

**DEPARTMENT OF ORTHOPEDICS**  
**Thanjavur Medical College**

**1. About us:(Type a minimum of 500 words about the department)**

This orthopedic department was established in 1958 along with the Medical College and Hospital and is affiliated to TN Dr MGR medical University. Patient care which includes basic orthopedic surgery and specialty services. We train 150 undergraduates and 5 post graduates' students per year. We train at least 10 plaster technicians per year. We have PhD degrees in the department affiliated to TN Dr MGR University. We are actively involved in research activities and publications. We provide outpatient care for 52000 persons and inpatient of 5000 per year. We have a fully-fledged physiotherapy department. We treat Degenerative conditions like osteoarthritis knee, Plantar fasciitis, Tennis elbow, Periarthritis shoulder Cervical spondylosis, Lumbar spondylosis, Tenosynovitis, Carpal tunnel syndrome. These are managed with splinting, physical therapy, intra lesional steroid injections, surgery (in severe cases). We treat bone tumor, tumorous and conditions mimicking bone by evaluation by location and resection followed by chemotherapy, radiation therapy, targeted therapy, and bisphosphonates. We care for cervical spine injury with or without neurological deficit, Brachial plexus injury, Clavicle fractures, Acromioclavicular disruption, Proximal shaft or distal, Intercondylar or Supracondylar humerus fractures, Elbow dislocation, Olecranon fracture, Both bone forearm fractures, Distal radius fracture, Lunate dislocation, peri lunate dislocation, Carpal bone fractures, Metacarpal and Phalangeal Fracture, Thoracic or Lumbar spine fracture, Sacral fracture, Coccygeal fracture, Pelvic fracture, trochanteric fracture, Femoral neck or shaft fracture, Distal femur fracture, Intercondylar femur fracture, Tibial plateau fracture, Fibular fracture, Bimalleolar ankle fractures, Pilon fracture, Both bone leg fracture, Talus, Calcaneal and other tarsal fracture, Metatarsal and Phalanx fracture, All these will either be treated conservatively or fixed by open Reduction with screw fixation, fibula plating, K-wire fixation in severe cases followed by rehabilitation. We manage malunion or non-union of these fractures presenting late by corrective surgeries. We treat pediatric fractures, green stick fractures, incomplete fractures, Stress fractures. Congenital conditions like congenital Talipes Equinovarus, Developmental Dysplasia of Hip, Perthes disease are all evaluated. Serial casting by Ponseti method, Pavlik harness, surgery in severe cases is done followed by rehabilitation and follow - up. Neuromuscular conditions like Erb's palsy, poliomyelitis and cerebral palsy, Charcot's neuropathy is managed with offloading devices, splinting, physical therapy, surgery (in severe cases). Septic arthritis or joint infection are treated with joint drainage, lavage and suitable antibiotics. Other specific infection of bones and joints like Osteoarticular tuberculosis, Tuberculosis of the spine treated with Anti-tuberculous drugs and, surgical debridement. We treat spinal conditions like disc disease, tuberculosis are all treated by conservation or surgeries. We manage ankylosing spondylitis as well. Metabolic conditions are Gouty arthritis, Osteoporosis and Inflammatory conditions like rheumatoid arthritis. Our arthroscopy surgeries include ACL tears, Meniscal tears, PCL tears in the knee and Labral and rotator cuff tear / Supraspinatus tears and instability of shoulder. The total number of arthroscopy surgeries is more than 100 per year. the highest in the state for three consecutive years. Arthritis HIP, Avascular necrosis of femoral head, neck of femur with arthritic changes undergo hip replacements knee arthritis deserving patients undergo total knee arthroplasty

## 2. Department academics:

### 1. MBBS:

- a. MBBS - 150 students per year
- b. Clinical class daily from 8.00 am - 12.00 am.
- c. Theory classes by professors and assistant professors with pre and post tests
- d. Early clinical introduction class for 1st-semester students on Saturdays
- e. Elective posting in CTEV, Spine,

### 2.

- a. MS Orthopedics - 5 Students per year
- b. Theory classes by professors
- c. Clinical (case presentation and discussion)
- d. Symposium
- e. Journal Club
- f. Group Discussion
- g. Clinico pathological class
- h. OSCE
- i. Viva
- j. Seminar
- k. Grand Rounds
- l. Guest Lectures
- m. Clinical Case Topic Presentation
- n. Departmental Review Meeting every Saturday






### 3. Ph.D in orthopedics affiliated to TN Dr MGR medical University – with a university approved supervisor Dr S Kumaravel

## 3. Infrastructure

- a. Lecture halls - 1
- b. Clinical Demo rooms - (each 50 to 60 sq m) 2
- c. Museum - 1
- d. Library - 1 (100. 17sq.m)
- e. Live streaming with WIFI connection - **Available**
- f. Audio-visual equipment - **Available**
- g. Bedside Ultrasonography - **Available**

#### 4. Faculty details:

S.No	Name	Designation	Qualification	TNMC registration number	email ID	Photo (paste photo copy in this box)
1	Dr.S.KUMARAVEL	Professor	D.Ortho.,M.S. Ortho.,DNB,Ortho.,MNAMS, Ortho.,Ph.D, ACME	53804	<a href="mailto:drskumaravel@gmail.com">drskumaravel@gmail.com</a>	
2	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	M.S.Ortho	64921	<a href="mailto:tmpandy76@gmail.com">tmpandy76@gmail.com</a>	
3	Dr.K.KISHORE	Associate Professor	M.S.Ortho.	63264	<a href="mailto:skdortho@yahoo.co.in">skdortho@yahoo.co.in</a>	
4	Dr.K.SENTHILKUMAR	Associate Professor	D.Ortho.,M.S. Ortho.	66078	<a href="mailto:kmsdortho@gmail.com">kmsdortho@gmail.com</a>	
6	Dr.M.C.CHINNADURAI	Associate Professor	D.Ortho.,M.S. Ortho.	73959	<a href="mailto:chinnamortho@gmail.com">chinnamortho@gmail.com</a>	
5	Dr.A.SIVASENTHIL	Assistant Professor	D.Ortho.,M.S. Ortho	63381	<a href="mailto:drarjunsenthil74@gmail.com">drarjunsenthil74@gmail.com</a>	
7	Dr.C.BALAJI	Assistant Professor	M.S.Ortho.	83798	<a href="mailto:Cbji1984@gmail.com">Cbji1984@gmail.com</a>	

8	Dr.M.DHANAGOPAL	Assistant Professor	M.S.Ortho.	78830	<a href="mailto:orthodango@gmail.com">orthodango@gmail.com</a>	
9	Dr.P.MURALI	Assistant Professor	M.S.Ortho.	79433	<a href="mailto:drmurali05@gmail.com">drmurali05@gmail.com</a>	
10	Dr.P.VENKATESH KUMAR	Assistant Professor	M.S.Ortho.	90724	<a href="mailto:drvenkatehkumar85@gmail.com">drvenkatehkumar85@gmail.com</a>	
11	DR.V.ANANDHAPRABU	Assistant Professor	M.S.Ortho.	105621	<a href="mailto:vaprabu@gmail.com">vaprabu@gmail.com</a>	
12	DR.D.K.THANGADURAI	Assistant Professor	M.S.Ortho.	98771	<a href="mailto:drthangaduraiortho@gmail.com">drthangaduraiortho@gmail.com</a>	

**5. Publication details by the faculty (Provide the details of the publication in the following format)  
Provide HOD details, professor details, associate details followed by AP/SR details in order.**

S. No	Name	Designation	Title	Journal name	Month year of publication	Order of author	Type of article
1.	Dr.S.KUMARAVEL	Professor	Limb salvage for an osteochondroma of proximal humerus turning malignant	Journal of Tamilnadu Orthopaedic Association	1996	First Author	Original research
2.	Dr.S.KUMARAVEL	Professor	Neglected fractures of patella	Journal of the Tamil Nadu Orthopaedic Association	2001	First Author	Original research
3.	Dr.S.KUMARAVEL	Professor	The use of bovine calcium hydroxyapatite in filling defects following curettage of benign bone tumours	Indian Journal of Orthopaedics 37 (3), 15-17	2003	Third author	Original research
4.	Dr.S.KUMARAVEL	Professor	Short term follow up results of uncemented total hip arthroplasty	Journal of Tamilnadu Orthopaedic Association	2003	Sixth author	Original research
5.	Dr.S.KUMARAVEL	Professor	Fracture healing by electric stimulation.	Biomedical Sciences Instrumentation 45, 191-196	2009	First Author	Original research
6.	Dr.S.KUMARAVEL	Professor	A Feasibility study on monitoring of fracture healing by electric Stimulation-A Study On 2 Tibial Fracture Cases	Journal of engineering science and technology 2, 4083-7	2010	First Author	Original research
7.	Dr.S.KUMARAVEL	Professor	Monitoring of Healing of stable Fractures by Electric Stimulation	International Journal of engineering technology and science.	2011	First Author	Original research

