



THE INSTITUTION OF ENGINEERS, SRI LANKA

NSW AUSTRALIA CHAPTER

P. O. Box 1239, Parramatta, NSW 2124, Australia
Email: Chapter_secretary@ieslnsw.org
ABN 90 045 281 529

REPORT – 2016/2017

This page is kept blank intentionally

IESL NSW Chapter Annual General Meeting 22nd October 2017

1 IESL NSW Chapter Executive Committee 2016/2017

The eighth Executive Committee of IESL NSW Chapter was elected at the Annual General Meeting (AGM) held on 6 October 2016. Since then the committee held eleven committee meetings. The committee consisted of following committee members:

- Dayantha Jayarathna (Chair)
- Bandula Subasinghe (Vice Chair)
- Ananda Herath (Past Chair)
- Rohitha Silva (Secretary)
- Mahendram Manoharan (Treasurer)
- Sarath Wijayapala (Editor)
- Amali Wickramasinghe
- Buddhi Wijerathna (Web content manager)
- Prathapa S Ravindra
- Madhuka Jayawardhana
- Pubudu Jayathilaka

In addition to the official committee members, Pamal Dias was appointed as the Web Administrator to maintain the website.

2 Memberships

According to the records received in the past years, there were over 100 members of IESL residing in New South Wales and Australian Capital Territory. Despite the online payment facilities provided and timely reminders sent to them, there has been a steady decline in active membership numbers during the year 2017.

	2012	2013	2014	2015	2016	2017
Fellow	8	8	8	8	8	9
Honorary Life Member	2	2	2	2	2	4
Members	91	75	75	86	91	41
Associate Member	33	26	25	31	33	10
Student	1	1	1	1	1	0
Total	135	112	111	122	135	64

Table 1 IESL NSW Membership Details

Membership details for this year were received on the Chapter on 5th of October 2017. It is important to receive membership details from the membership registrar of IESL in the month of February allowing required follow up action.

2.1 Chapter Affiliation

According to directives received from IESL Head Office, members residing in NSW were required declare their affiliation to the Chapter via the IESL membership portal. Members were informed via the newsletter and the website. However the IESL website had some technical issues, thus chapter affiliation process didn't work very well.

2.2 Membership fees

According to the IESL constitution and the subsequent agreements with IESL, the Chapter was informed that we are entitled to receive 1/3rd of the membership fees of all members residing in New South Wales and Australian Capital Territory from IESL.

From the early days of Chapter, the amount due was reconciled with the fees collected locally from the members and an account was maintained to reflect the balance. With the introduction of online payment system, NSW Chapter stopped collecting membership fees locally as members could pay directly by using the credit card. Therefore for last three years, the Chapter contribution of the membership fee was getting collected in Colombo head office.

IESL NSW Chapter requested the amount due to be transferred to the account, preferably in February or March in each year so that the Chapter accounts can be updated.

This issue was discussed in a meeting NSW Chapter Chair had with IESL President in April 2017 in Colombo, and the CEO of IESL and agreed to transfer the balance due to the Chapter account, so far it hasn't taken place. The ongoing arrangement was to amount payable to be calculated based on the number of affiliated member of the Chapter.

2.3 New Membership applications

It should be noted that the level of cooperation between the IESL Membership Registrar and NSW Chapter can be improved to better support new membership applications. It is essential to have a coordinated approach to promote and encourage new members to join and current members to retain the membership.

3 Knowledge sharing lectures and industrial visits

During the year the committee has facilitated the following four knowledge sharing lectures including one in Sri Lanka and an industrial visit

3.1 Lecture 1: “June 2016 NSW Storm- Refining critical design conditions for Breakwaters using measured storm damage By Eng. Indra Jayawardena



The first public lecture organised the current committee was held on Wednesday the 23rd of November 2016 at the Institute of Engineers, Australia auditorium. The presenter of the lecture was Eng. Indra Jayawardena.

Starting off with a couple of vivid images of the damage caused to the Manly Fairy Bower Seawall by the June 2016 storm and a video of the massive waves that hit it, Eng. Jayawardane explained the importance of breakwater repairs and went through a brief history on the breakwater assessment techniques over the recent decades. Throughout his talk, Eng. Jayawardane presented many examples of storm damages to crests, heads and trunks, the associated design models and their strengths and weakness. Concluding, he stressed the importance of timing of the breakwater repairs and how the existing models could be improved for future designs learning from past storm damages and experiences.

