Chem@UoC

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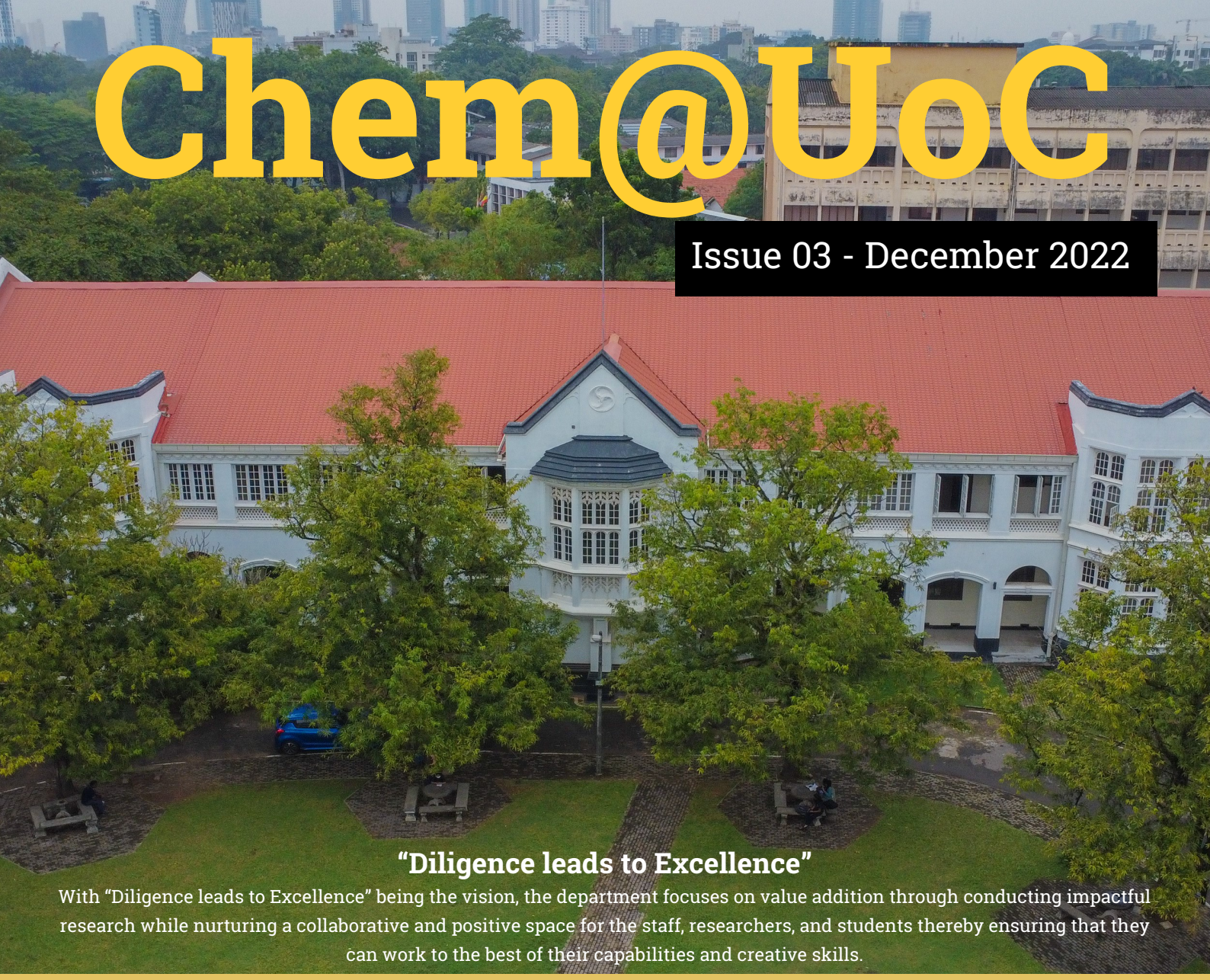

"Diligence leads to Excellence"

With "Diligence leads to Excellence" being the vision, the department focuses on value addition through conducting impactful research while nurturing a collaborative and positive space for the staff, researchers, and students thereby ensuring that they can work to the best of their capabilities and creative skills.

Department of Chemistry, Faculty of Science, University of Colombo, Colombo 03, Sri Lanka

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Glory to the DoC

Vice-Chancellor's Award for Research Excellence

Heartiest congratulations to Professor K. M. Nalin de Silva for receiving the Vice Chancellor's Award for Research Excellence, 2020 at the Postgraduate Convocation, 2020. He received the same award in 2017 also and presently his h-index is 32 with the total citations over 3000.

In Recognition of the Contribution..

Dr. Hasini Rangika Perera is one of the Senior Lecturers at the Department of Chemistry, University of Colombo, who is providing a significant contribution to the upliftment of the department and the academic well-being of the students. She is a proud product of the Faculty of Science, University of Colombo, from where she has obtained her Bachelor's degree in Chemistry with First Class Honours in July 2004. She received the Justin Samarasekara Award for the Most Outstanding Science Student of the Year in recognition of her academic excellence and achievements in sports during her undergraduate years. She was also awarded Dharmachandra & Thamarasa Gunawardana Memorial Award and Professor R.S. Ramakrishna Gold Medal for the overall best performance in Analytical Chemistry and in Inorganic Chemistry, respectively. Dr. Hasini Perera obtained her Ph.D. in Analytical Chemistry from Oregon State University (OSU) in 2009, where she was recognized with a number of fellowships and awards including the Ingram Award for the Outstanding First Year Graduate Student in Chemistry, Courtney Dorothy Benedict Award for the Research Excellence, Milton Harris Graduate Fellowship for the outstanding performance during her graduate studies and the OSU Chemistry Department Laboratory TA Award.

Dr. Hasini Perera carries out her research in the areas of electrochemistry with an emphasis on electrochemical sensors and corrosion, analytical chemistry, and chemistry education. She has several impactful research publications in indexed journals and two patents, one national and one international to her name. The UK patent, in which she is an inventor, is the first UK patent granted to the University of Colombo.

Among her numerous contributions to the Faculty of Science include the guidance and assistance given as the team leader for the "Accelerating Higher Education Expansion and Development (AHEAD) Project - Enriching Learning, Teaching and Assessment (ELTA) and English Language Skills Enhancement (ELSE)", a faculty development project through which the Faculty of Science, University of Colombo won a grant worth Rs. 120 million. She is a member of the board of directors in Colombo Science and Technology Cell, the business university linkage of the Faculty of Science, University of Colombo. She has contributed to the career guidance activities in the faculty as an academic mentor in the internship program and service-learning program conducted by the Career Guidance Unit, Faculty of Science. Further, she has served as the coordinator for the M.Sc. in Analytical Chemistry program and the B.Sc (Pharmacy) program. At present, she is rendering her service as the senior treasurer of the Chemical Society, Department of Chemistry since 2017. On behalf of the Department of Chemistry, we would like to express our heartfelt gratitude to Dr. Hasini Perera for her invaluable contribution to our department and wish her all the success in her future accomplishments.