8.	Dr.S.KUMARAVEL	Professor	The use of Electric Stimulation as a diagnostic tool to assess Fracture Healing Journal of Theoretical and Applied Information Technology	Journal of Theoretical and Applied Information Technology	2011	First Author	Original research
9.	Dr.S.KUMARAVEL	Professor	A review on the article: Role of common biochemical markers for the assessment of fracture union S Kumaravel	Indian Journal of Clinical Biochemistry 27 (4), 422-425	2012	First Author	Original research
10.	Dr.S.KUMARAVEL	Professor	Monitoring of fracture healing by electrical conduction: A new diagnostic procedure	Indian Journal of Orthopaedics 46, 384-390	2012	First Author	Original research
11.	Dr.S.KUMARAVEL	Professor	A retained umbilical tape following a clavicular fixation.The first ever reported case in orthopaedic surgery	Tamil Nadu Orthopaedic Journal	2013	First Author	Original research
12.	Dr.S.KUMARAVEL	Professor	A Vesical Stone Around an Unusual Foreign Body in an Unusual Site: A Case Report.	Tamil Nadu Orthopaedic Journal	2014	First Author	Original research
13.	Dr.S.KUMARAVEL	Professor	A Massive Prolapse of Lumbar Disc Presenting With a Non Anatomic Clinical Picture. Case Report and Literature Review	Tamil Nadu Orthopaedic Journal	2014	First Author	Original research
14.	Dr.S.KUMARAVEL	Professor	On Creating a Dedicated and Structured Transport System	Res J Pharm Bio ChemSci	2014	First Author	Original research

			for Harvested Organs and Serious Patients in Indian Conditions in Immediate Future				
15.	Dr.S.KUMARAVEL	Professor	Effective Diagnosis of Heart Disease Using Multilayer Feed Forward Neural Network using Back Propagation Algorithm and Associative Neural Network	Res J Pharm Bio ChemSci	2014	Third author	Original research
16.	Dr.S.KUMARAVEL	Professor	A Perspective on Studies Which Tried Electrical Method as a Diagnostic Tool for Measuring Fracture Healing	Res J Pharm Bio ChemSci	2014	First Author	Original research
17.	Dr.S.KUMARAVEL	Professor	Designing of a Simulated Fracture Supporting Device and Studying Electric Conduction across it	Res J Pharm Bio ChemSci	2014	First Author	Original research
18.	Dr.S.KUMARAVEL	Professor	Disseminated Skeletal Secondaries as the First Presentation of a Silent Gastric Malignancy. Rare Presentation of a Gastric Cancer - Third Reported Such Case in a Female	Res J Pharm Bio ChemSci	2014	First Author	Original research
19.	Dr.S.KUMARAVEL	Professor	New Variant of Forearm Dysplasia in Children, in Addition to Those Described by Masada et al.	Res J Pharm Bio ChemSci	2014	First Author	Original research

20.	Dr.S.KUMARAVEL	Professor	Paddy Thresher Injuries Causing Lower Limb Amputations in Cauvery Delta Region.	Res J Pharm Bio ChemSci 5 (3)	2014	First Author	Original research
21.	Dr.S.KUMARAVEL	Professor	A study on orthopaedic injuries in survivors of 2004 Indian ocean tsunami	Res J Pharm Bio Chem Sci	2014	First Author	Original research
22.	Dr.S.KUMARAVEL	Professor	A Case Report Of Mixed Solid And Cystic Variety of Aneurysmal Bone Cyst Of Lateral End Of Clavicle	Res J Pharm Bio ChemSci	2014	First Author	Original research
23.	Dr.S.KUMARAVEL	Professor	Incidence of Cervical Spine Injuries in Autopsies on Fatal Head Injury Victims	Res J Pharm Bio ChemSci	2014	First Author	Original research
24.	Dr.S.KUMARAVEL	Professor	On Using Weight Relieving Orthoses in In-Operable Conditions of Lower Limbs In Middle Age And Old Adults	Res J Pharm Bio ChemSci	2014	First Author	Original research
25.	Dr.S.KUMARAVEL	Professor	Simultaneous surgical neck fracture of both humerii in an old post-menopausal female	Res J Pharm Bio ChemSci	2014	First Author	Original research
26.	Dr.S.KUMARAVEL	Professor	An analysis of the association between electric parameters recorded across the fractured limb and the fracture configurations	Res J Pharm Bio ChemSci	2014	First Author	Original research
27.	Dr.S.KUMARAVEL	Professor	An Unusual Skin Lesion Presenting To an Orthopedic Surgeon	Res J Pharm Bio ChemSci	2014	First Author	Original research



28.	Dr.S.KUMARAVEL	Professor	A four year follow up of reconstruction of an adult upper limb crush injury with wrist and finger drop	Res J Pharm Bio ChemSci	2014	First Author	Original research
29.	Dr.S.KUMARAVEL	Professor	The sub atomic particle dance and its relationship to the study of charge conduction while monitoring bone fracture-healing	Res J Pharm Bio ChemSci	2014	First Author	Original research
30.	Dr.S.KUMARAVEL	Professor	Theoretical study on conduction of electric charges across the trabecular components of bone when intact and during healing of a bone fracture	Res J Pharm Bio ChemSci	2014	First Author	Original research
31.	Dr.S.KUMARAVEL	Professor	An isolated middle cuneiform dislocation with a rare violence. a Case report and literature review	journal of clinical orthopaedics and trauma 5 (3), 167-171	2014	First Author	Original research
32.	Dr.S.KUMARAVEL	Professor	Model and statistical analysis of fracture healing by electric stimulation	Electronic devices	2014	First Author	Original research
33.	Dr.S.KUMARAVEL	Professor	Rickets Misdiagnosed as Arthritis-Primum Non Nocere.	Res J Pharm Bio ChemSci	2015	First Author	Original research
34.	Dr.S.KUMARAVEL	Professor	A Case Of Defect With Loss Of Entire Patella Bone And Patella Tendon - Reconstructed With Turn Down Flap From Quadriceps Apo neurosis	Res J Pharm Bio ChemSci6 (1)	2015	First Author	Original research

35.	Dr.S.KUMARAVEL	Professor	An analysis of the conduction of electric charges along the fluid in the canals of the human bone Haversian system	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
36.	Dr.S.KUMARAVEL	Professor	A Comment on a work using Ilizarov methodology .	Medical Journal of Dr. D.Y. Patil University 8 (1), 40	2015	First Author	Original research
37.	Dr.S.KUMARAVEL	Professor	Long Term Follow-up of a Reconstruction of Open Patellar Tendon Injury by Ecker's procedure Using Gracilus and Hamstring	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
38.	Dr.S.KUMARAVEL	Professor	Clinical and radiological comparison of displaced Extra articular Distal Radius Fracture treated with Plaster or External Fixator	Res J Pharm Bio ChemSci	2015	First Author	Original research
39.	Dr.S.KUMARAVEL	Professor	Early Posterolateral Bone Grafting in Fresh Open and Infected Fractures of Adult Tibia	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
40.	Dr.S.KUMARAVEL	Professor	Write originally	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
41.	Dr.S.KUMARAVEL	Professor	Does Dynamic Condylar Screw Really Work In Closed Fractures Of Distal Femur?	Res J Pharm Bio ChemSci	2015	First Author	Original research
42.	Dr.S.KUMARAVEL	Professor	A Case of Simultaneous Fracture of Both Patellae	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
43.	Dr.S.KUMARAVEL	Professor	A Rare Fracture of The Superior Border Of Scapula	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research