3.2 Lecture 2: “Managing stakeholders in a complex rail project” By Eng. Sudath Amaratunga

The second public lecture organised by the Chapter was held on Wednesday the 22nd of February 2017 at the Engineers Australia Auditorium, It was delivered by Eng. Sudath Amaratunga, under the topic of “Managing stakeholders in a complex rail project”

During this presentation and the Q& A session, Sudath discussed effective techniques used in managing stakeholders in complex projects and getting their support to achieve desired outcomes. Eng, Amaratunga discussed the topic with few case studies. The lecture was followed by an active Q& A session.

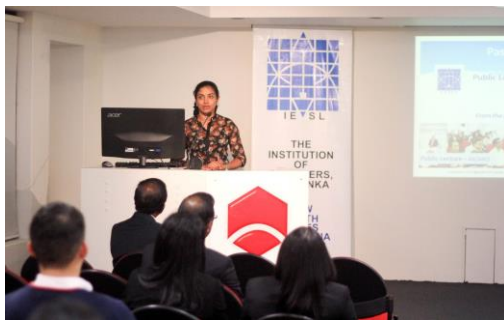
3.3 Lecture 3: Kamal Fernando Memorial Lecture “Active Noise Control Inside enclosures “ By Prof. Thushara Abhayapala

Professor Abhayapala, the Deputy Dean of University of Australian National University conducted the Eng. Kamal Fernando memorial lecture on the 23rd of August 2017 at the Engineers Australia Auditorium.

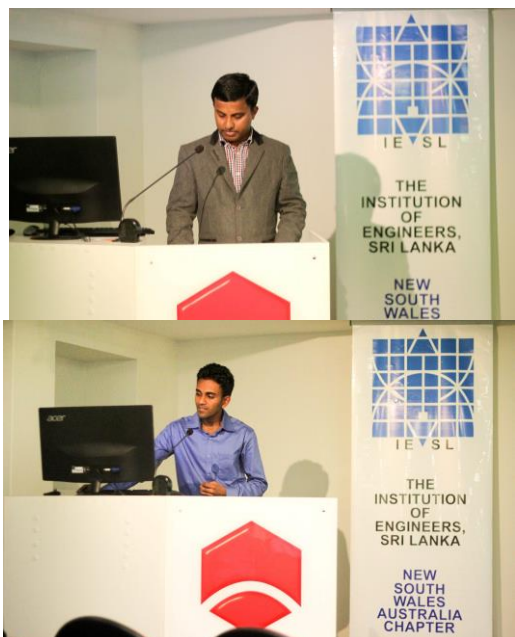
The topic was Active Noise control inside enclosures. Prof Abhayapala discussed the applications and challenges in controlling noise using active techniques using Advanced Digital Signal Processing techniques. He explained number of current research activities taking place in university.

4 IESL NSW Chapter Young Engineers Day

This year’s Young Engineers Day was held on 12th April 2017 at the Engineers Australia Auditorium facilitated by Eng. (Dr.) Madhuka Jayawardhana and it was a great success.



It was a great opportunity for the young presenters to receive valuable feedback on their work with relevant additional information from more experienced engineers in the audience



Following four presenters shared their research findings/experience at the event.

Eng (Dr.) Priyanath Ariyaratne, a Geotechnical Engineer at SMEC Australia Pvt. Ltd. presented “Numerical Modelling of Geosynthetic Reinforced Pile-Supported Embankments”.



Eng (Dr.) Gayani Chandrasena, Graduate Engineer at SMEC Australia Pvt. Ltd. presented “Pollutant Removal Performances of Laboratory-Scale Biofilters”.



Eng Janindu Arukgoda, Masters in Engineering student at the University of Technology, Sydney, presented “Bogeys: Autonomous Hexacoptors”.



