

BIODATA OF Prof. Dr.V.S.SAPKAL

Name : Dr.V.S.Sapkal

Educational Qualification : M.Tech., Ph.D. in Chemical Engineering
from I.I.T. Pawai, Bombay, India.

Present Position : Professor and Head since 1995 at
Department of Chemical Technology,
Faculty of Engineering & Technology,
Sant Gadge Baba Amravati University,
Amravti-444602, Maharashtra, India.
Tel:0721-2662358
Senior most Professors in the University

Countries Visited : Germany, Australia, Singapore, France,
Canada, Holland.

Permanent Address : Plot No.33, Verma Lay-out, Ambazari,
Nagpur,India, Pin - 440010, Tel:0712-2238932
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Total publications/presentations : 92

Publications : Publications in Journals
International - 06
National - 20

Paper Presentation : In Conferences
International - 28
National - 37

AWARDS

- 1) Received “ Utkrishta Seva Grurav” Award (Best Service award) among all University teacher of Amravati University, on 1st May, 2000 by Hon’ble Vice-Chancellor of Amravati University, Amravati.
- 2) Received “Rashtriya Nirman Award” for out standing achievements in chosen field of activity by international business council, New Delhi, January 2001
- 3) Received” Life Time Achievement Award” by National and International Compendium, New Delhi in May 2001.

EXPERIENCE

International experience in industrial research, project management, technology transfer, process/product development in industries Chemical, Pharmaceutical, Food, Biotech,etc. Industries from working in Germany, Singapore, Australia, France, etc.as below follows.

CHAIRMAN

Board of Studies in Chemical & Polymer Technology, Sant Gadge Baba Amravati University, Amravati.

MEMBER OF PROFESSIONAL BODIES

- 1) Fellow of Institution Engineers (India), Calcutta.
- 2) Life Member of Indian Science Congress, Calcutta.
- 3) Life Member of Indian Institute of Chemical Engineers, Calcutta.
- 4) Life member of Indian Desalination Association (An Affiliate of International Desalination Association) Mumbai

INTERNATIONAL RESEARCH EXPERIENCE

Sr. No.	Country Visited	Duration	Purpose
1.	Germany	April 1988	For advanced training on membrane base products & processes Also visited an Industrial technical Exhibition at Hannover.
2.	Singapore	Nov. 1988	For Conducting trial-run on ultrafiltration system for concentration of virus. Also installed a crossflow system at the Dept. of Chemical Engg. Imparted technical training to sales personals.
3.	Australia	July 1989	To participate in International conference on downstream processing. Presented a paper. Visited Commonwealth Serum Laboratory, Melbourne.
4.	Germany	Jan. 1990	Presentation of paper on use of membrane technology in vaccine manufacture at annual technical meeting of Sartorius, AG.Goettingen.
5.	Germany	Feb.1991	Presentation of paper on successful applications of membrane technology in Pharma & Biotech. industries in annual technical meeting of Sartorius, AG. Goettingen.
6.	Germany	Jan. 1992	Research work on purification of picillinacylase using membrane ion exchanger
7.	Germany	Jun. 1994	Visit toACHEMA CONFERENCE & Exhibition
8.	France	June 1996	Training on Fermentation Technology at Toulouse.
9.	Germany	June 1997	Paper presentation at International exhibition congress on chemical Engineering, Environmental protection and Biotechnology,ACHEMA 97, Frankfurt, Germany.
10.	Germany	May 2000	Paper presentation at International exhibition congress on chemical Engineering, Environmental protection and Biotechnology,ACHEMA 2000, Frankfurt, Germany.
11.	Canada	June, 2000	International collaborative research project with industrial membrane research institute, department of chemical engg. University of Ottawa, Canada.

RECOGNISED RESEARCH GUIDE

- 1) In Sant Gadge Baba Amravati University, Amravati
- 2) In Dr. Babasaheb Ambedkar Maratwada University, Aurangabad,
- 3) In Yashwantarao Chauhan Open University, Nashik

Ph.D awarded in Engg. & Technology faculty under the Guidance of Dr. V.S.Sapkal
: 05

Ph.D under progress : 10

M.Tech Projects guided : 25 students

B.Tech Projects guided : 55 students

ACADEMIC, RESEARCH AND ADMINISTRATIVE EXPERIENCE & CONTRIBUTIONS

Contributed as Member of :

- 1) Sant Gadge Baba Amravati University Senate.
- 2) Academic Council of Sant Gadge Baba Amravati University
- 3) Faculty of Engineering and Technology, Sant Gadge Baba Amravati University, Amravati.
- 4) Ordinance Committee
- 5) University Library Committee under the chairmanship of Vice-Chancellor.
- 6) University Purchase Committee under the chairmanship of Vice-Chancellor.
- 7) Chairman of Adhoc Board of Studies for Petrochemical Science and Environmental Science.
- 8) Research recognition Committee
- 9) Academic Service Unit under the Chairmanship of Vice-Chancellor, Sant Gadge Baba Amravati University for Computer Center and Central Instrumentation Cell.
- 10) Board of University Teaching and Research in Engineering & Technology, Amravati University under the chairmanship of Vice-Chancellor.
- 11) Examination Equivalence committee.
- 12) Board of Studies in Chemical & Polymer Technology

ACADEMIC, ADMINISTRATIVE EXPERIENCE

RESPONSIBLE POSITIONS HELD :

- 1) A member of Budget Committee to prepared University Budget for year 1999-2000.
- 2) A University Subject Expert and Vice-Chancellor's Nominee for Principal & teaching staff selection for various engineering colleges in Amravati University, North Maharashtra University, Jalgoan, Nagpur University, Nagpur.
- 3) A member of selection committee for appointment of teaching staff for the University Department.
- 4) A Vice-Chancellor's nominee on Management committee of college of Engineering & Technology, Akola and Shegaon.
- 5) A member & chairman of Local Enquiry Committee for granting of affiliation to the colleges.
- 6) A member of committee for making syllabus of chemical engineering courses of Amravati University.
- 7) A member of Committee for verification of paper quality for answer sheets purchased by the University.
- 8) A member of steering committee for Assessment and Accreditation of Amravati University (NAAC).
- 9) A chairman of committee appointed by the Vice-Chancellor for delinking of technology generation from teaching.
- 10) A chairman of National Science Day Celebration programme held at Amravati University in 1998 sponsored by Govt. of Maharashtra.
- 11) A member of University planning committee for 10th five year plan.
- 12) A member of committee for preparing norms for consultancy and extension service, research projects funding and for establishing linkages with institutions in India and Abroad.
- 13) An examiner for M.E. & Ph.D Thesis of Nagpur University in Engineering and Technology faculty.
- 14) Chairman, MCA Admission Committee

