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Specialisation

Magnetic Resonance Imaging (MRI) and spectroscopy (MRS),
Functional MRI,
Small animal imaging (Animal MRI),
Cardiac MRI and MRS,
Nuclear magnetic Resonance Spectroscopy,
Pulse programming in MRI.

Professional Experience

From	To	Institute	Position
2005	As on Date	All India Institute of Medical Sciences, New Delhi	Faculty
1996	2005	Institute of Nuclear Medicine and Allied Sciences, DRDO, Delhi	Scientist

Educational Qualification

M.Sc. Physics	Bharathidasan University, Tiruchirappalli
Ph.D. in Physics	Indian Institute of Science, Bangalore
Post-Doctoral Fellowship in Magnetic Resonance Imaging and Spectroscopy	University of Los Angeles, California, USA

Publication list

1. Kushwaha S, Roy Choudhury R, Bhat P, **Kumaran SS**, Karunakaran S. (2026). Female-biased astrocytic priming shapes early locus coeruleus vulnerability in an A β oligomer milieu. *Alzheimers Dement.*, **22**: e71168. (IF: 13.0)
2. Gautam U, Singh MB, Mahajan S, Tripathi S, Suri V, Garg A, **Kumaran SS**, Roy S, Suri A. (2026). Biomechanical Characterization of Epileptic Brain for Surgical Planning of Intractable Epilepsy. *J Biomed Mater Res A.*, **114**: e70017. (IF: 3.9)
3. Pankaj P, **Kumaran SS**, Srivastava AK, Kumar M, Chaudhari S, Agarwal RK, Nehra A, Garg A, Rajan R, Pandey RM, Joshi D. (2026). Metabolic and Structural Insights of Cerebellar Dysfunction in Spinocerebellar Ataxia Type 12. *Magn Reson Chem.*, **64**: 237–250. (IF: 1.4) **Corresponding Author**
4. Ghosh A, Verma A, Kaur S, Ahuja CK, Nehra R, Singh P, Modi M, **Kumaran S**, Basu D. (2025). Buprenorphine and Surface-based Brain Morphometry: Impacts on Cortical Thickness, Depth, and Gyrification in Patients with Opioid Use Disorder. *Indian J Psychol Med.*, 02537176251388698 (IF: 2.0)
5. Kumari S, **Senthil Kumaran S**, Rajan R, Arora S, Chaudhary S, Srivastava AK, Edward Edden RA. (2025). Neurobiochemical alterations in patients with idiopathic Parkinson's Disease in Sensorimotor cortex using ¹H-MRS. *Neuroscience*, **588**: 1–10. (IF: 2.8) **Corresponding Author**
6. Deka G, Arora A, Bhat P, Singh V, Mohan H, **Kumaran SS**, Mukherjee C. (2025). Liver-Directing Fe(III)-Based MRI Contrast Agent. *Small*, **21**: e11465. (IF: 12.1)
7. Kaur S, Jain S, Bhardwaj R, **Kumaran SS**, Kochhar KP. (2025). Modulation of the biphasic pattern of cortical reorganization in spinal cord-transected rats by external magnetic fields. *Journal of Biosciences*, **50**: 71. (IF: 1.9)
8. Kumari S, Rana B, Chaudhary S, Rajan R, **Senthil Kumaran S**, Srivastava AK, Devarajan LJ. (2025). Morphometric Characterization of Early- and Late-Onset Parkinson's Disease: An ROI-Based Study of Classification and Correlation. *Neuroscience Informatics*, **5**: 100228. (IF:1.2, citescor: 11.7) **Corresponding Author**
9. Hadwani K, Ghosh S, Chaturvedi S, **Kumaran SS**, Kumari S, Singh J, Ghosh MP, Basu T. (2025). Breaking the Gadolinium Mold: A Metal-Organic Framework Contrast Agent for Magnetic Resonance Imaging. *ACS Appl Bio Mater.*, **8**:7989-8009. (IF: 4.7)
10. Vishwakarma A, Deep R, **Kumaran SS**, Sharan P. (2025). An observational study on gray matter volume and white matter integrity in suicide attempters with bipolar I disorder. *Indian Journal of Psychiatry*, **67**: 615–621. (IF: 2.0)
11. Panda PK, Sharawat IK, Gupta D, Palayullakandi A, **Kumaran SS**, Sherwani P, Sopanam S, Neyaz O. (2025). Hand-arm bimanual intensive therapy versus modified constraint-induced movement therapy in children with hemiparetic cerebral palsy: A randomized controlled trial. *Brain Dev.*, **47**: 104381. (IF: 1.3)
12. Bhatt S, Verma AK, Dastidar PG, Kumar P, Thapa P, Jacob TG, Roy TS, Iyengar S, **Kumaran S**, Ahluwalia BS, Mehta DS. (2025). Investigation on morphological and molecular fingerprints of penguin brain using label-free optical imaging and spectroscopic techniques. *Scientific Reports*, **15**: 4923. (IF: 3.9)
13. Duraiyarasu M, **Senthil Kumaran S**, Mayilmurugan R. (2025). Biotin Conjugated Fe(III)-Triscatecholate Complex as Tumour Targeting T1 MRI Contrast Agent via Second Sphere Water Relaxation. *Chemistry–A European Journal*, **31**: e202403619. (IF: 3.7)

