DR. R. KARUNANITHI Ph.D

Assistant Professor (Selection Grade)
Faculty of Allied Health Sciences
Chettinad Hospital & Research Institute
Chettinad Academy of Research & Education
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Qualifications:

Ph.D.: 2008, Anna University

Research Interests:

Medical Imaging, MRI, Diffusion Tensor Imaging (DTI), X-ray bone trabecular analysis, Neuroimaging, Diagnostic Radiology, DICOM volume image processing (3D)using MATLAB.

Work Experience:

1) 2014 – Present: Assistant Professor, Chettinad Academy of Research and Education, Kelambakkam, Kanchipuram District, India.
2) 2008 – 2010: Research Associate, Ganga Orthopeadic Research and Education Foundation, Coimbatore – India.

Six years research experience and 4.5 years experience in teaching (B.Sc and M.Sc)

Post-Doc

2010 – 2013: Postdoctoral Fellow, University of Ottawa, Ontario, Canada.

Visits Abroad:

Canada – 2010 to 2013

Extramural projects ongoing/completed:

Nil

Research Guidance

Degree	Awarded	Ongoing
Ph. D.		01
M. Sc.	04	01

Summary of Research:

Papers	Citations	h-index	i10-index
18	488	10	10

Patents Filed

System and methods to determine structural and functional changes in T1 weighted and functional MRI images of human brain	201841000239	**Karunanithi Rajamanickam** Saraswathi S Joy Sebastian Prakash J, Murugesan Ramachandran
Method and Process For Producing Functional Connectivity Index From rs-FMRI For Autism Spectrum Disorder (ASD) and Uses Thereof	201941026202	**Karunanithi Rajamanickam** Sharon Jebamalar Joy Sebastian Prakash J, Murugesan Ramachandran

GenBank Submissions:

Nil

Publications:

1. Joy Sebastian Prakash J, **Karunanithi Rajamanickam**. Synthesis, Characterization, and MRI Properties of Cysteamine-Stabilized Cadmium Zinc Selenide (Cd (Zn) Se), ICTMI 2017, Proceedings of the International Conference on Translational Medicine and Imaging. Page 17

2. J Joy Sebastian Prakash, **Karunanithi Rajamanickam**, RM Arunnath. Measures of Diffusion Tensor Tractography of Regions Associated with Default Mode Network. ICTMI 2017, Proceedings of the International Conference on Translational Medicine and Imaging. Page 29.

3. Yan Du Cao, **Karunanithi Rajamanickam**, Taisa Regina, Stumpf Yubo Qin, Holly McCulloch Xiuying, Yang Jing chang Zhang, Eve Tsai, Xudong Paramagnetic Quantum Dots as Multimodal Probes for Potential Applications in Nervous System Imaging, Journal of Inorganic and Organometallic Polymers and Materials. Dec 7 2017; Page 1-10. ***IF1.577***

4. Joy, Sebastian Prakash, J, G, Vinitha, Ramachandran Murugesan, **Karunanithi.Rajamanickam** Analysis on nonlinear optical properties of Cd (Zn) Se quantum dots synthesized using three different stabilizing agents. Optical Materials, Volume 72 C, Page 821-827. ***IF 2.43***

5. Joy Sebastian Prakash & **Karunanithi Rajamanickam**. Aptamers and their significant role in cancer therapy and diagnosis. Biomedicines. 2015;3(3):248-69.

6. Beauchamp B, Ghosh S, Dysart MW, Kanaan GN, Chu A, Blais A. **Karunanithi Rajamanickam**, Tsai EC, Patti ME, Harper ME. Low birth weight is associated with adiposity, impaired skeletal muscle energetics and weight loss resistance in mice. International journal of obesity. 2014.

7. **Karunanithi Rajamanickam**, Mendis B, Chakraborty S, Nguyen T, Tsai E. 3.2. 33 Improvement of magnetic resonance imaging correlation with

unilateral motor or sensory deficits using diffusion tensor imaging. Cmaj Canadian Medical Association Journal 55 (Suppl), S. 2012;51.

8. Bernard ED, Beking MA, **Karunanithi Rajamanickam**, Tsai EC, DeRosa MC. Target binding improves relaxivity in aptamer–gadolinium conjugates. JBIC Journal of Biological Inorganic Chemistry. 2012;17(8):1159-75.

9. Beauchamp B, Ghosh S, Chu A, Blais A, **Karunanithi Rajamanickam**, Tsai E. Epigenetic alterations in skeletal muscle metabolism are associated with weight loss resistance. Free Radical Biology and Medicine 53, S55-S. 2012;56.

10. **Karunanithi Rajamanickam** & P Ravishankar. Clinical significance of preoperative serum interleukin-6 and C-reactive protein level in breast cancer patients. World Journal of Surgical Oncology. 2011;9(18).

11. Rajasekaran S, Vijay K, **Karunanithi Rajamanickam**, Abhishek M, Shetty Ap. Prevalence and patterns of disc degeneration in thoracic and cervical spine associated to lumbar disc degeneration in a population with and without low back pain-magnetic resonance imaging analysis in two hundred and ninety nine individuals: 14. Spine journal meeting abstracts. 2010;14.

12. Rajasekaran S, Vidyadhara S, Subbiah M, Kamath V, **Karunanithi Rajamanickam**. ISSLS prize winner: a study of effects of in vivo mechanical forces on human lumbar discs with scoliotic disc as a biological model: results from serial postcontrast diffusion studies, histopathology and biochemical analysis of twenty-one human lumbar scoliotic discs. Spine. 2010;35(21):1930-43.

