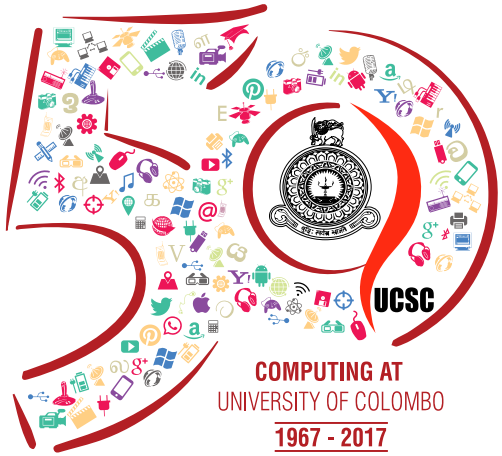
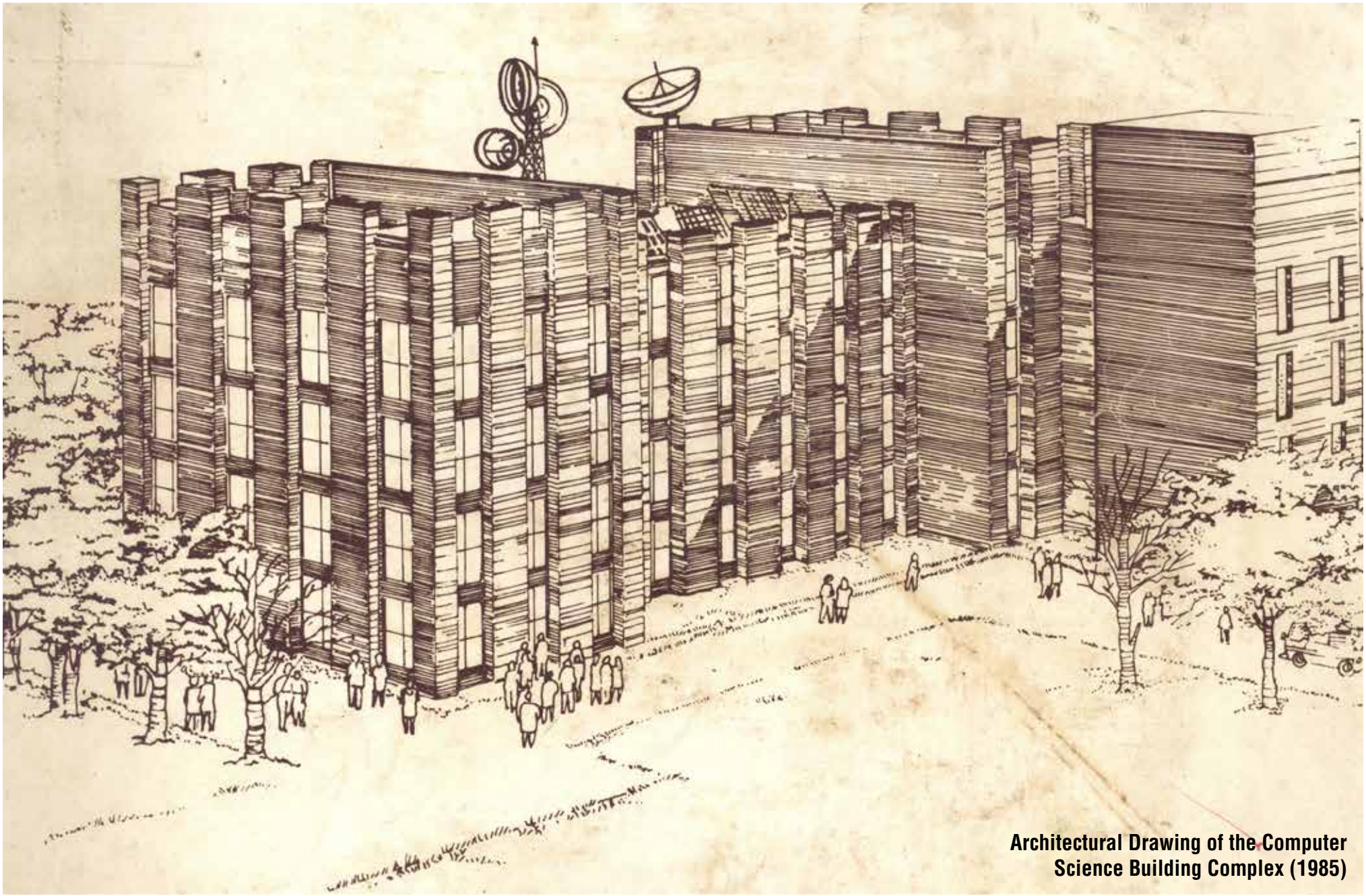


GOLDEN JUBILEE OF COMPUTING AT UNIVERSITY OF COLOMBO

COMMEMORATIVE VOLUME
SEPTEMBER - 2017



Architectural Drawing of the Computer Science Building Complex (1985)

MESSAGE FROM The CHAIRMAN
UNIVERSITY GRANTS COMMISSION

It is with much pleasure I send this message of greetings to the UCSC on the occasion of the 50th anniversary of Computing at the University of Colombo.

Computing or its professional discipline, Information technology is pervasive in almost all human activities today from business, governing, scientific and social activity. Its advancement has been rapid and is identified by all governments as central to the knowledge economy.

University of Colombo, with its pioneering visionary, late Prof V K Samaranayake, having started teaching of programming in late 1960's was well on its way to being established as a centre of excellence in Computing by late 1970's. With Prof Stanley Kalpage as Chairman of UGC and Prof Mohan Munasinghe as Chairman, CINTEC with Prof Sam Karunaratne of University of Moaratuwa and others proposed that three centres of excellence in Computing be established at Universities of Colombo, Moratuwa and Peradeniya. With the Reeves report being commissioned, the Department of Statistics and Computer Science was established at University of Colombo in 1985 continuing the tradition of teaching Computing at the Department of Mathematics.

The UGC has supported the UCSC and the University of Colombo to expand its human and physical resources and at the same time, widening the undergraduate disciplines of study, from Computer Science to Software Engineering and Information Systems. UCSC has also pioneered the well recognized external degree in Information Technology, BIT, commenced in 2000, another pioneering activity of Prof Samaranayake. UGC has also funded research capability enhancement at UCSC. In this manner, UCSC has established itself as a national centre in IT, and this is a fitting tribute to its forerunners for 50 years of dedicated work.

On this occasion of the Golden Jubilee anniversary, I wish UCSC and the University of Colombo all success in the future endeavours.

Professor Mohan de Silva
Chairman of the University Grant Commission

MESSAGE FROM The CHANCELLOR
The UNIVERSITY OF COLOMBO

Computing as a discipline being taught at the University of Colombo completes 50 years this year with the Institution it had created, the School of Computing, remaining the force behind ICT Education in Sri Lanka.

The initiation of this branch of studies by the University of Colombo was a pioneer effort in a field of advanced education. Computer science, itself being at the preliminary stages even at the international level at that time, was certainly something new and revolutionary in Sri Lanka. Computers are of common place today, but not fifty years ago. Thus, to have ventured to launch a project of this nature the literati of the University of Colombo would have had plenty of vision and foresight that deserves our highest appreciation and commendation.

Undoubtedly, the contribution made is of national importance. It is the introduction of a new field of science that has made remarkable improvement not only in the field of education but also in the fields of administration and economics.

The remarkable contribution made in this regard by the late Prof. V. K. Samaranayake deserves special mention. He is credited as the “Father of Computing in Sri Lanka”. His invaluable initiatives have made him a historic figure. The initiation of this project was not an easy task, especially with the newness of knowledge on the subject. Nevertheless, his total dedication to the task, gave him profound satisfaction and made our nation richer in many respects.

It is altogether fitting therefore that the University of Colombo School of Computing UCSC, should proudly celebrate the 50 years of Computing as a discipline at University of Colombo, always looking forward to a brighter future.

His Grace the Most Reverend Dr. Oswald Gomis
Emeritus Archbishop of Colombo
Chancellor of the University of Colombo

MESSAGE FROM The VICE CHANCELLOR
The UNIVERSITY OF COLOMBO

I have great pleasure in issuing this message of felicitation on the occasion of the 50th anniversary of teaching of Computing at the University of Colombo.

The University of Colombo is the foremost higher educational institution imparting knowledge in diverse fields such as Science, Medicine, Arts, Law and Education, is now ranked within the top 1000 universities worldwide according to the Times Higher Educational World University Rankings. It was late Prof V K Samaranayake as Head of Mathematics who introduced Statistics as a specialized subject in the late 1960's in which he foresaw the great applications in the future. With Statistics, the need for automated calculations emerged and that followed the birth of Computing as a subject, for the first time in the University system in Sri Lanka.

It was Prof Samaranayake's efforts that took the nascent Statistical and Data Processing Unit of the Department of Mathematics to the level of a Department of Computer Science and an Institute of Computer Technology, with first ever undergraduate and Master's degrees in Computer Science in Sri Lanka in mid 1990's. He was able to attract foreign funding from UNDP, JICA and SIDA to build up the capability in Computing and IT within the University of Colombo, making it a centre of excellence in the Island, offering services to the nation. After his demise, the subsequent Directors of the University of Colombo School of Computing, attempted to expand undergraduate education, improving resources and contributing to the national development.

At the time of the golden jubilee of Computing at the University of Colombo, the UCSC is receiving a fully furnished four storied building space equipped with an auditorium, named in the honour of Prof V K Samaranayake, father of IT in Sri Lanka.

The University of Colombo is very much proud of the role played by the UCSC and all its Directors in raising the status of the University and for the role being played as the national centre in IT services.

On this auspicious occasion, I offer my best wishes to the UCSC and a very bright and prosperous future.

Professor Lakshman Dissanayake
Vice Chancellor of the University of Colombo

MESSAGE FROM The DIRECTOR
The UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

It is with much pleasure and with humility I write this few words on the occasion of the 50th anniversary of Computing at the University of Colombo.

As you may read in this booklet and listen to the presentations, the UCSC and all its predecessors, starting from the Department of Mathematics, the Statistical Unit, the Department of Statistics and Computer Science, the Department of Computer Science, the Institute of Computer Technology and all those who have toiled and laid the groundwork for our progress over the past 50 years will be remembered with gratefulness at this moment. We are indebted to Prof V K Samaranayake, the founder Director of UCSC, and the pioneer and visionary of Computing not only at the University of Colombo but in Sri Lanka as a whole, for laying the foundations of the discipline and an institution that has become a national centre of excellence.

The UCSC with its largest pool of PhD qualified academics in Computing in the Island is contributing to national development. UCSC produce highly employable Bachelors graduates in Computing specializing in three disciplines, Masters graduates for the industry and Researchers for academia.

Today, on the occasion of the 50th anniversary, I am pleased to commission a new 4 storey building with fully equipped lecture halls, staff rooms, labs and state-of-the-art auditorium for UCSC. The auditorium is named in the memory of Professor V K Samaranayake, the father of Computing in Sri Lanka and it is declared open by the wife of Prof V K Samaranayake. 10th Vidya Jyothi Professor V K Samaranayake Oration will be delivered by Prof Roger Stern of The University of Reading, UK, who was one of the founding collaborators of Prof Samaranayake in his quest in establishing the Statistical Unit. We have also combined this event with the UCSC organized 16th IEEE International Conference in ICT for Emerging Regions which is held today with 2 days of deliberations of research papers and workshops with the participation of more than 6 key note speakers from all over the world.

Today, is indeed a happy occasion for all of us especially, the community of the UCSC, and the wider community of the University of Colombo. I wish to thank all those who have supported in getting this celebration a reality today, and worked behind the scenes with untiring effort. Finally, I thank all those who are present here, and those who have been with us since 1967, and even before that, in making what University of Colombo School of Colombo and University of Colombo are today.

Professor K P Hewagamage
Director of the University of Colombo School of Computing

MESSAGE FROM The DEAN SCIENCE
The UNIVERSITY OF COLOMBO

It is my privilege to issue this message of felicitation on the occasion of the 50th anniversary of Computing at University of Colombo.

The faculty of Science of the University of Colombo is the oldest Science Faculty established in Sri Lanka, if not in the whole of South Asia. The Department of Mathematics with its pioneering academics including Prof P W Epasinghe and Prof V K Samaranayake had a great vision for its future and the result has been the establishment of an affiliated Statistical Unit in late 1970's and then to inaugurate independent Department of Statistics and Computer Science in 1985. With the inevitable separation of the Department of Computer Science in 2002 from the faulty of Science and its merger with the Institute of Computer Technology, forming the UCSC, a new era was begun in the University of Colombo to push the horizons of Computing and IT in Sri Lanka.

Since then Faculty of Science has been a close collaborator of the UCSC mutually benefitting both institutions. Computation is now recognized as the third leg of science, after theory and experimentation. From drug design to nano-materials, origin of the universe to theory of everything, computation has become indispensable. In this regard, the Faculty takes pride in nurturing Computing from its infancy and looks for the future with much expectation.

I take this opportunity to wish the UCSC in all the best its future and takes pride in the shared history of Computing at University of Colombo.

Professor K R R Mahanama
Dean of the Faculty of Science, The University of Colombo

A Brief History of Computing at University of Colombo

Late 1960's – first mechanical calculators of Nippon and Facit models were used for teaching Statistics in the Department of Mathematics

1967 – the First course in Computer Programming (Fortran) was taught in Colombo University – only the theory was taught without programming; and an IBM sorter was hired to analyse survey data

1968 – Statistical Unit was established within the Department of Mathematics in 1968 at the request of the Department of Mathematics, the Department of Geography and the Faculty of Medicine

1970 – The Statistical Unit was formally approved by the Senate of the University of Ceylon, Colombo, at its 20th meeting held on 26-06-1970 as a unit for the entire university to undertake statistical and data processing

I970's – The University of Colombo started teaching Fortran programming on mainframe ICL 1901 and the practical sessions were carried out using IBM Model 29 alpha-numeric punch card machine at the State Engineering Corporation, and subsequently the IBM mainframe S/360 Model 25 at the Department of Census and Statistics was used for the studies

1972 – Under the Higher Education Reforms that took place in 1972 (Osmond Jayartne Report), the Department of Mathematics and the Statistical Unit of the University of Colombo made a groundbreaking attempt to initiate new course units in Mathematics, Statistics and FORTRAN Programming leading to Statistical Services job stream for the students with the new Special Degree in Development Studies in the Faculty of Arts

1974 – The Statistical Consultancy and Data Processing Service were established under the Statistical Unit of the Department of Mathematics, University of Colombo

1974 – The University of Reading, UK and the University of Colombo established a collaboration in 1974 for a period of 10 years and the University of Reading contributed to the Statistical Unit to become a National Centre for Statistical Research, Teaching and Consultancy

1977 – Under the Colombo-Reading Collaboration, the Department was gifted a HP 9825 Mini computer with a Card Reader

1980 – The Computer Centre of the University of Colombo was established

1980 – A Data General Eclipse NOVA/4 minicomputer was obtained by a loan in 1980 for one year and housed in the Department of Mathematics

1981 – The first mini computer Data General Eclipse model S/140 was purchased with time sharing OS and 16 VDU for Fortran and Cobol programming

1981 – The curriculum in Computing was enhanced by introducing a new course in Numerical Analysis for the undergraduates of the Faculty of Science

1981 – The Department of Mathematics granted its first local Ph.D in Computing and Statistics for the first time in the history of the University Education in Sri Lanka

1982 – BBC computers were used to process and release, to Rupavahini, the national TV the results of the 1982 presidential elections (first ever computerization of a national event); proliferation of BBC micro computers over Econet, the first LAN for file sharing, printing and Basic programming in a 30 machine PC lab; Introduction of first generation personal computers – KayPro running CP/M

1982 – Three certificate courses in Computer Applications, specially designed for users in Scientific, Technological and Financial & Management were introduced. Three courses are Certificate Course in Computer Applications in Science & Technology using FORTRAN, Certificate Course in Computer Applications in Financial & Management using BUSINESS BASIC and Certificate Course in Computer Applications in Finance & Management using COBOL

1982 – Permission was granted to introduce two new course units for 3rd year students under Applied Mathematics Module. The two course units are AM 204 – Scientific Computing and AM 205 – System Analysis and Computer Applications in Finance and Management

1983 – Computer Assisted Education was introduced by the Ministry of Education to three schools as a pilot project and the University of Colombo assisted the Ministry in launching its Computer Education Programme through teacher training

1984 – Tandy Radio Shack TRS model 80 desktop machine running XENIX for Unix/C programming was installed

1984 – The University of Colombo organised the First Asian Regional College on Microprocessor Technology and Applications held in Sri Lanka from 4th to 29th June in collaboration with the International Centre for Theoretical Physics, Trieste, in association with the University Grants Commission and the Computer and Information Technology Council (CINTEC) of Sri Lanka

1984 – 'Statistics in Agriculture', was held in December jointly with the University of Reading and cosponsored by the Computer Centre and the Statistical Unit of the University of Colombo

1985 – Standard IBM PC/XT PC based on 8086/88 running MSDOS was introduced for Labs

1985 – The Department of Statistics and Computer Science(DSCS) was established amalgamating the Statistical Unit and the Computer Center of the Department of Mathematics

1986 – The first ever Postgraduate Diploma in Computer Applications in Sri Lanka was introduced

1987 – The Institute of Computer Technology (ICT) (with the assistance JICA, Japan) was established

1987 – Collaboration between the Department of Statistics and Computer Science of the University of Colombo, Sri Lanka and the Department of Computing Mathematics, University of Wales Collage of Cardiff, United Kingdom was established

1988 – NEC 430 mainframe was donated by Japan with 60 terminals for interactive Computing

1989 – UNISYS minicomputer was setup for student programming in Fortran, Pascal and Prolog labs with the assistance of UNDP; PC Labs with 80286/386 processors and Novell Netware 3.11/Widows 3.1 OS was established

1989 – The first ever M.Sc. Degree in Computer Science was launched with the assistance of UNDP

1990 – First ever Bachelor's degree in Computer Science in Sri Lanka was launched on 14th July by the Department of Statistics and Computer Science.1992– Sun Microsystems Workstation Lab with 10 machines running SunOS 4.1.2 with a 10Mbps Ethernet for Scientific Computing was installed

1992 – The Third Country Training Programmes (TCTP) was launched with the assistance of JICA

1994 – A dial up email service was provided for the University of Colombo when internet was first launched in Sri Lanka

1997 – Online Internet access via Lanka Education and Academic Research Network a Sri Lanka Telecom based 64kpbs leased line network; British Computer Society accreditation was received for the degrees in Computer Science

1998 – International Conference in Information Technology (IITC) was organized by UCSC and subsequently named as ICTER with IEEE technical sponsorship

1998 – Graduate Training Programme (GTP) was commenced

1999 – The Director Institute of Computer Technology was presented with JICA President's Award for International Co-operation

2000 – A Campus wide fiber optic network was established for the University of Colombo using Swedish SIDA Grant; Specialised servers like IBM RS/6000 (AIX OS) and Sun UltraSPARC (Solaris 7 OS) for graduates from ADB S&T grant

2000 – A Joint PhD program was started for the internal staff of Sri Lankan universities with UCSC as focal point and with the assistance of Swedish Universities of Uppsala, KTH, Gothenburg, Mid Sweden launched (Supported by Sida)

2000 – The first ever External Degree in Information Technology, Bachelor of Information Technology (BIT) was introduced

2000 – The Sinhala language Unicode was designed and published

2001 – The Department of Computer Science was established

2002 – The University of Colombo School of Computing was established by merging the Department of Computer Science and Institute of Computer Technology; National e-learning centre project funded by SIDA launched by UCSC

2002 – The Advanced Digital Media Technology Centre (ADMTC) was established with the assistance from JICA

2002 – The Bachelor of Information and Communication Technology was commenced

2003 – Funds were received from IDRC for local language research through PAN localization research project

2005 – The Third phase of the Third Country training programme with JICA collaboration was launched

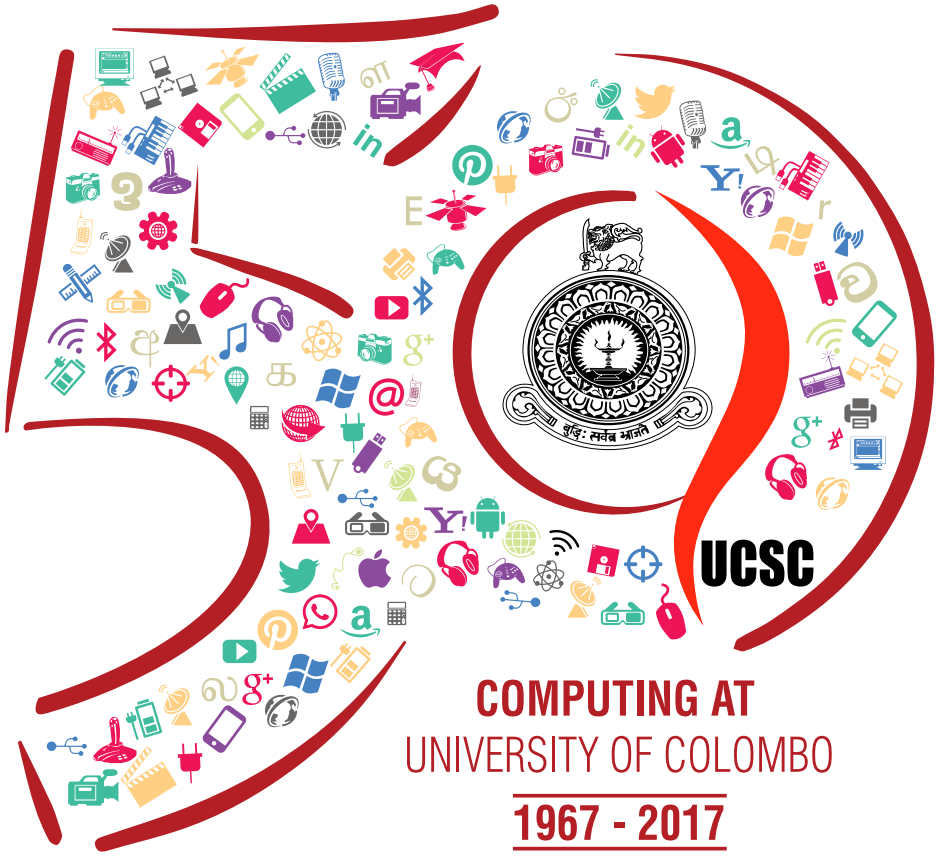
2006 – UCSC launched an International Journal on ICT for Emerging regions (ICTER)

2009 – Linneas-Palmer exchange program was established for the staff and students in collaboration with Umea University, Sweden

2012 – Master of Science in Information Security was launched

2013 – With the active involvement of UCSC, most public services available at the Department of Registrar General, Department of Land Registry, Police fingerprinting and other services were computerized Under the Sri Lankan government e-services drive

2015 – A separate Bachelor's Degree in Information Systems and Software Engineering was introduced at the University of Colombo School of Computing


UCSC
COMPUTING AT
UNIVERSITY OF COLOMBO
1967 - 2017

A Revolution in the Making----------18

Five Decades of Education at Reid Avenue: Some Personal Reflectios ----------71

From Computer Science to a Science of Computing – A Paradigm Shift ----------84

Staying relevant in the 21st Century ----------85

Thorny bits. Tread carefully ----------87

The vision to be the pioneer in computer education in Sri Lanka----------89

UCSC at a Glance ----------95

A Revolution in the Making

S T Nandasara

The roots of the higher education system in Sri Lanka can be traced back to the Ceylon Medical College established in 1870 by the Government under the leadership of the Governor, Sir Hercules Robinson, and setting up of the Ceylon University College in 1921. This College was affiliated to the University of London to prepare students for external examinations conducted by the University. When the University of Ceylon (later renamed as University of Sri Lanka) was established in 1st July 1942, by a proclamation under the Ceylon University Ordinance, No. 20 of 1942, both these Colleges were amalgamated. The Ceylon Medical College became the Faculty of Medicine, and the Ceylon University College was divided into Faculties of Oriental Studies, and Arts and Science. The Faculty of Engineering was established in Colombo in 1956. Since the establishment of Ceylon Medical College in 1870, the University of Ceylon could claim to have been associated with higher education for over 140 years.