14. Srivastava M, **Kumaran SS**, Srivastava AK, Singh S. (2025). Translational neuroeconomic approach: from economic decision making to neuropsychological disorders. *Frontiers in Neurology*, **16**: 1546863. (IF: 2.8)
15. Kumar M, Singh S, Rana P, D'souza M, **Kumaran SS**, Sekhri T, Khushu S. (2025). Neurometabolite and cognitive changes in hypothyroid patients in response to treatment: In-vivo 1H MRS study. *Neurochemistry International*, **182**: 105915. (IF: 4.0; CI: 3)
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17. Tiwari VK, Kumar A, Nanda S, Chaudhary S, Sharma R, Kumar U, **Kumaran SS**, Bhatia R. (2024). Effect of neuronavigated repetitive Transcranial Magnetic Stimulation on pain, cognition and cortical excitability in fibromyalgia syndrome. *Neurological Sciences*, **45**: 3421–3433. (IF: 2.4; CI: 19)
18. Kumari S, Rana B, **Senthil Kumaran S**, Chaudhary S, Jain S, Srivastava AK, Rajan R. (2024). Gray Matter Atrophy in a 6-OHDA-induced Model of Parkinson's Disease. *Neuroscience*, **551**: 217–228. (IF: 2.8; CI: 5) **Corresponding Author**
19. Mallik R, Saha M, Ghosh B, Chauhan N, Mohan H, **Kumaran SS**, Mukherjee C. (2025). Folate Receptor Targeting Mn(II) Complex Encapsulated Porous Silica Nanoparticle as an MRI Contrast Agent for Early-State Detection of Cancer. *Small*, **21**: e2401787. (IF: 12.1; CI: 15)
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21. Sadana, D., Gupta, R. K., **Kumaran, S. S.**, Jain, S., & Rajeswaran, J. (2024). Structural brain correlates of creative personality: a voxel-based morphometric study. *Gifted and Talented International*, **39(2)**: 111–121. <https://doi.org/10.1080/15332276.2024.2412576>
22. Agrawal S, Agrawal RK, **Kumaran SS**, Rana B, Srivastava AK. (2024). Integration of graph network with kernel SVM and logistic regression for identification of biomarkers in SCA12 and its diagnosis. *Cereb Cortex*, **34**: bhae132. (IF: 2.9; CI: 4)
23. Khatavkar R, Tiwari A, Bhat P, Srivastava AK, **Kumaran SS**, Joshi D. (2024). A Novel Kinematic Gait Parameter-Based Vibrotactile Cue for Freezing of Gait Mitigation among Parkinson's Patients: A Pilot Study. *IEEE Trans Haptics*, **17**: 689–704. (IF: 2.8; CI: 4)
24. Mallik R, Saha M, Sarmah A, Singh V, Mohan H, Bhat P, **Kumaran SS**, Mukherjee C. (2024). A Bis(Aquated) Mn(II)-Based MRI Contrast Agent with a Rigid Hydroquinazoline Unit: Synthesis, Characterization, and in Vivo MR Imaging Study. *ACS Applied Bio Materials*, **7**: 1831–1841. (IF: 4.7; CI: 8)
25. Bhadrans, S. L., Reghu, A., Gupta, R., Radhakrishnan, D. M., Vishnoi, A., Gupta, A., Vishnu, V. Y., Upadhyay, A., **Kumaran, S.**, Kumar, N., Bhatia, R., Bhatia, R., Singh, M. B., Srivastava, A. K., Srivastava, P., & Rajan, R. (2024). Inferior parietal lobule stimulation in task-specific focal hand dystonia: A randomized, crossover clinical trial. *Annals of Movement Disorders*, **7(2)**, 94–101. (IF: 0.38)
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27. Duraiyarasu M, **Kumaran SS**, Mayilmurugan R. (2023). Alkyl Chain Appended Fe(III) Catecholate Complex as a Dual-Modal T1 MRI–NIR Fluorescence Imaging