- 15) Chairman, IQAC sub committee
- 16) Chairman, M.Tech Admission committee
- 17) Chairman of Committee for preparation of XIth plan proposal of University for UGC New Delhi.
- 18) Member Advisory Committee of Dr.Baba Saheb Ambedkar study center SGB Amravati University.
- 19) Expert to BOS of Home Science on Credit Course.
- 20) External M.Tech Guide for Shivaji University, Kolhapur.
- 21) Expert for M.E. course run at Anuradha Engg. College Chikalli and Pravara Rural Engg. College, Loni.
- 22) PhD.Examiner for RSTM Nagpur University, Dr.BAM University, Aurangabad, S.P. University, Vallabh Vidya Nagar, Anand.
- 23) Member of Research Recognition Committee for NM University Jalgaon.
- 24) Judge for Avishkar 2008 for Intercollegiate Research Competition NM University, Jalgaon in Dec. 2008.

Total Industrial, Research, Academic and Administrative Experience 27 years.

SPECIAL ASSIGNMENTS HANDLED

- 1) Worked as a member of committee constituted under the chairmanship of a Divisional Commissioner, Amravati for disposal of solid waste by Maharashtra Pollution Control Board, Govt. of Maharashtra.
- 2) Worked as expert on District Crises Group for Industrial Safety and Health, Govt. of Maharashtra under the chairmanship of the district Collector, Amravati.
- 3) Worked as observer for Set Eligibility Test (SET) Examination by Vice-Chancellor for Pune University in 1999-2000.
- 4) Worked as a member of committee for inspection and scrutiny of proposal for starting new engineering and technological courses constituted by Jt. Director Technical Education, Govt. of Maharashtra.

- 5) Worked as expert for All India Council For Technical Education (AICTE) for award of approval to engineering and technological Institutions.
- 6) Worked as a expert for conducting Group Discussion and Personal Interview for admission to first year MBA for Directorate of Technical Education.
- 7) Worked as AICTE nominee on Governing body of Maharashtra institute of Technology, Pune Eklavya polytechnic, Pune, Savitribai Phule women's Polytechnic Pune.
- 8) Worked as GROUP LEADER for study group for preparing report for ADVANTAGE AMRAVATI to attract industries appointed by Collector, Amravati in 2005.
- 9) Worked as EXPERT on the district level committee for utilization of non-Amravati as per guidelines of MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES, GOVT. OF INDIA, NEW DELHI.
- 10) Worked as Expert member of committee for NBA (National Board of Accreditation of AICTE New Delhi) visits to i)Gandhi Institute of Engg. & Technology, Gunupur, Rayagada, Orissa 15-17 Oct. 2004 ii)DDIT, Nadial, Gujrat in Feb. 2005 iii) Arunai Engineering collage, Tiruvannamalai, T. N. on 27-29 Jan. 2006 iv)Tamil Nadu Polytechnic Collage, Madurai, T.N. on 28-30 Dec. 2007 v)Ujjan Engg. Collage, Ujjain , M.P. on 14-16 March 2008
- 11) Worked as expert for development of chemical technology department of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- 12) Chairman Academic and Administrative Audit Committee for SGB Amravati University in 2008
- 13) Chairman of Committee for preparation of Credit Based Courses of SGB Amravati University in 2008

ORGANISER OF

- 1) Organised one day seminar on Role of University in Industrial Development of the Region at Amravati in 1996 in which experts from MIDC, DIC, MCED, SBI, VIA, etc. have participated.
- 2) Participated in a meeting held for industrial development of Vidarbha with Shri Ratan Tata at Nagpur in 1999.
- 3) Started consultancy and testing facilities at the department of Chemical Technology and paper samples were tested for HSC Board.
- 4) Organised Industry University Interaction with Vidarbha Industrial Association, Nagpur at Amravati University.
- 5) Organised Industrial and scientific exhibitions and popular lectures of experts from industries and academic institutions at university and department and organised visits to industries.
- 6) Organised a programme with Dr.S.Rame Gowda, Chairman, AICTE, New Delhi with chairman and Principals of engineering and technology colleges of Amravati University at Amravati for development of technical education in the region.
- 7) Worked as Convenor for two days National Seminar at Chemical Technology Deptt, Amravati University, Amravati in Feb. 2002
- 8) Organised Entrepreneurship Development programme under TRDEA & Small Industry Service Institute, Nagpur at Amravati University.
- 9) Organised Entrepreneurship Development programme with Maharashtra Centre for Entrepreneurship Development, Amravati & Maharashtra Small Scale Industry Development Corporation, Amravati in the Department
- 10) NSS activities in the department.

HONOURS AS INVITED GUEST/SPAEKER

- 1) In a seminar organised by Department of Science and Technology, Govt. of India, Confederation of Indian Industries, IIT, Delhi on technology transfer in Jan. 1999 in Mumbai.
- 2) Chaired a session at National conference on Laser & their applications, 2004, organised by Department of Physics, Amravati University, Amravati- Jan 28-30, 2004
- 3) Chaired a session at one day National Workshop on Bio-Diesel as biofuel organised at Sipna's College of Engineering & Technology, Amravti on 24 Jan. 2004.
- 4) Delivered an invited speech at the 87th Indian Science Congress held in Pune in Jan.2000 in engineering and science section on sustainable development using eco friendly membrane technology.
- 5) At one day workshop on environmental pollution and awareness, Govt. collage of Engg. Amravati on 7th Aug. 2004
- 6) At environment and pollution awareness one day workshop at Jawaharlal Darda Institute of Engg. and Technology Yavatmal on 23-7-2004
- 7) At one day seminar on Research and Development activities in Technical Institutions at Shri Santa Gaganan Maharaj Collage of Engin. Shegaon on 24-9-2004 as chief guest
- 8) At Anuradha Engg. collage chikli for AICTE - ISTE sponsor STPT programme on 29-3-2004 as chief guest
- 9) At Vidya Bharti Collage, Amravati as chief guest for inauguration of chemical Society in Oct. 2004
- 10) At Shri Shivaji Science college Amravati as chief guest for inauguration of chemical Society in Sept. 2004
- 11) At the Institution of Engineers (India), Amravati on 20-3-2004.
- 12) At the Institution of Engineers (India), Nagpur on 28-6-2003
- 13) Contributed in the meeting of executive council of Science and Technology cell of Govt. of Maharashtra at Mumbai in 1999.