The Faculty of Science and its Departments of Natural Sciences including that of Mathematics gradually evolved giving birth to Statistics and Computer Science as disciplines of recent origin, of which the story is told below. The University of Colombo School of Computing thereafter emerged in 2002 as the culmination of its predecessors thus marking the celebrating of the 50th anniversary of the introduction of teaching Computing at University of Colombo, more than a decade before other educational institutions. Over the years, all the relevant institutions together have produced a large number of pioneer computer scientists and IT graduates out of students entering the university from a variety of backgrounds, as researchers, educators, managers, programmers, software engineers and in many other areas in the professional field of information technology, not only in Sri Lanka but all over the world.

Teaching FORTRAN without Computers (1967 - 1975)

It all began when Prof. Samaranayake returned from the UK after completing his Ph.D., having realized the importance of teaching totally unknown skill of Computer Programming to his colleagues and students at the University of Colombo. In September 1967, Prof. Samaranayake commenced teaching FORTRAN IV (FORmula TRANslation) Programming to a group of enthusiastic teachers and students of the Department of Mathematics. The encouragement given by Dr. A.N.S. Kulasinghe, the then Chairman of State Engineering Corporation, allowing them free computer time on the ICL 1901 minicomputer (https://en.wikipedia.org/wiki/ICT_1900_series) to run their programs on their main frame towards the introduction of computing at the University of Colombo in Sri Lanka was highly admirable. A few years later in 1971, the Department of Census and Statistics allowed the University of Colombo free computer time on their IBM 360/25 (https://en.wikipedia.org/wiki/IBM_System/360_Model_25). The facts that these installations were close to the University of Colombo and both organizations were interested in statistical and scientific applications, helped the university researchers to make very good use of this important opportunity.

As per the Development Plan of the Faculty of Science, introduced in 1975, FORTRAN programming was restricted for the staff and students as an extra-curricular activity. However, within a few years a combined course in Computer Programming and Numerical Methods was introduced in Applied Mathematics for the general degree. Thereafter a single course unit in "Computer Programming for Scientific Research using FORTRAN" was introduced in the late seventies. The number of courses offered increased in the late 1970s and the course unit system operating at the University of Colombo made it possible to offer a range of third year degree options. Following the report on 'The Introduction of Computer Science into Degree Studies in Sri Lanka' submitted to the Ministry of Higher Education in 1983 by Professor C. M. Reeves of Keele University, UK and the Computer Policy Report of NARESA, forerunner of NSF, in 1984, Computer Programming and Applications became a part of most postgraduate and undergraduate courses in the country. During the initial stages of this activity, practical hands on sessions were not available for the students due to non-availability of computers at the University of Colombo. However, the students who were keen on taking the course unit in FORTRAN and COBOL programming had to solve problems on the paper which then had to be transferred into punched cards and sent by hand to a computer centre elsewhere.

Establishment of the Statistical Unit and University Links (1970)

A Statistical Unit that was established in 1968 at the request of the Department of Mathematics, the Department of Geography and the Faculty of Medicine did not survive long, mainly due to the loss of several key staff members to overseas universities. However, the re-establishment of the Statistical Unit was initiated by the Department of Mathematics, which was, then a developing the field of Applied Statistics. The unit was formally approved by the Senate of the University of Ceylon, Colombo, at its 20th meeting held on 26-06-1970 as a single unit for the whole university to undertake all statistical and data processing work, and the proposal was made by the Faculty of Medicine and the Department of Mathematics and the Department of Geography.

Although, the Unit again ceased to function after the departure of Dr. S. Dayananda and Dr. L. S. Yapa from Ceylon, it was resurrected in 1974 with the arrival of Professor Dr. Roger Stern, Senior Lecturer in Statistics from the University of Reading, UK on a two year assignment and with the support received from the staff of the Department of Applied Statistics of the University of Reading, UK with British funding. The University of Reading was involved in a link arrangement from 1974 for the period of 10 years and helped the Statistical Unit to progress steadily to become a National Centre for Statistical Research, Teaching and Consultancy. With the completion of the 10 year period of the initial Colombo-Reading Link programme, marked by the compliment letter dated 5th July 1985, the Official Development Assistance (ODA) of the British Government extended the link programme for further three years from July 1985 to 1988. Dr. Roger Stern's immense capability and his knowledge in the use of computers in Applied Statistics was instrumental in establishing the Statistical Consultancy and Data Processing Services (SCADPS) later.

This Colombo- Reading link, one of the earliest and most successful of the inter-University links in Sri Lanka, continued until the early nineties and helped establish the M.Sc. Courses in Applied Statistics and also developed Statistical Consultancy. Mr. Ian Wilson who was also from the University of Reading who replaced Dr.Roger Stern saw through those developments.

During visit of Vice Chanceelor, University of Colombo to the University of Reading May 1980. From Left to Right: Prof. Evan Page , Vice Chancellor University of Reading, Late Prof. Stanley Wijesundera, Vice Chancellor, University of Colombo, Prof. Robert Curnow, Head, Dept of Applied Statistics, University of Reading and Late Prof. V. K. Samaranayake, Professor of Mathematics, University of Colombo.

Computer Programming Course Units for Non-Science Students (1972)

Under the Higher Education Reforms that took place in 1972, the Department of Mathematics and the Statistical Unit of the University of Colombo made an attempt to initiate new course units in Mathematics, Statistics and FORTRAN Programming catering to the Statistical Services job stream for students in the Faculty of Arts following the newly introduced Special Degree in Development Studies. 30 students were selected from 210 reading for the above degree and were given the opportunity to follow the special degree stream which was specially designed and managed by the Department of Mathematics.

First Computer of the University of Colombo (1977)

The requirements of the expanding Statistical Unit in the form of computing support for research, consultancy and teaching resulted in a substantial increase in the demand for Computing. Soon the need was felt that the Statistical Unit should have its own computers and in addition to the free computer access time available for research at the Department of Census and Statistics. Under the Colombo – Reading link, the Department was gifted with a Hewlett-Packard 9825 Mini computer with a Card Reader. This enabled in-house computing at the University of Colombo, following which a small scale Computer Centre was established in 1977. According to the Minutes of the staff meeting held on 4th April 1978, Statistical Unit had decided to obtain the assistance of the graduates of the Development Studies degree for statistical analysis projects. The posts of Statistical Officers were made permanent and the posts of Junior Programmer and Operating Programmer were created to use the HP 9825 Mini Computer. Payment for advisory work undertaken by the Statistical Unit was between Rs. 25/- to Rs. 50/-. Outside clients were charged at Rs. 750/- per hour, the same as for the IBM 360/25 computer at the Census Department.

Unfortunately, difficulties arising out of the non-availability of local servicing facilities made this excellent machine rather unpredictable in its usefulness. In 1978, the HP9825 Mini Computer was sent back to the UK for repairs, and it was lost in transit and was never seen again.

The Colombo-Reading Collaboration Programme and the Data General NOVA/4 Mini Computer (1980)

In 1980, Dr Roger Stern in his letter dated 30 July, 1980 with the title "A Computing System for the Statistical Unit" quotes "*After Sam's 'research' in England and ours here I feel that a Data General Computing System is the best option for us. I also give below alternative systems depending on the money that is available. I am assuming that we will aim to develop along the lines given in the proposal."* Thereafter, an attempt was made to fulfil the need for a modern computing system based on the 'Proposal for the purchase of a Central Computer System with Terminals for the University of Colombo-1980' capable of statistical work and allowing the implementation of some of the well-known statistical packages such as SPSS and GLIM. The result was the purchase of a Data General NOVA/4 minicomputer on loan in 1980 and being housed in small room under the stair-case of the Mathematics Department.

A Mini Computer for the Statistical Unit (1981)

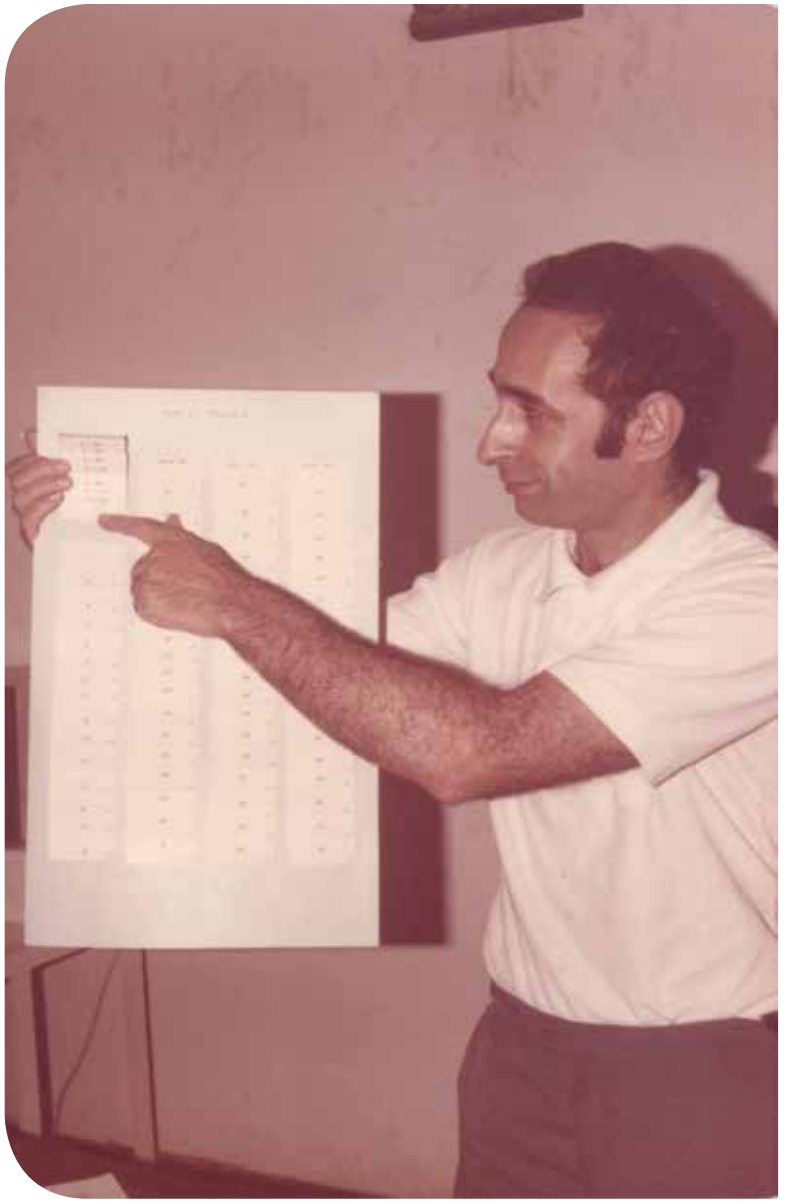
Based on the report of Dr Roger Stern, a Data General Eclipse S/140 minicomputer system was procured in October 1981 with a time sharing, multi-user interactive capability and disc storage sub-system memory (25 MB), RAM (256 KB) and a magnetic tape drive, eight VDU terminals and a Dot Matrix Printer. The total cost of the system was USD 101,950 equivalent to Rs. 2,140,773, a princely sum at that time including one year service agreement with M/s Data Serve Ltd. The purchase was made possible by the pooling of funds from Netherlands Universities Foundation for International Cooperation (NUFFIC), University Grants Commission (UGC) and the equipment vote of the Faculty of Science. One major objective in selecting the particular Computer Configuration was the implementation of third party software packages used worldwide such as FORTRAN IV, Business BASIC, GLIM, MINITAB and SPSS which were all available on this machine, and thus proved to be an invaluable asset, especially in the consultancy service segment of the Statistical Unit. The new computer system had to be temporarily installed in the room where the previous NOVA/4 computer had been installed until the Statistical Laboratory till then, was refurbished for the purpose. Subsequently, Data general Eclipse S/140 Mini Computer was upgraded to 512KB of RAM and a second Disk Sub System with 25MB was added in April 1981.

Formation of the Computer Centre (1981)

A fully functional Computer Centre was formed in 1981 which enabled the expansion of the curriculum in Computing by introducing a new course in *Numerical Analysis* to the undergraduates. At the same time, it also launched courses in *Computer Application* for non-university students. These courses proved to be very popular among both IT professionals and university staff, whom up to that time had lacked exposure to formal techniques in Computer Programming. The Statistical Officers, Computer Programmer and support staff recruited for the Statistical Unit were able to double up as teaching of Computing. Some of the academic staff who had obtained their postgraduate degrees in Statistics overseas also devoted a considerable amount of their efforts towards the matters related to Computer Applications. As a result there was an immediate expansion in the data processing work undertaken by the Department of Mathematics. In turn, this brought in considerable revenue to the University of Colombo. During a certain period, the Computer Centre worked 24 hours a day.

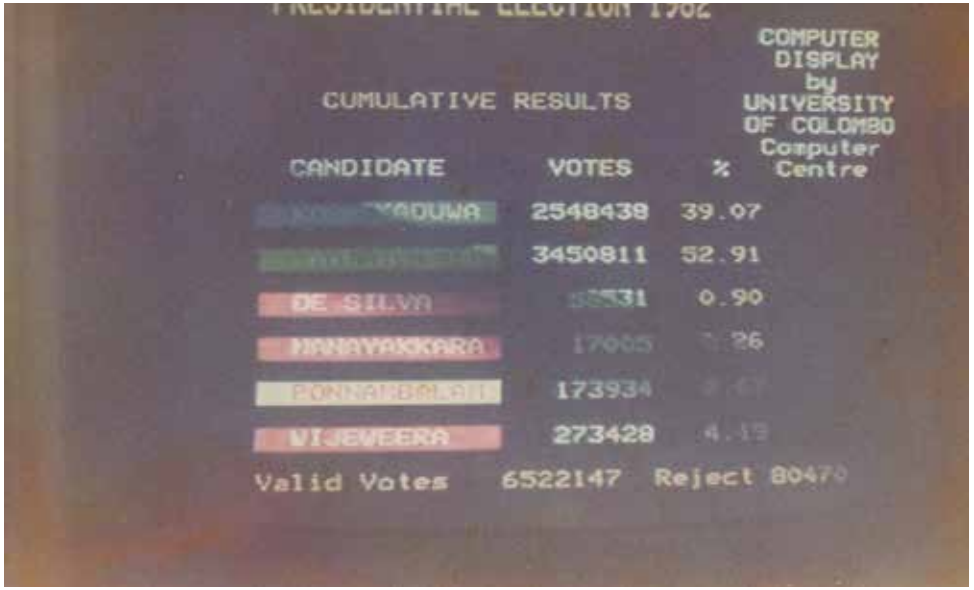
First ever Local PhD Produced by a Mathematics Department in Sri Lanka (1981)

According to the Annual Report of the Department of Mathematics, 1981, for the first time in the history of the University Education in Sri Lanka, the Department of Mathematics produced a Ph.D. when Dr. Ms Savitri Abeysekera was awarded a Ph.D. degree from the University of Colombo at its annual convocation in December 1981. Ms. Abeysekera did her research work partly in the Department of Mathematics of the University of Colombo and partly in the Department of Applied Statistics of the University of Reading, UK. This also created the new concept of a "split Ph.D" bringing to fruition the Colombo-Reading link.



Computers go Public (1982)

One of the significant milestones in IT in Sri Lanka was the use of computers for assisting the Commissioner of Elections to process the results of the Presidential Election in November, 1982. In late 1981, thanks to the Reading-Colombo link programme, Colombo made a request to Overseas Development Assistance (ODA), UK for assistance to purchase a few BBC microcomputers, due to be released to the market in 1982. When they did arrive, in October 1982, this remarkable microcomputer was an immediate success and the Computer Centre received much publicity among the public by their computer display which enabled the telecast of the Presidential Elections of 1982 over National Television *Rupavahini*. For this purpose floppy disk drives for the BBC microcomputer were used here even before they were introduced to the UK market. The process of releasing results with the assistance of the ICT and later UCSC (University of Colombo School of Computing) for every national election has been continuing thereafter.



Computing Courses for the General Public and the Government Sector (1982)

With publicity received by the University of Colombo due to the release of the Computer Assisted Presidential Election results, the Computer Centre was able to inaugurate a Certificate Course in Computer Applications for the general public, to be held during weekends, not interfering with the undergraduate courses.

Request was made to start three certificate courses in Computer Applications, specially designed for various users of Computers in Scientific, Technological and Financial & Management fields after working hours. Three courses were, the Certificate Course in Computer Applications in Science & Technology using FORTRAN, the Certificate Course in Computer Applications in Financial & Management using BUSINESS BASIC and the Certificate Course in Computer Applications in Finance & Management using COBOL.

These courses were primarily meant for the employers to gain knowledge of computer applications rather than to those who wanted to learn computer programming for employment. Furthermore, preference was given to those in the scientific and educational sectors. The University used its Data general Eclipse S/140 Scientific computer to allow the students computer time using VDU terminals and also provided the opportunity to work on a supervised individual project with the possibility of using interactive programming, use of higher language packages such as Generalized Linear Interactive Modelling (GLIM), Statistical Package for Social Sciences (SPSS) and the International Mathematical and Statistical Library (IMSL), use of the Data General Advanced Operating System (AOS), and other modern facilities. The course on "Computer Applications in Science & Technology using FORTRAN V commenced in October 1982. Initially, only 30 students were admitted per each course, lasting approximately 10 weeks with 60 hours of instructions by a panel of professional and statistical unit staff and 10 hours of Terminal Time, all during Saturdays and Sundays (0900 to 1200 hours).

The course content covered the Development of the Computer - Historical Background, Introductory Study of the Principal Components of a Modern Computer System, In Overview of Computer Hardware and architecture, Design of Numerical Algorithms, Programming using FORTRAN IV with extension to FORTRAN V, The Operating System, Use of Management of File system, Use of Data General Eclipse S/140 Scientific Computer via VDU Terminals, including Interactive Mode, Use of Scientific Subroutines, Higher Level Packages, Designing, Writing and Validating Scientific Programme Subroutines in FORTRAN, and supervised project work on a problem of special interest to each student.

Introduction of New Course Units under Applied Mathematics for Undergraduates (1982)

Initiated by Dr. S. Abeyasekara on 9th November 1982, two course units for 3rd year students under Applied Mathematics, namely Scientific Computing and System Analysis and Computer Applications in Finance and Management are introduced.

In the courses, students were introduced to FORTRAN or Business BASIC, use and management of File Systems, use of the computer via VDU terminals, including interactive use, use of higher level packages such as GLIM, SPSS and writing and validating scientific programs/subroutines and a brief introduction to computer hardware and architecture. Each student was expected to work on a project, supervised by a member of staff to develop a program of special interest to him.

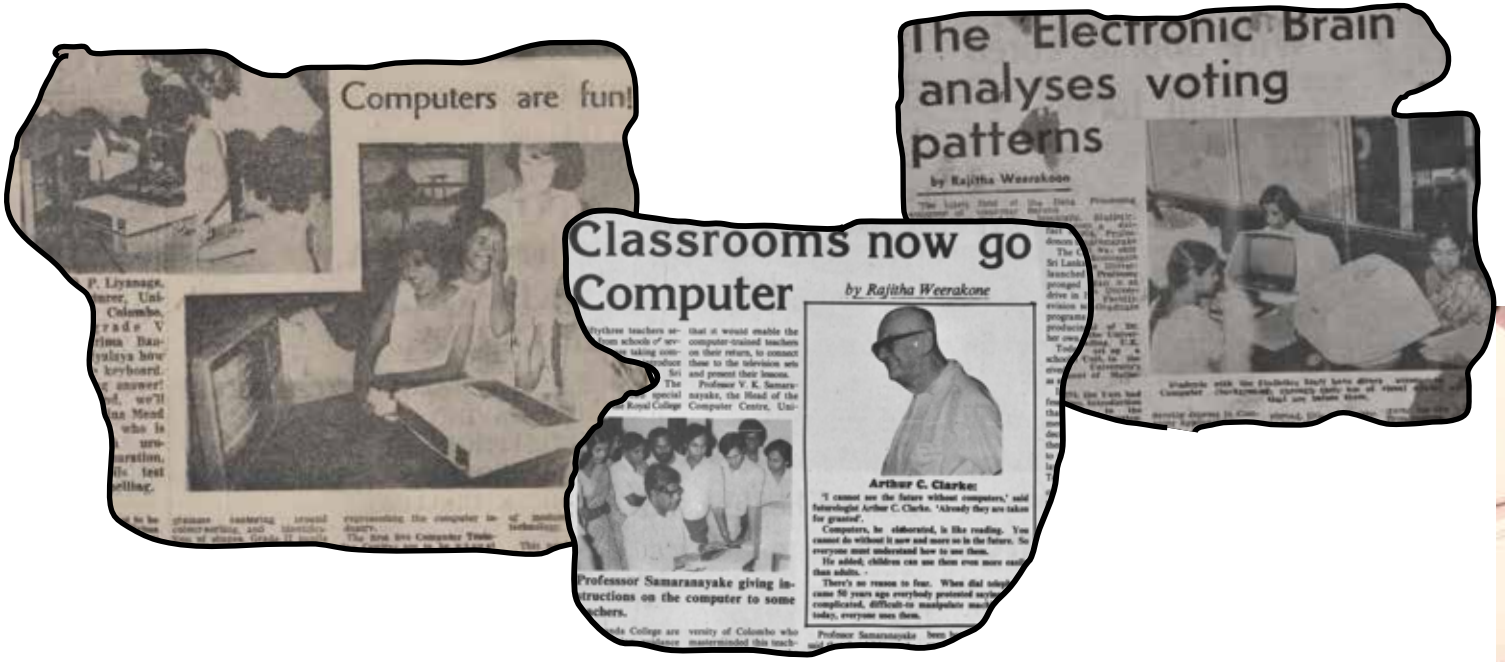
Computer Literacy Programs for Schools (1983)

As highlighted by the National Computer Policy for Sri Lanka by the special working committee of the NARESA (1983) the University of Colombo realized an important aspect of its Computer Centre's extension work through a *Computer Literacy programme* in Schools. In early 1983, *Computer Assisted Education* was introduced by the Ministry of Education to three schools as a pilot project and the University of Colombo helped the Ministry in launching its Computer Education Programme through teacher training. Literacy courses were conducted for students of the Institute of Workers' Education of the University of Colombo which proved to be a success.

