

Dr. RAMAN SIVAKUMAR
Prof & Head- Dept of Chemistry
PSG Institute of Technology & Applied Research
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SUMMARY

Innovative and enthusiastic with rich experience in teaching and research at the university level/industry in the field of Chemistry, Nanotechnology and environmental sciences. Strong analytical and problem solving abilities Goal - and - Result oriented work as evidenced by publication of research articles in peer reviewed international scientific journals, books, execution of research projects and R&D work at international level.

TEACHING & RESEARCH - WORK EXPERIENCE

Work Experience .	Research Chemist Maxxam Analytics International Mississauga, Canada <i>(Maxxam Analytics is one of the Canada's leading company in analytical services and solutions to the energy, environmental, food and DNA industries for over 40 years and rewarded with a Canada's 10 Most Admired Corporate Cultures™ award and a Toronto Star Award for Excellence in Workplace Integration.)</i>	2013 -14
	Guest Lecturer Students of pre University Toronto Peel Regional board. Academy of Applied Pharmaceutical Sciences and graduates of York University. Toronto	2014
	Teaching & Research BANNARI AMMAN INSTITUTE OF TECHNOLOGY (Autonomous institute of Anna University, AICTE-Govt of India, Accredited by NBA, ISO certified, Top ranking	

institute in India(AICTE-CII)
Sathyamangalam 638 401
Erode Dist Tamil Nadu, India

Professor & Head- Chemistry

1999 -2014

- Founding Professor served for 14 years since beginning and involved in all activities in the development of institute
- Responsible for admission, all developments of first year students
- Research guidance for Ph.D and M.Phil Scholars
- Research projects on eco friendly technology, Nanobiotechnology
- Consultancy projects on air quality monitoring, EIA, waste water treatment
- Development of Labs
- Publication of research papers in scientific research journals
- Authored books on Environmental Science & Engineering
- Patent filed on natural dyes
- Presented papers in Natural dyes (USA and Korea), Nanobio technology, (France)
- Administration of 60 Asst Professors, 4 labs, 1200 students.

Scientist, Environmental Impact Assessment Division

1994 - 1999

Salim Ali Centre for Ornithology and Natural History **SACON (Ministry of Environment & Forests, Govt. of India)** Coimbatore -108, India

- **SCIENTIST** trained in Environmental Impact Assessment(EIA) by Govt of India.
- More than 12 EIA projects (mostly Govt funded) completed.
- Designed and setting up of Environmental Laboratory
- Research projects on Environmental Conservation

Research Associate

Research & Development

1991-1993

Amrutanjan Ltd

Chennai, India

- Research on Novel drugs
- Work on anti cancer drugs
- Research work on herbal drugs
- Laboratory development

Education

Ph. D.

Jan. 1991

- Organic Chemistry- Natural Products
- Highly commended
- Pondicherry Central University (Govt. of India), Pondicherry, India

Master's Degree**June 1987**

- M. Sc.(Chemistry),
- 73% marks,
- Bharathiar University, Coimbatore, India
(Two year program.)

Bachelor's Degree**June 1985**

- B. Sc (Chemistry),
- 75% marks,
- Bharathiar University, Coimbatore, India
(Three year program.)

Co op Programme, Canada**June 2013****Skills****Instrumentation Skills**

Operation and interpretation of various instruments used in chemical analysis

- UV-Visible Spectrophotometer(UV-Vis)
- Infra-Red Spectrophotometer (IR)
- Nuclear Magnetic Resonance (NMR)
- Mass Spectrometer (EI, FD, CI, FAB-MS)
- Gas Chromatography (GC)
- High Pressure Liquid Chromatography (HPLC)
- Atomic Absorption Spectrometer (AAS)
- Chromatographic Techniques (TLC, PC,CC)
- Knowledge on X-RD,AFM, SEM in Nanomaterial characterization
- Solvent Extraction, and Synthesis technique

Lab & Computer

- Experience in Wet-Chemistry
- Proficient with MS-OFFICE, MS Word, Powerpoint, BASIC, FORTRAN, Internet and other computer applications
- Experience in on-line literature and database searches. Ability to work in a team or individually with equal excellence and dedication

Research Interests**Research Area:**

- **Green technologies and Natural Products chemistry**
- **Instrumentation in Environmental sample analysis,**
- **Nanobiotechnology.**

Projects handled

Research , R&D and industry

Development (Experimental work, Process development and pilot study) of projects on isolation of active ingredients from plant products, synthesis and biological screening and Environment)

- Environmental Impact Assessment Reports (12), submitted to Govt. of India

- Novel Eco friendly Natural dyes to textiles
- Effluent treatment of textile dyeing industry
- Natural dyes: Isolation of novel natural dyes from *H. bracteatum* and its application to textiles
- Preparation of nanomaterial for various applications.

