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To provide insight for enhancing wealth

06-Jul-2022

**To**
**The principal**
**Andhra Loyola Institute of Engineering and Technology,**
**Vijayawada**

Dear Sir/Madam,

**Sub: Collaboration with Efftronics – funding for Exploring Technologies by Grant – participation of college Faculty and Students**

Greetings!!!

With reference to the discussion, we had regarding technology areas and scope of exploration work, we are happy to inform you that we accept your selected technology areas as below.

**Technology Area #1 – FPGA Development**

**Brief:** FPGAs are becoming important technology platform for industrial edge computing applications. With wide range of FPGA and ARM core integrated SoC devices and abundant tools, IPs, and reference solutions, FPGAs are becoming go to technology to develop safe, reliable, and optimized industrial solutions.

**Scope of Project:**
- Explore all the features for a given FPGA platform along with its development IDE and tool chain
- Carry out experiments to conclude best way of using a particular feature in FPGA or IDE or tool chain
- Develop VHDL/VERILOG programs to demonstrate every functionality covering different hardware functions like digital building blocks, glue logic, data transmission and reception using digital communication interfaces like I2C, SPI, USART etc., memory interfacing – SDRAM, Serial Flash, SD Card etc.
- Conduct workshop at Efftronics, demonstrating the exploration done to our select employees

**Review Cycle:** Once in a week

**Duration:** 60 – 90 Days

**Technology Area -1 Allotted to following faculty members of ECE Department**

1. P. BOSE BABU
2. Md. BAIG
3. A. AZEEM
4. S. SPANDANA

**Technology Area #2 – ARM Development**

**Brief:** ARM is the leading technology provider of processor IP, offering the widest range of cores to address the performance, power, and cost requirements of every device – from IoT sensors to super computers, and from smart phones and laptops to autonomous vehicles. Thus, becoming must know technology for electronics, electrical, communication and instrumentation professionals. Keil MDK ARM is the development platform for ARM based controllers.

**Scope of Project:**
- Explore all the features of Keil MDK ARM and LPC54608 microcontroller
- Carry out experiments to conclude best way of using a particular feature in ARM controller or development platform (internal peripherals, interfacing, etc.)
- Develop programs to demonstrate every functionality covering different features and capabilities of ARM CPU
- Conduct workshop at Efftronics, demonstrating the exploration done to our select employees

**Review Cycle:** Once in a week

**Duration:** 60 – 90 Days

**Technology Area -2 Allotted to following faculty members of ECE Department**

1. M. RAMA KRISHNA
2. G. VIJAYA KUMAR
3. K. SRINIVASA RAO
4. G. ROOPA KRISHNA CHANDRA

**Technology Area #3 – Bluetooth Mesh**

**Brief:** Bluetooth mesh enables many-to-many device communications and is optimized for the creation of large-scale device networks. It is ideally suited for control, monitoring, and automation systems where hundreds, or thousands of devices need to communicate with one another. Bluetooth mesh networking utilizes a managed flood approach for message transmission, which is a simple and reliable form of message relay that is uniquely suited for low-power wireless mesh networks, especially those handling a significant amount of multicast traffic. This makes flood-based message relay an ideal approach for the strict reliability, scalability, and performance requirements of the commercial and industrial markets.

**Scope of Project:**
- Study and understand Bluetooth Mesh technology
- Explore various functions of Bluetooth module (nRF52 series) by experimenting using ARM controller and mobile phone for mesh functionality
- Achieve maximum throughput under different scenarios – small payload (16bytes) to large payload packets etc., within mesh network

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- Develop controller side programs for mesh network and conclude best possible process for implementation
- Conduct workshop at Efftronics, demonstrating to our select employees

**Review Cycle:** Once in a week

**Duration:** 60 – 90 Days

**Technology Area -3 Allotted to following faculty members of ECE Department**

1.Dr. T. LAKSHMI NARAYANA
2.MALLIKHARJUNA RAO
3. PAVAN KUMAR
4. K. APPALA RAJU

## Technology Area #4 – Battery Health Analysis (Lead Acid)

**Brief:** Batteries are one of the most compact and reliable sources of sustainable energy. Batteries are generally used in automotive, motive, and stationary applications. It is critical to continuously monitor the health of batteries by capturing and analysing charge current, discharge current, cell voltages, bank voltage, terminal temperatures, state of charge and state of health etc., in order take timely maintenance actions and guarantee battery backup when in need.

