



Bio-Data

Name : Dr V Sivasubramanian
Age and date of birth : 54 yrs 22.04.1954
Present Position : Reader, Plant Biology & Plant Biotechnology,
Ramakrishna Mission Vivekananda College, Chennai
600004 India
And
Director, [Vivekananda Institute of Algal Technology](#)
Ramakrishna Mission Vivekananda College
Chennai 600004 India

Academic Qualification :

S.No.	Institution Place	Degree Awarded	Year	Award/Prize/ Certificate
1	Pachaiyappa's College, Chennai	M.Sc. Botany	1975	First class
2	CAS in Botany, University of Madras	M.Phil. Botany - Algology	1977	'A' Grade
3	CAS in Botany, University of Madras	Ph.D. Botany - Algology	1983	Highly Commended

Titles of Dissertations : M Phil – “Fat accumulation in a pinnate diatom
Nitzschia frustulum”
Ph D - “Growth and physiology of a few tropical marine
diatoms with special reference to nitrogen assimilation”

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MERIT

1. Ph. D Degree

1983 : Thesis entitled “***Growth and physiology of marine diatoms with special reference to nitrogen assimilation***” under the Guidance of Prof V N Raja Rao, CAS in Botany, University of Madras, Chennai.

2. Ph. D Guide

1. Ecophysiology of a few marine micro-algae with reference to nitrogen utilization – V V Subramanian Oct 2001
2. Studies on the uptake and assimilation of nitrogen by tropical marine diatoms – K Dhandayuthapani Feb 2004
3. Ecotoxicological studies in a freshwater food chain exposed to heavy metals – A Bojarajan June 2003
4. Nutrient dynamics and algal biodiversity with special reference to eutrophication of Porur Lake – A case study – S Murugesan April 2006

5. Ameliorative effects of ascorbic acid and α -tocopherol on arsenic induced toxicity in rats – A biochemical, cytological and molecular approach – B S Balakumar - 2007
6. Phycoremediation of effluent from an alginate industry – B G Raghavan- 2008
7. Screening of freshwater algae for phycoremediation potentialities of industrial effluents and wastewater – J Kamaleswari – 2008
8. Phycoremediation of effluent from a leather processing chemical industry – P Hanumantha Rao – 2008

Presently Guiding: 6 candidates (3 Full-time and 3 Part-time)

M.Phil guided: 16 and guiding 2 students

S.No	Year	Name	Title
1.	1997	R.Murali	Ecophysiological studies in some fresh water blue-green algae
2.	1998	S.Parameswaran	Studies on water pollution and micro algae with special reference to aromatic hydrocarbons.
3.	1999	V.Anandaraj	Studies on the kinetics of phosphate uptake by some fresh water micro algae
4.	2000	K.Dhandayuthapani	Studies on the heavy metal toxicity in <i>Chroococcus</i> sp.
5.	2001	C.Sasi	Studies on iron requirements of fresh water diatom, <i>Navicula</i> sp.
6.	2001	S. Murali	Studies on the ecotoxicity of heavy metals in certain marine plankton communities
7.	2002	A. Loganathan	Studies on the preferential uptake of nitrogen by a marine diatom <i>Amphora turgida</i> .
8.	2002	G. Theerthamalai	Studies on the requirements of Fe, Se and Ni for the growth of marine diatoms
9.	2003	M. Muthukumaran	Bioremediation of industrial effluents using micro a algae.

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|-----|------|----------------|-------------------------------------------------------------------------------------------------------|
| 10. | 2003 | V. Jaishankar | Studies on the applications of immobilized cells of <i>Scenedesmus acuminatus</i> in aquaculture. |
| 11. | 2004 | K Natarajan | Studies on the Biotechnological potentials of <i>Chroococcus</i> sp isolated from industrial effluent |
| 12. | 2004 | R Ranjithkumar | Studies on the extraction and purification of pigments from the effluent of an alginate industry |
| 13. | 2005 | P Anbu | Application of micro algae in aquaculture |
| 14. | 2005 | P Varutharajan | Bioremediation of industrial effluent using micro algae |
| 15. | 2006 | N Mohan | Studies on the mass cultivation of micro algae |
| 16. | 2006 | S Sivasankaran | Studies on antimicrobial activity of micro alga |

