OREPA

NEWSLETTER

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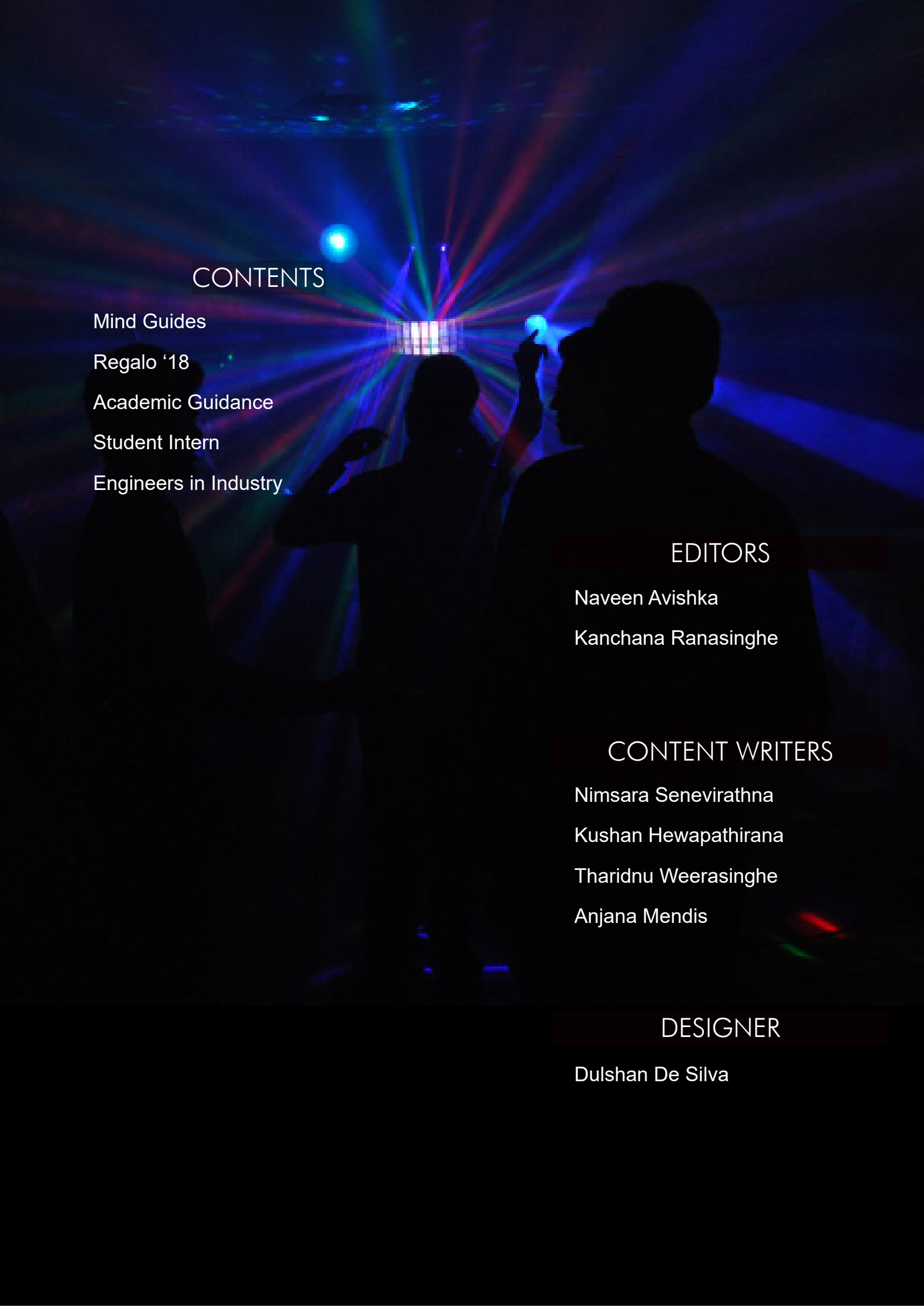
COVER STORY

REGALO '18



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EDITORS

Naveen Avishka

Kanchana Ranasinghe

CONTENT WRITERS

Nimsara Senevirathna

Kushan Hewapathirana

Tharidnu Weerasinghe

Anjana Mendis

DESIGNER

Dulshan De Silva


MERRY
Christmas
AND
Happy New Year
FROM
OREPA

MIND GUIDES

Mentoring Session for 2020 A/L students

The Old Royalists Engineering Professionals' Association (OREPA) has been organizing numerous mentoring and student support sessions over the past few years focusing on Advanced Level students studying in the Physical Science Stream. As an organization centred around the engineering faculties of University of Moratuwa, Peradeniya and KDU, one of our main goals is to maximize the number of university entrants from College every year.

