

OREPA-SC 16/17

NEWSLETTER



WELCOME TO THE
NEWSLETTER OF

OLD ROYALISTS
ENGINEERING
PROFESSIONALS'
ASSOCIATION
STUDENT
CHAPTER



OREPA-SC
2016
JULY



ANNOUNCEMENT OF NEW BOARD OF DIRECTORS

With a new year of action, a new set of faces emerges to guide the OREPA Student Chapter. Introducing the new board of directors to take up the baton and lead forth.



STUDENT COMMUNITY PROJECTS

The year 2016, brings a new outlook to the community projects of OREPA Student Chapter with a new set of enhancements, creating new opportunities for the young Royalists and the member community.

ENERGY AUDIT_{2016/17}

Conserve, it is in your
hand...

One step with a positive approach and dedication to a particular problem can change the world. Sit back and think what you can give back to our school as a person who was under her shade.

This concept has been taken by OREPA Student Chapter to make a real change in energy consumption in our school. Among the several projects that launched for year 2016/17, Energy Audit project is focused at saving and reducing the wastage of money on electricity of Royal College. Why we are doing this? Or what is the main reason to prioritize this project? And how we are going to accept the challenges that we are going to face when initiating?

Importance of an Energy Audit

As the largest school in Sri Lanka, Royal College consumes a large amount of energy, which may accounts for low energy efficiency. Rupees are leaking out of our school every day, and it is up to us to find out the locations and size of the leaks in a society where energy audits are undervalued.

Research into the area of energy consumption has discovered many important factors. By understanding the specific conditions and factors that affect our schools' energy usage, we can make necessary adjustments to increase the energy efficiency.



Implementing a suitable approach

As the initial step of the energy audit, OREPA Student Chapter has planned to conduct a training session for the committee members to get the basic knowledge about energy audit. The next step will be the audit conducted by the committee. The audit will be launched in three stages according to the time plan given below.

Data
Collection
Methodology ,
Instrumentation
& Data Logging

Data
Analyzing &
Findings

Final Report
Identified
saving measures
with
recomendations
& Conclusion

The report of the energy audit has led to introduce energy saving techniques and report will be lead to propose energy management policy to the school. Dr. Jagath Manatunge from the Division of Environmental Engineering of the University of Moratuwa will guide the project.

STUDENT MENTORING PROGRAM

INSPIRE,
GUIDE,
MOTIVATE

Being a valuable ingredient to young minds, mentoring at its core, guarantees young people that there is someone who cares about them, assures them they are not alone in dealing with day-to-day challenges, and makes them feel like they matter. Researches confirm that quality mentoring relationships have powerful positive effects on young people in a variety of personal, academic, and professional situations. Eventually, mentoring connects a young person to personal growth and development, and social and economic opportunity. No matter what still one in three young people will grow up without this critical asset.

Mental Health

Socio-
emotional health

Education

Behavior Problems



No arms, No legs, No worries...

Google above words and see what a mentor can do and how a person who has no legs and arms can inspire thousands taking only few minutes of his valuable time. A flexible mind can turn any situation to his or her favour neglecting the obstacles and the sorrows that they will face.

“MENTORING IS A TWO-WAY STREET. YOU GET OUT WHAT YOU PUT IN.”

Mentor and Mentee Relationship

Laying the foundation as the first phase of the program OREPA has focused on forming a group of mentees, assigned with a corresponding mentor to identify the undergoing problems of the students and justify proper applicable solutions to them. Every mentor is expected to be a life changer, a person who motivates their mentees to achieve their best. Understanding each other is the most important asset in mentoring.

Project Plan according to Project Proposal

- Team Formation : Identifying the mentees and forming set of mentors.
- Seminar 1 : Guiding the Mentors what to deliver to their mentees.
- Seminar 2- : Aiding the Mentees with the help of the mentors.