- 14) Contributed in a seminar on used of Coal as feed stock for fertilizer industry organised by Ministry of Chemical and Fertilizer at Nagpur in July, 2000 as a special invitee.
- 15) Contributed in a workshop in quality as assurance and accreditation organised by Association of Indian University (AIU), New Delhi in Feb. 2000 on the occasion of International Conference on Higher Education.
- 16) Participated in the meeting held with MR. VIJAY BHATKAR for use of Information Technology for development for Vidarbha.
- 17) As resource person & delivered key note address for technical Session for National Conference on Recent Advances In Chemical Engineering at JDIT Yavatmal on 8th April 2005.
- 18) Participated in National Conference on Membrane Technology at UICT, Mumbai on 9-10 April 2005.
- 19) As resources person at Faculty Development Programme by Maharashtra Centre for Entrepreneurship Development, Amravati on 21-12-2004, on Technology Assistance from R and D labs. and other institutions.
- 20) As resource person on Research Component in Teaching Learning process at induction training programme for Engineering teachers sponsored by AICTE at Govt. Engg. Collage Amravati on 21-1-2005.
- 21) Co-chaired Technical Session in 9th State ISTE convention and National Seminar on Revamping Technical Education to make it synergistic with information Technology, at Govt. Engg. Collage Amravati on 4-5 feb. 2005.
- 22) Delivered expert lecture on Industrial Waste Treatment, Approches with emphasis on process industries on 2-3-2005, at Govt. Polytechnic Amravati. at State level one week training programme on Environmental pollution and awareness.
- 23) Co-chaired a technical session & participated in panel discussion at National conference on water quality standard organiserd at NEERI Nagpur, in May 2005.

- 24) Invited speaker at National Seminar on Advance Separation Process for chemical industry organised by Indian Institute of Chemical Engineers, Nagpur Regional Center at NEERI Nagpur on 15 Dec. 2007
- 25) Chair a technical session and deliver plenary lecture at All India Seminar on Zero Effluent Discharge - Latest Developments in Recycling organised by The Institution of Engineers (India) West Bengal Test Centre at Kolkota on 22-23 Dec. 2007.
- 26) Chaired a technical session at Indio Italian International conference on green and clean Environment organised at MIT Pune on 20-21 March 2008.
- 27) Delivered a key note lecture at Indio Italian International conference on green and clean Environment organised at MIT Pune on 20-21 March 2008.
- 28) Chief Guest at National level paper presentation competition organised by collage of Engg. & Technology , at Akola on 7 March 2008
- 29) Chief Guest at National level technical paper & poster presentation competition organised by Nauradha Engg. collage, Chikali dist. Buldhana on 8 March 2008.
- 30) Expert for review of papers for selection for presentation in National conference on Emerging Trends in Engg. & Technology, organised by BN college of Engg. Pusad Dist. Yavatmal on 17-18 Dec. 2007.
- 31) Member on Board of Examination of Govt. College of Engg. (Autonomus) Amravati By University
- 32) AICTE representative on local inquiry committee for granting autonomous status to Govt. College of Engg. Amravati in Feb. 2008.
- 33) Invited as Chairman of Technical Session on Chemicals From Bio mass at Indian Chemical Engg, Congress, CHEMCOM 2007 held at Kolkotta on 27-30 Dec. 2007
- 34) Invited as Guest of Honour at 3 days workshop on Entrepreneurship awareness camp for students and Entrepreneurship Development Cell, organised by ISTE & MITCON (Sponsored by DST , New Delhi) on 10-8-2008 at RMITR, Amravati.

UNIQUE ACHIEVEMENTS

1. Established international research collaboration between University of Ottawa, Canada and Amravati University, Amravati for the first time and conducted a four weeks research project at chemical engineering, department and Industrial Membrane Research Institute at University of Ottawa, Canada in June, 2000 with Prof. Takeshi Matsuura.
2. Obtained “A” Grade to the newly started Department of Chemical Technology from Directorate of Technical Education, Govt. of Maharashtra through meticulous planning for development and its efficient execution in just span of five year from its beginning. It is the largest department of the University.
3. Obtained approval to the chemical technology courses from AICTE, New Delhi for conduct of degree courses in Oil & Paint Tech., Food Tech., Petrochemical Tech., Pulp & Paper Tech. in 1996 in Amravati University.
4. Obtained sanction from Maharashtra Govt. for additional Teaching and Non-Teaching staff for the department. .
5. About 22 industrial research projects were completed for development and transfer of technology in the field of pharmaceutical, biotechnology, chemical and food process industries for productivity improvement, pollution control, process optimisation, etc..
6. Established activities like Alumni meet, Teachers-Parent meet, Student counselling centre, Training & Placement, Industrial visit, Internet facilities, GET coaching, Remedial coaching, etc. in the department.
7. Established activities like celebration of Engineer’s. Day, National Science Day, Teacher Day for the department.
8. Established activities for students to participate in technical paper presentation competition, Youth festival , sport competition, Avishkar, AIU competition etc.
9. Organised workshop on handmade paper conversion , entrepreneurship development & interview technique for the student regularly.

10. Established collaboration with UICT Mumbai, LIT Nagpur , NCL Pune, NEERI Nagpur, BITS Pillani, BRC Mumbi, SISI Nagpur.
11. Help in syllabus up gradation by adding mini project, communication skill, recent development, research and extension activity, co-curricular & Extra curricular activities.
12. Oragnsied campus interview for the student of department regularly.

NOMINATIONS

1. I was nominated by Amravati University, for National Award for Science Popularization by Deptt. of Science and Technology, Govt. of India, New Delhi in 1998-99.
2. I was nominated by Vice-Chancellor of Amravati University, for Commonwealth Fellowship of Association of Commonwealth Universities, London, UK in 1997.
3. Nominated for Award by Indian Society for Technical Education, New Delhi in 2002.
4. Nominated for DSK energy award by Institution of Engineers (India), Pune by Amravati University in 2004