- Agent via Second Sphere Water Interactions. *ACS Biomaterials Science & Engineering*, **9**: 3570–3580. (IF: 5.5; CI: 4)
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 33. Dogra V, Kumaran SS, Mittal B, Nehra A, Sagar R, Gupta A, Kalaivani M, Gupta Y, Tandon N. (2023). Evaluation of structural brain changes and their correlation with cognitive functions in adults with type 1 diabetes stratified by the age of diabetes onset: A cross-sectional study. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, **17**: 102768. (IF: 3.4)
 34. Agrawal S, Agrawal RK, **Kumaran SS**, Srivastava AK, Narang MK. (2024). Fusion of 3D feature extraction techniques to enhance classification of spinocerebellar ataxia type 12. *Int. J. Inf. Technol.*, **16**: 91–103. (IF: Scopus CiteScore of 8.5 and a SCImago Journal Rank (SJR) of 0.717; CI: 9)
 35. Khajuria A, Kumar A, Joshi D, **Kumaran SS**. (2023). Reducing Stress with Yoga: A Systematic Review Based on Multimodal Biosignals. *International Journal of Yoga*, **16**: 156–170. (IF: 1.1)
 36. Banduni O, Saini M, Singh N, Nath D, **Kumaran SS**, Kumar N, Srivastava MVP, Mehndiratta A. (2023). Post-Stroke rehabilitation of distal upper limb with new perspective technologies: virtual reality and repetitive transcranial magnetic stimulation—a mini review. *Journal of Clinical Medicine*, **12**: 2944. (IF: 2.9; CI: 19)
 37. Mallik R, Saha M, Singh V, Mohan H, **Kumaran SS**, Mukherjee C. (2023). Mn(II) complex impregnated porous silica nanoparticles as Zn(II)-responsive "Smart" MRI contrast agent for pancreas imaging. *Journal of Materials Chemistry B*, **11**: 8251–8261. (IF: 5.7; CI: 10)
 38. Khajuria A, Kumar A, Joshi D, Kumaran SS. (2023). Reducing Stress with Yoga: A Systematic Review Based on Multimodal Biosignals. *International Journal of Yoga*, **16(3)**: 156–170. (IF: 1.1; CI: 69)
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42. Kaur H, Chaudhary S, Mohanty S, Sharma G, **Kumaran SS**, Ghata N, Bhatia R, Nehra A, Pandey RM. (2022). Comparing cognition, coping skills and vedic personality of individuals practicing yoga, physical exercise or sedentary lifestyle: a cross-sectional fMRI study. *Integrative Medicine Research*, **11**: 100750. (IF: 3.0; CI: 21)
43. Nath D, Singh N, Saini M, Banduni O, Kumar N, Srivastava MVP, **Kumaran SS**, Mehndiratta A. (2022). Clinical effectiveness of non-immersive virtual reality tasks for post-stroke neuro-rehabilitation of distal upper-extremities: a case report. *Journal of Clinical Medicine*, **12**: 92. (IF: 2.9; CI: 9)
