

**OREPA**

# **NEWSLETTER**

**JUNE 2021**



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Old Royalists Engineering Professionals' Association

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# **OREPA Student Chapter**

## **AGM**

THE ANNUAL GENERAL MEETING OF THE OREPA STUDENT CHAPTER WAS SUCCESSFULLY HELD AS A VIRTUAL MEETING FOR THE FIRST TIME IN HISTORY ON 03RD FEBRUARY 2021 VIA ZOOM. THE MEETING WAS CALLED INTO ORDER AT 6.00 P.M. WITH THE SCHOOL ANTHEM. THEN, THE SECRETARY'S REPORT FOR THE PRECEDING YEAR WAS PRESENTED BY MR. INDUNIL UTHPALANJANA AT THE START OF THE MEETING WHICH WAS FOLLOWED BY THE TREASURE'S REPORT FOR THE YEAR 2020.

AFTERWARD, PROF. J.M.S.J. BANDARA-PRESIDENT OF OREPA ADDRESSED THE MEETING. HE APPRECIATED THE ULTIMATE CONTRIBUTION OF THE OUTGOING EXECUTIVE BOARD OF OREPA STUDENT. MR. MITHILA MENDIS, THE RCU SECRETARY ALSO SHARED HIS IDEAS ABOUT THE CONTRIBUTIONS MADE BY OREPA TOWARDS THE COLLEGE. NEXT ACCORDING TO THE AGENDA, THE HARD WORK AND COMMITMENT OF SEVERAL MEMBERS WERE APPRAISED THROUGH LETTERS OF ACKNOWLEDGMENT.

SUBSEQUENTLY, DURING THE MAIN EVENT OF THE MEETING, THE APPOINTMENT OF THE NEW EXECUTIVE COMMITTEE FOR THE YEAR 2021 WAS CONDUCTED BY THE IMMEDIATE PAST PRESIDENT OF THE OREPA STUDENT CHAPTER, MR. BINOD KARUNANAYAKE.

### **OREPA STUDENT CHAPTER EXECUTIVE COMMITTEE MEMBERS FOR THE YEAR 2021**

PRESIDENT	PASINDU SANDIMA
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DIRECTOR OF MEMBERSHIP	UDARA KUMARASENA
DIRECTORS OF EVENTS	PUNSARA MAHAWELA

YEAR PLAN FOR 2021 WAS THEN PRESENTED BY THE NEWLY APPOINTED SECRETARY, MR YASAS GUNERATNE. THE MEETING WAS ADJOURNED WITH THE VOTE OF THANKS BY THE NEWLY APPOINTED PRESIDENT, MR PASINDU SANDIMA.

ARTICLE BY: SUTHIRA WIJAYAWARDENA

# OREPA Esports Competition 2021



E-sports competitions that developed within the last few years has risen as one of the passionate activities among youngsters. This emerging trend of esports has led to several local as well as international tournaments.

Accordingly, the Old Royalists Engineering Professional Association organized its first E-sports championship “OREPA Esports Competition 2021” recently by openly inviting all the zealous gamers island-wide. Furthermore, the competitors were allowed to join individually or as a team and most of the participants were university undergraduates. The competition was based on CODM (Call of Duty Mobile), one of the popular and prominent games around the world.

The CODM tournament was conducted on “Domination” and “Search & Destroy” game modes. In addition, the competitors had to adhere to the rules and regulations which were explicitly mentioned by the organizing committee. Accordingly, all the teams played fairly adhering to the introduced rules and regulations.

Finally, after a tight battle “Team AssAssins” became victorious being the first champion team of the “OREPA Esports Competition” series. Manthika Tharumudu, Gayan Dissanayake, Sasika Herath, Chathuradha Bandara, Osura Mahanama were the magnificent team members who drove AssAssins to the victory. The event was successfully concluded igniting the gaming fire among the Sri Lankan young gamers.