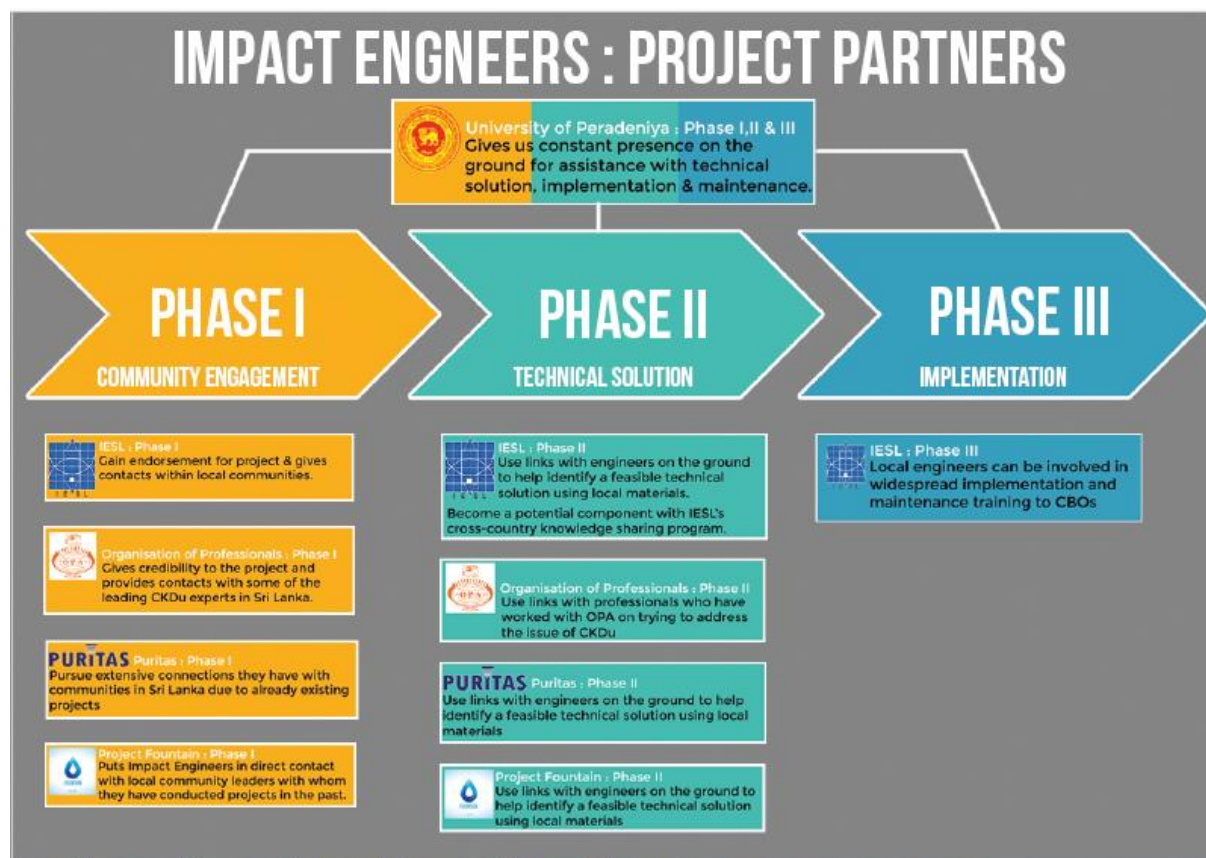
Buddhi Ranasinghe and the Humanitarians without Borders team– a team of undergraduate students lead by engineering undergraduates from the University of New South Wales, presented their experience in conducting projects on “Bridging the gap between university and community”.

5 Working with Engineers without Borders (Impact Engineers)

In the last two decades cases of CKDu has been an emerging problem in rural areas of Sri Lanka. As the name suggests, there is an absence of identified cause for the disease, but a possible link between farming, contaminated water consumption and CKDu has been established. Over the past few decades, thousands have been affected across multiple regions of Sri Lanka. A sustainable solution is yet to be found.

The Australian Nuclear Science & Technology Organisation (ANSTO) recently signed a Memorandum of Understanding with the Presidential Task-force for the Prevention of Chronic Kidney Disease to assist in combating the issue that's affecting thousands in Sri Lanka

The idea behind this proposal was to implement a 'Real Life Humanitarian Engineering Project' as a student led activity at UNSW Sydney. This project would have a direct impact on a community in Sri Lanka that has been affected by CKDu for the past three decades.



IESL NSW Chapter, in collaboration with IESL Head office and Anuradhapura Chapter is facilitating to reach out to the areas in need and to help in networking and collaborating with local institutes in Sri Lanka.

