

# Thangamani Rajkumar

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## OFFICIAL ADDRESS:

DEPARTMENT OF CHEMISTRY  
RAJAH SERFOJI GOVT. COLLEGE  
THANJAVUR – 613 005  
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INDIA

## RESIDENTIAL ADDRESS:

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## PERSONAL:

DATE OF BIRTH : 15.01.1977  
GENDER : MALE  
MARITAL STATUS : MARRIED  
NATIONALITY : INDIAN



## EDUCATION:

- Ph.D., Chemistry (2004 – 2007, Awarded on October 2008)  
ANJA College, Sivakasi, Madurai Kamaraj University, Madurai, India  
**Thesis:** Synthesis, Characterization and Application of Halogenated Flame Retardant Polymer Additives  
Guide: Dr. P. Sivasamy, M.Sc., Ph.D.
- M.Phil., Chemistry (1999 – 2000)  
VHNSN College, Virudhunagar, Madurai Kamaraj University, Madurai, India  
**Thesis:** Kinetics of Oxidative Hydrolysis of Acetophenone Oxime by  $\text{MnO}_4^-$  Ion  
Guide: Dr. T. Baskaran, M.Sc., Ph.D.
- M.Sc., Chemistry (1997 – 1999)  
VHNSN College, Virudhunagar, Madurai Kamaraj University, Madurai, India  
**University Rank:** Seventh
- B.Sc., Chemistry (1994 – 1997)  
VHNSN College, Virudhunagar, Madurai Kamaraj University, Madurai, India

## PROFESSIONAL EXPERIENCE:

- 08/2013 – Present **Assistant Professor** of Chemistry  
Rajah Serfoji Government College  
Thanjavur – 613 005, Tamilnadu, India
- 03/2011 – 08/2013 **Assistant Professor** of Chemistry  
M.R. Government Arts College  
Mannargudi – 614 001, Tamilnadu, India
- 10/2010 – 02/2011 **Associate Professor** of Chemistry  
Kamaraj College of Engineering and Technology  
K. Vellakulam Post – 625 701, Tamilnadu, India
- 01/2009 – 09/2010 **Assistant Professor** of Chemistry  
Kamaraj College of Engineering and Technology  
K. Vellakulam Post – 625 701, Tamilnadu, India
- 07/2003 – 12/2008 **Lecturer** in Chemistry  
Kamaraj College of Engineering and Technology  
K. Vellakulam Post – 625 701, Tamilnadu, India
- 03/2001 – 07/2003 **Lecturer** in Chemistry, Erode Sengunthar Engineering  
College, Thudupathi, Erode, Tamilnadu, India

## PROFESSIONAL AFFILIATION:

- Member of **Indian Society for Technical Education**

## SERVICE ACTIVITIES:

- **Co-ordinator** of First Year Engineering and Technology (2010 – 2011)
- **NBA Stearing Committee Member** of Kamaraj College of Engineering and Technology (2003 – 2010)
- **ISO Internal Auditor** of Kamaraj College of Engineering and Technology (2003 – 2010)
- **Exam Cell In-charge** to conduct Internal/External Examination of Kamaraj College of Engineering and Technology (2009 – 2010)
- **Faculty Advisor** of First Year Engineering Students (2003 – 2010)

## Research Guidance:

	<b>B.Tech.</b>	<b>M.Phil.</b>	<b>Ph.D.</b>
<b>Guided</b>	<b>2</b>	<b>3</b>	<b>---</b>
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<b>Others</b>	<b>---</b>	<b>---</b>	<b>---</b>

## RESEARCH INTERESTS:

- Polymer Synthesis and Characterization
- Flame Retardants – Halogenated and Intumescent Materials
- Analytical Techniques in Polymer Analysis – FTIR, NMR, DSC, TG, TG-FTIR
- Kinetics of Polymer Degradation

## FUNDED PROJECTS (completed):

<b>1</b>	Position : Principal Investigator Title of the Project : <b>Development of Intumescent Materials for Extinguishing Fire</b> Amount Sanctioned : Rs. 9.56 Lakhs Funding Agency : Indira Gandhi Centre For Atomic Research (IGCAR), Government of India, Kalpakkam, Tamilnadu, India
<b>2</b>	Position : Principal Investigator Title of the Project : <b>Synthesis and Characterization of Functionalized Graphene Oxide-Polymer Nanocomposite</b> Amount Sanctioned : Rs. 1,00,000 Funding Agency : Tamilnadu State Council for Higher Education Chennai, Tamilnadu, India