44.	Dr.S.KUMARAVEL	Professor	Primary Cemented Hemiarthroplasty in Intertrochanteric Fractures of Elderly	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
45.	Dr.S.KUMARAVEL	Professor	Management of an open triceps rupture associated with comminuted fracture of distal humerus with biological material. Fifth such case report in literature	Research Journal Of Pharmaceutica l Biological and Chemical Sciences 6 (4)	2015	First Author	Original research
46.	Dr.S.KUMARAVEL	Professor	A case of crocodile bite injury: The management, analysis and the literature review	Research Journal of Pharmaceutica l Biological and Chemical Sciences 6 (2)	2015	First Author	Original research
47.	Dr.S.KUMARAVEL	Professor	A Rare foreign body in the elbow- a date palm thorn in the elbow	Res J Pharm Bio ChemSci	2015	First Author	Original Research
48.	Dr.S.KUMARAVEL	Professor	Serendipitously Sighted Secondaries	Res J Pharm Bio ChemSci 6 (2 ...	2015	First Author	Original Research
49.	Dr.S.KUMARAVEL	Professor	Tibia fracture healing prediction using first-order mathematical model	Computational And Mathematical Methods In Medicine 2015	2015	Third author	Original Research
50.	Dr.S.KUMARAVEL	Professor	Comparative analysis of fracture healing predicted using mathematical model and soft computing technique	International Journal of Applied Engineering Research 10 (8), 21215-21226	2015	Third author	Original research
51.	Dr.S.KUMARAVEL	Professor	Artificial Intelligence in fracture healing diagnosis	Research Journal of Pharmaceutica l Biological and	2015	First Author	Original Research

				Chemical Sciences 6 (4)			
52.	Dr.S.KUMARAVEL	Professor	Theoretical study on the possible method of passage of charge through the fracture site blood and its clot in the when an electric current is applied	International Journal of Applied Science and Engineering Research	2015	First Author	Original research
53.	Dr.S.KUMARAVEL	Professor	Technique of treating fractures in long bones with associated simultaneous loss of limbs complicating their treatment	...Res J Pharm Bio ChemSci6 (4)	2015	First Author	Original research
54.	Dr.S.KUMARAVEL	Professor	Definitive final pattern of bridging callus observed in patients of tibia bone fracture tracked with simultaneous diagnostic electric stimulation	Res J Pharm Bio ChemSci	2015	First Author	Original research
55.	Dr.S.KUMARAVEL	Professor	On The Use of Adequate Imaging in Apparently Innocent Spinal Presentations in Adolescent Girl	Res J Pharm Bio Chem Sci6 (4)	2015	First Author	Original research
56.	Dr.S.KUMARAVEL	Professor	Skin De-pigmentation Following Local Steroid injection in Orthopedic Conditions is Temporary	Res J Pharm Bio ChemSci 6 (4)	2015	First Author	Original research
57.	Dr.S.KUMARAVEL	Professor	The importance of identifying status of iliotibial band in all cases of lower limb deformities	Res J Pharm Bio Chem Sci6 (4)	2015	First Author	Original research

58.	Dr.S.KUMARAVEL	Professor	Adequate imaging is must when clinical picture is ambiguous	Res J Pharm Bio ChemSci6 (4)	2015	First Author	Original research
59.	Dr.S.KUMARAVEL	Professor	Use of uncentrifuged bone marrow in diaphyseal fractures of long bones in adults	Res J Pharm Bio ChemSci 6 (4)	2015	First Author	Original research
60.	Dr.S.KUMARAVEL	Professor	Design and Kinematic Analysis of 4 Degree of Freedom Robotic Arm and its Application in Object Detection	Res J Pharm Bio ChemSc 6 (4)	2015	First Author	Original research
61.	Dr.S.KUMARAVEL	Professor	Determination of optimum voltage for tibia fracture across limb in patients treated using DC electric stimulation	Res J Pharm Bio ChemSci 7 (1)	2015	First Author	Original research
62.	Dr.S.KUMARAVEL	Professor	Evaluating the effect of capacitance model on tibia fractured limb healing diagnosis	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 6	2015	Third author	Original research
63.	Dr.S.KUMARAVEL	Professor	Final Radiological Pattern of Bridging Callus Observed in Patients of Tibia Bone Fracture Tracked with Simultaneous Diagnostic Electric Stimulation	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 6 (4)	2015	First Author	Original research
64.	Dr.S.KUMARAVEL	Professor	A Bizarre Agricultural Injury and Its Analysis	Res J Pharm Bio ChemSci 6 (2)	2015	First Author	Original research
65.	Dr.S.KUMARAVEL	Professor	A Radiolucent Foreign Body in the Elbow: A Date Palm Thorn in the	Research Journal Of Pharmaceutica I Biological	2015	First Author	Original research

			Elbow	And Chemical Sciences 6 (2)			
66.	Dr.S.KUMARAVEL	Professor	Classification of Tibia Fracture Across Limb in Patients Treated Using DC Electric Stimulation Based on Observed Healing Pattern	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 7 (2)	2016	First Author	Original research
67.	Dr.S.KUMARAVEL	Professor	Identification Of Time Constant For Healing Process Of Limb With Fractured Tibia Bone Using Step Response Techniques.	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 7 (2)	2016	First Author	Original research
68.	Dr.S.KUMARAVEL	Professor	Tibia Fracture Healing Diagnosis: A Review.	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 7 (3)	2016	Third author	Original research
69.	Dr.S.KUMARAVEL	Professor	An overview in the context of the paper on day care management of fractures of the hand bones	Medical Journal of Dr. DY Patil University 9 (6), 714	2016	First Author	Original research
70.	Dr.S.KUMARAVEL	Professor	Tibia Fracture Healing Prediction Using Adaptive Neuro Fuzzy Inference System	Intelligent Automation & Soft Computing 23 (2), 359-363	2017	Third author	Original research
71.	Dr.S.KUMARAVEL	Professor	A Rare Cause of Acute Muscular Paralysis.	Research Journal Of Harmaceutical Biological And Chemical Sciences 8 (4), 43-46	2017	Original research	Original research
72.	Dr.S.KUMARAVEL	Professor	Non-invasive determination of tibia fracture healing using load cell	Int J Biol Pharm Allied Sci	2018	First Author	Original research

73.	Dr.S.KUMARAVEL	Professor	Relationship Between Tibial Interference Screw Position and Post-Operative Range of Movement of Knee in Arthroscopic Anterior Cruciate Ligament Reconstruction	Res J Pharm Bio ChemSci 9 (3), 49-56	2018	First Author	Original research
74.	Dr.S.KUMARAVEL	Professor	Efficiency Of Fibular Plating In Distal Third Leg Fractures In Correcting Valgus Of The Distal Tibial Fragment Treated With Interlocking Nailing	Res J Pharm Bio ChemSci	2019	First Author	Original research
75.	Dr.S.KUMARAVEL	Professor	Effectiveness Of Proximal Femoral Nail In Treating Proximal Femoral Fractures. An Experience On 20 Cases.	Res J Pharm Bio ChemSci	2019	First Author	Original research
76.	Dr.S.KUMARAVEL	Professor	Studies on hall effect and conductivity measurement of natural human bones	Int. J. Res. Anal. Rev 6 (2), 828-835	2019	Third Author	Original research
77.	Dr.S.KUMARAVEL	Professor	Model Based Evaluation of Controller Using Pole Placement Technique for nonlinear spherical tank process	Res J Pharm Bio Chem Sci	2019	Third Author	Original research
78.	Dr.S.KUMARAVEL	Professor	Biologically important non-linear optics crystal substitute for tibia fracture: Healing diagnosis	Research Journal Of Pharmaceutica I Biological And Chemical Sciences 10 (1)	2019	Third Author	Original research