Boons to the Department: A Donation from Caltech

Dr. Dinesh Aluthge, one of the most recent additions to the department's senior academic staff, is a product of our own department. Graduating with First Class Honours in Chemistry, he chose to pursue his Ph.D. in Canada at the University of British Columbia followed by postdoctoral research position at Caltech. Prior to joining the department this year, he worked as the team leader of the semiconductor materials group at GreenCentre Canada.

Recently, Dr. Aluthge was able to procure a donation of state-of-art laboratory equipment worth well over $22,000 from Prof. John E. Bercaw (Centennial Professor of Chemistry, Emeritus), his postdoctoral supervisor at Caltech. The equipment consists of Schlenk lines, Vacuum gauges etc. essential components necessary to conduct quality research pertaining to the synthesis of air- and moisture-sensitive nanomaterials, polymers, pharmaceuticals, drug precursors and catalysts. Dr. Aluthge hopes that the acquisition of these equipment would be the first step in the development of a laboratory facility equipped with modern synthetic capabilities, elevating the standard and scope of synthesis while also promoting cross-departmental collaborations. In addition, this would also enable current students to be exposed to the latest trends utilized in synthetic chemistry.

Glory to the DoC

Dr. W. M. C. Sameera - Nature Paper

Dr. W. M. C. Sameera is a newly recruited Senior Lecturer at the Department of Chemistry, University of Colombo. He completed his Bachelor's degree in Chemistry at the University of Sri Jayewardenepura in 2005 and received his Ph.D. in Computational Chemistry from the University of Glasgow in 2009. Soon after, he accepted an Engineering and Physical Sciences Research Council postdoctoral fellowship at the University of Oxford. In 2011, Dr. Sameera received a postdoctoral fellowship from the Institut Català d'Investigació Química. Also, he received a Marie Curie Experienced Researcher fellowship from the University of Gothenburg in 2013 and a research fellowship from the Japan Society for the Promotion of Science in 2015. Dr. Sameera was an assistant professor at Hokkaido University from 2016 to 2021. Currently, he is a visiting scholar at Hokkaido University and CY Cergy Paris Université. His research focuses on quantum chemical modelling of complex molecular systems.

Among his numerous research endeavors, his studies on the mechanisms of nitrogen fixation was published in *Nature*, 2022, 607, 86-90, a prestigious scientific journal. This study focused on a synthetic transition metal cluster that binds nitrogen molecules and sheds light on the nitrogen fixation mechanism. The reactivity of the synthetic cube-shaped clusters reveals vital mechanicstics insights into the nitrogen fixation by nitrogenase enzyme.

We thank you on behalf of the science community that will benefit from your research and dedication and wish you all the best in your future endeavors!

NRC grants for the Department of Chemistry

Two research teams from the Department of Chemistry, University of Colombo have been awarded two investigator-driven grants from the National Research Council (NRC), Sri Lanka.

A grant of LKR 5,000,000, for a period of 36 months was received for the research entitled "Investigation of the detection of bacteria in water and food samples using bio-conjugated fluorescent nanoparticles" commencing in December 2021. The research team consists of Prof. Aashani Tillekaratne (Principal Investigator), Prof. Chamari Hettiarachchi, and Dr. Sashiprabha Vithanarachchi (Co-investigators).

A research grant of LKR 2,429,000, was received from the NRC for the research, titled "Involvement of green nanotechnology and bio-fermentation for Sri Lankan traditional Medicinal Preparation (basna): development of ready-to-use probiotic nutritional supplement" under the Special Research Grants program on Indigenous Products for Export Market. The Principal Investigator of the research project is Prof. W. Rohini. M. de Silva, whereas Ms. Lakmali Pathirana contributes as the Research Assistant who has registered for an MPhil degree at the Department of Chemistry.

Department Highlights

Introducing the Newly Appointed Senior Academic Staff Members

Dr. W. M. C. Sameera
Senior Lecturer
Grade I

Dr. Sachindra Perera
Senior Lecturer
Grade II

Dr. Sarala Tantirimudalige
Senior Lecturer
Grade II

Dr. Dinesh Aluthge
Senior Lecturer
Grade II

Dr. Tharindunee Jayakody
Lecturer

Dr. Kaveesha Wijesinghe
Lecturer

Ms. Umayangana Godakanda
Lecturer
(Probationary)

Junior Academic Staff of the Department of Chemistry - 2021/22

From left to right (1st row) - Ms. Hirudini Fernando, Ms. Dimagi Dias, Ms. Thaanya Amarasekara, Ms. Kesari Warnakulasuriya, Ms. Thakshana de Silva, Ms. Tharuka Chandrasiri, Ms. Sanuthmi Dunuwila, Ms. Chathurika Ranmini, Ms. Vindya Jayarathne, Ms. Chani Sahabandu, Ms. Inoshi de Silva, Ms. Ashweni Ramanah, Ms. Natasha Owitipana, Ms. Wathsala Rathnayake, Ms. Hashini Fransiscus, Ms. Chamika Goonetilleke, Ms. Jayani Mawela.

From left to right (2nd row) - Ms. Randima Dilrushi, Ms. Meenuka Dalpathadu, Ms. Chathuri Rajarathna, Mr. Madhusanka Sampath, Mr. Sandaru Fernando, Mr. Janaka Sampath, Mr. Krishan Gayantha, Mr. Kasun Thisara, Mr. Amila Nirmal Wanasinghe, Mr. Hasindu Prageeth, Mr. Kenneth Hulugalla, Ms. Chathushka Devindi, Ms. Gayathri Kaushalya, Ms. Nethmi Dayarathne.

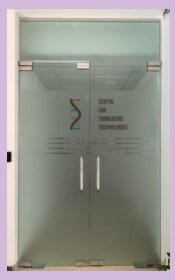
Department Highlights

In Memory of Late Prof. Ranil Dassanayake..

Prof. Ranil Dassanayake served as a Senior Professor at the Department of Chemistry, Faculty of Science, University of Colombo until his demise on the 23rd of March 2022. After completing his B.Sc. specializing in Chemistry at the University of Peradeniya in the year 1993, he then obtained his Ph.D. in Biochemistry and Molecular Biology in 2001 from the University of Hong Kong, Hong Kong. He was an excellent researcher who received many national and internationals grants. He received many national awards including the Presidential Awards for scientific publications.

The research team led by Prof. Ranil Dassanayake developed the dengue virus resistant, transgenic Ae. aegypti line using an RNA interference-based technology and was able to develop the first globally reported transgenic mosquito resistant to multiple dengue virus serotypes (serotype 2 and 4), and the first transgenic animal in Sri Lanka. This transgenic mosquito-based vector control strategy has also been successfully semi-field tested. This work was published in prestigious peer-reviewed re-search journals, RNA Biology and BioMed Research and the project was funded by the National Research Council.

In addition, he was the Principal Investigator of the 'AHEAD' grant which contributed mainly to the development of the 'Centre for Transgenic Technologies' in the Department of Chemistry. His demise is indeed a great loss to the Department of Chemistry and to the field of Molecular Biology & Biochemistry in Sri Lanka. May he attain the supreme bliss of Nibbana!



A Legend has Retired!

"Science may set limits to knowledge, but should not set limits to imagination" – Bertrand Russell
Professor N. V. Chandrasekharan is a renowned scientist and an educator at the University of Colombo.

