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Qualifications

Ph. D Chemistry, Regional Sophisticated Instrumentation Center, IIT, Madras
M. Sc Chemistry, Madurai Kamaraj University, Madurai
Certificate Course: Microprocessors Applications, BIT, Canberra, Australia

Research Interests:

Nanomedicine, Medical Imaging, Artificial Intelligence in Medicine, Bioinformatics and Drug Discovery Biomarkers discovery and Low-cost diagnostic kits development, Biomaterials, Biomedical Magnetic Resonance, Photodynamic Therapy.

Work Experience:
Professional Experience:

2014-till date	Director- Research, CARE, Kelambakkam-603103
2012-2014	Director, Faculty of Allied Health Sciences CARE, Kelmabakkam
2008-2012	Emeritus Professor, Networking Resource Centre in Biological Sciences, Madurai Kamaraj University, Madurai.
2007–2008	Senior Professor, BioPhysical Chemistry Madurai Kamaraj University, Madurai

1997–2007	Professor, Physical Chemistry Madurai Kamaraj University, Madurai
1990–1997	Reader, Physical Chemistry, Madurai Kamaraj University, Madurai
1973–1990	Assistant Professor,Department of PG Chemistry, VHNSN College, Virudhunagar

Administrative Experience:

2002-2004	DEAN (Academic: Teaching & Computerization) Madurai Kamaraj University, Madurai
2002-2004	Coordinator, Choice Based Credit System (CBCS), Madurai Kamaraj University, Madurai
1998-2000	Head, MCA Programme & Computer Center Madurai Kamaraj University, Madurai
1998-2000	Placement Coordinator, MCA Programme, Madurai Kamaraj University
Dec.1986- Dec1990	Head-in-Charge, Faculty of Computer Science, VHNSN College, Virudhunagar

Visits Abroad:

Sl No	Country Visited	Year	Purpose of Visit
1	The Netherlands	Dec'81 – Jun'82	Post Doctoral Research – Study of Magnetic ordering and spin diffusion in low dimensional magnetic materials by ESR with Prof. E. de Boer - University of Nijmegen, The Netherlands

2	USA	July'82- Apr'85	Research Associate – Time Resolved EPR Spectroscopy with Prof.S.I. Weissman, Washington University, St.Louis MO, USA
3	Australia	May'85 –Dec'86	Research Fellow – Development of New Instrumentation for Zero Field ESR with Dr.R. Bramley Research School of Chemistry, Australian National University Canberra, Australia
4	USA	Oct'93	Collaborative Research – RF-FT-EPR Imaging-Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
5	USA	May'94 –Jun'96	Visiting Scientist – RF-FT-EPR Imaging at the Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
6	Italy	Sept 10-14, 1995	To present a paper in an International workshop and symposium at L'aquila, Italy
7	USA	Mar'97-Apr'97	Collaborative Research project discussions – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
8	Japan	Oct'12-16, 1997	To present a paper in an International Conference at Yamagata, Kyoto, Japan and to visit Institute of Advanced Energy, Kyoto University
9	USA	May'98-June'98	Collaborative Research – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
10	USA	May'99-June'99	Collaborative Research – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
11	USA	Dec'00-Dec'01	Visiting Scientist- Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
12	USA	May'02_June'02	Collaborative Research – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
13	Japan	29-3-03 to 10-4-03	To present a paper in an International Conference and deliver special lectures at Kyushu University, Japan
14	USA	June'03_July'03	Collaborative Research Medical Imaging – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
15	USA	Dec 03	Collaborative Research Medical Imaging – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
16	USA	Sept 04	Collaborative Research Medical Imaging – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
17	USA	Feb 05	Collaborative Research Medical Imaging – Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD
18	USA	May-June 05	Collaborative Research Medical Imaging – Radiation