While developing its computing facilities and skills of its staff in Computing, the University of Colombo also took steps to actively encourage the use of computers in scientific research.

A computer exhibition on 'Computers for Scientific Research' was held by the Computer Centre during Annual sessions of the Sri Lanka Association for the Advancement of Science (SLAAS) in December 1982. The large number of applications exhibited at NARESA sponsored 'National Exhibition on Science and Technology' held in 1985 clearly indicated the advances made by then.

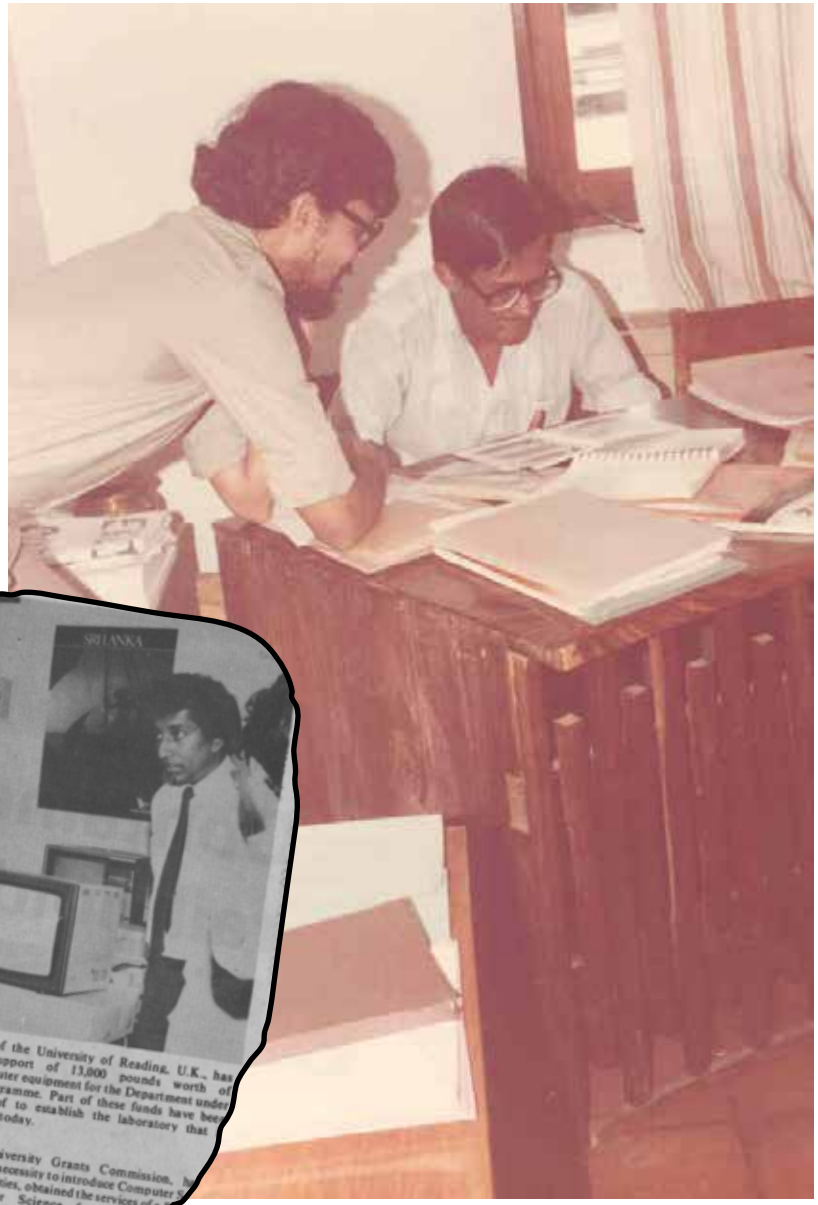
In 1984, the Computer Centre helped the British Council and the Ministry of Education to conduct a two week course on *'Computer Education'* for school teachers and curriculum developers. All these activities have provided valuable experience to the staff and have also contributed significantly towards promoting the development of computer awareness in the country.



A Microcomputer Laboratory for the Computer Centre (1983)

Due to the increased demand, the Data General Mini Computer was upgraded to have 15 terminals and later facilities at the Computer Centre were upgraded with an additional Data General MV2000 with 1MB RAM and AOS/VS operating system.

In the meantime, the BBC microcomputer was exploited as a tool for teaching statistics, programming and also for research in addition as an aid for promoting computer literacy. In 1983, ODA, UK granted GBP 10,000 in addition to the GBP 3,000 given in 1982 and a UGC grant to establish a networked laboratory of 30 BBC microcomputers and was also used to purchase several stand-alone BBC Microcomputers, Amiga, Acorn, WANG-PC, a Kaypro-2 and Tandy RadioShack TRS80 Model III (https://en.wikipedia.org/wiki/TRS-80) computers with disc drives, second processors and other peripherals and software. There were by then three microcomputer labs of BBC microcomputers at Colombo University. The IBM-PC and WANG-PC computers were in heavy demand.



Early Regional Collaboration - Asian Regional College on Microprocessor Technology and Applications (1984)

The University of Colombo was involved in the organisation of the First Asian Regional College on Microprocessor Technology and Applications that was held at the Mount Lavinia Hotel, Sri Lanka from 4th to 29th June, 1984 supported by the International Centre for Theoretical Physics, Trieste, a member of the UN family, in association with the University Grants Commission of Sri Lanka and the Computer and Information Technology Council of Sri Lanka (CINTEC). This workshop benefited 40 foreign and 32 Sri Lankan participants. Out of USD 120,000 was raised USD 10,000 was earmarked for the University of Colombo by UNESCO. This resulted in a valuable set of books being made available for the Library. Asia Foundation chose to support 8 participants from eight Universities from Sri Lanka and thereby promoted the introduction of Computer Science in Sri Lankan Universities. The local arrangement was in the hand of the University of Colombo with Prof. V. K. Samaranayake serving as co-Director and the local coordinator of the College.

The College introduced the technology and applications of microprocessors, using a specially constructed development board based on MOTOROLA MC6809 processor (https://en.wikipedia.org/wiki/Motorola_6809), LOGIDULES on COLOMBO '84 board which was given to every participant. The participants from the Sri Lankan Universities amounting to 16 gained much from the College for research and applications in their own disciplines and also towards the introduction of Computer Science into the university curriculum.

Commercialisation Efforts (1984)

The involvement of the Computer Centre with BBC Microcomputers, after the regional College on Microprocessors, was going on for further development with staff members of the Computer Centre developing the first ever Sinhala character set (16x16 matrix) which was used by Rupavahini to display their Programme parade on TV.

Another important contribution by the staff has been the part played in the development of a statistical package for the BBC microcomputer and an IBM PC compatible computer, called “INSTAT” developed in collaboration with University of Reading and released to the overseas market in 1984. This software has been the basis for many courses in statistics both in Sri Lanka and overseas.

International Course on Statistics and Agriculture (1984)

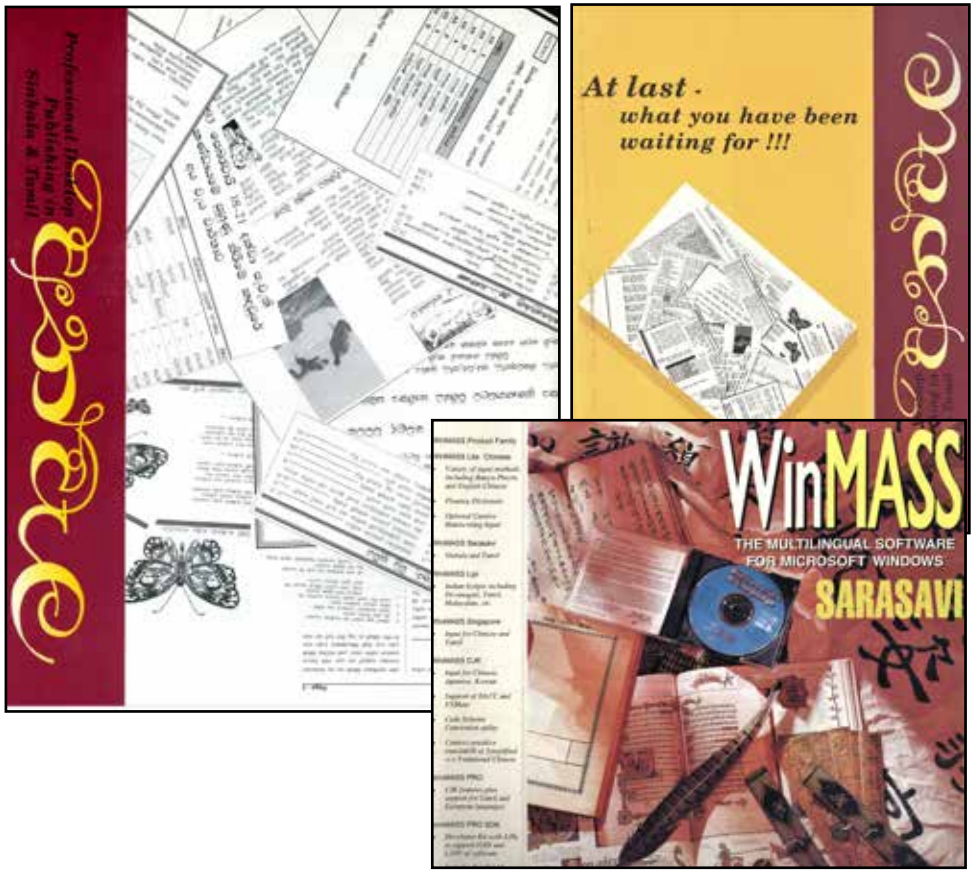
An international course which was supported by University of Reading and cosponsored by the Computer Centre and the Statistical Unit was conducted in December, 1984 on 'Statistics in Agriculture', with a bias towards computer use in agriculture. 14 Foreign and 10 Local participants took part and they were supported by several international and national organizations including the Agrarian Research and Training Centre, Sri Lanka to mark the tenth Anniversary of the Colombo-Reading Link. This was repeated in 1985 for 30 local participants.

Establishment of a Fully Fledged Academic Department for Computing - DSCS (1985)

In 1984, the Department of Mathematics made a proposal to the UGC for the establishment of a Computer Centre, a Department of Statistics and Computer Science and the commencement of a Postgraduate Diploma Course in Computer Applications. In January 1985, the existing Department of Mathematics was split into two departments: one remained as the Mathematics Department, and the Department of Statistics and Computer Science (DSCS) was born by the merger of Statistical Unit and the Computer Centre. It was only in 1986 that the formal separation took place as the separation of activities was not a simple exercise. The new department thus inherited skills in both disciplines and consequently occupied a unique position in the University system in Sri Lanka as a centre of excellence in both these fields. The major objectives of the new Department at the time of formation were to run specialized degree programs in both Statistics and Computer Science. To this end, further staff training was undertaken and M.Sc. qualified staff enrolled for Ph.D. research programs at British Universities with the help of more British Government aid. As a result of the staff exchange programs, the University of Colombo actively engaged in developing study guide books for students and lecturers of the universities to introduce "Software Design and Implementation: A PASCAL Based Course" with collaborative assistance received from the University of Keele, UK and the British Council, for the purpose of course material preparation. These materials were used by undergraduates of all the universities of Sri Lanka. Immediately after the establishment of DSCS, a Postgraduate Diploma in Computer Applications was launched in 1986. It is notable also that the University of Colombo received its first personal computer, IBM PC-XT in June, 1985.

Local Language Development (1986)

The University of Colombo has been actively engaged in the development of local language (Sinhala and Tamil) interfaces for personal computers in applications areas such as word processing, database management systems and spreadsheet applications, a research area nobody has hitherto undertaken in Sri Lanka. The work was mainly involved in developing software and hardware based solutions for the IBM compatible personal computers. The development of a very early tri-lingual (Sinhala/Tamil/English) Sinhala Basic Input and Output System – SBIOS and Tamil Basic Input and Output System – TBIOS for IBM PC-DOS with a very popular multilingual (Sinhala/English) word processor *'WadanTharuwa'* (වදන්තරුව), a tri-lingual (Sinhala/Tamil/English) desktop publishing system for Xerox Ventura – *Athwela* (අත්වැල), a tri-lingual input method for Windows 95/98 *'Sarasavi'* (සරසවි) packages and a UNICODE version 'WinMASSSarasavi'was introduced to the Sri Lankan market. This activity helped computer technology to penetrate the society at a greater speed than anything else so far.



Establishment of the Institute of Computer Technology - ICT (1987)

In early 1984, the Computer Centre, while consolidating its position as a leading computer installation and a consultancy service, worked on plans for the establishment of an Institute of Computer Technology (ICT) with the assistance of the Japanese Government. A draft project proposal was submitted in September 1983 to the Japanese government. A modified and more comprehensive proposal was submitted in March 1984 to the Japanese Government aid mission. A two member study team from Japan visited Sri Lanka to assess the situation with respect to computers in Sri Lanka in early April 1984 and followed by Prof. V.K. Samaranayake's visit to Japan and Singapore on 29th April 1984 for 2 weeks to study the technical aspects of their countries. Finally University of Colombo was able to convince the Japanese mission as well as the Government of Japan, of the need for such an institution. The process went through a number of discussions with missions visiting Sri Lanka, namely Preliminary Survey Team (24/02/1986–06/03/1986), Technical Survey Team (25/10/1986-13/10/1986) and Implementation Survey Team (24/02/1987–04/03/1987) under Prof. V. K. Samaranayake's guidance and leadership and held very conducive and efficient negotiations to win the bid amongst several proposals from other countries. Final approval was granted by the mission that visited Sri Lanka in March 1987 making available funding, amounting to JPY 490 million fom the Japanese fiscal year 1987/88. The agreement signed by the two governments required the Sri Lankan Government to provide building space, staff and their salaries and recurrent expenditure for the ICT. The ICT was provided with the largest mainframe computer system in the country at that time with other peripherals and staff training under Project Type Technical Co-operation of the Japan International Cooperation Agency (JICA). This was a milestone in Computer Science education in Sri Lanka.

NO PARKING

Colombo-Cardiff Collaboration (1987)

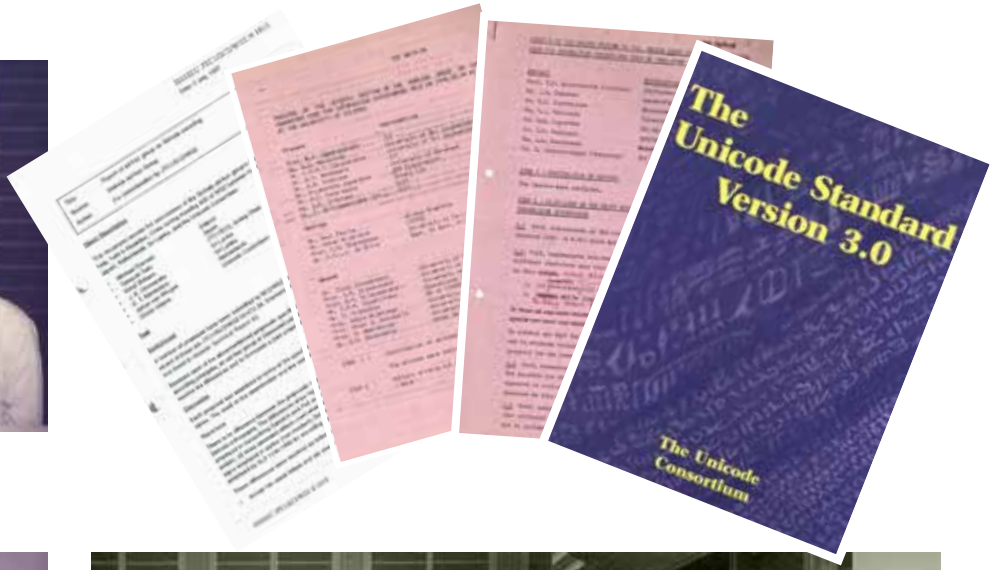
In 1987, Computing took a quantum leap forward with the establishment of a link between the DSCS (Department of Statistics and Computer Science) and the Department of Computing Mathematics, University of Wales College of Cardiff, UK. This was made possible through a UNDP (United Nations Development Programme) sponsored project which was set up to improve the Computing teaching infrastructure of the new Department. This link initiated Sri Lanka's first ever Masters in Computer Science, jointly conducted by local and visiting staff. As an indirect outcome of the Masters programme, the very first special degree in Computer Science was introduced to the Faculty. Although the University of Colombo had produced graduates with Computer Science as a subject for many years, its first batch of students specializing in Computer Science obtaining the B.Sc. special degree graduated in 1992 was the first such graduates in Sri Lanka.

Both the B.Sc. and M.Sc. degree programs in Computer Science that resulted from this have proved to be very popular, with a demand far exceeding the number of places available. Many staff members also returned with M.Sc., M.Phil., and PhD. in Computer Science during 80s and 90s as a result of the UNDP/ British ODA initiatives. The M.Sc. programs in Applied Statistics and Computer Science at the DSCS provided very cost-effective alternatives for the training of academic staff from local universities, and a number of such staff have availed themselves of this opportunity. The local IT industry immensely benefited from this program by enhancing their professional experience with an academic qualification.

As of 1995, the DSCS further improved its statistical education initiatives by introducing a special degree course in Statistics at undergraduate level and by re-structuring its M.Sc. course in Applied Statistics to a more streamlined form. The special degree course was in particular benefited from students undertaking placements in industry in the final year, thus enabling them to do projects which were relevant to the country at large.

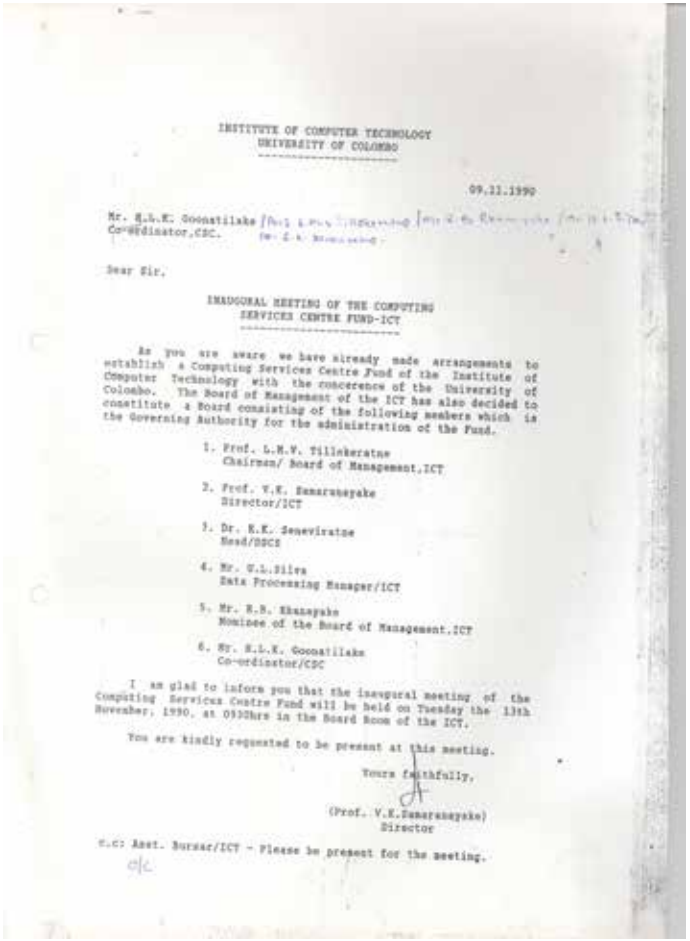
UNICODE Initiative (1988)

One of the other major roles played by the ICT was to coordinate research and recommend the draft Sinhala code for ISO/IEC JTC 1/SC 2/WG 2 to be included in UNICODE. Based upon the recommendation made by the Computer and Information Technology Council of Sri Lanka (CINTEC) and the subsequent approval of Sri Lanka Standard Institute of Sri Lanka, the ISO/IEC JTC 1/SC 2/WG 2 Meeting #32 was held on 1997-07-01, and ISO/IEC JTC 1/SC 2/WG 2 Meeting #33 held in Crete, Greece where the draft Sinhala Code was discussed intensively. After a few ad-hoc committee meetings with National delegates comprising Prof. J B Dissanayaka and Mr. S T Nandasara, and other nominated country delegates, the repertoire, names, and arrangements for the Sinhala script based on the Sri Lankan proposal were accepted with a slight modification with the support of the majority of delegates from Canada, Netherlands, Greece, UK, USA and forwarded to WG 2 for adoption and processing. This was ratified at the WG 2 meeting #34, Redmond, WA; 1998-03-16 held at Seattle, USA and the Sinhala Code Chart was included in Unicode Version 3.0.



Establishment of the Computing Services Centre of the ICT (1990)

The ICT and DSCS together by now have established themselves as the most qualified entity in Sri Lanka to provide consultancy services in all areas of IT to the industry, thereby promoting the cooperation between the University and the Industry. With a view to assist this task in a more organized manner, a separate organisation, the Computing Services Centre (CSC) was established in 1990 using the computing and manpower resources of both the ICT and DSCS. The knowledge and experience gathered through these consultancy assignments have been enhancing the practical-orientation of the courses conducted by the ICT. These consultancy assignments in turn generated the much needed funds to upgrade and maintain computer equipment at ICT and further enabled the staff to earn additional income. The gradually increasing clientele that seek the services of the CSC, speaks for the effectiveness and usefulness of the services rendered by the CSC.



INSTITUTE OF COMPUTER TECHNOLOGY
UNIVERSITY OF COLOMBO

09.11.1990

Mr. K.L.K. Goonatilake
Co-ordinator,CSC.

Dear Sir,

INAUGURAL MEETING OF THE COMPUTING SERVICES CENTRE FUND-ICT

As you are aware we have already made arrangements to establish a Computing Services Centre Fund of the Institute of Computer Technology with the concurrence of the University of Colombo. The Board of Management of the ICT has also decided to constitute a Board consisting of the following members which is the Governing Authority for the administration of the Fund.

1. Prof. L.H.V. Tillekeratne
   Chairman/ Board of Management,ICT
2. Prof. V.K. Samaranayake
   Director/ICT
3. Dr. K.K. Seneviratne
   Head/DSCS
4. Mr. U.L.Silva
   Data Processing Manager/ICT
5. Mr. R.B. Khanapahe
   Nominee of the Board of Management,ICT
6. Mr. K.L.K. Goonatilake
   Co-ordinator/CSC

I am glad to inform you that the inaugural meeting of the Computing Services Centre Fund will be held on Tuesday the 13th November, 1990, at 0930hrs in the Board Room of the ICT.

