



Designation: Professor

Specialization: Transfer Processes, Transport Properties, Non - Newtonian Fluids, Energy Engineering, Computer Aided Design, Process Dynamics & Control.

Courses Offered :Transport Phenomena, Fluid Dynamics, Heat transfer, Mass Transfer, Pharmaceutical Engineering, Reaction Engineering, Computer Aided Design, Fluid flow Operations, Process Dynamics & Control, Chemical Technology, Non-Newtonian Flow & Heat Transfer, Liquid Liquid Extraction, etc.

Research/Publications:

1. Kumar, S., Upadhyay, S.N., and Mathur, V.K., 'Mass Transport from Spheres in Dumped Packed Beds', Proceedings of the Third National Heat Mass Transfer Conference, I.I.T., Bombay, HMT-48-75 (December, 1975).
2. Kumar, S., Upadhyay, S.N., and Mathur, V.K., 'Low Reynolds Number Mass Transfer in Packed Bed of Cylindrical Particles', I. & E. C. Process Design Develop, Vol. 16, 1 (1977).
3. Kumar, S., Pyare Lal and Upadhysy, S.N., 'Mass Transfer from a Solid Particle to Flowing Fluids', Chemical Era, Vol. XIV, No.9, pp. 335-349 (1978).
4. Kumar, S., Upadhyay, S.N., and Mathur, V.K., 'On the Solubility of Benzoic Acid in aqueous Carboxy Methyl Cellulose Solutions', J. Chem. Eng. Data, Vol. 23, 139 (1978).
5. Kumar, S., and Upadhysy, S.N., 'Hydrogen and Energy Alternative and its Production Technology', 'Proceeding of Workshop on Alternative Fuels for Engines, Varanasi, pp. 113-126 (1979).
6. Kumar, S., Tripathi, P.K., and Upadhyay, S.N., 'On the Mass Transfer in Non-newtonian Fluid-I: Transfer from Spheres to Power Law Fluids', Letters in Heat and Mass Transfer, Vol. 7, pp 43-53 (1980).
7. Kumar, S., Mall, B.K., and Upadhyay, S.N., ' On the Mass Transfer in Non-newtonian Fluids-II: Transfer from Cylinders to Power Law Fluids', Letters in Heat and Mass Transfer, Vol. 7, pp 54-65 (1980).
8. Kumar, S., and Upadhyay, S.N., 'Mass Transfer to Power Law Fluids in Fluidized Beds of Large Particles' Letters in Heat and Mass Transfer, Vol. 7, pp. 199-211 (1980).
9. Kumar, S., and Upadhyay, S.N., 'Laminar Flow Dissolution and Diffusion in Non-newtonian Fluids', 'Ind. Eng. Chem. (Fundl.), Vol. 19, pp. 75-79 (1980).
10. Sahay, H.B., Kumar, S., Upadhyay, S.N., and Upahya, Y.D., 'Solubility of Benzoic Acid in Aqueous Pplyethylene Glycol Solutions', J. Chem. Eng. Data. 25, pp. 383-384 (1980).
11. Sahay, H.B., Kumar, S., Upadhyay, S.N., and Upadhya, Y.D., 'On the Solubility of Benzoic Acid in Aqueous Polymeric Solutions', J. Chem. Eng. Data. 26, pp. 181-183 (1981).
12. Kumar, S. and Upadhyay, S.N., Mass and Momentum Transfer to Newtonian and Non-newtonian Fluids in Fixed and Fluidized Beds', Ind. Eng. Chem. Fundam., 20, 186-195 (1981).
13. Pandey, D.K., Upadhayay, S.N., and Kumar, S., 'Mass Transfer Between the Particles and the Fluid in Fluidized Beds of Large Particles', Int. J. Heat Mass Transfer, Vol. 24, No. 7, pp. 1221-1228 (1981).
14. Kumar, S., Kishore J., Lal, P., and Upadhyay, S.N., 'Non-Newtonian Flow Through Packed

Beds and Porous Media', J. Sci. Ind. Res., Vol. 40, pp. 218-245 (1981).

15. Ghosh, U.K., Kumar, S., and Upadhyay, S.N., 'Mass Transfer in Cross Flow of a Non-newtonian Fluid Around a Circular Cylinder', Proc. 7th All Union Heat and Mass Transfer Conference, BSSR Academy of Sciences, Minsk, USSR, May 21-23 (1984).

