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## MESSAGE



I am extremely happy to learn that the Department of Electronics and Instrumentation Engineering of our University is taking strenuous efforts to organize an International Conference on Control Instrumentation Communication and Computational Technologies on the 10<sup>th</sup> & 11<sup>th</sup> of July 2014. It is indeed a commendable venture. Knowledge explosion nowadays has been so rapid that what is being considered as the latest today becomes out-dated the next day. The onus of keeping the technological advancements abreast falls squarely on Educational Institutions and Universities. It is precisely here that programmes such as Symposia, Seminars, and International Conferences etc. assume their importance. This International Conference would, no doubt, provide a platform for the Professionals from Industry, Researchers and Scholars to discuss the latest developments and explore and envisage, the future possibilities in the areas of communication and Computational Technologies. I am sure our students will make the best use of this opportunity. I congratulate Dr. Glan DevaDhas and his team and wish the conference all success.

**Dr. A.P. Majeed Khan**  
*Chancellor, NICHE*

## MESSAGE



Currently, humankind faces major global challenges that need to be addressed in due course. Two such challenges - as identified by the Millennium Project – are of specific relevance for electronics and electrical engineers: “How can the global convergence of information and communications technologies work for everyone?” and “How can scientific and technological breakthroughs be accelerated to improve the human condition?” Over 2 billion Internet users, 6+ billion mobile phone subscriptions, and uncountable billions of hardware devices are intercommunicating in a vast real-time multinetwork, supporting every facet of human activity. New forms of civilization are beginning to emerge from this convergence of minds, information, and technology worldwide. Acceleration of Science and Technology (S&T) innovations from improved instrumentation, communications among scientists, and synergies among nanotechnology, biotechnology, information technology, cognitive science, and quantum technology continues to fundamentally change the prospects for civilization. Despite these achievements, the risks from acceleration and globalization of S&T remain and give rise to future ethical issues. Supporting basic science is necessary to improve knowledge that applied science and technology draws on to improve the human condition.

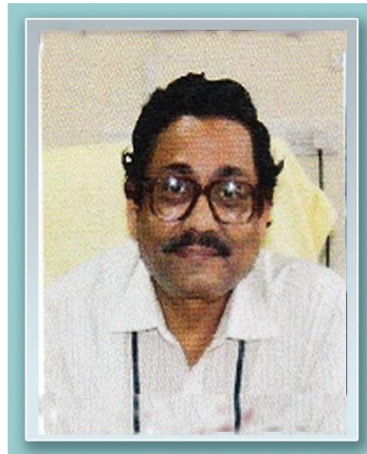
The “International Conference on Control, Instrumentation, Communication and Computational Technologies - 2014 (ICCICCT 2014)” takes place on 10th&11th July 2014 at the Noorul Islam University in Kumaracoil, KanyaKumari District, Tamil Nadu, India. This important International Conference, a forum for local and international experts from around the globe, promises to contribute a significant share to the points mentioned above. Congratulations to Dr. G. Glan Devadhas and his team from the Department of Electronics and Instrumentation Engineering in collaboration with IEEE India Council Electron Devices Chapter for organizing this essential event.

May the proceedings of this International Conference be spread widely and inform participants, engineers, researchers and developers, politicians and policy makers as well as the interested public about novel developments in the field and drive future research – for the benefit of all.

**Dr. Ille C. Gebeshuber**

*Professor, UKM, Malaysia & TU Wien, Austria, Europe*

## MESSAGE



Let me at the outset complement and congratulate Department of Electronics and Instrumentation Engineering, Noorul Islam Centre for Higher Education, Kumaracoil, Tamil Nadu, India for organizing an IEEE International Conference on Control, Instrumentation, Communication and Computational Technologies-2014, ICCICCT-2014 on 10<sup>th</sup> and 11<sup>th</sup> July 2014 at Noorul Islam University.

A fundamental, omnipresent feature of the global information age is that computing-capabilities in Instrumentation, Communication and Control, are inherently embedded in numerous physical, engineered systems from the nano-world to large-scale systems-of-systems.

Many scientific, technological challenges require intensive multidisciplinary studies, calling for formulations of new techniques and innovative solutions from a spectrum of communities in systems engineering, control, and communications. In my view, theme of the Conference is very relevant keeping in view the need to establish a global information infrastructure and a robust information exchange network. I have no doubt that the forum provided for the discussion of Latest trends in engineering and science will be well taken by the scientists, engineers, researchers and professionals from our country and abroad. On behalf of IIST, I wish the Conference to be a grand success. I hope that the participants and delegates of the conference use the outcome of the proceedings for betterment of their research and career growth.

Wishing successful endeavor for the organizing committee.