The mentoring sessions for this year (2020 A/L batch) started off under Mind Guides focusing on smaller batches of students (20-30). One such batch consisting of 30 students got the opportunity to visit University of Moratuwa on the 2nd of August 2018 and took part in a one-day session organized specially for them. They had the privilege to visit several departments including the Electronics and Telecommunication Engineering Department, Civil Engineering Department and Computer Science Engineering Department. One-hour sessions were conducted by senior lecturers of all the departments which gave the students a

decent knowledge about different engineering fields on offer at University of Moratuwa. In all these departments students had the rare opportunity to visit and inspect all the facilities within a certain department making themselves familiar with a range of engineering applications. Refreshments for the students were provided by Dr Manathunga who is an eminent old Royalist and a senior lecturer at the Department of Civil Engineering. Lunch for the students was provided by OREPA. Participants also got the opportunity to meet lecturers and final year undergraduates, during which they received valuable exposure to the work done at the university. The students also received the chance to meet selected professionals working in the industry (Old-Royalist Engineers) to further broaden their perspective of what engineering exactly is. The day wrapped up with a session with the 2016 batch of old Royalists at University of Moratuwa, where the students received some valuable tips and advice on how to overcome the advanced level barrier by balancing their sports/clubs work alongside their academics. In addition, mentors were appointed to assist this batch of 30 students for the upcoming year.

The main objective of this visit to University of Moratuwa was to give students a first-hand glimpse of real engineering, university life and then motivate them to work hard from the very beginning of their A/L career balancing their academics and other activities living up to the golden words: ‘we will learn of books and men, and learn to play the game’.

- Nimsara Seneviratne

REGALO '18

Regalo '18 has been the talk of the town for all OREPA members in the weeks leading up to 14th of September, and the event "lived up to its expectations" by all means of the phrase.

The long-awaited quadrennial gathering of OREPA was held this year at the Water's Edge Battaramulla with the participation of over 150 members spanning all the chapters. The proceedings were kicked off with the lighting of oil lamp which preceded the welcome speech by **OREPA president Prof. J. M. S. J. Bandara**. The registrar of Royal College as well as the secretary of OREPA also addressed the gathering. The address on "Engineering as a culture" delivered by the **President elect 2018/2019, IESL, Prof. S. A. S. Abayakoon** who graced the occasion as the esteemed chief guest, was well received by the audience. On a more technical note, short speech on the "Modernization of Power Grids" was delivered by the **Guest of Honor, Head of Engineering**, LECO (PVT) Ltd, Eng. **(Dr.) P.S.N. De Silva**. Even though the speech on "Role of Electronics R&D" wrapped up the formal event, the night was far from over as all the members joined in to have a Gala time with the food and music creating generation-wide ties among fellow engineering professionals.

The generosity of JLanka Technologies and Regen Renewables as the premium sponsors of Regalo ‘18 was integral in its success while Commercial Bank PLC, Paraqum Technologies, LTL Holdings, East Link Engineering Company, Suleco (PVT) Ltd. and St. Theresa Industries also contributed as sponsors.

Event was organized by the main body of OREPA with the student chapter joining in as the operational unit with the guidance of Dr. Chandana Gamage without whose supervision, Regalo ‘18 would not have been possible.

-Tharindu Weerasinghe

ACADEMIC GUIDANCE

The OREPA Student Chapter presented a novel range of enhancements by creating various new opportunities for the young Royalists as well as the member committee by introducing numerous changes to the community service projects for the year of 2018.

The academic guidance project has been revamped this year, with a new outlook that focuses on connecting with students remotely as well, to cater to the busy schedules of A/L students. The Advanced Level Examination is one of the most difficult examinations faced by school students. Numerous students fail to reach their highest potential at this examination, mainly due to lack of motivation and adequate guidance. Also, a drop in the number of entrants to University of Moratuwa from College has been noticed. The student guidance program was aimed at addressing all these issues and providing students the necessary platform to reach their fullest potential at the examination. The objectives of this project were,

- Increase number of entrants to Engineering Faculties compared to the previous year.
- Conduct continuous academic support sessions that will be beneficial for the school students.
- Witness improvement in the A/L results in Physical Science stream.

