

## CURRICULUM VITAE

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### **Personal profile:**

Nationality : Indian  
Category : General  
Date of Birth : 01-06-1973  
Marital Status : Married  
Language Known : English, Hindi, Oriya  
Hobbies : Reading books/journals & traveling.  
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### **Educational Qualifications:**

| <b><u>Qualifications</u></b>  | <b><u>Duration of Study</u></b> | <b><u>University</u></b> |
|---|---------------------------------|--------------------------|
| B.Sc. (Physics, Chem.& Maths.)  | 1994-1997                       | Berhampur University     |
| M.Sc. (Marine Sciences)<br>(Specialization; Chemical<br>Oceanography) | 1997-1999                       | Berhampur University     |
| Ph.D. (Science & Humanities)  | Continuing                      | Anna University          |

### **Technical Qualifications:**

Having working knowledge in  
Computers using operating Systems,  
Ms-Office, Surfer, Grapher, Origin,  
SPSS.

### **Objectives:**

*Analysis of sediment and water quality parameters, understand the biogeochemical cycles of coastal ecosystems/wetlands and come out with the research findings for publications.*

### **Professional experiences:**

I. **Myself worked as a project trainee-III for about 22 months (Feb. 2002–Nov. 2003) in the Chemical Oceanographic Division of National Institute of Oceanography (NIO), Regional Center, Visakhapatnam, A.P.**

- I have the work experience in the analysis of seawater, industrial effluents and sediments by using modern instrumentation techniques like GF/FAAS (PerkinElmer–3110), UV-Visible Spectrophotometer (PerkinElmer). Also, I have possessed thorough knowledge working with the conventional type of analytical techniques.
- I had participated in many projects related to EIA (Environmental Impact Assessment) studies sponsored by different chemical and petrochemical industries. I have gained sufficient knowledge in the field of marine chemistry of inland, coastal, offshore and estuarine ecosystems. Participated in several cruise programs (CRV Sagar Sukti & Sagar Purvi) in connection with the field works.

### **Projects Participated:**

1. Project: Ocean Color Monitoring (OCM) algorithm develop and its validation.
2. Project: Measuring, monitoring and managing sustainability the Coastal Dimensions.
3. Project: Rapid Marine Environmental Impact Assessment Studies for discharge of treated effluents in the coastal environment of Chippada, Visakhapatnam.
4. Project: Post project monitoring for chemical and biological parameters in the marine environment of Pydibhimavaram, Visakhapatnam and toxicological studies of the treated effluents.
5. Project: Marine EIA for the proposed activity of gas/oil production, transport to the shore through sub sea pipelines and landfall point near Kakinada- Chemical Studies.
6. Project: Environmental monitoring at exploration wells, NEC 25 and MD-D10 off Paradip.

II. Myself worked as a Senior Research Fellow (SRF) for 3months (Jan 2004 – Mar 2004) in the Institute for Ocean Management (IOM), Anna University, Chennai.

III. Myself worked as a Junior Research Fellow (JRF) for 1 year (April 2004 – Mar. 2005) at “Integrated Coastal and Marine Area Management-Project Directorate (ICMAM-PD)”, Ministry of Earth Sciences (MoES), Government of India.

- During this tenure, I had worked with instruments like Atomic Absorption Spectrophotometer FAAS (SpectrAA-220FS) & GFAAS (SpectrAA-880Z), UV/VIS Spectrophotometer (Shimadzu), NC Soil Analyzer (Thermo-ORION) and Total Organic Carbon (TOC) analyzer (Shimadzu).
- Experienced in processing the environmental data by using statistical methods/ techniques. Gained knowledge on adopting ecological/hydrological approaches to understand the biogeochemistry of various brackish water ecosystems/coastal wetlands.

#### **Projects Involved:**

1. Project: Ecosystem modeling for Muthupet Lagoon along Vedaranyam coast, South East Coast of India.
2. Project: Modeling Chilika Lake- A brackish water lagoon on the East Coast of India: An Ecosystem Approach
3. Project: Ecosystem modeling of Kochi Back waters, South West Coast of India.

#### **R&D activities:**

- Myself involved in the Intercalibration exercise of nutrients in ICMAM-PD, MoES.

Prepared seawater sample for nutrients (Nitrate, Phosphate) and send to different COMAPS (Coastal ocean monitoring and predictive systems) project running institutes for the part of intercalibration exercise among the various institutes.

- Analyzed the sample for Salinity received from C-MARS (Centre for Marine analytical reference standards), Trivandrum as a part of the intercalibration exercise.
- Analyzed the sediment sample for trace metals Lead (Pb) and Cadmium (Cd), received from C-MARS, Trivandrum as a part of the intercalibration exercise.