79.	Dr.S.KUMARAVEL	Professor	Measurement of Electrolyte Levels in Vegetable Samples using Ion Selective Electrodes (ISE) Technique,	Archives of Physics Research 10 (1), 15-21	2019	Fourth Author	Original research
80.	Dr.S.KUMARAVEL	Professor	Effect of sintering on microstructure of human natural bone	International Journal of Research and Analytical Reviews	2019	Third Author	Original research
81.	Dr.S.KUMARAVEL	Professor	Leak Diagnosis in Pilot Plant Using Soft Computing Technique	...Res J Pharm Bio Chem Sci7 (4)	2019	Third Author	Original research
82.	Dr.S.KUMARAVEL	Professor	An electrical stimulation data based model to predict the healing period of fractured limb	Mathematical and Computer Modelling of Dynamical Systems 25 (4), 354-375	2019	Third Author	Original research
83.	Dr.S.KUMARAVEL	Professor	Self-plagiarism – and its utility to the reader	Journal Indian Medical Association	2019	First Author	Original research
84.	Dr.S.KUMARAVEL	Professor	Super Resolution Image Reconstruction for Bone Images	Indian Journal of Science and Technology	2019	First Author	Original research
85.	Dr.S.KUMARAVEL	Professor	Studies on physiochemical modifications on biologically important hydroxyapatite materials and their characterization for medical applications	Biophysical Chemistry 267, 10474	2020	Third Author	Original research
86.	Dr.S.KUMARAVEL	Professor	Smart healthcare with sensors and wireless body area networking.	Smart Healthcare for Disease Diagnosis and Prevention , Pages 213-227	2020	First Author	Original research



87.	Dr.S.KUMARAVEL	Professor	Outcome analysis of fenestration discectomy in symptomatic young lumbar disc disease patients	OSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 19, Issue 8 Ser.9 (August. 2020), PP 50-55 www.iosrjournals.org	2020	First Author	Original research
88.	Dr.S.KUMARAVEL	Professor	Analysis of EEG-EMG Coherence in Low Frequency Bands.	Studies in Health Technology and Informatics 281, 520-521	2021	Third Author	Original research
89.	Dr.S.KUMARAVEL	Professor	Minisun IDEEA Life Gait for Gait Analysis.	Select Proceedings of i-CASIC 2020	2021	Third Author	Original research
90.	Dr.S.KUMARAVEL	Professor	Corticomuscular Coherence between Motor Cortex Region and Tibialis Anterior Muscle Using Symbolic Transfer Entropy,"	2022 IEEE International Symposium on Medical Measurements and Applications (MeMeA)	2021	Fourth Author	Original research
91.	Dr.S.KUMARAVEL	Professor	Lower Limb Amputees Rehabilitation: IOT-Based Real-Time Human Movement	Advances in Automation, Signal Processing, Instrumentation, and Control DOI: 10.1007/978-981-15-8221-9_283.	2021	Third Author	Original research
92.	Dr.S.KUMARAVEL	Professor	Heteroleptic pincer palladium(II) complex coated orthopedic implants impede	Biofouling. 2022 Jan;38(1):55-70. doi: 10.1080/08927014.2021.201	2022	Fourth Author	Original research

			the Abal/AbaR quorum sensing system and biofilm development by Acinetobacter baumannii.	5336. Epub 2021 Dec 27. PMID: 34961388			
93.	Dr.S.KUMARAVEL	Professor	Analysis of Intramuscular Coherence of Lower Limb Muscle Activities Using Magnitude Squared Coherence	Biomedical Signals Based Computer-Aided Diagnosis for Neurological Disorders	2022	Third Author	Original research
94.	Dr.S.KUMARAVEL	Professor	Prospective Study On Clinical Results Of Total Hip Arthroplasty	Res J Pharmaceut, Bio Chem Sci 2023 ;14(5) Page No. 25-39	2023	Third Author	Original research
95.	Dr.S.KUMARAVEL	Professor	An Outcome Analysis Of Distal Femoral - Locking Compression Plate Fixation (DF-LCP) In Comminuted Intra Articular Distal Femur Fractures: Results Of 66 Cases	Res J Pharmaceut, Bio Chem Sci 2023 14(5): 11-18	2023	Fourth Author	Original research
96.	Dr.S.KUMARAVEL	Professor	Different Types of Fixations of Intra Articular Fracture of Distal Radius in Adults	Research Journal of Medical Science	2023	Fourth Author	Original research
97.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	Comparison of Bone Biomarkers in Postmenopausal Women	International Journal of Scientific Study	2016	Second author	Original research
98.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	STUDY OF S. N-TELOPEPTIDE, A BONE RESORPTIVE BIOMARKER IN POST-MENOPAUSAL OSTEOPOROSIS	J. Evolution Med. Dent. Sci	2016	Third author	Original research

99.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	Evaluation of Morning Stiffness In Backache Clinical and Radiological Examination	Research Journal of Pharmaceutica l, Biological and Chemical Sciences	2018	Second author	Original research
100.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	An Easy Method to Reduce Complex Second Metacarpophalan geal Joint Dislocation	International Journal of Scientific Study	2018	First author	Original research
101.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	Musculoskeletal Melioidosis in a Malaysian Return Driver with Chronic Osteomyelitis – A Rare Case Report	International Journal of Current Microbiology and Applied Sciences	2018	Third author	Original research
102.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	A Prospective Stu dy of Different Ty pes of Fixation of Intra Articular Fracture of Distal Radius in Adult	Research Journal of Medical Science	2023	First author	Original research
103.	Dr.D.THIRUMALAI PANDIYAN	Associate Professor	Prospective Study On Clinical Results of Total Hip Arthroplasty	Res J Pharmaceut, Bio Chem Sci 2023 ;14(5) Page No. 25- 39	2023	First author	Original research
104.	Dr.K.KISHORE	Associate Professor	FUNCTIONAL OUTCOME OF OPEN PHALANGEAL AND METACARPAL FRACTURES TREATED WITH EXTERNAL FIXATION	J. Evolution Med. Dent. Sci	2016	First author	Original research
105.	Dr.K.KISHORE	Associate Professor	RATIONALE AND RESULTS OF PROXIMAL HUMERUS FRACTURE FIXATION	J. Evolution Med. Dent. Sci	2016	First author	Original research
106.	Dr.K.SENTHILKUMAR	Associate Professor	Clinical outcome of Arthroscopic Anatomical Anterior cruciate ligament	IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)	2017	First author	Original research

			reconstruction using single bundle Hamstring tendon				
107.	Dr.K.SENTHILKUMAR	Associate Professor	Clinical Outcome of Proximal Femoral Fractures Fixed With Proximal Femoral Nail	IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)	2018	First author	Original research
108.	Dr.K.SENTHILKUMAR	Associate Professor	Relationship Between Tibial Interference Screw Position and Post-Operative Range of Movement of Knee in Arthroscopic Anterior Cruciate Ligament Reconstruction	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2018	Second author	Original research
109.	Dr.K.SENTHILKUMAR	Associate Professor	ADVANTAGES OF PERCUTANEOUS ACHILLES NEEDLE TENOTOMY IN PONSETI MANAGEMENT OF CLUB FOOT	International Journal of Scientific Research	2021	Second author	Original research
110.	Dr.K.SENTHILKUMAR	Associate Professor	Indication for Tenotomy in Club feet patients treated by Ponseti Method	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2021	First author	Original research
111.	Dr.M.C.CHINNADURAI	Associate Professor	A retained umbilical tape following a clavicular fixation.The first ever reported case in orthopaedic surgery	Tamil Nadu Orthopaedic Journal	2013	Second Author	Original research
112.	Dr.M.C.CHINNADURAI	Associate Professor	A case of crocodile bite injury and the literature review	Res J Pharm Bio Chem Sci	2015	Third Author	Original research
113.	Dr.M.C.CHINNADURAI	Associate Professor	Outcome Analysis of Primary Cemented Hemiarthroplasty	IOSR Journal of Dental and Medical Sciences	2018	Third Author	Original research

			In Intertrochanteric Fractures Of Elderly				
114.	Dr.M.C.CHINNADURAI	Associate Professor	Analysis of the Results of Minimally Invasive Locking Plate Osteosynthesis (MILPO) At Various Levels of Tibial Fractures	IOSR Journal of Dental and Medical Sciences	2019	First Author	Original research
115.	Dr.M.C.CHINNADURAI	Associate Professor	Comparison of the Functional Outcomes of Distal Tibia Fractures Treated By Minimal Invasive Locking Plating Osteosynthesis or Intra Medullary Inter Locking Nailing	IOSR Journal of Dental and Medical Sciences	2019	First Author	Original research
116.	Dr.M.C.CHINNADURAI	Associate Professor	Efficiency Of Fibular Plating In Distal Third Leg Fractures In Correcting Valgus Of The Distal Tibial Fragment Treated With Interlocking Nailing	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2019	Second Author	Original research
117.	Dr.A.SIVASENTHIL	Assistant Professor	An isolated middle cuneiform dislocation with a rare violence. Case report and literature review	Journal of Clinical Orthopaedics and Trauma	2014	Third author	Original research
118.	Dr.A.SIVASENTHIL	Assistant Professor	A Case of Crocodile Bite Injury: The Management, Analysis and the Literature Review	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2015	Fourth Author	Original research
119.	Dr.A.SIVASENTHIL	Assistant Professor	Simultaneous Fractures of Both Patellae	Research Journal of Pharmaceutica I, Biological and Chemical	2015	Second Author	Original research