**Dr. K. S. Dasgupta**  
*Director, IIST, Trivandrum*

## MESSAGE



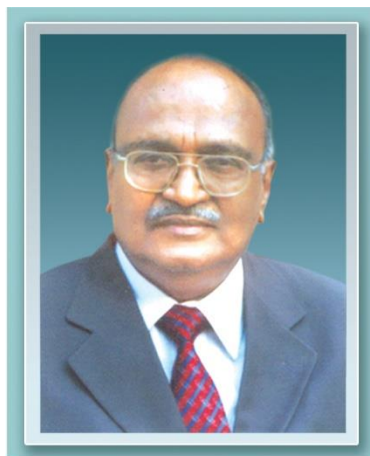
I am glad to note that the Electronics and Instrumentation Engineering Department of Noorul Islam Centre for Higher Education, Kumaracoil was organising an International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT-2014) on 10th & 11th of July 2014. Congratulations to the Organizers for their great effort in organizing such an event which provides an opportunity for the research community to get updated on the latest advancements and future directions in the emerging area of Engineering & Technology.

Technical conferences worldwide are always a great platform for bringing researchers from academia and industry together under one roof and for sharing their knowledge and ideas as well as nurturing collaboration between them on the emerging trends in technology. In this regard, ICCICCT-2014 has been an opportunity to create such a platform for scientists and developers for presenting and exchanging ideas, latest development in the field of Instrumentation Engineering and computational Technologies.

I am truly honored to be invited to take part in the event and I am looking forward to a potential outcome from the conference delegates and participants. I wish ICCICCT-2014, to be one of the very successful event at Noorul Islam University.

**Shri. R. S. Sundar,**  
*Site Director,*  
*Kudankulam Nuclear Power Project*

## **MESSAGE**



I am pleased to note that the Electronics and Instrumentation Engineering Department of Noorul Islam University is organizing on the 10<sup>th</sup> & 11<sup>th</sup> of July 2014 an “**IEEE-International Conference on Control, Instrumentation, Communication and Computational Technologies ICCICCT-2014**”. I commend the efforts towards organizing this International Conference which covers a wide range of engineering systems.

In our knowledge society, innovation and technological developments play a very major role towards the socio-economic benefit of our society and national development. Through Symposia, Seminars, Workshops and National and International conferences, Academic institutions contribute significantly towards promoting the knowledge society through the generation of knowledge, application of knowledge and sharing of knowledge.

I am sure that this IEEE-International Conference would provide an excellent platform for the students, faculties, budding and eminent researchers and engineering professionals from various Industries and Academic institutions to get exposed to the state of the art knowledge in their own area of expertise and interest, discuss with their counterparts and explore the opportunities and challenges in the areas of Control, Instrumentation, Communication Technologies, Computational Technologies etc. I also wish that the students and faculties of Noorul Islam University make the best use of this IEEE international conference.

I congratulate Dr. Glan Deva Dhas and his team for organizing this International Conference ICCICCT-2014 in this university in a splendid manner. I wish and pray that the Almighty bless, guide and benefit everyone associated with this International Conference and make this event a grand success.

**Dr. A.E. Muthunayagam**  
*Advisor, NICHE/NIU*



## MESSAGE



This is a red letter day in the annals of the University, for, this is the first time that an international Conference ICCICCT – 2014 of this magnitude is organized in this Campus by the Department of Electronics and Instrumentation Engineering in collaboration with IEEE India Council Electron Devices Chapter. Let me Complement Dr. G. Glan Devadhas and his team for their initiative and sustained efforts in organizing this conference in a purposeful manner.

The development in the field of instrumentation and control has been very rapid and significant during the last two decades. This is due to the various advancements that have happened in the computing and communication technologies. To be precise, there has been a transfer from analog to digital technology, which implies that control solutions have moved from continuous to time sampled control. Again, the new systems are programmable, which makes it possible to implement large range of algorithms with the same hardware.

The development is such that in the control rooms and during maintenance activities computerized procedures are used and control rooms are viewed using virtual reality tools and advanced simulators. For the hardware and software solutions, open interfaces make it easier to interconnect to different systems. That being the scenario, I am sure that this conference will address all these aspects and enrich the participants with the latest developments. Let me wish the conference all success.

**Dr. S. Sivasubramanian**  
*Advisor (Research), NICHE*

## MESSAGE



I am very much pleased to learn that the Department of Electronics and Instrumentation of our University is organizing an International conference on Control Instrumentation Communication and Computational Technologies on the 10<sup>th</sup> & 11<sup>th</sup> of July, 2014. As the Vice-Chancellor of this University I always feel very happy whenever the different departments of the University organize International Conferences Seminars, Symposia etc. because I personally feel that it is these academic activities that keep the entire campus vibrant beside providing opportunities to the students to learn more about the latest developments and the current trends in the respective fields and in this case in the fields of Control Instrumentation, Communication and Computational Technologies. Listening to eminent scholars and having fruitful discussions with them would indeed be a wonderful learning experience to our students and teachers.