Born in Kandy, Prof. Chandrasekharan completed his primary and secondary education at Trinity College. He received his B.Sc. degree from the Faculty of Science, University of Colombo in 1981. He obtained his M.Sc. in Biochemistry from the Faculty of Medicine, University of Colombo in 1984. He then joined the Faculty of Medicine, University of Kelaniya as a temporary Assistant Lecturer and later joined the Department of Biochemistry at the Faculty of Medicine, University of Colombo as an Assistant Lecturer in 1986.

Prof. Chandrasekharan pursued his Ph.D. with Prof. Eric Karunanayke in a split program between Sweden and Colombo and obtained his PhD in 1996. He was promoted to Senior Lecturer at the Department of Biochemistry, Faculty of Medicine in 1996. He stayed with the Faculty of Medicine for four years and then proceeded to Japan for his postdoctoral studies at the National Institute of Radiological Science, Japan. He returned to Sri Lanka in 2000 and moved to the United States to accept the second postdoctoral position at the Brigham Young University, Provo, Utah, USA in 2000. He decided to stay in the same university as he was promoted to the post of Research Associate at the same university in 2003. Due to his strong track record with research, he was promoted again to the post of Research Assistant Professor in 2005. During this period the Department of Chemistry was given the green light to accept the direct intake for BSc in Molecular Biology and Biochemistry program. He returned to Sri Lanka in 2006 and joined the Department of Chemistry in 2006 as a Senior Lecturer to prop up this programme. He was instrumental in developing the Biochemistry Molecular Biology programme without the promised funding from the University Grants Commission. It should be noted here that he internally developed expensive biochemicals and other reagents for students to use in practical classes and research. These reagents were also sold to outside institutions through the UC Biotech Services which was initiated by Prof. Chandrasekharan. He was promoted to the post of Professor in 2019.

He was awarded the President's Award for Scientific Research in 2021 in appreciation of his tremendous service to science. On 30th September 2022, Prof. Chandrasekharan retired from his service. It is clear that he is an epitome of scientific research and sets a great example for budding scientists. He will be remembered as a kind-hearted lecturer who steered young scientists through new horizons and as a golden icon in the research history of the University of Colombo. Happy retirement Sir! We respect you beyond words!

Dr. Ireshika De Silva - Finland Workshop

Dr H. Ireshika C. De Silva participated in the training course on the Enhancement of laboratory skills in using Liquid Chromatography – Mass Spectrometry (LC-MS) to analyze chemicals related to chemical weapons convention which was sponsored by the Organization for the Prohibition of Chemical Weapons (OPCW). The training programme was held at the Finnish Institute for Verification of the Chemical Weapons Convention (VERIFIN), the University of Helsinki, Finland from 5th to 16th September 2022. The course consisted of sample preparation prior to LC-MS analysis, the screening and identification of chemicals related to the convention, practical exercises for LC-MS and LC-MS/MS techniques, quality assurance/quality control, method validation and instrument maintenance and troubleshooting.

Dr. Danushika Manatunga, a Proud Product of the Department of Chemistry

Dr. Danushika Manatunga was the first-ever post-doctoral fellow in the Department of Chemistry, University of Colombo, currently working as a Senior Lecturer in the Department of Biosystems Technology, Faculty of Technology at the University of Sri Jayewardenepura. She graduated from the University of Colombo with First Class Honors in Chemical Biology in 2013 obtaining the highest GPA in her degree programme and earned her Ph.D. in nanomedicine from UoC in 2018, which was funded by the National Research Council (NRC), Sri Lanka. Dr. Danushika's post-doctoral work was mainly based on cancer therapeutics and smart textiles, and she was fortunate enough to work in the Centre for Advanced Materials and Devices (CAMD) at the Department of Chemistry, UoC. As a young scientist, Dr. Danushika has won many awards for her research investigations, including the Presidential Award in 2018, Merit Award in 2019 and 2020, the most popular award for Merck publication in 2021, the best session presenter, and the best overall presenter prizes over three consecutive years in international conferences related to nanotechnology. Her work was published in 10 international peer-reviewed journals, and she was able to obtain a US patent in 2019 for one of her projects with SLINTEC. The take-home message from Dr. Danushika is that "Nothing is impossible if you have a strong willpower and passion as well as dedication". You have immensely inspired us to bring out the best version of ourselves and we wish you every success in your future endeavors. Dr. Danushika's PhD and Postdoctoral work were supervised by Prof. Rohini M. de Silva and Prof. K. M. Nalin de Silva.

Former Pioneers of the Department of Chemistry

Professor L. M. V. Tillekeratne

(Former Dean—Faculty of Science)

Born in a small village, Singharamulla, in Kelaniya, Prof. Tillekeratne completed his primary education in Dharmaloka Vidyalaya, and secondary education in Ananda College, Colombo 10.

In 1965, he started his undergraduate career at the University of Ceylon. At that time, the University of Colombo and the University of Peradeniya operated as two campuses under the University of Ceylon. In 1966, the University of Colombo started offering a special degree program in Chemistry, and Prof. Tillekeratne was one of the nine students in the first batch of that special degree program. During the same year, the government decided to separate the two campuses into two independent universities, naming the campus in Peradeniya as the University of Ceylon, and the campus in Colombo was named as the University of Colombo. With this, all the rights and privileges which initially belonged to the University of Ceylon were gone to the Campus in Peradeniya. For this reason, almost all the students in the University of Colombo went on a protest to convince the government to change this unfair decision. This campaign was led by the Science Student Union in which Prof. Tillekeratne held the position of Secretary. In the end, the government had to change the name of the University of Colombo to the 'University of Ceylon, Colombo'.

In 1969, Prof Tillekeratne graduated from the University of Colombo, and he was given the Science Scholarship for best results in the final examination in the Faculty of Science. He was recruited into the academic staff immediately. He received the Commonwealth Scholarship to Oxford University for his Ph.D. in 1971.
In 1975, Prof. Tillekeratne returned to Sri Lanka and joined the Department of Chemistry, Faculty of Science in the University of Colombo as a Probationary Lecturer. In 1980, he received the 'Visiting Scientist Award' from the British Council to visit Oxford University, England. He went for his sabbatical in 1982 and worked on marine natural products at Oklahoma University. Then he came back to the University of Colombo and was appointed as an Organic Chemistry Professor at the Department of Chemistry, Faculty of Science and in 1984, he held the newly appointed position Chair of Organic Chemistry.

He served as the Head of the Chemistry Department for a few days and in 1985, he became the Dean of the Faculty of Science at the University of Colombo. As the Dean, he had to face a difficult period between 1988 and 1989 because of the political issues and student unrest that prevailed at that time in the country. Even though other government universities were closed during that period, Prof Tillekeratne managed to keep the faculty open and conduct the lectures regularly. He organized a science exhibition at the Faculty of Science, University of Colombo with the help of National Science Foundation (NSF) when he was the Dean of the Faculty of Science. Students from many schools and universities were attracted to this exhibition. Towards the end of his career as the Dean, he received a massive grant from Japan International Cooperation Agency (JICA) which was used to establish several pieces of equipment in the Faculty of Science, including an NMR machine in the Department of Chemistry. Prof. Tillekeratne believed that learning industrial subjects such as Management and Biochemistry would be useful for science students as well. Therefore, he started course units for Management and Biochemistry at the Department of Chemistry and the latter course was developed as the Special Degree Program in Biochemistry and Molecular Biology offered by the Department of Chemistry at the University of Colombo. He worked as the Dean until he left the country for his sabbatical in 1992. Prof. Tillekeratne also rendered his services as the Chairman of the Sports Advisory Board of the University for many years and he helped to develop various sports activities in the university.