			Biology Branch, National Cancer Institute, NIH, Bethesda, MD
19	Japan	Dec05-Feb06	Visiting Professor, Kyushu University, Japan
20	USA	June 06	Collaborative Research –Radiation Biology Branch, National Cancer Institute NIH, Bethesda, MD
21	Japan	September 06	Collaborative Research, Faculty of Pharmaceutical sciences, Kyushu University, Japan
22	Japan	Feb07-March07	Collaborative Research, Faculty of Pharmaceutical sciences, Kyush University, Japan
23	Japan	7^{th} May -30^{th} June 07	Collaborative Research, Faculty of Pharmaceutical sciences, Kyush University, Japan
24	Japan	18^{th} -27^{th} Aug 07	Collaborative Research, Faculty of Pharmaceutical sciences, Kyushu University, Japan
25	Japan	6th –10th Mar 2010	Invited Speaker Prof. Utsumi's retirement Symposium on "The relation between University and the promotion of Science and Technology" at Faculty of Pharmaceutical sciences, Kyushu University, Japan
26	Canada	May 28-June5, 2016	Invited Faculty, IC-IMPACTS Summer Institute on Nanotechnologies for Safe & Sustainable Infrastructure, Integrated Water Management and Public Health.

Extramural Projects Completed/Ongoing

Sl No	Funding Agency	Sanctioned Amount
1	DST	Rs.4,30,000/-
2	UGC	Rs.1,20,000/-
3	DST	Rs.6,21,710/-
4	DST	Rs.64,93,000/-
5	UGC(Under Centre for Excellence in Genomic Sciences Program)	
6	UGC-UPE (Under University with Potential for Excellence program)	
7	Indo-Italian Joint project	Rs 10,80,000/-

	sponsored by DST and Ministry of Education, Govt. of Italy	

Research Guidance:

Degree	Awarded	Ongoing
PhD	**28** (Biophysical 13 + Comp. Sci 10 + Biotek 4 + Nursing 1	2
M Phil	**20** (Chemistry 10 + Comp.Sci 10)	
MSc	**39** (Bioinfo & Modeling 30 + Chemistry 6 + MCA 3)	

Summary of Research

Papers	Citations	h-index	i10-index
143+15	2742	29	72

PATENTS

TOTAL – 19 (WORLD – 1, USA – 4, National-14)

1. System and Method for performing In-Vivo imaging and Oxymetry and FT Microscopy by pulsed radiofrequency electron paramagnetic resonance, **Ramachandran Murugesan,** Rolf Tschudin, Sankaran Subramanian, James Mitchell, Murali Cherukuri Krishna, US Patent No. 5,678,548, Oct 21, 1997.
2. System and method for performing in vivo imaging and oxymetry and FT microscopy by pulsed radiofrequency electron paramagnetic resonance", **Ramachandran Murugesan**, Murali K. Cherukuri James B. Mitchell, Sankaran Subramanian Rolf G. Tschudin, WO 97/04331 Feb. 6, 1997.
3. Gated RF Preamplifier for use in pulsed Radiofrequency electron paramagnetic resonance and MRI, Rolf Tschudin, Ramachandran Murugesan, Sankaran Subramanian, James Mitchell, Murali Cherukuri Krishna, US patent No: 5,828,216, Oct 27, 1998.
4. Invivo imaging and oxymetry by pulsed radio frequency paramagnetic resonance", **Ramachandran Murugesan,** Murali K. Cherukuri James B. Mitchell, Sankaran Subramanian, Rolf G. Tschudin, US patent No. 5, 865, 746, Feb.2, 1999.
5. Resonant structure for spatial and spectral-spatial imaging of free radical spin probes using radiofrequency time domain electron paramagnetic resonance", N.Devasahayam, **Ramachandran Murugesan**, S.Subramanian, J.Mitchell, M.C.Krishna, US Patent Application Serial No 60/047, 786 filed on May 27,1997.
6. Denaturation of Amyloids by Lumbrokinase Sanjay K Metkar, Koyeli Girigoswami,