DISTINCT ACHIEVEMENTS

- 1) Obtained sanction for M.Tech. course under Innovative programme of UGC during 10th plan period in 2004 Under teaching and research in interdisciplinary and emerging area with financial assistance of Rs.29.0 lacks
- 2) Nominated as expert member on National Board of Accreditation. committee by AICTE, New Delhi & visited 5 Engineering Collages in the country for Accreditation.
- 3) Obtained grant of Rs. 44.6 lakhs under FIST scheme of DST, New Delhi in 2008.
- 4) Selected as Director, Academic Staff College of UGC at Nagpur University in 2004.
- 5) Obtained grant for Rs.12 lakhs under MODROB scheme of AICTE, New Delhi in 2007.
- 6) Helped to institute three Gold Medals costing Rs.3.5 lakhs by industry to students topping in branches of Oil & Paint, Food, Pulp & Paper technology of the Chemical Technology Department of Sant Gadge Baba Amravati University.
- 7) Obtained maximum Grants from UGC for Xth plan period for equipment, infrastructure and books & journals for Rs.17.5 lakhs for the department.
- 8) Grants received for infrastructure development from Govt. agency for Rs.67.0lakhs
- 9) Obtained the approval to the research project for establishment of Energy Park at Amravati University, Amravati from Ministry of Non Conventional Energy Source, New Delhi with a grand of Rs.4,11,400/- in 1999.
- 10) Awarded Major Research Project of Rs. 9.04 lakhs by UGC, New Delhi in 2008.
- 11) Selected as Professor in Chemical Engineering at VNIT, Nagpur.
- 12) Received grants from University of Ottawa, Canada for Canadian \$3,500 for collaborative research at Industrial Membrane Research Institute, Canada.

RESUME OF RESEARCH WORK/EXPERIENCE

01. During association with Ion Exchange (India) Ltd., as Chemical Engineer in their Research and Development Centre at Bombay for a year the responsibilities given were :
 - i) Designing and setting up a laboratory division for conducting research on membrane techniques. This include development of facilities for casting, testing and characterization of polymeric membranes such as test cells, protester, membrane integrity testing systems, etc.
 - ii) Development of new process applications of membrane technology. This involved carrying out laboratory and in-plant trial runs using different types of systems such as spiral-wound, Hollow fiber, plate-frame etc. to optimize the process parameters. Some successful applications developed are :
 - a) Classification of sugar juice using ultra filtration for improvement in project quality, productivity & thermal efficiency of the process.
 - b) Concentration of colloidal silica by ultrafiltration for manufacture of silica gel.
 - c) Removal of colloids from boiler feed water by ultrafiltration to improve turbine efficiency.
 - iii) Preparation of technical documentation on different unit operation & processes for manufacture of water treatment chemical & resins. It included preparation of energy & mass balance P & I diagram, identification of areas for improvement, suggestion of modernization plan etc.
2. During association with Sartorius, AG, Germany a pioneer membrane manufacturing company, as product manager in India for three years, Commercialisation of membrane technology was done in pharmaceutical, Biotechnology and paper industries. With the help of extensive field-trial runs the new following processes are developed.
 - i) Sterile filtration of nutrient media using integrity testable membrane system in upstream fermentation processing.
 - ii) Implementation of GMP quality assurance using membrane technology in Pharmaceutical Industry for large and small volume injectables.
 - iii) Separation & Purification of enzyme, Vitamin, toxoids, etc.

using micro and ultrafiltration techniques in downstream processing of fermentation.iv) Concentration and Purification of cells, bacteria, Proteins, virus,pyrogens, etc. using micro and ultrafiltration techniques in biotechnological processes.v) Treatment of post-anaerobic digested black liquor from baggase base paper mill using ultrafiltration modules for colour removal, bio- burden reduction along with recycling. Commercial membrane based plants have been designed optimally & in stalled successfully. It was achieved through careful planning of trial-runs, optimisation of process parameters, selection of optimal system design and comparison with the conventional methods for economical, technical benefits i.e. evaluation of techno-economic feasibility of the application.

3. During association with sterile filtration fermentation and separation Technologies Pvt. Ltd., an associate company of Sartorius , AG in India, as Technical Director the responsibilities that being handled are :
 - i) Preparation of technical data base on product information for filters, cartridge system, ultra & microfiltration system, laboratory products and germinators and related application processes such as manufacture of LVP, vaccines, antibiotics. ii) Development of Research and Development facilities and library for product and process development, trouble shooting, demonstration of process, training purpose. iii) Organising training programmes, seminars, workshops and exhibitions for effective product management and successful marketing of products. iv) Identification of areas for diversification.
4. During association with Sartorius Bio-tech India Pvt. Ltd. as Technical Director responsibilities handled were Project, Research & Development, Technical Services, Production and Product management.

CAREER PROFILE :

Name of Employer	Position held	Nature of duties	Duration
Ion Exchange (India) Ltd. Bombay.	Chemical Engineer R and D	Establishment of R & D Division for research membrane technology	One year 1987-88
Sartorius, AG, Germany, Bombay office.	Product Manager	Product Management Implementation of membrane technology in pharma, Biotech & paper industries. Organising field trial runs, seminars, for technology transfer	Three years 1988-91
SF & ST Pvt. Ltd., (Associate company)	Technical director	Product Management for membrane based systems, fermentors & laboratory systems.	1991-93
Sartorius, AG) Bombay		Establishment of R & D, data base for industrial research, process development Identification of areas for diversification in Bio-technology, process industries	1993-95
Sartorius Biotech India P. Bangalore	Technical Director	In-Charge of International , projects Research and Development production, Technical Services and product management	
Sant Gadge Baba Amravati University Deptt of Chemical Tech.	Professor & Head	Planning and development of department with respect to Laboratories, research activities, library, equipments, etc. resource mobilization, consultancy services, extension activities, etc.	1995 till date

EDUCATIONAL QUALIFICATION

Sr.No.	Exam. Passed	University/ Institute Board	Year of Passing	Subjects Taken	% of marks	Division
1.	S.S.C.	Pune	1976	Sci, Maths. Soc.Sci.	73.27	First
2.	XIth	Pune	1977	Phy. Chem. Math. Bio.	64.16	First
3.	H.S.C.	Nagpur	1978	Phy.Chem. Math.Bio.	74.50	First
4.	B.Tech	Nagpur	1982	Chemical Engineering	67.73	First
5.	M.Tech	I.I.T.Bombay	1984	Chemical Engineering	CPI-6.94	First
6.	Ph.D.	I.I.T.Bombay	1988	Chemical Engineering	CPI-9.0	First

Date of Birth : 18-12-1960

PROFESSIONAL TRAINING

Organisation	Period		Details of training
	From	To	
1.Ellora Paper Mills, Tumsar.	April,1981	May 1981	Unit process & Operations for paper manufacturing.
2. Carbonic India,	Dec. 1981	Jan. 1982	Design of absorption tower for manufacturing of dry Ice.