5.1 School Outreach Program

With the intention of promoting the concept of rebuilding the community through the expertise present within universities in Sri Lanka and overseas, Engineers without Borders launched a School Outreach Program to promote Engineering among Sri Lanka students.

The project was an initiative by 5 members of Engineers without Borders, University of New South Wales (EWB UNSW). The team was given permission by EWB Australia to use their open source material to carry out the workshops, as individuals unaffiliated with EWB Australia. The group wanted to introduce the workshops that are conducted by the EWB volunteers in Australian schools in Sri Lankan schools and in doing so, achieve the main ambition of giving the Sri Lankan student engineers a chance to give back to and interact with their communities.

A key component that made this project successful was the availability of funding, to conduct the school outreach program. This pioneer school outreach program was funded by the New South Wales Chapter of the Institute of Engineers Sri Lanka. (IESL – NSW), with an amount of A\$650.00.

The efforts made by the group of students in HWB becomes a significant step in the direction of sharing the experience and bringing the attention of young students in Sri Lanka to the importance of engineering. By reaching over 1000 students in their program within two months is a remarkable achievement.

6 IESL Engineers Family Evening 2017

With the intention of increasing participation of young families we organised the Engineers Family evening on the 22nd of April 2017 at the Harvey Lowe pavilion in Castle Hill Show Grounds.



Our intention of organising this event was to strengthen our links with the broader engineering community and to give them an awareness of IESL NSW Chapter activities. Also we wanted to know the strengths and capabilities of our fellow engineers so that we can provide them opportunities to showcase their talents and to be recognised at suitable occasions.

Engineers Family Evening was very successful and it was well attended by families. Among the highlights of the day was the presentation made by our past Chair Eng Ananda Herath and the update given by the young engineering students from UNSW about a pilot project they conducted in Sri Lanka to promote engineering education in Sri Lanka using senior school students.

This would be a new activity added to the event calendar to continue in coming years.

7 IESL NSW Chapter newsletters

This year we introduced a web based newsletter as a convenient way of presenting news without the limitations of a formatted structure. Readers were able to see the front page of the newsletter with highlights of the content and details were hosted in the website. Using this method we had the opportunity to monitor the number of readers visiting each page. Although we wanted to issue four newsletters in the past year, due to practical difficulties we only could issue two newsletters this year. However we constantly communicated with the fellow engineers through well formatted emails.

Editor Sarath Wijayapala and Eng Buddhi Wijerathna worked hard to publish the web based newsletter with rich content.

We received many positive feedback about the new look and the feel of the new look web based newsletter.

8 IESLNSW.ORG website and Social media

We continue to enhance the website throughout the year by adding more useful content. All event invitations were issued with a link for registration, so that we could have an estimate of number of attendees. Therefore we could better manage the refreshments and able to create the list of attendees, and registers before the event with names pre- printed.

In addition to the website we have created a subdomain to have a web based project management platform. By using this platform it was possible to consolidate all projects in to one space and have visibility of all activities. It gives the possibility to keep all project related documents and tasks compiled in one place. However we had limited success in using this platform due to complexity of the process involved in managing the site.

Now there is a section with membership information and a web based form to apply for membership of the Chapter.

ISLE NSW Chapter Facebook page has become very popular among the engineering community as we could share photos and event information conveniently.

Eng. (Dr). Buddhi Wijerathna managed the content and the format of the website as well as the Facebook page.

We have to appreciate the continuous support given by Eng. Nihal Fernando by fully hosting the website in his servers from the beginning of the Chapter. He offered this service completely free of charge up to this year. Due to unavoidable expenses associated with providing this service there will be a nominal charge for hosting the website and email service from this year.

I like to take this opportunity to thank Eng. Nihal Fernando for the dedicated service to the NSW Chapter.

Also I would like to appreciate services of Eng. Pamal Dial who served as the Web Administrator. This role was introduced last year to maintain continuity and consistency in technical management of the website. He will continue to work with the committee and liaise with Nihal for the administrative matters of online resources.