16. Ghosh, U.K., Dey, K.N., Gupta, S.N., Kumar, S., and Upadhyay, S.N., 'Mass Transfer from Flat Plates to Power Law Fluids in Laminar Flow', Chem. Eng. Comm., Vol. 43, No. 4-6, 335 (1986).

17. Ghosh, U.K., Gupta, S.N., Kumar S., and Upadhyay, S.N., 'Heat and Mass Transfer in Cross Flow of Non-Newtonian Fluid Around a Circular Cylinder', Proceedings of the Conference on Thermal Systems, pp. 277-289 (1986).

18. Ghosh, U.K., Gupta, S.N., Kumar, S., and Upadhyay, S.N., 'Mass Transfer in Cross Flow of Non-newtonian Fluid Around a Circular Cylinder', Int. J. Heat Mass Transfer, 29, 955 (1986).

19. Kumar, S., Schwarzbach, J., and Martin, H., 'Warmeübertragung Zwischen Dem Gasverteiler Boden Und Den Partikeln Einer Wirbelschicht', Proc. 21st International Seminar for research and teaching in Chemical Engineering, Technical and Physical Chemistry; Karlsruhe Univ., Germany, pp 154-163 (1986).

20. Kumar, S., Ghosh, U.K., and Upadhyay, S.N., 'Mass Transfer from Immersed Bodies to Non-newtonian Fluids', ' Proceedings of the International Congress on Rheology, Sydney, Australia, Vol. 2, p. 46 (1988).

21. Ghosh, U.K., Kumar, S., and Upadhyaya, S.N., 'Diffusion Coefficient in Aqueous Polymeric Solutions', J. Chem. Eng. Data, 36, 413-417 (1991).

22. Ghosh, U.K., Kumar, S., and Upadhyaya, S.N., 'Mass Transfer from Spherical and Non-spherical Particles to Non-Newtonian Fluids', Polym. Plast. Technol. Eng., 31(3&4), pp. 271-290 (1992).

23. Ahuja, P., Singh, P.C., and Kumar, S., 'Modelling of the Thermal Decomposition of Wood Particles - Studies on Kinetic, Thermal and Heat Transfer Effects, Proceedings of Conference on Thermal Systems, pp I.3.1 - I.3.10, Department of Mechanical Engineering, I.T., BHU, Varanasi, January 28-29, 1995.

24. Ahuja, P., Kumar, S., and Singh, P.C., 'A Model for Primary and Heterogenous Secondary Reactions of Wood Pyrolysis', Chem. Eng. Technol. 19, pp. 272-282 (1996).

25. Ahuja, P., Singh, P.C., and Kumar, S., 'Model for Reaction Kinetics in Pyrolysis of Wood', Presented in the Session on Potential Impact of Renewable Biomass Energy, paper No. 43rd, at the Fifth World Congress of Chemical Engineering, San Diego, California, July 14-18, 1996.

26. Ahuja, P., Singh, P.C., Upadhyay, S.N., and Kumar, S., 'Kinetics of Biomass and Sewage

Sludge Pyrolysis: Thermogravimetric and Sealed Reactor Studies', Indian Journal of Chemical Technology, Vol 3, pp. 306-312, (1996).

27. Rai, A.K., Upadhyay, S.N., Kumar, S., and Upadhyay, Y.D., 'Heavy Metal Pollution and its Control Through a Cheaper Method: A review' Journal IAEM, Vol. 25, 22-51 (1998).

28. Rai, A.K. and Kumar, S., 'Treatment of Chromium bearing waste water by adsorption on brick kiln ash and fly ash' Indian Journal of Environmental Health Vol 41, No 1, pp. 65-73 (1999).

29. Kumar, Dhananjay, Ahuja, P., and Kumar, Surendra, "Catalytic Gasification of Biomass-Coal Blends in a circulating Fluidized Bed Reactor: A Review", Proceeding of RAWM-2001, pp. 91-97 (2001).

Conference/ Seminars/ Symposia Attended:

1. All India Seminar on 'Air pollution control-emission of sulphur dioxide in Chemical Industries, Metallurgical operations and power plants in India', Dept. of Chemical Eng. And Technology, I.T., B.H.U., Varanasi, 16-18th September, 1976.

2. 30th I.I.Ch.E. conference, Dept. of Chemical Eng. and Technology, Panjab University, Chandigarh, 27-30th December, 1977.