Prof. Tillekeratne started his research work at the Faculty of Science immediately when he returned to Sri Lanka after obtaining his Ph.D. He worked mainly on plants and marine natural products. He received his first grant from the National Science Foundation. During the continuation of his research projects, Prof Tillekeratne, and Dr. Chandrasena from the Botany Department, received a competitive International Research Award from the United States Agency for International Development (USAID) for studying the allelopathic potential of plant species and isolation of allelochemicals, in 1989. Moreover, in 1990, he received a Merit Award for Scientific Research from the Natural Resources, Energy and Science Authority (NARESA) of Sri Lanka.

Prof. Tillekeratne pioneered in keeping research programs very active in the Faculty of Science during his time and his lab was open for 24 hours. This provided the students a platform to engage more in their research work and many undergraduates voluntarily worked in his lab. Prof. Tillekeratne did a joint research program on antifertility agents of marine organisms with Prof. Daya Rathnasuriya and Prof. Srimal Premakumara who is presently at the Faculty of Nursing, University of Colombo. They managed several publications on this area of research.

When the Institute of Chemistry Ceylon (ICHEM) started its Graduateship Program, initially, chemistry staff from the University of Colombo got involved in teaching. Prof. Tillekeratne conducted the first lecture in Organic Chemistry in the Graduateship Program. He was a member of the Council of the Institute of Chemistry for many years. He was also involved in the activities of Sri Lanka Association for the Advancement of Science (SLAAS) and was the Secretary for international relations and he worked as the Chairman of the committee of popularization of science in SLAAS which conducted programs in many schools to educate students on science. Apart from that, he was on the Council of SLAAS for many years. He was also the Secretary of Section E2 (Chemical Sciences) and later, he became the President of the same section.

Currently, Prof. Tillekeratne is serving as a faculty member of the Department of Medicinal and Biological Chemistry, at the University of Toledo, USA. He is mainly focusing on the research areas related to anticancer agents as well as neuroprotective agents (collaborative research) and his research group has obtained several patents from their research work.

Although Prof. Tillekeratne lives abroad, he has managed to extend his contribution to the Faculty of Science through a well-known non-profitable organization called CUFSAANA (Colombo University Faculty of Science Alumni Association of North America). As their prime objective, they support the Faculty of Science mainly by providing equipment, donating books, and providing help to UOC students in remote learning. Apart from that, they have also established a gold medal for the Computational Chemistry Honours Degree Program offered by the Department of Chemistry, University of Colombo. Additionally, he has worked as an external examiner for the M.Sc. in Applied Organic Chemistry course unit from its inception until now. On behalf of the Department of Chemistry, we would like to congratulate and extend our well wishes for his profound research journey.

Emeritus Professor H. D. Gunawardhana (Former Head — DoC)

Emeritus Professor H. D. Gunawardhana is one of the few shining gems in the Sri Lankan scientific community who has done an immense dedication towards the betterment of the society. He graduated from the University of Colombo, Sri Lanka with a B.Sc. (Special) Degree in Chemistry in 1971 and obtained his Ph.D. in Analytical Chemistry at the University of Salford, UK in 1975. He started his academic journey as a Temporary Assistant Lecturer in Chemistry at the University of Colombo in 1970. He served as a Senior Professor in Chemistry at the University of Colombo, continuing his invaluable service by holding numerous positions until his retirement in 2010. He assisted the administration of the University of Colombo as the Head of the Department of Chemistry, Dean of the Faculty of Science, a member of the University Senate (1985-2010), a member of the Governing Council of the University of Colombo (2003-2008), and a member & the Chairman of several committees established for various needs of the University. The Department of Chemistry commenced the M.Sc. program in Analytical Chemistry, in 1975, thanks to the major contributions made by Prof. Gunawardhana. He served as the Official Coordinator of the M.Sc. (Analytical Chemistry) course for 15 years and was responsible for the recent revision of the course content with the introduction of Grade Point Average (GPA) system.

His research work on water quality assessment of System H of the Mahaweli Diversion Scheme, which commenced in 1977 was eventually successful through which Sri Lanka received a World Bank grant in 2000 to assess the water quality of the Kala Oya basin. This was one of the most productive projects which was led by Professor Gunawardhana. This project was a pilot study under the river basin concept and has the potential to be applied for all 103 river basins in Sri Lanka. It is worth mentioning that his contribution to research resulted in numerous research publications and research communications. He has delivered many orations, keynote addresses, lecture presentations at workshops and seminars at universities all around Sri Lanka. He was the Founder Chairman of the Sri Lanka Accreditation Board for Conformity Assessment for four years. He played a significant role as a member of the Governing Council of the Sri Lanka Standards Institution and the Governing Board of the National Science Foundation.

He is also a member of the Royal Society of Chemistry as well as a Fellow of the Institute of Chemistry Ceylon, and the National Academy of Sciences, Sri Lanka. Furthermore, he has served as the President of both the Sri Lanka Association for the Advancement of Science (SLAAS) and the Institute of Chemistry Ceylon. Prof. Gunawardhana was honored with several awards including the Distinguished Services Award, Silver Medal Award for the dedicated services for 25 years in the College of Chemical Sciences of the Institute of Chemistry Ceylon, and "Vidyabhiwardana Keerthi" Award from the Council of the SLAAS for his immense contribution made for the development of Sri Lankan Science Education and Research. We would like to extend our warmest blessings and well wishes to Emeritus Professor H. D. Gunawardhana to continue his legacy in the scientific community.

Dr. Sujatha Hewage (Former Head — DoC)

It is no easy task to summarize all the work done by Dr. Sujatha Hewage in such a short space, for her contributions to the Department of Chemistry, the Faculty of Science, and the countless students she has mentored over the years might not fit even in a 1000-page book. Dr. Hewage has dedicated her whole life to academic development in the department, and she even continues to do so well after her retirement. She is a proud product of the University of Colombo and after completing her doctorate in the UK in Inorganic Chemistry, she worked as a postdoctoral researcher in various countries including the Czech Republic, Italy, India, and Switzerland. She joined the Department of Chemistry as a Probationary Lecturer and held numerous other faculty positions afterwards during her long and illustrious career. During the 1990s, her efforts to improve the quality of education at the Department of Chemistry established the groundwork for the department to become what it is today. She served as the Head of the Department for two terms, the first from 1992-1993, during a very turbulent period due to student strikes which she handled exceptionally well.