Article by: Dinuka Piyadigama



# SPRING INTO ACTION

By Old Royalists Engineering Professionals Association

"Spring into Action" is a brand-new initiative introduced by the Old Royalists Engineering Professionals Association, to promote a culture of research and development mainly among its student member base.

The project follows a group-wise project implementation where student groups consisting of 2 to 4 members are formed and project supervisors are assigned from within the OREPA's own highly qualified member base, thus making sure that each student group gets the best guidance that they can be offered with. Each such project that was initiated is scheduled to produce deliverables within 3 months of their initiation.

The project kicked off in May with a total participation of around 30 undergraduates and a group highly qualified and respected individuals from different engineering disciplines as resource personnel.

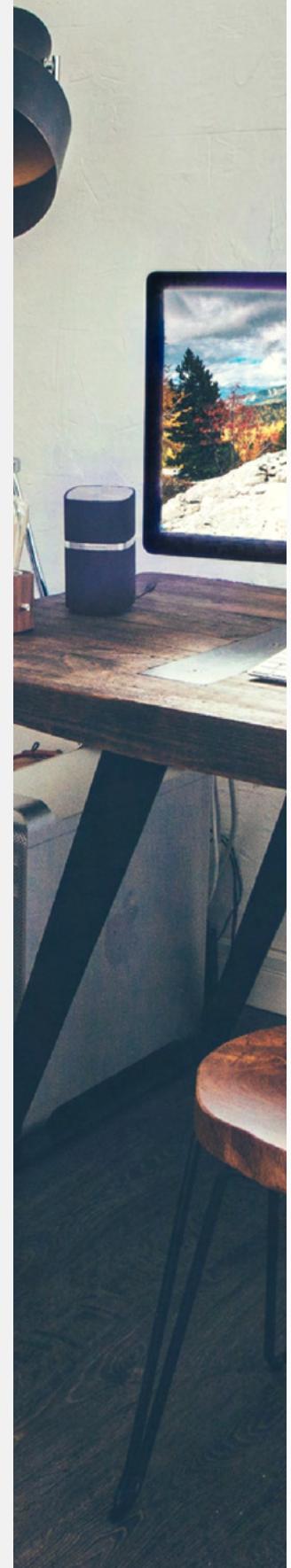
Accordingly, 8 projects have been initiated as part of the proceedings of Spring into Action's first year. Those projects cover a diverse set of fields and are namely;

1. Water quality management (Sensor development)
2. Water quality management (Database development)
3. Implementation of a peer-to-peer lending platform in Sri Lanka
4. Determining the health index of high voltage power transformers
5. Unitized regenerative fuel cells
6. Low-cost bridge design suitable for rural development
7. Identifying the best e-learning app for urban schools
8. Investigating high-level synthesis techniques for rapid deployment of digital system architectures.

These projects will in turn allow the students to get insights and exposure into the wider industry requirements early on in their career development and make connections with and learn good engineering practices from experts and academia in their respective fields.

The organizing committee believes that with the expansion of the project in the coming years to allow more undergraduate students from Royal College to participate, Spring into Action will turn into one of the most looked forward events in the OREPA calendar.

Article by: Yasas Ratnayake



# *industrial insights*

## 2021

Industrial Insights is a project carried out by OREPA to establish and maintain the relationship between Royalists who are employed in the fields of engineering and those who are engineering undergraduates. Undergraduates are expected to learn about their respective fields and seek advice from advisors assigned to work with them.



Because of the country's ongoing pandemic situation, it was decided to deliver this program over online platforms. Undergraduates from various universities were divided into groups based on their respective engineering fields, and each group was assigned an advisor who was from the relevant industry. The effort that was put in by the advisors is truly appreciated by the Old Royalists Engineering Professionals Association. The advisors and the relevant undergraduates conducted these sessions via Zoom. Although industrial sites could not be visited unlike previous years, the advisors managed to carry out the program successfully.

