



KG COLLEGE OF ARTS AND SCIENCE

(affiliated to Bharathiar University and Accredited by NAAC)

Research and Development Cell

Faculty Researcher Profile



R & D CELL - KGCAS
co-Kreating Genius

FACULTY RESEARCHER PROFILE TEMPLATE

Name	Dr.Nandakumar.N	Degrees	Ph.D. Electronics
Image for home page	https://drive.google.com/drive/folders/1JH3qsaQG4NRnKNo_yp4jTnPs7PbkNOqO?usp=sharing		
Faculty Profile (200 Words Minimum)	<ul style="list-style-type: none"> • 22 years of Industrial, Research and Academic experience in Bio-Medical Engineering and Electronics field. • 18 years of experience in Installing and Running own Bio-Medical equipment Sales and Servicing firm namely “Prime Bio Medical Systems” Tiruppur. Extensive experience in conducting seminars and Implant training to college students, framing syllabus for UG / PG course, publishing journals and research papers. • Working as Assistant Professor, Department of Electronics and Communication Systems in KG College of Arts and Science, Coimbatore. (June 2019 – Till Date) • Worked with M/s. Labindia Instruments Pvt.Ltd., Chennai as Service Engineer and handled Life Science Equipment’s such as Gene Amp PCR, ABI Sequence Analyzer and Gene Scan Analyzer (Applied Bio Systems – Life Science Division - USA). • Worked with M/s. KODY Medical Electronics Pvt.Ltd., Chennai as Service Engineer and handled Medical Equipment’s such as Electro Cardio Graph, Cardiac Monitor, Cardiac Monitor Cum Recorder, Fetal Doppler and Vascular Doppler with Recorder etc... <p>ACADEMIC DEGRESS: Research Program : Doctor of Philosophy (Ph.D.) in Electronics (2021 Bharathiar University, Coimbatore Research Program : Master of Philosophy in Electronics with 67% (2015) (Specialization in Medical Electronics) Bharathiar University, Coimbatore Post-Graduation : Master of Science in Applied Electronics with 72% (1998) Bharathiar University, Coimbatore Under-Graduation : Bachelor of Science in Electronics with 68% (1996) Bharathiar University, Coimbatore</p>		
Keywords	Medical Electronics, Bionics, Environmental Science (Bionomics)		

RESEARCH PROJECTS / FOCUS AREAS

Title and description of research projects and Ph.D Research / focus	<p>Ph.D Research Title: “DESIGN AND DEVELOPMENT OF AN AUTOMATED SYSTEM FOR MULTIPARA MONITORING OF HUMAN PENIS ERECTION, EJACULATION AND SAMPLING”</p> <p>The main objectives of the work:</p> <ul style="list-style-type: none"> • Diagnosing of erectile and ejaculation problems in men • Analysis and diagnosing problems of human penis • Providing better and appropriate treatments for following problems in Fertility,
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<p>areas (Minimum 100 Words about each projects)</p>	<p>Andrology, Urology and Psychology</p> <ul style="list-style-type: none"> • Helpful to medical researchers • Useful for sperm bank • To collect sperm at any time in different environmental <p>Patent 1: Title of Invention: “PAP SMEAR COLLECTING ELECTRONIC PENIS FOR CERVICAL CANCER SCREENING”</p> <p>Importance of medical instruments is known the people who work in medical professional. The medical devices help the medical professional to diagnose, monitor and giving appropriate treatment to the patients. We can say medical instruments have save more than millions of humans and animals life in each year. For human beings are use the medical devices both at the hospital or their homes. Now day’s around the world peoples are affected by cancer. There are more than one hundred types of cancer are innovated by medical professionals. Cancer is curable and incurable disease, which we diagnostics in earlier stage, it is curable, and otherwise it is not curable in late stage of diagnostic. Cancer can start almost anywhere of the human body. Especially female can affected by two types of cancer, which is breast cancer and cervical cancer. For examining the breast cancer there are some medical devices are available. For example mammogram machine is used to diagnostic the breast cancer. Diagnostic the cervical cancer there is no proper electronics devices. Now days they collect the smear from cervical manually and sending for the lab procedure. To avoid the practical difficulty our proposed device is very much use full to medical professional, especially for oncologist and gynecologist. In this project our device is collecting smear for papanicolaou test with aid of electronic instrument for aid of detect early cervical cancer.</p> <p>Patent 2: Title of Invention: “DISTRESS SOUND SOURCE LOCATION SYSTEM FOR SWARM DRONES BY DIRECTION OF ARRIVAL METHOD”</p> <p>A Swarm of drones (group of drones)each having a mounted sound sensor and arranging themselves in regular polygonal shape with one drone at each vertices of the polygon to identify the direction of arrival of the distress sound signal.</p> <p>The size of the virtual polygon can be changed when drones rearrange themselves by moving away from each other.</p> <p>The drones sending a timestamp message wherein their position is known to the control unit, which can calculate the direction of arrival angle of sound signal with analytical geometry algorithm.</p>
<p>PUBLICATIONS</p>	

1. **N.Nandakumar**, D.Shalini, S.Suresh, Dr.Manimehalai.P “Early Finding of Cervical Cancer with the Help of Arousal Fluid”, International Journal of Psychosocial Rehabilitation, Volume 24, Issue 6, pp. 12085-12089 , June 2020.
<https://www.psychosocial.com/article/PR261188/28642/>
2. **N.Nandakumar**, R.Thangavel, K.Shanmugasundaram, “Modeling Concept of Automated System for Human Penis Erection, Ejaculation and Sperm Sampling Technique”, Journal of Emerging Technologies and Innovative Research, Volume 5, Issue 9, pp.754-755, Sept – 2018.
<http://www.jetir.org/view?paper=JETIR1809620>
3. **N.Nandakumar**, R.Thangavel,K.Shanmugasundaram,“Real Time Fault Finding and Monitoring of Medical Instrument Status and Broadcasting Using GSM Technique”, International Journal for Research in Applied Science and Engineering Technology, Vol. 5, Issue XII, pp. 2167 - 2170, December 2017.
<https://www.ijraset.com/files/serve.php?FID=12463>
4. **N.Nandakumar**, R.Thangavel, K.Shanmugasundaram, Sumi.P.P, Karthikeyan Sundarsamy, “Collecting Smear for Papanicolaou Test to Detect Early Stage Cervical Cancer with Aid of Electronic Penis”, International Journal For Scientific Research & Development,Vol. 5, Issue 4, pp.1171-1173, June 2017.
<http://www.ijrsrd.com/articles/IJSRDV5I41271.pdf>
5. Karthikeyan Sundarsamy, Dr.P.Thirunavukkarasu, **N.Nandakumar**, Dr.R.Thangavel, “Voice Broadcasting Based Coal Mine Monitoring and Controlling System with Zigbee and GSM Technology”, International Journal of Innovative Research in Science, Engineering and Technology, Vol.5, Issue 2, pp. 1798- 1805, February 2016.
http://www.ijirset.com/upload/2016/february/116_Voice.pdf

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