GREEN TO GREENER

The issue of Solid Waste Management is a challenge throughout the world, in both developed and developing countries. These solid wastes generate through our daily activities. Considering a small part of that problem leads to schools also because it takes no time to fill up a litter basket or a drain with the disposal of various kind of solid waste. A large amount of money and technical know-how is needed for the management of solid waste. Poor solid waste management brings with it serious health and environmental problems. Piles of uncollected solid waste accumulated at open spaces or near canteens generate major health problems and environmental degradation. These wastes lead to water pollution as when it rains; where much of this waste ends up being swept into water bodies.



Defined, Confirmed and Initiated...

The Student Chapter of Old Royalists Engineering Professionals' Association Initiated Green Initiatives 2015 in order to enhance the environmental sustainability of the school. Following the action plan of that project was successfully delivered waste audits which lead to implement waste management policies to the school. It was clearly identified that the amount of waste generated at the school was high and the current waste management system requires regressive improvement. As an accountable entity to Royal College suggestions and strategies were made which can enhance the effectiveness and the efficiency of the waste management in the school.



Observations can be highly upsetting

Though the measurements are taken by its mass; the bulk volume is unbearably high.

It was observed that on certain day's garbage collecting vehicle from the Municipal Council cannot accommodate the bulk.

Based on the results and observations while delivering the audit

I. Polythene and plastic consumption of primary section is significantly high.

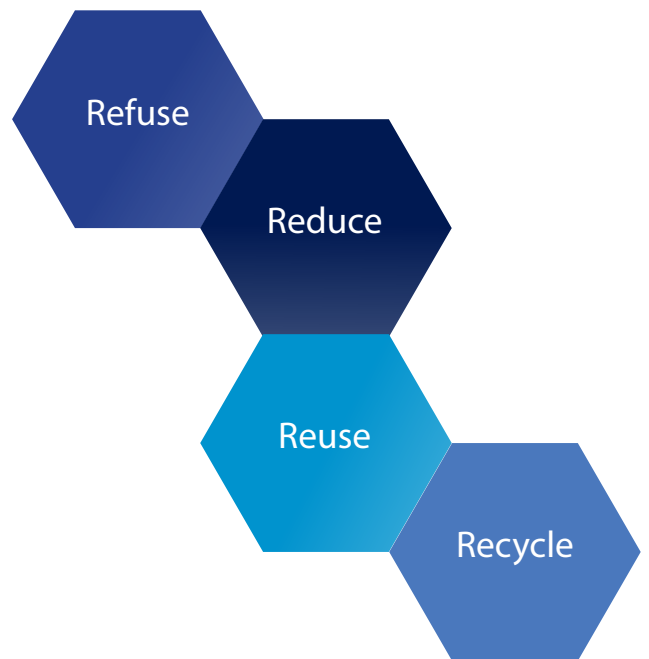
II. Amount of polythene content added by lunch packet usage in middle school is significantly high

III. Waste generated at the canteen is above the expected level.



ENHANCING 3R CONCEPT TO 4R

The methodologies and actions that were suggested depend on the 4R concept in waste Management.



But we have to move on...

How can we overcome this problem? This time it will be more to monitoring and applying solutions to this critical problem. The following suggestions were made and they are highly applicable points regarding this matter.

Primary School

- Polythene Free zone
- Awareness Programs
- Green Monitor System
- Class wise evaluation criteria

Middle School

- Quality Dining concept
- Prohibiting Lunch Packets and Promote Lunch Boxes
- Green Monitor System

Main Canteen

- Quality Dining concept
- Awareness Campaign avoiding Pet bottles and news paper wrapped lunch packets.
- Afford a dish washer to the Main canteen

No matter what, majority's focus will be on this project and on the members who have taken responsibility to bring a sustainable and solid solution to this problem.