You are kindly requested to be present at this meeting.

Yours faithfully,

(Prof. V.K.Samaranayake)
Director

c.c: Asst. Bursar/ICT - Please be present for the meeting.

Third Country Training Programs (1992)

The concept of Third Country Training Programme (TCTP) was introduced by the Government of Japan as an essential feature of its Technical Cooperation Programme for Developing Countries. In contrast to a conventional training programme in which participants from developing countries undergo training in a developed country, TCTP gives the opportunity for a developing country to conduct training programmes, for participants from other developing countries with the assistance and cooperation of a developed country.

The Japanese assistance provided to the Institute of Computer Technology resulted in building sufficient capacity both in human resources and in facilities that was ideal for TCTP's. Under the TCTP of the Government of Japan, the Governments of Sri Lanka and Japan entered into an agreement in October 1993 to launch a regional training course in Structured Systems Analysis and Design Methodologies (SSADM) which was renewed for five consecutive years. On successful completion of this program, a Phase II of this TCTP in Information Systems Engineering, was conducted from 1998 to 2002 for twenty participants each from eighteen Asian, Far East and African countries. In 1998 the ICT received the JICA President's Award for the Best Regional Training Centre among its 60 JICA assisted countries. This excellent concept of south-south cooperation was later introduced to SIDA, the Swedish International Development Agency who sponsored a TCTP in the Design, Installation, Management and Maintenance of Network Systems initially for twenty participants from Asia, Africa and even Latin American Countries and then for a number of years.

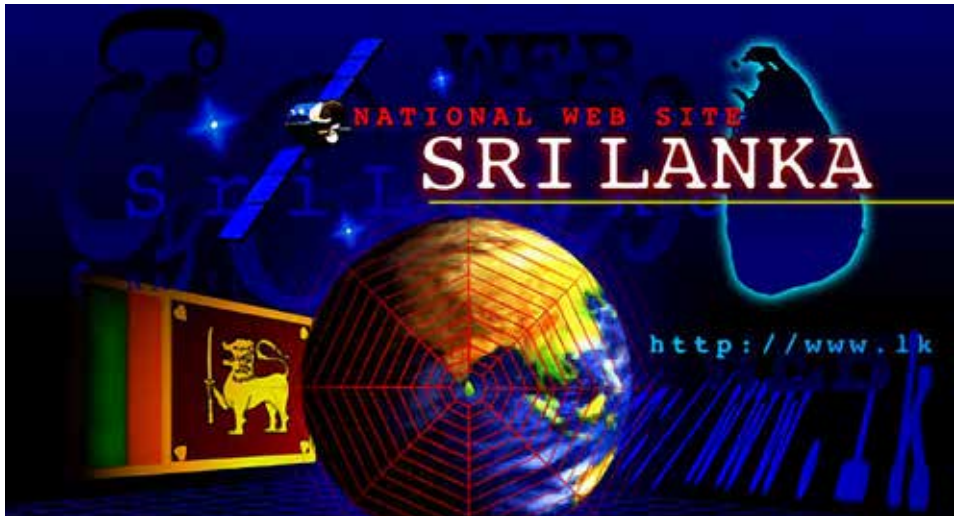
Institute of Computer Technology
University of Colombo , Sri Lanka
Third Country Training Programme in
Information Systems
Engineering
January 13 - March 07, 2003
Conducted by
The Institute of Computer Technology
University of Colombo, Sri Lanka.
Organised by
The Government of Sri Lanka
with the Technical Cooperation of
the Government of Japan
GENERAL INFORMATION BOOKLET
Institute of Computer Technology
University of Colombo, Sri Lanka
Third Country Training Programme in
Information Systems
Engineering
January 14 - March 07, 2002
Institute of Computer Technology
University of Colombo, Sri Lanka
Third Country Training Programme in
Information Systems
Engineering
November 01- December 24, 19
Organised by
the Government of Sri La
the Technical Coopera
Institute of Computer
Technology
Institute of Computer Technology
University of Colombo, Sri Lanka
Third Country Training Programme in
Information Systems
Engineering
October 19 - December 12, 1998
Organised by
the Government of Sri Lanka with
the Technical Cooperation of th
Institute of Computer
Technology
Institute of Computer Technology
University of Colombo, Sri Lanka
Third Country Training Programme in
Information Systems
Engineering
January 07 - March 01, 2001
Conducted by
The Institute of Computer Technology
University of Colombo, Sri Lanka.
Organised by
The Government of Sri Lanka
with the Technical Cooperation of
the Government of Japan
GENERAL INFORMATION BOOKLET

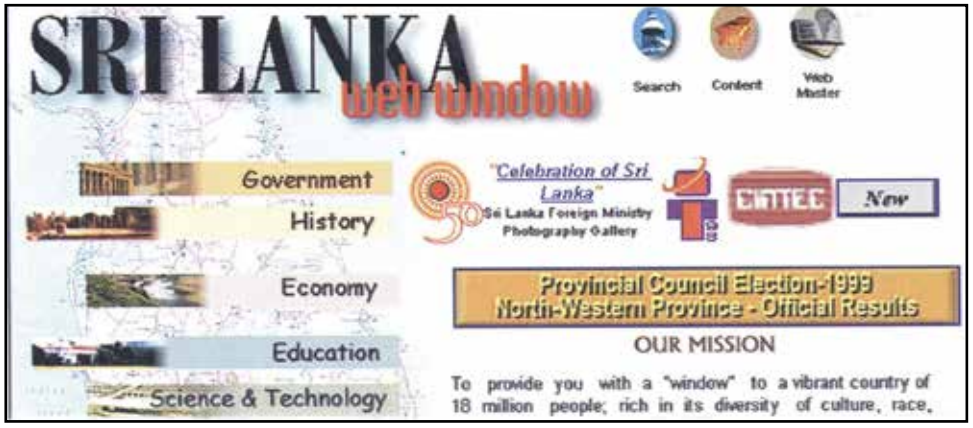
University
Training

University of Colombo, Sri Lanka

A National Trilingual Website for Sri Lanka (1996)

Along with the introduction of local language computing, came the world's first ever Indic origin tri-lingual national web site (www.lk) for the Government Information Department of Sri Lanka, inaugurated by the late Hon. Minister Mr. Dharmasiri Senanayake at a public ceremony held at BMICH on 15th September, 1996. The Tamil language related research and development activities were continued thereafter.





Popularisation of Information Technology (1995 - 2016)

The Computing staff at Colombo has been engaged in the dissemination of knowledge to the nation's citizens through public and private media channels for more than two decades. These television and radio programs received the highest ratings and were most popular programs at that time. For example are, 'Computing for Schools' (5 episodes, 1995), IT programs directed by Daya Liyanage from MTV TV channel (5 episodes, 1996), 'අන්තර්ජාලය ඔබගේ නිවසට' – weekly one hour LIVE program for IT related technical discussion on Sri Lanka Rupavahini Corporation (SLRC), Sundays 7.00pm – 8.00pm (more than 150 episodes, 1997-2001), 'Internet and You' a weekly one hour LIVE program for IT and internet related technical discussion on Sri Lanka Broadcasting Corporation (SLBC) Wednesdays 9.00am to 10.00am(more than 120 Programs, 1997 – 2001), 'e-ශනිදා' - weekly one hour LIVE program for IT related technical discussion on SLRC Sundays 7.00am - 8.00am, (5 Programs, 2003), 'IT-Quiz 2000' nation-wide IT quiz competition telecasted on National Television, 'FORUM for BIT' – a weekly 30 minutes educational TV program for Bachelor Degree in Information Technology (BIT) telecasted on SLRC and TVLanka, (132 Programs from Oct. 2003 to Sep. 2005), 'සියබස් අලංකාරය'- weekly television program on Independent Television Network (ITN) (22 Episodes, 2005), 'පරිගණක පරාදීසය' - weekly 30 minutes children program on SLRC (Thursday 5.00pm - 5.30pm, 2008), 'e-මිතුරෝ' - weekly 30 minutes IT program for children on SLRC (Thursday from 5.00pm to 5.30pm, 2009), 'ආසයි ලේසියි IT' - weekly 30 minutes program in Information and Communication Technology for students in schools and universities, and general public on SLRC, Saturdays from 6.00pm to 6.30pm, (102 episodes, from May 8th, 2010 and onward), 'ජාතික පාසල' - 24 programs for 'Information and Communication Technology' for A/L syllabus were recorded and telecasted from 1st October, 2011 to 31st of July, 2012 on Rupavahihi and many other programs on National and other Television channels for IT related discussions.

Collaborative Research Activities- Early 1980s

A collaborative research project on crop and climate data between the Universities of Colombo and Reading resulted in a database being developed at Colombo University from which many local and overseas research institutes were able to obtain data for their research. This crop and climate database project computerized the range of daily climate data, including temperature, rain, wind etc. collected from 100 metrological stations established around the island over 100 years. This, together with the consultancy work done in the areas of agriculture, health and education made the Computer Centre a much sought out place in Sri Lanka's science landscape. It developed expertise in the packages INFORMIX, SAS and SPSS and became the only expert group for such packages in the county at that time.

Collaborative work with the established research institutes such as the Rubber Research Institute (RRI), Tea Research Institute (TRI), Coconut Research Institute (CRI) and the Meteorology Department grew during early 1980s with the advice given to them on computing including evaluation of needs and assistance in purchasing computer equipment and also training.

JICA President's Award for ICT- 1999

The Japan International Cooperation Agency (JICA) of the Government of Japan was established in 1974. In celebrating its silver jubilee 1999, JICA selected the best project from among the hundreds of projects it had supported worldwide, on behalf of the Government of Japan for the JICA Presidents Award. On 17th December, 1999, Mr. Seiji Kaiho, Resident Representative of the JICA, made the presentation of the JICA Presidents Award to the Institute of Computer Technology of the University of Colombo. Vidyajyothi Prof. V.K. Samaranayake, Director of the Institute received the award from Mr. S. Kaiho, Resident Representative of JICA in Sri Lanka, in the presence of H. E. Y. Sugiyama, Ambassador for Japan in Sri Lanka, Deshamanya Dr.P.R.Anthonis, Chancellor of the University of Colombo and other officials of the University and Mr. Lionel Fernando, Secretary/Ministry of Foreign Affairs were present.

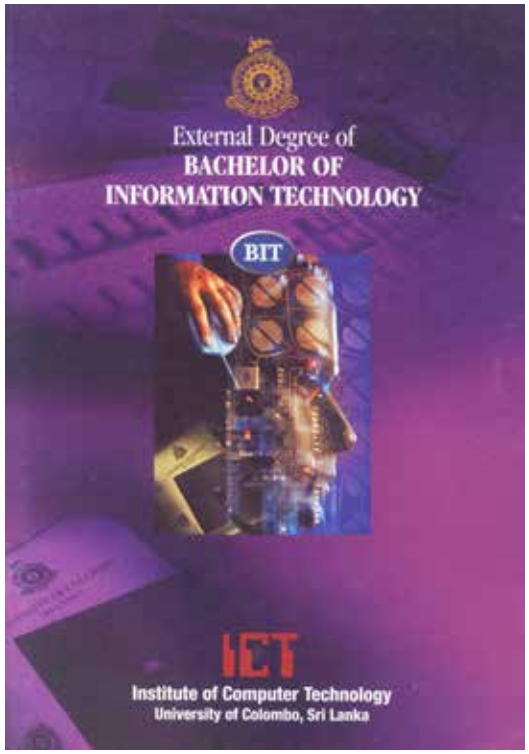
The citation of the award reads as follows:

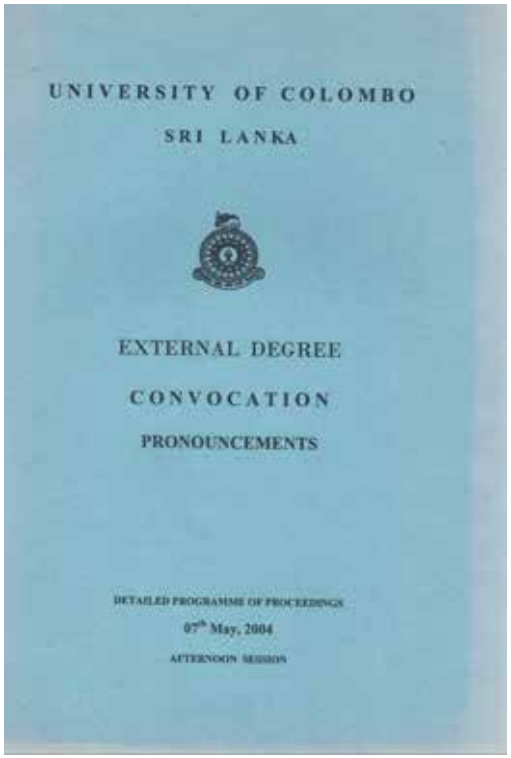
SPECIAL AWARD FOR INTERNATIONAL COOPERATION

The Institute of Computer Technology Project
is awarded the
Special Award for International Cooperation
In recognition of its outstanding contribution to the development of human resources, society and the economy in the Democratic Socialist Republic of Sri Lanka, and to the enhancement of friendly relations and mutual understanding between the Democratic Socialist Republic of Sri Lanka and Japan.

Bachelor of Information Technology -BIT (2000)

The ever increasing demand for IT graduates both globally and locally combined with the inadequacy of the state sponsored free education system prompted the staff of the ICT together with the Department of Computer Science (successor to DSCS) to launch a very innovative external degree program called the Bachelor of Information Technology Degree (BIT). This was an instant success with over 5,000 students registering for year one in 2000. The ICT and DCS jointly developed the curriculum and were to hold the examinations while the University of Colombo awarded the degree. The private sector was to provide the training as the students were registered as external students. This was supplemented by web based course modules, on-line course materials, quizzes, model papers and answers and also by a weekly IT program on the TV. This was an excellent example of Public-Private Partnership with over 50 private educational institutions currently preparing students for the BIT.





FIRST EVER CONVOCATION HELD FOR The AWARD OF The BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL) DEGREE, UNIVERSITY OF COLOMBO- MAY 7th, 2004

Establishment of the Department of Computer Science (2001)

The Department of Computer Science (DCS) of the University of Colombo was established in 2001 by splitting the Department of Statistics and Computer Science (DSCS), which functioned since 1985 as a part of the Faculty of Science of the University of Colombo.

While the DCS was responsible for undergraduate and postgraduate training in Computer Science, the Department of Statistics (DS) was responsible for Statistics education for both undergraduates and postgraduates.

The Sida - IT Project (2000)

Under the able leadership of Professor V. K. Samaranayake, the DCS and the ICT were able to negotiate substantial donor funding for human resource development and infrastructure from the Swedish government under the SIDA/IT program in 2000.

The SIDA/IT project which commenced in 2000 was extended to two phases and concluded in August 2010. The SIDA/IT project was unique in the way it opened PhD opportunities to computing academic staff from all state universities in Sri Lanka. The staff of the universities from Jaffna, Peradeniya, Ruhuna and UCSC obtained PhD and M.Phil qualifications from Uppsala, Stockholm, KTH, Mid Sweden, Gottenburg and Halmstad universities in Sweden enriching the human resources of the local universities. This also spurred staff exchanges between local counterpart universities and those in Sweden. Under the infrastructure development program, the LEARN network connecting all universities in Sri Lanka was strengthened with campus-wide fibre networks and wide band access to internet. In all this, UCSC played a key role in coordinating all activities and providing the necessary technical support.

Asia-eBIT was another project that was started in the first quarter of 2005 to improve the quality of the BIT program through e-learning services and it was funded by the European Union. It was a three year project which had two foreign partners, the Department of Computer and Systems Science (DSV), the Royal Institute of Technology (KTH), Stockholm University in Sweden and Delft Technology University in Netherlands also provided for staff exchange and PhD opportunities for local staff. Consequently, the highly motivated staff was further able to secure many foreign grants for specialized research in the areas of grid computing (SPIDER), information security (SPIDER, ISIF) and language processing (IDRC).

Establishment of the University of Colombo School of Computing - UCSC (2002)

In September of 2002, the Institute of Computer Technology and the Department of Computer Science of the Faculty of Science merged to form the University of Colombo School of Computing, or UCSC, as a Centre of Higher Learning affiliated to the University of Colombo with a fair amount of financial and administrative autonomy. This merger helped to bring together over 20 academic staff with 15 PhDs and a large number of postgraduate qualified IT specialists and also all the resources of the two institutions under a single entity. The UCSC has three academic departments and five centres. It is now enjoying the status of being the leading centre for higher education in computing the country. UCSC restructured its undergraduate teaching in earnest with a three year Bachelor of Computer Science degree and a four year Bachelor of Science in Computer Science degree with an intake of 240 students annually, in addition to contributing to a number of joint honours degrees in computing with other science disciplines with the Faculty of Science. The BIT degree continued as usual with an annual intake of around 2500 and three new Masters Programs namely in, Computer Science, Information Technology and Advanced Computing commenced in October 2002 catering to around 200 part time students.

Establishment of the Advanced Digital Media Technology Centre -ADMTC (2002)

In 2002, UCSC was successful in obtaining a large JICA grant – amounting to JPY 390 million to establish the Advanced Digital Media Technology Centre (ADMTC) equipped with multimedia laboratories, a professional Digital Recording Studio and funding for collaborative research projects with leading Japanese universities to build the capacity in the field of web based learning. The established tradition of third country training programs continued with JICA support.

PAN Localization Project (2003)

The scope of the PAN Localization project encompasses language computing in a broader sense, including linguistic standardization, computing applications, development platforms, content publishing and access, effective marketing and dissemination strategies and intellectual property rights issues. As the PAN Localization project researches into problems and solutions for local language computing across Asia, it is designed to sample the cultural and linguistic diversity in the whole region. The project also builds an Asian network of researchers to share learning and knowledge and publishes research outputs, including a comprehensive review at the end of the project, documenting effective processes, results and recommendations.

Countries (and languages) directly involved in the project include Afghanistan (pashto and Dari), Bangladesh (Bangia), Bhutan (Dzongkha), Cambodia (Khmer), Laos (Lao), Nepal (Nepali), Sri Lanka (Sinhala and Tamil) and Pakistan, which is the regional secretariat. The project started in January 2004 and continued for three years in its first phase. It supported a team of seventy five resources across these eight countries to research and develop local language computing solutions. Further details of the project, its partner organizations, activities and outputs are available from its website, www.PANL10n.net.

First Decade of the 21st Century

The developments in computing in the national landscape pioneered by the Computer Centre, the Statistical Unit, DSCS, ICT and the UCSC of the University of Colombo had contributed to building up a solid reputation in the discipline by the dawn of the new millennium. Several landmark events had taken place thereafter enabling the consolidation of the status that it had built up over the last four decades of the 20thCentury.

In 2002, UCSC commenced another undergraduate program carefully taking into consideration the needs of the industry: called the Bachelor of Science in ICT, a three year and a four year degree – in effect an Information Systems degree. The UCSC continued to evolve its postgraduate studies and research capabilities, redesigning the Masters programs in three disciplines: in Computer Science, IT and Information Systems Security, and expanding the MPhil and PhD research community while utilizing the generated funds to enhance staff research capabilities. UCSC also commenced its journal publication in 2008, called ICTER, the International Journal on ICT for Emerging Regions complementing its sister conference ICTER being held for the 17th time this year, having achieved an h-index (median) of 11 in its quality. At the same time, UCSC in its pioneering spirit has formed a company called Theekshana to work towards national development goals in e-governance and other areas, by outsourcing its capabilities for national development.

Epilogue

Sri Lanka has always given priority to human development and in particular towards education throughout its recorded history. This has resulted in a high quality of life even though from a pure economic perspective Sri Lanka has been classified as a developing country. In the field of computing, which has been the stronghold of the West since its inception in 1940's, a strategy of sharing whatever knowledge one had without awaiting for expensive resources had shown results, that we too are capable of grasping and utilising the creative abilities offered by the new discipline. Another aspect was the policy of enabling computer skills for all ages, professions and for the society at large. The development of computer education has been well planned taking into account not only the currently available technology but also future trends as envisaged by the policy makers. This included the provision of resources, both human and material, and the strategic and optimum utilization of limited donor assistance. These initial steps have quite rightly led to international recognition and regional collaboration.

Today, the UCSC continues to grow from strength to strength, proving beyond doubt, the immense benefits of the careful initial planning and positive approach of the successive development phases of its predecessor institutions and their staff. Its stature as a centre of repute and success is also a strong attraction to many donors, who have assisted in the early development efforts and can now see positive results from their investments.

With the demise of its founding Director and mentor, Professor V. K. Samaranayake in 2007, an era came to an end. However, in the true spirit of this giant man in the national Information Technology landscape, and the institutions and the human resources base he was so dedicated in building up, the UCSC and of its predecessor institutions and their staff shall be determined to continue its ground breaking activities beyond its 50 years of hard work and looks forward with pride and eagerness to continue its mission for the nation and its citizens.

Institute of Computer Technology, University of Colombo,
MEMBERS OF THE BOARD OF MANAGEMENT,
10th Anniversary - September 1997

Staff of Institute of Computer Technology - 1997

Institute of Computer Technology, University of Colombo,

MEMBERS OF THE BOARD OF MANAGEMENT

12th Anniversary - September 1999

Institute of Computer Technology, University of Colombo,
Post Graduate Diploma in Computer Technology (Full Time) BATCH 2001

University of Colombo School of Computing
Board of Management - 2015

Seating Left to Right - Front Row : Mr. Ruwan Keragala, Mrs. D M A Harasgama, Prof. K P Hewagamage, Prof. G N Wikramanayake, Mr. M Dewasurendra, Prof. K R R Mahanama, Deshamanya M D D Pieris. **Standing Left to Right - Back Row :** Dr.(Ms.) P Kailasapathy, Mr. S T Nandasara, Mr. Ranil Rajapaksha, Dr. D A S Athukorale, Mr. G K A Dias, Dr. C I Keppitiyagama, Prof. Sumedha Jayanetti. **Absentees :** Mr. K Kanag-Isvaran, Dr. Sanjiva Weerawarana, Dr. T N K Zoysa, Mr. Mano Sekaram

FIVE DECADES OF EDUCATION AT REID AVENUE: SOME PERSONAL REFLECTIONS

Vidya Jyothi Prof. V.K. Samaranayake

*Vanniarachchige Kithsiri Samaranayake was the Founder Director of the University of Colombo School of Computing (UCSC), until May 2004. He was appointed Emeritus Professor of Computer Science of the University of Colombo on his retirement. The author began his contact with Reid Avenue in January 1950 when he entered Royal College as a grade six student. In 1956 he left school to join the University of Ceylon next door and on graduation in 1961, continued to be with the University as a member of the academic staff thus covering a period of over 54 years at educational institutions around Reid Avenue. The article was prepared by the author in 2004 and summarizes his personal reflections on his long and distinguished career as an academic, administrator and more than all else, a visionary, with lessons to be emulated by the younger generation in academia.

