



IEM NEWSLETTER

P O BOX 28 QUATRE BORNES - www.iemauritius.com

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MESSAGE From IEM President



RAJ H PRAYAG PDSM

Dear Colleagues,

Let me on behalf of the Executive Council of IEM wish you a very happy and successful Year 2017. May you enjoy great satisfaction and have pride in the great pioneering work that you do to make the life of each citizen of Mauritius more bearable and comfortable

I am delighted to say that 2016 has been a good year all round for the Institution of Engineers Mauritius.

As usual IEM has organised a multitude of talks and very exciting site visits to see some of the major ground breaking engineering works undertaken in Mauritius such as the New Port Master Plan, the Bagatelle Dam, Omnicane Thermal Plant at L'Escalier, amongst others. IEM has also now set up a new committee on new and innovative engineering initiatives to highlight and encourage research in engineering fields.

We are very pleased that IEM has broken through the glass ceiling by competing at International level and getting a grant of 40,000 pounds sterling from the Royal Academy of Engineering UK in the context of capacity building of engineers in Africa. The Africa Catalyst Project will run from January 2017 to June 2017 during which period, IEM will lay down the foundations and build capacity to eventually seek signatory status for

Washington Accord. In this context and as part of this project, IEM will develop national procedures for accreditation of engineering degrees as well as train some 40 – 50 senior engineers who will thereafter act as assessors for accreditation purposes.

IEM has offered its services and is a willing partner in the mentoring of graduate engineers that the GOM is recruiting in order to provide our young engineer graduates, the statutory experience required in order to be eligible for registration with the CRPE. In this context, IEM is negotiating terms for this collaboration with the authorities. IEM makes an appeal to our senior engineers (in all branches of engineering) to make themselves available through IEM to help our young graduates. The mentors will be required to meet the young graduates under their supervision once a month to guide and oversee the training programmes. The mentors will be compensated for their time/input.

IEM will continue to put emphasis on CDP for engineers and in October 2017. IEM will be organising 3 workshops of international standard to be run by an international expert in September 2017.

Please see a synopsis of these below.

I appeal to you to join hands with the EC of IEM to help lift up the profile of our profession by dedicating some of your valuable time in mentoring our young colleagues so that our noble Profession, unlike any other, is seen in its true colour as the provider of all essential services and builder of our modern society.

The IEM House is open during day times as from January 2017, the IEM House located at the corner of Hitchcock and Ollier Streets, Quatre Bornes. You are most cordially invited to drop in.

Synopsis of the three proposed talks

Business Process Management (BPM) for Programme/ Project Development & Delivery

Design in the Project Environment

- This talk describes a generic 'route map' to the modern business process landscape for the development of infrastructure projects as they pass through the *Need, Design & Execution* phases, including governance gateways and value management interventions...

Decision-making within Design & Business Case Development

- This supplementary talk provides guidance to design decision making and business case derivation associated with the development of infrastructure projects in order to ensure optimum value and sustainability...

These two related talks are geared to under-graduates, graduates, chartered engineers and project managers and describe the basis of modern project delivery systems.

Strategic Implementation of Major Infrastructure Projects

- This talk describes aspects of an approach to the prioritisation, strategic planning and monitoring the execution of large infrastructure investment projects..

This is most likely to be of interest to senior civil servants and funding groups

Accreditation of Engineering Education

Update on IEM's Pilot Project under the Global Challenges Research Fund (GCRF) Africa Catalyst 16/17

Members of IEM are by now fully aware that we have already embarked on our Pilot Project aimed at ushering an institutional regime for the accreditation of engineering degree programmes in Mauritius in line with the guidelines of the International Engineering Alliance, of which Washington Accord is a constituent forum. What is implied thereby is that there will be a body duly constituted and authorised to carry out accreditation of engineering degree programmes delivered by the Universities and other tertiary educational institutions (TEIs) in Mauritius. IEM has approved that it will establish such a body, (viz an Engineering Accreditation Board) and guarantee its autonomy.

The authority and recognition can only come to that Board if criteria and guidelines established by Washington Accord are fully satisfied. The accreditation body must show that it is fully autonomous from government and higher educational authorities in its governance as well as in its accreditation decision process. It has in place a properly established and fully transparent accreditation framework (that is the standards, process and procedures which are fully documented and published, and publicly available) to which its accreditation responsibilities will conform. It should have appropriate qualified and trained persons who will be tasked with the actual accreditation assignments. It should further be recognised by the Mauritian authorities, including educational authorities, as well as by the Educational programme providers (i.e. the Tertiary Educational Institutions) and the public as the recognised body for undertaking accreditation

of engineering degree programmes and having the competence for that purpose.