Focus of research has been on effluent treatment in the last 4 years. MOUs have been signed with several industries and funds generated. The details are given below:

a. Membership/Honours:

1. Life Member and Executive Committee member of Krishnamurthy Institute of Algology, Chennai (<http://www.geocities.com/krishalg>)
2. Member of the Seaweed Research and Utilization Association (<http://www.geocities.com/sruaindia>)
3. Member of the Phycological Society of India
4. Founder Secretary of Limnological Society of India (<http://www.geocities.com/limsocindia>)
5. Director of Vivekananda Institute of Algal Technology, Chennai 4 (<http://www.geocities.com/viat06>)
6. Member of the Research Advisory Committee, Sri Gowri Bio-Tech Research Academy, Thanjavur 01
7. Member of the Review Committee, Science Asia, an International Journal

8. Member of the review committee, Seaweed Research and Utilization, Journal.
9. Elected as a member of International Steering Committee representing India for ICDES2005 (International Conference on Design Engineering and Science, held in Vienna, Austria during October 28th to 31st 2005. (<http://www.jsde.or.jp/icdes2005/organization.html>))
10. Appointed as a Member of Board of studies in Plant Biotechnology (PG) of Thiruvalluvar University, Vellore from 15.3.2007 to 14.3.2010
11. Reviewed 2 research papers for the International journal Science Asia
12. Member of the International Review committee for the 3rd International Conference on Appropriate Technology Kigali, Rwanda to be held in Nov, 2008
13. Secretary, International Conference on “ Algal Biomass, resources and utilization (ICABRU 2009) to be held in Chennai during July 2009

b. Invited talks:

- a. Delivered a special lecture on Web Designing (Part1 and Part 2) to participants of Computer Literacy Programme organized by D. G. Vaishnav College, Chennai during January 2005
- b. Delivered an invited talk on “Applications of polymer technology in environmental health” during the inauguration of Nichi-in Center or Regenerative medicine on 24th September 2005.
- c. Delivered a special lecture on “Phycoremediation- issues and challenges” during the National symposium on Algal Biodiversity and its role in bioremediation, held from 23rd to 25th September 2006 at RKM Vivekananda College, Chennai,
- d. Talk on “Bioremediation” in a national seminar on Bio-Geo challenges held on 19th December 2006 at Quaid-E- Millath Government College for women

- e. Talk on Bioremediation techniques during Refresher course on Biological techniques organized by Academic Staff college, University of Madras on 14th February 2007
- f. Talk on “Phycoremediation” in the State level seminar on algal biotechnology held on 25th January 2007 at SDNB Vaishnav College for women
- g. Talk on “Phycoremediation – Principles and applications” in Botany Club meeting of Madras Christian College on 17th March 2007
- h. Talk on “Industrial effluent treatment – Personal experiences” at Kongu Nadu Arts and Science College, Coimbatore on 14th March 2007
- i. Delivered lectures on 1. Phycoremediation and 2 Biofuels from algae at the refresher course conducted by University of Pune on 22nd October 2007
- j. Delivered an invited special lecture on “ Phycoremediation- Success and challenges’ in National conference on Current trends in algal biodiversity and biotechnology held at CAS in Botany, University of Madras on 7th and 8th February 2008
- k. Delivered an invited talk on “Bio-remediation” in National Science Day seminar on “Frontiers of Biological Sciences” conducted by Dept of Zoology, RKM Vivekananda College, Chennai on 28th February 2008.
- l. Delivered a talk on “ Bio-fuels from algae” in a National Workshop on “Taxonomy of algae” held in CAS in Botany, University of Madras, from 23rd to 29th June 2008.
- m. Delivered a lead talk on “All in algae’ in a national level conference on Microbial biodiversity, bioremediation and biotechnology, jointly organized by Cauvery college for women,

Tiruchirappali and Bharathidasan University, Tiruchirappalli on
28th and 29th July 2008

c. Special Contributions:

