

BIO-DATA

Name : Sundararajan RAMACHANDRAN

Date of Birth : 18 April 1955

Place of Birth : Thachanallur, Tirunelveli, Tamilnadu.

Present position : Professor and Director

Office : Institute for Ocean Management,
Anna University,
Chennai - 600 025,
INDIA.
Phone : 22200158
Fax : 91 44 22200159
Email : ramachandran_sun@hotmail.com
chandran@annauniv.edu

Residence : 6, II Cross Street
Dhandeeswar Nagar
Velachery,
Chennai- 600 042.
Tamil Nadu, INDIA.
Phone : 2431674

Employment Record :

Employer	Position	From	To
Anna University	Director	1998	Continuing
	Professor	1993	1998
	Asst. Professor	1986	1993

Education :

DEGREE	SUBJECT	INSTITUTE	DATE
Ph.D	Biological Oceanography	University of Miami, Florida, USA	1985, June
Ph.D.	Marine Biology	Annamalai University	1981, January
M.Sc.	Marine Biology	Annamalai University	1977, June
B.Sc.	Biology	St. Xavier's College Madurai Kamaraj University	1975, June

Distinctions & Awards :

DATE	DEGREE	SCORE
1975 - 1977	M.Sc	University 5th Rank
1978 - 1981	Ph.D	University Grants Commission Open Pool Merit Fellowship
1981 - 1985	Ph.D	National Scholarship for studies abroad, Min. of Education, GOI

Other Awards:

DATE	PURPOSE	SCORE
1990 March	International Workshop on "Coastal System Curricula" - Jakarta, Indonesia.	UNESCO Fellowship
1992 August	Participation in Stockholm Water - Conference - Sweden	Swedish Institute Fellowship

DATE	PURPOSE	SCORE
1993 November	International Water Conference in Bangkok.	CSIR Fellowship
1994 February	International Workshop on Storm Surges, Bangkok.	IHP - OHP Fellowship Germany.
1995, November	International Workshop on Hydrocoast-95, Bangkok.	IHP - OHP Fellowship
1996, September	Kerala University	University Grants Commission Visiting Fellow
1996, November	Expert lecture at Jakarta, Indonesia Workshop on Sealevel changes	IOC/Germany Invited Resource person
1996, December	Visit to Federal Institute of Hydrology, Germany	IHP/OHP, Germany Visiting Fellow
1996, December	Participation in International Symposium on ICZM Germany	CDG Germany Fellowship
1997, October	IGBP-LOICZ Open Science meeting, Netherlands.	Invited Speaker on Coastal Zone Management
1997, Nov-Dece.	IUCN/UNESCO/IOC South Asian Regional Workshop at Srilanka	Invited Speaker on Coastal Resources Data Management Sri Lanka
1998, August	Participation in International Conference on satellites, Oceanography & Society, Lisbon, Portugal	Sponsored by NASA,NOAA and IOC

1999, February	Participation in International Workshop on Indian Ocean Coral reefs	Swedish International Development Agency Fellowship
1999, June-July	Participation in Train-the Trainer workshop at University of Newcastle, U.K.	Sponsored by DFID, UK
1999, November	LOICZ Open Science Meeting at Bahia Blanca, Argentina	Sponsored by LOICZ- IPO Netherlands
1999, December	International Dahlem Workshop on Science, and Integrated Coastal Management, Germany	Sponsored by Dahlem Foundation
2000, October	International Workshop on Coastal Zone Management	CDG Fellowship, Germany
2001, August	University of Newcastle and University of Bath U.K.	Academic Exchange fellowship by British Council.
2002, August	University of Newcastle and University of Bath U.K.	Academic Exchange fellowship by British Council.
2002, November	International Workshop on Coastal Zone Management	CDG Fellowship, Germany
2003, April	UNEP-GPA, Regional Experts meeting, Colombo, Sri Lanka	UNEP Invitee
2003, August	University of Newcastle and University of Bath U.K.	Academic Exchange fellowship by British Council.

Specialization And Experience In Research And Training:

A. RESEARCH:

DATE	SUBJECT	POSITION & INSTITUTION
1975-1977	1. Trace metals in Aquatic Ecosystem 2. Amino acid composition of Phytoplankton	Postgraduate Student Centre for Advanced Study in Marine Biology Annamalai University Parangipettai - 608 502

1978-1981	Physiology and Ecology of Marine Algae	UGC Research Fellow(Same as above)
1981-1985	Biological Photosynthetic solar energy conversion systems	Graduate student / Research Assistant, University of Miami, Miami, Florida, USA.
1985 June -1986 July	Biological Hydrogen Production	CSIR Scientific Pool Officer Madurai Kamaraj University Madurai - 625 021.
1986-1993	Biological Oceanography, Coastal Zone Management, Water Quality Studies, Marine Resources Development	Reader, Ocean Data Centre, Centre for Water Resources Anna University, Madras-25.
1993 - 1998	Marine Remote Sensing Information System, Geographical Information System Coastal Zone Management and Coastal Resources Data base Socio-economics of Aquaculture	Professor, Centre for Water Resources & Ocean Management Anna University, Madras - 25.
1998 -	---- as above ----	Director, Institute for Ocean Management Anna University, Madras -25

B. TEACHING:

DATE	SUBJECT	POSITION & INSTITUTION
1978-1980	Chemical Oceanography	Research Scholar CAS in Marine Biology Annamalai University Parangipettai - 608 502.
1981-1985	Marine Biochemistry	Research Assistant

		University of Miami, Miami, Florida, USA.
1985-1986	Plant Sciences	Pool Officer Madurai Kamaraj University Madurai - 625 021.
1986-1993	Water Quality, Water Pollution, Coastal Zone Management	Reader, Ocean Data Centre, Centre for Water Resources Anna University, Madras - 25.
1993 -1998	Marine Remote Sensing, Geographical Information System, Coastal Zone Coastal Zone Management	Professor, Centre for Water Resources & Ocean Management, Anna University, Madras - 25.
1998	----- as above -----	Director Institute for Ocean Management Anna University, Madras -25

EDUCATIONAL EXPERIENCE:

DATE	DEGREE & INSTITUTION	SUBJECT
1981-1985	Ph.D, University of Miami, Miami, Florida, USA. Rosentiel School of Marine and Atmospheric Sciences	Physical, Chemical, Biological Oceanography, Satellite Oceanography, Biochemistry and Bioenergetics of marine photosynthetic organisms , Biological Solar Energy Conversion Systems, Advanced Instrumentation.
1978-1980	Ph.D, Annamalai University, Centre for Advanced Study in Marine Biology, Porto Novo	Biological & Chemical Oceanography Marine Pollution

1975 - 1977	M.Sc, Annamalai University -do-	Marine Biology and Oceanography
1972 - 1975	B.Sc, Madurai Kamaraj University	Zoology, Botany and Chemistry

THESIS & DISSERTATION :

DATE & DEGREE	INSTITUTION	TITLE
1977 M.Sc.	Annamalai University	1. Trace Metals in Aquatic Ecosystems -A Review 2. Amino acid composition in phytoplankton
1982 Ph.D.	Annamalai University	Studies on blue green algae from Porto Novo marine environments
1985 Ph.D.	University of Miami	Biomass and hydrogen photo production by a marine blue-green alga <i>Oscillatoria</i> sp. Miami BG 7 in natural sea water culture system

Administrative Experience:

From 1993 heading Institute for Ocean Management, which is responsible for collecting, archiving, analysing and disseminating data for end users in the areas of Ocean and coastal resources management and research and training in Coastal Zone and Marine Resources Management.

Staff strength of the Institute is:

Non-teaching Staff - 10
Teaching Staff - 3
Project Staff - 30
Research Scholars - 13

Seminars / Symposia / Short Term Courses Organised:

A. NATIONAL

S.No	TITLE	DATE	RESPONSIBILITY
1.	National Seminar on "Ocean Resources"	1-6 Dec. '86	Co-Organizer
2	National Workshop on "Aquaculture Engineering"	6-8 Apr. '88	Co-Organizer
3.	National Workshop on "Coastal Zone Management"	11-13 Oct. '89	Co-Organizer
4.	National Seminar on "Recent Advances in Coastal Marine Sciences"	9-11 Jul. '90	Organising Secretary
5.	National Symposium on "International Geosphere-Biosphere Programme (IGBP)"	April. 1993	Member in Organising Committee
6.	Seminar on "Remote Sensing in Marine Fisheries"	16 Apr. 1993	Organiser
7.	Workshop on "Utilization of Coastal Landuse Maps for Brackishwater Aquaculture Site Selection"	27 Apr. 1993	Organiser
8.	Workshop on "Remote Sensing Satellite Data products for Potential Users"	11 Oct. 1993	Organiser
9.	UGC Refresher Course on Water Resources Water Quality Monitoring, Modelling and Management	1-28 Feb. 1995	Course Organiser
10.	National Conference on "Sustainable Aquaculture"	4-6 Apr. 1995	Organising Secretary
11.	Workshop on Remote Sensing	8-9 July 1996	Organiser

	and GIS Applications with particular reference to Harbour Area Management and Development		
12.	Workshop on Marine Remote Sensing Information Services	10-11 Sep. 1996	Organiser
13.	Workshop on Coastal Regulation Zone	29 Jan. 1997	Organiser
14.	National Workshop on Ground Water Management and Rain water Harvesting.	6-8 Oct. 1997	Organiser
15.	Awareness programme on Remote Sensing Applications	21-22 Sep.1998	Organiser
16.	National Seminar on Marine Remote Sensing Applications	23-25 Sep. 1998	Organiser
17.	86 th Indian Science Congress	1-7 Jan.1999	Organiser Exhibition
18.	Workshop on Harbour Area Management	14&15 March. 2000	Organizer
19.	Application of remote Sensing And GIS in Coastal Zone Management	11 Dec. 2000 -10 Jan. 2001	Course Director
20.	Workshop on "Awareness on Coastal Zone Issues"	3 & 4 May 2002	Course Director
21.	Workshop on "Training Manual Preparation for ICM course"	12 Nov-22 Nov 2002	Co-ordinator
22.	Training of Trainers workshop	26 Nov - 230 Nov 2002	Co-ordinator
23.	Application of remote Sensing And GIS in Coastal Zone Management	21 Nov - 1 Dec. 2002	Course Director
24.	Workshop on Integrated Coastal Zone Management for Andaman & Nicobar islands	14 th - 17 th Feb 2003	Organiser
25.	Workshop on Integrated Coastal	19 th - 21 June 2003	Organiser