**"PROBLEMS CANNOT BE SOLVED AT THE SAME LEVEL OF
AWARENESS THAT CREATED THEM."**

ALBERT EINSTEIN

OLYMPIAD' 16

WIDENING HORIZONS



Olympiads are the pinnacle of contests in a high-school student's life. From sports to science to information technology, there are myriad of Olympiads ever happening but none is as famous as the International Mathematical Olympiad or simply known as IMO.

When we talk about the Sri Lankan involvement in IMO, few can boast their contribution like Royal College. Youngsters from Royal College have always shown their merit in the International Mathematical Olympiad as well as the national competitions.

With the establishment of OREPA, it was recognized that as the former students of Royal College, we could take the leadership in preparing the young students of Royal College to get to the international platforms such as International Mathematics Olympiad.

Olympiad' 16, the newest chapter of the OREPA's initiative in educating young Royalists in the art of mathematics is to start in July 2016 with a bolder vision and a newer outlook.

**"IF A MAN'S WIT BE WANDERING,
LET HIM STUDY THE
MATHEMATICS."**

FRANCIS BACON

A New Outlook

With the vision of the creation of a hub of learning with regards to the sphere of mathematics and an institution producing the most talented and skilled high school level mathematicians worldwide within Royal College, Olympiad' 16 takes a new outlook from its previous chapters. The program structure proposed are three-folds with each section covering a specific goal.

Recognition Program

Skill Development Program

Advanced Training Program

Planned to span from July 2016 to March 2017, Olympiad' 16 seeks to empower the young Royalists through the recognition of their achievements in the local Mathematical Olympiad competitions while providing them an opportunity to enhance their skills through the skill development and advanced training programs.

Under the leadership of Kanchana Ranasinghe, former International Mathematics Olympiad participant, this is a project which will be the next big step in mathematics education at Royal College.



ROBOTICS TRAINING PROGRAM

Beyond the Asimov's Laws

The technology of today being advanced in an exponential rate, we are looking forward to a world where people are so involved in technology and automation that everything is a well-connected automated system. OREPA being the frontier of engineers affiliated with Royal College, recognized robotics as one of the most important technological ventures that we should put our foot into.

Lead by Menusha Munasinghe, from the Department of Electronics and Telecommunication of University of Moratuwa, OREPA plans to take a hands-on involvement in the robotics and technological education in Royal College.

This year, the project comes with a new outlook and a broader set of plans. Most notable of these is reenergizing of the Radio Club and the plans to introduce a robotics related club to the vast pool of clubs and societies active within Royal College. This will be a big step in school level robotics creating a new avenue for the students interested, to enhance their repertoire.



**"YOU JUST CAN'T
DIFFERENTIATE BETWEEN A ROBOT
AND THE VERY BEST OF HUMANS."**

Isaac Asimov, I, Robot

Spanning from July 2016 to December 2016, the basic training program is planned to be both theoretical and practical where the students interested will be given the opportunity to get hands on experience on some of the newest platforms in the field of integrated computer engineering, such as the famous Arduino Platform. These sessions will be conducted by the undergraduates from University of Moratuwa with an extensive repertoire in the field of robotics.

The program also puts a great emphasis on the competitive field of robotic design with the plans to hold its own robotics competition for the students that are interested to showcase their talents in the field. Furthermore, it is the dearest hope of OREPA and the project team to establish a base for the Royalists to achieve brilliance at national competitions such as Sri Lanka Robotics Competition and to enable the students to take the glory of Royal College to the broader stage.

WHY ROBOTICS

In the modern world, robotics and innovation is simply the next big thing when it comes to the technological advancements. With technological advancements like dual arm robots, robots equipped with two arm-like contraptions that enable them to manipulate objects and advancements in both electronics and computing that has enabled the possibility of the robots to intelligently carry out their processes while learning from experience, the modern robots are on the verge of creating the next industrial revolution. Robotics is on the verge of making a world where the robots and the rational humans are rather indistinguishable just like the famous science fiction writer, Issac Asimov predicted.