- a. Edited and produced a 50 min Documentary Video on 'Viveka – A Profile 2004 which was presented before the Peer Committee on Autonomy during June 2004.
- b. As Professor –in- charge of audio – visual, covered all the major programmes of the College in the last five years.
- c. As a web designer, designed and maintaining web sites for Indian Hydrobiology – a scientific journal, Krishnamurthy Institute of Algology, Seaweed Research and Utilization Association, Journal of Seaweed research & Utilization, Limnological Society of India, Viveka diamond jubilee website (<http://www.geocities.com/vivekadiamond2006>), Vivekananda College NCC web site (<http://www.geocities.com/vivekasena1>).
- d. Created and managing Vivekalumni yahoo groups.

Industrial collaborations:

For the last 4 years as a person heading Unit of Algal Physiology & Biotechnology, have interacted with the following industries and signed MOUs to give research support and consultancy for effluent treatment

- a. **SNAP Alginates and Natural products Ltd Ranipet:** Developed algal technology to treat the effluent generated by the industry. After the successful pilot-scale field trials the slope tank has been scaled up at a cost of Rs 25 lakhs and it has been running from September 2006. This is the first successful phycoremediation plant developed and installed successfully. More details on this project can be accessed by logging on to <http://www.geocities.com/viat06> By adopting this technology industry is saving Rs 25 lakhs per year which has been previously spent on caustic to neutralize the effluent.

- b. **Ultramarine and Pigments Ltd, Ranipet** : This industry manufactures detergents and blue pigments. This industry generates enormous amount of sludge and liquid effluent. An MOU has been signed to develop algae based technology to treat their effluent for sludge and TDS reduction. After a successful laboratory investigation field trials are on.
- c. **STAHL India Chemicals Ranipet**: A Holland based company, manufacturing leather finishing chemicals. This industrial effluent contains residual dyes and pigments and also considerable amount of heavy metals like Cu, Zn, Pb, Cr and Ni. After a successful laboratory trial, field experiments using a race way tank were conducted. Now we are in the process of scaling up the technology. An interesting observation made during our investigation was the disappearance of most of the heavy metals. Now we are involved in mass balance study to account for the disappearing metals with a technical collaboration from University of Colorado, Denver USA.
- d. **Perfetti van melle Ltd, Chennai**: an Italian company involved in manufacturing confectionary like *Alpenlebe*. Liquid glucose, condensed milk and sugar are the ingredients used. The effluent generated contains residual glucose, milk and sugar. The effluent is treated with anaerobic digesters and let out in an artificial man made pond with in the campus. MOU has been signed to treat the effluent using algal technology to reduce load to anaerobic digesters, to remove nutrients, increase pH by employing algae and also to bring down TDS. Limnological study of the Perfetti pond has also been taken up.
- e. **Wheels India Ltd, Padi, Chennai**: Being a forging and electroplating industry their effluent contains heavy metals like Chrome and Nickel MOU has been signed to treat the effluent in order to remove these heavy metals and also TDS reduction. Field trials are on.
- f. **SUNTEX Processing Mills Pvt Ltd**: Work on scaling up of remediation of dyeing effluent is underway.

g. **Nichi – in Biosciences, an Indo-Japanese Joint Venture Company, Chennai** : This Company develops and markets a number of polymers which are employed in agricultural and biomedical applications. MOU has been signed to

1. Develop microbes which can degrade these polymers
2. Develop technology to produce biodegradable plastics
3. Study the integrity of polymers like HYMEC membrane under Indian conditions by employing microbes isolated from composting conditions. Isolation and identification of microbes including bacteria, fungi and micro algae capable of degrading polymers were done. Studies are being conducted to employ a polymer called SKY GEL in various applications including algal cultivation and effluent treatment. A Press meet in this regard was conducted on 4.10.2006. Many news papers (Indian Express, Nanayam Vikatan, Dinamani, Dinamalar etc) carried the details of press meet on 5th October 2006.

