Tribute to Professor D.A Tantrigoda

VALEDICTORY LECTURE ON

CREATIVITY, CONCEPTS & DEVELOPMENT

BY PROFESSOR D.A TANTRIGODA

MARCH 19 TH 2015

@ FACULTY OF APPLIED SCIENCES
UNIVERSITY OF SRI JAYEWARDENEPURA
ORGANIZED BY PHYSICS SOCIETY

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To mark his retirement as
Chair and Senior Professor of Physics
Thursday March 19th 2015 @ 3.00PM

@
Science auditorium
Faculty of applied sciences
University of Sri Jayewardenepura
Organized by Physics Society

Message from the VICE CHANCELLOR

I am pleased to hear that the Physics Society of the University of Sri Jayewardenepura has organized a Valedictory Lecture by Veteran Professor D. A. Tantrigoda. And I am honored to get a chance to pen in some words of appreciation and congratulations on behalf of the University Sri Jayewardenepura.

Professor D A Tantrigoda joined the university in 1974 and since then he has made a remarkable contribution to the university as well as to the student population. It is a great to privilege to mention that I had the honour to associate with Professor Tantrigoda since the beginning of my professional career. Throughout the Professor's 40 years of tenure he was a man of his word and policies. He was a pleasing personality to associate with, who demonstrated superior analytical capabilities and soon became an expert in the area of Physics. At the time he retired he was the Chair and Senior Professor of Physics. Further Professor Tantrigoda was the Dean of the Faculty of Graduate Studies and also was one of the steering Committee members in establishing the Faculty of Engineering University of Sri Jayewardenepura.

True to the saying that "A good teacher is like a candle - it consumes itself to light the way for others." he is a wonderful lecturer, a person with high caliber, a pillar of passion and an intellect where he believed in producing students who think "out of the box." Like a true scholar, Professor Tantrigoda has vastly contributed to knowledge by conducting research across multiple discipline and some of his research interests are Geophysics, Mathematical and Computational Physics.

It is great to know that we have had such a loyal member of staff and one who was always willing to undertake whatever work required doing. Therefore, I would like to render my heartiest wishes to Professor D A Tantrigoda who became a true asset to the university.

Professor Sampath Amarathunge
Vice Chancellor
University of Sri Jayewardenepura

Message from the
DEAN OF THE FACULTY OF APPLIED SCIENCES

I consider it a great privilege and an honor to pen in a few words of appreciation and congratulations on behalf of the Faculty of Applied Sciences University of Sri Jayewardenepura for the Valedictory lecture by Professor D. A. Tantrigoda, organized by the Physics Society of University of Sri Jayewardenepura.

From its inception the faculty of Applied Sciences has had the embracement of highly accentuated academics. Professor D A Tantrigoda is one such academics who has reached far beyond the pinnacle of modern thinking. Joining the Department of Physics in 1974 as a lecturer and working his way along the path of academia, Professor Tantrigoda retired as the Chair and Senior Professor of Physics ending a fruitful 40 years at the University of Sri Jayewardenepura. His positive influence on the University and student community has been immense in an academic as well as in a professional background. His exemplary teaching abilities have created students of high intellect and perseverance who have excelled academically and professionally. There is never a dull moment in the company of Professor Tantrigoda with his pleasing and highly commendable personality. Professor Tantrigoda is an academic who has excelled in a variety of fields. His research work has been highlighted in the fields of Geophysics, Mathematical & Computational Physics. His keen interest in the field of music and literature was evident when he composed a song for the commemoration of the Golden Jubilee of University of Sri Jayewardenepura.

Finally I would like to make this an opportunity to wish Professor Tantrigoda a blissful retirement and all the success in his future endeavors. He will be dearly missed by not just the Faculty members but all at the University.

Professor Sudantha Liyanage
Dean
Faculty of Applied Sciences
University of Sri Jayewardenepura

Message from the HEAD OF THE DEPARTMENT OF PHYSICS

It is with great pleasure that I write this message to the souvenir of the valedictory lecture on creativity, concepts and development, conducted by Professor Dhammika. A. Tantrigoda. This event has been organized to mark the retirement of Professor Tantrigoda and celebrate his forty years academic career, by the Physics society of the Department of Physics.