**INDUSTRIAL RESEARCH PROJECTS COMPLETED IN THE FIELD OF
BIOTECHNOLOGY, BEVERAGE, PHARMA, PAPER AND CHEMICAL
INDUSTRIES BY DR.V.S.SAPKAL**

01. Concentration of C-reaction protein and gamma-globulin using ultrafiltration technology - Bharat Serums Ltd., Bombay
02. Development of membrane based processes for separation and concentration of cells such as Streptococcus, Lactobacillus, E-coli, etc. Wyeth Laboratories/Cipla Ltd. Bombay
03. Membrane Technology in downstream processing of human vaccines such as diphtheria toxoid, tetanus toxoid, polio vaccines, etc., for clarification and concentration- King's Institute of Preventive Medicine - Madras - Bombay
04. Advance downstream processing incorporating membrane technology for concentration of BHK-21 cells and virus suspension in manufacturing of Animal Vaccines, FMD , Hoechst-Bombay
05. Use of membrane technology as a techno-economic alternative for concentration of fungal diastase enzyme to reduce running cost (chemicals, labour, energy) and to increase productivity
- Unisankyo Ltd.,-Hyderabad.
06. Separation and purification of Vitamin B-12 by micro and ultrafiltration technology to replace conventional methods such as adsorption columns, chemical treatment, etc. - Merind Ltd.,-Bombay.
07. Sterile filtration of serum, medium, etc., using membrane technology in manufacturing of biological products as an alternative to the conventional methods such as depth filters, etc., to implement absolute safety in the process along with improvement in product recovery.- Indian Immunologicals-Hyderabad.
08. Clarification and concentration of orange juice using ultra filtration process to increase productivity and reduce transport cost.- JBCRI - Wardha
09. Use of membrane technology for treatment of pulp and paper mill effluent for removal of BOD, COD and colour load, recycling water, recovery of chemicals and pollution control.- Pudumji Pulp and Paper Mills Ltd., Pune.

10. Use of crossflow membrane technology in mineral water plant for quality improvement - Aquaspa-Bombay.
11. Depyrogenation and filtration of pharmaceutical fluids including LVP, purified water, etc.using ultrafiltration technology.- Biological Evans - Hyderabad.
12. Development of membrane based processes in upstream and downstream processing of fermentation, manufacturing antibiotics for productivity improvement - Hindustan Antibiotics Ltd.,-Pune.
13. Development of membrane assisted processes for manufacture of Penicillin Acylase from E-coli, for manufacture of 6-APA from Penicillin. This also includes studies on immobilization of enzymes on membranes, use of ion exchange membranes etc., -Kopran Ltd., Bombay.
14. Implementation of membrane technology for skim-milk and whey concentration - JRCRI - Wardha.
15. Use of Ultrafiltration process for treatment of electrodeposition paints - Telco-Pune.
16. Membrane technology in production of boiler feed water for removal of colloidal silica - NTPC- Ramagundam.
17. Concentration of colloidal silica gel using ultrafiltration techniques- Ion Exchange Ltd., Bombay.
18. Clarification of sugar cane juice using ultrafiltration technique for improvement in quality, efficiency of evaporators, crystallizer, etc.- Rawalgaon Sugar Mills - Nasik.
19. Removal of low molecular weight organics and other compounds from effluents of chemical industry by UF/RO technology- Ciba-Atul-Vapi.

List of Publication in National & International Journals By Dr.V.S.Sapkal

Sr. No	Name of the Teacher & Designation	Title of Paper/Book	Name and Vol.of Journal & Year	Level	Page No.	
					From	To
1	Dr.V.S.Sapkal Dr.V.S.Jamode Prof.A.V.Jamode	“ISO1400 Environmental Legislation in India: Boon or Blackmail” x	Mahila Vidhi Bharati October - December 2003	National	22	27
2	Dr.V.S.Sapkla A.P.Ugvekar S.V.Agarkar	“Membrane Separation A Novel Technique for removal of Water contaminants .	Jr. of Industrial Pollution Control, 19(2) 2003	National	32	38
3	Dr.V.S.Sapkal Dr.V.S.Jamode A.V.Jamode Prof.A,P,Rathod	Biosensors: Boon of biotechnology in process control sector-part I”	Chemical World, vol 3 issue 5, Feb 2, 2004	National	30	33
4	Dr.V.S.Sapkal A.V.Jamode V.S.Jamode	“Study of Defluoridation in packed bed using Artificial Neural network”	Journal of Pradushan Nirmulan, Vol. 1. No.I, Jan. 2004.	National	49	52
5	Dr.V.S.Sapkal A.V.Jamode V.S.Jamode	“Biosorption and its applications for Heavy Metal Removal From Waste Water – A Critical Review”	Journal of Pradushan Nirmulan, Vol. 1. No.2, April. 2004.	National	16	25
6	Dr.V.S.Sapkal A.V.Jamode V.S.Jamode	“Uptake of Fluoride ions using leaf powder of Ficus Religiosa”	Jr. of Indian Water Works Association, Jan-March, 2004,	National	53	61
7	Dr.V.S.Sapkal A.V.Jamode V.S.Jamode S.K.Deshmukh	“Adsorption Kinetics of Defluoridation using Low-cost Adsorbents”	Adsorption Science & Technology Vol. 22 No.1. 2004 ,Multi Science Publishing Co. Ltd., U.K.	International	65	73
8	Dr.V.S.Sapkal A.V.Jamode V.S.Jamode S.K.Deshmukh	Environmental Education A Prerequisite for Engg. Education	The Journal of Engg. Education April 2004, Vol XVII No.4	National	52	55
9	Dr.V.S.Sapkal Dr.V.S.Jamode A.V.Jamode Prof.A,P,Rathod	Biosensor boom of biotechnology in process control sector part II	Chemical World Vol. 36, Feb. 2004	National	30	32
10	Dr.V.S.Sapkal Dr.V.S.Jamode A.V.Jamode	Defluoridation of water using inexpensive adsorbents	Jr. of Indian Institute of Science OCT. 2004, 84	International	163	171
11	Dr.V.S.Sapkal Dr.V.S.Jamode A.V.Jamode R.S.Sapkal	Managing defluoridation using fixed bed down flow column	Jr. of Pradushan Nirmulan Vol 1,3 July 2004,	National	38-	41
12	Dr.V.S.Sapkal Dr.V.S.Jamode A.V.Jamode	Biosorption and it's application for heavy metal removal from waste water A critical review	Jr. of Pradushan Nirmulan Vol 1,2, April 2004,	National	16	25