The second term as the Head of the Department was from 1996-2001 and it was during this period that she spearheaded two vital programs that are now part of the fabric of the Department of Chemistry. She provided the leadership to establish the B.Sc. (Hons) program in Biochemistry and Molecular Biology and initiated and established the B.Sc. (Hons) program in Pharmacy, both of which were the first of their kind in the country. Furthermore, the B.Sc. (Hons) in Pharmacy program was the first successful interfaculty undergraduate collaboration conducted jointly with the Department of Pharmacology at the Faculty of Medicine. This provided students in the program with interdisciplinary knowledge and experience which has led to them being highly sought after for jobs in academia, industry, and the healthcare sector.

Apart from all the work she has done, what makes Dr. Hewage such a beloved character in the Department is her teaching and mentoring style, which has made her a role model and an endearing figure to every student who has learned under her. Her students all testify that she treated every single one of them as her own children, providing individual attention and care while always being a pillar to lean on during hard times. It wouldn't matter how busy she was with teaching, research, and other administrative work, she would always find time to help a student in need by usually sharing some of her very own special advice and experience. Dr. Hewage still serves at the Department of Chemistry, well over a decade after her retirement, as the Project Director of the Sri Lanka Pharmaceutical Laboratory (SLPL). SLPL was the brainchild of Dr. Sujatha Hewage. The Ministry of Industry has provided funds to procure state-of-the-art analytical instruments at the request of the Sri Lanka Pharmaceutical Manufacturers Association to establish a modern laboratory that can help maintain the quality of drugs produced in Sri Lanka. The SLPL also assists pharmacy students and the undergraduates & postgraduate students of the Department of Chemistry in conducting their research. It is no doubt that Dr. Hewage will continue to be an asset to the department and to all her students. We wish her many more years of long life to continue what she does best: mould fresh students into strong, capable, and creative graduates who can make the world a better place.

Achievements

New Additions to Our Scientific Library

Explaining the concepts of science to the public in a comprehensive manner is an essential skill that must be mastered by any scientist. In that scenario, writing is one of the most successful tools to educate people.

Dr. Gayathri N. Silva who currently serves as a Senior Lecturer at the Department of Chemistry, University of Colombo, has recently published the book "Bench guide for protein expression & purification". Dr. Gayathri started her journey from the University of Colombo then joined Wayne State University, USA for her Ph.D., after finishing her Bachelor's degree in Molecular Biology and Biochemistry with First Class Honours. Upon successful completion of her Ph.D., she joined the Department of Immunology and Microbiology at the University of Michigan (USA), as a Postdoctoral Researcher.

Dr. Silva's research background, experience and the scarcity of a book/manual that describes all the important procedures and technical aspects of His-tagged recombinant proteins at research scale have prompted her to set down this quick start guide to the latest techniques in expression, purification, and detection of His-tagged proteins. This comprehensible and self-contained manual encompasses all the vital protocols and background understanding on His-tagged recombinant protein synthesis, purification, and analysis workflows at the level of research with convenient, user-friendly, and ideal procedures. This nine-chaptered book contains a set of practical and easy-to-follow protein expression and purification techniques, as well as background material centered on His-tagged recombinant proteins. We wish Dr. Gayathri N. Silva all the very best and success in her future endeavours.

Ms. V. Umayangana Godakanda, who is a lecturer (Probationary) at the Department of Chemistry, University of Colombo, has published a book chapter under the topic "Electrospun Fibers in Drug Delivery" together with Prof. W. Rohini M. De Silva & Prof. K. M. Nalin de Silva, from the Department of Chemistry, University of Colombo and Prof. Gareth R. Williams & Dr. Karolina Dziemidowicz from the School of Pharmacy, University College London, UK. Ms. Godakanda received her B.Sc. degree in Pharmacy from the University of Colombo, and she is currently working on developing smart fabrics for healthcare and fabrication of drug-loaded electrospun formulations as advanced wound dressing materials. She was awarded a Research Scholarship in 2018 from the Sri Lankan National Science Foundation and currently accounts for both an H-Index and i10-Index of 4. The current masterpiece was published in Springer Nature under the book titled Electrospun nanofibers, 2022 as a collaborative work between CAMD (Centre of Advanced Materials and Devices) of the Department of Chemistry, University of Colombo and UCL School of Pharmacy, University College London, UK.

According to the authors, fibers from electrospinning have been widely explored for drug delivery via a range of routes, including oral, transdermal, ocular and implantation. The chapter reviews various types of release modalities that can be obtained using the electrospinning technique and the most exciting recent findings in the field. In addition, the authors have considered issues of translation from bench to bedside, while covering the great progress made in the scale-up of the electrospinning process in recent years and evaluating how close electrospun formulations are to becoming marketed products. This will be a valuable asset in drug-loaded electrospun nanofibers for the future followers. We wish Ms. Umayangana Godakanda all the very best and success in her future endeavours.

Fellowships of RSC

Chair Senior Prof. K.M. Nalin de Silva, current Head of the Department, and Prof. Rohini M. de Silva, of the Department of Chemistry, University of Colombo, have been recognized for their significant contribution to the progress of chemical sciences and have recently been appointed as Fellows of the Royal Society of Chemistry (FRSC), UK. To date, only a handful of chemists in the country have been fortunate enough to be chosen for this prestigious position.

Research Highlights

Prof. Dhammike Dissanayake

Prof. Dhammike Dissanayake is a renowned Senior Professor in the Department of Chemistry, University of Colombo. He obtained both his Bachelor's degree and Master's in Philosophy from the University of Peradeniya and received his Doctorate from Texas A & M University in 1993. Prof. Dhammike Dissanayake is an outstanding scientist in the field of Physical Chemistry, and his research interests mainly focus on the catalytic and photocatalytic properties of metal oxides, theoretical studies of reaction mechanisms and metal clusters, sensors, and energy storage. For his immersive research efforts, he was awarded four Presidential Awards for Research in 2001, 2008, 2009, and 2014. His research has been recognized at national and international levels.

Throughout his research career, he has nourished the young scientists with his knowledge through numerous publications, including books like “Electronic spectroscopy of molecules”, “Catalytic ethods to reduce gaseous environmental pollutants” and “Advanced Physical Chemistry–Reaction Kinetics”. He studied “The partial oxidation of methane to carbon monoxide and hydrogen over a Ni/Al_2O_3 catalyst” with three other scientists and published their work in the Journal of Catalysis in 1991, which has reached over 860 citations. He provides a tremendous contribution to the catalytic research field, and some of his leading researches are, “The direct formation of H_2O_2 from H and O over colloidal palladium”, “Evidence for the role of colloidal palladium in the catalytic formation of H_2O_2 from H and O”, and “Oxidative coupling of methane over oxide-supported barium catalysts”. In addition, he has given his collaboration to numerous studies that developed sensors for detecting non-enzymatic glucose, humidity, and liquefied petroleum gas. He also plays a prominent role in a wide variety of research projects involved in Electrochemistry, Environmental Chemistry, Computational Chemistry, and Nanotechnology. Prof. Dissanayake has done an invaluable service to the Department of Chemistry, and we would like to wish him all the very best in his future accomplishments.