List of research papers published

1. Rao, V.N.R and Sivasubramanian, V 1980. Fat accumulation in a pennate diatom *Nitzschia frustulum* (Kutz.) Grun. *Acta Botanica Indica* **8** : 139-147
2. Sivasubramanian, V and Rao, V.N.R. 1983. Influence of light and temperature on Growth and photosynthesis of some marine diatoms. *Seaweed Res. Utiln.* **6**: 69-87.
3. Rao, V.N.R and Sivasubramanian, V. 1985. Physiological responses of some marine diatom cultures to the presence of heavy metals. In ‘*Oceans – Realities and Prospects*’ (Ed.) R.C. Sharma, Rajesh Publications, New Delhi, 243-268.

4. Rao, V.N.R and Sivasubramanian, V. 1985. Studies on the mercury toxicity in some marine diatom cultures. In *Marine plants – their biology, chemistry and utilization*.(Ed.) V.Krishnamurthy, Seaweed Research and Utilization Association, Madras.115-122
5. Rao, V.N.R and Sivasubramanian, V.1985. Effect of heavy metals on *Amphora coffeaeformis* (Agardh) Kutz. In '*Marine Plants – their biology, chemistry and utilization* (Ed.) V.Krishnamurthy, Seaweed Research and Utilization Association, Madras. 123-132.
6. Sivasubramanian, V and Rao, V.N.R. 1988. Uptake and assimilation of nitrogen by Marine diatoms. I. Kinetics of nitrogen uptake. *Proc. Ind. Acad. Sci. (Plant Sci.)* **98** : 71-88.
7. Sivasubramanian, V and Rao, V.N.R. 1988. Uptake and assimilation of nitrogen by marine diatoms. II. Kinetics of nitrogen assimilation. *Proc. Ind. Acad. Sci. (Plant Sc.)* **98** : 89-98.
8. Rao, V.N.R., Sivasubramanian, V. and Gowrinathan, K.P. 1988. Copper binding Proteins from *Cyclotella meneghiniana* Kutz. *Ind. J. Microbiol.* **28**: 184-187.
9. Sivasubramanian, V and Rao, V.N.R. 1990. Studies on nitrogen assimilation in some Marine diatoms. In *Perspectives in Phycology* (Prof. M.O.P. Iyengar Centenary Celebration Volume) (Ed.) V.N.R.Rao Today & Tomorrow's Printers and Publishers. New Delhi 110 005. India, 293-298.
10. Subramanian, V.V., Sivasubramanian, V. and Gowrinathan, K.P. 1994. Uptake and Recovery of heavy metals by immobilized cells of *Aphanocapsa pulchra*. (Kutz.) Rabenh. *J. Environ. Sci. Health.* **A 29** (9): 1723-1733.
11. Bojarajan, A., Jayakumar, S., Sivasubramanian, V., Arumugam, M and Karunanidhi, N. 2000. Pollution analysis of a few selected water bodies in and around Chennai using Atomic Absorption Spectrophotometer.

Proceedings of the II National Conference on Spectrophysics NCONS 2000, Aug 9-11, 2000. Chennai, India.

12. Subramanian, V.V and Sivasubramanian, V. 2000. Assessment of the efficiency of an algal bioreactor employing Atomic Absorption Spectrophotometer. *Proceedings of the II National Conference on Spectrophysics NCONS 2000*, Aug 9-11, 2000. Chennai, India.
13. Subramanian, V.V and Sivasubramanian, V. 2001. Studies on the heavy metal tolerance of *Aphanocapsa pulchra*(Kutz.) Raben. *Indian Hydrobiology*. 4(1); 15-23.
14. Bojarajan, A., Arumugam, M., Subramanian, V.V and Sivasubramanian, V. 2001. Heavy metal tolerance, uptake and accumulation by the fresh water plankton, *Scenedesmus acuminatus* and *Mesocyclops aspericornis*. *Proc. National Conference on National Conference on Environment Biodiversity and Bioethics: Current trends and future directions*.
15. Bojarajan, A., Arumugam, M., V Sivasubramanian and V V Subramanian. 2001. A preliminary report on the phosphate levels and plankton in a few selected freshwater bodies in Kancheepuram District, South India. *Indian Hydrobiology* 4(1) : 11-14.
16. Murali, S., Bojarajan, A., Dhandayuthapani, K., Subramanian, V.V and Sivasubramanian, V. 2001. Studies on the ecotoxicity of heavy metals in certain marine plankton communities. *Proc. National Conference on Environment Biodiversity and Bioethics: Current trends and future directions*.
17. Anandaraj, V, V V Subramanian and V Sivasubramanian 2001. Studies on the kinetics of phosphate uptake by some freshwater micro algae. *Indian Hydrobiology* 4 (1): 1-9
18. Dhandaythapani K, A.Loganathan, G. Theerthamalai, V V Subramanian and V Sivasubramanian. 2004. Influence of light and ammonium on growth and nitrate uptake by *Scenedesmus acuminatus* and *Chroococcus* sp. *Indian Hydrobiology* 7: (1 &2)133-139

