participated. 58 delegates in all participated in the symposium.

SECOND SOVIET INDIAN SYMPOSIUM

Dr.H.V.K.Udupa was co ordinator and leader of Indian delegation to participate in the second soviet Indian Joint symposium on electrochemistry held at Moscow, June, 81. Addressed the soviet electrochemists on behalf of the Indian delegation.

ASSOCIATION WITH SAEST

Dr.H.V.K.Udupa was associated with SAEST since its inception	
Chairman of the Committee for drafting constitution of SAEST	1964
Founder member of SAEST	1964
Vice – President of SAEST	1965-1966
Chairman of Local Chapter of SAEST, Karaikudi	1967-1968
Chairman of Decennary Celebration Committee	from 1967
Chairman – Steering Committee of two International Symposia	1976 and 1980

SAEST cherishes the contributions made by Dr.H.V.K.Udupa to the growth of Electrochemical Science and Technology in India and to the growth of the Society (SAEST).

Dr.G.S.Sidhu, past Director General of the CSIR, New Delhi wrote in September 1981 to Dr.Udupa when he was about to lay down his office, "Under your stewardship the Institute has made rapid strides and is now recognized as a pioneer Institute in Electrochemistry." Such are the contributions made by him in the field of applied Electrochemistry.

After retirement, Dr.Udupa worked as an Emeritus Scientist (CSIR) in the Chemical Engineering Department of Manipal Institute of Technology from July 1982 to June 1984. He was the Chairman of the Research Centre of M/s.Titanium Equipment and Anode Manufacturing Company Limited, Madras. He was a consultant on a retainer basis to M/s.Khoday Distilleries Ltd., Bangalore and an Emeritus Professor in the Chemical Engineering Department of the Manipal Institute of Technology, Manipal.

Dr.Udupa was a Rotarian since 1965 and had served as the President of the Rotary Club of Karaikudi. He was member of the Rotary Club of Udupi, Manipal since 1982 and was the Director of the fourth avenue of service of the Club namely the International Service. The Rotary Club of Udupi, The Academy of General Education and Syndicate Bank gave the **new year Award in 1985** as a token of warm tribute and in deep appreciation of distinguished work and achievement in his field of specialization and in happy recognition of the fact that he has "dignified his occupation as an opportunity to serve society", thus exemplifying the ideal of enlightened life.

Dr.Udupa was a good tennis player and loved photography. Sanskrit study was his hobby. He was given the **Karnataka State Award in Science** in 1988 on the Rajyotsava Day. He was felicitated by Chemical Engineering Department of Manipal Institute of Technology on his 80^{th} birthday in the year 2000. He was also felicitated by Chemfab group of Companies at Chennai in the same year.