

Title of the Practice: Quality Circle – Advanced Research and Development

Objectives of the Practice:

QC-ARD of KLNCE aims to create and develop innovative research among community of academicians which in turn to give frontline practice to student's community in the arena of research. KLNCE believes that acquiring research practices and bringing out new cutting edge technologies among academicians improves the student betterment towards research. QC-ARD as a best practice emphasizes and set goals for faculty members by enabling them to discover new ideas which ultimately brand them as a knowledge contributor.

Context:

KLNCE is situated in a remote area from town and thus it is indeed necessary to provide research infrastructure for both faculty members and students within the college environment. It is need of the day to compete with competitive research world and thus QC-ARD motivates faculty members to develop innovative projects with the help of seed funding sponsored by management of KLNCE. Proactive faculty members of the institution get involved and acquire knowledge on research from quality research programs organized by QC-ARD. QC-ARD act as a stepping stone for young researchers to face outside world with state-of-the-art knowledge.

The practice: (activities carried out)

The convener of QC-ARD convenes frequent meetings among members to convey research oriented activities such as project proposals, quality publications and workshops. QC-ARD as a research forum motivates domain experts within the college to deliver their area of focus among faculty members which may be an initiative for multidisciplinary projects. To make faculty members to get familiar with research funding, Project scrutiny meeting will be conducted to provide seed fund from management. The practice of submitting proposals in a prescribed format and completion report is cultivated among faculty members. Patent filing of innovative ideas are also educated to all.

The best practices of QC-QRD are,

1. Seed funding for internal faculty members.
2. Motivating faculty members for preparing proposals for sponsored research from industries/Govt. /Research Agencies.
3. Conducting Seminars/Workshops/Faculty Development Programs in advanced research topics.
4. Enabling faculty members towards quality publications in international journals and patent filing of innovative ideas.
5. Providing incentives to faculty members who published papers in reputed journals.
6. Motivating faculty members to act as reviewers in reputed journals.

No of students/Faculty participated:

It is an open research forum for both faculty members and students. Conveners and members are nominated for conducting various practices within this forum. Proposal submission and participation in various activities is open to all and in turn students can enthusiastically participate in activities and projects regardless of their engineering discipline.

Evidence of Success: (outcome)

This forum has conspicuous outcome in developing research culture in education environment. Research proposal writing and its number have been increased among faculty members from inception. Seed funding helps faculty members to come out with innovative ideas and place as stepping stone to develop prototype. The developed prototype is shown as proof of concept for submitting project proposals to external funding agencies. Faculty members use the proof of concept for filing patents. Many of the faculty members improved their quality publications in various international journals. Research supervisors of KLNCE Research Centre motivate their research scholars for quality publication in reputed journals.

Problem encountered:

There is no problem encountered. However it would be better if more faculty members get involved in this hard core research activity. We are continuously motivating them towards this direction

Some of the Projects funded by External Agencies

S. No.	Name of the Project/ Endowments, Chairs	Agency	Name of the Principal Investigator	Department of Principal Investigator	Funds provided	Duration of the project
1	Project - Smart Agri Drone (C-26785)	UBA	PI-Dr.S.Suresh Raja Co-PI - Dr.V.Akilandeswari	CSE	90000	9 months
2	Project - Agriculture Embracing the IoT (C-26785)	UBA	PI-Dr.S.Suresh Raja Co-PI - Mrs.S.Sarmila	CSE	1,00,000	4 months
3	Laser Based Hydraulic Controlled Variable Length Land Leveler Cum Plough Device With Remote Monitoring System	Department of Science & Technology (DST)	Dr. S. Parthasarathy, Prof. Dr. A.V. Ramprasad, Principal Mr. S. Nallathambi, AP Dr. M. Raghini, ASP	EEE ECE Mech CSE	86,62,000	2 Years
4	Design & Development of Sensor based Sewage Block Remover & Management System	Department of Science & Technology (DST)	Dr.S.Parthasarathy, Prof./EEE Dr. D. Pradeepkannan, Professor /EIE Mr. S. Nallathambi, Assistant Prof. / MECH	EEE / EIE / MECH	36,64,784	3 Years
5	Smart Chair for Medical Pre Assessment	MSME – IISC BANGALORU	Mr. M. Satheeshkumar	IT	1,12,500	1
6	Smart Automated Irrigation Device using WSN	MSME, New Delhi	Dr.P.Ganesh Kumar	IT	2,00,000	2

7	Smart Meter for Measuring Power Quality Disturbances using GSM Technology	DST – Instrument Development Programme	Dr. K. Gnanambal Professor / EEE	EEE	19,75,800	3 years
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S. No.	Name of the Project/ Endowments, Chairs	Agency	Name of the Principal Investigator	Department of Principal Investigator	Funds provided	Duration of the project
8	Automated Ration Dispenser using embedded system	MSME	Dr. A. Umarani Professor / EIE Dr. D. Pradeepkannan Professor / EIE	EIE	1,16,441	1 Year
9	Smart Bin using Arduino Micro Controller	MSME	Dr. D. Pradeepkannan Professor / EIE Mrs. R. Thenmozhi Asst. Professor / EIE	EIE	1,12,500	1 Year
10	Experimental investigation of heat transfer enhancement for electronic heat sink coated with vertically aligned CNT and metal nanowires	Department of Science and Technology (DST) New Delhi	Dr. M.R. Thansekhar Professor / Mech.	Mechanical Engineering	45,12,200	3 Years