Further the recognition will only come if at least two other Washington Accord members assigned by Washington Accord as mentors to the accreditation body submit a favourable report to Washington Accord on what they have observed and their recommendations, and thereafter all signatories approve the Board's elevation from Provisional Member to Signatory Status within the Accord. For that purpose the Mentors will, **firstly**, examine the Board's Accreditation Manual and other documentation relating to the board's accreditation procedures, and **secondly**, monitor (viz. shadow) the Board's Accreditation Teams when the latter conduct at least two accreditation assignments, including their visits to the University campuses, and submit their reports to the Accreditation Board, and **thirdly**, sit through the Board's deliberation leading to its decision in respect of the accreditation assignments carried out by Board.

This Brief is concerned with how IEM is preparing itself to ensure that it develops the capacity required to put in an application to Washington Accord as a provisional member; it will not concern itself with the details of the Accreditation Framework or Accreditation Procedures to be put in place or what is expected of the Universities desiring accreditation of their engineering programmes from the eventual Engineering Accreditation Board.

IEM members are aware that in September 2016 the Royal Academy of Engineering UK had launched a programme called GCRF Africa Catalyst with the objective to assist Sub-Saharan Professional Engineering Institutions

with a view of **to ensure there is sufficient, and appropriately skilled, local engineering capacity to participate in and drive national and regional development in sub-Saharan Africa.** IEM Council decided on 5th October 2016 to constitute a **Working Group on Engineering Accreditation (WGEA)** to pave the way for the Institution to seek and obtain membership of the **Washington Accord**, and towards that purpose to avail itself of the opportunity offered by the Royal Academy of Engineering, under the **GCRF Programme**,

to initiate a Pilot project for **Building Engineering capacity through Accreditation of Engineering Education.**

The initial Working Group on Engineering Education led by Jagadish Soobarah (Past President), which comprised Dr Andre Chan, Jayesh Desai, Donald Dhondee, Ghunshyam Parsan, and the IEM President (R H Prayag) has since been enlarged to include Council members as well as Shyam Roy (another Past president), Anand Gungoosingh, Hisham Rojoa' (of IET).

LAUNCH CEREMONY

Launch Ceremony by the President of the Republic H.E Dr Mrs Ameenah Gurib-Fakim G.O.S.K on the 23rd of January at Voila Hotel Bagatelle who congratulated IEM on its initiative towards establishing an accreditation regime for engineering degree programmes. President Raj Prayag spoke about IEM's initiatives and how IEM was well placed to respond to the criteria of Washington Accord as a potential member of the Washington Accord, through an eventual engineering accreditation board that it proposed to set up.

On that occasion the audience was gratified with an address by Prof Chris Atkin President of the Royal Aeronautical Society and President elect of the Engineering Council UK. Prof Atkin elaborated on issues that IEM must attend to as its works its way into the Washington Accord, especially having to ensure that IEM receives support and assistance from two nominators for its application to Washington Accord.

MOU BETWEEN AESM AND IEM

IEM is looking forward to have closer ties with the Aeronautical Society of Mauritius (AeSM). An MOU was signed by both parties during the joint meeting of the Royal Aeronautical Society (RAeS) and the AeSM on the 25th feb 2017 at the Boname hall, MSIRI.

The event was graced by the presence of Prof. Chris Atkins, President of the Royal Aeronautical Society and President elect of the Engineering Council UK.



Signing Ceremony by AeSM President Capt Dick Towney and IEM President, Mr Raj Prayag

CONFERENCE ON

Accreditation of Engineering Degree Programmes held on 14th February 2017



*Conference on Accreditation of Engineering Degree Programmes (14 Feb. 2017)
Panel Discussions chaired by Prof. B. Clarke.*

The broad aim of that conference was to inform and sensitize all stakeholders concerned with the education, training, professional development, and employment of engineers on the implications and benefits of accreditation of engineering degree programmes. Professor Barry Clarke CEng, FICE, FGS, Professor of Civil and Geotechnical Engineering at Leeds University, Past President Institution of Civil Engineers UK, delivered the key note address. Prof Clarke portrayed a vision of the world in three or four decades from now and elaborated on the competence that engineers would require if they are to successfully face the challenges of the future for mankind. The knowledge, understanding, skills and abilities as well as the competence profiles that graduates should have can only be guaranteed through persons graduating from accredited programmes.

Prof Clarke elaborated on the graduate's attributes or knowledge profiles agreed to by the Washington Accord community for engineers graduating from accredited degree

programmes. He also laid special emphasis on the special knowledge and skills that Mauritian engineers should have, given that the specific global challenges that have been identified as being associated with island states like Mauritius, e.g. cyclones, sea level rise from global warming, tsunamis, or even cost of imported fuel, when we have 12 hours of sunshine.