Agnishwar Girigoswami, **Murugesan Ramachandran** 5412/CHE/2015

7. Degradation Process of Amyloid Fibrils by Serratiopeptidase Sanjay K Metkar, Koyeli Girigoswami, Agnishwar Girigoswamy, **Murugesan Ramachandran** 5415/CHE/2015
8. System and Process for Nitric Oxide Estimation in Fluids, Alexander V, Shiek Fareeth Ahmed SSJ,**Murugesan R**, Pradeep G Nayar 5414/CHE/2015
9. Paper Based Analytical Device for the Detection of Salivary Biomarkers, Thamaraichelvan A , Priyanga Gandhi,Anitha V**, Murugesan R**; Patent Filed 201741001079
10. A method and development of a nanoscaffold for delivery of agents for stem cell differentiation Shoba N,Surajit P, Rachel Karena,Moorthi A,,Srinivasan N,**Murugesan R** Patent Filed: 201741001087
11. Fabrication of sericin modified monetite for bone tissue engineering Weslen Vedakumari. S, **Murugesan R,** Patent Filed: 201741001094
12. A method for crafting metal nanoparticle based biosensor for detection of plasmin in biofluids Weslen Vedakumari. S, **Murugesan R .**Patent Filed: 201741001086
13. Polymeric matrix containing metal doped ceramic for tissue engineering, Moorthi A,Shoba Narayan,Azeena S,Srinivasan N, **Murugesan R,** Patent Filed**:** 201741001091
14. A method and process for evaluating the quality of mesenchymal stem cells, Surajit Pathak, **Murugesan Ramachandran**, Madhumala G, Patent Filed: 201741001093
15. Method and process for screening toxicity of cosmetic products containing nanoparticles, SurajitPathak,Vimala Devi S,**Murugesan R,** Patent Filed: 201741001095
16. Development method and process for the detection of drug resistant water borne pathogens, Kurunchi C Divya, **Murugesan R**, Srinivasan N, Patent Filed: 201741001090
17. Sensor for amyloid detection based on ZnOnanoflower platform, Girigoswami Koyeli,Girigoswami Agnishwar,**Murugesan Ramachandran**,AkhtarNajim, Patent Filed: 201741001092
18. Method of nanoformulation of Hesperetin for enhancement of properties and uses, Moorthi A,Sai Nivethitha**,**Subhapradha N,Srinivasan N,**Murugesan Ramachandran,** (Patent to be filed
19. Method and process of conditioned medium derived from mesenchymal stem cells, Surajit Pathak,Sriramulu Sushmitha,Antara Banerjee,Ganesan Jothimani,**Murugesan Ramachandran**, Marotta Francesco (Patent to be filed)

COPY RIGHTS 3

1. CardioGenBase,a multi-omics database and information retrieval system for cardiovascular diseases, Malathi V, Ramachandran Murugesan,S.R.Sakuntala. Submitted 1174/2015-CO/SW
2. A multi-media based educational video for diabetic patients V Alexander**,**SSJShiek Fareeth Ahmed**,Ramachandran Murugesan**,Pradeep G Nayar,Beulah Mary,Darshana Parameshwaran. Submitted 1180/2015-CO/L.
3. DarioGenBase, V.Manigandan**,**V.Alexandar,Dr.R.Karthik,Dr.R.Saravanan,Dr. Shiek Fareeth Ahmed. SSJ, ,Dr.Mathangi DC,**Dr.R.Murugesan**. Submitted: 11812/2017-CO/SW

PUBLICATIONS

A. Journal Papers

1. P.A. Nadar, A. Shunmugasundaram and **R. Murugesan**, Oxidation of Acetonaphthones by Hexacyanoferrate (III), Ind. J. Chem. 14A, 146 (1976).
2. P. A. Nadar and **R. Murugesan**, Kinetics of Reaction of Substituted Phenyl Chloromethyl Sulphides with Aniline in Dimethylformamide, Ind. J. Chem. 15B, 1037-1039 (1977).
3. **R. Murugesan,** and S. Subramanian, Electron Spin Resonance of Copper (II) in Hoffman-type Benzene and Aniline Clathrates. J. Magn. Reson, 36, 389-399 (1979).
4. **R. Murugesan** and S. Subramanian, EPR of Radicals in -irradiated Substituted Phosphines, Molec. Phys. 38, 1941-53 (1979).
5. **R. Murugesan** and E. de Boer, ESR Line-shapes in the Quasi-Two-Dimensional Magnetic System, Bis [1,2 Bis (2- Methoxy Ethoxy) Ethane] Sodium Biphenylide, Evidence for Spin Diffusion, Chem. Phys. Lett. 95, 301-304 (1983).
6. M.C.M. Gribnau, **R. Murugesan,** H. V. Kempen and E. de Boer, Spin diffusion in the Quasi-Two-Dimensional Magnetic System Bis [1,2 Bis (2-Methoxy Ethane) Sodium Biphenylide, A temperature dependent ESR study, Molec. Phys. 52, 195-206 (1984).
7. E. de Boer, **R. Murugesan** and M.C.M. Gribnau, Spin diffusion and Long Range Ordering in a Quasi-Two-Dimensional Magnetic System, Bull. Magn. Reson. 5, 195 (1984).
8. **R. Murugesan** and S. Subramanian, Phase Transition and Host Spin Lattice Relaxation Narrowing in the EPR of Mn (II)- doped Single Crystals of $CoNbOF_5$. $6H_2O$, J. Magn. Reson. 57, 385-393 (1984).
9. **R. Murugesan** and S. Subramanian, Optical Spectra of Crystalline $CoNbOF_5.6H_2O$, J. Molec. Struct. 116, 411-413 (1984).
10. **R. Murugesan** and S. Subramanian, Dynamic to Static Jahn-Teller distortion in the EPR of Cu(II) in hexaimidazolecadmium(II) nitrate, Molec. Phys. 52, 129-136 (1984)
11. **R. Murugesan** and S. Subramanian, EPR study of Mn (II) in a Cubic ligand field, Mn (II) in hexaimidazole-cadmium (II) nitrate, Molec. Phys. 52, 281-288 (1984).