## PUBLICATIONS:

- Chinnaswamy Thangavel Vijayakumar, Palanichamy Sivasamy and **Thangamani Rajkumar**; "Synthesis and Characterization of 1,3-bis(2-hydroxyethoxy) benzene Based Saturated and Unsaturated Polyesters" **European Polymer Journal**, 43 (2007) 3028–3035.
- **Thangamani Rajkumar**, Chinnaswamy Thangavel Vijayakumar, Palanichamy Sivasamy and Charles A. Wilkie; "HET Acid Based Oligoesters – TGA / FTIR Studies" **European Polymer Journal**, 44 (2008) 1865–1873.
- **Thangamani Rajkumar**, Chinnaswamy Thangavel Vijayakumar, Palanichamy Sivasamy and Charles A. Wilkie; "Thermal Degradation Studies on PMMA-HET Acid Based Oligoesters Blends" **Journal of Thermal Analysis and Calorimetry**, 100 (2010) 651-660.
- Chinnaswamy Thangavel Vijayakumar, Nagarajan David Mathan, Vijayakumar Sarasvathy, **Thangamani Rajkumar**, Arunachalam Thamaraihelvan and Durairaj Ponraju; "Synthesis and thermal properties of spiro phosphorus compounds" **Journal of Thermal Analysis and Calorimetry**, 101 (2010) 281-287.
- Vijayakumar Sarannya, Palanichamy Sivasamy, Nagarajan David Mathan, **Thangamani Rajkumar**, Durairaj Ponraju and Chinnaswamy Thangavel Vijayakumar; "Study of thermal properties of intumescent additive Pentaerythritol phosphate alcohol" **Journal of Thermal Analysis and Calorimetry**, 102 (2010) 1071-1077.
- Nagarajan David Mathan, Vijayakumar Sarasvathy, **Thangamani Rajkumar**, Arunachalam Thamaraihelvan, Durairaj Ponraju, Chinnaswamy Thangavel Vijayakumar; "Pyrolysis gas chromatography - mass spectrometry studies of spiro phosphate esters containing phenol and substituted phenol moieties" **Global Journal of Analytical Chemistry**. Volume 1, Issue 1 (2010) 1-12.
- Nagarajan David Mathan, Mahendran Arunjunairaj, **Thangamani Rajkumar**, Durairaj Ponraju and Chinnaswamy Thangavel Vijayakumar; "Thermal degradation of pentaerythritol phosphate alcohol - TG and TG-MS studies" **Journal of Thermal Analysis and Calorimetry**, 110 (2012) 1133-1141.

- **Thangamani Rajkumar**, Palanichamy Sivasamy, Bojja Sreedhar and Chinnaswamy Thangavel Vijayakumar; “Chlorinated thermal stabilizer for optically clear PMMA” **Polymers for Advanced Technologies**, 23 (2012) 829-834.
- Chinnaswamy Thangavel Vijayakumar, Gnanasekar Pitchaimari, Rajendran Surender, **Thangamani Rajkumar** and Shanmugam Vinayagamoorthis; “Bispropargyl ether and bismaleimide blends: Part II – TG studies and degradation kinetics” **Science Jet**, 3 (2014) 44.
- **Thangamani Rajkumar** and Chinnaswamy Thangavel Vijayakumar; “Synthesis and characterization of N-[4-(chlorocarbonyl) phenyl] maleimide functionalized graphene oxide and reduced graphene oxide” **Fullerenes, Nanotubes and Carbon Nanostructures**, 25:7 (2017) 442-448; DOI: [10.1080/1536383X.2017.1335308](https://doi.org/10.1080/1536383X.2017.1335308)
- **Thangamani Rajkumar**, Nagamuthu Muthupandiyan and Chinnaswamy Thangavel Vijayakumar; “Synthesis and investigation of thermal properties of PMMA-maleimide-functionalized reduced graphene oxide nanocomposites” **Journal of Thermoplastic Composite Materials**, 33:11 (2018) 85-96; <https://doi.org/10.1177/0892705718804595>
- A. MURUGAN, V. THANDIAYYAKONE, S. KUMARASAMY, C.R. RAVIKUMAR, S. MUTHAIAH, MITHUN CHAKRABARTY, P. THILLAI ARASU, **T. RAJKUMAR** and H.S. YADAV, “Electrochemical Studies on Vanadyl Complex with meso-5,10,15,20-tetrakis(2,5-Dimethoxy-phenyl)porphyrin using Electron Paramagnetic Resonance and Cyclic Voltammetry” **Asian Journal of Chemistry**, 33:1 (2021) 26-30; <https://doi.org/10.14233/ajchem.2021.22905>
- **Thangamani Rajkumar**, Venugopalan Rajasudha, Arunjunai Raj Mahendran and Chinnaswamy Thangavel Vijayakumar, “Castor Oil and HER Based Polyurethanes: Synthesis, Characterization and Structure-Thermal Stability Relation” **Polymer(Korea)**, 45(45): (2021) 511-519; DOI: [10.7317/pk.2021.45.4.511](https://doi.org/10.7317/pk.2021.45.4.511)
- V. Thandiayyakone, A. Murugan, C. R. Ravikumar, **T. Rajkumar**, P. Thillai Arasu, H. S. Yadav and P. Kotteswaran, “Studies on Redox and axial ligand properties of Meso-Mn(III) porphyrin by cyclic voltammetry and UV-Visible spectrophotometer” **Materials Today: Proceedings**, (2021) ; DOI: [10.1016/j.matpr.2021.04.621](https://doi.org/10.1016/j.matpr.2021.04.621)