**Scope of Project:**
- Analyse various electrical parameters of battery bank
- Develop algorithms to find out health of a cell and also estimate state of charge, state of health, net Ah etc.
- Conduct workshop at Efftronics, demonstrating the exploration done to our select employees

**Review Cycle:** Once in a week

**Duration:** 60 – 90 Days

**Technology Area -4 Allotted to following faculty members of EEE Department**

1. D.Ravi Kiran

## Technology Area #5 – AI/ML

**Brief:** Machine learning and artificial intelligence (ML/AI) are two advanced technologies with the power to transform the way businesses operate and humans interact. ML/AI are already impacting industries like IT, FinTech, healthcare, education, and transportation—and it won't stop there. Companies are

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becoming more and more laser-focused on AI value, getting out of the experimentation phase and really focusing on accelerating its adoption

**Scope of Project:**

- Explore various machine learning techniques and experiment by implementing them and getting them work on IoT data.
- Define process and best practices to integrate ML models into software
- Conduct workshop at Efftronics, demonstrating the exploration done to our select employees

**Review Cycle:** Once in a week
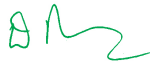
**Duration:** 60 – 90 Days

**Technology Area -5 Allotted to following faculty members of CSE Department**

1. Dr Ch.Ratna Jyothi
2. Dr Rajendra Babu
3. Dr Srinivasa Rao
4. M. Mohana Deepthi
5. Dr D .Ratna Kishore
6. S. Kishore Babu

**Note:**

- The projects should be completed within 3 months
- Periodical reviews will be planned to once in a week.
- Grant amount (**2 Lakhs rupees only**) will be given after completion of each project.
- Any hardware or softwares if required will be arranged by Efftronics after due diligence

Regards,

(D. RAMA KRISHNA)
Managing Director & CEO
Efftronics Systems Pvt. Ltd.
06-Jul-2022

अखिल भारतीय तकनीकी शिक्षा परिषद्
( भारत सरकार का एक सांविधिक निकाय )
( मानव संसाधन विकास मंत्रालय, भारत सरकार )
नेल्सन मंडेला मार्ग, वसंत कुंज, नई दिल्ली-110070

**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**
(A Statutory Body of the Govt. of India)
(Ministry of Human Resource Development, Govt. of India)
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

**Dr. Neeraj Saxena**
**Adviser (IDC)**

F.No.10-206/AICTE/IDC/SPICES/2020-21
Dated: 19.04.2022

To

**Principal/Director,**
Andhra Loyola Institute of Engineering
and Technology, Government Polytechnic
Post Office, Vijayawada-520008, Krishna
District, Andhra Pradesh.

**Sub:** **Approval for Extension of the project duration up to Sept. - 2022 sanctioned under the SPICES scheme - reg.**
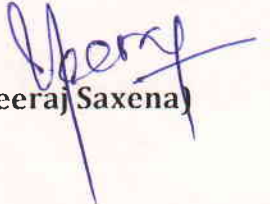
Sir/Madam,

Ref. to your email dated 01.04.2022 seeking extension for the SPICES project sanctioned to you. This is to inform you that competent authority has approved the extension of the project up to Sept. 2022. No request for further extension will be considered by AICTE.

An amount of Rs.1 Lakh was transferred to your institute for the project and the amount of Rs.(100001 to 200000) has to be mandatorily contributed to the club by the institute.

The institute must update information regarding club details and also about each activities of the funded club within 5 days of completion of activity on the SPICES Review Portal [Link: https://portal.aicte-india.org/partnerportal_enu].

The condition for the SPICES scheme are to be strictly complied including the contribution from the institution side.

Yours sincerely

(Neeraj Saxena)

Copy forwarded for information and necessary action to: -
➤ **Dr. Candy William D'cunha,** (Coordinator),
Andhra Loyola Institute of Engineering
and Technology, Government Polytechnic
Post Office, Vijayawada-520008, Krishna
District, Andhra Pradesh.

सूचना का
अधिकार

Social Ecology
Education
Fund.

Social Ecological Educational Fund (S.E.E.F)          Date: 14th January 2023
Project Call – Laudato si'
Belgium

Subject: Release of a sum of Rs 20,000 (Twenty Thousand) as Grant -in -Aid under Project Call – Laudato si' for the year 2023.

Madam/Sir

With reference to the proposal submitted by Andhra Loyola Institute of Engineering and Technology, **S.E.E.F**. has sanctioned an individual grant of 20.000/- rupees to support local small-scale initiatives in the field of: gender emancipation, social inclusion and participation, care for the planet and its people as our common house.
The report of the activity and the audited bills must be sent to the Managing Director , Social Ecological Educational Fund – Belgium after the completion of the Project.

Copy Forwarded to:

**Dr. Sr. Candy D'Cunha**
Principal Investigator of the Project
Associate Professor of English
Andhra Loyola Institute of Engineering and Technology
Vijayawada – Andhra Pradesh

**Mr. A. Rajesh**
Co-Principal Investigator of the Project
Associate Professor of English
Andhra Loyola Institute of Engineering and Technology
Vijayawada – Andhra Pradesh

I hereby confirm that the content of this letter is true and accurate.

Frederick De Gryse

Founder of S.E.E.F.

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