12. W.P. Chisholm, H.L. Yu, **R. Murugesan**, S.I. Weissman, E.F. Hilinski and J.A. Berson, Transient EPR and Magnetophotoselection in the photolytic formation of a Trimethylene methane Biradical, J. Am. Chem. Soc. 106, 4419-4423 (1984)
13. A. Hauser, M. Mader, W.T. Robinson, **R. Murugesan** and J. Ferguson, Electronic and Molecular Structure of $[Cr(bpy)_3]^{3+}$, Inorg. Chem. 26, 1331-1338 (1987).
14. R. Bramley, S.R. Downing and **R. Murugesan**, Simple Improvements to the Varian 35 GHz EPR liquid nitrogen insertion dewar, J. Magn. Reson. 80, 520-522 (1988).
15. **R. Murugesan** and D. P. Padiyan, EPR Studies of Ni(II), Mn(II) and Cu(II) in Single crystals of $M(Pz)_6(BF_4)_2$ [M = Zn and Cd, Pz = Pyrazole], Proc. Solid State Phy. Symp. 31C, 296 (1988).
16. A. Shunmugasundaram, T. L. Thanulingam and **R. Murugesan**, Structure- reactivity correlation in the reaction of N- Methyl-2-Styryl- pyridinium Iodides with Alkaline Hydrogen Peroxide, Ind. J. Chem. 28A, 666-669 (1989).
17. A. Shunmugasundaram, T. L. Thanulingam and **R. Murugesan**, Kinetics of reaction of 2,4-dinitrophenyl acetate with 3- and 4-substituted pyridines and 4'-substituted 4- styryl pyridines, Ind. J. Chem. 29A, 852-855 (1990).
18. A. Shunmugasundaram, T. L. Thanulingam and **R. Murugesan**, Kinetics of retroaldal reaction of para-substituted -Nitrostyrenes and -Methyl- - Nitrostyrenes, Ind. J. Chem. 30A, 272-274 (1991).
19. A. Shunmugasundaram, T. L. Thanulingam and **R. Murugesan**, Kinetics of reaction of para-substituted -Nitrostyrenes and -Methyl- -Nitrostyrenes with n-butylamine, Ind. J. Chem. 30A, 609-613 (1991).
20. **R. Murugesan**, B. Rajasekar, A. Shunmugasundaram and T. L. Thanulingam,Correlation of Ground and Excited State Dissociation constants of trans-para- and ortho-substituted cinnamic acids, Proc. Ind. Acad. Sci. 104, 431-436 (1992).
21. C. Natarajan, P. Shanthi, PR. Athappan and **R. Murugesan**, Synthesis and spectralstudies of cobalt (II), nickel (II) and copper (II) complexes of 1-(2-hydroxy-1-naphthyl)-3-(4-Xphenyl)-2-propen-1-ones and their pyridine adducts, Transition Met. Chem. 17, 39-45 (1992).
22. C. Natarajan, C.D. Sheela, P.R. Athappan and **R. Murugesan**, Synthesis, Spectral studies and reactivity of Nickel (II), Copper (II) and Zinc (II) mixed ligand complexes with 2-Formyl-2-acetyl- cyclohexanones and acetyl acetone, Synth. React. Inorg. Met.Org.Chem. 22,827-849 (1992).
23. **R. Murugesan**, C. Gnanasekaran, K. Rajasekaran, D. Devapiriam, ESR Study of Photoexcited Triplet State of Substituted 2- Acetonaphthones, Spectrochim. Acta 48A, 835-838 (1992).
24. C. Natarajan, P. Tharmaraj and **R. Murugesan**, Insitu synthesis by heterocyclic ring opening and spectral studies of copper(II) and nickel(II) complexes with 1-hydroxy- 2-naphthyl ketoneimines, J. Coord. Chem. 26, 205-213 (1992).
25. **R. Murugesan**, V.S.X. Anthonisamy and S. Subramanian, Single Crystal EPR Study of