University Life as an Undergraduate

To be an undergraduate I had only a fence to cross to enter the Colombo campus of the University of Ceylon the only university in the country in 1956. In fact Peradeniya had been chosen as the location to which the whole University was to be shifted gradually. But the Faculties of Science, Engineering and Medicine were still in Colombo. Those of us from Royal College were surprised to see the foundation stone on the main building of the Campus, now housing the Mathematics Department. It is the foundation stone which was laid in 1921 for Royal College. Even in 1921, the State seems to have acquired buildings of the 'best school' in the island to establish the University College!

The 'rag' was very much unlike those of more recent times. Freshers would be asked to come in white and a few seniors indulged in collecting a rupee or two from the Freshers. Inhuman acts as was witnessed decades later were totally absent. In the first year we had classes till 6 p.m. and on Saturdays as the laboratories had to be used for three batches: Physical Science; Engineering; and Biological sciences . At the end of the first year we sat the General Science Qualifying (GSQ) Examination. Selection to the Faculties of Medicine and Engineering, and to special degree courses in Science were made on the results of the GSQ examination. Courses in Medicine and Engineering began in Year 2. The GSQ examination had three compulsory subjects – Mathematics, Physics and Chemistry or Chemistry, Botany and Zoology. To some of us who did not like the study of Chemistry this was a further hurdle. There were some students who had distinctions in both Mathematics and Physics but never got beyond the first year as they simply could not pass Chemistry. Several years later as a member of the academic staff I took the initiative to break up Mathematics into two subjects as in the case of the AL examination and this allowed three out of four subjects to be taken in the first year thus allowing many students to drop Chemistry.

The Reid Avenue Campus had a small administration office headed by an Assistant Registrar, the Science Library, the Science Faculty and the Engineering Faculty. College House was a hostel and the Campus canteen was a small shed at the location where the Physics building now stands. The Engineering Faculty occupied several temporary buildings at the site where the UCSC now stands. These buildings were later used by the Second Arts Faculty and the Law Faculty. The Physics, Chemistry and Biology Lecture Theatres and the King George's (KG) Hall were used for lectures.

Our Student Union rooms were those adjoining College House. There were many student societies and I was the Secretary of the Mathematics Society in 1960 with Chandra

Wickremasinghe as President. We were very much interested in space science as it was during this time that the Russians successfully launched their first Sputnik and the battle for space supremacy between the two super powers began. One of the lectures arranged by our society was by Basil Mendis then a lecturer in Philosophy from Peradeniya who talked on " The Earth is flat, the moon is on the other side of the earth". While our Astronomy guru, the Mr. Douglas Amarasekera thought this was nonsense, three hundred undergraduates and the media crowded the Chemistry Lecture Theatre, some seated on the windows, to listen to Basil, who through his eloquent oratory more or less "convinced" the audience. Next day the office bearers of the Mathematics Society had to bear the fury of Mr. Amarasekera while the newspapers carried banner headlines. We were also influenced by the arrival of Arthur C. Clarke to Sri Lanka in the mid-fifties.

The Students Union social and dance, and the pirith and dane' of the Buddhist Brotherhood were important annual events which gave us ample opportunities to engage in extra-curricular activities and show our leadership qualities without having to resort to violence. Students did what they thought was correct and never had to seek advice from outsiders or even those who had left the campus a few years back. During our undergraduate days we did not encounter Proctors or Marshals.

Many came to the Campus on bicycles. We had to beware of the policemen who would charge us for riding a bicycle without lights, without a reflector, for doubling or for riding abreast. None of these are even considered an offence today!

Those of us who were selected for the special degree sat the final exam in 1961. This was the only examination after the General Science Qualifying (GSQ) examination sat in 1958 and we were tested on three years work in eight papers running without a break except for the Sunday. Unlike today, there was hardly any study leave and definitely no breaks in between papers. Our papers and answer scripts were sent to the UK for moderation and results came a few months later. Almost all of our external examiners came from Britain, continuing the traditional links with Britain that were established when the Colombo University College was a branch of the University of London. In my opinion, the over-reliance on Britain and the British system of education has had its drawbacks. Even today some departments follow some practices which have been discarded by the British many decades ago.

After Graduation

After the finals we all applied for teaching jobs through the Ministry of Education and I was given a post at Ananda College from May 1961. I taught Physics and Mathematics to the GCE OL and University Entrance classes in the Sinhala medium as by then the medium of instruction had changed. I could continue only for two months as the University offered me a post of Assistant Lecturer from July when the new batch of students arrived. I had to reluctantly leave Ananda. Normally the Mathematics Department appointed new graduates as temporary lecturers immediately after graduation and often only one of them was made a Probationary Assistant Lecturer after one year of employment. Senior staff did the first year lectures and in the first year of employment staff were given mostly second year general degree lectures and the marking of tutorials.

However, due to the acute shortage of staff at that time, I was made a Probationary Assistant Lecturer in October 1961 almost immediately after my results and was also given the task of taking first year Algebra for both the Physical and Engineering batches. The department was in a crisis with Prof. C. J. Eliezer leaving without much notice and Mr. P. Kanagasabapathy from Peradeniya acting as Head of the Department. This resulted in the younger staff including myself becoming much more involved in the departmental administration than in other departments. The department that existed at Peradeniya to service the Arts Faculty was expanded to cater to the new second Science Faculty.

During the two years I spent as an Assistant Lecturer I took a keen interest in Astronomy, teaching the subject and conducting astronomical observations using the departmental telescope. I also began writing a book in Sinhala - Mulika Tharaka Vidyawa, which included star maps which would help a local star gazer. I managed to get a publisher who agreed to publish the book at

no cost to me. The book was published in 1965. After joining the department, I found that I had not come to the end of studies but to the beginning of another long journey of research leading to the necessary qualifications for promotions. The tradition was to go to the UK and there were some who had preferred to go to Cambridge to do the Tripos which was a first degree. I was keen on following my friend and teacher Wimal Epasinghe who was already at Imperial College studying Mathematical Physics. I followed suit without difficulty as Prof. Eliezer was known to Prof. Abdus Salam, the Head of the Department at Imperial College. Prof. Salam who later won the Nobel Prize for Physics had a high regard for Sri Lankan Mathematicians. Prof. Salam visited the University of Colombo in 1986 and a plaque commemorating this event was unveiled at the entrance to the main building now occupied by the Mathematics Department. I did the Diploma of Imperial College in the Academic Year 63/64 and moved on to University College for my Ph.D. in Elementary Particle Physics. Just before I left for the UK, one of our staff had been called back from study leave after three years even though he needed just a few months more to complete his Ph.D. Thus I was very keen on completing my research work without delay and returned to the island with my Ph.D. in December 1966. The university system provided travel, fees and paid leave for study abroad for a Ph.D. and the salary of an Assistant Lecturer amounting In 1965, I had the opportunity of attending the Boulder Summer School in the USA and traveled there by US Military Air Transport as my department in London had a research grant from the US Army. I was able to travel 25,000 miles within the US mainly by Grayhound bus on a 99 day $99 unlimited travel plan. I still remember Prof. Sudarshan a well known Physicist from the Syracuse University telling me that we Ceylonese are making a very big mistake in going to the UK for higher studies ignoring the USA where there were ample opportunities. Looking back, I fully agree with him and this tradition of ours has in fact adversely affected the development of Science & Technology in the country. Majority of Indians used to go to the USA and in my opinion this factor is one reason for the advances in Information Technology that India has made today. The first Sri lankan graduate to obtain a Research Assistantship and leave for the USA was a brilliant Mathematics graduate Prof. Jeeva Satchithanandan, who joined the university of Pittsburg in 1972. He performed so well that his professor wrote to me and asked me to recommend other brilliant students of mine. This I did and very soon there were many graduates from Colombo in the USA, a trend that has now expanded to almost all major Universities in the USA, thus fulfilling Prof. Sudharshan's wish. One such student is Prof. L.S.R. Wijewardena who is at Cincinnati.

Immediately on my return to the country, the new Head of Department, Mr. Douglas Amarasekera wanted me to report to the Department at Peradeniya. As my father had expired a few weeks earlier, I asked for time and agreed to work two to three days of the week at Peradeniya and the rest at Colombo. In mid 1967 a new University act was introduced. The single University of Ceylon was to be split into two, one called the University of Ceylon and the other the University of Colombo. We at Colombo opposed this move as we strongly believed that we had an equal right to the name, status and assets of the parent university. A strike by staff, students and non-academic staff supported even by the then Vice- Chancellor of Colombo Prof. O.H.de.A. Wijesekera, was the result. After much agitation, the assets were equally distributed and the two new Universities were called the University of Ceylon, Peradeniya and the University of Ceylon, Colombo with equal status. The Science Teachers of Colombo formed the Science Teachers Association and took a lead in this battle. I was the founder Secretary of this association.

By this time, Swabasha educated students were entering Universities. A decision of the Faculty of Science to insist that every student shall follow the English Medium classes in addition to the Swabasha classes (which we considered optional in spite of rules to the contrary) made us produce graduates who could communicate in English and be fit for any type of local or overseas employment. Those who came in with little or no skills in English benefited much from following the course in both media and before long picked up sufficient proficiency in English to switch over completely to the English medium classes in the second year. As our staff are recruited mostly from our own graduates, this helped us to continue recruiting staff who were proficient in English. This is the situation even today in the UCSC and the Science Faculty unlike in some of the other faculties and universities. The benefits of this have been many. Our students too are able to obtain immediate employment and move up the corporate ladder fast. In a very competitive environment where private educational institutions have appeared in numbers, we have been able to maintain a high standard and be the major IT

centre of the country. Thus it is very clear that such a procedure of introducing English medium teaching in all faculties is an urgent need.

In the late sixties, several of our staff left to take up Professorships at other Universities. Once again the junior staff ran the department. Prof. Epasinghe became Professor at Vidyodaya University at the age of 31. Having assumed duties he soon realised the need to produce statisticians and commenced a Postgraduate Diploma in Applied Statistics. I enrolled as a student of the first batch. Until then Statistics was more the territory of the Economists who had a full paper or two for their special degree as an option. Prof. Epasinghe and his colleagues at Vidyodaya University were also instrumental in introducing Mathematics as a major component of study for the Biological Sciences degree course.

While in the UK I had the opportunity to learn computer programming and use this for my research work. I used the early ICL computers at the Universities of London and Manchester and at the Atomic Energy Research Centre at Harwell. We first used punched paper tape and then punched cards. On my return, I realised the importance of teaching Computer Programming to my colleagues and students. In 1967, I commenced teaching FORTRAN Programming to a group of enthusiastic teachers and students. We were fortunate in Dr. A.N.S. Kulasinghe then Chairman of the State Engineering Corporation allowing us free computer time to run our programs on their main frame. Later on, the Census and Statistics Department too allowed us free use of their main frame computer as we were not in a position to purchase our own computer. Some of the Science graduates of Colombo were already on the programming staff of these organisations as well as other pioneering computer installations and they formed the core group of Programmers who later took up positions as Data Processing Managers in various large installations. They also formed the nucleus of the Computer Society of Sri Lanka formed in 1976.

Having worked in the field of High Energy Particle Physics, it was no easy task to continue research due to the lack of a critical mass of researchers, journals and most importantly data from the experimental groups working in this rapidly changing field. The newly formed International Centre for Theoretical Physics (ICTP) headed by Nobel Laureate Prof. Abdus Salam came to my rescue at this stage. The ICTP was set up to provide Third World Scientists the opportunity of working with fellow researchers at Trieste, Italy with all the necessary facilities. I received scholarships to work at the ICTP in 1969 and again in 1971. This helped me to publish several papers and this in turn helped me obtain a merit promotion to the grade of Senior Lecturer and also in obtaining an Associate Membership tenable at the ICTP for three months a year for three years.

As a young member of the Department of Mathematics, my colleagues and I had a hand in developing the department and also in having close contact with our students. I recall the initiative we took to introduce a series of lectures on the Two Cultures so as to expose the Science students to the world of Culture and Literature. Eminent speakers such as Martin Wickremasinghe, Dr. A.W. Adikaram, addressed well attended seminars. The Science Students Union too invited eminent personalities including politicians of all hues to speak to packed audiences and there was tolerance and peace. No meeting was disrupted and physical assault was not resorted to counter verbally expressed opinions. We all enjoyed the intellectual battles fought using words and ideas rather than fists and bricks which is the unfortunate situation today. However, a few years later a recital by Ustad Khan a very famous Sitarist from India who performed at the New Arts Theatre was disturbed while performing, by a group of students who wanted free admission.

This caused a temporary halt to the performance for the artist to recover from the shock. Having then gained admission, they did not appreciate the type of music. They remained noisy for some time and left the hall even before the performance was over. As the organiser I had to go backstage and reassure the great musician who said that he had never experienced such a situation. This type of behaviour has inhibited us from organising such events or inviting eminent guest speakers.

University Reforms

In 1970, a new government came to power and Prof. B.A. Abeywickrema became the Vice Chancellor (VC) at Colombo. He appointed me as Deputy Proctor and later as Proctor. During

the tenure of the previous Vice-Chancellor, Mr. Walvin Silva, the Marshals were given much power and the student community did not respect the Marshals very much. I took the initiative to appoint Student Marshals, selecting the winner and the loser at elections to the post of President of the several student societies that existed for subjects such as Economics and History. I thereby managed to rope in students from the two major rival groups. Later on, we developed a new set of rules for student discipline and also changed the designation of Proctor to that of Senior Student Counsellor. The duties of Marshals were changed to that of assisting the Student Counsellors. Large notice boards were erected and posters were allowed on them with the approval of the Student Counsellor. We got involved in many student welfare activities such as a shramadana to clear the whole of the race course area which then belonged to the campus. I was also appointed as the President of the Arts Council and a set of musical instruments was purchased with funds donated by the VC. I was supported in my work by senior staff such as Prof. Ediriweera Sarathchandra who encouraged me by saying that the Arts Council needed someone dynamic to lead it. As Senior Student Counsellor, I found that most of the student problems arose due to misinformation or lack of information. Thus I initiated a newsletter Sarasavi Puvath to provide official information to the student community. I was also closely associated with all extracurricular activities of the university as I felt that this was essential if one was to be a successful Student Counsellor.

The insurgency of April 1971 made the new government think afresh about the aspirations of the youth and one aspect they looked at was University reforms. A committee headed by Dr. Osmund Jayaratne of the Physics Department was appointed to look into University reforms and I was its youngest member at the age of 32. The establishment of a single university with several campuses, elevation of the Technical Colleges at Maradana and Katubedda to University status and the rationalisation of courses were some of the major recommendations. There were many objections and as I was away in Trieste, the other members bore the brunt of the criticism. A new Universities Act was passed and came into effect in February 1972.

The Vidyodaya and Vidyalankara campuses had been converted into "re- habilitation" camp to house the thousands of arrested youth after the insurgency and the Campuses functioned in temporary premises elsewhere. The Heads of the Science Faculty at Vidyodaya campus were very much opposed to the new act and refused to take up the appointment of Dean. However, they did not want just anybody to be Dean and they requested me to be their Dean! I accepted the Challenge and became the Dean of the Faculty of Science at Vidyodaya campus from February 1972 having obtained a temporary release from the Colombo campus. My first task as Dean was to shift the faculty which was operating from temporary buildings at Thurstan College back to the campus. New Buildings for the faculty designed by the well known architect Bevis Bawa were under construction and was separate from the re-habilitation camp. I negotiated with the contractor, Mr. Tudawa to take over the new buildings, room by room as they were completed and moved my own Dean's office to the first room of the first building completed. Thereafter, I moved the whole Faculty, department by department to the Chemistry building which was the first to be completed. I recall with gratitude the active support I received from the entire Faculty, both students and staff.

I had to later take over as the new Campus President. The task of commencing classes for all Faculties at the Gangodawila campus and running the Vidyodaya Campus of the single University was now my responsibility. I left for ICTP Trieste in October 1973 on leave and resigned from the post of President in November while in Italy. During my short stay at Vidyodaya I was able to re-establish the campus at Gangodawila, initiate an expansion of hostel facilities, improve academic programs, provide training opportunities to academic staff and fill a large number of vacancies including Chairs. It is unfortunate to note that these very same requirements exist in all universities even today.

Curriculum Reforms

The Department of Mathematics at Colombo too recognised the importance of Statistics about the same time Prof. Epasinghe did so at Vidyodaya. In 1968 the need for the establishment of a centre to undertake statistical work was simultaneously requested by me from Mathematics, Dr. Lakshman Yapa from Geography and Prof. H.V.J. Fernando from Forensic Medicine. The then Vice- Chancellor appointed a Senate sub-committee to look into this and appointed

Prof. Fernando as Chairman. Dr. Yapa and I were too junior to be even in the Senate and were not part of the committee. However, Prof. Fernando recommended the establishment of a Statistical Unit for the whole University attached to the Department of Mathematics. Thus began the process of developing not only Statistics but also Computing at Colombo. Credit must be given to Prof. Fernando who saw where the development would best take place. Thus a tradition of providing support to the whole university from a single unit was established. At a Senate Meeting in 1968, it was also decided that training programmes and other activities could be conducted by the unit to earn funds which could be utilised to develop the unit. This decision paved the way for the Statistical Consultancy and Data Processing Service (SCADPS) and the creation of a separate ledger account for its income.

The post of Professor was advertised in due course. I was selected out of the several applicants and was appointed Professor and Head in December 1973. I assumed duties on 1st January 1974.

During the Tenure of Prof. Gangadharan as the Head, the Department had requested a Lecturer under the British Council administered Exchange Programme to replace the only staff member with a Ph.D. degree in Statistics - Dr. Dayananda who left the country. Dr. Roger Stern from the Department of Applied Statistics of the University of Reading, U.K. arrived in the last Quarter of 1973 to a department in turmoil without a Head. He was even requested by the Dean to be Head, which he very politely refused. He had no work as such and Dr. Roger Stern being one of the most active academics I have met, did not waste his time. He studied the status of Statistics Education and its use in the country and identified the training and consultancy needs. When I came back to the department in 1974 as Head, Roger was there to meet me with his plans. Together we began to implement his proposals and thus began the long standing Reading-Colombo link. Unlike other exchange staff Dr. Roger Stern came from a tenured position at Reading University and was keen on returning after two years although he could have stayed for four years. However, he saw the benefits of a departmental link and recommended Ian Wilson, another colleague for the balance two years. Ian helped us launch the MSc programme in Statistics in 1977, the first of its kind in Sri Lanka. Once he left in 1977, we benefited from short term visits by staff of Reading University who took some of the courses and trained their counterparts. In parallel, our staff were sent for split-Ph.D. degrees to Reading University and thus a departmental link was established with very modest funding from the British Government. Equipment was also provided. Initially we received an HP 9825 "computer" and many BBC microcomputers, which were very different from the now familiar PC. This could be identified as the initial thrust towards the development of Computing at Colombo University.

The single University established in 1972 was now working on new courses and one initiative introduced in both Colombo and Vidyodaya was the Development Studies degree programme that replaced the General Arts degree at these two campuses. This new course had a Foundation year with Mathematics, General Science, and English as some of the subjects. This was followed by three more years of study in employment oriented job -streams such as Statistical Services, Fisheries and Tourism. There were also separate degree level courses in Taxation, Estate Management, Valuation and Education. These courses were formulated in consultation with the state agencies and the private sector but unfortunately the very agencies which spoke of a demand refused to employ the graduates when they were produced. A classic example was the 700 students admitted for a BEd course to produce teachers. These students were told, even before they graduated, by the very Ministry of Education which wanted them trained, that they would not be absorbed as teachers. My view at that time was that, politicians did not want those coming out of universities employed as teachers! A similar fate awaited those who opted for some of the other courses.

I had contributed towards the planning of the Development Studies Course and took a personal interest in the Statistical Services job stream. I was therefore determined to ensure its success. The Mathematics Department at Colombo assumed the responsibility of handling this job stream, and our staff including Dr. Roger Stern delivered lectures in the programme. Computing was a major component and there were practicals and project work. One such project was the study of the student reaction to the course itself and resulted in a joint paper published by a student, a staff member and myself. The student was Indralal de Silva, who having equipped himself with a Ph.D. is now a Professor of Demography at the Colombo University. Other

students who followed this course include Dr. Lakshman Dissanayake also of the Demography Department and Mr. ST Nandasara of the UCSC who now has an extensive knowledge of IT. It is a pity that such an initiative had to be abandoned after a few years as the tendency was to move back towards the old structure of the Faculty of Arts. The new Government of 1977 would have nothing to do with whatever initiatives (political or otherwise) that were taken during the previous regime, and thus ended this exercise on university reforms.

With the re-establishment of the University of Colombo in 1979 and the return of the traditional courses, we continued to provide support to other Faculties. The Mathematics Department conducted the first year Mathematics course to the Arts Faculty and also conducted computing courses to the final year students in the special degree programmes in Economics, Sociology and Geography. Having taught the introductory Mathematics course for Arts students I realised that this type of course should be delivered by an experienced teacher and not by a recent special degree graduate. I found the ideal lecturer in Mr. C.M. Weeraratne who was an excellent Mathematics teacher at Ananda College. Although he was not a graduate he was appointed as a Visiting Instructor and did an excellent job in making the students understand and appreciate the beauty and value of Mathematics.

As was the case with the Statistical Unit, the Colombo Campus took the initiative to set up a Demographic Training and Research Unit (DTRU) in the seventies. I was a member of its Advisory Council at its inception. The idea came from Prof. Laksiri Jayasuriya the then Dean of Arts but the first Director was Prof. A.D.V. de S. Indraratna. The funds came from the UNFPA and this contributed to the major difference between the DTRU and the Statistical Unit. UN funding was lavish unlike the British funding received by the Statistical Unit and catered to international consultancies and training. Neither the donor nor the recipient was interested in institutional linkages leading to sustainability after the end of donor funding. Fortunately, some of the younger staff have kept the DTRU going and recently they have been able to obtain departmental status. In contrast the British Council funding for Statistics resulted in a link between Colombo and Reading which has a history of over 25 years of collaboration, even after the modest foreign funding ceased.

In 1976, the then Government requested the Vice-Chancellor of the single University, to acquire the Sri Palee Institute of Fine Arts established by Mr. Wilmot A. Perera. I was the Chairman of a Committee appointed to make recommendations. Our recommendation was to make this excellent site for aesthetic education the nucleus of the Institute of Aesthetic Studies which already existed as part of the single university at two locations

in Colombo. This recommendation was implemented but the staff were reluctant to operate from Horana as most of them had their "private practice" in Colombo. The site then became one of the many affiliated University Colleges with no success. Today this institution has become the Sri Palee Campus of the Colombo University catering to 60 students following a specially designed degree course in Aesthetics. I was glad to have had the opportunity of serving in the Board of Management of this Campus more than 20 years after my first involvement with Sri Palee.