19. Dhandayuthapani K, V.V. Subramanian, M.R. Krishnan, Mazher Sultana and V. Sivasubramanian. 2005. Studies on the uptake and recovery of heavy metals by immobilized cells of *Chroococcus minutus* (Kutz.) NAG. *Poll. Res.* 24 (Special Issue): 271-274.
20. Vignesh, M. S Shivsankar, R Hanumantha Rao, R Ranjithkumar and V Sivasubramanian 2006 Phycoremediation of effluent from tannery and pharmaceutical industries- a lab study. *Indian Hydrobiology* **9**(1): 51-60.
21. Sivasubramanian, V. 2006 Phycoremediation – Issues and Challenges. *Indian Hydrobiology* **9** (1): 13 – 22..
22. Muthukumar, M, B G Raghavan, V V Subramanian and V Sivasubramanian 2005 Bio-remediation of industrial effluent using micro algae. *Indian Hydrobiology* 7(suppl.): 105 – 122.
23. Murugesan, S and V Sivasubramanian. 2005. Cyanobacteria of Porur Lake, Chennai, Tamilnadu. *Indian Hydrobiology*, 8 (1): 49 – 54.
24. Bojarajan, A, Arumugam, M and Sivasubramanian , V. 2007. Toxic action of cadmium, copper and zinc salts individually and when mixed on the freshwater algae *Scenedesmus acuminatus* and *Ankistrodesmus convolutus*. *Pollution Research* **26**(4): 627 – 630.
25. Bojarajan, A, Arumugam, M., Subramanian, V. V and Sivasubramanian, V 2007 Heavy metal tolerance of the micro algae, *Scenedesmus acuminatus* and *Ankistrodesmus convolutus* – A Laboratory study – *Pollution Research* **27**(1): 77 – 82
26. Bojarajan, A, Arumugam, M. and Sivasubramanian, V 2007 Toxic action of cadmium, copper and zinc salts individually and when mixed on the freshwater algae *Scenedesmus acuminatus* and *Ankistrodesmus convolutus*. *Poll. Res.* **26**(4): 627 – 630.

27. Kamaleswari J, S Murugesan and V Sivasubramanian 2007 Screening of freshwater algae for phycoremediation potentialities of industrial effluents and wastewater. *Eco. Env. & Cons.* 13(4): 697 – 701.
28. Murugesan, S and V Sivasubramanian 2008. Freshwater diatoms from Porur Lake, Chennai. *Indian Hydrobiology*, 11(1) : 149 – 154.
29. Murugesan, S and V Sivasubramanian 2008. Freshwater algae from Porur Lake, Chennai. *Indian Hydrobiology*, 11(1) : 133 – 140.
30. Aarti Narasimhan, P Sumathi and V Sivasubramanian 2008. Algal treatment (Phycoremediation) to improve water quality. *Indian Hydrobiology*, 11 (1) : 173 – 184.