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45. Ankeeta A, **Kumaran SS**, Saxena R. (2022). Functional and volumetric cortico-cerebellar alterations in congenital blind children associated with language processing. *Journal of Magnetic Resonance Open*, **10**: 100038. (IF: 2.0) **Corresponding Author**
46. Chaudhary S, Kumari S, **Kumaran SS**, Goyal V, Jain S, Kaloiya GS. (2022). In vitro and in vivo NMR based metabolomics in Parkinson's disease. *Journal of Magnetic Resonance Open*, **10**: 100050. (IF: 2.0; CI: 8) **Corresponding Author**
47. Girishan S, Chaudhary K, Samala R, Agarwal M, **Kumaran S**, Doddamani R, Wadhawan AN, Ramanujam B, Chandra SP, Tripathi M. (2022). Long-term functional outcome following left hemispherotomy in adults and pediatric participants with fMRI analysis. *Neurology India*, **70**: 1593–1600. (IF: 0.9; CI: 4)
48. Agrawal S, **Kumaran SS**, Srivastava AK, Agrawal RK, Narang MK. (2022). Study of 2D Feature Extraction Techniques for Classification of Spinocerebellar Ataxia Type 12 (SCA12). *Studies in Health Technology and Informatics*, **290**: 670–674. (IF: 0.4)
49. Chaturvedi S, Chaudhary V, Pant P, Jha P, **Kumaran SS**, Hussain F, Mishra AK. (2021). 5-HT1A targeting PARCEST agent DO3AM-MPP with potential for receptor imaging: Synthesis, physico-chemical and MR studies. *Bioorganic Chemistry*, **106**: 104487. (IF: 4.7; CI: 5)
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51. Chaudhary S, **Kumaran SS**, Goyal V, Kaloiya GS, Kalaivani M, Jagannathan NR, Sagar R, Mehta N, Srivastava AK. (2021). Cortical thickness and gyrification index measuring cognition in Parkinson's disease. *International Journal of Neuroscience*, **131**: 984–993. (IF: 1.5; CI: 25) **Corresponding Author**
52. Tamuli D, Kaur M, Jaryal AK, Srivastava AK, **Kumaran SS**, Deepak KK. (2021). Structural atrophy of central autonomic network correlates with the functional attributes of autonomic nervous system in spinocerebellar ataxia patients. *Journal of Clinical Neuroscience*, **93**: 274–281. (IF: 1.8; CI: 6)
53. Ankeeta A, Saxena R, **Kumaran SS**, Dwivedi SN, Jagannathan NR, Narang V. (2021). Evaluation of Memory and Language Network in Children and Adolescents with Visual Impairment: A Combined Functional Connectivity and Voxel-based