	Zone Management for Andaman & Nicobar islands		
--	---	--	--

B. INTERNATIONAL

S.No	TITLE& SPONSOR	DATE	RESPONSIBILITY
1.	International Seminar on "Sustainable Management of Coastal Ecosystems" (Canadian International Development Agency)	7-9 Oct. '91	Member in Organising Committee
2.	International Workshop on Remote Sensing for Oceans and Coastal Resources Management (Common wealth Science Council, London)	16-20 Jun. 1997	Co-organiser
3.	Training Course on Integrated Coastal Zone Management (DFID,UK)	10-26 th Nov.1999	Course Director
4.	International Workshop from River to Coast (CZM Center, Netherlands)	1-2 Dec,1999	Organiser
5.	International Workshop on Land Use Landcover changes Modelling in Coastal Areas (COSTED & UN)	17-21 April, 2000	Organiser
6.	International Training course on Integrated Coastal Zone Management : Train the Trainers (UK collaboration /DFID)	23-30 June, 2000	Course Director
7.	Workshop on Intergrated Coastal Zone Management (University of New Castle ,UK)	11-13 July, 2000	Organiser
8.	International training Programme On Integrated Coastal Zone Management (DIFD UK)	13Nov.-1 Dec, 2000	Course Director
9.	International Workshop on Integrated Coastal Zone Management and Planning	4-8 Dec. 2000	Organiser

	(CDG,Germany)		
10	International Training Programme on "Training of Trainers"	12 to 14 June 2001	Course Director
11.	International Training Programme on Integrated Coastal Zone Management	28 June and 24 July 2001	Course Director
12.	International Training Course on "Integrated Coastal Zone Management" for social scientists	4 - 7 Sep 2001	Course Director
13.	International Training Programme on Integrated Coast Management for Bangladesh Government officials	27 Aug - 8 Sep 2001	Course Director
14.	International Training programme on ICZM	5-23 Nov. 2001	Course Director
15.	International Workshop on "Bay of Bengal Sub Region Task Force" under Global International Water Assessment	27 and 30 March 2002	Course Director
16.	International Workshop on Impacts of Urbanisation on Coastal Zone Management	10 - 12 Oct.2002	Organiser
17.	Training of Trainers Workshop under ICZOMAT	26 - 28 Nov 2002	Course Director
18.	Three weeks training in "Urban Environment and Marine resources Management" in collaboration with Univ. of Amsterdam, The Netherlands	19 th June to 6 th July 2003	Course Director

RESEARCH PROJECTS

No.	TOPIC	GRANT IN LAKHS	AGENCY	STATUS/ PERIOD
1.	Marine Biomass Energy (Under UGC-DSA)	0.8	UGC	Completed (1988)
2.	Management of Over stressed Coastal Aquifers	56	UGC/COSIST	Completed (1990-95)
3.	Impact of Agriculture on Groundwater Quality	1.65	BGS, UK (Geological Survey)	Completed (1992)
4.	Coastal Mapping for Brackish water Aquaculture	0.64	SAC, Ahmedabad	Completed (1992)

	site selection			
5.	Coral reef map validation in Andaman & Nicobar islands	0.50	SAC, Ahmedabad	Completed (1992)
6.	Impacts of Point Resources of Pollution in Vaigai Basin	8.0	MHRD, New Delhi	Completed (1992 - 95)
7.	Coastal Zone Information System Pilot Study	1.0	NRSA, Hyderabad	Completed (1993)
8.	Marine Remote Sensing Information System (All India Co-ordinated Project - Principal Investigator)	130	Dept. of Ocean Development	Completed (1993 - 97)
9.	National Ocean Information System (All India Co-ordinated Project - Principal Investigator)	50	- Do -	- Do -
10.	Reuse of treated domestic wastewater - An alternative resource for Irrigation	3.52	INCH, New Delhi	Completed (1994 - 96)
11.	Coastal Regulatory Zone Mapping of Andaman & Nicobar islands	4.0	MOEF & SAC Ahmedabad	Completed (1994 - 97)
12.	Coastal wetland mapping of Andaman & Nicobar islands	3.55	DOD & SAC Ahmedabad.	Completed (1994 - 97)
13.	Application of Remote Sensing in Coastal Ecology with special reference to Mangroves.	4.60	MOEF, New Delhi	Completed (1994 - 97)
14.	Agricultural reuse of Industrial Wastewater in the context of Rural Development.	4.80	NABARD Bombay	Completed (1994 - 98)
15.	Application of Remote Sensing & GIS in Harbour Area Management.	5.9	DOD, Madras and Tuticorin Port Trusts	Completed (1994 - 98)
16.	Coastal fragile areas	3.0	CPCB, New Delhi	Completed (1995 - 97)
17.	Ocean Information Service	50	DOD, New Delhi	Completed (1998 -2002)
18.	GIS based information system	28.4	DOD /World Bank	Completed (1998 -01)
19.	Seawater Use classification studies	80	DOD	Ongoing (1998 -07)
20.	No Impact Zone studies in coastal wetlands	49.5	DOD	Completed (1998 -03)
21.	Environmental impact of aquaculture in Orissa & West	9.75	ICAR/CIBA	Completed (1998-2001)

	Bengal			
22.	Manpower Development in Marine Remote Sensing	15	DOD	Completed (1998-2002)
23.	ICZM Training project	600 (850,000 £)	DOD DFID,U.K.	Completed (1999 -2002)
24.	AICTE Scheme TAPTEC Environmental Impacts of Ennor satellite port	19	AICTE	Completed (2000-2003)
25.	Coastal Regulation zone Information System for TN	2.73	MOEF	Completed (2000 Sep-2001 March)
26.	Monitoring of coastal Processes Using IRS - P4 data	1	ISRO	Completed (2000-2002)
27.	Identification Of Ecologically Important Areas	33.24	MOEF	Completed (2001 April-Dec 2002)
28.	Integrated Coastal Zone Management for Andaman & Nicobar islands	88.00	MOEF	2002-2004 April
29.	Digitization of CZM-Plan of east coast of India	11.50	MOEF	2002-2004 April
30.	GIS based Data base for Marine pollution	65.00	DOD	2002-2007
31.	Zonation of Coastal Waters	75.00	DOD	2002-2007
32.	ENVIS- Center for ICM	6.70/year	MOEF	2002 to Continue
33.	Eco-Toxicology	31.50	DOD	2002- 2007
34.	Impacts of Developmental Activities on Biodiversity Tuticorin coastal area	14.50	DOD	2003-2006
35.	Pesticides analysis for COMAPS	150.00	DOD	2003-2007

Travel Abroad:

No.	Country	Date	Purpose
1	USA	1981 Jan - 1985 Jan	Higher Studies (Ph.D)
2	Belgium	1983 July - August	Presented a paper at the VII International Photosynthesis Congress held at Brussels.

No.	Country	Date	Purpose
3	The Netherlands	1983 July - August	Presented a research paper at the International Workshop on mode of action of pesticides on Photo-synthesis at Wagenangen
4	Switzerland, Spain, France, Italy and West Germany	1983 July - August	Visited Universities
5	Indonesia (Jakarta)	1990 March	Attended an International Workshop on Coastal Systems Curricula suited to 21st Century
6	Malaysia & Singapore	1990 March	Visited Institutions
7	Japan	1991 February	Attended a training in Analytical Instrumentation at HITACHI lab.
8	Hong Kong	1991 February	Visited HongKong University and delivered lectures.
9	Sweden	1992 August	Attended an Intl. Workshop at Uppsala University & Presented a paper in Stockholm Water Symposium
10	Bangkok	1993 November	Presented paper - Intl. Symposium on "Environmentally Sound Water Resource Management".
11	Bangkok	1994 February	Participated in a training course on Storm surges, river flow and their combined effects in low lying coastal areas.
12	Bangkok	1995 November	Participation in Intl. Workshop on HYDROCOAST '95.
13	Indonesia (Jakarta)	1996 November	Expert Lecturer in IOC/Germany Advanced Training Course on Sea level changes and evolution of Coastal environments.
14	Germany	1996 December	Visit to Institute of Hydrology and participation in International Symposium on Socio-economic benefits of ICZM at Bremen
15	Netherlands	1997 October	Invited speaker at IGBP -Loicz open Science meeting.
16	Srilanka	1997 December	Invited Speaker at South Asian Regional Workshop on Global Coral Reef Monitoring Network.
17	Lisbon, Portugal	1998, August	To participate in the International Conference and to present paper

No.	Country	Date	Purpose
18	Hanoi, Vietnam	1998, Nov-Dec	To participate in the International Conference and to present paper
19	Sri Lanka	1999, February	To attend International Conference and to present a paper
20	U.K.	1999, June-July	To attend the Training Course
21	Argentina	1999, November	To attend LOICZ Workshop
22	Germany	1999, December	To attend the Workshop and present a Paper
23	Germany	2000, October	Participated and Chaired workshop on ICZM
24	U.K.	1 - 21 Aug 2001	Higher Education Academic Link Programme
25	U.K.	11 - 30 Aug 2002	Higher Education Academic Link Programme
26	Germany	4 - 7 Nov 2002	ICM Research Project Development
27	Sri Lanka	28-30 April 2003	UNEP-GPA Regional meeting, UK

Memberships In Professional Societies:

1. Life Member - Indian Water Resources Society.
2. Life Member - Marine Biological Association of India.
3. Life Member - Indian Society of Remote Sensing.
4. Life Member - Indian Society of Geomatics.
5. Life Member - Society of Fisheries Technologists.
6. Life Member - Indian Science Congress Association (ISCA)
7. Secretary Indian society of Remote Sensing Madras Chapter

Nomination To Professional Bodies:

1. Expert Member Environment Appraisal Committee for infra structure Project , MOEF,GOI (2000-2004)
2. Expert Member National Coastal Zone Management Authority (The Apex Body for Coastal Zone Management in the Country),MOEF,GOI (2001-2004)
3. Member Expert Committee for identification of Ecologically Important areas, MOEF,GOI (2001-2004)

4. Expert Member Tamil Nadu State Coastal Zone Management Authority (The Apex Body for Coastal Zone Management in the State),MOEF,GOI (2001-2004)
5. Expert Member Andaman Coastal Zone Management Authority (The Apex Body for Coastal Zone Management in the UT), MOEF, GOI (2001-2004)
6. Expert Member Management Board of Ocean Science & Technology Cell of Berhampur and Bhavnager Universities, nominated by DOD, GOI(1998-2002 ; 2002-2007)
7. Member Standing Committee on Ocean Resources, Dept. of Space. GOI (1995 - 1997 & 1998 - 2002) .
8. Member Technical Sub Committee for Environmental Impact assessment for East Coast road project MOEF,GOI(2000)
9. Expert Member Tamil Nadu State Fisheries Council (1998-2001)
10. Expert Member Scientists Staff Selection Committee in Department of Ocean development and Department of Space, Government of India (1998-2002 ; 2002-2006)
11. Expert Member Technical Advisory Committee for the World Bank Funded Projects (1998-2001) for Dept. of Ocean development
12. Expert Member Technical Advisory committee in the World Bank funded Project for Modal plan development and to monitor and evaluate foreign consultants activity (1999-2001) for Dept. of Ocean development
13. Expert Member Scientist staff selection committee, appointed by the DOD, New Delhi for the selection of PSO, SSO (1999-2001)
14. Member Steering Committee to review the status of CRZ in India (2000).
15. Expert Member Tamilnadu State Fisheries Research Council, Chennai (1999-2000)
16. Expert Member Selection Committee in the selection of Scientists, NIOT, Chennai (1999-2000)
17. Member Working Group on Fisheries of Tamil Nadu State

- Planning Commission for drafting 9th Five Year Plan
18. Member National Expert Committee to draft formulations of 9th Five year Plan/ Programmes of Department of Ocean Development in areas of marine environment and coastal zone. (1996-1997).
 19. Member National Advisory Committee of National Ocean Information Centre for Marine Sciences by NISSAT/DSIR. (1996-1998).
 20. Member Working group on Ocean related Biological and Coastal zone of NOIS (DOD, GOI). (1995 - 1997).
 21. Member National Expert Committee on Coastal Zone Management, DOD, GOI (1992 - 97).
 22. Member National Steering Committee for Remote Sensing Application in Oceanography, Dept. of Ocean Development, GOI (1992 - 1997).
 23. Member National Steering Committee for National Ocean Information System (NOIS), DOD, GOI (1992 - 97).
 24. Member Study group constituted by the Tamilnadu State Planning Commission to study the Forestry, Fishing and Agricultural activities in Coastal areas (1994 - 1996).
 25. Member High Level Committee constituted by the Tamilnadu State Planning Commission for the "Integrated Coastal Zone Development Programme (ICDP) (1994 - 1996).
 26. Member Working Group of GTZ (Germany) - IRS project on Coastal Zone Information Management. (1993 - 96).
 27. Member Expert Committee on "Issues of Aquaculture in Coastal districts of Tamilnadu to solve the problems faced by Aquaculturists (1993) constituted by Govt. of T.N.

OTHER ACTIVITIES:

- Served as an Expert Member in the bilateral assistance scheme under the Department for International Development (DFID), UK for a period of four years (1999-2003).
- Served as the Chairman of the Exhibition Committee in the 86th Indian Science Congress, 1999 hosted by Anna University. A souvenir cum exhibition directory was also brought out.

Membership In Academic Committees:

1. Member in Board of Question paper setters and Board of Studies in University of Madras, Annamalai University, Andhra University, Madurai Kamaraj University, Cochin University, Berhampur University, Bharathiar University, Manonmaniam Sundaranar University, Bharathidasan University and Kerala University.
2. Member and Chairman in M.Phil., Ph.D. Examiners Board in Annamalai University, Cochin University, Madras University, Madurai University, Osmania University, Andhra University, Pondicherry University, Bharathidhasan University and Kerala University.

Seminars & Symposia Attended:

International Seminar / Symposia : 35
National Seminar / Symposia : 45

Research Guidance:

	<u>Completed</u>	<u>Guiding</u>
M.E.	10	--
M .S.	1	1
Ph.D.	15	12

List Of Ph.D. Theses Awarded :

Name of Candidate	Year	Topic	Faculty
1. L. Elango,	1992	Hydrochemistry and mass balance Modeling of multi layered aquifers	Civil Engg.
2. N.K. Ambujam	1994	Waste water reuse in Irrigation	Civil Engg.
3. R. Krishnamoorthy,	1996	Remote Sensing of Mangrove Forests in Tamil Nadu coast, India.	Civil Engg
4. V.S.Gowri	1997	Impacts of Adyar and Cooum river discharges on the water and sediment qualities of Marina Beach, Chennai.	Science & Humanities
5. Z.F. Parviz	1998	Use of Fuzzy classification in the Land use and land cover changes in the North Madras area.	Civil Engg
6. T. Ravisankar	1999	Equity, efficient and economics of Aquaculture	Science & Humanities
7. I.Rajarajashree Pramila Devi	2000	Impact of Aquaculture on Coastal Environment	Civil Engg.
8. M.Thanikachalam	2001	Management of Coral Reefs in Gulf of Mannar using Remote Sensing and GIS Techniques- with reference to coastal geomorphology and land use	Civil Engg.
9. M.Jayanthi	2001	Evaluation of Aquaculture and its impacts in Pichavaram	Civil Engg
10. R. Uma maheswari	2001	Application of RS &GIS in Critical Coastal Habitat Management	Science & Humanities

11.P.Kasinathapandian	2002	Coastal Dynamics of North Chennai Coast	Civil Engg
12. A. Surendran	2003	Application of RS &GIS in Chennai Harbour area Management	Science & Humanities
13. K. Selvavinayagam	2003	Application of RS &GIS in Tuticorin Harbour area Management	Science & Humanities
14. D. Deboral Vimala	2003	Training Needs of Shrimp farmers in Tamil Nadu	Civil Engg.

List Of Ph.D. Theses Ongoing:

Name of Candidate	Year	Topic	Faculty
S. Nagamani	2000	Application of Remote Sensing and GIS in land use land cover changes along Tamil nadu coast	Science & Humanities
P. Murali Krishna	2000	Application of Remote Sensing and GIS in Coastal Zone Management of North Chennai area	Science & Humanities
Kankara	2002	An Integrated Approach to manage the Marine Environment of Gulf of Kuchch	Science & Humanities
Y.Pari	2002	Integrated Coastal Marine area Management Plan for Chennai	Science & Humanities
V.Balamurugan	2002	Application of Remote Sensing and GIS in Gulf of Mannar management	Science & Humanities
Tune Usha	2002	Application of Remote Sensing and GIS in ICZM for Goa	Science & Humanities
K.Dharanirajan	2002	Application of Remote Sensing and GIS in ICZM of Andaman and Nichobar Islands	Science & Humanities
M I. Preeti	2003	Impacts of Developmental activities on Tuticorin coast	Science & Humanities
P.G. Dastidar	2003	Scientific Research Management in Ocean Sciences	Science & Humanities
A.Senthil vel	2003	Science and Policy for Integrated Coastal Zone	Science & Humanities

		Management	
R.Senthil vadivu	2003	Integrated Coastal Zone Management for Andaman Islands	Science & Humanities

PUBLICATIONS:

Research Papers :

International / National Journals	: 28
In Books	: 33
International Conferences	: 52
National Conferences	: 52
Invited Lectures	: 49

Proceedings :

1. Proceedings of the National Seminar on "Ocean Resources" 1986
2. Proceedings of the National Workshop on "Aquaculture Engineering" 1988
3. Proceedings of the National Workshop on "Coastal Zone Management" 3 Volumes
4. Proceedings of the Workshop on Land Use Landcover changes Modelling in Coastal Areas 1999

Books :

1. Current Trends in Coastal Marine Sciences- Anna University Publication (1991) (170 pp) Editor
2. Coastal Zone Management - Anna University Publication (1991) (350 pp) Editor

- | | | | |
|----|---|----------|--------------------|
| 3. | Sustainable Aquaculture
- Anna University Publication
(1996) | (245 pp) | Editor |
| 4. | Groundwater Management
- Oxford - IBH Publication
(1999) | (120 pp) | Editor |
| 5. | Integrated Coastal Zone
Management - Principles and
Practices
by Springer, Berlin (1999) | (380 pp) | Editor |
| 6. | Marine Remote Sensing Application
-Anna University Publication (2000) | (400 pp) | Editor |
| 7. | Coastal Fragile Areas
- CPCB, New Delhi (2000) | (277 pp) | Report
Compiled |
| 8. | Coastal Environment and
Management - Anna University
Publication (2002) | (389 pp) | Editor |
| 9. | Urban Coastal Environment
- Capital Publishers, New Delhi
(2003) | (220 pp) | Editor |

REPORTS COMPILED :

1. Report on the Mapping of Suspended Sediment Concentration along the Coastal Waters of Tamilnadu
2. An Interim report on Ecologically Sensitive areas of Indian Coast.
3. Report on GIS based Coastal Zone Information System (Pilot Project in (Rameshwaram area).
4. Case studies on coastal fragile areas. (Part A- East Coast; Part B - West Coast)
5. MARSIS Newsletter.
6. Application of Remote sensing for Coastal wetland ecology

7. Integrated Coastal Zone Management of Tadri region, Karnataka
8. Coastal Wetland Mapping of Andaman & Nicobar Islands.
9. Coastal Regulation Zone Mapping of Andaman & Nicobar Islands
10. Marine Satellite Information Services - Project Report
11. Reuse of Industrial Wastewater
12. Report on Critical Habitat Information System – World Bank funded Project
13. Report on No Impact Zone Studies at Pulicat lake
14. Report on Zonation of Coastal Waters
15. Report on Ecologically Important Areas along Indian Coast
16. ENVIS Newsletter

COURSE MATERIALS :

1. UGC Refresher Course on Water Resources: Water Quality Monitoring, Modelling and Management - 2 volumes.
2. Manual on Methodology for Biological parameters under GIS based Information system for critical coastal habitats in India.
3. Two Course Volumes for Integrated Coastal Zone Management Course
4. Two Course Volumes for Remote Sensing applications In Coastal Zone Management

OTHER OUTPUT PRODUCTS :

1. Coastal Land use Maps - 34 Nos. for Tamilnadu
2. Coastal Wetland Maps for Andaman & Nicobar Islands – 46.
3. Coastal Regulation Zone Maps for Andaman & Nicobar Islands – 115.