A total of 50 students have been selected for the program this year based on their performance at the term end examinations. These students took part in the program, and each were allocated a mentor for coordinating with and guiding them. 25 mentors were enrolled for the program from the OREPA undergraduate body, and a session was held at the university premises, where they were briefed about the nature of the project, their responsibilities, and the students they were going to be in-charge of. The session had a complete turn-up of all mentors and ended successfully marking the official beginning of the project.

The project was span over a period of six to eight months. During this period, weekly support workshops were carried out. The workshop series were aimed at discussing past papers where easy solving techniques, efficient time management methods and clarify of tricky/difficult sections were given special emphasis. Also writing of longer answers (essay type and structured) were concentrated on. The latter stages also focused on revision of the entire syllabus through question and answer discussions.

- Kushan Hewapathirana

STUDENT INTERN

The Student Intern is an initiative undertaken by OREPA to deliver industrial orientation sessions and internship opportunities to young Royalists before they enter the university. It mainly focuses on providing the participants with inspiration and insight to better understand and study their professions of future and develop necessary skills and competencies that will be required to become a true professional and an accomplished individual.

The Student Intern consists of industrial orientation sessions and internship opportunities to participants prior to their entrance to their first year of Higher Education. The target audience is Royalists who have sat for GCE Advanced Level examination in the previous year. Through the sessions planned for the students freshly after their A/Ls, these students get an exposure to the industry through a sit down discussion with industry personnel. The underlying objective of this initiative is to inspire the young minds to engage in self-learning, to provide them with tools to cultivate necessary skills and competencies and to kindle their interest in the field of technology and engineering. Recognizing the need, OREPA took the task of bridging the gap between modern youth, industry and technology, and improving entrepreneurial skills of students upon ourselves and started the task of doing so with, initially, our own.

This year 15 students got selected for Student Intern project by their performance at the GCE Advanced Level examination. An introductory session was held on 5th April 2018 to make them aware of OREPA and this program. The 15 students were allocated to 3 different projects from 3 different engineering fields.

- Transport Management System Project by Sakitha Kumarage.
- Air Quality Project by Sakitha Kumarage.
- Internships at Hybriteq by Dinuka Salwathura.

Apart from that all 15 students were taken on a field visit to Kukuleganga Dam and Matugama Grid Substation on 10th June 2018 which turned out to be a novel experience.

STUDENTS' FEEDBACK

"It was a great opportunity to work with a group of engineers before entering the university."
-Ransara Wijitharathna

"We were placed on a CS project at Hybriteq. The project we were working on was the 'Live Bat' project. This project's task was to get live feedback from a bat's movement and use it as a learning aid for the players. Got a rough idea about the CS field and how things work. Got a decent knowledge about Python and Java as well.
-Nagitha Abeywickrema

"Great opportunity. Good chance to understand the university culture and meet new people in the university."
-Hirumal Priyashan

"The program is great. We were able to get familiar with the university and we even had the chance to contribute to some interesting projects."
-Lakshan Dissanayake

"I was allocated to a project called 'Live Bat' at Hybriteq. The mission of this project was to analyze the movements of a bat and use it to enhance the skills of a batsman. Objectives given to me were to build a signup page to the Android app and to develop the current android app into a stage which can gather acceleration, gyroscope and magnetometer data from the sensor.
What I have gained from this project. I was able to improve my skills with regard to Python, Java and Android Studio. I would like to thank OREPA and Mr.Dinuka Salwatura for giving me this opportunity."
-Punsara Dissanayake

This year the organizers were able to complete the project with the highest number of continuous participation than previous years. The feedback from the students clearly portraits how successful the project was and the impact it has made to their life. The Student Chapter of OREPA would like to extend gratitude to everyone who supported us throughout this endeavor in numerous ways to make it successful. A special thanking goes out to Dr. Chandana Gamage, Sakitha Kumarage, Geethanga Wijesinghe, Chandula Samaranayake, Dinuka Salwathura, Kanchana Ruwanpathirana, Kanchana Ranasinghe, Binod Madhubashitha and Nalith Udugampola for their valuable guidance, support and commitment. Having considered all the ups and downs of this year's project, everything is in place for a bigger and a better edition of Student Intern in the year 2019.