3. Symposium on Engineering Education held at Institute of Technology, B.H.U., Varanasi 7-13th October, 1980.

4. 68th Session of Indian Science Congress held at B.H.U., Varanasi, January 3-7, 1981.

5. Symposium on University-Industry Interaction held at Department of Mechanical Engineering, I.T., B.H.U., Varanasi, March 19-20, 1983.

6. 12th Congress of World Energy Conference held at New Delhi, Sept. 18-25, 1983

7. VII International Biotechnology Symposium, New Delhi, India, Feb. 19-25, 1984.

8. Symposium on Corrosion and its Prevention, October 12-13, B.H.U., 1984.

9. First Convention and Symposium, 84'Bio-Energy from waste and waste Land' organized by the Bio-Energy Society of India, at Taj Palace, New Delhi, October 14-16, 1984.

10. International Symposium on Economic Evaluation and Project management of process plants, Panjab University, Chandigarh, India, January 21-24, 1985.

11. 20th International Seminar fur Forchung und Lehre in Chemieingenieurwesen, Techhnischer und Physikalischer chemie an der Universitat Karlsruhe (FRG) July 1985.
12. 21st International Seminar fur Forchung und Lehre in Chemieingenieurwesen, Techhnischer und Physikalischer chemie an der Universitat Karlsruhe (FRG) July 1986.
13. Seminar on 'Transfer Processes in Multiphase System', Dept. of Chemical Engineering and Technology, B.H.U., Varanasi, January 30-31, 1987.
14. Seminar on 'Fertilizer Industry Process-Problems and Perspectives', Dept. of Chemical Engineering and Tech., B.H.U., Varanasi, January 21-23, 1988.
15. National Seminar on 'Advances in Ceramics', Department of Ceramic Engineering, B.H.U, Varanasi, October 23-24, 1988.
16. Seminar on 'Recent Advances in Biochemical Engineering', Dept. of Chem. Eng. and School of Biochemical Engineering, B.H.U., Varanasi, February 16-18, 1989.
17. Seminar on 'Research and Development in Indian Chemical Industries', Department of Chemical Engineering, B.H.U., Varanasi, February 17, 1989.
18. '42nd IChE Annual Session and Indian Chemical Engineering Congress 1989', Trivandrum, December 15-18, 1989.
19. '43rd IChE Annual Session and Indian Chemical Engineering Congress 1990', Varanasi, December 18-21, 1990.
20. Indo-Canadian Seminar on 'Recent Advances in Hydrocarbon Recovery and Processing', Department of Chemical Engineering, B.H.U., Varanasi, December 19, 1990.
21. Seminar on 'Pollution Control in River Cities of India-A Case Study of Ganga at Varanasi', Tulsi Ghat, Varanasi, January 14-16, 1992.
22. Workshop on 'Emerging Trends in Chemical Engineering Research', Varanasi, March 28, 1992.
23. Workshop on 'Safety and Hazards in Process Industries', Department of Chemical Engineering, Banaras Hindu University, Varanasi, November 14, 1992.
24. Seminar on 'Simulation and Optimization of Process Plants' IIT, New Delhi, February 26-27, 1993.
25. MHRD workshop on 'Thrust Area Project' Department of Electronics, IT, BHU, Varanasi, February 21, 1993.
26. National Seminar on Engineering Education in 21st Centaury, IT, BHU, Varanasi, January

13-15, 1995.

27. Conference on Thermal Systems, Department of Mechanical Engineering, IT, BHU, Varanasi, Jan. 28-30, 1995.

28. Seminar on Indian Fertilizer Scenario, Department of Chemical Engineering, IT, BHU, Varanasi, March 7-8, 1996.

29. Symposium on Advances in Chemical Reaction Engineering, Department of Chemical Engineering, IT, BHU, Varanasi, March 5-7, 1997.

30. Symposium on Recent Trends in Membrane Transport, School of Biomedical Engineering, IT, BHU, Varanasi, March 19-20, 1998.

31. National Symposium on Chemical Engineering Education and Research: Strategy for the Future, Department of Chemical Engineering, IT, BHU, Varanasi, March 1998.

32. National Seminar on Ceramic Engineering Challenges of 21st Century, Department of Ceramic Engineering, IT, BHU, Varanasi, February 18-19, 1999.

33. National Seminar on Industrial Pollution and Control, Department of Chemical Engineering, IT, BHU, Varanasi, February 18-19, 2000.