9 Engineering Convention, Award Presentation and Gala Nite 2017



The Institution of Engineers Sri Lanka, NSW Chapter (IESL NSW Chapter), Engineers' Nite 2017 was held on 3rd of June 2017 at Hornsby RSL. This was held in grand style for the sixth consecutive time. The Chief Guest of the Gala Nite was the Sri Lanka Consul General for New South Wales and Queensland, Mr. Lal Wickramatunga. The other invitees were president of the Institution of Engineers Sri Lanka, Eng. Jayavilal Meegoda, president of Engineers Australia, Sydney division, Ms. Julie Mikhail, president-elect for the World Federation of Engineering Organisations (WFEO), Dr. Marlene Kanga. Key note speech was delivered by Emeritus Professor Rohan Joseph Lucas.

The Engineering Conference, held on the 2nd of June 2017 at the Engineers Australia Auditorium, Chatswood, preceded the Engineers Nite 2017

This annual event was attended by over 250 engineers, industry experts, academia and many distinguished invitees representing various collaborative organisations.

The event management and coordination done by Eng. Ananda Herath and well supported by Bandula Subashighe, Amali Wicjremasinghe, Madhuka Jayawardena. All committee members supported the event in many different ways.

It should be mentioned here the contributions made by Thusitha Kumarage, and Kanchana Jayawardena in preparing the visuals and technical management. The event went through a single technical glitch, all due to sleepless nights of preparations.

10 IESL NSW Chapter Engineering Excellence Awards 2017

This year five submissions were short listed for awards by the selection panel and presented at the annual engineering conference on 2nd of June 2017 at the Engineers Australia Auditorium

The submissions were assessed by a panel based on the following criteria:

- Scope of the nominee’s involvement
- Originality
- Innovation
- Value to the community and environmental sustainability
- Solutions to an engineering challenge, and
- Demonstration of sound engineering science in both practice and principle.

The selection panel comprised of experienced senior engineers and members of academia in Sydney. The final selection for the Award and the Highly Commended was decided on assessments carried out on the above criteria by the selection panel. This year the engineers who served in the Selection Panel were Eng. Mahinda Karunaratna, Eng. Nihal Fernando, Dr. Chinthaka Fonseka, Dr. Ranjith Liyanapathirana and Eng. Mahendran Manoharan. Eng Amali Wickremasinghe coordinated the complete process from calling applications to final Awards Presentation.



2017 engineering Excellence Award winners Dr. Damith Mohotti, Eng, Hiruni Kolamunna, Eng. S.P.G. Mahanama, and Professor Karu Esselle

10.1.1 Nominations for Best Paper Published category

- Dr. Damith Mohotti for his publication “Polyurea Coated Composite Aluminium Plates Subjected to High Velocity Projectile Impact”.
- Eng, Hiruni Kolamunna for the publication “Enabling Application Function Virtualization and Scheduling in Wearable Networks”
- Dr.Priyanath Ariyaratne for his paper on ” Comparison of Different Two Dimensional Idealizations for a Geosynthetic Reinforced Pile-Supported Embankment.”
- Dr. Gayani Chandrasena for her research paper “Bio filtration for storm-water harvesting”.

10.1.2 Best Innovation Category

- Professor Karu Esselle for “out to In: Converting an On-Body Wireless Biotelemetry System to an Implantable In-Body System”

10.1.3 Best Engineering Project

- Eng. S.P.G. Mahanama for his role in the Early Warning Systems in number of countries in Caribbean region

11 Our sponsors

Due to the efforts made by all committee members this year the Engineering Convention and the Gala Nite was supported by four sponsors. In addition we received number of advertisements as well.

Main sponsors were

- Sayura Beach Hotel, in Unawatuna Sri Lanka, Eng. Siri Kamalasuriya, Sara and Ama represented the company and special thank to Managing Director Mrs. Renuka Kamalasuriya.
- SMEC Australia Pty Ltd, Member of the Surbana Jurong Group , represented by
- JadeCross Lighting Solutions, represented by
- University of Technology in Sydney. Represented by

Because of the sponsorships received, we are in a financially better position to deliver the professional services to our engineering community. It is important to maintain our professional standards and deliver best possible service to the members.

In obtaining sponsorships the efforts of Eng Bandula Subasinghe, Eng. Rohitha Silva, Eng. Buddhi Wijerathna and Eng Waruna Kaluarachchi should be appreciated.

12 Industrial Visit



Organising the Industrial Visit has become a complex task in the modern competitive business environment. In the past, visiting an industrial site could be arranged with the permission of site manager or a senior engineer. But due to WHS and commercially sensitive nature of engineering work it is almost impossible to visit important engineering facilities, especially for a group of Sri Lankan Engineers.