List of research papers presented in symposia

1. Sivasubramanian V, V V Subramanian and S Parameswaran 2000. Studies on the effect of aromatic hydrocarbons on micro algae. Presented in the National Symposium on “*Phycology in the new millennium*”, held in March 2000 at CAS in Botany, University of Madras.
2. Sivasubramanian V, V V Subramanian and R Murali 2000. Ecophysiological studies in some freshwater blue- green algae. Presented in the National Symposium on “*Phycology in the new millennium*”, held in March 2000 at CAS in Botany, University of Madras.
3. Sivasubramanian V, V V Subramanian and V Anandaraj 2000. Studies on the kinetics of phosphate uptake by some freshwater micro algae. Presented in the National Symposium on “*Phycology in the new millennium*”, held in March 2000 at CAS in Botany, University of Madras.

4. Ranjith Kumar R, Hanumantha Rao P, Raghavan B G, Subramanian V V & Sivasubramanian V 2005 Studies on the extraction & purification of pigments from the effluent of an alginate industry Proc National Symposium on Microbial & Plant Biotechnology' held at Loyola College, Chennai.
5. Dhandaythapani K, V V Subramanian and V Sivasubramanian. 2004. Studies on the uptake and recovery of heavy metals by immobilized cells of *Chroococcus minutus* presented in the International symposium on Envirotech held at New College, Chennai during October 2004.
6. Dhandayuthapani K, V V Subramanian, Mazer Sultana and V Sivasubramanian 2004. Heavy metal toxicity in marine diatoms. Presented in National seminar on Healthy Environment for the next generation held during Dec 2004 at Loyola College
7. Bojarajan A, M Arumugam and V Sivasubramanian 2004. Trophic transfer and bio-magnification potential of cadmium in a typical freshwater food chain. Presented in National seminar on Healthy Environment for the next generation held during Dec 2004 at Loyola College. Chennai.
8. Ranjith Kumar R, Hanumantha Rao P, Raghavan B G, Subramanian V V & Sivasubramanian V 2005. Studies on the extraction & purification of pigments from the effluent of an alginate industry, Presented in the 'National Symposium on Microbial & Plant Biotechnology' held at Loyola College, Chennai from Feb 17th to 19th 2005.
9. Raghavan BG, R Ranjithkumar, P Hanumantha Rao, M Muthukumar, V V Subramanian and V Sivasubramanian. 2006. Phycoremediation of effluent from a chemical industry. Presented in the National Symposium on "Algae, Man and Biosphere" held at Poondi Pushpam College during 24 and 25th February 2006.
10. Kamaleswari J, S Murugesan and V Sivasubramanian 2006. Bioremediation of automobile effluent using cyanobacteria. Presented in

- International Seminar on Environmental Biotechnology, ENVIROTECH 2006 held during 5 to 7th July 2006 at JBAS College for Women, Chennai.
11. Kamaleswari J, S Murugesan and V Sivasubramanian 2006. Bioremediation of automobile effluent using cyanobacteria. Presented in International Seminar on Environmental Biotechnology, ENVIROTECH 2006 held during 5 to 7th July 2006 at JBAS College for Women, Chennai.
 12. Ranjithkumar R, M Muthukumaran, B G Raghavan, V V Subramanian and V Sivasubramanian 2006. Micro algal Bio-diversity in various industrial effluents. Presented in National symposium on “*Algal Bio-diversity and its role in bio-remediation*” held in Chennai during September 2006 at R KM Vivekananda College, Chennai.
 13. Kamaleswari J, S Murugesan and V Sivasubramanian 2006 Screening of freshwater algae for phycoremediation potentialities of industrial effluents. Presented in National symposium on “*Algal Bio-diversity and its role in bio-remediation*” held in Chennai during September 2006 at R KM Vivekananda College, Chennai
 14. Hanumantha Rao P, B G Raghavan, V V Subramanian and V Sivasubramanian 2006 SKY-GEL - Application in micro-algal cultivation and phycoremediation . Presented in National symposium on “*Algal Bio-diversity and its role in bio-remediation*” held in Chennai during September 2006 at R KM Vivekananda College, Chennai
 15. Christina Poornima, V Sivasubramanian and S Rajan 2006. Phycoremediation and quality enhancement of groundwater . Presented in National symposium on “*Algal Bio-diversity and its role in bio-remediation*” held in Chennai during September 2006 at R KM Vivekananda College, Chennai
 16. Bojarajan A, M Arumugam and V Sivasubramanian 2007 Contribution to ecotoxicological study of cadmium, copper and zinc in the freshwater food chain: Implications in assessing trophic transfer coefficient and bio-magnification potential Presented in National Seminar on “Environmental

biotechnology: Opportunities and Challenges” during February 22nd and 23rd, 2007.