The Conference also received a strong support from the Ministry of Education, Tertiary Education and Scientific Research, through the speech of the Permanent Secretary Mrs N Ghoorah who welcomed IEM's initiative and expressed the Ministry's support to the project, which she said fitted well in Government's own policy of establishing Mauritius as an Education Hub in the Region. IEM's efforts were guaranteed to bring international recognition to Mauritian University engineering programmes, consequently the Ministry was prepared to extend full support to the establishment of an autonomous body under IEM for accreditation of engineering programmes.

The conference also treated to a host of other accredited related addresses and presentations, viz.

(i) from IEM president himself on the scope of IEM's pilot project,

(ii) Professor S Nair Director Tertiary Education Commission on the knowledge and skills gaps identified between University degree programmes and the requirements of the industry and how accreditation of engineering programmes should cater for these,

(iii) the Chairman of CRPE Mr Roland Fayolle who elaborated on the Registration practices, and also expressed himself on the need to recognise the contribution of the Technologists in the industry as well as on engineering works sites, and opined that legislation should be amended to provide for their registration.

(iv) Prof R Ramjeeawon of the Faculty of Engineering (UoM) who elaborated on the how the University of Mauritius was tackling the problems arising from converting from assessment of Teaching to assessment of learning, which were surfacing with the UoM-Engineering Council South Africa collaboration in the accreditation of the UoM degrees in Civil and

Mechanical Engineering to Washington Accord standard,

(v) Jagadish Soobarah who spoke on the Challenges towards Accreditation facing IEM and the Case for Mauritius, and

(vi) Mr Anand Gungoosingh who spoke about difficulties facing Mauritian engineers competing for international and regional engineering works contracts. He supported the case for accreditation.

In short there was consensus that Accreditation of engineering programmes offered the public and students with an informed choice, with students from accredited programmes securing an employment advantage over competitors from non-accredited programmes; for the programmes providers accreditation to an international standard brings recognition to their faculties and places them in a better position when applying for research funds; employers on their side get the benefit of an assurance of better performing engineering graduates, and therefore lessening the burden of training of such recruits; universities also benefit from better research scholars from among graduates from accredited programmes.

Meetings with Focus groups

We need to add that planned meetings were held subsequent to the Conference between Prof Barry Clarke and the following stakeholders (which included the Permanent Secretary Ministry of Education and Senior Staff, The Chairman CRPE and Council members, the Executive Director TEC and Senior Staff, Executive Director Mauritius Research Council, Board of Investment, the Dean of faculty of Engineering (UoM) and Senior Staff, Final Year University Students of UoM, Head of 'Ecole Centrale Nantes' (Mauritius Branch) (Medine Campus), Director of 'Universite des Mascareignes', Director General of University of Technology, CEO of JSS Academy of Technology Education, and senior staff, and the Professional Engineering Institutions. The feedback received was very encouraging for IEM

since there was spontaneous support for the accreditation project.



Talk by Prof. B. Clarke at IEM House

Next Programme (Washington Accord Community-Accreditation Documentation Review):

IEM is pleased to announce that starting this week the Working group on Engineering Accreditation has scheduled 14 working sessions where lead resources persons from the Working Group will take a select group of professionals from the academia and the profession through the Accreditation manuals and associated documentation of select Washington Accord organisations. The intention here is to ensure that the select group be fully briefed on how the various organisations have gone about in their endeavour to comply with and implement the guidelines of Washington Accord on accreditation of engineering degree programmes. The Working group will examine the procedures of the Engineering Council UK, Engineering Council South Africa, Institution of Engineers Singapore, Engineers Canada, and the Institution of Engineers New Zealand, and of course the Documentation of Washington Accord itself.

The Working Group considers that the review of these documents will give the Selected Professionals adequate knowledge and understanding that they would need when they will be tasked with developing the governance structure of the future Engineering Accreditation Board to be set up by the IEM.

The Select group will comprise members of the Working Group who have demonstrated sustained interest in the project this far, as well as persons who have responded positively to IEM's invitation to show interest launched earlier in January.

The Documentation Review sessions will be followed by our UK Partner's intervention through two Experts coming over and training our resource persons in matters of Accreditation Criteria and Parameters, and Interpretation and Application thereof to actual engineering degree programmes.

(Contributed by Jagadish Soobarah , Project Team Leader ACP 16/17 on behalf of the IEM Working Group on Engineering Education.WGEA)

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