4. Critical Habitat Information System (database for 22 sites)
5. Compact Discs -3.Nos., Pulicat lake, Chennai Coast and Pichavaram mangroves
6. Coastal Regulation Zone Maps For Tamil Nadu - 64
7. Ecologically Important Areas Maps - 850

PUBLICATIONS

In National / International Journals:

1. Ramachandran,S., N.Rajendran and V.K.Venugopalan, 1980. Effect of pesticides, DDT, Dimethoate and sevin on the growth of marine diatom *Coscinodiscus concinnus* in culture. Mahasagar (Bull. Natl. Inst. Oceanogr). 13(3): 235 - 238.
2. Ramachandran,S., N.Rajendran, R.Nandakumar and V.K.Venugopalan, 1981. Inhibition of photosynthesis and respiration by chlorinated hydrocarbons in some marine algae. Mahasagar (Bull.Natl.Inst.Oceanogr.). 14(4): 317 - 319
3. Balasubramanian,T., R.Nandakumar, B.Loganathan, N.Rajendran, S.Ramachandran and V.K.Venugopalan, 1983. The Ultra-Violet absorption characteristics of Vellar estuary. Mahasagar (Bull.Natl.Inst.Oceanogr.). 16(3): 265-174.
4. Mitsui,A., E.J.Philips, S.Kumazawa, K.J.Reddy, S.Ramachandran, T.Matsunaga, L.Haynes and H.Ikemoto, 1983. Progress in Research toward Outdoor Biological Hydrogen Production using Solar Energy, Sea water and marine Photosynthetic Microorganisms. Ann.N.Y.Acad.Sci. 413: (Biochemical Engineering III). 514 - 530. New York Academy of Sciences, USA.
5. Ramachandran,S., N.Rajendran, R.Nandakumar and V.K.Venugopalan, 1984. Effect of pesticides on photosynthesis and respiration of some marine macrophytes. Aquatic Botany. 19: 395 - 399.
6. Ramachandran,S. and A.Mitsui, 1984. Effect of seawater quality on biomass and hydrogen photoproduction by a marine blue green alga *Oscillatoria* sp. Miami BG 7.Adv. Photosynthesis Research II.8. 805 - 808. Netherlands.
7. Ramachandran,S. and A.Mitsui, 1987. Hydrogen photoproduction by immobilised cells of a marine cyanobacterium *Oscillatoria* sp. Miami BG 7. Indian Natl. Sci.Acad. B.53. No.5. 449 - 454.
8. Ramachandran,S. and V.K.Venugopalan, 1987. Nitrogen fixation by blue green algae in Porto-Novo marine environments. J.Mar.Biol.Ass. India. 29(1&2): 337 - 343.

9. Ambujam,N.K. S.Ramachandran and N.V.Pundarikanthan, 1990. Reuse of wastewater in irrigated agriculture (in Tamil) Kalangiyam 5(1): 56 - 59. Anna University, Madras.
10. Ambujam,N,K. and S.Ramachandran, 1990. Wastewater Irrigation - An alternate Resource for Indian Agriculture. J.Indian Water Resources Society. 10(4): 8-16.
11. Ramachandran,S., 1991. Our changing Environment (in Tamil). Kalangiyam. 5(4): 26 - 31.
12. Ambujam,N,K. and S.Ramachandran, 1991. Wastewater irrigation and public Health. (in Tamil). Kalangiyam. 5(4): 54 - 61.
13. Ramachandran,S. and A.Narayanan, 1991. Nitrate and pesticide concentrations in groundwater of cultivated areas in North Madras. Ind.J.Enviro.Hlth. 33(4): 421 - 425.
14. Ramachandran,S. T.Balasubramaniam and V.K.Venugopalan, 1991. Photosynthesis Respiration and Exudation of Organic matter by some marine macro-algae. J.Mar.Biol.Ass.India. 33(1&2): 379 -384.
15. Elango,L. and S.Ramachandran, 1991. Major ion correlation in groundwater of a coastal aquifer. J.Ind.Wat.Res.Soc. 11(4): 54 - 58.
16. Ramachandran,S. A.Narayanan and N.V.Pundarikanthan, 1991. Impacts of irrigated agriculture on groundwater quality. Journal of Indian Water Resources Society. II(4): 58- 61.
17. Ramachandran,S., 1992. Energy production from marine biomass - A renewable source (in Tamil). Kalangium 6 (3): 43-49.
18. Elango,L., S.Ramachandran and Y.S.N.Choudary, 1992. Groundwater Quality in Coastal Regions of South Madras. Ind.J.Enviro.Hlth. 34(4):318 - 325.
19. Ambujam,N,K. Arunkumar Padhi and S.Ramachandran, 1992. Use of Waste-water in irrigation for 'Co 7' finger millet (*Eleusine coracana*). Ind.J.Agri.Sci. 63(1): 14-18.
20. Ramachandran, S., 1995. Recycling of the Marine Bluegreen algal hydrogen production system. Seaweed Res. Utilin. 17:91-104.

21. Prakash Chauhan, S.Nayak, R.Ramesh, R.Krishnamoorthy and S.Ramachandran, 1996. Remote sensing of suspended sediments along the Tamil Nadu coastal waters. *J. Indian Soc. Remote Sensing*. 24 : 105-115.
22. Ramachandran,S., R.Krishnamoorthy, S.Sundaramoorthy, Z.F.Parviz, A.Kalyanamuthiah and K.Dharanirajan, 1997. Management of coastal environments in Tamilnadu and Andaman & Nicobar islands based on remote sensing and GIS approaches. *MAEER'S MIT Pune Journal*, Vol IV (Nos. 15&16) Special issue on Coastal Environmental Management, Pune, India,129-140.
23. Ramachandran, S., S.Sundaramoorthy, R. Krishnamoorthy, J. Devasenapathy and M.Thanikachalam. 1998. Application of Remote Sensing and GIS to coastal wetland ecology of Tamilnadu and Andaman and Nicobar group of islands with special reference to mangroves. *Current Science*. 75(3): 236 - 244
24. Ramachandran,S., and S. Krishnamoorthy, 1999, Mangrove and Wetland Management, *GIS @ Development III* (5): 52-55
25. Rajmohan, N., Elango,L., Ramachandran, S. and Natrajan,M. 2000, Major Ion Concentration in Ground water of Kancheepuram region South India. *Ind. J.EnvIRON.Prot.*20, (3) 188-193.
26. Babu Rajendran, R, H.Tao, A.Miyazaki, R.Ramesh and S.Ramachandran. 2001. Determination of butyl, phenyl, octyl and tributyl mono methyl tin compounds in a marine environment (Bay of Bengal, India) using GC - Inductively coupled mass spectrophotometer. *Env. Monitoring*. 3:627-634 PP.
27. Rajaguru.S and S.Ramachandran,2001, Temperature tolerance of estuarine fishes, *J. Thermal Biology* ,26:41-45.
28. Thanikachalam, M and S.Ramachandran 2002. Conservation of coral reefs in Gulf of Mannar: A remote sensing and GIS approach. In: *Indian Society of Geomatics (ISG News letter)* Vol 9 (I & II) pp 65-71.
29. Kasinatha Pandian, P., S.Ramesh, S.Ramachandran, M.V.Ramanamurthy and S.Thayumanavan, 2002. Study on Coastline changes and sediment transport using numerical modeling. *Anna University Research Communication* 1(5) : 12 pp.
30. R.Krishnamoorthy, G.S.Bharathi, P.Periyakali and S.Ramachandran 2002. Coastal Zone hazards in India. Study based on Remote sensing and GIS techniques. In "Observing - New solutions for new millennium"

31. Thanikachalam. M and S.Ramachandran. 2002. Conservation of coral reefs in Gulf of Mannar: A remote sensing and GIS approach. In J. India Society of Geomatics (ISG News letter) vol 9 :pp 65-71.
32. Kasinatha Pandian P, S.Ramesh, S.Ramachandran, M.V. Ramanamurthy and S.Thayumanavan. 2002. Study of Coastline Changes and Sediment Transport Using Numerical Modeling, Anna University Research Communication. 1(5):12 pp.

IN BOOKS:

1. Ramachandran,S., 1989. An applied Algal Biomass-Hydrogen production system using seawater and solar energy. Advances in Applied Phycology - II: Today & Tomorrow Printers & Publishers, New Delhi, 249 - 262.
2. Ramachandran,S., 1990. Biohydrogen from marine algae as an alternative fuel. In: Current Trends in Coastal Marine Sciences (Eds) S.Ramachandran & S.Rajagopal, Anna University, Madras, 97-105.
3. Ramachandran,S., 1990. Marine Algal Biomass - Hydrogen production system as an alternative energy resource. In: Perspectives in Phycology (Ed) V.N.Raja Rao. Today & Tomorrow Printers & Publishers, New Delhi, 341-348.
4. Ramachandran,S. and R.Natarajan, 1990. Impacts of sea level rise on estuarine ecosystems. In: Sea level variation and its impact on Coastal Environment (Ed). G.Victor Rajamanickam, Tamil University, Tanjore, No. 131. 261-278.
5. Ramachandran,S., 1991. Marine Pollution in Tamil Nadu -A Status Report. In: Marine Pollution and Toxicology. (Eds) V.K.Venugopalan and T.Balasubramanian, University, 143 - 160.
6. Ramachandran,S., 1991. Energy from Marine Biomass. In: Coastal Zone Management (in Tamil Nadu State, India). (Eds.) R.Natarajan, S.N.Dwivedi and S.Ramachandran, Anna University, Madras 276-281.