Mn(II) doped cis-Catena- -sulphatoaquo-tris(imidazole) cadmium(II), Mn(II) in imidazole ligated low symmetry site, Spectrochim. Acta 49A, 1801-1807 (1993)

26. **R. Murugesan**, A.M.F. Benial, A. Thamaraichelvan and V. Ramakrishnan, Host spin-lattice relaxation narrowing and the EPR of Mn(II) in single crystals of Hexakis(pyridine N-oxide) cobalt(II) complexes, Molec. Phys. 79, 663-672 (1993).
27. **R. Murugesan**, A. Thamaraichelvan and D.P. Padiyan, Single crystal EPR of - irradiated Hofmann-type benzene clathrates, Electron capture by Ni(II) center of a polymeric network, J. Chem. Phys. 99, 1614-1617 (1993).
28. PR. Athappan, P. Shanthi, **R. Murugesan** and C. Natarajan, Synthesis and Spectral studies of Cobalt(II), Nickel(II), Copper(II) and Zinc(II) Complexes of 3-(2-Hydroxy-1-Naphthyl)-5-(4-X-Phenyl)-2-Pyrazolines, Synth. React. Inorg. Met. Org. Chem. 23, 1445-1467 (1993).
29. **R. Murugesan,** V.S.X. Anthonisamy, A. Shunmugasundaram, A. Ayyappan and T. L. Thanulingam, Kinetic study of charge-transfer interaction of substituted pyridines and substituted 4-styryl pyridines with p-bromanil, Indian J. Chem. 32A, 402-405 (1993).
30. **R. Murugesan** and A. Thamaraichelvan, EPR of -irradiated imidazole complex $Cd(Im)_3SO_4.H_2O$, Indian J. Phys. 68A, (1994).
31. **R. Murugesan**, P. Sami and A. Shunmugasundaram, Spectral and voltammetric studies on titanium substituted Keggin-type heteropolyanions, Proc. Ind. Acad. Sci. 107, 1-10, (1995).
32. **R. Murugesan**, A. Thamaraichelvan and D. P. Padiyan, EPR of hot ions, Ni(I) from - irradiated Hofmann-en type clathrate, $Cd(en)Ni(CN)_4.2C_6H_6$, Physica Status Solidi, A 150, 27-30, (1995).
33. K. Jeyasubramanian, S. Abdulsamath, S. Thambidurai, **R. Murugesan** and S.K. Ramalingam, Cyclic voltammetric and ESR studies of tetraaza(14) macrocyclic copper(II) complex derived from 3-salicylideneacetylacetone and o- phenylenediamine: Stabilisation and activation of unusual oxidation states, Trans. Met. Chem. 20, 76-80, (1995).
34. D. Christodoulou, S. Kudo, J.A. Cook, M.C. Krishna, A. Miles, M.B. Grisham,**R. Murugesan,** P.C. Ford, D.A. Wink, Electrochemical Methods for the Detection of Nictric Oxide, Methods in Enzymology, 268, 69-83 (1996)
35. **R. Murugesan**, J.A. Cook, N. Devasahayam, M. Afeworki, S. Subramanian,R. Tschudin, J.A. Larsen, J.B. Mitchell, A. Russo and M .C. Krishna, In Vivo Imaging of a Stable Free Radical Probe by Pulsed-Radio Frequency Electron Paramagnetic Spectroscopy, Magn. Reson. Med. 38, 409-414 (1997).
36. **R. Murugesan,** M. Afeworki, J.A. Cook, N. Devasahayam, R. Tschudin, J.B. Mitchell, S. Subramanian, M.C. Krishna, A broad band pulsed radio frequency EPR Spectrometer for biological applications, Rev. Sci. Inst. 69, 1-10 (1998).
37. V.S.X. Anthonisamy and **R. Murugesan**, EPR of hexakis(1-propyltetrazole)copper(II) tetrafluoroborate and Cu(II)-doped hexakis(1-propyltetrazole)zinc(II) tetrafluoroborate. Dynamic to static Jahn-Teller distortion, Chem. Phys. Lett. 287, 353-358 (1998).
38. V.S.X. Anthonisamy and **R. Murugesan**, EPR of copper(II)-doped