Prof. Samantha Weerasinghe

Prof. Samantha Weerasinghe obtained his Bachelor's degree in 1984 from the University of Colombo, and his Ph.D. in 1992 from the University of Maine, USA. He then worked as a postdoctoral researcher at the University of Houston (1992–1995) and University of Kansas, United States (2001-2002 and 2010-2011). Prof. Samantha Weerasinghe is an Eminent Scientist in the field of Computational Chemistry, and his research spans across diverse areas such as, the inert gas cluster dynamics, structural and dynamical properties of DNA and proteins, development of a protein force field (KBFF20) for classical molecular simulations, computer aided drug design, development of “Sri Lankan Flora” Database which contains computer simulation parameters for ~200 chemical compounds, searching drugs for prevention and treatment for neurodegenerative diseases.

He received Presidential Awards in the years 2008, 2010, 2011, and 2012 for his extensive research endeavors. Also, he received SUSRED Awards (Support Scheme for Supervision of Research Degrees) in 2012 for “Investigation of the effect of chemical denaturants on hydrophobic interaction of caffeine by molecular dynamics simulation”, NSF Research Awards in 2011, two NRC Merit Awards for Scientific Research in 2017 ([1] Rotational-Diffusion Propagator for the intramolecular proton-proton vector in liquid water: A molecular dynamics study, J. Phys Chem B 2017, 121 (48) 10893. [2] Trichoderma virens b-glucoside I (BGL1) gene: Expression in Saccharomyces cerevisiae including docking and molecular dynamics studies, BMC Microbiology, 2017, 17, 137) and NRC Merit Award for Scientific Research in 2014 for Computational and Theoretical Chemistry. He nurtured the next generation of scientists with his knowledge throughout his research career. Also, he served as the Coordinator for the Computational Chemistry degree program from 2005 - to date. In addition, the service he rendered to the Department of Chemistry is boundless. We want to wish Prof. Samantha Weerasinghe the utmost success in his future endeavors!

Research Publications — 2022

Inhibitory Effect of Water Soluble Fraction of Monascus-Fermented Rice on Lipid Accumulation in 3T3 L1 Adipocyte

Current Applied Science and Technology

Wanninaika, I. P.; Toyama, H; Thachibana, S; Perumpuli; P. A. B. N; **Hettiarachchi, C**; **Kaumal, M. N**.

Superhydrophobic Coating to Mitigate Metal Corrosion with Electrically Insulative and Thermally Conductive Properties

Materials Letters

Kotuwegedara, G. G. W. K.; **de Silva, R. M.**; **de Silva, K. M. N.**; **Dissanayake, D. P.**; **Perera, L. H. R.**; Rathuwadu, N. P. W.

Metals and Metallothionein Expression in Relation to Progression of Chronic Kidney Disease of Unknown Etiology (CKDu) in Sri Lanka

Diseases

Gunawickrama S. H. N. P.; Silva A. R. N.; Nanayakkara P. G. C. L.; Gunawickrama K. B. S.; Jayasekara J. M. K. B.; **Chandrasekharan N. V.**

Automated Mechanism Discovery

Comprehensive Computational Chemistry

Sameera, W. M. C.; Sumiya, Y.; Skjelstad, B. B.; Maeda, S.

Hyperosmotic Stress Allosterically Reconfigures Betaine Binding Pocket in BetP

Journal of Molecular Biology

Tantirimudalige, S.; Buckley, T. S. C.; Chandramohan, A.; Richter, R. M.; Ziegler, C.; Anand, G. S.

Enhancement of Release and Solubility of Curcumin from Electrospun PEO–EC–PVP Tripolymer-Based Nanofibers: A Study on the Effect of Hydrogenated Castor Oil

American Chemical Society omega

Manatunga, D. C.; Jayasinghe, J. A. B.; Sandaruwan C.; **de Silva, R. M.**; **de Silva K. M. N.**

Dipicolylamine Based Fluorescent Probes and Their Potential for the Quantification of Fe^{3+} in Aqueous Solutions

American Chemical Society Omega

Vitharana, N.; Kaushalya, C.; Perera, T.; Deraniyagala, S.; **Sameera, W. M. C.**; Cooray, A.

Rice and *Arabidopsis* BBX proteins: toward genetic engineering of abiotic stress resistant crops

3 Biotech

Bandara, W. W.; Wijesundera, W. S. S.; **Hettiarachchi, C**.

Low-Cost Microfluidic Electrochemical Paper-Based Device to Detect Glucose

Journal of Science of the University of Kelaniya Sri Lanka

Fernando, W. T. H.; Jayarathna, H. K. V. S.; **Kaumal, M. N.**

Seasonal Variation on Mineral Profile in Rice Varieties of Sri Lanka

Journal of Food Composition and Analysis

Karunarathna, S.; Somasiri, H. P. P. S.; **Mahanama, K. R. R.**

Graphical Application to Assist Students Understand the Basic Concepts in Acid-Base Titrations

Journal of Chemical Education

Fernando, L. S. L. K.; **Perera, L. H. R.**

Ethanol Mediated Photoinduced Reversible Adsorption of Methylene Blue on Nano Titanium Dioxide

Research on Chemical Intermediates

Manuda, K. R. J.; **Tillekaratne, A.**; Jayasundara, D. R.

Beginner's Guide to Mammalian Cell Culture

Jayakody, T. A.

CO Binding onto the Vertex Heterometals of $[Mo_3S_4M]$ (M = Fe, Co, Ni) Cubes

Bulletin of the Chemical Society of Japan

Tanifuji, K.; Sakai, Y.; Matsuoka, Y.; Tada, M.; **Sameera, W. M. C.**

Identification of Long-chain Alkane-degrading (LadA) Monooxygenases in *Aspergillus flavus via in silico* Analysis

Frontiers in Microbiology

Perera, S. M. D.; Wijesundera, W. S. S.; **Wijayarathna, C. D.;** Seneviratne, G.; Jayasena S. M. T.

Variations in Amino Acid Composition of Rice Varieties (*Oryza sativa L.*) as Affected by the Cooking Technique

Journal of Food Processing and Preservation

Liyanaarachchi, G. V. V.; **Mahanama, K. R. R.**; Somasiri, H. P. P.; Punyasiri, P. A. N.; Ranatunga M. A. B.

Density Functional Theory (DFT) Simulations on Fullerene/Polymer Blends for Organic Photovoltaic Systems

International Journal of Advance Research, Ideas and Innovations in Technology

Faisal, R.; **De Silva, R.**; **De Silva, K. M. N.**

Genome Organization, *in-silico* Structure, and Cellular Localization of Putative Lipid Transporter, ARV1 from Parasitic Nematode *Setaria digitata*

Gene Reports

Wickramatunga P.G.T.S.W.; Gunawardene Y.I.N.S.; **Chandrasekharan N.V.**; **Dassanayake R.S**.

Research Publications — 2022

Impact of Seasonal, Geographical and Varietal Variations on Amino Acid Profile of Sri Lankan Rice Varieties (*Oryza sativa L.*)

Journal of Food Composition and Analysis

Liyanaarachchi, G. V. V.; **Mahanama, K. R. R.**; Somasiri, H. P. P.; Punyasiri, P. A. N.; Ranatunga M. A. B.; Wijesena, K. A. K.; Weerasinghe, W. D. P.