Some Reputed funded projects through QC-ARD

S. No.	Name of the Project/ Endowments, Chairs	Name of the Principal Investigator	Department of Principal Investigator	Funds provided	Duration of the project
1	Eco Friendly Sanitary Napkin incinerator	Dr.A.Umarani,Prof/EIE Dr. B.Buvanewari, ASP	EIE ECE	Rs.50,000	1 Year
2	A Variable Speed Wind Energy Harvesting Scheme using the Induction Generator with a variable voltage variable frequency drive interface	Dr. C. Vimala Rani, ASP Mr. M. Jeyamurugan, AP(Sr.Gr) Mr. R. Jeyapandiprathap, AP	EEE	Rs. 64,500	6 Months
3	Design of IoT based Secure and smart E-Campus(SSE) using deep Learning	Dr. Alageswaran, HOD/IT Dr. Miruna joe amali, Prof. / CSE Mr. R. Anandha Murugan, Assistant Professor/CSE	IT / CSE	2,20,000	2 Years
4	Multi Level Inverter Interfacing with solar photo voltaic system for research application	Ms.R.Sridevi	EEE	64,000	1 Year
5	Studies of solid polymer blended electrolytes	Mr. T.D. Kishorilal, AP / Chemistry	Chemistry	45,000	1 Year

6	Effect of grapheme nano particles and grapheme nano platelets on mechanical, wear and corrosion behavior of aluminium based surface composite fabricated by friction stir processing	Dr. A. N. Balaji, Prof. Mr. D. Muthu Krishnan, AP(SG) Mr. G.R. Raghav, AP/Mech.Engg.	Mechanical Engineering	64,000	6 Months
7	Performance Improvement of concentrating photo voltaic module	Mr. N. Nagasubramanian Asst. Professor	Mechanical Engineering	1,99,000	18 months
8	RFID Based Product Tracking using Beacon for indoor map Generation	Dr. Alageswaran, Professor Dr. Miruna joe amali, ASP Mr. R. Anandha Murugan Asst. Professor (Sr. Gr.)	CSE	85,500	1 Year
9	DC – DC converter with Photovoltaic Cell for DC Power distribution	Prof. S. Nagammai, Prof.& Head Dr.A. Umarani , Professor Mr. R.NaveethKumar, Asst. Prof.	EIE	40,000	1 year
10	Wireless PA system	Dr. V. Kejalakshmi Prof. and Head	ECE	1,25,000	15 months

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Details of Patents

S.No	Patent Title	Application No & Date	Publication Date/Publication Type	Patent No/Status	Applicant
1	Data Sharing Control device and system with multiple communication protocol interfaces	CN203289 478 U 13-11-2013	Granted as a Utility Patent by SIPO, China Cited in Espacenet (European Patent Office 2017)	ZL2013203 31495.7	Dr. P. Ganesh Kumar
2	Data Sharing Control device, system and method with various types of communication protocol interfaces	CN103338 189 A 16-07-2014	Granted as a Invention Patent by SIPO, China Cited in Espacenet (European Patent Office 2017)	ZL2013102 27193.8	Dr. P. Ganesh Kumar
3	Data having plurality of communication protocol of the interface sharing control method	CN103338 189 B 16-07-2014	Granted as a Invention Patent by SIPO, China Cited in Espacenet (European Patent Office 2017)	ZL2013102 27493.8	Dr. P. Ganesh Kumar
4	Implementation of sliding mode controller for sing converter	201641008 174 10-03-2016	-	Under Scrutiny	Dr. S. Venkatanarayanan
5	Smart Pill Tray	201641031 942 A 20-09-2016	Application JNL Pub Date 23.03.2018	Published	Mrs. S. Indumathi
6	RFID based Object Tracking Map Generation Using Beacon For Indoor Applications	201641040 492 A 28-11-2016	Application JNL Pub Date : 10-11-2017	Published	Dr. R. Alageswaran Dr. S. Miruna Joe Amali Mr. R. Anandha murugan
7	IoT based water fertigation system and method thereof	201741041 658A 21-11-2017	Application JNL Pub Date : 1-12-2017	Published	Dr. P.Ganesh Kumar
8	Refrigerator Incorporating Deep Frost Using Plate Freezing Technology	201841020 948 05-06-2018	-	Under Scrutiny	Mr. T. Samynathan

9	Electrostatic conductive & Dissipative Coatings	201841037 671 5-10-18	-	Under Scrutiny	Dr. S. Venkatanarayan an
10	Motorised Vertically Adjustable Black- Board	201941005 992 15-02- 2019	-	Under Scrutiny	Mr. G.M. Nagarajan
11	Intelligent IoT based soil fertilization test and their solution	201941030 879 A 31-07-2019	Application JNL Pub Date 09.08.2019	Published	Mrs. S.S. Sarmila
12	Smart Meter for measuring power quality disturbances using GSM technology	201941035 885 06.09.2019	-	Under Scrutiny	Dr. K. Gnanambal
13	Design and Development of Sensor Based Sewage Block Remover and Management	201941039 393 30-09-2019	-	Under Scrutiny	Dr.S.Parthasarat hy
14	Wireless Engine Fuel Monitoring System (WEFMS)	201941039 394	-	Under Scrutiny	Dr.S.Parthasarat hy
15	Remote Battery Health Monitoring System(RBHMS)	201941039 395	-	Under Scrutiny	Dr.S.Parthasarat hy
16	Enhanced Design of Electric Vehicles (EV) Charging Station with Remote Monitoring of Tariff and Stat	201941039 396	-	Under Scrutiny	Dr.S.Parthasarat hy