- Nimsara Seneviratne

ENGINEERS in INDUSTRY

OREPA, with its goal of professional development among members, has taken up the task of organizing a series of tech-talks by leading researchers and academics. The vision of such a series of talks is to educate OREPA members as well as school students about the latest developments in the engineering field, and the challenges that lie ahead of them. The first session of this project took place last Wednesday, 21.11.2018, at the Royal College Union Complex.

The commencement lecture was conducted by Dr. Ajith Pasqual of the Department of Electronics and Telecommunications in the University of Moratuwa, who is the founder of a top electronic design company in Sri Lanka. He spoke on the topic **"Electronic Engineering Industry in Sri Lanka"** stressing out on its opportunities and challenges. In his lecture he explained the breadth and the depth of electronics, its possibilities, and its future to the members while explaining the challenges and how to overcome them.

Dr. Ajith Pasqual

At the beginning of his lecture Dr Pasqual stated that in his opinion **"There is no engineering field superior to another, every field is equally important and in many of the cases it takes the involvement of many fields to create a product. And when choosing a field, it is important to choose a field that you love rather than a field of high demand".**

At present time it is almost impossible to find a person who doesn't use an electronic device. Electronics is an omnipresent industry which is currently has an annual revenue of USD 297,778 million and an annual growth rate of 7.6% . The Global per capita annual consumption of electronics is USD 300. Also, the electronics industry consists of 14.6 % of all global manufacturing. And when considering electronic equipment manufacturing it is 14.6% of all global manufacturing processes. But unfortunately, in Sri Lanka revenue generated by consumption of electronic devices is far greater than the income we gain through exporting of electronic devices and equipment. He explained that in the global value chain of electronic industry, a single product consists of components which were manufactured all over the world. Sri Lanka is a small player in the global value chain in the electronics industry (e.g :- seatbelt sensors used in Japanese vehicles ,switches, wires, circuit boards) .Though we contribute a small amount, it is not enough not get the attention of giants in the industry. Next Dr. Pasqual talked about the development of ICs and using them to create products which is a dominant part of the electronic industry. By using an up-side-down pyramid, he explained the design process at each stage and its market value.

After that, Dr. Pasqual discussed about the value added-end products which are considered as opportunities in the electronic industry. He discussed the opportunities under 3 topics. Industrial – (industry 4.0), enterprise – (smart cities) & consumer – (healthcare). He believes the next revolution is Internet of Things (IOT) which requires low power communication methods and electronic equipment along with efficient software.

Later he stated that, though we create amazing products in our country, our innovators should aim for the global market rather than the local market. Sri Lanka is known to be in the brown field in electronics because we focus on electronic contract manufacturing and assembly of components. This is considered as a low value & low knowledge intensive task. Dr Pasqual added that Sri Lanka has the potential to excel in the Green field of electronics and Sri Lanka has the knowledgeable and talented individuals who can make it a reality. If our innovators focus on designing new products and produce them, he believes that those new designs and products can bring a huge amount of income to the country. He said that in last June the government launched Sri Lankan National Export Strategy, and to their belief, electronics is a field that has potential to benefit our country. Going along with this strategy, the government is willing to support new startups and new products. Dr. Ajith pointed that we should make use of the free services by our country and we should focus on innovating and creating something new so that we can give something back to our country, and that we should consider it a duty towards our mother nation.

Later he discussed about product designing. He explained the difference between inventing & innovation. He also stated that inventing requires a lot of knowledge and time, rather than that, innovating is something easier. He said that when designing a product, it doesn't have to be something completely new, rather it could be an improvement to an exciting product or a solution to a problem which is well defined or undefined. Later he explained to the members the common excuses people in our country think that stops them from innovating. He also told the members to focus on the global market rather than the local market and how to gain knowledge to compete globally. He said **"With the right product it becomes a number game"**. After that he explained the challenges that might lie ahead when designing a product and talked about various types of certificates required to launch products in other countries. He also added that getting certification can be an expensive process, but it should not be something to discourage yourself. Later he shared some personal stories of his own along with the challenges he faced inspiring the members to innovate.

Dr. Ajith concluded the talk by stating the famous quote "The devil is in the details" stating that to become a good engineer you should always focus on the sensitive details.

-Anjana Mendis