hexakis(pyrazole) complexes of zinc (II) and cadmium(II), Co-existence of isotropic and anisotropic spectra, Molec. Phys. 94, 269-273 (1998).

39. V.S.X. Anthonisamy, D.P. Padiyan and **R. Murugesan**, Single crystal EPR studies on Ni(II)- and Mn(II)- doped hexakis(pyrazole) complexes of zinc (II) and cadmium (II), a trigonally distorted cubic environment, Molec. Phys. 94, 275-281 (1998).
40. **R. Murugesan**, T. Jeyabalan, P. Sami and A. Shunmugasundaram, 12-B Heteropolyanions as ligands, Synthesis, Spectral Characterisation and solution studies of $[Mn^{IV}ThMo_{12}O_{42}]^{4-}$, $[Mn^{IV}Umo_{12}O_{42}]^{4-}$ and $[V(IV)CeMo_{12}O_{42}]^{4-}$, Proc. Indian Acad. Sci. (Chem Sci.) 110, 7-19 (1998).
41. M.P. Nambiar, **R. Murugesan** and H.C. Wu, Inhibition of the cytotoxicity of protein 41: toxins by a novel plant metabolite, Mansanone-D, J. Cell. Physiol, 176, 40-49(1998).
42. J.J. Inbaraj, R. Gandhidasan, S. Subramanian and **R. Murugesan**, Photogeneration of reactive oxygen species from ketocoumarins. Photochem. Photobiol. A Chem. 117, 21-25 (1998).
43. **R. Murugesan**, P. Sami, T. Jeyabalan and A. Shunmugasundaram, Synthesis, spectroscopic characterization and redox properties of titanium and vanadium substituted Keggin-type heteropolyanions, Trans. Met. Chem. 23, 583-588 (1998).
44. K. Jeyasubramanian, S. Thambidurai, S. K. Ramalingam and **R. Murugesan**,Spectral and Redox models for blue copper proteins, Copper(II) complexes of - diketonimines, from a Knoevenagel condensate of J. Inorg. Biochem. 72, 101-107 (1998).
45. K.A. Rubinson, R.T. schudin, J. Cook, J.B. Mitchell, **R. Murugesan**, M.C. Krishna and S. Subramanian, FT EPR with a Non-resonant Probe, Use of Truncated Co-axial Line, J. Magn. Reson.B.132, 255-259 (1998).
46. V.S.X. Anthonisamy, M. Velayutham and **R. Murugesan**, Spin-lattice relaxation of Co(II) in hexaquocobalt(II) picrylsulphonate tetrahydrate, An estimate from EPR line width of the dopant Mn(II), Physica B 262, 13-19 (1999).
47. V.S.X. Anthonisamy, R. Anantharam and **R. Murugesan**, The temperature dependence of EPR spectra of of copper(II) doped hexakis(imidazole)cadmium(II) perchlorate, Dynamic Jahn-Teller distortion with inequivalent valleys Spectrochim. Acta A, 55, 135-142 (1999).
48. **R. Murugesan**, A. Thamaraichelvan and P. Sami, Guest-host interactions in Hofmann-T_d-type clathrates , An IR Spectral study, J. Incln. Phenom. Mol. Recogn. 34, 235-243 (1999)
49. J. J. Inbaraj, R. Gandhidasan and **R. Murugesan**, Cytotoxicity and superoxide anion generation by some naturally occurring uinines, Free Radic. Biol. Med. 26, 1072-1078 (1999).
50. J. J. Inbaraj, R. Gandhidasan, and **R. Murugesan**, Photodynamic action of some naturally occurring uinines: Formation of reactive oxygen species, J. Photochem. Photobiol. Chem. A 124, 95-99 (1999).
51. S. Subramanian, **R. Murugesan**, N. Devasahayam, J.A. Cook, M. Afeworki, T. Pohida, R.G. Tschudin, J.B. Mitchell, M.C. Krishna, High speed data acquisition system and