7. Ramachandran,S., S.Rajagopal, S.Sundaramoorthy and R.Natarajan, 1991. Coastal Pollution. In: Coastal Zone Management (in Tamil Nadu State, India). (Eds.) R.Natarajan, S.N.Dwivedi and S. Ramachandran, Anna University, Madras, 303-319.
8. Natarajan,R., S.N.Dwivedi and S.Ramachandran, 1991. Tamil Nadu Coastal Zone Management. In: Coastal Zone Management (in Tamil Nadu State, India). (Eds.) R.Natarajan, S.N.Dwivedi and S. Ramachandran, Anna University, Madras, 328 - 332.
9. Krishnamoorthy,R., Usha Natesan, S.Ramachandran and R.Natarajan, 1992. Qualitative Remote Sensing of Suspended Sediment Content, Coral reef and Chlorophyll concentration in Gulf of Mannar. In: Remote Sensing Applications and Geographic Information Systems - Recent Trends (Ed.I.V.Muralikrishna), Tata McGraw Hill Publishing Company Ltd. New Delhi, 309-313.
10. Ramachandran,S., 1993. Sea level rise and its impacts on coastal ecosystems. In: Sustainable Management of Coastal Ecosystems, Madras (Eds.) M.S.Swaminathan and R.Ramesh, Anna University, 171-178.
11. Krishnamoorthy,R., S.Sundaramoorthy, D.Mohan, V.S.Gowri and S.Ramachandran,1994. Status of Mangroves along Tamil Nadu Coast and their spectral properties - A Remote Sensing approach. In: Remote Sensing and Geographical Information Systems for Environmental Planning. (Ed.) I.V. Muralikrishna, Tata McGraw Hill Publishing Company Ltd. New Delhi, 397-409.
12. Ambujam,N.K., S.P.Karthikeyan and S.Ramachandran, 1996. Aquafarm discharge treatment and management. In: Sustainable Aquaculture, (Ed. S.Ramachandran), Anna University, 68-83.
13. Mohan,D., S.Sundaramoorthy and S.Ramachandran, 1996. Water management and water quality control in aquaculture farms. In: Sustainable Aquaculture, (Ed. S.Ramachandran) Anna University, Madras, 116-137.
14. Krishnamoorthy,R., S.Sundaramoorthy, D.Mohan and S.Ramachandran, 1996. Application of remote sensing and GIS in Survey and site selection for Aquaculture practices. In: Sustainable Aquaculture, (Ed. S.Ramachandran) Anna University, Madras, 158-173.
15. Mohan,D. and S.Ramachandran, 1996. Status of shrimp farming in India. In: Aquaculture for 2000 AD. (Ed). Samuel Paulraj, Palani Paramount Publications, 21-28.

16. Ramachandran,S., D.Mohan, R.Krishnamoorthy and S.Sundaramoorthy, 1996. Role of Remote sensing in fisheries management for rural development. In: Technological Advancement in Fisheries (Ed.) Madhusoodhana Kurup, Cochin Univ. of Sci. and Technology, (In press).
17. Ramachandran, S., R. Krishnamoorthy, S.Sundaramoorthy and D. Mohan, 1997. MARSIS and CZIS approaches for Integrated Coastal Zone Management : Case studies in India. In: Regional Seas towards Sustainable Development (Eds. S.Belfiore, M.G.Lucia and E.Pesaro), Publ. by International Geographical Union and International Centre for Coastal and Ocean Policy Studies,. 183-193.
18. Ramachandran, S., S. Sundaramoorthy, R. Krishnamoorthy, J. Devasenapathy and M.Thanikachalam. 1998. Application of Remote Sensing technology to coastal wetland ecology of Tamilnadu with special reference to mangroves. In: Proc. Natl.Seminar on Conservation of Eastern Ghats. The Eastern Ghats. ENVIS Centre (EPTRI) 383-405.
19. Ramachandran, S., 1999 Coastal Zone Management in India, Problems, practices and requirements In: Perspectives on Integrated Coastal Zone Management W.Salomons, R.K.Turner, L.D.de Laurda and S. Ramachandran (Eds.) Springer Veflag 211-226
20. Ramesh, R., and S. Ramachandran, 1999 Coastal Zone Management: Issues and Initiatives in Small South Asian Nations. In: Perspectives on Integrated Coastal Zone Management, W Salomons, R.K. Turner, A.D.de Laurda and S. Ramachandran (Eds.) Springer-Verlag. 235-254
21. Ramachandran.S., 2000. The South East India (Chapter 63) In: Seas at the millennium an environmental evaluation. Volume II Regional Chapters, The Indian Ocean the Pacific (Ed.Charles R. Shepphard). Pergamon Press.161-173
22. Ramachandran.S., 2000. Andaman , Nicobar and Lakshadweep islands (Chapter 65) In: Seas at the millennium an environmental evaluation. Volume II Regional Chapters , The Indian Ocean the Pacific (Ed.Charles R. Shepphard).Pergamon Press.189-197pp.
23. .Ramachandran S,2000 Principles of Remote Sensing. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 1-34
24. .Ramachandran S,2000 Remote Sensing Applications to oceanography. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 1-34

25. .Ramachandran S,2000 Principles of Remote Sensing. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 35-46
26. .Ramachandran S, J.Devasenapathy, S.Sundaramoorthy and R.Krishnamoorthy 2000 Satellite Remote Sensing applications to coastal zone Management In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 87-112
27. Mohan D. and S.Ramachandran ,2000Remote Sensing applications to fisheries. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 135-157
28. Krishnamoorthy R and S.Ramachandran ,2000 Application of Remote Sensing in mangrove wetland studies. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 168-208
29. Jayanthi.M and S.Ramachandran ,2000 Remote Sensing and Geographical Information System for aquaculture management.. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 304-315
30. .Ramachandran S, S.Ramesh and R.Krishnamoorthy ,2000 Application of Remote Sensing and GIS in coastal lagoonal ecosystem: A case study of Pilicat lake , southern India. In: Marine Remote Sensing Applications (Ed.S.Ramachandran) Anna University press 333-346pp
31. .Krishnamoorthy R, S.Ramachandran and S.Sundaramoorthy ,2001. Mangrove species radiance and reflectance in Visible and Near Infra Red . In: Remote Sensing Applications (Ed. M.G.Srinivas) Navarasam Publishing House 497-506 pp.
32. .Ramachandran et al,2001. Integrated management in Developing countries In: Science and Integrated Coastal Management (Eds. B.Von Bodengen and R.K. Turner) Dalhem University Press, Berlin ,Germany 32.
33. R.Krishnamoorthy, G.S.Bharathi, P.Periyakali and S.Ramachandran, 2002. Coastal Zone Hazards in India : Study based on remote sensing and GIS techniques. In: Observing our environment from Space - New solutions for a new millennium. Ed: G.Begni. AA Balkema Publications, Tokyo. 78-86 pp.

IN INTERNATIONAL SEMINAR / SYMPOSIA PROCEEDINGS:

1. Ramachandran,S. ,T.Balasubramanian, A.Yagamoorthi and V.K.Venugopalan, 1979. Photosynthetic release of dissolved organic matter by some benthic macro marine algae. In: Intl. Symposium on Marine Algae of Indian Ocean Region, CSMCRI, Bhavanagar, India. No.27, 22.
2. Ramachandran,S., N.Rajendran, R.Nandakumar and V.K.Venugopalan, 1982. Effect of pesticides on marine macrophytes in South Indian Estuary. Intl. Symp. on Utilisation of Coastal Ecosystems, Planning, Pollution and Productivity. Univ. Rio Grande, Brazil.
3. Ramachandran,S. and A.Mitsui, 1983. Effect of seawater quality on biomass and hydrogen photoproductivity by a marine blue green *Oscillatoria* sp. Miami BG 7. VI Intl. Cong. on Photosynthesis. Brussels, Belgium. 418.
4. Ramachandran, S., 1983. Effect of pesticides on marine photosynthetic organisms. Intl. Workshop on mode of action of herbicides on photosynthesis. Intl. Agrl. Centre, Wageningen, The Netherlands.
5. Ramachandran,S. and A.Mitsui, 1984. Recycling of Hydrogen photoproduction system using an immobilised marine bluegreen *Oscillatoria* sp. Miami BG 7 solar energy seawater. VII Intl. Biotechnology Symp. New Delhi, India. 183 & 184.
6. Mitsui,A., D.Rosner, S.Kumazawa, S.Barciela, E.Philips, K.J.Reddy, S.Ramachandran, A.Takajashi and J.Richard, 1985. Hydrogen production from salt water by marine blue green algae and solar radiation. In: Proc. 22nd Space Congress (Ed.) F.W.HaiseCanaveral Council of Technical Societies, Florida, USA. 11.7 - 11.14.
7. Ramachandran,S. and A.Mitsui, 1986. Biosystem catalysed continuous outdoor hydrogen production from seawater using solar energy. In: Hydrogen Energy Progress (Eds.) T.Veziroglu & N.Getoff, Pergamon Press. New York. Paper presented at VI World Energy Congress, Vienna, Austria.
8. Ramachandran,S., 1987. Marine Algal Biomass - Hydrogen production system as an alternative energy resource. In: Intl. Symp. on Phycology, University of Madras, Madras 1- 9.
9. Ramachandran,S. and A.Mitsui, 1987. Hydrogen photoproduction by immobilised cells of a marine cyanobacterium *Oscillatoria* sp. Miami. BG 7. Indo - USSR Binational symposium on photosynthesis under environmental stress. Jawaharlal Nehru University, New Delhi.