Identification and *n-silico* Analysis of a Novel Restriction Enzyme Coding Gene from *Pseudomonas anguilliseptica*

Gene Reports

Pathirana, S. N. J.; Elvitigala, D. A. S.; Nanayakkara, C. M.; Suravajhala, P.; Rajapakse, S.; **Hettiarachchi, G. H. C. M.**; **Chandrasekharan, N. V.**

Albumin-Induced Large Fluorescence Turn on in 4-(diphenylamino) benzothiazolium Dyes for Clinical Applications in Protein Detection

Sensors and Actuators B: Chemical

Abeywickrama, C. S.; Li, Y.; Ramanah, A.; Owitipana, D. N.; **Wijesinghe, K. J.**; Pang, Y.

Low Cost Paper-based Electrochemical Sensing Platform for the Determination of Hydrogen Peroxide

Current Applied Science and Technology

Nissanka, N. A. A. B.; **Perera, L. H. R.**, **Kaumal, M. N.**

Photodynamic Therapy: An Overview and Insights into a Prospective Mainstream Anticancer Therapy

Journal of the Turkish Chemical Society Section A—Chemistry

Vithanage, A. V. A.; Jayasinghe C. D.; **De Costa, M. D. P.**; Senthilnithy R.

An Assessment on Toxic and Essential Elements in Rice Consumed in Colombo, Sri Lanka

Applied Biological Chemistry

Chandrasiri, G. U.; **Mahanama, K. R. R.**; Manthilaka, K.; Arachchige, P. S. P.; Liyanage, R. C. M.

Good Practices in Sponge Natural Product Studies: Revising Vouchers with Isomalabaricane Triterpenes

Marine Drugs

Cárdenas, P.; Gamage, J; **Hettiarachchi, C. M.**; Gunasekera, S.

Electrospun Fibers in Drug Delivery

Electrospun Nanofibers

Godakanda, V. U.; Dziemidowicz, K.; **de Silva, R. M.**; **de Silva, K. M. N.**; Williams, G. R.

Key Players in Regulatory RNA Realm of Bacteria

Biochemistry and Biophysics Reports

Mahendran, G.; Jayasinghe, O. T.; Thavakumaran, D.; Arachchilage, G. M.; **Silva, G. N.**

Implication of *Ab-Initio*, QM/MM, and Molecular Dynamics Calculations on the Prediction of the Therapeutic Potential of Some Selected HDAC Inhibitors

Molecular Simulation

Dushanan, R.; **Weerasinghe, S.**; **Dissanayake, D. P.**; Senthilinithy, R.

Antidiabetic Properties of Finger Millet (*Eleusine coracana* (L.) Gaertn.) Varieties Cultivated in Sri Lanka

Journal of Herbal Medicine

Jayawardana, S. A. S., Samarasekera, J. K. R. R., **Hettiarachchi, G. H. C. M.**; Gooneratne, M. J.

Cracking a Cancer Code Histone Deacetylation in Epigenetic: The Implication from Molecular Dynamics Simulations on Efficacy Assessment of Histone Deacetylase Inhibitors

Journal of Biomolecular Structure and Dynamics

Dushanan, R.; **Weerasinghe, S.**; **Dissanayake, D. P.**; Senthilinithy, R.

Nitrogen Reduction by the Fe Sites of Synthetic $[Mo_3S_4Fe]$ Cubes

Nature

Ohki, Y.; Munakata, K.; Hara, R.; Kachi, K.; Uchida, K.; Tada, M.; Cramer, R. E.; **Sameera, W. M. C.**; Takayama, T.; Sakai, Y.; Kuriyama, S.; Nishibayashi, Y.; Tanifuji, K.

Fatty Acid Profiles of Selected Traditional and New Improved Rice Varieties of Sri Lanka

Journal of Food Composition and Analysis

Samaranayaka, D. W. S.; Abeysekara, W. K. S. M.; Hewajukige, I. G. N.; Somasiri, H. P. P.; **Mahanama, K. R. R.**; Senanayake, D. M. J. B. S.; Premakumara, G. A. S.

Modelling the Radical Chemistry on Ice Surfaces: An Integrated Quantum Chemical and Experimental Approach

Frontiers in Astronomy and Space Sciences

Sameera, W. M. C.; Senevirathne, B.; Nguyen, T.; Oba, Y.; Ishibashi, A.; Tsuge, M.; Hidaka, H.; Watanabe, N.

Bioactive Constituents Isolated from the Sri Lankan Endemic Plant *Artocarpus nobilis* and Their Potential to Use in Novel Cosmeceuticals

Industrial Crops and Products

Liyanaarachchi, G. D.; Perera A. S.: Samarasekara, J. K. R. R.; **Mahanama, K. R. R.**; Hemalal, K. D. P.; Dlamini, S.; **Perera, H. D. S. M.**; Alhadidi, Q.; Shah, Z, A.; Tillekeratne, L. M. V.

Transition Metal Catalyzed Cross-coupling and Nitrogen Reduction Reactions: Lessons from Computational Studies

Advances in Organometallic Chemistry

Sameera, W. M. C.; Takeda, Y.; Ohki, Y.

Chit-Chat

Hailing from an underprivileged background, neither did he have a lot of resources nor the support to pursue a career in science. Thanks to his determination, perseverance, and the support of a few inspiring teachers he went from being last in his class to the student with the best result for O/Levels at his school and went on to enter university. His first exposure to English was at university, and yet he managed to enter and top the Chemistry Special Program and further his education by doing a Ph.D. and beyond. His message to all the students who come from underprivileged backgrounds with no prior English knowledge is, "If I can do it, so can you!"

Less study and more play!

I attended a school in my village, Piliyandala, up to O/L and then got admitted to Ananda College for A/L based on my O/L performance. Up to grade 10 I enjoyed life and didn't pay much attention to studies, to be honest. Of course, close to the exams I'd study with my three brothers. My father had a shop and we helped him there in the meantime. So, this was life back then, simple!

Turning Points

Until the age of seven, I wasn't able to pronounce some words clearly which affected my communication and performance. Vimalawathi teacher was the one who encouraged me to perform better in class. I can still remember how hard she worked to guide me to a level where I could express myself. With her guidance, I started performing better in school and everything was resolved.

As I got into Ananda College for A/L, I got the chance to travel by school bus, giving me my first taste of freedom. This made me pay less attention to studies. By the time I realized the gravity of the situation and thought about my future, A/L exams were too close by. Although I passed, I couldn't enter university. This changed my perspective of life. I started working hard along with some of my peers from the village. We all performed well and entered the university on our second attempt.

Undergraduate Life – Where it all started

My 1st lecture as an undergraduate at UoC was on Quantum Chemistry done by Dr. Thurisinghem, an interesting, simple, and humble Lecturer. But I couldn't comprehend what was being said during his first lesson. It was not because of the subject, but the language, English. Within a day many of us had to switch from learning in Sinhala to English and we were clueless. Fortunately, during those days Sinhala medium lectures were also available. So, we'd mostly go there and understand the concept. The senior English lecturers conducted their lectures very well such that I never wrote a word during lectures but listened to them and technically understood the subject. I wrote my notes afterward when I was alone. There were also 2 or 3 of my friends who were good at taking notes. They had written the concepts while I had understood them. So ultimately, I would read their notes and teach them. A lunch packet, 2 or 3 half sheets, and a pen are all I took to the university. I never use notes; everything is there in my mind. If you understand properly you don't have to write. That's the best way of learning.