receiver configurations for time-domain radiofrequency electron paramagnetic resonance spectroscopy and imaging, J. Magn. Reson. 137, 379-388 (1999).

52. T. Jeyabalan, P. Sami, A. Shunmugasundaram and **R. Murugesan,** EPR study of Mn(II) doped $CoH_6CeMo_{12}O_{42}.12H_2O$, Host site symmetry and spin-lattice relaxation time, SpectroChim Acta A55, 2187 – 2193 (1999).
53. C. Karunakaran, K.R.J. Thomas, A. Shunmugasundaram and **R. Murugesan**, X-ray crystal structure and spectroscopy of a pseudo-square pyramidal Cu(II) complex, trans-dinitratotetrakis(trans-4-styrylpyridine) copper (II), J. Chem. Cryst. 29, 413-420 (1999).
54. A.M.F. Benial, V. Ramakrishnan, **R. Murugesan**, Single crystal Electron Paramagnetic Resonance study of Mn(II) doped $Zn(C_5H_5NO)_6(BF_4)_2$: Probe into site symmetry, Spectrochim. Acta A 55, 2573 – 2577 (1999).
55. J.J. Inbaraj, M.C. Krishna, R. Gandhidasan and **R. Murugesan**, Cytotoxicity, Redox cycling and photo dynamic action of two naturally occurring quinones, Biochim.Biophys.Acta, 1472, 462-470 (1999).
56. N. Devasahayam, S. Subramanian, **R. Murugesan**, J.A. Cook, M. Afeworki, R.G. Tschudin, J.B. Mitchell, M.C. Krishna, Parallel coil resonators for time-domain radiofrequency electron paramagnetic resonance imaging of biological objects, J. Magn. Reson. 142, 168-176 (2000).
57. C. Karunakaran, K.R.J. Thomas, A. Shunmugasundaram and **R. Murugesan**, Synthesis, Structure and spectroscopy of Clathrate Inclusion compounds of Cobalt (II), Cadmium (II) and Zinc (II) trans-4 –styrylpyridine nitrates as host with trans-4 – styrylpyridine as Guest (2:1), J. Incl. Phenomena and Macrocyclic Chemistry, 38, 233-249, 2000.
58. M. Afeworki, J. Cook, M. van Dam, N. Devasahayam, D. Coffin, Jan H.A. Larsen, A. Russo, J.B. Mitchell**, R. Murugesan**, S. Subramanian, M.C. Krishna, Three dimensional whole body imaging of spin probes in mice by time-domain radiofrequency electron paramagnetic resonance, Magn. Reson. Med. 43:375-382 (2000).
59. C. Karunakaran, K.R.J. Thomas, A. Shunmugasundaram and **R. Murugesan**, Synthesis, X-ray crystal structure and spectroscopy of a Werner-type host Co(II) complex, trans-bisisothiocyanatotetrakis(trans-4-styrylpyridine) cobalt (II), J. Molec. Struct. 523, 213-221 (2000).
60. D.P. Padiyan , C. Muthukrishnan, **R. Murugesan**, Influence of Host Lattice in Interstitial Dopant Sites : EPR Studies on Cu(II) Doped Sarcosine Cadmium Bromide Single Crystals, Cryst. Res. Technol. 35, 595 – 600 (2000).
61. C. Karunakaran, K.R.J. Thomas, A. Shunmugasundaram and **R. Murugesan**, Crystal structure and spectroscopy of a hydrogen-bridged one dimensional Cu(II) complex containing both octahedral and square pyramidal geometries in the same unit cell, J. Chem. Crystallogr. 30, 351-357, (2000).
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B. Invited Articles Published in Books

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R. Editor N. R. Jaganathan, Jaypee Brothers, Medical Publishers (P) Ltd., New Delhi.