10. Ramachandran,S., 1987. Photoproduction of hydrogen by a marine bluegreen alga *Oscillatoria* sp. Intl. Phycotalk Symp. Banarus Hindu University, Varanasi.
11. Ramachandran,S., 1989. Algal nitrogen fixation and its role in nitrogen budget in a tropical marine estuary. Intl. Symp. on Estuarine Water Quality Management, Geethact - FRG.4.
12. Ramachandran,S. and A.Mitsui, 1989. Outdoor Biomass and Hydrogen photoproduction by a Marine Bluegreen Alga *Oscillatoria* sp. in Natural Seawater Culture Systems. In: Intl. Marine Biotechnology Conference, Tokyo, Japan.
13. Elango,L. and S.Ramachandran, 1991. Salt Balance model for an alluvial aquifer. International Conference on Modeling Groundwater flow and pollution. China. 479-486.
14. Ambujam,N.K., R.Lalitha, S.Ramachandran and N.V.Pundarikanthan, 1992. A case study on the effect of continuous application of urban wastewater for land irrigation. In: Proc. A holistic approach to water quality management, finding life styles and measures for minimizing harmful fluxes from land to water. Stockholm International Water Symposium, Sweden. 319-402.
15. Ramachandran,S., C.Santhi, N.K.Ambujam and N.V.Pundarikanthan, 1992. A Case study on the Industrial effluent reuse for crop irrigation (Paper, Sugar, Distillery and Dairy Industries). Ibid. 403-412.
16. Elango,L. and S.Ramachandran, 1993. Groundwater quality of South Madras Coastal Aquifer. In: Intl. Seminar on Hydrology, Kathmandu, Nepal.
17. Ambujam, N.K., V.Perasiriyam and S.Ramachandran, 1993. Forecasting the future of wastewater reuse in Indian Agriculture- A Delphi Study. In: Intl. Conf. Environmentally Sound Water Resources Utilization. I. 241-248.
18. Ramachandran,S., N.K.Ambujam and N.V.Pundarikanthan, 1993. Industrial & Domestic wastewater reuse in irrigated agriculture, Ibid. III. 144-151.
19. Krishnamoorthy,R., S.Sundaramoorthy and S.Ramachandran, 1994. Coastal Environment Management for Tamil Nadu and Andaman & Nicobar islands. In: 10th Environmental Research Institute for Michigan (ERIM) Thematic Conference on Geological Remote Sensing II. 1-110
20. Krishnamoorthy,R., S.Sundaramoorthy and S.Ramachandran, 1995. Remote Sensing and GIS in Geological assessment: Case study in Tamil Nadu state, India. In: Proc. International Space Congress, Bremen, Germany, 100-110.

21. Ramachandran, S., Krishnamoorthy, and S.Sundaramoorthy, 1995. Remote Sensing and GIS in for coastal zone management in Tamil Nadu - A case study. Hydrocaost'95. Proc. Intl. Workshop on `Water related problems in low-lying coastal areas', Bangkok, Thailand, 255-264.
22. Krishnamoorthy,R., S.Sundaramoorthy and S.Ramachandran. 1995. Assessment of water quality and siltation studies in Pulicat lagoon, Southeast India, using remote sensing. Proc. of Third Coastal Marine Conference of ERIM, Seattle, USA.II 1.- II.14
23. Parviz,Z.F., R.Krishnamoorthy, S.Ramachandran and A.Sundaram, 1995. Application of fuzzy technique for urban land cover classification using Indian Remote Sensing satellite data. Proc. of First Conference on Space Technology and Developing Countries, Teheran, Iran, pp. STC-95-144-1 - 144-7.
24. Ramachandran,S. and N.V.Pundarickanthan, 1996. Water related problems due to Natural Hazards in Low lying areas along Bay of Bengal. In: Proc. Intl. Conf. Disasters and Mitigation, Madras, B2.64-B2-68.
25. Radhakrishnan, R. Thiruvengkatachari,S. Abdul Hakkem,R. Pundarickanthan,N.V. and Ramachandran, S. 1996. Performance evaluation of modernized irrigation tanks in Tamilnadu using satellite remote sensing techniques. A case study. 8th Remote Sensing Conference, Canberra, Australia, March 25 -29, 1996.
26. Krishnamoorthy, R., S. Ramachandran and S. Sundaramoorthy, 1996. Mangrove species radiance and reflectance in visible and near infrared. Paper Presented at the Indo-US Symposium /Workshop on Remote Sensing and its applications , held at Indian Institute of Technology, Bombay 6-9 Oct 1996
27. Krishnamoorthy, R., Z.F.Parviz and S.Ramachandran , 1996 . Comparison of optical and microwave data and suitable techniques for mangroves mapping and inventory . Paper Presented at the Indo-US Symposium /Workshop on Remote Sensing and its applications , held at Indian Institute of Technology, Bombay 6-9 Oct 1996.
28. Krishnamoorthy, R., S. Ramachandran and S. Sundaramoorthy, 1996. Remote Sensing of Mangrove forests in Tamilnadu, India. In: Proc. Open Science Meeting of IGBP-Land Use and Land Cover Change (LUCC) core project of the IGBP . The Royal Academy of Sciences, Amsterdam, The Netherlands, January 1996 (L.Presco.etal. ed.) pp108-109

29. Ramachandran,S., 1996. Socio-economic impacts of coastal environmental degradation and need for Integrated Coastal Zone Management in India. In: Intern. Symposium on Socio-economic benefits of Integrated Coastal Zone Management, Bremen, Germany, December, 1996.p 77-81.
30. Krishnamoorthy, R., S. Ramachandran and S. Sundaramoorthy, 1996. Spectral reflectance of mangrove species in different environmental conditions along Tamil Nadu coast, Southeast Asia - a case study based on ground truth spectroradiometer. Proc. of Int.Conf. on Water Resource & Environ. Res., Vol. I, 587-594.
31. Ramachandran.S. 1997. Integrated Coastal Zone Management in India. In Proc. Open Science Meeting of IGBP - LOICZ held at Netherlands Oct.1997 (In Press).
32. Ramachandran. S. 1997. Coastal Resources Data Management. In Proc. South Asian Regional Workshop on Global Coral Reef Monitoring Network held at Sri Lanka, December, 1997.
33. Ambujam, N.K., S.Ramachandran and P.Nilarekha 1997. Urban waste water in Chennai City. In Proc. Intl. Conf. on Management of Drinking Water Resources. Dec 1977, Madras (In Press).
34. Krishnamoorthy, R. , S.Ramachandran and S.Sundaramoorthy 1997. Remote Sensing and GIS for Coral Reefs Mapping. In Proc. Regional Workshop on the Conservation and Sustainable Management of Coral Reefs. MSSRF, Chennai. pp 87-89.
35. Ramachandran, S., 1998. 'Remote Sensing and GIS applications in Coral reef mapping in Gulf of Mannar' in International Seminar on 'Coastal Biodiversity' at M.S. Swaminathan Foundation, Chennai, December, 1998.
36. Ramachandran, S.,1998. 'Satellite Remote Sensing applications in Ocean Resources: Utilization and Management in International conference on 'Satellite Oceanography and Society' at Lisbon, Portugal, August, 98
37. Ramachandran, S., 1998. Application of GIS in CZM - pilot study in Rameswaram in International conference on 'Future Regional options and related capacity building programmes on ICZM, South east Asia, at Hanoi,Vietnam, December, 1998.
38. Ramachandran, S., 1998. GIS for Critical Coastal Habitat Management A case study of Pichavaram Mangroves in International conference on 'Future Regional options and related capacity building programmes on ICZM, South east Asia, at Hanoi,Vietnam, December, 1998.

39. Ramachandran, S., 1998. . ICZM in India in International conference on `Future Regional options and related capacity building programmes on ICZM, South east Asia, at Hanoi,Vietnam, December, 1998.
40. Ramachandran, S., 1999. Changing Coastal regimes in small island states of South Africa (Maldives and Sri Lanka) in 4th Open Science meeting on Land Ocean Interactions on Coastal Zone (LOICZ) – Regimes of Coastal Change 88-89 at Bahia Blanca, Argentina, November, 1999.
41. Ramachandran, S., 1999. LOICZ linkages to Integrated Coastal Zone Management initiatives in India in Abs.) In: 4th Open Science meeting on Land Ocean Interactions on Coastal Zone (LOICZ) – Regimes of Coastal Change 88-89 at Bahia Blanca, Argentina, November, 1999.
42. .Ramachandran .S. 2000. Coastal land use and land cover change and integrated coastal zone management. In: Proc. Intl.Workshop on land use land cover modelling in coastal areas. 15pp.ICS UNIDO, COSTED, TERI and IOM, Chennai.
43. .Krishnamoorthy R and S.Ramachandran,2000 .Indian remote Sensing data application potential in assessing human impacts on the coastal zone. In :Proc. 28th Intl. Symp. On Remote Sensing of Environment at Cape Town ,South Africa,4pp
44. Ramachandran.S,2000. Marine protected areas in India In Proc.Intl..Symp. on ICZM –Sustainability indicators at Bremen , Germany. In Press.
45. Parviz.Z.A. and S.Ramachandran, 2000 . Change Information visualization using fuzzy logic.In: Urban Data management symposium (UDMS 2000) at Delft University, The Netherlands. In Press.
46. Ramachandran, S. 2000. Sustainable Indicators for National Marine Parks. Conference on ICZM- Sustainability Indicators” Oct. 2000, Bremen, Germany.
47. Ramachandran, S., 2002. Marine Resource Management and Urban Environment Management. In: CReNIEO, Chennai and University of Amsterdam, Netherlands.
48. Kasinatha Pandian, P., S.Ramachandran, S.Ramesh , M.V.Ramanamurthy and S.Thayumanavan, 2002. Integrated approach in shoreline monitoring and management with reference to Ennore coast, India. In: Proc. Pan Ocean Remote Sensing Conference (PORSEC 2002). Bali, Indonesia. 1: 345-351 pp.