Morphometry Study. *Neuro-Ophthalmology*, **45**: 147–161. (IF: 2.0; CI: 3)

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54. Kumar A, Mattoo B, Bhatia R, **Kumaran S**, Bhatia R. (2021). Neuronavigation based 10 sessions of repetitive transcranial magnetic stimulation therapy in chronic migraine: an exploratory study. *Neurological Sciences*, **42**: 131–139. (IF: 2.4; CI: 44)
55. Chaudhary S, **Kumaran SS**, Goyal V, Kalaivani M, Kaloiya GS, Sagar R, Mehta N, Srivastava AK, Jagannathan NR. (2021). Frontal lobe metabolic alterations characterizing Parkinson's disease cognitive impairment. *Neurological Sciences*, **42**: 1053–1064. (IF: 2.4; CI: 36) **Corresponding Author**
56. Bhasin A, Srivastava P, **Kumaran SS**. (2021). Correlation of DTI-derived measures to therapy-mediated recovery after stroke: preliminary findings. *Neurology India*, **69**: 1210–1216. (IF: 0.9; CI: 10)
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61. Singh N, Saini M, Kumar N, Srivastava MVP, **Kumaran SS**, Mehndiratta A. (2021). A Case Report: Effect of Robotic Exoskeleton Based Therapy on Neurological and Functional Recovery of a Patient With Chronic Stroke. *Frontiers in Neurology*, **12**: 680733. (IF: 2.8; CI: 8)
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63. Chaudhary K, Tripathi M, Chandra SP, Nehra A, **Kumaran SS**. (2020). Evaluation of memory in persons with mesial temporal lobe sclerosis: A combined fMRI and VBM study. *Journal of Biosciences*, **45**: 74. (IF: 1.9; CI: 3) **Corresponding Author**
64. Chaudhary S, **Kumaran SS**, Kaloiya GS, Goyal V, Sagar R, Kalaivani M, Jagannathan NR, Mehta N, Srivastava A. (2020). Domain specific cognitive impairment in Parkinson's patients with mild cognitive impairment. *Journal of Clinical Neuroscience*, **75**: 99–105. (IF: 1.8; CI: 32) **Corresponding Author**
65. Chopra S, Sinha S, **Kumaran SS**, Kaur H, Pandey RM, Nehra A. (2020). Development of Rehabilitation of Eclectic Cognitive Functioning Post-Traumatic Brain Injury to Retrain and Restore Attention, Concentration, Memory and Executive Functions (RETRACE). *BMJ Innovations*, **6**: 99–112. (IF: 1.8)
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Book Chapters

- a) Singh, H., **Kumaran, S.S.**, Dhamija, E. (2025). Data Science and Precision Medicine in Oncology. In: Dhamija, E., Deo, S.V.S. (eds) *Imaging in Management of Breast Diseases*. Springer, Singapore. https://doi.org/10.1007/978-981-96-4998-3_18
- b) **Kumaran SS**. MR Imaging: Basic Concepts. In: Pant G, Editor. *Basic Physics and Radiation Safety in Nuclear Medicine*. Himalaya Publishing House, Mumbai, India; 2008. p. 400–18. Second Revised and Enlarged Edition. 2018. G. S. Pant, editor. Himalaya Publishing House: Mumbai. ISBN No: 978-93-5299-278-2. 677 pages.
- c) Gopishankar, N., Vivekanandhan, S., Jirasek, A., Kale, S.S., Rath, G.K., Thulkar, Sanjay, Subramani, V., **Kumaran, S Senthil.**, Bisht RK. Digital Filtering Techniques to reduce image noise and improve dose resolution in X-ray CT based normoxic gel dosimetry. In: *Modern Practices in Radiation Therapy*. InTech; 2012.
- d) **Kumaran S**, Dubey Y, Raghunathan P, Jain V. Application of MR Spectroscopy—³¹P Cardiac MRS. In: Jagannathan, NR, Editor. *Recent Advances in MR Imaging and Spectroscopy*. Jaypee Publishers, Delhi 2005. p. 301–301.
- e) Tripathi, R.P., Batra, A., Khushu, S., **Kumaran, S.S.**, Gupta, A., Kaushik, S., Kaur P. Spectrum of magnetic resonance imaging and spectroscopic findings in tuberculoma. In: Mathew, T Lazar, Sharma, R.K., Dwarakanath BS, editor. *Biotechnology in Health Care*. 2001. p. 232–6.