				Sciences			
120.	Dr.A.SIVASENTHIL	Assistant Professor	Computerized Tomogram as a Tool to Assess Early Morning Back Stiffness from Instability	OSR Journal of Dental and Medical Sciences	2020	Third author	Original research
121.	Dr.A.SIVASENTHIL	Assistant Professor	IS TENOTOMY NEEDED IN ALL CLUB FEET PATIENTS TREATED BY PONSETI METHOD	International Journal of Scientific Research	2021	Second author	Original research
122.	Dr.A.SIVASENTHIL	Assistant Professor	The Effectiveness of Biological Fixation of Proximal Femoral Fractures Using Angle Stable Implant Pf-LCP in Restoring Function and Bone Union - A Study on 56 Cases	IOSR Journal of Dental and Medical Sciences	2022	First author	Original research
123.	Dr.A.SIVASENTHIL	Assistant Professor	Multi Ligamentous Knee Reconstruction Outcome Analysis Following Staged Reconstruction	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2023	Third author	Original research
124.	Dr.A.SIVASENTHIL	Assistant Professor	An Outcome Analysis Of Distal Femoral - Locking Compression Plate Fixation (DF-LCP) In Comminuted Intra Articular Distal Femur Fractures: Results Of 66 Cases.	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2023	First author	Original research
125.	Dr.A.SIVASENTHIL	Assistant Professor	Clinical Outcome Of Posterior Wall And Column Of Acetabular Fractures Treated With Reconstruction Plates	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2023	Second Author	Original research

126.	Dr.A.SIVASENTHIL	Assistant Professor	A Radiolucent Foreign Body in the Elbow: A Date Palm Thorn in the Elbow	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2015	Third author	Original research
127.	Dr.C.BALAJI	Assistant Professor	Recurrent Dislocation of Total Hip Prosthesis Done In Ankylosing Spondylitis With Spinopelvic Malrotation- A Case Report	IQSR Journal of Dental and Medical Sciences	2018	First Author	Original research
128.	Dr.C.BALAJI	Assistant Professor	Tubercular osteomyelitis of clavicle –case series. PARIPEX	PARIPEX-Indian Journal of Research	2018	First Author	Original research
129.	Dr.C.BALAJI	Assistant Professor	Anatomical Reconstruction of Type 3 Acromio Clavicular Joint Dislocation in Adults Using Semitendinous Graft.	IQSR Journal of Dental and Medical Sciences	2018	Second Author	Original research
130.	Dr.C.BALAJI	Assistant Professor	Functional Evaluation of Elastic Intramedullary Nailing For Mid Shaft Clavicle Fractures	IQSR Journal of Dental and Medical Sciences	2018	First Author	Original research
131.	Dr.C.BALAJI	Assistant Professor	Outcome Analysis of Primary Cemented Hemiarthroplasty In Intertrochanteric Fractures Of Elderly	IQSR Journal of Dental and Medical Sciences	2018	Second Author	Original research
132.	Dr.M.DHANAGOPAL	Assistant Professor	Epidemiologic evidence of spinal cord injury in Tamil Nadu, India	International Journal of Research in Medical Sciences	2015	Third Author	Original research
133.	Dr.M.DHANAGOPAL	Assistant Professor	Multi Ligamentous Knee Reconstruction	Research Journal of Pharmaceutica I, Biological	2023	Second Author	Original research

			Outcome Analysis Following Staged Reconstruction	and Chemical Sciences			
134.	Dr.M.DHANAGOPAL	Assistant Professor	Clinical Outcome Of Posterior Wall And Column Of Acetabular Fractures Treated With Reconstruction Plates	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2023	Third Author	Original research
135.	Dr.P.MURALI	Assistant Professor	Outcome of Management of Unstable Elbow Injuries	Journal of Medical Science And clinical Research	2017	First Author	Original research
136.	Dr.P.MURALI	Assistant Professor	Early Complications in Total Radial Head Excision & Radial Head Replacement in Comminuted Radial Head Fractures	Journal of Medical Science And clinical Research	2017	Second Author	Original research
137.	Dr.P.MURALI	Assistant Professor	An Outcome Analysis Of Distal Femoral - Locking Compression Plate Fixation (DF-LCP) In Comminuted Intra Articular Distal Femur Fractures: Results Of 66 Cases	Research Journal of Pharmaceutica I, Biological and Chemical Sciences	2023	Second Author	Original research
138.	DR.D.K.THANGADURAI	Assistant Professor	A CROSS SECTIONAL STUDY TO ASSESS THE MORBIDITY PATTERN OF AGRICULTURAL WORKERS IN VILLAGES OF THANJAVUR DISTRICT	International Journal of Medical Science and Current Research (IJMSCR)	2022	Second Author	Original research
139.	DR.D.K.THANGADURAI	Assistant Professor	STUDY OF RISK FACTORS ASSOCIATED WITH MUCORMYCOSIS	International Journal Of Scientific Research	2022	Fourth Author	Original research



			IN COVID-19 PANDEMIC AT TERTIARY CARE HOSPITAL IN INDIA				
140.	DR.D.K.THANGADURAI	Assistant Professor	A Prospective Study of Different Types of Fixation of Intra Articular Fracture of Distal Radius in Adults	Research Journal of Medical Science	2023	Second Author	Original research

**6. CME/workshop details (Provide the CME workshop conducted by the department in the following format) from 2022 to till date**

S. No	Department	Title of CME/Workshop	Date of CME	TNMC accreditation points	TNMGRMU accreditation points	other accreditation
1	Orthopaedics	Brachial Plexus Injury	25.07.2022	10	10	TNMC Certificate
2	Orthopaedics	BRACE HIP COURSE	02.09.2022	10	10	TNMC Certificate

**7. Clinical materials details (as applicable for lab and clinical departments)**

**For pathology:**

S.No	Month -year	Histopathology	Cytopathology	Hematology	Clinical pathology
1	January 2024	201	185	1798	153
2	February 2024	186	165	1763	98
3	March 2024	221	148	1858	138
4	April 2024	199	180	2319	149
5	May 2024	211	201	2486	176
6	June 2024	186	128	2073	112
7	15-Jul-24	84	75	1058	69

**For Biochemistry:**

<b>S.No</b>	<b>Month -year</b>	<b>total biochemical investigations done</b>
1	January 2024	2239
2	February 2024	2156
3	March 2024	2061
4	April 2024	2437
5	May 2024	2805
6	June 2024	2352
7	15-Jul-24	1789

**For Microbiology:**

<b>S.No</b>	<b>Month -year</b>	<b>Serology</b>	<b>Culture sensitivity samples</b>
1	January 2024	245	147
2	February 2024	252	138
3	March 2024	256	165
4	April 2024	272	133
5	May 2024	261	187
6	June 2024	247	172
7	15-Jul-24	157	74

**For Radiology:**

<b>S.No</b>	<b>Month -year</b>	<b>X-ray</b>	<b>Ultrasound</b>	<b>CT scan</b>	<b>MRI</b>
1	January 2024	4728	1103	492	163
2	February 2024	5346	969	585	176
3	March 2024	4935	992	513	151
4	April 2024	5394	897	456	149
5	May 2024	5978	1137	652	258
6	June 2024	5712	1259	628	234
7	15-Jul-24	3130	561	318	82

**For all other clinical department:**

Month -year	Total OPD	Total IPD	Average bed occupancy	HPE	Cyto patho	Hema tology	CP	Bio chem	Cul sen	Sero logy	Xray	USG	CT/MRI
January 2024	4645	828	98.70%	201	185	1798	153	2239	147	245	4728	1103	655
February 2024	4988	792	97.80%	186	165	1763	98	2156	138	252	5346	969	761
March 2024	4891	820	98.70%	221	148	1858	138	2061	165	256	4935	992	664
April 2024	4593	901	99.15%	199	180	2319	149	2437	133	272	5394	897	605
May 2024	5164	914	99.35%	211	201	2486	176	2805	187	261	5978	1137	910
June 2024	5008	804	98.30%	186	128	2073	112	2352	172	247	5712	1259	862
15-Jul-24	2752	478	98.90%	84	75	1058	69	1789	74	157	3130	561	400