13	Dr.V.S.Sapkal A.V.Jamode A.P.Pardey S.M.Deshmukh	Desalination by Revers Osmosis Case Study of Brakih water	Jr. of Pradushan Nirmulan Vol 1,3, July 2004,	National	33	37
14	Dr.V.S.Sapkal A.M.Bende A.B.Bobde S.S.Patil G.N.Chowdhari	Structural & Gas sensing properties of nonocrystalline TiO ₂ :WO ₃ based hydrogen sensors	Sensor & Actuators Chemical Elevier Netherland, 2005	Inter National	1	6
15	Dr.V.S.Sapkal Mr.N.B.Raut	Residue Curve Mapping	Chemical Products Finder Vol. 25 No.2 July 2006	National	40	40
16	Dr.V.S.Sapkal Mr.N.B.Raut	Residue Curve Mapping	Chemical Engg. World Vol. 41 No.4 April 2006	National	60	60
17	Dr.V.S.Sapkal Mr.N.B.Raut	Reactive Distillation : A Review	Chemical Products Finder Vol. 24 No.8 January 2006	National	4	4
18	Dr.V.S.Sapkal R.S.Sapkal M.Talib S.D.Patil V.A.Kamble	Comparative Study on Physico Chemical and Antimicrobial Properties of Amla (<i>Emblica Officinalis Gaertn</i>)	Journal of Pradushan Nirmulan Vol.3, No1 Jan. 2006	National	9	12
19	Dr.V.S.Sapkal S.Basu	Modification of the conventional multi-stage bleaching sequence for the recycling of the effluent by UF/RO technology”,	Indian Pulp and Paper Technology Association (IPPTA), Convention Issue, 1984.	National	36	40
20	Dr.V.S.Sapkal S.Basu	Membrane Technique in Simplification of Soda recovery process in Pulp-industry”	Desalination, 67 (1987),.	Inter national	371	379
21	Dr.V.S.Sapkal C. Philips	Crossflow Membrane Technique in Food Processing Industries	CEW, Vol XXIV No.4 April,1989.	National	25	31
22	Dr.V.S.Sapkal C. Philips	Biotechnology and Applications of Crossflow filtration” chemical Industry	Digest December, 1988.	National	35	40
23	Dr.V.S.Sapkal C. Philips	Recent Innovation in filtration technology”	Chemical Product Finder, July, 1990.	National	38	42
24	Dr.V.S.Sapkal C. Philips	Advanced upstream and downstream processing of vitamin B-12 incorporating membrane technology”	Chemical Product Finder Biotech special Issue - Jan. 1992.	National	25	28
25	Dr.V.S.Sapkal : T.Mastuura C.V.Fena, K.C.Khulbe, G.Chwdhary	: “Stutural and performance study of microporous pdyetherimide hollow fiber membrane made by solvent spinning method	Jr. of Membrane science, Netherland, 189(2001), 193-2003	Interna-tional	193	203

**List of presentation / participation in Conference/Seminar/
Workshop By Dr.V.S.Sapkal**

Sr. No	Name Of The Teacher & Designation	Name Of Conference/Seminar/ Workshop	Level	Venue & Date
1	V.S.Sapkal	“Concentration Of Fruit Juices- A Novel Process”, Presented At Seminar On Eco Friendly Chemical Technology In New Millennium,	National	Chemical Tech. Deptt., Amravati University, Amravati. Feb. 2002
2	V.S.Sapkal R.S.Sapkal	“Development Of No Conventional Energy System From Renewable Energy Park Projects” Presented At Seminar On Recent Trends In Automotive Fuels, Quality Improvements And Alternatives.	National	, Institution Of Engineers (India) Nagpur, August 2002
3	V.S.Sapkal R.S.Sapkal J.D.Dhake	“Water Recovery And Recycling From Water Intensive Paper Industry” Presented At Seminar On Challenges In Environmental Protection And Possible Solutions	National	By Institution Of Engineers(India),Amravati Local Centre, Amravati. Jan. 11-12, 2003
4	V.S.Sapkal R.S.Sapkal	“University Education Network For Disaster Knowledge & Management” Presented At On Natural Disaster Mitigation,	International	The Institution Of Engineers (India) Under The Aegis Of World Federation Of Engg. Organizations. 19-22 Feb. 2004, New Delhi,
5	V.S.Sapkal R.S.Sapkal J.D.Dhake	“Recent Trends In Environmental Protection In Pulp & Paper Industries” Presented At National Conference Of Emerging Trends In Chemical Science In The New Millennium.	National	5-7, Feb.2004, P.G. Department Of Chemistry, Shri Shivaji Science College, Amravati.
6	V.S.Sapkal M.Talib U.S.Ugwekar S.D.Patil	“Studies On Physico Chemical Antimicrobial Properties Of AMLA (Emiica Officinalis) Juice” Presented At National Conference Of Emerging Trends In Chemical Science In The New Millennium	National	. 5-7 Feb.2004, P.G Department Of Chemistry, Shri Shivaji Science College, Amravati
7	V.S.Sapkal S.S.Patil G.N.Chowdhari	“Chemically Modified Tio ₂ Based Co-Eensor” Presented At National Conference Of Emerging Trends In Chemical Science In The New Millennium.	National	5-7 Feb.2004, P.G. Department Of Chemistry, Shri Shivaji Science College, Amravati .
8	V.S.Sapkal R.S.Sapkal	“Disaster Management In Chemical Industries” Presented As Plenary Lecturer At Seminar On Safety In Petroleum And Petrochemical Industries,	National	14th March 2004, The Institution Of Engineers (India)Nagpur.
9	V.S.Sapkal R.L.Padole G.N.Chowhari	“Influence Of Cr ₂ O ₃ loading On Al ₂ O ₃ Based LPG Presented At National Conference Of Emerging Trends In Chemical Science In The New Millennium	National	. 5-7 Feb.2004, P.G. Department Of Chemistry, Shri Shivaji Science College, Amravati
10	V.S.Sapkal	“Hazardous Waste Disposal Presented At National Workshop On Municipal Solid Waste Management Organised	National	Department Of Microbiology, Amravati University, Amravati On 25-26 July 2003