Therefore the Industrial Visit has to be made to the approved displays of engineering institutions.

This year the Industrial Visit was made to the nbn Discovery Centre in North Sydney. It was well attended and we conducted two sessions with enthusiastic participants.

13 Regional Cooperation

The tradition of exchanging information between overseas chapters about activities in regular conference calls with IESL Head office was limited to two occasions.

But the links with Western Australia Chapter, Queensland Chapter Melbourne Sri Lankan Engineering Association was maintained and there had been active conversations when it was required.

Although we received invitations to attend the Engineering Nite of Western Australia Chapter, It wasn't possible to attend the event as it was too close to our event and due to work commitments of the committee members.

There were two Skype calls with Chapters and the IESL President / team in Colombo in the past year. Among the matters discussed were the importance of streamlining the membership management process, constitution, and knowledge sharing program. Regrettably no firm action was noted in any of the matters discussed.

14 Chapter membership and Harmonising IESL Overseas Chapter operations

It was discussed and brought to the notice of IESL President Eng. Jayavilal Meegoda that it is essential to allocate sufficient resources in IESL Head office to coordinate the activities of overseas chapters. There are four active overseas chapters and the fifth one is being formed in Melbourne.

One essential requirement at this stage is to harmonise the constitutions, reporting procedures and processors of all chapters to make them operate in a consistent manner.

We proposed to appoint a dedicated member of the council, such as a Vice President to oversee, assist and coordinate activities of overseas Chapters.

The matter was discussed in length. We were informed by the President that the matters needs to be referred to the Council for action. Hopefully we should be able to see some improvement in the next year.

15 Knowledge Sharing Program

Last year (2015/16) IESL NSW Chapter drafted a document outlining the framework for a well-structured process to harness the expert knowledge scattered around the world with Sri Lankan professionals. This document was sent to IESL Head Office on 22 May 2016 for their concurrence and assistance. This proposal has been tabled at the IESL Council meeting on 1st July 2016. The Council has approved the proposal. But we are yet to see any action based on that proposal.

When consider the current priorities of IESL Council, it is unlikely that those proposals be taken up seriously in the near future.

Although there are engineers willing to support in development process in Sri Lanka, the current administrative framework in many organisations do not allow such participation in activities in an official capacity. Therefore we have to re-visit the proposal and consider a different approach to facilitate the sharing of knowledge.

It is also required to recognise that Sri Lanka has progressed in many areas in engineering and there are professionals who can offer their services to the international market. Therefore the knowledge transfer can take place in both ways in the future.

16 Working with Engineers Australia

Relationship between Engineers Australia (EA) the Chapter was maintained at a high level throughout this year. IESL President Eng Jayavilal Meegoda, IESL Chapter Chair Dayantha Jayarathna, Past Chair Ananda Herath met with the Engineers Australia Sydney Division President Julie Mikhail and membership coordinator in June 2017.

It was an important achievement to understand that Engineers Australia has included International Professional Engineers from Sri Lanka to be recognised for the EA membership.

Although the announcement is made and the EA website has set up the process, there is more work to be done to formalise this process. The reciprocal arrangements need to be made in Sri Lanka. Again it is not clear when this will be discussed in IESL Council and if that would attract any recognition of council members over their other priorities.

Engineers Australia continued their support in providing the venue for all our public lectures free of charge. I take this opportunity to thank Engineers Australia for their generous support.

17 Working with IESL headquarters

During this year relationship with IESL headquarters was well maintained through regular conversations with IESL President Eng. Jayavilal Meegoda, President Elect Niranjanie Rathnayake, and Current CEO Eng. Neil Abeysekera. They all were keen to assist the

Chapters despite the issues they had to deal with in the local context. Eng. Meegoda clearly recognised the strengths and the opportunities which can be utilised in the development of Sri Lanka as well as to improve engineering standards.

NSW Chapter Chair Eng. Dayantha Jayarathna visited IESL HQ and had a meeting with President and CEO in April (2017). Many important issues were discussed and decisions made particularly about the settlement of membership fees on annual basis. It was agreed that membership status to be informed to the Chapter in early part of the year so that the Chapter gets an opportunity to follow up with encouraging members to renew membership as well as to reflect the amounts clearly in the financial reports.