I was elected Dean of the Faculty of Science at Colombo in 1975, succeeding Prof. T de S. Mutukumarana. I continued as Head of the Department of Mathematics as well for some time. In mid 1978 Prof. P. W. Epasinghe joined us from Vidyodaya, and he took over the responsibility of being the Head of the Department of Mathematics. Colombo Campus has had no new buildings since the inception of the University of Ceylon in 1942 except for the New Arts Theatre built in 1963 to cater to the new Arts Faculty and the Biology Building built in 1976. The latter was a result of a decision of Heads, on an initiative of Prof. Raja Fonseka of the Botany Department, to pool the funds allocated for extensions to existing buildings for the construction of a larger building of a permanent nature.

The New Universities act of 1978

In January 1979, with the introduction of the new Universities Act of 1978, the University of Colombo was established. As Dean, I worked with the new Vice- Chancellor, Prof. Stanley Wijesundera on a building programme for the Faculty. A UNESCO workshop had already identified the requirements and divided the Colombo Campus into zones, one for administration, one for Arts and Law and one for Science. Architects were selected for each zone and new buildings were planned for Chemistry, Physics and Biology. Each department agreed to shift

to other locations as needed to demolish the temporary structures and in this spirit the Physics Department was housed in the new biology building. The Mathematics Department including the Statistical Unit was to occupy the main building and no new building was planned for them. The foundation for the five storied Chemistry building was laid in late 1979.

The Faculty of Science took the initiative to introduce a course unit system in the late seventies. After a series of workshops, the course structure and the corresponding examination scheme was agreed on, approved by the Faculty and Senate and introduced with effect from 1979. I must record here the invaluable assistance I received from the Heads of Departments

and the academic staff, and particularly from Prof. K.D. Arudpragasam, then Professor of Zoology. This changed the existing 1+2 General and 1+3 Special Degree programmes to a 2+1 General and 2+2 Special Degree programmes. The third year general course consisted of 9 course modules and gave much flexibility. There was a possibility of taking all nine modules from Chemistry. Subsequently in 1985, the very popular Management Unit was introduced as a third year option to all Science students on the recommendation of a faculty sub-committee headed by me. This sub-committee sought the views of the private sector extensively, before designing the course.

Other academic involvements

With the formation of the Republic in 1972, several progressive university academics began a programme to provide university education to trade union members who for various reasons, mostly economic, had no opportunities for higher education. The Government recognised this effort and a programme of Workers' Education that began in the early seventies, in an ad-hoc manner at Colombo and Peradeniya was given the status of an Institute of Workers' Education (IWE) in 1975 with the publication of a Gazette notification. As a member of World University Service (WUS) Sri Lanka, I was associated with this activity. Prof. Osmund Jayaratne who headed the organisation before it became an Institute was to be the Founder Director. As ill health prevented him from doing so, I was requested to be the first Acting Director of IWE. In this capacity, it fell on me to establish the IWE and organise its administration and academic programmes including the rules and regulations for the award of diplomas and degrees in Labour Education.

I became the President of Section E of the Sri Lanka Association for the Advancement of Science in 1978. In my Presidential Address in December, I was critical of the way New-Mathematics was introduced to the school curriculum and of the University admission system that was tied to the GCE AL examination where many students were resorting to tuition. I proposed a two tier admission system and although this is considered suitable by many, no person or government has yet had the courage to introduce such a scheme. The nearest we have come to is the introduction of a Common General Paper in year 2000. In late 1979 I went on sabbatical leave and devoted much time and effort to the study of university admissions systems the world over. As Dean/Science of the University of Colombo, I was responsible for the holding of practical examinations for the GCE AL Examination of the University of London for students from Sri Lanka and the Republic of Maldives who sat the examination in Colombo.

Computer Education

In 1980 the Statistical Unit obtained a mini computer on rent to undertake a major Statistical Consultancy Project. This machine was replaced in 1981 by a Data General Mini Computer with funds coming from the Netherlands University Fund for International Coorperation (NUFFIC), the University Grants Commission (UGC), the annual Grant to the University and the earnings of the Statistical Unit. This Computer was extensively used for teaching and consultancy work which included a major network analysis project for the International Telecommunication Union and the processing of University admissions for the UGC. In 1982, we also received our first BBC Microcomputer an eight bit machine running structured Basic. The machine was developed by the British Broadcasting Corporation for their Computer Literacy Programme introduced at low cost, with colour, sound and data storage on audio cassettes and floppy disks. This machine provided many possibilities and I volunteered to assist the Commissioner of Elections and Rupavahini to help them with the processing and release of the results of the 1982 Presidential Elections using the machine. On our proposal being accepted after several

demonstrations, we air lifted three more computers and floppy drives. These arrived on the morning of the elections and the software was developed till then on the single machine we had with an audio cassette drive. The release of results was completed with great satisfaction and the whole country knew of us. This led to our equipping a laboratory with 30 BBC computers which were networked to a file server. Eighteen years later we are still providing this service in a much improved manner to the Commissioner of Elections and to the media including Rupavahini and the Internet.

In 1982 the Statistical Unit launched three certificate programs held during the weekends, two using the Data General machine and the other using the BBC lab. These six month programmes introduced computing to many who were able to thereafter embark on a career in Computing. About this time, the staff of Colombo and Reading together with a statistician from Mauritius developed a statistical package for the BBC called INSTAT. This was extensively used in the Regional College on Statistical and Computing Methods in Data Analysis conducted by the Statistical Unit in 1984.

In 1983 the International Labour Organisation prepared a report on a Computer Policy for Sri Lanka. This recommended that assistance be sought from donors for a study on Computer Education in Sri Lankan Universities. Accordingly, Prof. Colin Reeves of the University of Keele, UK visited Sri Lanka and submitted a comprehensive report. Prof. Stanley Kalpage, who was both the Chairman, UGC and the Secretary/Higher Education accepted the recommendations for implementation, and with support from the British Council launched a programme monitored by the Sri Lanka Inter University Committee for Computing (SLIUCC). Funds were made available for the establishment of a Computer Centre in each University, training of teachers who could teach the subject of Computing and for several workshops that produced teaching material. Thus began computing at most universities. In the Universities such as Colombo, Peradeniya and Moratuwa where facilities were already available, this programme helped to establish new departments of Computer Science/Engineering and to expand Computing facilities to the whole university.

I revisited the ICTP in Trieste in 1983 and took part in the College on Microprocessors conducted by a team of specialists from the European Nuclear Research Centre (CERN). During this period I made arrangements to hold this College in Colombo as the Asian Regional College on Microprocessors for 70 participants with a 20 member faculty. Together with Prof. Luciano Bertocchi of ICTP, I was able to raise $140,000 required to run the course and handled most of the logistics from the University of Colombo which was designated the organiser.

In late 1983, Dr. Mohan Munesinghe, Energy Advisor to H.E. the President handed me a draft proposal for the establishment of a Computer Training Centre, and the proposal was submitted to the Japanese Government for funding. This was done in early 1984 and I visited Singapore and Japan under the auspices of JICA for further discussions. After several drafts, several missions and much paper work, the Japanese Government agreed to provide Project Type Technical Co-operation to the University of Colombo for the establishment of the Institute of Computer Technology. The Government of Sri Lanka which gave this project priority status provided funds for the Building. The Record of Discussion was signed in March 1987 and the project commenced on 1st April 1987. Eight experts arrived in August 1987 and were housed at the BMICH as the building was not ready. Staff were recruited and sent on training programmes to Japan. On their return, the curriculum was prepared and classes commenced in 1989 for the Postgraduate Diploma in Computer Technology which was meant to convert graduates of other disciplines into IT professionals.

In 1985, the Department of Statistics and Computer Science made a request for assistance to introduce a Masters Degree programme to provide computer professionals already in employment an academic foundation and technical update. This project was accepted by UNESCO for support through the UNDP Country Program. US $ 500,000 was provided for equipment, staff training and visiting staff. A link arrangement with the Department of Computer Science of the University of Wales at Cardiff provided the technical expertise. Very similar to the Colombo- Reading link of the seventies, this link too provided visiting staff who delivered lecturers to the first batch and trained the counterparts who took over. The project was considered to have had excellent progress and at the mid- term review the budget was

doubled to provide for more equipment. The Statistical Unit organised the Course on Statistical Data Analysis in collaboration with the Department of Applied Statistics of the University of Reading from December 1984 to January 1985. On January 1st , the New Department of Statistics and Computer Science (DSCS) was established with the staff of the Statistical Unit forming the core. Dr. Savitri Abeysekera functioned as Head for a very short time and then I moved out of the Mathematics Department to be the next Head of DSCS.

Information and Communications Technologies

In 1984, the Government of Sri Lanka entrusted a committee headed by Dr. Mohan Munesinghe to prepare a Computer Policy for Sri Lanka. I was a member of this committee and our proposals, resulted in the Computer and Information Technology Council (CINTEC) Act No 16 of 1984 and the formation of CINTEC with Dr. Munesinghe as Chairman. With Dr. Munesinghe returning to the USA a few months later, I was entrusted with the task of establishing the Council on an operational footing as its Acting Chairman.

CINTEC established several committees to work on the various recommendations of the Computer Policy Committee (COMPOL) report which contained the initial computer policy of the government. The salient committees were on Law and Computers, Computer Education and the use of Sinhala and Tamil in IT.

My association with CINTEC allowed me to provide programmes to create computer awareness among the public both in the cities and the rural areas.

One initiative was to send a team to the International Olympiad in Informatics. This competition in Computer programming lasting two days of five hours each for those under 20 was promoted by UNESCO. As we had joined the UNESCO Intergovernmental Informatics Programme in 1985 when I represented Sri Lanka at the inaugural meeting, we were duly notified of this initiative. We sent our first team in 1992 but our first win was a Bronze in 1993. In 1994 we won a silver and in 1995 a Gold. The tally in eleven years upto now is two golds, five silvers and ten bronzes. This as well as the South East Asia Region Computer Confederation (SEARCC) International software competition to which a team is sent annually by the Computer Society of Sri Lanka has not only provided an opportunity for our youth to compete internationally but also to show to the world at large their capabilities. The winners at these competitions have been able to obtain scholarships for further study in Computer Science at prestigious universities in the USA. A national competition, Sri Lanka National Olympiad in Informatics (SLNOI) was launched a few years back so as to prepare rural children for these competitions. The University of Colombo has contributed much to the success of this programme by providing the necessary training to our national pool.

International Recognition for computing at Colombo

The Institute of Computer Technology (ICT) was established in 1987 on a proposal made by Dr. Munasinghe as Chairman, CINTEC. The ICT soon became the base that provided the necessary infrastructure for a rapid development of the University of Colombo as an internationally recognised IT Centre. The powers and its administrative structure of the ICT were determined by the ICT Ordinance No. 02 of 1987 which provided much flexibility in administrative and financial matters. Managed by a Board of Management (BOM) the ICT could receive funds direct from the UGC and be audited separately from the main University. On a decision of the BOM, the building and equipment was insured and thus the damage caused from two bomb blasts in the vicinity could be repaired under insurance cover. The staff too, both academic and non-academic worked as a team with devotion and purpose. Bureaucracy was minimal and the Institute was kept clean and to international standards. This flexibility helped the ICT to establish its own consultancy arm the Computing Services Centre (CSC) in 1991, on the approval of the University Council. This allowed the ICT to utilise the human as well as material resources of the ICT as well as the Department of Statistics and Computer Science (DSCS) of the University to provide a consultancy and training service to the outside world. The funds thus generated were utilised to supplement the almost negligible equipment grant received from the UGC and also meet part of the cost of utilities. In addition, this scheme allowed our staff to undertake assignments after hours as part of the CSC rather than undertake individual consultancies as is the case with some of the other academics. At a time when IT professionals

are earning six digit salaries, this scheme provided a way of compensating for the relatively low salaries paid to our staff and thus minimising the brain drain. This also resulted in activity at the ICT round the clock on all seven days of the week.

The teaching programs of the ICT expanded from the original full time Postgraduate Diploma to commence three certificate courses and a part-time Postgraduate Diploma. Simultaneously the CSC introduced a large number of short courses to meet the ever increasing demand for state of the art training programmes in IT.

The University of Colombo has always worked in collaboration with other universities and our support to establish and develop the Lankan Educational and Research Network (LEARN) initiated by the University of Moratuwa was one good example. This commenced with a store and forward e-mail facility operated by Dr. Abhaya Induruwa and his staff at Moratuwa. One of the key staff members in this effort was Dr. Gihan Dias who was pursuing his Postgraduate studies in USA. A recent grant from the Swedish International Development Agency (Sida) has allowed us to improve the internet connectivity and inter university communications. This is a vital resource for the whole university community and it is important that this is further improved in a truly co-operative manner so as to reap the benefits of e-learning including video conferencing, remote learning and access to the vast international resource of knowledge.

In 1993, JICA provided support for the ICT to conduct a Third country Training Programme in IT for the benefit of 20 participants from the region. This six week residential course was conducted by the ICT at the ICT building with its own staff and equipment and was funded by JICA. The rationale was that it was much more expensive for the Japanese Government to conduct such a course in Japan and an institute such as the ICT established with Japanese Government funds should be equipped to do so. This course specialising in Systems Analysis and Design Methodologies was conducted for five years and was then replaced by a Course in Software Engineering in 1998 to be conducted for five years from then. In 1997 the ICT negotiated with the Republic of Maldives to conduct a one year Diploma programme on IT for their governmental staff with the sponsorship of the Commonwealth Secretariat and the World Bank. Two representatives from the Kingdom of Bhutan too followed this course in addition to 31 from the Maldives. In 1997, JICA presented its President's Award to the author for his contribution towards international co-operation. This was followed by the presentation of the JICA President's Award for the best Project given to the ICT in 1999 for its Third Country Training Programme.

In late 1998, an application was made by the ICT to Sida for supporting ICT/ DSCS

staff to obtain postgraduate qualifications. The Asian Development Bank sponsored Science and Technology programme had already agreed to fund some but there was a need for more. At the same time a request to improve the LEARN network was also made. These projects were accepted with the Ph.D. programme being extended to several universities. The overall project is being administered at the Sri Lanka end by the ICT.

Considering the issue of gradate unemployment, the major cause is not the fault of the student but of the system. Authorities have given in to pressure to admit more and more students to universities to cater to the ever increasing numbers sitting and qualifying at the GCE AL examination which is not a university admission test. It is the end of the Secondary School Examination. The easy way to create places for increasing Student numbers was to expand the Arts based Faculties and provide these students with a type of education which was meant to produce the limited number of graduates needed during our colonial past. We are still continuing with a very British system that existed decades ago. Most countries including Britain have changed their educational system but we are still very reluctant to make changes to our educational system. Some initiatives have been taken and the proposed educational reforms have provided some very important solutions.

Today's graduate needs to fit into current requirements and also should be ready to adapt to the future needs. The state sector is not necessarily the major employer now and the private sector looks for different attributes. Furthermore, there is also a need for communication

skills and IT skills. This is different from the skills in software development needed by the IT industry. Even professionals such as Lawyers, Accountants and Doctors need IT skills. Thus these skills have to be acquired by the undergraduates. The provision of such skills should lie primarily with the respective faculties with advice being sought and received from the IT specialists. This was in fact partly achieved in the seventies with the Development Studies degree programme but as stated earlier, the whole programme was discontinued. The Campus network is now nearing completion. The proposed allocation of state funds to the value of Rs. 1 Billion in year 2001, which has been declared as the Year of IT Education, should be utilised to provide these facilities so as to make every graduate skilled in IT or at least computer literate. This would in turn change the attitudes of all undergraduates and make them use their stay at the University more meaningfully than at present.

The need for IT graduates made us explore ways and means of producing the large numbers needed. The traditional universities had no resources or even the space to produce thousands overnight but their own graduates were assured of employment. On the other hand the private sector programmes had no standard nor any credibility. The solution was to provide a standard curriculum and an acceptable certification. Much funds were being sent overseas for foreign examinations and this too could be retained if a solution could be found. The staff of the UCSC developed an External degree programme of three years duration leading to a Bachelor of Information Technology (BIT) which was made deliberately different from internal courses so as to avoid direct competition. As is the case of all external degrees, the curriculum, the examinations and the award of certificates and degrees is the responsibility of the UCSC with the approval of the Senate of the University of Colombo while the provision of training is left to others with also the possibility of self study. This initiative would, over the next few years provide the manpower required by the expanding IT industry while at the same time providing employment opportunities to many of our educated youth.

The New Millennium

The arrival of the IT revolution was not at all clear in 1950 nor in the next few decades. However, it is clear that Information and Communication Technologies which has already pervaded almost all disciplines would dominate the next century together with other new technologies such as bio technology and nano technology. Hybrid disciplines such as bio-informatics would also dominate. The gradual development of computing at Colombo University culminating with the establishment of UCSC in 2002 with its expertise and equipment bringing it to the level of an internationally recognised Centre of Excellence, has allowed us to meet the changing future needs of these technologies. Such a Centre of Excellence cannot live on its past and needs to be always ready for future developments. Accordingly, a Multi Media Training, Research and Development Centre and several other initiatives such as e- Learning have been launched in the new Millenium.

The success of the BIT program immediately attracted donor assistance to provide for learning resources to the thousands of external students registered for this programme. This was indeed a win win situation where a quality degree recognised by the industry was offered by the university of Colombo with the curriculum developed by the highly qualified staff of the UCSC while the students who were unable to enter university or enter the high demand courses in Computing could aspire to be an IT graduate. The learning resources however were scarce at the beginning but with the use of the web and the national TV, these improved. With three year's of experience behind us, the UCSC with the able support of Sida and JICA are now embarking on introducing e-Learning resources including a Learning Management System (LMS) for the thousands of BIT students. It was heartening to know that already, final year students are applying for employment in the IT industry and are being identified as very suitable for the industry.

Conclusion

I have attempted to record from my personal recollection some of the important events which have taken place in the field of education during the last fifty years. Some aspects have not been considered at length due to lack of space but will be elaborated in an expanded work, to be published in the near future. I hope that this article will help the reader in utilising our past experiences towards evolving a long term plan for human resources development to meet the changing needs of the nation.

I have retained my substantive post at the University of Colombo commencing from my first appointment in 1961 in spite of my major responsibilities at Vidyodaya Campus (1972-73) and at CINTEC (1985-1992 and 1994-2000). I believe that I have been able to contribute much to the development of the University of Colombo while at the same time expanding my own horizons and experience. The decision to retain my post at Colombo University and my membership and active interest in professional associations has helped me to withstand pressures from others outside the University system and retain my independence. This has helped me to acquire a balanced attitude towards developmental issues.

Throughout my university career, I have maintained a policy of not undertaking any private consultancies and channelling all such activities through the university, thus helping the development of university facilities and creating an additional source of income for all staff. This has resulted in the collective development of our resources for the benefit of all.

I have also looked at the University as a whole and contributed to the overall development of the University in whatever way I could. The considerable achievements made by all of us at the University of Colombo during the past were the result of hard work, co-operation, support for genuine initiatives of those who took independent decisions purely on merit and above all their sincere intentions to contribute to the progress of the nation.

In conclusion, I wish to thank our past Vice-Chancellor, Prof. Savitri Goonesekere for the encouragement she gave me to write this in the year 2000 for the Millennium Issue of the University of Colombo Review. As there was a delay in publishing, I was requested by the editors to bring the paper up to date and thus this is a version that includes more recent developments up to the end of 2004. I also wish to record my appreciation of many who have associated with me during the past to make our efforts at the University of Colombo meaningful and effective. The next five decades would certainly be very different from the last five, but there are many lessons that we have learnt that would help the future generations to overcome the challenges of their time. May this contribution be of some help to those who would care to look back before re-inventing the wheel.

Vidya Jyothi Prof. V.K. Samaranayake

Founding Director of the University of Colombo School of Computing

From Computer Science to a Science of Computing – A Paradigm Shift

Many are inclined to think that computation and computers are inseparable with the latter as a platform based on binary logic to perform a range of computations from precision numerical calculation, to deductive reasoning, to language processing, to business transactions and to social interactions. This impression is not wholly wrong given the widely held belief in the evolution of computers as those of calculating machines starting with Babbage's analytical engine to Von Neumann's stored program control concept. Prior to the appearance of those calculating devices, philosophers and mathematicians were contemplating on a precise way to quantify the act of computation. From David Hilbert's conjecture that all of mathematics can be axiomatised to its rebuttal by Kurt Godel in his Incompleteness theorem had lead to the active search for the meaning of computability by Alonzo Church and Alan Turing. Precise formalisms were laid down for the act of computation and its limits and impossibilities, which were naturally inspired by how 'humans calculated', using either mathematical functions or the actions of the classical Von Neumann machine. The rapid development in computing hardware as we know of today, in line with Moore's prediction that computing power doubles every 18 months emphasized the centrality of computers at the expense of computation so much so that, Edsger Dijkstra was to claim that 'computer science is no more about computers than astronomy is about telescopes'. The distinction between computers and computation has thus been drawn, and had dealt a blow at computer science as the study of artifacts surrounding computers, as understood by many. The central dogma that computation is intrinsically tied to that of the underlying hardware heavily limited the scope of theoretical and practical development in programming languages naturally leading to viewing the solution to a task from the perspective of the Von Neumann model which is discrete, symbolic logical and deterministic. Nevertheless computer scientists were not totally blind to the way the surrounding nature's peculiar ways of solving 'problems', be they on reasoning, pattern classification or optimization. The inspirations came from natural selection in evolution, the way the neuronal networks in brain works, quantum physics and more recently in the behavior of large scale social interaction over internet. In all these it was observed that a form of computation exists that is not captured precisely by the conventional human centric thinking. Therefore the encoding of a problem's solution mimicking nature was always seen from the classical machine centric perspective with all its weaknesses similar to that of 'thinking in Sinhala and speaking in English'. With the developments in technology, quantum computers are almost a reality and biological computation in the form of gene based DNA level manipulation is a reality too. The inherent computation in these models is being understood as well as that offered by dynamics of large scale social interaction made possible over a fast Internet demonstrating that computations that are the quite opposite to a discrete, symbolic and deterministic universe is possible. The necessity now is to view such computations as offering a unique model or models to solve hard problems and to find the appropriate native encodings that express the computation in a suitable algorithmic form for the 'novel' computer substrate. There lies the future in a profoundly new Science of Computing.

D N Ranasinghe

References:

1. The Natural Science of Computing; D Horseman et al; Communications of the ACM; vol. 60; August 2017
2. Nature of Computing; C Moore et al; Oxford University Press; 2011
3. Computing as a Natural Science; SLAAS Section E1 President's Address; D N Ranasinghe; 2008

Staying relevant in the 21st Century

"Education is the kindling of a flame, not the filling of a vessel"

– Sir Ken Robinson, Visionary Cultural Leader (from TED Introduction)

In his best-selling book *Out of our minds: learning to be creative*, Ken Robinson creates an analogy of an organizations thus:

> "Organizations are like organisms. In many ways, the life cycles of organizations follow those of human lives. They begin in the mind of someone, as the first inkling of an idea. The idea is nurtured and cultivated and if it is viable it begins to grow. The most creative periods in the lives of organizations are often in the early stages of growth when there is a rush of excitement about possibilities to be explored and everyone lends a hand to do whatever is needed for survival.
>
> In its youth, an organization may burn great energy on new ventures and take heady risks in the pursuit of success. As a successful organization matures it tends to settle into fixed institutional structures and routines and to become more conservative. It enters middle age. Over time, it may suffer from a hardening of the categories and lose its original vitality and suppleness. If the process of sclerosis continues, it may grow old and die. And many organizations do."