**For surgical departments:**

S. No	Month -year	Total major case	Total minor case	Total emergency cases
1	January 2024	154	41	56
2	February 2024	149	53	49
3	March 2024	164	41	54
4	April 2024	185	37	61
5	May 2024	176	35	55
6	June 2024	170	27	49
7	15-Jul-24	87	20	20

**8. Awards and achievement by department and faculty:**

**1. Dr.S.KUMARAVEL D.Ortho.,M.S.Ortho.,DNB,Ortho.,MNAMS,Ortho.,Ph.D  
Professor and Head**

- Patents registered in Indian Patent Office 4  
Granted 2 Published 2  
S.no 186 no 431572 filing number 2666/CHE/2015 27/05/2015  
Title : Locking Plate for Fixation of Multiple Fractures in Patella Bone  
(A special implant to fix patella fractures which are broken into several pieces) :27/05/2015  
02/12/2016
- A system and a method for controlling water supply conductivity in an industrial power plant)  
(202041045898) awarded Number 497980 Application No.: 202041045898 / Date of Filing: 21/10/2020
- Published  
Device for Supine Weighing Technique on Operation Table”  
System and method for fracture healing prediction) (202041045778

S.N O	Author	Publisher Details	Date of Publications
1	Kumaravel, S Short Cases in Orthopaedics	JP Medical Ltd,	31 Mar 2013 <a href="https://www.amazon.in/Short-Cases-Orthopaedics-Practical-Examination-ebook/dp/B00IOQ67UY">https://www.amazon.in/Short-Cases-Orthopaedics-Practical-Examination-ebook/dp/B00IOQ67UY</a>
2	Kumaravel, S OSCE in Orthopedics	JP Medical Ltd, 10 December 2017	10 December 2017 <a href="https://www.amazon.in/OSCE-Orthopedics-S-Kumaravel/dp/9386322137">https://www.amazon.in/OSCE-Orthopedics-S-Kumaravel/dp/9386322137</a>
3	Kumaravel, S Diagnosing Orthopedic Pain: The art of differential diagnosis in orthopedic pain conditions	NOTION PRESS CHENNAI	15 March 2023
4	Kumaravel, S	Elumbai Arinthaal - Tamil university Thanjavur	2017
5	Kumaravel, S	Mul Elumbukalin Valikalum Kayankalum Tamil university Thanjavur	2021
6	Kumaravel, S	Kaayaviyal Volume 1 Tamil Nadu Textbook and Educational Services Corporation	2023
7	Arun Ganesh, K., Sivakumaran, N., Kumaravel, S. Springer2021	Lower Limb Amputees Rehabilitation: IOT-Based Real-Time Human Movement. In: Komanapalli, V.L.N., Sivakumaran, N., Hampannavar, S. (eds) Advances in Automation, Signal Processing, Instrumentation, and Control. i-CASIC 2020. Lecture Notes in Electrical Engineering (2021), vol 700. Springer, Singapore	<a href="https://doi.org/10.1007/978-981-15-8221-9_283">https://doi.org/10.1007/978-981-15-8221-9_283</a> <a href="https://link.springer.com/chapter/10.1007/978-981-15-8221-9_283#citeas">https://link.springer.com/chapter/10.1007/978-981-15-8221-9_283#citeas</a>
8	<u>K. Arunganesh,</u> <u>N. Sivakumaran,</u> <u>S. Kumaravel &amp;</u> <u>P. A.</u> <u>Karthick</u> Springer2022	Analysis of Intramuscular Coherence of Lower Limb Muscle Activities Using Magnitude Squared Coherence In: Murugappan, M., Rajamanickam, Y. (eds) Biomedical Signals Based Computer-Aided Diagnosis for Neurological Disorders.Springer, Cham. (2022)	<a href="https://doi.org/10.1007/978-3-030-97845-7_12">https://doi.org/10.1007/978-3-030-97845-7_12</a>
9	K Arunganesh, Vinothini Selvaraju, N Sivakumaran, S Kumaravel, PA Karthick IEEE IITM June 2022	<u>Analysis of Cortico muscular Coherence between Motor Cortex Region and Tibialis Anterior Muscle Using Symbolic Transfer Entropy</u> IEEE IITM	<a href="https://drive.google.com/file/d/1r_t8xKsp1LGD33vOLpisoModPepWXqbF/viw">https://drive.google.com/file/d/1r_t8xKsp1LGD33vOLpisoModPepWXqbF/viw</a>
9	Avanish Kumar Singh, N Sivakumaran, S Kumaravel Springer 2020	<u>Minisun IDEEA Life Gait for Gait Analysis</u> Advances in Automation, Signal Processing, Instrumentation, and Control: Select Proceedings of i-CASIC 2020 Springer Singapore	<a href="https://www.springerprofessional.de/en/minisun-ideea-life-gait-for-gait-analysis/18930176">https://www.springerprofessional.de/en/minisun-ideea-life-gait-for-gait-analysis/18930176</a>
10	S Kumaravel Elsevier 2020	Smart healthcare with sensors and wireless body area networking <u>Smart Healthcare for Disease Diagnosis and Prevention</u> In book: Smart Healthcare for Disease Diagnosis and Prevention2020, Pages 213-227 DOI: <a href="https://doi.org/10.1016/B978-0-12-817913-0.00020-1">10.1016/B978-0-12-817913-0.00020-1</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/B9780128179130000201">https://www.sciencedirect.com/science/article/abs/pii/B9780128179130000201</a>

S.No	Name	Awards Details
1	<b>Dr.S.KUMARAVEL</b> D.Ortho.,M.S.Ortho., DNB,Ortho.,MNA MS,Ortho.,Ph.D Professor and Head	<ul style="list-style-type: none"> <li>• TANSa 2015- <b>Tamilnadu Scientist Award by Tamilnadu Council for Science and Technology Chennai</b></li> <li>• Best published paper <b>India Orthopedic Association 2012</b></li> <li>• <b>Maruthuva Tamil Aringar</b> - Award by India Medical Association 2018</li> <li>• <b>Best Doctor Award</b> presented by The Tamil Nadu Dr MGR Medical University for exemplary contribution in the field of Orthopaedics surgery 2012</li> <li>• Certificate of appreciation from Med Ej the official journal of the The Tamil Nadu Dr MGR Medical University for contribution by reviewing the articles the field of Orthopedics surgery.</li> <li>• <b>Award Of Excellence - from Indian Academy of Pediatrics</b> -college round at Coimbatore Medical College,1992</li> <li>• Awarded certificate for his dissertation to the <b>Association of Anatomist of Tamilnadu 1990</b></li> <li>• <b>100% Travel grant from the UGC</b> for attending the Rocky Mountain Bio Engineering Symposium at Milwaukee, USA</li> <li>• A.J Selvapandian - <b>Travelling fellowship from Tamil Nadu Orthopaedic Association (TNOA)</b> to visit Manipal Academy of Higher Education 2003 under Prof. S.S Mohanty</li> <li>• Awarded indo - <b>Indo-US Joint R &amp; D Networked Center on "Orthopaedic Regeneration/26-2014"</b> and release of first year grants in the financial year 2015-16</li> </ul>

**Prof. Dr.S.KUMARAVEL D.Ortho.,M.S.Ortho.,DNB,Ortho.,MNAMS,Ortho.,Ph.D**  
Professor and Head

State conference : 28

1.	<b>1995 Tamilnadu Orthopaedic Association conference.</b>	Progressive spinal deformity following childhood trauma
2.	2001 Tamilnadu Orthopaedic Association conference.	Neglected fractures of patella Indian Orthopaedic association,
3.	<b>2001 Tamilnadu Orthopaedic Association conference</b>	Surgical treatment of acetabular fractures– our experience.