17. M Muthukumar, P Hanumantha Rao, R Ranjithkumar, B G Raghavan and V Sivasubramanian 2008 Occurrence of micro algae in wastewaters and industrial effluents – Paper Presented in National conference on Current trends in algal biodiversity and biotechnology held at CAS in Botany, University of Madras on 7th and 8th February 2008
18. Kamaleswari, J, S Murugesan and V. Sivasubramanian 2008. Bioremediation of automobile waste using cyanobacterium. Presented in the National Symposium on Algae in agriculture and food industry held in Pachaiyappa’s college, Chennai on 20th and 21st September 2008.
19. Gurukasi Rajan, K, R. Dinesh Kumar, D. Manikandavelu, V. Sivasubramanian and K. Dhandayuthapani 2008. Improvement of nutrition and economic value of fish by selective feeding with micro algae (*Chroococcus* sp and *Scenedesmus* sp). Presented in the National Symposium on Algae in agriculture and food industry held in Pachaiyappa’s college, Chennai on 20th and 21st September 2008.
20. Narayani, M, A. Subanthini, V. Sivasubramanian and K. Dhandayuthapani 2008. Mathematical model for heavy metal bio-filtration by cells of *Chroococcus minutus*. Presented in the National Symposium on Algae in agriculture and food industry held in Pachaiyappa’s college, Chennai on 20th and 21st September 2008.
21. Malathi, K.S, K.S. Malini, V. Sivasubramanian and K. Dhandayuthapani 2008. Nutrient removal from fish culture by immobilized cells of *Chroococcus* sp. Presented in the National Symposium on Algae in agriculture and food industry held in Pachaiyappa’s college, Chennai on 20th and 21st September 2008.
22. Paradeepkumar, S, G. Thiyageswaran, P.D. Murali, V. Sivasubramanian and K. Dhandayuthapani 2008. Enzyme kinetics of marine diatom, *Navicula* sp. Presented in the National Symposium on Algae in agriculture

and food industry held in Pachaiyappa's college, Chennai on 20th and 21st September 2008.

23. M. Muthukumaran, V V Subramanian and V Sivasubramanian 2008.
Utilization of algal biomass for colour removal, pH correction and sludge reduction in dyeing effluent. Presented in the International seminar and workshop on sustainable utilization of tropical biomass, conducted at University of Kerala during 15th and 16th December 2008.

Symposia / workshop organized;

1. Involved in organizing and also as resource person in National Workshop on *Gracilaria* spp. from Indian Shores" May 2001 which was attended by 35 participants from all over India. Nearly 35 species of *Gracilaria* were worked out during the week long workshop
2. Involved in organizing a national symposium on Limnology in India held in our college during 17th to 19th Aug, 2002.
3. Involved in organizing a National Workshop on Carrageenans and Carrageenophytes of India held in our college during 21st to 23rd Nov, 2002.
4. Involved in organizing National level workshop on Methods in Limnology held during 16th to 22nd November, 2003 as a convener and resource person.
5. National Symposium on Algae and Environment was jointly organized by Unit of Algal Physiology and Biotechnology, RKM Vivekananda College, Chennai and Krishnamurthy Institute of

Algology, Chennai at Obul Reddy Auditorium, RKM Vivekananda College. on 24th and 25th September 2005

6. As a Founder Secretary of Limnological Society of India, conducted a National Conference on “Current Perspectives in Aquatic Biology in collaboration with Dept of Zoology, University of Madras during Feb 17 - 18, 2006

7. Convened a National Symposium on “Algal Bio-diversity and its role in Bio-remediation” at RKM Vivekananda College jointly with Krishnamurthy Institute of Algology from 23rd to 25th September 2006.