11	Dr.V.S.Sapkal R.S.Sapkal Manoj Borekar	Feasibility Of Waste Heat Recovery From Waste Sludge In Paper & Pulp Industry The Economical Use Of Energy Resources” Presented At On Energy Management In Changing Business Scenario	National	BITS, Pilani, Rajasthan 8-9 Oct. 2005
12	Dr.V.S.Sapkal R.S.Sapkal	Studies On Effect Of Casting Parameters On Structure And Performance Of Poluetherimide Hallow Fiber Presented At On Emerging Facets Of Chemical Engineering And Biotechnology	National	28-29, Sept. 2005 At L.I.T., Nagpur
13	Dr.V.S.Sapkal R.S.Sapkal	Impact Of Research On Engineering Education Standard Presented At On Revamping Techniques Education To Make It Synergistic With Information Revolution	National	Govt. College Of Engg. Amravati 4-5- Feb. 2005.
14	Dr.V.S.Sapkal R.S.Sapkal V.S.Jamode A.V.Jamode	Bio-Adsorbents Prepared From Leaf Powder Of Various Plat Presented At On Modern Trends In Plant Science With Special Reference To The Role Of Biodiversity In Conservation	International	Department Of Botany At Amravati University On 17-20, Feb. 2005.
15	Dr.V.S.Sapkal R.S.Sapkal	Advance Membrane For Effective Separation Presented At International Conference On Molecular To Material	International	Sant Longawal Institute Of Engineering & Technology , Longowal, Punjab, 3-4 March 2006
16	Dr.V.S.Sapkal R.S.Sapkal J.B.Bornare Dr. P.A.Wadegankar	Process Development For Production Of Extracellular Proteases Using Membrane Presented At National Seminar On Recent Trends In Chemical Technology	National	North Maharashtra University Jalgaon 6-7 Jan., 2006
17	Dr.V.S.Sapkal R.S.Sapkal L.B.Bhuyar A.V.Savle P.Bansod	Membrane Desalination – A Solution To Purna Valley Saline Track Of Vidharbha Region Presented At Trombay Symposium On Desalination & Water Reuse Organised By Indian Desalination Association And Board Of Research In Nuclear Sciences.	International	BARC, Mumbai Feb. 7-9, 2007
18	Dr.V.S.Sapkal R.S.Sapkal	Memfilt	National	U.I.C.T. Mumbai 9-10 April 2005
19	Dr.V.S.Sapkal	CHEMCON –2004	International	I I Ch.E, Mumbai, 27-30 Dec. 2004
20	Dr.V.S.Sapkal	One Day Seminar On Emerging Trends And Challenges In Botany & Zoology	State	Sevdal Mahila Mahavidyalay, Nagpur 23 Juan. 2005
21	Dr.V.S.Sapkal R.S.Sapkal	Impact Of Research On Engineering Education presented at Seminar on Revamping Technical Education to make it Synergistic with information technology	National	ISTE, GOE, Amravati 4-5 Feb. 2005
22	Dr.V.S.Sapkal	Recent Advance in Chemical Engg.	National	JDIE & T Yavatmal, 8 April 2005
23	Dr.V.S.Sapkal R.S.Sapkal	Workshop on Assessment Of Current & Futuristic Water Quality Standard In India	National	NEERI, Nagpur 12-18 May 2005
24	Dr.V.S.Sapkal Dr.N.J.Chikhale A.V.Dhopte	Seminar On Industry Institute Partnership Initiative	National	Maharashtra Chamber Of Commerce Industry & Agriculture, Pune, 20-21 Aug. 2005

25	Dr.V.S.Sapkal R.S.Sapkal	Energy Security – Need Of An Hour presented at One Day Seminar On Energy Conservation EN-CON 2006	State	PWD, Electrical Division, Institution Of Engineers, (India), Amravati 10 Feb. 2006
26	Dr.V.S.Sapkal	Workshop On Protection of Intellectual Property- Engg, Sciences and Research	State	Prof. Ram Meghe Institute Of Tech. Badnera, Amravati 25 March 2006
27	Dr.V.S.Sapkal	Inter Disciplinary Seminar On Relevance Of Dr.Babasaheb Ambedkar's Thoughts On Development In Contemporary India	National	Dr.Babasaheb Ambedkar Studies Centre, Sant Gade Baba Amravati University, Amravati 16-17 March 2007
28	Dr.V.S.Sapkal S.Basu	RO/UF in the treatment of industrial effluent",presented at Indian Chemical Engineering Congress,	International	38th Annual Session (organised with Society Chemical Engineering , Japan), Calcutta, December,1985.
29	Dr.V.S.Sapkal S.Basu	Optimization of process parameters during membrane casting for application in industrial process".	International	presented at the Indian Engineering Congress, 39th Annual Session, Hyderabad, December, 1986
30	Dr.V.S.Sapkal S.Basu	Application of Membrane in Biomedical Fields"	International	Presented at 9th Annual EMBBS Conference of IEEE/Engineering in Medicine and Biology Society", Boston, U.S.A. 13th-16th November, 1987.
31	Dr.V.S.Sapkal S.Basu	Membrane Techniques in Recycling of water with Pollution control from Pulp and Paper industry"	National	To be presented in Indian Water Works Association Technical Meeting, 1990.
32	Dr.V.S.Sapkal C.Philip	Biotechnology and Applications of Crossflow filtration"	National	chemical Industry Digest December, 1988.
33	Dr.V.S.Sapkal	Recent innovation inlarge volume parenterals	National	"Presented at National Conference of Indian Pharmaceutical Association, Bombay, June, 1990.
34	Dr.V.S.Sapkal C.Philip	Productivity Improvement by membrane Technology in Antibiotics Industry	International	" Presented at Annual Technical Meeting of FVO, Sartorius AG, Goettingone, Germany, Jan., 1991.

35	Dr.V.S.Sapkal S.Basu	Membrane based separation Technology in recovery of valuable products along with Pollution abatement from Dairy Effluent	International	” Presented at International Seminar on downstream processing in Biotechnology December 1991, Calcutta.
36	Dr.V.S.Sapkal S.Basu	Application for membrane technique in process industry”	International	Presented Indian Chemical Engineering Congress, Dec. 1991, Madras.
37	Dr.V.S.Sapkal S.Basu	Membrane based technology for pollution control in process industry	International	Accepted for presentation at British association of Chemical Engineers, 1991.
38	Dr.V.S.Sapkal S.Basu	Commercialisation of Membrane Technology in pharma and Biotech Industries	National	”Presented at workshop on Application of Synthetic membranes “ in Biotechnology”. Organised by National Chemical Laboratory and Department of Biotechnology, Govt. Of India ,Aug. 1991 Pune, Subsequently published in CPF, Jan. 1992.
39	Dr.V.S.Sapkal	Membrane based separation technology in reclamationof resources with pollution abatement from industrial effluents”	National	To be presented at All India convention on water pollution control-Modern Technologies May 1992, Bombay.
40	Dr.V.S.Sapkal	Advance downstream processing in manufacturing of FMD incorporation membrane technology “	International	Presented at International Symposium on Virus-cell interaction, Cellular and Molecular Response” 22-24 Nov.1993 . at Veterinary Research Institute, Bangalore.
41	Dr.V.S.Sapkal	Optimisation of production steps in the manufacture of vaccines using membrane technology”	National	Presented at XIV IMS National Symposium on membrane in chemical and Biochemical Indian Instituted of Technology, Feb. 16-17, 1996, Delhi