**IV. Presently working as a senior research fellow (SRF) from 19<sup>th</sup> April, 2005 to till date in the Institute for Ocean management, Anna University, Chennai.**

1. Project: Influence of terrestrial inputs on mangrove and coral reef primary productivity of the Andaman Islands.

**Present Activities:**

- My involvement includes the collection of water samples from different Isles of Andaman mainly from the mangrove and coral reef ecosystems and further analyzing it quantitatively for the dissolved trace gases like CH<sub>4</sub>, N<sub>2</sub>O and pCO<sub>2</sub>.
- In addition to this myself participating in other ongoing R & D projects and also, sponsored EIA projects on various aspects associated with different part of the Indian coastal ecosystems and my involvement includes *in-situ* field data collection and report writing.

**Publications:**

1. S.C. Tripathy, **A. K. Ray**, S. Patra and V.V. Sarma (2005). Water quality assessment of Gautami-Godavari estuarine mangrove ecosystem of Andhra Pradesh, India during September 2001. *J. Earth System Science*, 114(2), 185-190.
2. **A. K. Ray**, S.C. Tripathy, S. Patra and V.V. Sarma (2006). Assessment of Godavari estuarine mangrove ecosystem through trace metal studies. *Environment international*, 32, 219-223.
3. G.V.M. Gupta, M.V. RamanMurthy, Usha Natesan, B.R. Subramanian, V.G. Sravan Kumar, M.S. Bhat and **Ajay Kumar Ray** (2006). Nutrient Budgets for Muthupet Lagoon , Southeastern India. *Current Science*, 90 (7), 967-972.
4. B. Senthilkumar, S. Sivakumar, **A. K. Ray**, T. Sevi and S. Parimala (2006). Evaluation of ground water quality in Thanjavur city. *Indian Journal of Environmental Protection*, 26 (6), 531-536.
5. R. Purvaja, R. Ramesh, R. **Ray**, **A. K.** and Tim Rixen. Nitrogen Inputs, Processes and Transformations in Marine and Coastal Ecosystems. (Submitted to Current Science)
6. **Ray, A. K.**, R. Purvaja and R. Ramesh. pCO<sub>2</sub> variability on spatial and diurnal scale in Chilika Lake, India. (Manuscript under preparation)

### **Symposium/Seminars:**

1. **A. K. Ray**, S.C. Tripathy, S. Patra and V.V. Sarma. Assessment of Godavari estuarine mangrove ecosystem through trace metal studies. *Workshop on "Marine Pollution and Ecotoxicology" WMPET 2004*, NIO, Dona Paula, Goa.
2. G.V.M. Gupta, M.V. RamanMurthy, Usha Natesan, B.R. Subramanian, V.G. Sravan Kumar, M.S. Bhat and **Ajay Kumar Ray**. Nutrient Budgets for Muthupet Lagoon, Southeastern India. Lake 2004. "*International conference on Conservation, Restoration and Management of Lakes and Coastal Wetlands.*" 9-13 Dec, 2004.
3. S.C. Tripathy, V.V. Sarma, **A. K. Ray**, A. Sravanthi and P.C. Padhy. A chemical assessment approaches for evaluating status of Chilika Lake- A brackish water lake along the East Coast of India. Lake 2004. "*International conference on Conservation, Restoration and Management of Lakes and Coastal Wetlands.*" 9-13 Dec, 2004.
4. Ramesh, R., Purvaja, R., Kirthika, K., Senthilkumar, B., Nirmal rajkumar, A., **Ray, A. K.**, Neetha, V., Jennifer Divia., Barnes, J. and Upstill Goddard, RC. Trace Gas Fluxes from Coastal ECOsystem of India. *INDO-US workshop on INDOFLUX*, July 12-16, 2006.
5. Reddy, N.P.C., Sravanti, A., Sarma, V.V. and **Ray, A. K.** Trace metal geochemistry in core sediments between visakhapatnam and Kakinada, along east coast of India. *7<sup>th</sup> International symposium on environmental geochemistry*, 24 - 27 September, 2006, Beijing, China.
6. Ramesh, R., **Ray, A. K.** and Purvaja, R. Salinity Changes and its impact on pCO<sub>2</sub> in Chilika Lake, India. 2<sup>nd</sup> IGBP PAGES Focus IV LIMPACS-Working Group Workshop on "Salinity, Climate Change & Salinisation", 11-14 April, 2007, Nanjing, China.

### **Technical reports:**

1. Technical Report Submitted on "Rapid Marine Environmental Impact Assessment Studies for discharge of treated effluents in the coastal Environment off Chippada, Visakhapatnam, Andhra Pradesh. (Report No.-NIO/SSP-10/2002)
2. Technical Report Submitted on "Post Project monitoring for chemical and biological parameters in the Marine Environment off Pydibhimavaram and toxicological studies of the treated effluents". (Report No.-NIO/SSP-01/2003)
3. Development operation in the KG-DWN-98/3 (KG-D6) Offshore Block. Marine Environmental Impact Assessment for proposed offshore facilities. (May, 2003)

(AJAY KUMAR RAY)