EEE OAU ALUMNI COMPETITION

Proposed Call for Participation and Guideline for Submission of Projects

Vision/Purpose/Aim of the Initiative

To address national problems/challenges in search of innovative and impactful indigenous solutions.

The aim of the competition is to select projects that can be commercialised and turned into successful tech start-ups. For example:

1. Smart Grid technology: Solutions for efficient and reliable management of the electricity grid, such as demand response systems, microgrids, and energy storage systems.

2. Electric Vehicle (EV) charging infrastructure: Products and services for fast and convenient EV charging, such as charging stations, battery management systems, and renewable energy integration.

3. Renewable Energy Solutions: EEE-based solutions for renewable energy generation, storage, and distribution, such as solar panels, wind turbines, and energy management systems.

4. Internet of Things (IoT) devices: EEE-powered devices that connect to the internet, such as smart home systems, wearable technology, and industrial internet solutions.

5. Robotics: EEE-based robots and automation systems, such as industrial robots, service robots, and drones.

6. Smart Building Technology: EEE-powered solutions for energy-efficient and sustainable building design and management, such as building automation systems, lighting control systems, and HVAC systems.

7. Power Electronics: EEE-based solutions for efficient power conversion, such as power converters, voltage regulators, and renewable energy inverters.

8. Artificial Intelligence (AI) applications: AI-powered products and services, such as chatbots, recommendation systems, and personalized marketing.

9. Internet of Things (IoT) Solutions: IoT devices, such as smart home systems, wearable technology, and industrial internet solutions.

10. Cybersecurity solutions: Products and services that protect against hacking, data breaches, and cyber-attacks.

11. Virtual and Augmented Reality (VR/AR) technologies: Applications for entertainment, education, and training.

12. Blockchain applications: Products and services for secure data management, digital currencies, and decentralized systems.

13. Renewable energy technologies: Innovations in solar, wind, and hydropower, energy storage, and energy efficiency.

14. HealthTech solutions: Digital health products and services, such as telemedicine, remote patient monitoring, and mHealth applications.

The competition is not limited to the examples listed above. There is room for innovation. EEE projects have a wide range of potential applications in the tech industry and can lead to successful start-ups with the right market focus and execution. Students must provide solutions unique to the problem, a strong business plan, and form dedicated teams with the skills and resources (to be provided by investors, alumni etc.,) to bring the product to market.

Modalities of the Competition

Multidisciplinary team to be formed by students and team must be led by EEE students.

First Stage: Proposal, Business plan and Feasibility and commercial Viability
Second Stage: Prototyping and Demonstration (To be funded by??)
Third Stage: “Shark Tank” Presentation

Constitution of Selection Panel: EEE Alumni, EEE Faculty, Outside Experts

There are many different competition modalities for Electronic and Electrical Engineering (EEE) projects, including:

1.Design competitions: Participants are tasked with designing a solution to a specific problem or challenge, often using specific tools or technologies.

2.Hackathons: Participants work in teams to develop a working prototype or solution to a problem in a limited amount of time, often over a weekend.

3.Prototyping competitions: Participants are given a set of materials or components and are tasked with building a working prototype of a specific solution or product.

4.Innovation challenges: Participants are given a specific problem or challenge and are asked to come up with a creative and innovative solution.

5.Theoretical competitions: Participants are tested on their knowledge and understanding of EEE principles and theories, often through written exams or presentations.

6.Business plan competitions: Participants are asked to develop a business plan for a technology-based start-up, often with a focus on EEE applications.

7. Industry-sponsored challenges: Companies sponsor competitions focused on specific areas of interest or need, such as sustainable energy solutions or IoT applications.

Each competition modality has its own set of rules and requirements, and participants are evaluated based on specific criteria, such as the quality of their design, the functionality of their prototype, or the feasibility of their business plan. We can also have a hybrid of the above listed competition.

Long Term Benefits for Participants

Online visibility of the project and possibility of prototype to be funded by partnering venture capitalists

Publicity

Publicizing and announcing an EEE competition can help attract participants, generate interest, and build excitement. Here are some ways to do this:

1. Social Media: Utilize platforms like Facebook, Twitter, WhatsApp, and LinkedIn to share information about the competition, its goals, and the benefits of participating.

2. Event Websites: Create a dedicated event website that provides detailed information about the competition, including the rules, requirements, and registration information.

3. University Outreach: Reach out to departments and academic programs related to EEE and invite students to participate, faculty and staff to help sensitize students. Use of posters on bulletin boards is recommended

4. Industry Outreach: Connect with industry organizations, such as professional engineering associations, and encourage members to participate.

5. Media Outreach: Reach out to local media outlets, such as newspapers, TV stations, and radio stations, to generate interest and publicize the competition. Short video clips of sponsoring alumni explaining vision and motivations

6. Email Campaigns: Send targeted email campaigns to potential participants and stakeholders, such as alumni, industry partners.

7. Sponsorship Opportunities: Identify sponsorships and partnership opportunities with companies and organizations in the EEE industry to help promote the competition and provide resources and support for participants.

It's important to start early and plan ahead for effective publicity and promotion of the competition, to help ensure maximum participation and engagement.

Eligibility Criteria/Requirements

- Participating team must be students from the department of Electronic and Electrical Engineering OAU and no more than 25% of members from cognate departments within the University. Interdisciplinary projects/collaboration is strongly encouraged.
- Problem and proposed solutions must be of national importance/interest.
- Participants must be committed to complete the implementation of projects within six (6) months from start date irrespective of disruption of academic calendar due to public health emergencies or strike action by student and staff.

1st Phase Evaluation Criteria

Eligible project proposals selected from poll of entries will be evaluated using the following criteria:

- Originality of the proposed solution
- Social and technological impact of the proposed solution
- Creativity in applying fundamental electronic and electrical engineering principles learned to address the proposed problem
- Relevance of the proposed solution to any of the sustainable development goals (SDGs)
- Efficacy, scalability and marketability of the prototype
- Commercialization path of the prototype

Possible Risk and Mitigation Plans

- In the event of disruption of academic calendar due to public health emergencies such as pandemics or strike action by students or members of staff, team members are encouraged to move activities to virtual/online mode.
- Team members will be supported with a token to cover internet access costs for meetings in the event of any of these disruptions.

Timeline

- Proposed start date of harmattan semester, 2022/2023 session (likely July/August 2023) [Start date of rain semester, 2021/2022 session will exclude part 4 students on industrial training]

2nd Phase Evaluation Criteria

Completed projects will be assessed using the following criteria:

[Insert a detailed rubric here]

- Percentage completion of the project, viz-a-viz project complexity.
- Quality of implementation, and prototyping
- Presentation Skills
- Creativity in applying fundamental electronic and electrical engineering principles learned to address the proposed problem
- Efficacy, scalability and marketability of the prototype
- Commercialization path of the prototype