List of Projects implemented:

As Principal Investigator

1. Exploring cognition and numeracy skills in financial decision making in neurodegenerative disorders using MR techniques, and the effect of Transcranial Direct Stimulation (IDCS) on improvement of cognitive functions, S. Senthil Kumaran, Department of Health Research (DHR); 3 years; Nov, 2023 – Nov, 2026; Rs.18,78,280
2. Detection of Early Signs of Postural Function Decline in Parkinson Patients using EEG and fMRI, Dr. Aayushi Khajuria, DST Inspire Faculty under Prof. S. Senthil Kumaran as Mentor, Department of Science and Technology, 2023-2028, Rs.39,36,454
3. Identification of early biomarkers for Parkinson's disease using Radiomics and Metabolomics approach in an experimental PD model and patients with PD, Dr. Sadhana Kumari, Under Prof. S. Senthil Kumaran as Mentor, DHR Women Scientist, 2023-2026, Rs. 48,72,000
4. Functional MRI based target localization in brain stimulation in Depression, Dr. Priyanka Bhat, Under Prof. S. Senthil Kumaran as Mentor, DBT BioCARE, 2024-2026, Rs.32,53,000
5. Identification of prognostic and diagnostic biomarkers in Parkinson's Disease (with juvenile/young onset) using deep learning methods, S. Senthil Kumaran, Department of Health Research (DHR); 1 year 10 months; 2022-Sep,2024; Rs.37,40,414
6. Morphological, functional, Biochemical and Behavioral evaluation post-emf radiation, S. Senthil Kumaran, 2015- 2017, SERB, Department of Science & Technology (DST) Govt. of India, Rs.49.50 Lakhs
7. Functional and neurobiological analysis in visually impaired subjects, Dr. S. Senthil Kumaran, Dr. Rohit Saxena, Dr. N.R. Jagannathan, 2013-2015, DST-Cognitive Science Initiative, Rs.34.02 Lakhs
8. Neurocognitive changes associated with perception, spatial orientation, speech and language process in visually challenged subjects, using functional magnetic resonance imaging (fMRI)", Dr. S. Senthil Kumaran, Dr. Rohit Saxena, Dr. N.R. Jagannathan and Dr. V. Narang, 2010-2013, DST-Cognitive Science Initiative, Rs.22,10,800/-
9. Neural correlates of conflict: An event related functional magnetic resonance imaging study, 2006- 2008, AIIMS, Intramural, Rs. 1,30,000/-
10. Functional magnetic resonance imaging and magnetic resonance imaging in patients with achalasia cardia, 2005 – 2007, AIIMS, Intramural, Rs.80,000/-
11. Metabolic Changes in subclinical and frank hypothyroid disorders, 2004-2009, DRDO, Intramural, Rs.3,94,45,000/- (PI of a Sub-project Rs.16,50,000/-)
12. Development of MR and Nuclear Medicine techniques and specific Radiopharmaceuticals for evaluation of structural and functional changes due to radiation exposure, 2001-2005, DRDO, Intramural, Rs.1,37,05,000/- (Co-Investigator)
13. Development of system to visualise and Coregister MRI and SPECT Images for anatomical and functional study, 1999-2002, DRDO, Intramural, Rs. 2,50,000/-
14. Neurophysiological changes in various stages of meditation through functional MRI, 1999-2002, DRDO, Intramural, Rs. 4,80,000/-
15. Frontal lobe Magnetic Resonance Spectroscopy in Thyroid disorders, 1999-2001, DRDO, Intramural, Rs.4,80,000/-
16. Evaluation of MR Spectroscopy & imaging to study energetics and cardiac functions in normal human subjects and in patients with myocardial ischemia and patients with eccentric left ventricular hypertrophy, 1998-2001, DRDO, Intramural, Rs.4,85,000/-
17. Development of a computer-controlled rotation system for a high resolution nuclear imaging modality, 1996-1998, DRDO, Intramural, Rs.2,95,000/-
18. Exploring Auditory Perception in House crows using functional magnetic resonance imaging and Neuroanatomical Techniques, SERB, 2020 to 2024, (NBRC+AIIMS), Rs.36.4lakhs
19. Morphological and Neurobiological Changes in Spinocerebellar Ataxia Affected Patients (SCA) through MRI Techniques Using Computer Vision Based Analysis, 2019 - 2022, SERB, Rs. 21.0144 Lakhs (AIIMS+ABVIIT Gwalior: Total 65.22 Lakhs)
20. Post stroke neuroplastic potential during spontaneous recovery for motor processing, S. Senthil Kumaran, 2014-2016, AIIMS, Intramural Research Grant, Rs. 4.75 Lakhs