#### REVIEWER

- Acted as a reviewer in the International Journals, Thermal Analysis and Calorimetry, Polymers for Advanced Technologies, Polymer Composites and High Performance Polymers

#### PAPER PRESENTED IN SEMINARS AND CONFERENCES:

- “Kinetics of oxidative hydrolysis of acetophenone oxime by permanganate ion” in the UGC sponsored Seminar on Recent Advances in Reaction Mechanism held on 29<sup>th</sup> March, 2000 conducted by Department of Chemistry, VHNSN College, Virudhunagar
- “Flame Retardant Polyesters-TGA/FTIR Studies on HET acid based Oligoesters” in the UGC sponsored National Seminar on Frontier Areas in Chemistry held between March 1<sup>st</sup> and 2<sup>nd</sup>, 2007 organized by Department of Chemistry, Thiagarajar College (Autonomous), Madurai
- “Synthesis and Characterization of 1,3-bis (2-hydroxy) benzene based Saturated and Unsaturated Polyesters” in the UGC sponsored State Level Seminar on Novel Trends in Chemistry held between 7<sup>th</sup> and 8<sup>th</sup> February, 2007 organized by the Department of Chemistry, The Standard Rajaratnam College for Women, Sivakasi

- “Synthesis and Characterization of Chlorinated Flame Retardant Polyesters” in the UGC sponsored National Seminar on Emerging trends in Chemistry held between 23<sup>rd</sup> and 24<sup>th</sup> February, 2007 organized by Department of Chemistry, AVC College (Autonomous), Mannanpandal, Mayiladuthurai
- “Thermal Degradation Studies on PMMA-HET Acid Based Oligoesters Blends by TG-FTIR and Off-line Pyrolysis GC-MS Methods” in the 18<sup>th</sup> International Symposium on Analytical and Applied Pyrolysis (PYR08), held between 18<sup>th</sup> and 23<sup>rd</sup> May 2008, Lanzarote, Canary Islands, Spain
- “Synthesis, Characterization and Thermal Stability of Thermoplastic Polyurethanes” in the Technical Education Quality Improvement Programme-II (TEQIP-II) Sponsored National Conference on Advances in Applied Chemical Sciences and Materials Technology (ACSMT-14), held between 17<sup>th</sup> and 18<sup>th</sup> October 2014, Organized by Department of Chemistry, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli
- “Electrochemical and spectrophotometric studies on Mn (III) porphyrin complex prepared by precipitation route” in International Virtual Conference on Advancements in Materials Science and Technology (iCAM 2020), Organized by Sathyabama Institute of Science and Technology, India and Gyeongsang National University, Republic of Korea, held between 23<sup>rd</sup> and 25<sup>th</sup> November 2020, ISBN: 978-93-83409-61-7

#### **SEMINAR AND CONFERENCES ATTENDED:**

- Seminar on “Advances in Chemistry” held on 19<sup>th</sup> January, 1999 organized by Department of Chemistry, V.H.N.S.N. College, Virudhunagar.
- Horizon’99 Symposium on Ecofriendliness held on 2<sup>nd</sup> October, 1999 organized by Department of Chemistry, Regional Engineering College, Tiruchirappalli.
- UGC sponsored Seminar on “Recent Advances in Reaction Mechanism” held on 29<sup>th</sup> March, 2000 organized by Department of Chemistry, V.H.N.S.N College, Virudhunagar.
- UGC Sponsored National Level Conference on “Recent Trends in Chemistry of Biologically Interesting Compounds” organized by the Department of Chemistry, VHNSN College, Virudhunagar on 22<sup>nd</sup> and 23<sup>rd</sup> July, 2005.
- Ministry of Environment & Forests sponsored Workshop on “Environmental Concious Design and Manufacturing” organized by Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam held during 12-14 August, 2005.
- AICTE sponsored Faculty Development Programme on “Current Trends and Innovative Techniques in Biotechnology” organized by the Department of Industrial Biotechnology, PSR Engineering College, Sevalpatti from 16.01.2006 to 29.01.2006.

#### **FDP AND QIP ATTENDED:**

- Faculty Development Programme held between 21.12.02 and 23.12.02 organized by Erode Sengunthar Engg. College, Erode-57 in commemoration of Anna University Silver Jubilee Celebration.
- Quality Improvement Programme on “Instructional Design Delivery” conducted by National Institute of Technical Teachers Training & Research, Chennai, Government of India, Ministry of Human Resource Development from 04.10.04 to 06.10.04.

- Online Course on Basic Concepts & Applications of Electrochemistry, Government Arts College, Kumbakonam, Tamilnadu, 21/05/2020 and 22/05/2020
- International Online Faculty Development Program on Frontiers in Chemistry St. Joseph's College of Engineering, Chennai, Tamilnadu, 16/09/2020 to 18/09/2020

**THANGAMANI RAJKUMAR**