42	Dr.V.S.Sapkal	Optimisation of production steps for antibiotics by using (0654) membrane technique”	International	accepted for presentation at The 1996 International Congress Membranes and Membrane Process, ICOM 96 , 18th - 23rd August, 1996 Yokohama, Japan.
43	Dr.V.S.Sapkal	Process Optimisation of downstream operations in enzyme production using membrane technology paper	International	accepted for presentation at ACHEMA 97 International Meeting on Chemical Engineering and Biotechnology, 9-14 June 97, Frankfurt, Germany.
44	Dr.V.S.Sapkal	Application of Membrane in Biotechnology	National	Presented at National on frontiers in biotechnology, Govt. institute of science, Aurangabad, Feb. 1998
45	Dr.V.S.Sapkal Mr.R.S.Sapkal	Recovery of chemicals form small scale paper mill effluent using membrane techniques along with pollution control	National	presented at National Seminar on “Industrial Waste Treatment” by LIT, Nagpur University , Nagpur, Jan 1999.
46	Dr.V.S.Sapkal	Application of membrane in chemical industry	National	presented at Seminar on technology meet by CII & IIT, Delhi, at Mumbai, 1999.
47	Dr.V.S.Sapkal Dr.B.B.Kadu	Need to redesign Basic Scientific technological research in Universities	National	Presented at Seminar on Scientific Technological Research in Universities by AIU and RRL (CSIR) at Bhopal, 20-21 sept 1999.
48	Dr.V.S.Sapkal Mr.R.S.Sapkal	Engineering Design consideration in scale up studies of laboratory data of membrane system	National	presented at Indian Science Congress Pune,3-7 Jan, 2000
49	Dr.V.S.Sapkal Mr.R.S.Sapkal	Membrane technique for colour removal for pollution abatement	National	presented seminar on challenges and problems of oil and allied industries by Oil Technologies Association of India, Nagpur, Oct. 2000
50	Dr.V.S.Sapkal Mr.R.S.Sapkal Dr.J.D.Dhake	Study on effect of feed pretreatment parameters on membrane fouling in paper mill effluent treatment	International	presented at International Meet on Chemica Engg. Environmental Science & Biotechnology, Frankfurt, Germany, May, 2000
51	Dr.V.S.Sapkal Mr.R.S.Sapkal	Process Optimisation in biochemical process using membrane technology	International	presented at 1st International Conference on global sustainable biotech congress 2000 A.D., Nagpur University, Nagpur. Nov. 2000

52	Dr.V.S.Sapkal Mr.L.R.Bhuyar	Treatment of water from saline track using membrane technology	National	presented at National seminar on recent trends in industrial waste treatment, LIT, Nagpur University, Nagpur, Jan 2001.
53	Dr.V.S.Sapkal Mr.R.S.Sapkal	Process Optimisation of white water treatment from presented	International	International Conference on Industrial Pollution & Control Technologies, JNTU, Hydreabad Dec. 2001
54	Dr.V.S.Sapkal Dr.R.S.Sapkal C.A.Wankhade	Optimization of UF pre treated RO for captive power generation, a case study of textile mill effluent treatment	National	All India seminar on Zero effluent discharge latest development in recycling organised by institution of Engg. India West Bangal Test Centre , Kolkotta 22-23 Dec. 2007
55.	Dr.V.S.Sapkal Dr.R.S.Sapkal J.Bornare	Optimization of downstream separation process .	National	National Seminar on Advance Separation process for chemical industry organiaised by Indian Institute of Chemical Engg., Nagpur regional center, NEERI Nagpur 15 Dec. 2007
56	Dr.V.S.Sapkal Dr.R.S.Sapkal	Surface characterization of hallow fiber spin membrane & performance evaluation of membrane bioreactor	International	International conference on catalysis in Membrane reactors at CGCRI Kolkotta 18-21 Dec 2007.
57	Dr.V.S.Sapkal Dr.R.S.Sapkal S.K.Deshmukh	Optimization of renewable Bioscourses-orange juice using membrane distillation technology	International	Indo-swedish international conference on biotechnology for sustanable development at NCL Pune 7-9 Jan . 2008
58	Dr.V.S.Sapkal Dr.R.S.Sapkal Dr.M.Talib	Antimicrobial properties of fresh and stored Banarasi aonal extracts.	International	Indo-Swedish international conference on biotechnology for sustanable development at NCL Pune 7-9 Jan . 2008
59	Dr.V.S.Sapkal Dr.R.S.Sapkal Mr.A.Sawale	Application of membrane for product recovery using waste heat	National	National conference on green chemistry & its perspective, Deptt. of Chemistry SGB Amravati university, 11-12 feb. 2008.
60	Dr.V.S.Sapkal Dr.R.S.Sapkal Mr .Shinde	Green and clean technologies for sustainable environment	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.
61	Dr.V.S.Sapkal A.V.Sawle Ms. A.B.Jadhav Ms. S.K.Wagmare R.C.Gupta	Chemical – Water Cogeneration, an integrated solution to energy & water crises	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.

62	Dr.V.S.Sapkal M.B.Dukare S.S.Balkar	Membrane Bio reactor- the future waste water technology	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.
63	Dr.V.S.Sapkal Dr.R.S.Sapkal Miss S. Chopde Atul Sawale	Intensification of manufacturing process for soya products using clean membrane technology	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.
64	Dr.V.S.Sapkal Dr.M.Talib S.D.Patil	Antibicrobial Potential of RO process	National	National conference on green chemistry & its perspective, Deptt. of Chemistry SGB Amravati university, 11-12 feb. 2008.
65	Dr.V.S.Sapkal Dr.R.S.Sapkal S.K.Deshmukh	Mild Separation Technology for concentration of orange Juice	National	National conference on green chemistry & its perspective, Deptt. of Chemistry SGB Amravati university, 11-12 feb. 2008.
66	Dr.V.S.Sapkal Dr.R.S.Sapkal P.G.Bansod	Membrane Technology a green Technology for clean environment	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.
67	Dr.V.S.Sapkal Dr.R.S.Sapkal D.Bhutada	Recent Advances in fluidised bed reactor technology for optimal anaerobic waste water treatment for environmental protection	International	Indo-Italian conference on Green and clean environment, MIT Pune 20-21 March 2008.