As Co-Investigator

21. Neuro-assistive technologies for Stroke recovery, ICMR-CARE, May, 2021-Apr, 2026, MV Padma Srivastava, S. Senthil Kumaran, Rohit Bhatia, Amit Mehndiratta, Rs.489 lakhs (Co-Investigator)
22. Material characterization of brain tissue and development of tissue-device interaction based neurosurgical simulation tool, Ashish Suri, Ajay Garg, Renu Dhingra, Sanjeev Lalwani, Vaishali Suri, S Senthil Kumaran, Jan, 2021 – Jan, 2026, ICMR-CARE, Rs.500 Lakhs
23. Role of Normobaric Oxygen Therapy, Fluoxetine and Transcranial Direct Current Stimulation (rTDCS) in Hypoxic Ischemic Brain Injury - HIBI Initiative, MV Padma Srivastava, S. Senthil Kumaran, Rohit Bhatia, Shailesh Gaikwad, Feb 2018 – Feb 2023, DBT, Rs.106 lakhs (Co-Investigator)
24. Study of paracrine mechanisms of autologous mononuclear stem cells in chronic ischemic stroke using biofunctional markers, Dr. MV Padma Srivastava, **Dr. S. Senthil Kumaran**, Dr. Rohit Bhatia, CSIR, Nov 2012 – Oct-2015
25. Comparison of constrained induced movement therapy and electrical stimulation for patients with chronic stroke measured on disability outcome scales and functional imaging, Dr. MV Padma Srivastava, **Dr. S. Senthil Kumaran**, Dr. Rohit Bhatia and Dr. VP Gupta, ICMR, Sep 2010- Sep 2013, Rs.18,00,000/-
26. Role of human umbilical cord blood stem cells and neural stem cells in neuronal regeneration and functional restoration: A comparative study in male adult rats with acute spinal cord injuries, Dr Sumit Sinha, Dr Pankaj Seth, Dr Neeraj Jain, Dr Sujata Mohanty, Dr S Arulselvi, **Dr Senthil S Kumaran**, Prof A K Mahapatra, Prof M C Misra, Prof Balram Airon, DBT, Jan 2012- Dec 2014, Rs.58,59,646/-
27. Cognitive activation studies of language and memory as a preoperative evaluation in patients with intractable epilepsy – A novel noninvasive method for investigation, Dr. Manjari Tripathi, **Dr. S. Senthil Kumaran**, Dr. P. Sarat Chandra and Dr. Ashima Nehra, DST-CSI, Dec 2008- Nov 2012, Rs. Rs.20,76,400/-
28. Mapping neurophysiological, neurochemical and cerebral blood flow changes in attentional processes related to yoga, to S-VYASA university (SR/CSI/22/2009), Dr. Shirley Telles, Dr. Naveen K Visweswaraiah, Dr. Rose Dawn Bharath and **Dr. S. Senthil Kumaran**, DST-CSI, Rs.90,00,000/-
29. Predicting functional outcome after acute stroke: evaluation of a module of clinic-radiological parameters and growth factors in Asian Indians, Dr. MV Padma Srivastava, **Dr. S. Senthil Kumaran**, Dr. Ajay Garg, Dr. MV Rajeshwari, Jan 2013-Dec 2015, DST, Rs.37,57,374/-
30. Neuromapping of functional deficits associated with Parkinsonian disorders, *Dr. Madhuri Behari*, Dr. S. Senthil Kumaran (Co-Principal Investigator), Dr. Vinay Goyal and Prof. Vaishna Narang. DST, Aug, 2010- July 2013, Rs.41,22,300/-