As engineers and as part of OREPA, it is our responsibility to cultivate a culture in Royal College that would enable the future Royalists to enter the society with the knowledge of robotics and innovation. The ultimate goal of OREPA is to make the future Royalists irreplaceable in a world of where everything is replaced by robotics.

INNOVATIVE IDEAS ENHANCEMENT PROGRAM

FOR A BRIGHTER FUTURE

Being selected as one of the most innovative schools in the world in 2009, Royal College is not strange to the idea of innovative thinking. Throughout the time we can find Royalists who have been the front and center of innovation within Sri Lanka as well as outside Sri Lanka. So it is natural that as OREPA came into being, innovation was one of the main things that caught the eye of OREPA.

The Program

Under the leadership of Sudaraka Jayathilaka, a former board member of Young Inventors Association at Royal College, the newest chapter of Innovative Ideas Enhancements Program envisions to enhance the technical skills of the youngsters at Royal College so that they can take their ideas to a broader platform.



**"INNOVATION
DISTINGUISHES
BETWEEN A
LEADER AND A
FOLLOWER."**

STEVE JOBS



A program consisting of, Motivational sessions for the students, Technical workshops, Student centered mentoring has been introduced which is due to start in July 2016.

Starting with the motivational sessions on the importance and the impact of innovation and innovative thinking, the program is designed to set a mark in the hearts and minds of the young Royalists into innovation from the go. Once the stage is set they are to be taken into the realms of technology where they are to be given the necessary hands-on experience. The students interested are to be mentored by their brothers in University of Moratuwa in making sure that what they dream is made possible.

Why Innovation

As Steve Jobs, one of the most influential men in the field of technology puts forward, innovation is what makes a good leader stand out from the crowd. Leadership is a simply a character trait when it comes to Royalists, so it is quite natural that innovative thinking is a prized quality when it comes to being a Royalist.

In recognition of the requirement of cultivating the innovation among the young Royalists, Innovative Ideas Enhancements Program was initiated by OREPA, as OREPA was established. Throughout the time we have reached new levels in the cultivation and promotion of innovative thinking within Royal College. In the year 2016, we are to witness another new chapter in this most anticipated program.



ACADEMIC GUIDANCE PROGRAM WE ARE WITH YOU

Guiding begins an increasing level of existence and involvement in the development of college students and the dream future they opt. Though academic guidance has been a defined area within education only some years back, it has been an immanent concern since the origin of colleges and institutions.

The one who commits himself for this weal becomes an instructor or a mentor and in between interposes in a student's personal place to attain assistance for the student. In the process of an academic advising relationship with students, an advisor comes to seek the best way for those students to perform well.



The Academic guidance program was initiated by OREPA to enhance the knowledge of A/L students who eager to step in to their future career paths. Polishing the brilliant minds through this program will definitely make them confident before sitting for the exam. According to the project overview, following decisions were taken as a solution for the limited time we have to clarify their problems.

The first task will be prepare and upload the answer scripts for term test papers to the proposed E-learning portal. Discussion and review sessions for 30 past papers will be arranged and 15 selected practical experiments based on chemistry and physics will be done on a selected day in order to provide proper guidance on those practical experiments to the A/L students who are willing to participate.

Prepare answer scripts for term test papers.

Past paper discussion review session

Conduct a one day practical seminar

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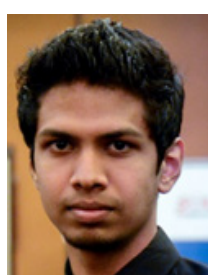
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“OREPA, as a host of technical experts in many facets of engineering and related fields, opens up a reservoir of knowledge, technical expertise and material support in the fields of engineering, architecture and related fields for the benefit of the students and the youth. OREPA is looking forward to become a key stakeholder of the Royal College and the community, continuously working towards the betterment of our society. This Professional Newsletter provides news on our projects, events, innovations and achievements to promote sustainability, new innovations and youth empowerment within and beyond Royal College.”

Please send your thoughts and insights to empower our initiatives;
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