I had the opportunity to write answers in both English and Sinhala during my first two years and got very good results for all the chemistry subjects making me the first student to get selected for chemistry special from my batch. In my 3rd and 4th years, I had to write my answers only in English. Fortunately, a very good friend of mine, Lakmal, would correct the grammar mistakes in the answers I wrote while he learned chemistry by correcting them. So, both of us were benefited.

There were 5 First Classes from my batch including Prof. Mahanama, Prof. Samantha, and myself. After graduating I was initially recruited as a Temporary Assistant Lecturer and then as a Probationary Lecturer at the Department of Chemistry, University of Colombo. How it happened is an interesting story.

One day, as I was walking by the Old Physical Chemistry Lab, Prof. Perera, then Head of the Department, called me and inquired about the field I was planning to pursue higher studies. I answered photochemistry, explaining my love for the field. She said "Okay, that's fine. Can you teach Physical Chemistry?" and my answer was yes. Two days later, at the interview, she only asked if I could teach Physical Chemistry. She already knew my answer. I said yes and I was recruited as a Probationary Lecturer. I later realized had she asked the area I wanted to pursue my higher studies in, she would not have been able to recruit me. There were already two photochemists at the department, herself, and Prof AP de Silva, so they couldn't have recruited a third. At this point, I felt like she really wanted me to join the department.

Inspiration for Chemistry

My first inspiration in chemistry was a well-known teacher, back then, called Mr. K. Ariyasinghe, popularly known as "Vidya Maama". He wrote Chemistry articles in "Navayugaya", a science paper for O/levels those days. My peers and I loved chemistry because of him. Mr. Douglas Perera, my A/L class teacher at Ananda College, inspired me further to pursue chemistry.

My Undergraduate Research Supervisor, Prof. AP de Silva, was the pioneer in the field of logic gates and molecular sensors. In the process of explaining fluorescence switching, he went one step further and incorporated logic gates into molecules and was researching molecular brains. He changed our thinking and guided us to pursue our education even after the degree. I greatly admire him. Prof. AP de Silva was a forerunner of mechanistic photochemistry in Sri Lanka, and I wanted to pursue photochemistry mainly due to his influence and also because it is a very logical, fascinating, and analytical subject.

Pursuit of PhD at Dalhousie University, Canada

I applied to five universities to pursue my higher studies and was accepted into all five. I wanted to pursue research in photochemistry and at that time Dalhousie University, Canada was a stronghold in this field. I spoke to Prof. D. R. Arnold, who was a very famous figure doing mechanistic organic photochemistry, sent me a couple of his papers, and agreed to take me into his group. So, I chose Dalhousie University. There, I met another Prof. J. A Pincock, a younger photochemist, who was carrying out novel and interesting research. I was already familiar with Prof. Arnold's work and realized that I wanted to explore an area of research that was relatively untouched and would pose a challenge to me. Since Prof. Arnold's area of research was already well established, I spoke to Prof. Arnold and got his permission to join Prof. Pincock's group.

I did my Ph.D. with Prof. Pincock and we actually introduced a new concept to mechanistic organic photochemistry, connecting it to photokinetics. My research involved Analytical Chemistry, Electrochemistry, Kinetics, and Organic Synthesis. The exact research was on the photochemistry of substituted naphthalene methyl esters. We produced two different products, from homolytic and heterolytic cleavage, and the percentage of the products depends on the substituent used, whether an electron-donating substituent or electron-accepting substituent. This experiment was the 2nd example for the Marcus inverted region and was published in the Journal of the American Chemical Society. It has a lot of citations now due to its importance. Interestingly, the chemist who proposed the Marcus inverted region won the Nobel Prize for his work in 1992. He proposed this in 1961, and the 1st example was published in 1988, followed by our work in 1989. So, for 20 years there was no experimental evidence for the Marcus inverted region, and we were the 2nd group to show it.

My most interesting research finding

It's the one where I developed a hydroxamic acid fluorescence sensor. It was the second or third molecule that I developed as a fluorescence sensor. I came back to Sri Lanka in 1991 and till 1996 I worked on mechanistic fluorescence. I realized that it's very difficult to do good research on mechanistic photochemistry without high-tech instruments and laser irradiation sources. So, I decided to change my research area to fluorescence sensors. Inspired by the first-year undergraduate qualitative tests, I started by working on 8-hydroxyquinoline which is used in transition metal identification, and then hydroxamic acid which is used for ester group identification.

My work involved joining a fluorescent chromophore to hydroxamic acid, like naphthalene, benzene, anthracene, etc. The work started in 1997 with my first M.Phil. student, Aruna Jayasinghe, who worked till 2000 and left for the USA to pursue his Ph.D. The second student, now Prof. Senthilnithy, started his work in 2000. We did a lot of work in this area, and he published 6 papers on his Ph.D., which is rare even if you do a Ph.D. overseas. This was the most interesting research I have been involved in.

Prof. Dayal De Costa

Research on molecular sensors

I feel that molecular sensors are globally important, although they may not be very popular in Sri Lanka. I work mainly on fluorescent sensors, which are very important because they are cheap. It is a very easy and inexpensive way to identify if a particular substance is present in a sample. It is a hot topic and still, a lot of research is being done in this area, the field is definitely still developing. If we look at 1000 papers published recently, at least 100 are on sensors, and out of these, the majority are on fluorescent sensors. The selectivity and sensitivity are improving every day and we are getting sensors that are very user-friendly, where you just put a strip in a solution and keep it in the air and it can tell you if a certain substance is present or not. This field is still alive and progressing, and last year one of my students, Dimuthu Thanippuliaarachchi, published a paper that already has a couple of citations.

Teaching and work philosophy

I think my teaching style stems from how I used to learn and is also inspired by Prof. AP de Silva. If you understand the concept well, you don't have to write notes. So even now I don't take any notes to lectures, everything is in my mind. Prof. AP de Silva, too, teaches very practically from the heart and not from the notes.

I have loved teaching since my childhood. My career in teaching started at the age of 12 with teaching grade 5 students free of charge and eventually ended up teaching students from grade 5 to grade 12. I initially wanted to be a schoolteacher because that was all I knew at the time. But my cousin, Dr. Janaka Rathnasiri, who was the ITI director at the time, prompted me to become a "University Teacher".

Never disregard observations!

I always tell my students, especially the ones who are starting to do research, to never disregard an observation but to correlate that with the knowledge we already encompass. Sometimes we might not get the reading we expect, but if we can explain that deviation using the knowledge, we already have it will easily lead to new findings.

Evolution of Chemistry

Chemistry from a boring subject is becoming an interesting subject that is mainly fueled by the support given by the internet. Many new teaching methods are now available which use interesting techniques to educate the children. Chemistry is also expanding in many directions such as Nano chemistry, Nanotechnology, and Environmental Chemistry. I believe chemistry is a central subject, which is basically everywhere, and you need chemistry to explain other subjects. A lot of teachers and educators along with software writers do a great job in popularizing chemistry among the younger generations.

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