How then do organizations such as IBM, Microsoft and Apple, not just still exist, but continue to thrive? The key according to Ken Robinson and many others is that they do this by continuously *reinventing themselves*. Sir Robinson himself calls is *being born again*. So, how do they do this, and why can't the rest of us do it too?

Ken Robinson's experience points to these companies being serious and intentional about investing in the creative powers of the people within their organization. He continues, 'The simple truth is that organizations that make the most of their people find that their people make the most of them. That is the power of innovation and the constant promise of creative leadership'.

As we move ahead in the knowledge economy we've entered into, it is only creativity and innovation that will set an organization apart from its competition. The University of Colombo School of Computing will be able to survive and thrive in that new 'creative economy' only be reinventing itself. This means that it needs to reexamine and redefine its very core: its vision, mission and core values, all need to all be reimagined in the context of the completely new situation we will find ourselves.

New blood

Organizations that have stood the test of time, such as IBM, and to a shorter extent Microsoft and Google, have not just survived but thrived, owing to them adjusting to the advent of the knowledge worker. This is no longer a passive employee content with 'obeying orders', but one who is energized by being engaged in important decisions of the organization. Both Microsoft and Google are now led by Indian CEOs who've managed to capture the imagination of not only their companies, but the entire industry.

Structures that encourage initiative and engagement aligned with the goal of taking the UCSC beyond its 'tipping point' then, is key to being 'born again' – reinventing itself to be relevant and staying ahead of the competition. To be sure, this goes against the very grain of the rigidly structured university hierarchy. It would take brave and bold leadership to reset their own mindset about how organizations thrive in the long term, and be willing to be different to their colleagues in the rest of the university ecosystem. However, it is also absolutely crucial and would determine if the UCSC remains within the status quo, or moves on ahead, keeping abreast of the global economy. Any sufficiently keen eye on the Sri Lankan companies that are thriving within the international arena will give clues as to this ingredient of valuing human capital above infrastructure, bylaws and procedures as a key to success especially in industries in the knowledge economy.

New blood must *flow freely* in the veins of the UCSC.

Value addition

Each member in an organization needs to bring value addition its core business. Alienation is a cancer that once sets in, can speed up the death of an organization. In the case of a state institution, it is a little worse since they are not able to die: they'd go into a 'vegetative state'.

A strong sense of ownership at all levels of the organization is then key to progress. A welcoming of new initiatives, the willingness to take risks with junior academics, trust in delegation are all essential ingredients in fostering the culture of each member adding value to the organization.

With the ever increasing pace of technological advancement in the area of computing, it is clear that the UCSC needs all the help it needs in the diverse sub-fields of research and industry in order to stay relevant and thrive. This not only calls for empowering all members to add value to the organization, it also permeates aspects such as recruitment and continuing professional development which need to be intentional rather than being left to take their 'own course'.

One of the key drivers of creativity and innovation is diversity. The UCSC needs to actively seek to widen its 'gene pool' by intentionally recruiting academics from diverse cultural and academic backgrounds in order to avoid 'local optima' that plague the university system in general. This cannot be done without some risk taking and so is completely complementary to the first strategy of 'letting the young blood run in its veins'.

Each academic and employee should *add value* to a reengineered version of the new UCSC's vision and mission.

Learning organization

The concept of the *learning organization* is not new. It is still a key ingredient of any successful organization. This concept has two key pillars: an organization that *fosters curiosity* among its employees and encouraging them to have their own personal development plans aligned with the organization and the industry; and an organization that is agile and *always looking for ways to improve* itself in terms of policies and processes, even if they have been 'tried and tested'.

The second of these is no mean task since the UCSC 'lives' within the context of its parent university and the entire university system. As such, it takes both creativity and courage to be willing to make such corporate governance improvements. However, that is what it would take to stay relevant globally and eventually to convince the larger ecosystem to change as well.

As the futurist Alvin Toffler says 'the illiterate of the 21st century are not those who can't read or write, but those who can't learn, unlearn and relearn'.

A key ingredient of a reimagined UCSC is that it would *never stop to learn and change* its ways.

Research led

The key distinctive of any state university compared to its competition is the head start they have in terms of the long-sighted investments they have made in building up human capital capable of engaging in research. While this is an essential first step, it has not automatically resulted in the establishment of a research culture in several departments and faculties. The UCSC has made some good inroads into this sphere owing to some key decisions to invest self-generated funds for supporting research.

Experience has shown that initially such research is undergraduate led, but soon needs to graduate to fulltime funded research. Forays into this arena have been somewhat sporadic. International collaboration which is key in successfully executing such research has largely been absent. Collaboration with the Sri Lankan software export industry has also been sporadic and mostly unintentional.

Going forward, the UCSC needs to leverage its significant research potential to forge new collaborations both with global industry and international universities in order to stay relevant at the cutting-edge of the field.

All aspects of the UCSC, from its core business of teaching, its consulting and even its governance should be *research-led*.

Conclusion

Staying relevant in the *brave new world* is going to take the UCSC some *sustained intentional effort* in the areas highlighted above. These are ideas generated via a Delphi Poll of several academics across a cross-section of its academics – from all levels of experience. While it wouldn't be adequate as a comprehensive base on which to build its future, it constitutes a *body of understanding* that is *owned* from within, and so can serve as a *launching pad* for reinventing itself to reclaim its leading position in its domain in this 21st century.

Ruvan Weerasinghe

Thorny bits. Tread carefully

I am sure you are by now, after flipping through the pages of this volume, basking in the glories of computers, computer science, information technology and other allied whatnots. I know, you are impressed and another article along the same lines would not surprise you. But, I am going to disappoint you.

I am not a child of the so-called information age. I was introduced to this wonderful machine when I was in the A/L class. Once in a blue moon we were allowed to enter a "devale" - a few BBC micros and Zinclair Z80s were the deities who reined there. We removed our shoes and stood in a line to get our 5 minutes with them. We learned to respect the computers and fear them at an early age. We used them with some trepidation. That feeling still lingers.

It has been almost 30 years since then. We no longer have to stand in line to get some precious minutes of computer time. Like true deities they have become omnipresent and descended right into our pockets and handbags. It is highly likely that you have a smartphone (dumb phones are hard to come by these days). For most people smartphone is the only personal computing device. For the children of the information age using these devices is no more mundane than brushing their teeth in the morning. The older generation too must, some times grudgingly, get used to them.

Few years back smart phones used to warn you when you connect to the Internet. Now it is the other way round. It warns you if you try to turn off the mobile network connection. This means that you have a powerful computing device connected to other devices right in your pocket. You have computing power equivalent to super computers forty years back at your fingertips. They put a man on the moon with less computing resources than you have in your pocket. Isn't this amazing?

This is not the end of the story. The smart phones are packed with sensors. Almost all of them can consult satellites orbiting around the earth to get your exact location. They can detect your movements – how fast you are moving and towards what direction and or course, up or down. A smartphone is a phone and it has to have a microphone – a sound sensor. And of course, who needs a smartphone without a camera; and do not forget that all important selfie camera.

With all these sensors packed in them they can "see it all and hear it all" and they are everywhere as well. They are omnipresent and omniscient. Well aren't they deities? We were right to take off our shoes to enter into their domain 30 years back.

We really do not use our smartphones directly to solve our problems. They in fact act as kind of agents for the real players behind the scene – Google, Facebook, Amazon and the likes. We expect them to solve our problems. We have no qualms in pouring our worries and questions into them. When we have a problem we ask Google – if you want a bit of human touch as well, then ask Quora. We share all our important events with Facebook – such as the selfie that we take at the breakfast table in the morning. We start our day by checking Gmail. You may protest and say that you do not use Gmail, but the one that provided by your employer. Do not be too certain, it may be your employer who has provided the email facility but a big player may be behind the scene managing it.

Before you heading out to a place that you have never been before, you do not think twice before consulting Google maps. If you are tech savvy you may check the street view before you start. More often than not Google will guide you to the right place along the best route. Well, if you do not have a car there are online services that help you to hire one as well.

Most of these goodies are free. You don't pay for your Gmail account or the Facebook page. Google gives you driving direction, but does not send a bill for that. You have more than enough storage on the cloud for your precious photos, but you are not expected to pay. The list of freebees is growing by the day and you have forgotten the adage "There is no such thing as a free lunch".

In fact, there is no such thing as a free lunch. This is truer than ever. You pay for all these services in full. Don't worry; you are not indebted to Google or Facebook. You have settled the accounts by transferring one of the most sought after asset these days - your information.

You are being watched all the time. That cute device in your pocket is the agent that keeps track of your movements and activities. The providers of so-called free services have pretty good idea about who you are; they profile you. They know exactly the advertisements that would interest you while you get your daily gossip of your friends over the Facebook- the targeted advertisements.

When you take a photo from you phone they are geo-tagged. That means the photo includes information about the location. Remember that your phone has sensors to find its location. When you upload that photo, in addition to the picture itself, you are providing tons of other information as well.

Let's say that you have searched for a hotel on a popular hotel booking service. Then you go to some other website; Say, you log on to Facebook. I am sure you have done this before, but have you noticed that now suddenly you get adds on the Facebook that are quite related to the hotels you have looked at? It is not just they gather information about what you do and where you go, they also share/sell these information as well.

There are millions of "apps" available for your smartphone and most of them are free. Dozen of them are pre-loaded into your smart phone by the time you buy your phone. Do you really know what they do? Sure, you probably know the service that each one provides and that can be quite innocent. Say, for example the flashlight app. But, do you know what sensors they access and what information they transfer to their parent servers?

Forget the pre-loaded apps. How many apps have you installed by yourself? I am sure you have installed at least one app. When you install them there is usually a warning on the privileges that the app requires. It may need to access the network, your address book, accelerometer, and the camera. What do you do? You would agree and say yes. Perhaps, the app is just a flashlight and you have given it access to the address book! You have just handed over the phone numbers of your friends to some unknown person.

Have you ever wondered how the navigator app can get more precise position when you turn on the WiFi even if you are not connected to any access point? It is because it can scan for the access points nearby and get a better location based on them. It knows the location of those access points – it has a large database with the access point names and their locations. Most probably your home WiFi is there too. How did they get that information? You and other users have given those locations without really knowing that you have done so.

The mobile service providers always had a way to get your location to a certain level of accuracy. Nowadays, the term "service provider" has blurred a lot. Of course, there is always your telecommunication provider or the carrier. But, your smartphone gets services from large number of third party apps and there are service providers, not affiliated to your telephone service provider, behind them. More often than not they are not even in the country. Potentially, they all can get your location- they all can track you all day.

I am not done yet. On your birthday you get a latest and greatest smartphone – a dream come true. It is time to get rid of the old one. It is still usable and it still has some life in it. You don't want to dump it in garbage can, do you? You feel quite generous and give it to somebody who is in need. You are quite smart and before you give it away you delete all the personal information in it – delete photos, address book and reset the phone as well. You are happy that it has gone to a good home and you have not left anything incriminating in it. You probably have no idea how wrong you are until you see some of those photos appearing in social networks.

This is the reality; it is quite simple to recover those files that you deleted. This is true not just for smartphones; your desktop is not any better. Somebody getting hold of your photo collection can cause you some embarrassment, but your old phone may be carrying some information that can bring you down financially as well. If you store something in a phone there is always a possibility that it can be recovered even if you delete it.

Don't be scared and throw your phone out of the window; that is exactly what you should not do.

Smartphones and other ubiquitous computing devices are wonders. They are quite useful and have become must-have tools for a regular life in the 21st century. Just keep in mind that there are thorny bits hidden under the rosy buds. Tread carefully.

Chamath Keppitiyagama

The vision to be the pioneer in computer education in Sri Lanka

The Golden Jubilee of Computing @ University of Colombo coincides with the Silver Jubilee of graduation of the first batch of Computer Science from University of Colombo in the year 2017. In the 50 years that passed from 1967, when computing was introduced in the department of Mathematics in the University, it has been championed and guided by Prof. V.K. Samaranayake who can be called the "father of computing" at University of Colombo. Prof. P.W. Epasinghe who was a very distinguished Professor at University of Colombo ably supported Prof. Samaranayake on this endeavor. Prof. Samaranayaka was instrumental in many pioneering things in Computer education at the University and also in Sri Lanka at large and his visionary thinking has borne fruits in many areas. Prof. Samaranayaka headed the Council for Information Technology (CINTEC) initially in 1984 when it was established as an apex body to advise government in ICT policy matters. Later he became the chairperson of ICT Agencies of Sri Lanka which was the successor to CINTEC as the apex body for ICT in Sri Lanka. Prof. P.W.Epasinge became the Chairman of ICTA after Prof. Samaranayaka's demise.

When the computing was introduced in 1967, it took a very slow pace since the sector did not grow very much in the next 10-15 years. However, by early 80's with more focus on the businesses and the ground breaking technology advances in the micro-computers, the use of IT started growing at a steady pace. Most of the early computer professionals in Sri Lanka, were either engineers or science graduates mostly doing on the job learning. There were a few who had graduated from foreign universities. There were few certificate courses and National Institute of Business Management started a year-long diploma in Computer Systems design in 1982-83 time frame which was the most advanced type of computer education in Sri Lanka in that era.

Professor Samaranayake, being the visionary and the entrepreneur, identified this opportunity and started working to introduce computing education through University. Prof. Samaranayaka had been able to secure a separate department for Statistics and Computer Science in 1985 in the University of Colombo, and a separate entity named Institute of Computer Technology (ICT) in 1987 which was established within the University. He also worked hard with funding agencies to get funding for a building and equipment to start Computer education in a methodical fashion. ICT was established to give Computing education to already employed computer professionals offering them a postgraduate diploma in computing. This institute was not governed by UGC thus had the ability to work autonomously even when the universities were closed due to student unrest which was a very frequent occurrence at the time. This was brilliant thinking from Prof. Samaranayaka and ICT trained many professionals in the Government and Private sector. The first intake for a Computer Science degree was offered to the 85/86 Science batch of students as a special degree and was selected on the basis of second year examinations. The first batch belonged to Department of Statistics and Computer Science which was a part of the Faculty of Science in early 1990s. I happened to be a member of that first batch which was only a small group 24 students. This was offered in the year 1990, at a time when the University was just recovering from a long period of closure due to youth unrest in the country in the years of 1988 and 1989.

Thereafter the department of Computer science and Statistics separated as two departments and ICT and Department of Computer science merged in the year 2002 to form the University of Colombo, School of Computing or UCSC. The inaugural director of UCSC was again Prof. Samaranayaka. Until the year 1997, the special degree in computer science was based as a special degree for science faculty Physical science stream. Today UCSC has a direct intake of students through UGC and offers, three types of bachelor's degrees. In addition, UCSC offers three postgraduate courses and conduct exams for external degrees as well. It has grown

very big and the three floor building which was initially built with JICA aid has been expanded to many floors with additional space to accommodate around 300 plus students per intake.

UCSC and its predecessor can boast of being the first to design a program for Cricket telecast back in 1990, Calculation and display of election results, telecast of South Asian Federation (SAF) games. Theekshana, which is the Software design and development arm of UCSC has developed a very useful and cost effective software system to assist Sri Lanka Police in finger scanning for crime prevention. There are many other novel research ideas that have taken birth at UCSC. UCSC has also developed a group of very strong academics who are second to none in research and education.

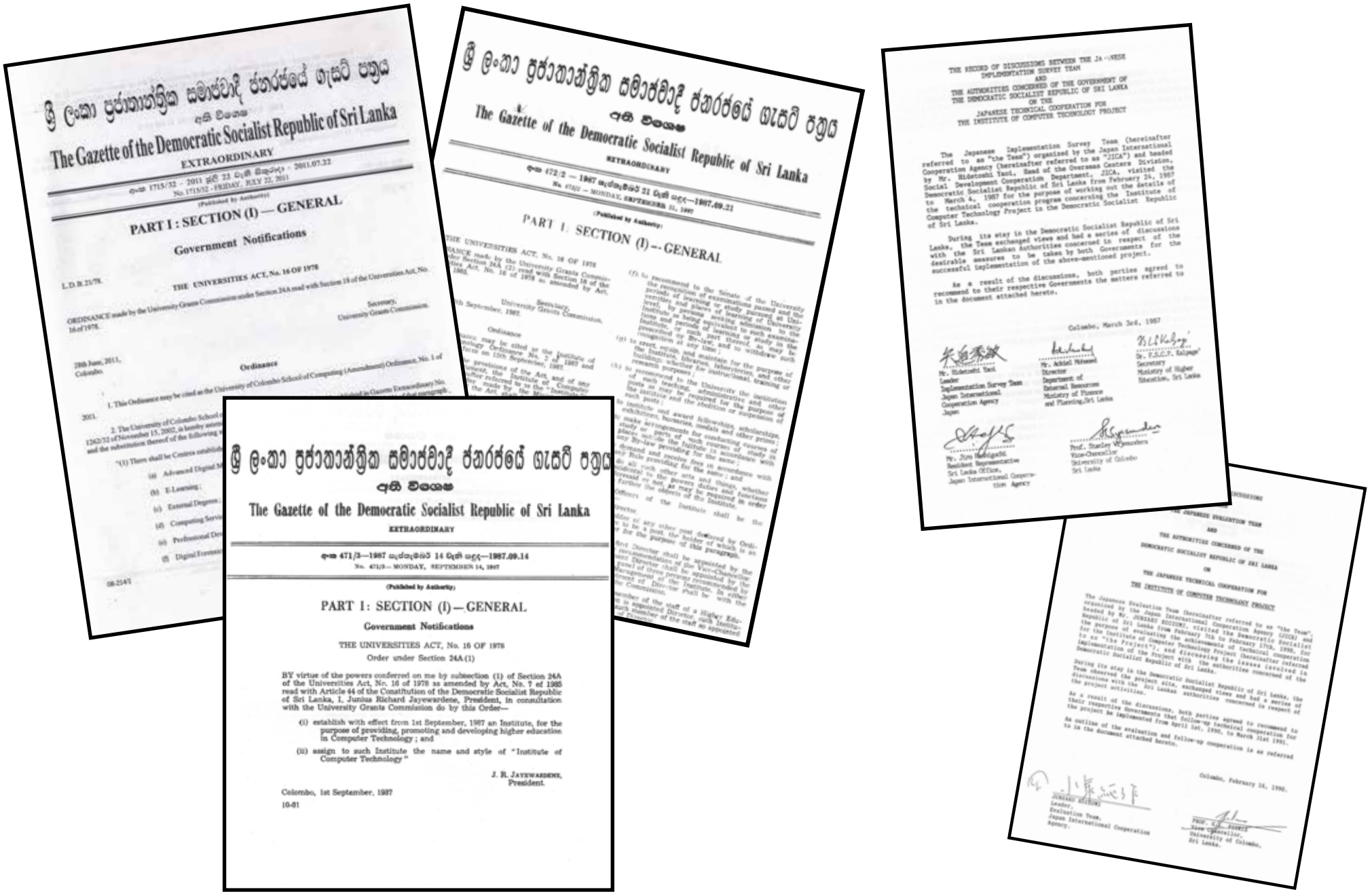
The Alumni of the UCSC has a wide variety of candidates who have followed the variety of courses at University of Colombo, including the undergraduate, post graduate diploma, Master degrees and even research degrees such as MPhil and PhD. Such Alumni of the UCSC have expanded into many industries and organizations and there are a sizeable number of such Alumni which live abroad in countries such as USA, Canada, Australia, UK, New Zealand etc. The government of Sri Lanka, most of the major banks and leading business institutions, local universities and some foreign universities have employed UCSC Alumni who have all shown their knowledge and value to ICT industry. Subsequent to Prof. Samaranayaka, Dr. Ruwan Weerasinghe, Prof. Gihan Wickramanayaka and the current director Prof. K.P. Hewagamage have worked very hard to keep the UCSC flag flying. Incidentally, all of them are also Alumni of University of Colombo and UCSC. There have been many other senior and junior lecturers and support staff who have given a lot in building up this institution.

UCSC has grown big and strong. However, I miss the enthusiasm which were very evident in the early years and the very close relationships within the organization at that time. This may be due to the large expansion but I trust if this could be improved, UCSC can go from strength to strength.

Dinesh Arunatileka

University of Colombo
Institute of Computer Technology
ICT
UNIVERSITY OF COLOMBO SRI LANKA
INSTITUTE OF COMPUTER TECHNOLOGY
A JAPANESE GOVERNMENT TECHNICAL CO-OPERATION PROJECT
The Gazette of the Democratic Socialist Republic of Sri Lanka
EXTRAORDINARY
PART I : SECTION (I) — GENERAL
Government Notifications
HANDBOOK
1984
FACULTY OF SCIENCE
Department of Statistics and Computer Science
University of Colombo
The Project for Human Resource Development in Information Technology through Capacity Building of the
University of Colombo School of Computing
UNIVERSITY OF COLOMBO SRI LANKA
COMPUTER POLICY REPORT
MAY 1990
INSTITUTE OF COMPUTER TECHNOLOGY
University of Colombo, Sri Lanka
A JAPANESE GOVERNMENT TECHNICAL CO-OPERATION PROJECT
PROJECT REPORT
1987 - 1991
DIPLOMA IN COMPUTER TECHNOLOGY
A Colombo Plan Project with Japanese Government Technical Cooperation
PROSPECTUS
JULY 1988
UNIVERSITY OF COLOMBO, SRI LANKA
INSTITUTE OF COMPUTER TECHNOLOGY
COLOMBO PLAN PROJECT WITH JAPANESE GOVERNMENT TECHNICAL COOPERATION
PROJECT REPORT
1987-1991
TERMINAL REPORT
Project SRL/86/013
M.Sc. COURSE IN COMPUTER SCIENCE
Department of Statistics and Computer Science, University of Colombo, Sri Lanka.
June 1995

EXIT



ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ ගැසට් පත්‍රය

අති විශෙෂ

The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

PART I : SECTION (I) — GENERAL

Government Notifications

L. D. B. 21/78.

THE UNIVERSITIES ACT, No. 16 OF 1978

ORDINANCE made by the University Grants Commission under Section 24A read with Section 18 of the Universities Act, No. 16 of 1978.

Secretary,
University Grants Commission.

28th June, 2011,
Colombo.

Ordinance

1. This Ordinance may be cited as the University of Colombo School of Computing (Amendment) Ordinance, No. 1 of 2011.

2. The University of Colombo School of Computing established in Gazette Extraordinary No. 1262/32 of November 15, 2002, is hereby amended by the repeal of paragraph (1) thereof and the substitution thereof of the following paragraph:

"(1) There shall be Centres established in the University of Colombo School of Computing, namely:—

(a) Advanced Digital M...