C. Peer Reviewed Proceedings Papers

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11. M. M. Ramya, R. Bhaskaran and **R. Murugesan**, GA-Based Image-Adaptive Watermark Embedding for Optimal Fidelity and Robustness in Medical Images,International Conference

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Conference Presentations:

International	36
National	50

Conferences/Workshops organized:

Awards & Recognitions:

- B.Sc Gold Medalist, St. Xavier's College, Palayamkottai, 1969
- M.Sc University First Rank, Bagthavathchalam memorial prize, Madurai Kamaraj University, 1971
- National trainee award, National Biomedical ESR Center, Milwaukee, Wisconsin, USA, 1984
- Visiting Scientist, National Cancer Institute, USA 2001
- Visiting Professor, Kyushu University, Dec 2005 -Feb 2006
- Member, Expert Committee, Commonwealth Academic Staff Fellowship selection for the year 2005, University Grants Commission, New Delhi, December 2004
- Member, Expert Committee, Evaluation and Research Funding Council – Major and Minor Research Projects, University Grants Commission, New Delhi, August 2004
- Member, Expert Committee, Evaluation and Research Funding Council – Major and minor research projects, University Grants Commission, New Delhi, July 2005

- Reviewer: *IEEE Transactions on Biomedical Engineering *Artificial Intelligence in Medicine * Nanomedicine * J. *Process Biochemistry

PROFESSIONAL SERVICES

University/ State Services:

- Member, External Expert Inspection Team, Computer Education Project, Electronics Corporation of Tamilnadu Limited, July 2000
- Member, Subject Expert, Selection Committee, Mother Teresa Women's University, Kodaikanal, October 2000
- Member, Expert Committee, Computerization, Arulmigu Thandayuthapani Swami Thirukovil, Palani, 2005
- Member, Subject Expert, Selection Committee, Bharathiar University, Coimabatore, January 2005
- Member, Academic Advisory Committee, Academic Staff College, University of Madras, Chennai, 2003-2005
- Member, Subject Expert, Selection Committee, Kerala University, Trivandrum, Nov 2007
- University Representative: VVV College, Virudhunagar; NS College, Theni; SBK College, Aruppukottai

Novel Courses Developed and Taught*:*

- Involved in the curriculum design and teaching of nanotechnology"Advanced Drug Delivery Systems" for M.Tech. in nanotechnology
- Designed and taught a Short-term course on "Introduction to *In Silico* Drug Discovery", to the Postgraduate and doctoral students of Faculty of Pharmaceutical Sciences, Kyushu University, Japan
- Involved in the design of the course "Molecular Informatics and Drug Design"
- Developed curriculum and taught the following Interdisciplinary Courses
    - Biophysical Spectroscopy
    - Computers in Chemistry
    - Proteomics and Bioinformatics
- Delivered special lectures on frontier and emerging areas of Biomedical EPR spectroscopy and Imaging, Multidimensional NMR and MRI, Cheminformatics, Molecular Modeling, In Silico Drug design, Soft Computing in Medical Image Processing in Refresher Courses and Summer Schools conducted by MG University, University of Kerala, University of Calicut, Cochin University of Science and Technology, University of Mysore, Shimoga University, Mangalore University, Pondicherry University in addition to the Universities and Colleges in Tamil Nadu

Board of Studies/Academic Committee Services:

- Member, Board of studies in M.Tech. Nanotechnology, Karunya University, Coimbatore
- Chairman Board of Studies in Computer Science, Madurai Kamaraj University, Madurai
- Member, Board of Studies in Chemistry: Pondicherry University, M.S. University , Mother Teresa Women's University, Lady Doak college, The American College, Thiagarajar College, Fatima College, ANJAC College
- Member, Board of Studies in Computer Science and Information Technology: Bishop Heber College, The American College, Thiagarajar College, Lady Doak college, AJ College
- Member Academic Council: The American College, Thiagarajar College, Lady Doak college, AJ College
- Member, BRI Advisory Board, BioSciences Research Institute, India
- Member, Academic Audit Committee, SFR College, Sivakasi