13. Rajasekaran S, Kanna RM, **Karunanithi Rajamanickam**, Shetty AP. Diffusion tensor tractography demonstration of partially injured spinal cord tracts in a patient with posttraumatic Brown Sequard syndrome. Journal of magnetic resonance imaging. 2010;32(4):978-81.

14. Bagavathiappan S, Saravanan T, Philip J, Jayakumar T, Raj B, **Karunanithi Rajamanickam**, Infrared thermal imaging for detection of peripheral vascular disorders. Journal of Medical Physics. 2009;34(1):43.

15. Bagavathiappan S, Saravanan T, Philip J, Jayakumar T, Raj B **Karunanithi Rajamanickam** Investigation of peripheral vascular disorders using thermal imaging. The British Journal of Diabetes & Vascular Disease. 2008;8(2):102-4.

16. Munagala R, **Karunanithi Rajamanickam**, Pugalendhi V, Panicker TMR, Korath MP. Maggots: Microsurgeons in Wound Debridement. Bombay Hosp J. 2007 ;49(1):126-9.

17. **Karunanithi Rajamanickam**, Ganesan S, Panicker TMR, Korath MP, Jagadeesan K. Assessment of bone mineral density by DXA and the trabecular microarchitecture of the calcaneum by texture analysis in pre- and postmenopausal women in the evaluation of osteoporosis. Journal of medical physics/Association of Medical Physicists of India 32 (4) 2007.

18. Pugalendhi V, **Karunanithi Rajamanickam**, Panicker TM, Abraham C, Gurumurthy P. A Pilot Study on the Breast Development in Female Wistar Rats Using an Indigenous Herbal Preparation by Topical Application. N Engl J Med. 2004;350:25.

Conference / Workshop / Invited Lecture/ Resource person / Seminar/:

1. Neerja Viswanathan, Shreshta Vidhya E and **Karunanithi Rajamanickam**, Optical Imaging Methods For Monitoring Cancer Prognosis, International Conference on Stem cell and Therapy (ICSC-2K19). Savitha Dental College – July 5 – 2019.
2. **Karunanithi Rajamanickam** and Joy Sebastian Prakash J. Characterization of Breast Cancer Tumours using Texture Analysis of Saggital T2 weighted MR Images. 37^{th} Annual Conference of Association of Medical Physicists of India. 18^{th} to 20^{th} Nov 2016 – Hotel Marriot Convention Centre - Hyderabad
3. Joy Sebastian Prakash J and **Karunanithi Rajamanickam**. Synthesis, Characterization and MR relaxivity studies of water soluble CdSe Quantum Dots – A bimodal Fluorescent / MR probe for in-vivo imaging. 37^{th} Annual Conference of Association of Medical Physicists of India. 18^{th} to 20^{th} Nov 2016 – Hotel Marriot Convention Centre – Hyderabad
4. V Divya, Joy Sebastian Prakash, **Karunanithi Rajamanickam**. Quantitative assessment of Hippocampal and Corpus Callosum Volumes for Clinical staging in Alzheimer's disease (AD). International Journal of Current Research and Academic Review. 2016; 4(1):128-.
5. P Sharon Jebamalar, J Joy Sebastian Prakash, **Karunanithi Rajamanickam**. Assessment of Brain Lateral Ventricular Volume in Alzheimer’s disease – A pilot study. International Journal of Current Research and Academic Review. 2016; 4 (1):130.
6. A Jayalakshmi, Joy Sebastian Prakash, **Karunanithi Rajamanickam**. Qualitative Assessment of Fiber Tracts and Neuronal Loss for Evaluating Alzheimer’s disease, Mild Cognitively Impairment and Normal Ageing. nternational Journal of Current Research and Academic Review. 2016; 4(1):129.
7. **Karunanithi Rajamanickam**, Mendis B, Chakraborty S, Nguyen T, Tsai E. 3.2. 33 Improvement of magnetic resonance imaging correlation with unilateral motor or sensory deficits using diffusion tensor imaging. CMAJ Canadian Medical Association Journal 55 (Suppl), S. 2012; 51.
8. Mehdizadeh S, **Karunanithi Rajamanickam**, Gupta A, Cruce R, Blanco AC. Diffusion tensor imaging in multiple sclerosis: A method of differentiating symptomatic and asymptomatic cervical cord lesions. The Canadian Society for Clinical Investigation and the Clinician 2012.
9. Sajedeh Shahabhi, **Karunanithi Rajamanickam**, Eve Chung Tsai, Xudong Cao. SPIO enabled MR imaging of biodegradable PLGA channels for spinal cord injury. 11th ANNUAL OHRI RESEARCH DAY. 2011; 55.
10. Rajasekaran S, Vijay K, **Karunanithi Rajamanickam**, Abhishek M, Shetty AP. Prevalence And Patterns Of Disc Degeneration In Thoracic And Cervical Spine Associated To Lumbar Disc Degeneration In A Population With And Without Low Back Pain-Magnetic Resonance Imaging Analysis In Two

Hundred And Ninety Nine Individuals: 14. Spine Journal Meeting Abstracts. 2010;14.

11. Bagavathiappan S, Saravanan T, Philip J, Jayakumar T, Raj B, **Karunanithi Rajamanickam** editors. Thermography for health care 2009.
12. **Karunanithi Rajamanickam**, Panicker TMR, Korath MP, Jagadeesan K, Ganesan S, editors. Texture analysis of trabecular bone using conventional radiographs: medical imaging and osteoporosis 2008.

Awards and Recognition:

International Society for the studies of the lumbar Spine (ISSLS – 2010) (Co-author)

Member: Association of Medical Physicists of India (AMPI)