Dr. Glan Deva Dhas and his colleagues from the Department of Electronics and Instrumentation very much deserve our warm appreciation for their sincere efforts. Hearty congratulations to the entire staff and students of the EIE Department on this commendable venture. I wish the conference all success.

**Dr. R. Perumalsamy**

*Vice-Chancellor, NICHE*

## MESSAGE



Information and Knowledge explosion is phenomenal and global. India is emerging as a power to recon in the frontier fields of Science and Technology. Noorul Islam University started its academic and research activities from July 2009 and it has significantly contributed to the cause of professional technical education as NICE and NIU. Even though its status as a University is around 5 years, the faculties are actively engaged in research and development activities in many areas of current relevance. Its quality policy is to offer value added professional education inclusive of research and development in engineering, technology and management with an emphasis on continual measurable improvement in the quality of all its services. “ICCICCT -2014” International Conference on “Control Instrumentation, Communication and Computational Technologies” to be held on 10<sup>th</sup> and 11<sup>th</sup> July 2014 is the eighteenth in its series of international conferences and fourteenth after the birth of the University in 2009.

I congratulate all the eminent faculty of Electronics & Instrumentation Engineering, especially Dr. G. Glan Devadhas, Head of the Department of Electronics & Instrumentation Engineering and his team of Organizing Committee for organizing the two day International Conference in such diverse topics as Computing, Control, Communication and Instrumentation in the emerging areas of Control and Instrumentation Engineering and Technology. I am sure that the proceedings of this International Conference will be of immense use to not only the participants but also to the academia, researchers, practicing engineers and technocrats. We are greatly honored if the deliberations in the conference bear fruits in future research and development work of engineers and technologists for the benefit of the society.

**Dr. N. Chandrashekhar**

*Pro Vice-Chancellor, NICHE*



## MESSAGE



Technology dominates our lives today. Synergy between, and advancements in, various technologies have brought about a significant change in the human comfort level. At the same time, an understanding of the advancements in related fields has become a prerequisite to harness effectively the potential benefits of convergence of different technologies.

Viewed in this context, we have to welcome International Conferences of the type organized by the Department of Electronics & Instrumentation Engineering of Noorul Islam University that brings together researchers, industry experts and discerning learners to share their ideas and findings and identify emerging areas of convergence so that individual as well as collective efforts could be directed towards addressing the related problems / issues.

I congratulate Dr. G. Glan Devadhas and his energetic colleagues in the Department of Electronics & Instrumentation Engineering for their strenuous efforts in organizing this mega event, IEEE International Conference on “*Control, Instrumentation, Communication and Computational Technologies*” *ICCICCT-2014* on 10<sup>th</sup> & 11<sup>th</sup> July 2014 and wish the Conference grand success.

**Dr. S. Manickam**  
*Registrar, NICHE*

## MESSAGE



I am very much pleased to learn that the Department of Electronics and Instrumentation Engineering of Noorul Islam University, Kumaracoil is organizing an International Conference on “Control Instrumentation Communicating and Computational Technologies” on 10<sup>th</sup> and 11<sup>th</sup> July 2014.

There has been a tremendous amount of discussion over the past few years regarding the importance of Control Instrumentation Communication and Computational Technologies and innovation. Several reports, congressional proposals and administrative initiatives, all point to the need to invest in new knowledge creation and to develop skilled workforce and infrastructure necessary to support this innovation

The International Conference will provide an opportunity to quench the thirst of knowledge. The sessions by eminent personalities will bring out the significance of the topic in the present scenario. I am sure that the Conference will be very informative for the aspiring young Undergraduates, Post-graduates, Research scholars and Staff members.

I congratulate the Department of Electronics and Instrumentation Engineering for their sincere initiative.

My best wishes for the fruitful deliberations in this International Conference.

**Dr. S. Gopalakrishnan**

*Controller of Examinations, NICHE*

## MESSAGE



As one who knows the value and importance of National and International Conferences and the educative function such conferences seek to perform, I was immensely pleased to learn about the International Conference on Control Instrumentation, Communication and Computational Technologies being organized by the Department of Electronics and Instrumentation Engineering to be held on 10<sup>th</sup> & 11<sup>th</sup> of July 2014. The contribution of universities and other educational institutions including those offering technical education has been quite substantial for the economic development of India. This has been made possible because of the knowledge base provided by these institutions. National and international conferences no doubt, serve as instruments of knowledge up gradation. It is indeed, benefitting that the Department of Electronics and Instrumentation Engineering ventures to hold an international conference at a time when more and more innovations are blossoming in the areas of communication and computational technologies.