33. National Symposium on Photochemical Process on Solid Surfaces, Department of Chemical Engineering, IT, BHU, Varanasi, March 8-10, 2000.

34. IAEM National Conference on Recent Advances in Waste Management, Department of Chemical Engineering, IT, BHU, Varanasi, February 23-25, 2001.

35. National Symposium on New Horizons in Hetrogeneous Catalysis, Department of Chemical Engineering, IT, BHU, Varanasi, February 21-23, 2002.

36. National Conference on "Separation in Process Industries", Department of Chemical Engineering, IT, BHU, Varanasi, February 14-16, 2003.

Membership of Societies:

Life Member, Academy of Forest & Environmental Sciences
Life Member, Indian Institute of Chemical Engineers

Honours/ Awards:

DAAD Fellowship, May 1985 - July 1986

Expert Member, Research Degree Committee, Applied Chemistry, Faculty of Engineering, Guru Ghasidas University, Bilaspur (MP) for two years 1988 - 1990

Expert Committee Member for establishing the Department of Computer Science/Computer centre in Guru Ghasidas University, Bilashpur (MP), 1989

Member, Academic Council, Forest Research Institute, Dehra dun (Deemed University), 1992 - 1995

Expert Committee Member "Scientist Review Board" Indian Council of Forestry, Research & Education Dehra Dun

Member of selection Committee at various places

Member of Expert Group for Vocational Teachers Education and Curriculum Development on Science and Technology, UGC New Delhi, 1993

Fellow, Academy of Forests and Environmental Sciences, India

Chairman of Plenary and Technical Sessions in Seminar/ Symposium

Refree to reputed Technical Journals

Member, Board of Management, FRI, Dehradun (Deemed University), 1995-1998

Member Academic Council, Banaras Hindu University, Varanasi

Member, Executive Committee, Utthan-Centre for Sustainable Development and Poverty Allevation, Allahabad

UGC Nominee of the Advisory Committee, UGC-DSA-Phase III programme, Department of Chemical Engineering, Anna University, Chennai, 2000-2005.

Member, Steering Committee on the Empowerment of Scheduled Tribes, 10th Five year plan (2002-2007), Govt. of India, New Delhi.

Member, Working group on International Science and Technology Co-operations 10th Five Year Plan (2002-2007), Department of Science and Technology, Ministry of Science and Technology, Govt. of India, New Delhi.

Member, Syllabi Committee and RDC, U.P. Technical University, Lucknow.

Member, Academic Council, B.L.S. University, Raipur, Chhattishgarh

Member, Research Board of Advisors, The American Bibliographical Institute.

Chairman, Academic Coordination Committee, Institute of Technology, BHU

Administrative Posts Held:

Head of the Department, Department of Chemical Engineering & Technology, Banaras Hindu University since November 29, 2003

Co-ordinator, Central Evaluation - 1996, Banaras Hindu University

Chairman, Central Evaluation - 1997-99, Banaras Hindu University

Administrative Warden, Rajputana Hostel, B.H.U., 1989 - 1991.

Co-ordinator, Institute of Technology Hostels, BHU, 2000 - 2001

Any Other Achievement:

Formulated the guidelines for revision of the M.Tech./M.Pharma courses, their structure, contact hours, credits etc., Institute of Technology, BHU 2001-2002.

Seminar/Symposia Organised:

Indian Chemical Engineering Congress 1990 & 43rd Annual Session of Indian Institute of Chemical Engineers at B.H.U., Varanasi, Dec. 18 - 21, 1990
Indo - Canadian Seminar on " Recent Advances in Hydrocarbon Recovery and Processing``, at B.H.U., Varanasi, 19th Dec., 1990

Co-curricular And Extra Curricular Activities:

Edited "Alumni Directory 1989 " published by the Society of Chemical Engineers, Department of Chemical Engineering, B.H.U.
Treasurer in several Seminars held at Banaras Hindu University
Organising Secretary Indian Chemical Engineering Congress 1990 & 43rd Annual Session of IChE held at B.H.U., 18-21 Dec, 1990
Member, National Organising Committee 43rd and 44th Annual Session and Indian Chemical Engg. Congress 1990 & 1991
Member, Executive Committee in several Seminars held at BHU
Convener, 19th Convocation of Institute of Technology, May 11, 1997
Convener, 25th Convocation of Institute of Technology, March 26, 2003