4.	<b>Tamilnadu Orthopaedic Association conference 2002.</b>	Effectiveness of calcium hydroxy apatite in management of benign bone tumours
5.	Tamilnadu Orthopaedic association conference. Erode1994	Progressive Spinal deformity following fracture spine in childhood -
6.	Tamilnadu Orthopaedic Association conference 2004 Kanyakumari ,India,	Management of unreduced posterior dislocation of hip . Authors .S .Kumaravel, K.J Mathiazhagan M Elangovan,
7.	Tamilnadu Orthopaedic Association conference 2004 Kanyakumari ,India,	Osteoid osteoma of the neck of femur , presenter - Kumar Authors .S .Kumaravel, K.J Mathiazhagan
8.	Tamilnadu Orthopaedic Association conference 2004	Benign cystic chondroblastoma - deformity of tibia - bone transport , limb lengthening by Ilizarov - Kanyakumari, India, presenter-TM Manohar Authors .S .Kumaravel, K.J Mathiazhagan
9.	Tamilnadu Orthopaedic Association conference 2004	OsteoSarcoma of tibia ,limb salvage , bone transport , limb lengthening by Ilizaro Kanyakumari ,India, presenter-M Ravi Authors .S .Kumaravel, K.J Mathiazhagan
10.	Tamilnadu Orthopaedic Association conference 2004 Kanyakumari ,India,	Assessing the volume of curetted cavity - a useful method . presenter-J..Selvanathan Authors.S .Kumaravel, K.J Mathiazhagan
11.	Tamilnadu Orthopaedic Association conference 2004 Kanyakumari	The role of calcium hydroxy apatite in filling tumor defects.,India, Authors .S .Kumaravel,Mayil Vahanan Natarajan A Sivaseelsam
12.	Tamilnadu Orthopaedic Association Conference 2005.	Modified Spinal Fixation - Thanjavur technique - Authors: S.Kumaravel, A.Navaneetan, Arun Rajkumar
13.	Tamilnadu Orthopaedic Association Conference 2006.	Autologous fibular grafting, presenter : Authors: S.Kumaravel, Sakti Aravazhi, Rathinasabapathy, K Anbalagan, A.Navaneethan. Manivannan
14.	Tamilnadu Orthopaedic Association conference 2006.	Postero-lateral bone grafting - Harmon's procedure. presenter : Authors: S.Kumaravel, P Vengatesan, Rathinasabapathy, K Anbalagan, A.Navaneethan , Saravanakumar
15.	Tamilnadu Orthopaedic Association 2006.	Comparison of anatomical and functional result of management of unstable extraarticular distal radius fractures treated with ligamentotaxis. Authors: S.Kumaravel, Rathinasabapathy,N.Karthikeyan
16.	Tamilnadu Orthopaedic Association 2008.	A foreign body in the left knee joint - A rare agricultural injury, presenter:, Authors: S.Kumaravel, Rathinasabapathy, Kanagasarathy Vijayakumar
17.	Tamilnadu Orthopaedic Association 2008.	Fracture neck of femur in children treatment with early fixation and cast immobilization, presenter:, Authors:S.Kumaravel, Rathinasabapathy, Gulam mohideen, MS Manoharan,V Jayabal, M.Manoharan
18.	Tamilnadu Orthopaedic Association Conference. Coimbatore 2009.	Posterolateral bone grafting of tibia Authors: S.Kumaravel, R.Rathina Sabapathy, presenter: K.R.Venkateshwar,

19.	Tamilnadu Orthopaedic Association Conference. Coimbatore 2009.	Rare presentation of an exostosis- Authors: S.Kumaravel, R.Rathina Sabapathy,
20.	Tamilnadu Orthopaedic association conference Courtallam 2010	Functional outcome of DCS in distal femur fractures Tamilnadu Orthopaedic association conference. Authors: S.Kumaravel, R.Rathina Sabapathy
21.	Tamilnadu Orthopaedic Association conference Courtallam 2010.	Mini-open technique of ACL reconstruction- presenter :Authors: S.Kumaravel, R.Rathina Sabapathy,
22.	Tamilnadu Orthopaedic Association Conference. Madurai 2011	Functional outcome of operative treatment of ipsilateral femur and tibia fractures Authors:S.Kumaravel, Gulam Mohideen,
23.	Tamilnadu Orthopaedic Association conference. Madurai 2011	A rare presentation of exostosis- presenter :Ameerjan, Authors:S.Kumaravel, Gulam Mohideen
24.	Tamilnadu Orthopaedic Association conference. Madurai 2011	Interlocking Nailing in midshaft humerus fractures- presenter: Dr.Saravanan, Authors:S.Kumaravel, Gulam mohideen,
25.	Tamilnadu Orthopaedic Association conference. Madurai 2011	Minimally invasive plating of subtrochanteric fractures by DCS . presenter :Ramesh Authors:S.Kumaravel, Gulam mohideen,
26.	Tamilnadu Orthopaedic association conference. Vellore 2012	Splenic injury with orthopaedic injuries fracture presenter :Dr.Saravanan, Authors: S.Kumaravel, Gulam mohideen
27.	Tamilnadu Orthopaedic association conference. Salem 2015	An outcome analysis of locking compression plate fixation of closed comminuted intra-articular fractures of distal femur. Presenter :Dr.ME Laxmikanth, Authors: S.Kumaravel, Gulam mohideen
28.	Tamilnadu Orthopaedic association conference. Salem 2015	Treatment of large bony defect in long bones by Masquelet technique Authors: S. Kumaravel, Gulam mohideen

National conference: 16

1.	<b>Indian Orthopaedic Association conference . 2001.Ahmedabad</b>	Effectiveness of calcium hydroxy apatite in management of benign bone lesions.
2.	<b>Indian Orthopaedic association conference 2000 Jaipur</b>	Neglected fractures of patella
3.	2003 Indian Orthopaedic association conference. Chennai	Anterolateral decompression in spinal tuberculosis
4.	2003 <b>Indian Orthopaedic association conference, Chennai</b>	Ilizarov in tumour surgery
5.	<b>Indian Orthopaedic Association Conference. Chennai 2003</b>	GCT variants –curettage and packing with hydroxy apatite. presenter : Selvanathan , Authors: <b>S.Kumaravel</b> , KJ Mathiazhagan.
6.	<b>Indian Orthopaedic Association Conference. Chennai 2003</b>	Cervical rib –thoracic outlet syndrome excision, Authors: S.Kumaravel, K.J. Mathiazhagan.

7.	<b>Indian Orthopaedic Association Conference. Chennai2003</b>	Resistant plantar fasciitis-excision –Du Vries procedure. Authors: S.Kumaravel, KJ Mathiazhagan.
8.	<b>Indian Orthopaedic Association Conference. Chennai2003</b>	Osteosarcoma tibia,limb salvage,bone transport lengthening by Ilizarov. presenter : Authors: S.Kumaravel, KJ Mathiazhagan.Vijayasathy.
9.	<b>2003 Indian Orthopaedic Association Conference, Chennai.</b>	Osteoid osteoma neck of femur Authors: S.Kumaravel, KJ Mathiazhagan.
10.	<b>Indian Orthopaedic Association Conference , Chennai. .2003</b>	Management of un reduced posterior dislocation of hip Authors: S.Kumaravel,KJ Mathiazhagan, Kalilur Rehman
11.	<b>Indian Orthopaedic Association Conference , Chennai. 2003</b>	Benign cystic chondro blastoma tibia a case report. , Authors: S.Kumaravel, KJ Mathiazhagan. C.Asokan
12.	<b>Indian Orthopaedic Association Conference (201) Chennai2003</b>	Gap non union tibia managed by Ilizarov fixator presenter authors S.Kumaravel, Samuel gnanam. C.Ravi
13.	<b>Indian Orthopaedic Association conference 2010 Jaipur</b>	Minimally invasive plate osteosynthesis for sub-trochanteric fractures- Authors:S.Kumaravel, Gulam mohideen :Ramesh,
14.	<b>Indian Orthopaedic Association Conference. 2012</b>	Neglected hip dislocation in a child open or closed reduction Authors: S.Kumaravel, A.Sivasenthil, C.Chinnadurai Renjit John Mathew
15.	Indian Orthopaedic Association Conference. 2012	A case of simultaneous fractures of both patellae. Authors: S.Kumaravel, Sivasenthil , Renjith John Mathew ,Azath Faizer
16.	<b>Indian Orthopaedic Association Conference. 2012</b>	Biological complication of a Custom Mega Prosthesis. How we managed? Authors: S.Kumaravel, Renjit John Mathew Dr.Raez

#### International conference : 5

- Effectiveness of calcium hydroxy apatite in management of benign bone tumours. Asia Pacific Musculo Skeletal Tumour Society conference. 2002.
- Kumaravel S. Sundaram S. Fracture Healing by Electric Stimulation. Rocky mountain Bioengineering Symposium 17-19 Apr 2009; held Milwaukee. USA .
- Kumaravel S. Theerthakiri P.R, Sundaram S “Model and statistical analysis of fracture healing by electric stimulation” The fifth International Conference on the Applications of Digital Information and web technologies (ICADIWT 2014)
- Sridevi M,.Prakasam P,.Kumaravel S,.Madhava Sarma P” Tibia Fracture Healing Prediction Using Adaptive Neuro Fuzzy Inference System” International Conference on Innovations in information, Embedded and Communication Systems (ICIIECS) 2016
- P.Madhavasarma,M.Sridevi,P.Prakasam,S.Kumaravel, Predicting the healing of tibia fracture across the limb using Neural Network Model 2016 IEEE International Conference on Innovations in information, Embedded and Communication Systems (ICIIECS).