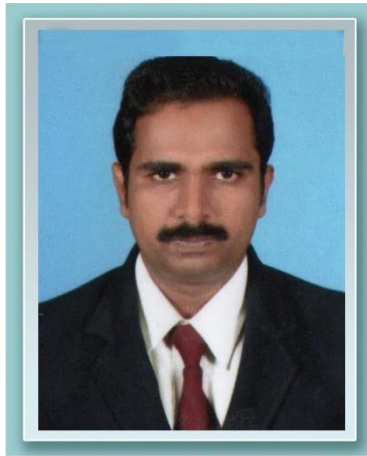
Organizing an international conference is an admirable achievement indeed! I congratulate Dr. Glan Deva Dhas and his team on this score.

I wish the conference all success.

**Dr. K.A. Janardhanan**

*Director HRM, NICHE*

## MESSAGE



International Conference on Control, Instrumentation, Communication and Computing, Technologies-2014 ICCICCT-2014) being organized during July 10-11,2014, is a forum, an access point to share authoritative, experiential and experimental knowledge, exploring new avenues for the scientists, engineers, academicians and researchers in the field of advanced computing, communication and materials. The objective of the Conference is to provide a platform to the aforesaid knowledge seekers and contributors from various countries for presenting and highlighting cutting edge multidisciplinary fundamental research into the areas of Science & Technology especially in control, computing, communication, Instrumentation and related fields.

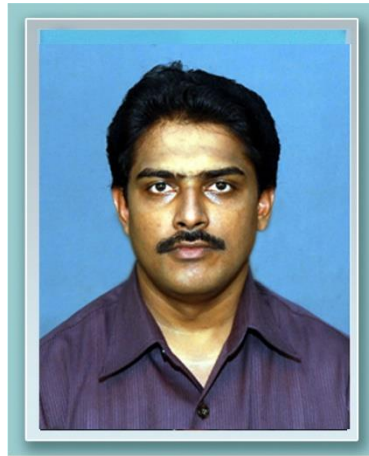
On behalf of Organizing Committees of ICCICCT-2014, I extend a warm welcome to the delegates of this conference. With the help of the International Organizing and Advisory Committees, and Local Organizing Committee we are delighted to arrange such an incredible conference schedule. The presence of several giants at this conference from various fields of expertise indicates their love and devotion to their areas of inquiries. They have been generous in accepting our invitation to be part of this year's plenary slate. It is they who have blazed the trails in their own way and continue to act as role-models to us and future generation of scholars. We salute them for their contributions. One of the challenges for the engineers and scientists during this era is to apply their highly specialized research across various fields of human knowledge and engage in interdisciplinary investigations. This premise is becoming inevitably common for the scholars. Indispensability of Control, Instrumentation, Communication and Computing to carry out any Engineering and Technology study has dwarfed other fields in their shear appeal and application. I hope this will bring intellectually stimulating interactions and productive ideas that would be globally beneficial.

I on behalf of the EIE department acknowledge and thank the Authorities of Noorul Islam University for providing all kinds of support.

I take this opportunity to thank the faculties and students of EIE Department on organizing the technical program; the Program Committee for their thorough and timely reviewing of the papers, and this conference got value added by the technical co-sponsorship of IEEE India Council EDS chapter which have helped to get the reputation for this conference. Recognition should go to the Local Organizing Committee members who have all worked extremely hard for the details of important aspects of the conference programs and social activities.

**Dr. G. Glan Devadhas**  
*Conference Chair, ICCICCT-2014*

## MESSAGE



Human propensity has always remained vibrant and has led to various revolutions for mankind. Present revolution is globalized touching each and every walk of life. In present days, Industrial, Medical, Economical, Rural Development and even Social Fields tends to grow exponentially to cope up with increasing global needs to attain high performance and more efficiency.

Our understanding, knowledge and learning capabilities grows through conversations about the content and through grounded interactions and engagement with others. With diverse view points, our ideas and processes can be enhanced. Conferences help to create a broad sense framework of possible solutions for our professional problems.

To provide appropriate platform for the professionals to come together in order to focus their attentions on the new operating landscapes of the day, the Department of EIE takes its pride to organize the IEEE International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT-2014).

Various experts and expertise in different areas contributed their thoughts on the latest technological innovations which I believe will be of topical interest to the entire engineering fraternity. To my knowledge, I hope that the engineering streams of different domains presented in this conference will fill the gaps between the advent of technology and implementation of technology to a greater extent.

At this juncture, I am indebted to our reviewers who reviewed the manuscripts, sometimes under extreme time constraints, and selected the best papers that fit this conference. I express my profound thankfulness for their valuable suggestions.

Yet again, I thank all the participants for their valuable contributions. Further I wish you a pleasant stay and look forward to receiving your constructive comments that would help us in our future planning. I anticipate that the readers of this issue will be benefitted a lot after glancing through.

I wish this conference a great success!!

Thank You

**Dr. M. Dev Anand**

*Publication Chair, ICCICCT-2014*

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