Regrettably no actions were made by IESL to provide such information in a timely manner. After number of repeated requests we received the current membership list in end of September 2017. It was observed that the number of active memberships have gone down to a half of that from the last year.

Subsequently the Chapter sent an action list based on this meeting to IESL Head Office and is waiting for a response.

18 Information/Document Management

The Chapter continued to gather information/documents relating to the Chapter and store them in an orderly manner. Past presidents were requested to access the online storage space over the internet and save their files in the allocated folders. We are making progress in gathering all information in to one place.

19 Financial report

A separate audited financial report prepared by the Treasurer, Eng. Mahendram Manoharan forms a part of this Annual Report.

The financial report can be found in the annexure of this report.

19.1 Contributions to Flood relief funds

IESL NSW Chapter made a contribution of Rs. 100,000.00 through the allocation of membership fees collected in Sri Lanka. This amount is not reflected in the annual financial statement as the money has never been received by the Chapter from Sri Lanka.

In addition we have contributed an amount of \$250.00 towards the Flood Relief Fund organised by the Sydney Sri Lanka General Office. Out of this \$250.00, \$180.00 was collected at the Engineers conventions as donations.

20 Suggestions for next year

Following is a summary of suggestions for next year. The successful delivery of these outcomes should further enhance the services of IESL in NSW to the engineering profession and its members.

- It is important to review the current constitution as it requires updating. The constitution was drafted at the inception of the Chapter with the intention of revising it in two years. That revision is overdue now, therefore it is required to make necessary changes in consultation with other Chapters and the IESL head office.
- The Public Lecture series is a popular and useful part of our activities, it should be continued and facilitated.
- Engineering Convention is the most significant event, though it is a challenge to meet expectations of audience and ever increasing costs. Need to carefully manage costs and obtain sponsorships to make this a viable activity in coming years
- Review the objectives and guidelines of the mentoring program for migrant engineers to include if this program can be extended to assist professional development of young engineers
- Continue to gather critical information from past NSW committees and save in the private cloud already set up
- Support IESL in maintaining and strengthen the link with Engineers Australia and establish links with Washington Accord member countries
- Assist IESL to sustain the full membership of Washington Accord
- Continue to recognise excellence in achievements and promote participation of young engineers in the Chapter activities

21 Conclusion

From the inception of the IESL NSW Chapter in 2010, we have maintained our standard of operations as well as the reputation in the engineering community. We can clearly mark this year as another successful year in operation.

We conducted the usual set of activities such as Lecture Series, Engineering Convention, Industrial visit etc. with good participation. From the past years' experience and feedback we received from our fellow engineers we recognised the difficulties of young families to take part in professional activities organised by us. Due to family commitments there was a need to provide a suitable occasion to meet other engineers in a family friendly environment. In recognition of this need, we organised a family event this year for engineers to come and enjoy the time with families. Our initial plan was to organise a picnic to a suitable location, but due to bad weather we had to change it to an indoor venue. Still the event was well attended, but in the future this event will be more suitable as an outdoor event.

As a Chapter of IESL it is important to focus in serving the membership, by assisting professional development, networking, and assisting to communicate with IESL Head Office.

Often we hear from members that IESL Head office is not promptly replying to member's emails or other inquiries. As a chapter of this organisation we have to develop capabilities to serve the membership to the best of our ability.

Although, supporting Sri Lanka with engineering expertise was one of the main intentions in forming the Chapter, it can be observed that it is much more challenging task than we expected. As it was mentioned earlier in this report, there are many practical difficulties in this approach. It is almost impossible to take part in this process without a formal framework in-place. At the same time we cannot ignore the importance and the potential internationally experienced engineers possess in making significant contributions towards making Sri Lanka a well-developed nation.

Therefore time has come to think fresh and to look for a different approach. It would be appropriate to focus on a model where engineers can take part in various activities in a mutually beneficial way to work in projects in Sri Lanka. At the same time we can explore the possibilities in utilising expert knowledge based Sri Lanka to reach the international arena.

Concluding the report I would like to thank all members in the Executive Committee, as well as past committee members and well-wishers for their great support and contribution in making this year a success.

I would like to congratulate the new executive committee and extend my complete support to make the next year another successful year in operation with significant Achaemenes.

Dayantha Jayarathna (C.P Eng. MIESL, MIEEEE)
Chair IESL NSW Chapter (2016/17)