Undergraduates were able to gain knowledge in areas such as industry standards, soft skills, and other skills that would qualify them for entry into their respective industries. The undergraduates were made aware of the opportunities available in well-known industries, which will be beneficial when they apply for internships in various industries. As an outcome of this program, the network of the old Royalists engineering professionals was also expanded.

The Industrial Insights program for the year 2021 was organized by the committee that consisted of our very own OREPA members, Janith Bimsara, Tharindu Dissanayake and Jeewaka Aponsu.

Article by: Dinuka Piyadigama



# CYBOTS BOOT CAMP 2021

In the rapidly expanding and developing world of engineering, it is imperative for anyone who hopes to become an engineer to be familiar with programming robots.

The Cybots Boot Camp organized by the Old Royalist Engineering Professionals' Association, is a virtual webinar series on robotics. The main objective of this series is to introduce the concept of robotics to students looking to become engineers. The series consisted of eight educational sessions and one introductory session which introduced basic python coding to the students who are unfamiliar with it.

The webinar series was conducted for students from grade 10 to the 2018 A/L batch. An open-source robot simulation software called "Webots" was used to construct the virtual robot and program it.

By the end of the session, students were expected to,

- understand basic programming concepts.
- become familiar with the Webots simulation software.
- become aware of the hardware structure of a robot.
- learn the basics of robot control systems.
- be introduced to the concept of image processing.

The weekly outline of the project was as follows.

- Week 1: Familiarize the Webots simulator
- Week 2: Implementation of a basic four-wheel robot
- Week 3: Control the above robot using basic sensors.
- Week 4: Introduce advanced sensors (IMUs, GPS)
- Week 5: Control a robot using PID algorithms.
- Week 6: Communication methods
- Week 7: Navigate a robot through a maze (left-hand rule)
- Week 8: Introduce the camera node.
- Week 9: Basic Images processing methods

At the end of each session, the students were given the assignment to complete. After the session series, students were given time to finish all the completed work and to submit it. Based on the submissions, the top five students will receive a robot kit.

# *A Conversation with Mr. Heminda Jayaweera*

*Mr. Heminda Jayaweera is a proud Royalist, engineer, businessman, entrepreneur, and conservationist. Mr. Heminda is the co-founder of "MoraSpirit" and "Venture Frontier Lanka". He is also the co-founder of "Thuru" and "Zerotrash" which were started to protect and develop the environment. He is currently working as Chief Operating Officer at Sri Lanka Institute of Nanotechnology (SLINTEC), and as a director in Effective solutions (Pvt) Ltd, Ceylon Graphene Technologies (Pvt) Ltd, and Jendo Innovations (Pvt) Ltd.*

**According to you what was most important life skills that you obtained during the school days as a Royalist?**

During my school life, each class consists of students from different religions, races, and had different backgrounds. Hence, as a Royalist even from my small age, I was comfortable working with any person regardless of their background or ethnicity. These life skills helped me a lot, later in my career.

**You are a proud product of university of Moratuwa and one of the co-founders of MoraSpirit. Were those experiences you gained from the university as well as from MoraSpirit helpful for you later in your professional career especially when you were starting your own new business ventures?**



At the university of Moratuwa, I wanted to engage in activities which I could not do during my school life. One of the activities I missed during school was drama, so that I joined the English Literary Association and performed at Lionel Wendt. Further, at the university I got the opportunity to become the President of English Literary Association. Also, I spent more than 50% of my university time on sports. I had a dream of becoming a national level player which I was unable to become when I was a student. As a result of that, I became a member of the rowing club and was able to play at national level rowing fulfilling my long-lasting dreams. Later after my graduation there was a need to uplift the university sports. MoraSpirit was the ultimate outcome of that. We started it with 4 people which now has grown into a well-known organization in Sri Lankan university. Currently I am the president of MoraSpirit. My association with sports at university taught me about leadership and teamwork. These golden experiences guided me a lot when I am starting new business ventures.