49. Surendran, A., K.Selvavinayagam and S.Ramachandran, 2002. Remote Sensing and Sea Truth Data in the mapping of sewage disposal area. In: . Pan Ocean Remote Sensing Conference (PORSEC 2002). Bali, Indonesia. 1: 360-361 pp.
50. Thanikachalam, M. and S.Ramachandran, 2002. Management of coral reef in Gulf of Mannar using remote sensing and GIS techniques with reference to coastal geomorphology and land use MAP ASIA 2002. In: Proc. Asian Conference on GIS, GPS, Aerial photograph and remote sensing. Bangkok, Thailand. <http://www.gisdevelopment.net/application>.
51. Krishnamoorthy, R., G.Sachidananda Bharathi, P.Periakali and S.Ramachandran, 2002. Remote Sensing and GIS applications for protection and conservation of world heritage site and ecosystems on the coastal zone of Tamilnadu, India. In: Proc. Space Application for Heritage Conservation. European Space Agency (ESA) SP. 515.
52. Kasinatha Pandian, P., S.Ramesh, S.Ramachandran, M.V.Ramanamurthy and S.Thayumanavan 2002. Changes in beach profile due to man-made barriers - A case study of Ennore Satellite Port, Southeast coast of India. In: Proc. Intl. Conf. On Ports and Marine Structures. ICOPMAS 2002. Ramseur, Iran. Pp 203-207. (Book of Extended Abstracts).
53. Kasinatha Pandian, P., M.V.Ramanamurthy, S.Ramesh and S.Ramachandran, 2002. Hydrodynamics of Coleroon inlet and its influence on Pichavaram mangrove ecosystem, east coast of India. In: Proc. Intl. Conf. On Physics of Estuaries and Coastal Seas, Hamburg, Germany. September 2002. Pp 163 - 166. (Book of Extended Abstracts).
54. Thanikachalam. M and S.Ramachandran. 2002. Remote sensing and GIS techniques for mapping coastal geomorphology in Gulf of Mannar, Southwest coast of bay of Bengal. In: Proc. IAPRS & SIS Symposium. Resource and Environmental Monitoring. Vol. 34(part 7) :51-56.
55. Kasinatha Pandian.P, Ramesh.S, Ramachandran.S, Ramanamurthy M.V. and Thayumanavan S. 2002. Changes in Beach Profile due to Man-made Barriers - A Case Study of Ennore Satellite Port, Southeast Coast of India. In: Proc. Intl. Conf on Ports and Marine Structures. ICOPMAS'2002, Ramsar, Iran. Pp.203 -207(Book of Extended Abstracts).
56. Karthikeyan. M.S, P.Kasinatha Pandian and S.Thayumanavan 2002. Hydraulic transient flow analysis for a water supply transmission system. In: Proc. International Conference on "Hydrology and Watershed Management", Jawaharlal Nehru Technological University, Hyderabad. Vol 1:pp.459-468

IN NATIONAL SEMINAR / SYMPOSIA PROCEEDINGS:

1. Ramadhas,V., T.Balasubramanian, S.Ramachandran and V.K.Venugopalan, 1978. Excretion of Nitrogen and Phosphorous by Tropical Coastal Water Zooplankton. IV All India Congress of Zoology, Magadh University, Bodhgaya, India. Abstract No.18, p.11.
2. Rajendran,N., R.Nandakumar, S.Ramachandran and V.K.Venugopalan, 1981. Effect of carbamate insecticide on photosynthesis and respiration of marine algae. In: Proc. Seminar on Status of Environmental Studies in India, Centre for Earth Studies, Trivandrum, 175-177.
3. Balasubramanian, T., R.Nandakumar, B.Loganathan, N.Rajendran, S.Ramachandran and V.K.Venugopalan, 1981. The ultraviolet absorption characteristics of the Vellar estuary. In: Seminar on Estuaries, NIO, Goa, India. Abstract No. 17.
4. Ramachandran,S., 1985. Hydrogen from Seawater through Biosystem Catalysed Solar Energy Conversion Process. In: Proc. Bio-energy Society Second Convention & Symposium'85. Bio-Energy Society of India, New Delhi, 187-192.
5. Ramachandran,S., 1986. Biohydrogen - An alternate source of Energy. In: Seminar on Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai.
6. Ramachandran,S. and V.K.Venugopalan, 1986. Nitrogen fixation by bluegreen algae in marine environment. In: Proc. Natl. Symp. on Estuarine Biology, Annamalai University.
7. Ramachandran,S., 1986. Biological hydrogen production by marine bluegreen algae- A New Renewable Energy resource. In: Proc. Natl. Seminar on Ocean resources, Anna University, Madras. 23.1-23.10.
8. Ramachandran,S., 1986. Hydrogen photoproduction by algae. Intl. Workshop on Phycology. University of Madras, Madras.

9. Ramachandran,S., 1987. Bioaccumulation of copper and zinc in bivalves. Natl. Symp. on Environmental Biology, St.Xavier's College, Palayamkottai, Tamil Nadu.
10. Ramachandran,S. and V.K.Venugopalan, 1987. Occurrence, distribution, seasonal variation and significance of bluegreen algae from Vellar Estuarine Environments. In: Proc. Natl. Seminar on Estuarine Management, Govt. of Kerala, 285-295.
11. Ramachandran,S., 1988. Development of coastal aquaculture in India. In: Proc. Natl.Workshop on Aquaculture Engineering, Anna University, Madras, 14.
12. Ramachandran,S., 1989. Baseline data on Marine Heavy metal Pollution in Tamil Nadu In: Proc. Natl. Seminar on Environmental Impact Assessment of Coastal Power Stations, University of Madras, Madras.
13. Ramachandran,S. and V.S. Gowri, 1989. Coastal Marine Pollution in Madras. National Natl. Conference on Coastal Zone Management, Centre for Earth Science Studies, Cochin.
14. Ramachandran,S., 1989. Energy from Marine Biomass. In: Proc. Workshop on Coastal Zone Management of Tamil Nadu, Anna University, Madras, 8.
15. Ramachandran,S., S.Sundaramoorthy and R.Natarajan, 1989. Status of Marine Pollution in Tamil Nadu, Ibid. 34.
16. Ramachandran,S., S.Ajmal Khan, S.Rajagopal and R.Natarajan, 1989. Status of Marine Fisheries in Tamil Nadu, Ibid. 28.
17. Ramachandran,S. and R.Natarajan, 1989. Impact of sealevel rise on estuarine ecosystems. In: Proc. Natl. Seminar on Sealevel rise, Tamil University, Thanjavur.
18. Ramachandran,S. and R.Natarajan, 1989. Coastal Marine Pollution in Madras. Natl. Seminar on Aquatic Pollution, Kerala University, Thiruvananthapuram.
19. Ramachandran,S. and R.Natarajan, 1989. Problems and Prospects for Marine Fisheries in Tamil Nadu. Natl. Seminar on Livestock and Fisheries Production, University of Veterinary and Animal Sciences, Madras.
20. Ramachandran,S., 1990. An immobilised recycling marine biohydrogen production system. Natl. Symp. Current Trends in Biotechnology, Cochin University of Science and Technology, Cochin.

21. Ramachandran,S. and N.K.Ambujam, 1990. Wastewater reuse in agriculture to protect the environment of cities water front. In: Proc. of National Symposium on Protection of Environment of City Water Fronts. Central Water Commission, New Delhi, IV-1 to IV-5.
22. Ramachandran,S. and N.K.Ambujam, 1990. Wastewater reuse in irrigation. An essential water resources management strategy. Natl. Symp. Land and Water, IMTI, Trichy
23. Ramachandran,S., 1991. Trace metal nutrition and toxicity for some marine bluegreen algae. In: Natl. Symp. Marine Algae, Kerala University, Trivandrum.
24. Ramachandran,S., 1991. Recycling of algal hydrogen photo-production system. In: National Symposium on Marine Algae, Kerala University, Trivandrum.
25. Ramachandran,S., N.K. Ambujam and N.V.Pundarikanthan, 1991. Reuse of Wastewater. In: Proc. Natl. Symp. on Hydrology, Madras, 273-283.
26. Ramachandran,S., S.Sundaramoorthy, R.Krishnamoorthy and D.Mohan, 1993. Marine Remote Sensing Information System (MARSIS) activities at ODC (IOM), Anna University. In: All India Symposium on Management of Coastal Environment at Vizagapatnam.
27. Ramachandran,S., R.Krishnamoorthy S.Sundaramoorthy, and N.Radhakrishnan, 1993. Coastal Zone Planning using Geographic Information System. A case study of Marakkanam area. In: All India Symposium on Management of Coastal Environment at Vizagapatnam.
28. Krishnamoorthy,R., S.Sundaramoorthy and S.Ramachandran, 1993. Coastal Landuse mapping for brackishwater aquaculture site selection using satellite data. A case study of Tamil Nadu coast. In: All India Symposium on Management of Coastal Environment at Vizagapatnam.
29. Mohan,D., AN.Subramanian and S.Ramachandran, 1993. Insecticide flux at the Air-Sea interface tropical scenario? In: Natl. Symposium on International Geosphere-Biosphere Programme (IGBP), Anna University, Madras. Abstract No. 2:PP:08.
30. Ramachandran,S., 1993. Coastal Environments and Global Change. In: National Symposium on International Geosphere-Biosphere Programme (IGBP), Anna University, Madras. Abstract No. 2:IT:05.

31. Krishnamoorthy,R., S.Sundaramoorthy, S.Ramachandran, B.Sahai and S.R.Nayak,1993. Coastal landuse mapping for brackishwater aquaculture site selection using satellite data. A case study of Tamil Nadu coast. In: Proc. Remote Sensing Applications for Resources Management with special emphasis on North Eastern region. Published by ISRS & Assam R.S. Application Centre, 207-211.
32. Krishnamoorthy,R., V.S.Gowri, S.P.Karthikeyan and S.Ramachandran, 1995. Study on the influence of Industrial discharges into the coastal waters of Tamil Nadu using Remote Sensing data. In: Proc. IV National Symposium on Environment, Anna University, Madras, 35-39.
33. Krishnamoorthy,R., S.Sundaramoorthy and S.Ramachandran, B.Sahai and S.R.Nayak and P.Chauhan, 1995. Study on suspended sediment concentration in coastal waters of Tamil Nadu. In: Proc. ISRS Silver Jubilee Symposium, Indian Institute of Remote Sensing, Dehradun, India, 222-229.
34. Mohan,D., S.Sundaramoorthy and S.Ramachandran, 1995. Impact of Aquaculture Development on the Coastal Environment. In: Proc. IV National Symposium on Environment, Anna University, 557-560.
35. Parviz, Z.F., R.Krishnamoorthy, S.Ramachandran and A.Sundaram, 1995. Application of Fuzzy Technique for mangrove area classification using IRS data. In: Proc. National Conference on Neural Networks and Fuzzy Systems, Anna University, 254-260.
36. Mohan, D. and S.Ramachandran, 1996. Status of Shrimp farming in India. In: Proc. Natl. Symposium on Aquaculture for 2000 A.D. Palani Paramount Publications, Palani, 21-28.
37. Ramachandran,S., S.Sundaramoorthy, J.Devasenapathy and R.Krishnamoorthy, 1997. Application of Geographical Information System in coastal area management - a pilot study in Rameswaram. In: Proc. Natl. Seminar on Applications of GIS for solving environmental problems, Technical Teachers Training Institute, Madras, 117-123.
38. Ramachandran, S., 1998. `Application of Remote Sensing in Mangrove Ecosystem Studies. `Workshop on Indo Bricilian Co-operation in Marine Science, Goa, March, 98.
39. Ramachandran, S., 1998. `MARSIS - An overview`. In the National Seminar on `Marine Remote Sensing Application, at Chennai, September, 1998.
40. Ramachandran, S., 1998. Coastal Zone Management in India. In National Conference on `Ocean Space Utilization ` at Chennai, July, 1998.