Research Guidance

- M.Sc, M.Phil and Ph.D candidates

Achievements

- i) **Indo-Canadian symposium on Nano Science & Technology, organized by McMaster University & NIE, Mysore, 21-22 Feb 2013.**
- ii) **Steering committee member, International Association of natural Dyes, IOWA state University, USA**
- iii) **Indo-French International meet on NANOBIO TECHNOLOGY- Special invitee-Nice, France 2004**
- iv) Indian Govt. central University fellowship for Ph. D work
- v) Passed state level screening test for lecturers in Universities of Tamil Nadu
- vi) First rank in UG
- vii) Training in ISO 9000
- viii) Diploma in Computer and e-commerce
- ix) International Diploma of Honour (IDH) awarded by American Biographical Institute, USA for achievements in Science.
- x) Member -Subject expert, Board of Studies & examination- PG and Research department of Environmental Sciences. PSG college of Arts & Science and Govt. college of Technology, Coimbatore
- xi) Member -Subject expert Board of Studies- PG and Research department of Environmental Sciences. Mahatma Gandhi University , Kottayam
- xii) **Steering committee member, International Association of natural Dyes, IOWA state University, USA**
- xiii) Board of Ph. D Examiners & Doctoral committee -Alagappa University, Karaikudi and Annauniversity Coimbatore
- xiv) Editorial Board members- International J. of Society of Natural dyeing, Korea.
- xv) **Indo-French International meet on NANOBIO TECHNOLOGY- Special invitee-Nice, France 2004**
- xvi) Key note address on new natural dyes in the INT. meet on natural dyes

International Meet

- Visited Malaysia, Indonesia, Kuwait, Bahrain, Kenya, Uganda, Mauritius, Dubai during 2000- 2003 to delivered various lectures

- Visited **USA** (Iowa State University) for presenting research paper at international conference on Natural Dyes, May 2002.
- Visited **France**, Nice : Speaker at international conference on Nanobiotechnology & Environment, Sep 2004 (Sponsored by Govt. of France)
- Visited **S. Korea**, Daegu: Invited speaker at International conference on Natural dyes, Nov 2010 (Sponsored by Govt of S. Korea)

Publications

Selected Publications - International

- **Antioxidant potential of orientin: A combined experimental and DFT approach. Journal of molecular structure, Elsevier, 1061(2014)114-123.**
- ***Experimental and DFT studies on the antioxidant activity of a C-glycoside from Rhynchosia capitata, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, ELSEVIER, 103(2013)442-452, USA***
- Investigation on eco friendly natural dyes: Chemistry, dyeing and anti microbial activities of Helichrysum bracteatum , Asian journal of chemistry, vol.21, 8, (2009)
- Helichrysum bracteatum – A new natural dye source. Studies on extraction, isolation, dyeing and Fastness properties , The Society of International Natural Dyeing, ,2 (1) 9 -14, (2004), Korea
- Heavy metal concentration of wetland of Coimbatore city. Bulletin of environmental contaminants and toxicants: Springer Verlag, 64 (2000) USA
- Non identity of Hortensin, a flavone from Millingtonia hortensis with 3, 4' – dihydroxy flavone, PHYTOCHEMISTRY (1992) 31, 671, UK
- Polyphenols of Zenthedeshia aethiopica, Fitoterapia(1991) Italy
- 6-Hydroxy kaempferol-6, 4-dimethyl ether 3-galactoside from Eupatorium glandulosum, PHYTOCHEMISTRY (1990) 29, 1011, UK

National

- Thin layer Chromatography on cellulose, Current Science (1989) 58, 980
- Flavonoids from the flowers of Helichrysum buddleoids, J. Indian Chemical Soc. (1989) 58, 17
- Polyphenolic constituents of the flowers of Berberis ariatata, J. Indian Chem. Soc.(1991) 68, 531
- Polyphenolic components of Helichrysum bracteatum(1995) Current Science
- Water quality of high altitude sources of Ooty. Pollution research ,91-1,2000
- Investigation on new sources of natural dyes: Golden yellow dye from Helichrysum bracteatum for dyeing of cotton. Colourage, L(4), April 2003

Books Authored

1. Principles of Environment Science and Engineering, **Thomson Learning's**, Singapore 2004
2. Introduction to environment, energy, ethics and society, **Tata McGrawhill**, New Delhi 2009
3. Low cost waste water treatment technologies; Chapter: Need for low cost treatment technologies for effluent treatment. Enviro media.1999.
4. Laboratory manual for engineering chemistry, McGraw-hill &Vijay Nicole, Chennai 2004.
5. Introduction to Environment Science and Engineering, McGraw -hill international, New Delhi 2005.
6. Engineering Chemistry I & II, Tata Mcgraw Hill, New Delhi, 2011

Others

Patent(India) filed on natural dyes

Nationality: INDIAN

Personal information Male, Born on May 30, 1964,