**Now a days, most of the fresh graduates prioritize about the salary or other monetary aspects when deciding their employments, according to you what should a fresh graduate prioritize when selecting an employment?**

As a fresh graduate you should look at finding a job where you get a good mentor as your superior. Since you are less experienced, you need someone to guide and mentor you at the start of your career. Further, a blunder that lot of youngsters do is trying to be employed by a company with a good name or a reputation. Working for a reputed entity would give you certain benefits but it can be never compared to what you gain from a good mentor. So, I think it is better to find a good mentor (boss) than a good company during the initial stage of your career.

**You were with Dialog for more than a decade. At Dialog, though you started as a normal employee you ended up in the executive level.**

**Hence, are you optimistic about growing from a position towards executive level than initially starting from executive level and why?**

Generally, as a fresh graduate or as a person initially starting his career it would be difficult to start from the executive level. At dialog I started as an assistant engineer and later became a senior manager. Though my career growth was not that rapid in Dialog, I was able to work in a lot of departments. Sometimes I intentionally moved into certain departments to familiarize with the activities of those departments. For e.g. I felt that I am not good with marketing, so I moved to marketing department for 1 year to learn marketing. E.g., I was able to recognize and later develop my project management skills as one of my managers pointed out that it was weak point. As a result of that I was able to recognize my strengths as well as my weaknesses. My experience at Dialog was later became very helpful for my own ventures.

**Throughout your professional career you were able to start many business ventures. How did you find the right people to collaborate with when initiating something new?**

When a person is starting a new business that team of people, he is going to choose will be the most crucial factor. When I am selecting people or my team, I always try to evaluate their personal qualities than their technical abilities. Rather than interviewing whether they know how to programme or to do accounts I always investigate their qualities such as commitment, dedication, passion etc. It is difficult to recognize those qualities during an interview or within few minutes. I generally spend some extended period of time with them before partnering for any of my initiatives. When I feel that a person is unique, I inquire their progress for a period of 2-6 months and then take a decision.

**You are one of the co-founders of integrated entrepreneur platform for start-ups, "Venture Frontier Lanka" What is the role of this enterprise in the industry?**

In 2016, University of Moratuwa invited me to help the new innovators in the university through an organization. I joined them as a consultant and started an organization called Mora-Ventures. This is a start-up incubator which supports both the undergraduates and graduates of University of Moratuwa who are starting new business or innovations. The program was really successful at that time, and it was even discussed at the Sri Lankan parliament. In late 2017, one of the old Royalist and a then minister, suggested to expand the idea into all the universities. In return, I asked for the government support and resources to expand it. Meanwhile, I met a cofounder from USA who is interested in Sri Lankan start-up eco system and, I started Venture Frontier Lanka in 2018. It is a platform which is focusing mainly university students and so far, we have conducted innovation and start-up workshops at all Sri Lankan government universities and a few private universities as well.

**Currently you are occupied with a lot of technology and innovation-based entities such as SLINTEC, Ceylon Graphene Technology, Effective Solutions. What sort of responsibilities do you bear in these entities?**

Effective Solutions was my first investment which I did in 2015 when it was at its initial stage when it had 4 undergraduates. But now we have expanded the organization to a staff of 35 (mostly engineers) and expecting a rapid growth in the next couple of years. I am mainly focusing on the growth of the company at this stage as a director.

I was invited to take over Sri Lankas most advanced research facility SLINTEC (Sri Lanka Institute of Nanotechnology). I took this as a challenge in 2019 for two years and became the Chief Operating Officer. Ever since, I am putting most of my time on SLINTEC these days to transform the organization and bring world class technology commercialization and promote high tech innovations from Sri Lanka.

Ceylon Graphene Technologies is a joint venture of SLINTEC and LOLC and I became one of the Directors in 2019. It is

the first Graphene and Advanced material company in Sri Lanka.