41. Ramachandran, S., 1999. 'GIS based Ocean Coastal Information System' Indo Myanmar's Joint workshop on 'Oceanography' held at Goa September, 1999.
42. Ramachandran, S., 1999. 'Groundwater Contamination in Chennai'. Workshop on 'The impact of Waste on Ground water Contamination and the role of Civil Engineers, Chennai, October, 1999 'Groundwater Contamination in Chennai'.
43. Ramachandran, S., 1999.. Workshop on 'Strategy for sustainable development in the Coastal area, at New Delhi , November, 1999.
44. Ramachandran, S., 2000. 'Application of Remote Sensing data in the quantitative estimation of Shoreline change - a Case study on Chennai Coast, India', in ISRS- 2000 at Bhubaneswar, February, 2000.
45. Selvavinayagam, K., A.Surendran, P.Hari Prasad, R.Krishnamoorthy and S.Ramachandran, 2000. Applications of Remote Sensing for Identifying the Recent Beach Formation and Quantitative Estimation of Shoreline Change - A case study in Tuticorin Coastal Area". In: National Symposium on Tropical Meteorology". (TROPMET 2000) Cochin, 179-180 pp.
46. S.Ramachandran, Asir Ramesh and V.S.Gowri ,2000.Coastal Ecosystems: Their problems and management. In : Proc.Sym. Management of Problems in Coastal Areas .170-195pp.IIT Chennai.
47. S.Ramachandran, Asir Ramesh and V.S.Gowri ,2000. Coastal ecosystems in and around Chennai. In: Proc. Of the workshop on ICMAM plans for Chennai.pp 119-139 ICMAM PD IITM and Resource Analysis Madras.
48. S.Ramachandran,2001. Coastal Resources of Tamil Nadu- Trends and prospects . In : Proc. Natl. Sem. On Tamil Nadu Economy- Trends and Prospects. In Press. University of Madras, Chennai.. In Press.
49. Ramachandran, S., 2001. Remote Sensing Applications in Natural Hazards Management. In: Natural Hazards and Environment: Applications of Remote Sensing and GIS & Conventional Methods". University of Madras, Madras. Oct. 2001.
50. Thanikachalam, M. and S.Ramachandran 2002 Remote sensing and GIS techniques for Mapping coastal geomorphology in Gulf of Mannar, Southeast coast of Bay of Bengal. In: Proc. Conservation of Eastern Ghats (EPTRI).
51. Kasinatha Pandian, P., S.Thayumanavan and S.Ramachandran, 2002. Remote sensing and GIS applications in Water Resources projects: A cast

study. In: Proc. Natl. Conf. On Modern Trends in Water Research, Development and Environmental Management, Vellore Institute of Technology. Pp -27-29.

52. Thanikachalam, M and S.Ramachandran 2002. Remote sensing and GIS techniques for mapping coastal geomorphology in Gulf on Mannar, Southwest coast of Bay of Bengal. In: Proc. IAPRS * SIS Symposium. Resource and Environmental Monitoring. Vol.34 (part 7) : pp 51-56.

SPECIAL LECTURES:

S.No.	Title	Venue & Date
1.	Survey and site selection for aquaculture practices First Aquaculture Show, Madras,	INDAQUA-India's March 1993
2.	Global Climate Change and Coastal Environments Natl. Symp. on International Geosphere-Biosphere Programme,	Anna University, Madras; April 1993
3.	Planning and Execution of water quality, surveillance works and Processing of data	TWAD Board Madras September 1993
4.	Remote Sensing and GIS Applications for Coastal Zone Management	International Ocean Institute IIT, Madras. October 1993
5.	GIS - Applications in Remote Sensing	University of Madras, Madras
6.	Global Mangrove Ecosystem problems with particular reference to Asia-Pacific region	UNESCO Workshop on Management of Mangroves Andhra University, Vizagapatnam. December 1993
7.	Mangroves as Tourists and Recreation spots	- Do -

- | | | |
|-----|---|---|
| 8. | Role of Higher Education in Sustainable Coastal Zone Management | University of Madras, Madras January 1994 |
| 9. | Remote Sensing in Fisheries - Application of Modern technologies in aquaculture | - Do - |
| 10. | Impacts of storm surges in East coast of India | Asian Inst. of Technology, Bangkok, Thailand, February 1994 |
| 11. | Impacts of Agricultural activities on Groundwater | Centre for Environmental Studies, Anna University, Madras. March 1994 |
| 12. | Role of Remote Sensing and GIS in Coastal Ecosystem Management | Orissa Remote Sensing Application Centre Bhubaneswar, Orissa March 1994 |
| 13. | Remote Sensing and GIS Applications in Coastal Zone Management | Bharathiyar University, Coimbatore. February 1995 |
| 14. | Coastal Management and Coastal Protection | IWRS, Taramani, Madras February 1995 |
| 15. | Role of Remote Sensing in Coastal Zone Management | NIOT, IIT, Madras October 1995 |
| 16. | GIS and its uses in Coastal areas | - Do - |
| 17. | Global Climate Change and Coastal Environments | Workshop on Impact of Climate Change on Food and Livelihood security : An agenda for action December 1995 |
| 18. | Role of Remote Sensing and GIS in Aquaculture Site selection | Department of Animal Science, Bharathidasan University, Trichy. March 1995 |
| 19. | Environmental impacts of Aquaculture | -Do - |
| 20. | Remote Sensing Applications in Oceanography | Department of Zoology Andhra University, Waltair, |

Andhra Pradesh- June 1995

21. Coastal Zone Management - Do -
22. GIS Applications in Aquaculture Department of Marine Living Resources, Andhra University, Waltair
23. Remote Sensing and GIS applications in Coastal Zone Management Department of Animal Sciences, Bharathidasan University, Trichy, March 1996
24. Coastal Zone Management and Sea level changes In IOC/Germany Advanced Training Course on Sea level changes and evolution of coastal environments, Jakarta, Indonesia, November 1996.
25. Application of GIS in Coastal Area Management Technical Teachers Training Institute, Madras, August 1997.
26. Integrated Coastal Zone Management in India LOICZ Open Science Meeting Netherlands December 1997
27. Coastal Resources Data Management South Asian Regional Workshop on Global Coral Reef Monitoring Network, Srilanka, December 1997
28. Industrial Pollution and other coastal pollution Chennai. January , 1998
29. Remote sensing and GIS applications in coral reef mapping in Gulf of Mannar MSSRF, Chennai. February, 1998
30. Application of Remote Sensing in Mangrove Ecosystem NIO, GOA. March, 1998.
31. A system study for environmental management of the Cooum river and Environs Inaugural address in the Madras -Waterloo University linkage programme, March, 1998

- | | | |
|-----|---|---|
| 32. | Marsis – An Overview | National Seminar, IOM,
Chennai, September, 1998 |
| 33. | Global climate change and its impacts on Oceans | World Environment Day
lecture June, 1998 |
| 34 | Satellite Remote Sensing. Applications in Ocean Resources | Lisbon, Portugal. August,
1998 |
| 35 | Coastal Zone Management problems / practices and and Policies in India | IIT, Madras. September, 1998 |
| 36 | Application of GIS in CZM – Pilot Study in Rameswaram | Hanoi,Vietnam. November,
1998 |
| 37 | GIS for critical coastal habitat management – A case study of Pichavaram mangroves | -do- |
| 38 | ICZM in India | -do- |
| 39 | Application of GIS in coastal environment | Academic Staff College,
Univ. of Madras, Chennai.
December, 1998. |
| 40. | Critical Habitat Management | Public Forum, MSSRF,
Chennai December, 1998 |
| 41. | Coastal pollution and Management | T.T.T.I, Taramani. January,
1999. |
| 42. | Coral reef monitoring through remote sensing | South Asian Co-operation in
Environmental Programme
(SACEP), Sri Lanka. Feb.
1999. |
| 43 | Integrated Coastal Zone Management – An Overview | Indo-British Integrated
Coastal Zone Management
Training short Course,
6.11.99 at Anna University,
Chennai. |
| 44 | Coastal Zone Management in India – an Overview and Information System for Coastal Zone Management | Symposium on Ocean
Engineering, IIT, Chennai,
11 th to 13 th Nov. 1999 |

- | | | |
|----|---|---|
| 45 | Application of Remote Sensing in Marine Biodiversity Assessment | Workshop on Marine Biodiversity, Annamalai University 10 th March, 2000. |
| 46 | Coastal resources trends and prospects | National seminar on Tamil Nadu Economy, Madras University 1.3.2001 |
| 47 | Marine Remote Sensing Application | UNESCO sponsored International Training programme on Coastal management and Biodiversity Chidambaram 5-3-2001 |
| 48 | MARSIS activities and ICZM in India-Over view | UGC Refresher course , Madras University Chennai,12-3-2001 |
| 49 | Remote Sensing Application to Oceanography | UGC Refresher course , Madras University Chennai,3 12-3-2001 |