(b) E-Learning ;

(c) External Degrees ;

(d) Computing Servi...

(e) Professional Dev...

(f) Digital Forensic...

08-2147

ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ ගැසට් පත්‍රය

අති විශෙෂ

The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

අංක 472/2 — 1987 සැප්තැම්බර් 21 වැනි සඳුදා—1987.09.21

No. 472/2 — MONDAY, SEPTEMBER 21, 1987

(Published by Authority)

PART I : SECTION (I) — GENERAL

THE UNIVERSITIES ACT, No. 16 OF 1978

...ANCE made by the University Grants Commis...
...ber Section 24A (1) read with Section 18 of the
...ities Act, No. 16 of 1978 as amended by Act,
...1985.

...Secretary,
...University Grants Commission,
...th September, 1987.

Ordinance

...ance may be cited as the Institute of
...nology Ordinance No. 7 of 1987 and
...ome into force on 15th September, 1987.

...ject to the provisions of the Act, and of any
...ment, the Institute shall be a body
...orate referred to as the "Institute of
...nology" made by
...the Act, shall be the

(f) to recommend to the Senate of the University the prescription of examinations passed and the periods of learning or study pursued at Universities, and places of learning or University Institutes as being equivalent to such examinations and periods of learning or study in the Institute, or such part thereof or study in the Institute, or such part thereof as may be prescribed by By-law, and to withdraw such recognition at any time ;

(g) to erect, equip, and maintain for the purpose of the Institute, libraries, laboratories, and other buildings, whether instructional, training or research purposes ;

(h) to recommend to the University the institution of such teaching, administrative and other posts as may be required for the purpose of the Institute and the abolition or suspension of such posts ;

(i) to institute and award fellowships, scholarships, exhibitions, bursaries, medals and other prizes ;

(j) to make arrangements for conducting courses of study or parts of such courses of study in any place, outside the Institute in accordance with any By-law providing for the same ;

(k) to demand and receive fees in accordance with any By-law providing for the same ; and

(l) to do all such other acts and things, whether incidental to the powers, duties and functions aforesaid or not, as may be required for the furtherance of the objects of the Institute.

...Officers of the Institute shall be the
...Director.

...Director of any other post declared by Ordi-
...to be a post the holder of which is
...for the purposes of this paragraph.

...First Director shall be appointed by the
...Commission on the recommendation of the
...Council of three persons nominated by the
...Council of Directors of the Institute. In other
...arrangements for the appointment of Direc-
...tor of the Institute shall be with the
...Commission.

...member of the staff of a Higher Edu-
...is appointed Director of the Institute
...a member of the staff of the Institute

J. R. JAYEWARDENE,
President.

Colombo, 1st September, 1987

10-01

ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ ගැසට් පත්‍රය

අති විශෙෂ

The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

අංක 471/3—1987 සැප්තැම්බර් 14 වැනි සඳුදා—1987.09.14

No. 471/3 — MONDAY, SEPTEMBER 14, 1987

(Published by Authority)

PART I : SECTION (I) — GENERAL

Government Notifications

THE UNIVERSITIES ACT, No. 16 OF 1978

Order under Section 24A (1)

BY virtue of the powers conferred on me by subsection (1) of Section 24A of the Universities Act, No. 16 of 1978 as amended by Act, No. 7 of 1985 read with Article 44 of the Constitution of the Democratic Socialist Republic of Sri Lanka, I, Junius Richard Jayewardene, President, in consultation with the University Grants Commission do by this Order—

(i) establish with effect from 1st September, 1987 an Institute, for the purpose of providing, promoting and developing higher education in Computer Technology ; and

(ii) assign to such Institute the name and style of "Institute of Computer Technology"

J. R. JAYEWARDENE,
President.

Colombo, 1st September, 1987

10-01

THE RECORD OF DISCUSSIONS BETWEEN THE JA...ESE
IMPLEMENTATION SURVEY TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
ON THE
JAPANESE TECHNICAL COOPERATION FOR
THE INSTITUTE OF COMPUTER TECHNOLOGY PROJECT

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Hidetoshi Imai, Head of the Overseas Centers Division, Social Development Cooperation Department, JICA, visited the Democratic Socialist Republic of Sri Lanka from February 24, 1987 to March 4, 1987 for the purpose of working out the details of the technical cooperation program concerning the Institute of Computer Technology Project in the Democratic Socialist Republic of Sri Lanka.

During its stay in the Democratic Socialist Republic of Sri Lanka, the Team exchanged views and had a series of discussions with the Sri Lankan Authorities concerned in respect of the desirable measures to be taken by both Governments for the successful implementation of the above-mentioned project.

As a result of the discussions, both parties agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Colombo, March 3rd, 1987

Mr. Hidetoshi Imai
Leader
Implementation Survey Team
Japan International
Cooperation Agency
Japan

Mr. Addeli Mirawad
Director
Department of
External Resources
Ministry of Finance
and Planning, Sri Lanka

Dr. P.S.C.P. Kalpage
Secretary
Ministry of Higher
Education, Sri Lanka

Mr. Jiro Hasegawa
Resident Representative
Sri Lanka Office,
Japan International Cooperation Agency

Prof. Stanley Somaratna
Vice-Chancellor
University of Colombo
Sri Lanka

...DISCUSSIONS
...THE REPUBLIC EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED OF THE
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
ON
THE JAPANESE TECHNICAL COOPERATION FOR
THE INSTITUTE OF COMPUTER TECHNOLOGY PROJECT

The Japanese Evaluation Team (hereinafter referred to as "the Team", organized by the Japan International Cooperation Agency (JICA) and headed by Mr. JUNZABU KOIZUMI, visited the Democratic Socialist Republic of Sri Lanka from February 7th to February 21st, 1990, for the purpose of evaluating the achievements of technical cooperation for the Institute of Computer Technology Project (hereinafter referred to as "the Project"), and discussing the Japanese technical cooperation with the Project with the authorities concerned of the Democratic Socialist Republic of Sri Lanka.

During its stay in the Democratic Socialist Republic of Sri Lanka, the Team observed the project site, exchanged views and had a series of discussions with the Sri Lankan authorities concerned in respect of the project activities.

As a result of the discussions, both parties agreed to recommend to their respective Governments that follow-up technical cooperation for the project be implemented from April 1st, 1990, to March 31st 1991.

An outline of the evaluation and follow-up cooperation is as referred to in the document attached hereto.

Colombo, February 16, 1990.

JUNZABU KOIZUMI
Leader,
Evaluation Team,
Japan International Cooperation
Agency.

...Vice-Chancellor,
University of Colombo,
Sri Lanka.

UCSC at a Glance

Internal Undergraduate Degrees

- BSc in Computer Science
- Bsc Hons in Computer Science
- BSc Hons in Software Engineering
- BSc in Information Systems
- BSc Hons in Information Systems

Postgraduate Programs

- Master of Information Technology
- Master of Computer Science
- Master of Science in Computer Science
- Master of Information Security

External Degrees Programs

- Bachelor of Information Technology
- Higher Diploma in Information Technology
- Diploma in Information Technology

Academic Staff

3 Professors and 22 Senior Lecturers and 18 Lecturers among whom are 24 PhD holders

Departments

- Department of Communication & Media Technologies (CMT)
- Department of Computation & Intelligent Systems (CIS)
- Department of Information Systems Engineering (ISE)

Centres

- Advanced Digital Media Technology Centre
- Computing Services Centre
- External Degrees Centre
- e-Learning Centre
- Professional Development Centre
- Centre for Digital Forensics

Conferences & Journals

- 17th IEEE International Conference on ICT for Emerging Regions
- ICTER Journal indexed by SLJOL (since 2008)

Research Groups

- Social Life Networks
- Sustainable Computing
- Modelling and Simulation
- Language Technology
- Computational Biology
- Machine Learning
- e-Learning and Pedagogy

BIBLIOGRAPHY

- Abdus Salam, (1975), Invitation Letter from ICTP to V. K. Samaranayake as an Associate Member (1972), UNESCO, 15th February, 1975
- Annual Report - (1976), Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 1976
- Annual Report - 1977, Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 1977
- Annual Report - 1978, Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 2nd April, 1979
- Annual Report - 1979, Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 5th February, 1980
- Annual Report-1981, Department of Mathematics, University of Colombo, January1981 – December 1981, 1982
- Annual Report-1982, Department of Mathematics, University of Colombo, January1981 – December 1981, 1982
- Calendar 1964, University of Ceylon
- CINTEC Act No 16 of 1994
- COMPOL (1983), Report of the National Computer Policy Committee submitted to H.E. the President of Sri Lanka, April, 1983
- Computer Centre Project Report – Six Member Team Visit Sri Lankan from 26th October, 1986 to 12th November, 1986
- Computer Policy Report (1990), University of Colombo, Sri Lanka, May, 1990
- Computer System for the Statistical Unit (1980), Dr. Roger Stern, 30th July, 1980
- Dharmawardena, M. W. C., (1974), A Low Cost Unified University System of Education, University of Sri Lankan, Vidyodaya Campus Publication, Nugegoda, Sri Lanka, 25th, July, 1974
- Dialup and Microware Links, (1985), Master Plan for Universities and Research Institute, Proposal by University of Colombo, 1985
- Document Prepared for the Japanese Mission to Sri Lanka, (1984), A Proposal for the Establishment of A Institute of Computer Technology with Assistance of Japanese Government, Statistical Unit and Computer Centre, Department of Mathematics, University of Colombo, Sri Lankan. March, 1984
- Dr. Stern, R. D., (1975), Letter reference to Special Degree in Development Studies - Year 3, Statistical Job Range, 20th May, 1975
- Draft Project Proposal – Institute of Computer Technology, (1983), University of Colombo, Draft Prepared by the University of Colombo Computer Centre, September 1983
- Financial Report (1984), Asian Regional Collage on Microprocessors: Technology and Applications, 03-29 June, 1984
- Government Notifications. (2011), The Universities Act. No. 10 of 1978, University of Colombo School of Computing (Amendment Ordinance. No. 1 of 2011
- Handbook of the Faculty of Science, (1976, 1979, 1984, 1991)
- Handbook, (1984), Faculty of Science, University of Colombo, Sri Lankan, 1984

- ILO Report (1983), IT Policy for Sri Lanka
- Integrated Communication Network (ICN), Conceptual Master Plan, University ofMoratuwa, May 1985
- Letter from Dataserve Limited, (1980), Gifted Data General Nova 4, 08th January, 1980
- Letter from Dataserve Limited, (1981), Memory Up-Grade Kit 256KB, ECLIPSE S/140 Data General Mini Computer, 1981
- Letter from Overseas Development Administration (ODA) to Dr. R. D. Stern, Extension of the Reading – Colombo Link in Applied Statistics, 6th August, 1985
- Letter sends by Director, National Planning, and Proposal to set up a High Level Institute for Computer Training at Colombo University with Japanese Aid, October, 1983
- Letter sends by Prof. V. K. Samaranayake to The Vice Chancellor, "Request Letter to Upgrade Statistical Unit to a Sub Department under Department of Mathematics", University of Colombo, Sri Lanka, 17th April, 1980.
- Letter sent by Prof. Stanly Wijesundara, Vice Chancellor of the University of Colombo to Chairman/UGC
- Letter sent by the Prof. V. K. Samaranayake, to the VC, "Request Letter to Upgrade Statistical Unit to a Sub Department under Department of Mathematics", 12th November, 1981
- List of Participants from the Universities of Sri Lanka, (1984), Asian Regional Collage on Microprocessors: Technology and Applications, 03-29 June, 1984
- Memorandum on Payment to Staff for Consultancy Work Undertaken by the Various Department of the Faculty of Natural Science, University of Colombo, Sri Lanka, 15th June, 1979
- Minuses of the Meeting of the International IT Conference Coordinating Committee Held on 13/08/1998 at CINTEC Board Room, 1998
- Minutes of the First LEARN – SLT Meeting held on 17th November, 1997
- Minutes of the First Staff Meeting (1976), Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 18th March, 1976
- Minutes of the Fourth Staff Meeting (1980), Room C-8, Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 7th April, 1980
- Minutes of the Second Staff Meeting (1978), Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 04th April, 1978
- Minutes of the Special meeting held on Monday, 11th December, 2000, Institute of Computer Technology, University of Colombo, December, 2000
- Minutes of the Third Staff Meeting (1978), Statistical Unit, Department of Mathematics, Colombo Campus, University of Sri Lanka, 27th December, 1978
- Nandasara S. T. and Samaranayake V. K., (1997), «Current Development of Sinhala/Tamil/English Trilingual processing in Sri Lanka», in The Second International Symposium on Standardization of Multilingual Information Technology –MLIT 2- November, 7- 8, Tokyo, Japan, 1997 (www.cicc.or.jp/homepage/afsit/papers/af12/12_03.html)

- Nandasara S. T. and Samaranayake, V. K., (1990), «A Standard Code for Information Interchange in Sinhalese,, Proceedings of the International Conference on the Standardisation of Asian Languages, CICC, Tokyo, Japan, 1990. (www.unicode.org/unicode/reports/tr2.html)
- Nandasara S. T., Samaranayake, V. K., Leong, K. Y. and Tan, T. W., (1997) «Trilingual Sinhala-Tamil-English National Website of Sri Lanka, INET`97 Internet Society Annual Conference, Kuala Lumpur, Malaysia, June, 1997.(www.isoc.org/inet97/proceedings/E1/E1_3.HTM)
- Nandasara, S. T., (2009), "From the Past to the Present: Evolution of Computing in the Sinhala Language", IEEE Annals of the History of Computing, ISSN 1058-6180, Volume. 31, Number. 1, January-March, 2009, IEEE Computer Society, pp. 32-45
- Non Formal Education (1975), Proceedings of the WUS Regional Workshop,Colombo, Sri Lanka
- Possible Way of Collaborative Assistance to the Faculty of Natural Science, Colombo Campus, University of Sri Lanka from United State Universities. 1978
- Post Graduate Courses in Computing, (1990), Paper Advertisement and Notes for the Applicants (1990) for the Diploma in Computer Technology, Institute of Computer Technology and M.Sc. in Computer Science in the Department of Statistics and Computer Science, 15th January, 1990
- Prof. Reeves, C. M., (1985), The Introduction of Computer Science into Degree Studies in Sri Lanka. Report submitted to the Ministry of Higher Education, 1985
- Prof. Reeves, C. M., (1986), Introduction to Ruhuna-Keele Link, 1986, A Paper for discussion within the Sri Lankan Universities and with SLIUCC, January- February, 1986
- Prof. Samaranayake, V. K., (1973), A Course in Computer Programming Using FORTRAN, Supplementary lecture notes prepared for the course given at Vidyodaya Campus, University of Sri Lanka, May, 1973
- Project Proposal for the Establishment of An Institute of Computer Technology with Japanese Government Technical Assistance, Revised Proposal, Department of Computer Science and Statistics, University of Colombo, June, 1985
- Project Proposal for the Establishment of An Institute of Computer Technology with Japanese Government Technical Assistance, Revised Proposal, Department of Computer Science and Statistics, University of Colombo, June, 1985
- Project Proposal for the Provision of Computing facilities for Research Institute and Universities for Scientific Research and Development and the establishment of Central Database facilitates, Computer and Information Technology Council of Sri Lankan (CINTEC), 1984
- Project Proposal, (1986), Partnership Programme with IBM World Trade Corporation to Enhance Training in Computer Science and Applications, Prepared by The Department of Statistics and Computer Science, University of Colombo, Sri Lanka, June, 1986
- Project Report 1987-1990, A Japanese Government Technical Co-operation Project, Institute of Computer Technology, University of Colombo, 1990
- Project Report, (1999), Internet for Rural Sri Lanka. Seminar held at the Kotmale Community Radio station, May, 1999. (www.kirana.lk/events.html)
- Proposal for the Establishment of the Computer Center as sub Department of the Department of Mathematics, April 1982
- Proposed Institute of Computer Technology to be Established at the University of Colombo, Sri Lanka with Project Type Technical Cooperation Funded by the Government of Japan, Report of the visit to Singapore and Japan made by Professor V. K. Samaranayake, Statistical Consultancy and Data Processing Service, University of Colombo, Sri Lanka from 29-04-1984 to 14-05-1984

- Release of Interactive Statistics Package – INSTAT, 20th Dec. 1985, Head, Department of Statistics and Computer Science, University of Colombo, Sri Lanka, 1985
- Report of the Committee appointed by the Hon. Minister of Education to recommend University Reforms, 1971
- Report of the Course on Statistics and Computer Applications in Agriculture, 25th Nov. 1985 to 24th Dec. 1985
- Report on A computer Policy for the University of Colombo, Prepared by the University of Colombo Computer Policy Committee, November, 1984
- Report on Work in Progress (1976), Statistical Unit, Colombo Campus, University of Sri Lanka, 23rd July, 1976
- S. T. Nandasara, D. N. Ranasinghe, (2010), "Computer Science Education at the University of Colombo - A Historical Perspective"; IFO++, Celebrating 25 years of excellence, University of Colombo School of Computing, October 2010, pp. 12-26
- Samaranayake V. K., (1984), Agriculture and National Resources Sector Working Group Summary Report, First International Symposium on Microcomputers Application in Developing Countries, 1984
- Samaranayake, V. K. and Abeyasekara S., (1985), «Microcomputer Applications in Sri Lanka: A case study of the activities of the Statistical Consultancy and Data Processing Service of the University of Colombo»; Microcomputers for Development; Issues and Policy, 1985
- Samaranayake, V. K. and Nandasara, S. T., (1998), Proceedings of the Pan Mongolia Conference Ulangbator. Mongolia, May, 1998. (www.panasia.org.sg/conference/pan/c001llk.htm)
- Samaranayake, V. K., (1975), «The University and Workers› Education" Proceedings of the WUS Asian Regional Workshop on Non-Formal Education with special reference to Sri Lanka, Colombo, April, 1975
- Samaranayake, V. K., (1976), «The Role of University Education in National Development - A case study of the University of Sri Lanka» Proceedings of the WUS International Conference on the Role of University Education in National Development, Hong Kong, 6 - 10 August, p. 37
- Samaranayake, V. K., (1976), «Workers› Education for National Development – A case study of the Institute of Workers› Education University of Sri Lanka», Proceedings of the National Conference on Adult Education and Development, June, Dar-es-Salam, Tanzania
- Samaranayake, V. K., (1978), Presidential Address, Sri Lanka Association for the Advancement of Science. Section E
- Samaranayake, V. K., (1979), Abeysekera S and de Silva Indralal (1979) «A Study of the Choice of Degree Courses selected by students admitted to the University of Sri Lanka in the Arts Stream: 1974 to 1976» Vidyodaya Journal of Arts, Sciences and Letters. 7 No.1 99 – 116
- Samaranayake, V. K., (1984), «Some Reflections on Technology Transfer and Universities in Developing Countries with reference to Sri Lanka». Vidyodaya Journal of Arts, Science and Letters, Special Silver Jubilee Issue, February, 1984
- Samaranayake, V. K., (1986), «The Impact of Modern Technology in the Government Sector in Sri Lanka». APDC Publication, Kuala Lumpur, 1986
- Samaranayake, V. K., (1989), «Computers in Education - A Third World Perspective». Proceedings of the Conference on Computers for Better Quality Education: Theory and Practice, Hong Kong, 1989
- Samaranayake, V. K., (1997), «Computing at Colombo» in the Publication marking the tenth anniversary of the Institute of Computer Technology, 1997

- Samaranayake, V. K., (1998), «Fifty Years of Information Technology» A chapter in «Fifty Years of Sri Lanka›s Independence - A Socio - Economic Review.» Ed. A.V. de S. Indraratna Colombo, 1998
- Samaranayake, V. K., (1998), Address to the inaugural session of the International Information Technology Conference IITC›98. Colombo, Sri Lanka, October, 1998
- Samaranayake, V. K., (2000), e-Learning – The Sri Lanka Experience – Proceedings of the SEARCC 2000 Conference, Manila, December, 2000
- Samaranayake, V. K., (2000), Information Technology for Development - a Sri Lankan Case Study, Sida-Bellanet Seminar, Stockholm, May, 2000
- Samaranayake, V. K., Stern R. D. Burns R., Abeyasekara S., Kodikara N. D.andNandasara S. T., (1985), «The Need for Good Statistical Software on Microcomputers for Agricultural Research in Sri Lanka»; Microcomputers for Development; Issues and Policy, 1985
- Samaranayake, V.,K. and Abeysekera S., (1985), «Development of Statistical Computing on Microcomputers at the Colombo University in Sri Lanka», Proceedings of the ISI centenary sessions, Amsterdam, August,1985
- Samaranayake, V.,K. and Siriwardena B., (1987), «The Influence of Computerisation on Sri Lankan Society», a UNESCO Publication, 1987
- Samaranayake, V.,K. and Weerasekera D.,R., (1985), «Analysis of University Performance by Discriminant Analysis», Proceedings of the Annual Sessions of the Sri Lanka Association for the Advancement of Science, 1985
- Samaranayake, V.,K., Fernando M.,G.,N.,A.,S., Somasiri A.,P.,S.,R and Wickramanayake G.,N., (1985), "Item Analysis of Multiple Choice Question Papers set at the G.C.E. (Advanced Level) Examination», Proceeding of the Annual Sessions of the Sri Lanka Association for the Advancement of Science, 1985
- Samaranayake, V.,K., Wilson I. M., Abeyasekara S. A., Stern R. D., (1985), «Stimulating Statistical progress in a developing country by a link between universities», Biometrica, 41, 3 September, 1985
- SavitriAbesekere, Memorandom for safeguarding the objective of the Statistical Unit of the University of Colombo, Sri Lanka, 24th March, 1980
- Sinhala ad-hoc Group Report, (1997), ISO/IEC JTC 1/SC 2/WG 2 N1613, "Report of the ad-hoc group on Sinhala encoding", Michael Everson, Takayuki Sato, Kohji Shidano, Disanayaka, J.B, Nandasara, S. T., Johan van Wingen& Glenn Adams, (Sinhala ad-hoc Group), Heraklion, Crete, Greece, 2nd July, 1997
- Siriwardene, P. P. G. L., (2000), "Memories and Reflections", A SarvodayaVishvaLekha Publication, March, 2000
- Speech made by the Mr. J. K. Robert England, Resident Representative, UNDP at the Inauguration of the M.Sc. Course in Computer Science on 14th June, 1990
- Summary of Project Proposal for the Japanese Mission to Sri Lanka, (1984), Statistical Unit and Computer Centre, Department of Mathematics, University of Colombo, Sri Lankan. March, 1984
- Terminal Report, (1995), Project SRL/86/013, M.Sc. Course in Computer Science, Department of Statistics and Computer Science, University of Colombo, Sri Lanka, June, 1995
- The Statistical Consultancy and Data Processing Service of the University of Colombo – Case Study, 1984
- University of Colombo, Sri Lanka, Information for Undergraduates, 19th June, 1989