**"THURU" is a wonderful idea, and you are one of the co-founders. The official website ([www.Thuru.lk](http://www.Thuru.lk)) declares that "We introduce new technologies to accelerate reforestation". What was the inspiration behind this organization?**

I am a person who loves nature. I used to do a lot of hiking during my younger days, and I do hike even now whenever I get a chance. One of my favourite places was Bambara Kanda falls, I have been there many a times and each time I saw how the water levels of this waterfall is reduced due to deforestation and other ignorant human activities. Sri Lanka is one of the countries with a high deforestation rate. This was the main reason to originate Thuru to accelerate re-forestation in 2017. According to the statistics in 2015, we are below the average global forest coverage. We did a bit of calculation and found out that we need to plant 32 million trees to reach global forest cover average.

Though this is a big number, if each person in Sri Lanka planted a tree on their own this is easily achievable. However, we realised that although many talks about environment and protection

of nature only a few actively do something about it. Talking about this on Facebook is not going to help but planting a tree would help the cause.

According to our research only 10% of people have actually planted a tree within last few years. Hence Thuru decided to establish a goal of planting 2 million trees with the help of public. Assumption is 10% of Sri Lankans would plant a tree. To promote and to make the process convenient and transparent we started Thuru App. It is an app that supports not only planting trees but looking after the trees as well. In addition, we developed and introduced many technologies to accelerate reforestation like seedpods, drone, and online store.

### **Are there any special projects that you are being involved in these days?**

Yes. I have been involved in lot of projects these days. One of the significant projects that I am actively engaged these days is Zerotrash. Plastic trash causes considerable problems in the world. So that in Zerotrash we are focusing on recycling trash including plastic bottles and to find new eco-friendly methods to reduce trash. Zerotrash is an organization

which I started with another person. My co-founder of Zerotrash is so passionate about this and even gave up his white-collar job to be a trash collector to understand the underlying problems of trash collection. Accordingly, we found out that the garbage collectors who collect plastic trash from the households and sell them to

the recycling centres were not earning enough profit. So, we came out with a unique, economically viable trash collection process. Currently we collect 2 tons of plastic per month and recycle them. We are aiming to recycle 200 tons of plastic per month by 2030.



Interviewed and Written by: Suthira Wijayawardena

# LET'S AVOID COVID 19



1

Wash your hands often with soap and water for at least 20 seconds. It's the most effective way to protect yourself. If soap and water aren't available, use a hand sanitizer containing at least 60% alcohol.



If you aren't feeling well, stay home. This includes visiting the doctor's office. Don't show up unannounced at your family doctor's office. Call first to ask if you should come in

2



Avoid touching your eyes, nose, and mouth.

3



4

Cough or sneeze into your elbow or use a tissue and throw it in the trash. Immediately wash your hands with soap and water for at least 20 seconds.



5

Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.



Stay informed on the latest developments with the COVID-19 Situation Analysis Dashboard from the Health Promotion Bureau. It will be updated regularly as new information becomes available.

6



Follow public health advice on school closures, avoiding crowds, and other physical distancing measures to limit spread of Coronavirus (COVID-19).

7

**Let's Stay Safe!**

# **Editorial Team**



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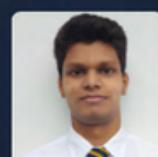
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<https://orepa.lk/newsletter/>

"OREPA, as a host of technical experts in many facets of engineering and related fields, opens up a reservoir of knowledge, technical expertise, and material support in the fields of engineering, architecture, and related fields for the benefit of the students and the youth. OREPA is looking forward to becoming a key stakeholder of the Royal College and the community. This professional newsletter provides news on our projects, events, and achievements to promote sustainability and youth empowerment within and beyond Royal College."

Please send your thoughts and insights to empower our initiatives;

**OREPA Student Chapter - Editorial Board**

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