S.no	Project title	Role	Details of funding agency	Category of funding agency	Project duration in years	Output /Outcome of the project	Type of beneficiary
1	Indo-US Joint R & D Networked Center on "Orthopaedic Regeneration /26-2014" and release of first year grants in the financial year 2015-16	Co-PI	Indo-U.S. Science and Technology Forum (IUSSTF)HEAL Hartford Engineering a Limb.	Indo-U.S. Virtual Networked Centers	He works in the project of Dr Cato Laurencin an orthopedic surgeon of Connecticut USA for regenerate a new human joint in 7 years 2015 and regenerate an entire limb in 15 years 2030	regenerate a new human joint in 7 years 2015 and regenerate an entire limb in 15 years 2030	Dr. Laurencin's strategy for regenerative engineering focuses on the engineering biomimetic tissues that can grow after being integrated into patients rather than making robotic limbs. Now, inspired from salamanders and newts which can regenerate their limbs within few weeks after amputation, they challenge to engineer a complex musculoskeletal system to help patients who have lost limbs or damaged nerve due to cancers, diabetes, infections, trauma accidents, and congenital defects.
2	"Inhibiting biofilm-mediated implant infections using novel transition metal complexes" (Project ID: 2020-3333)	CO-PI	ICMR	Department of Health Research, Ministry of Health & Family Welfare Extramural Grants	2020-22	The 2nd Annual Progress Report submitted by you was considered in PRC Meeting on 'OMI' held on 27th January, 2023. The comments of experts are as follows: - 1. The study is scientifically appropriate. 2. Objectives have been achieved satisfactorily with good results. 3. Timeline is being followed. 4. The PI has two publications and will also attempt a patent	At present anti-infective compound coated implants are still under development. The only treatment available to treat implant infections are by using antibiotics and removal of implants where the cost of treatment is high. Hence, coating anti-infectives on implant surface would serve as an ideal approach in preventing biofilm associated infections. In application

						<p>on the metal complexes in the coming year.</p> <p>2.</p> <p>1. Cost of implants and other cheaper alternatives like copper as biofilm on implants can be studied as well</p> <p>2. Other microbes of medical importance like E.Coli can be studied</p> <p>3. ADR/toxicity of implants needs to be addressed well.</p> <p>Multicentric study can be planned in future</p> <p>Recommendation : Satisfactory Recommended for continuation</p> <p>Regards Prerna ECD, ICMR</p>	<p>point of view, we would established the non-antimicrobial approach of coating Pd(II) metal</p> <p>complex on implant. Therefore, the strategy of coating anti-infectives on implant surface would be very effective as it acts directly on the site of infection and prevents bacterial resistance by the usage of sub MIC concentration and not focussing in killing planktonic cells .moreover this would be an alterative for the ongoing conventional antibiotic where most bacteria develop resistance .coating of such compounds on implants prevent bacterial colonization and thereby prevent implant infection</p>
3	Convergence of Electro spinning & 3D Bioprinting Techniques to Develop Next Generation Fabrication Method Capable of Creating Multiscale, Heterogenous & Fully Functional Tissue Constructs.	Co PI	ICMR	Department of Health Research, Ministry of Health & Family Welfare Extramural Grants	2022-25	<p>The following are identified as the outcomes of this proposed project - A new strategy to combine electrospinning and bioprinting for the biofabrication of fully functional human skin equivalents - Novel bioinks for bioprinting of fibroblasts, endothelial cells</p>	<p>Overall objective of this project is to converge electrospinning &amp; 3D bioprinting techniques to make fully functional skin tissue constructs for wound healing, 3D in vitro models and organ-on-chip applications Specific aim 1: Electrospinning of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) (PHBV) nanofibers</p>

	File No.17x(3)/Ad hoc/23/2022-ITR (Date:16.11.2022) 3 Years (2022-2025)					<p>and keratinocytes on electrospun nanofibers - Stable 3D human skin equivalent as models for in vitro</p> <p>wound healing and pathological conditions for drug screening</p> <p>Personnel development: Two PhD students and Three master students will be trained during the execution of this project</p> <p>Project publications: Efforts will be made to publish the findings of this project in high impact SCI journals - Patent: The novel findings and technology outcomes will be patented as per our institution and ICMR norms</p>	<p>to make underlying dermal support layers of skin construct</p> <p>Specific aim 2: Optimization and development of hydrogels for 3D bioprinting of dermal and epidermal layers of skin construct</p> <p>Specific aim 3: 3D bioprinting of bilayer skin construct using electrospun PHBV nanofibers as a base scaffold and two optimized hydrogels. Specific aim 4: Evaluation of fabricated 3D skin construct using in vitro culture techniques Specific aim 5: Evaluation of fabricated 3D skin construct using suitable in vivo model to assess functional maturation</p>
4	Early Diagnosis and management of Gait Disorders using Gait Analysis and Augmented Intelligence	Co PI in the implementation	Entrepreneurship Development and Innovation Institute, Tamil Nadu, Innovation Voucher Program (Voucher A) - Rs. 1,97,000/-			<p>Non-invasive force-sensing wearable to record the Vertical Ground Reaction Force Software application to initiate and terminate gait recordings, perform gait analysis and generate reports A Database to store the recorded data</p>	<p>Phase 1 - Quantitative prognosis and gait correction</p> <ol style="list-style-type: none"> <li>1. Measurement of gait parameters</li> <li>2. Anomaly detection - To detect abnormalities in the gait of a subject</li> <li>3. Automated prognosis - To quantitatively measure gait improvement pre &amp; post</li> </ol>

						Gait disorder questionnaire 3 months follow up	medication/treatment Phase 2 - Augmented Intelligence for diagnosis and management of gait disorders 1. Early Detection of the root cause of gait disorders 2. Risk prediction 3. Gait correction
--	--	--	--	--	--	------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**2. Dr.D.THIRUMALAI PANDIYAN.,M.S.Ortho**  
**Associate Professor**

State Conference:

- Paediatric long bone fracture-enders nailing (TNOACON)
- Kaplans Dislocation -an easy method to reduce (TNOACON)
- Deformity correction with ilizarov - (TNOACON)
- Results of fenestration and discectomy (TNOACON)
- Non Union Distal Femur Fractures (TNOACON)
- Failed Fixation in Long Bone Fractures (TNOACON)

National Conference:

- Type 3 Supracondylar Fractures- closed reduction and pinning - (IOACON)

**3. Dr.M.C.CHINNADURAI.,M.S.Ortho**  
**Associate Professor**

Awards/ Prizes:

- TNOACON State Gold medal 2016 Best Paper
- TNOACON State Gold medal 2021 Best Paper

**4. Dr.C.BALAJI .,M.S.Ortho**  
**Assistant Professor**

Fellowship:

In 2013, Arthroscopic training at World Laproscopy Hospital, Gurgaon, New Delhi Sports Injury Center, Safdarjung Hospital, New Delhi

In 2016, Revision Arthroplasty Training at Primus Hospital, New Delhi

In 2018, CURE International Hands on Training for CTEV Management

International conference:

- PERCUTANEOUS ACHILLES TENDON TENOTOMY IN CTEV (TNOACON) 2024

**5. Dr.P.VENKATESH KUMAR.,M.S.Ortho**  
**Assistant Professor**

Awards / Prizes :

Best Doctor Award republic day from Dean of the medical college 2023