Throughout the past forty years Professor Tantrigoda made an outstanding history for our department, University and for the Nation. His footprints have been followed by many generations all over these years and I am sure that it will continue. Professor Tantrigoda joined the family of University of Sri Jayewardenepura in 1974 as an Assistant Lecturer and acquired his MSc and PhD in the area of Geophysics from University of Durham, UK. He returned to Sri Lanka in 1982 and began his academic career as a senior lecturer. As a scientist his research career was started enrolling me as his first research student which became a remarkable achievement in my life as I was able to gain knowledge on interdisciplinary theoretical aspects, research techniques and also computer literacy at an era with much lacking resources to reach and achieve such knowledge. In 1989 he became the Head of the Department of Physics by turning a new chapter in the history of our Department. He established the subject Geophysics in the Department as signalizing it as the only Department in Sri Lanka which includes Geophysics in a Physics curriculum. Under his guidance and supervision the Physics Department was turned out to be one of the few Departments which scored 'A' grades to all categories at the Quality Assurance Accreditation of Universities in Sri Lanka. Professor Tantrigoda was the pioneer of the establishment of the first taught MSc Degree program (MSc in Physics Education) which was coordinated by me. Moreover, Professor Tantrigoda contributed his service to the Infrastructure developments, human resources developments and Physics curriculum developments of the Department during his devoted academic career. In 2002 he became the Dean of the faculty of graduate studies and later on, Senior Professor and Chair of the department in 2004. Professor Tantrigoda was successful on shaping lives of countless number of students which I can assure by giving plenty of examples.

According to his broad understanding of Physics and as a Geophysicists, his contribution was not limited to the university and students but for the nation also. His extensive views, knowledge and imagination were consistently dedicated to development projects of the country and research institutes such as Arthur. C. Clarke Institute for Modern Technologies, Petroleum Resources Development Secretariat, National Science Foundation, Institute of fundamental Studies etc. He was a General President of the Sri Lanka Association for the Advancement of Science (SLAAS) and currently he holds the chair position of the National Science and Technology Commission (NASTEC).

Professor Tantrigoda has an unique way of teaching which involves persuading students to understand education broadly, not merely as a subject that pertains to theoretical concepts and formal pedagogy but as a wide collection of forces that contribute to a person's and society's development. I gratefully acknowledge that, many of us were inspired and motivated through Professor's methods of teaching and his career. I look forward to continue the conversations and plans we have had and I have no doubt I will continue to endow benefits to our students from our encounters in countless ways.

Professor, as you embark on your next new chapter of life, as a student and as a friend I wish you a joyful and healthy retirement. Your teachings will be forever treasured.

Dr. P. Geekiyanage
Head of the Department
Department of Physics
University of Sri Jayewardenepura

Message from the PATRON

I consider it a privilege to be writing a few words on the occasion of the valedictory lecture of Prof. D.A.Tantrigoda who served the University of Sri Jayewardenepura for 40 long years with utmost commitment until his retirement as Senior Professor of Physics last January. First I would like to thank the Physics Society for organizing this event and to the Senior Treasurer of the Society, Dr. Shantha Gamage particularly for initiating the event and for giving me the opportunity to write a message for the souvenir produced to mark the occasion.

On this occasion, I would like to mention a few of Prof. Tantrigoda's attributes relevant to the achievements of the department. His simple way of teaching physics attracted many students even from the biological science stream to choose physics as a subject and appreciate the beauty of physics. He always thought it his duty to be present in the department and get involved in all activities of the department, faculty and the university. It was his habit to work in harmony with those around him, be it the academic or nonacademic staff or the students. This created a peaceful atmosphere conducive for research, academic work and smooth functioning of the department. He had a broad outlook on the world and always tried to understand differences of opinion and to respect diverse views.

Prof. Tantrigoda is largely responsible for the progress of the department of during the last 20 years and his services will be always remembered and appreciated and his absence will be felt for a long time to come. I wish him good health, long life and happiness in his retirement.

Professor C. P. Abayaratne
Department of Physics
University of Sri Jayewardenepura

Message from the
PRESIDENT OF PHYSICS SOCIETY

"It is the supreme art of the teacher to awaken joy in creative expression and knowledge" - Albert Einstein's saying has always been the most apposite portrayal for Professor Dhammika Tantrigoda, for the immense contribution towards the University of Sri Jayewardenepura as well as the society of physics from the inception and throughout.

At this moment of tendering the message as the president of the physics society, I humbly recall the very first day of the orientation program in the university which is also the day I myself was inspired about the subject of physics. The vibrant personality of Professor Tantrigoda explaining about the subject has lightened the flame in "Studying Physics" of every fellow student's heart in the society. His exceptional competence of sharing the knowledge in the most modern way has been attractive and admired.

Being blessed studying physics under Professor Thantrigoda, on behalf of the student community, I convey our gratitude and well wishes for a blissful retirement. Sir, it is for certain that you are always remembered as a milestone for the utmost service tendered.

Sasadara Adikari
President
Physics society
University of Sri Jayewardenepura

Message from the SENIOR TREASURER

The Physics Society of the University of Sri Jayawardenapura was formed about twenty-two years ago, with a very clear idea of its aims and objectives. The seriousness and enthusiasm through which these objectives are being pursued augurs well for the future of this society. In line with the aims and objectives of the society, the physics society is proud to organize the valedictory lecture on Creativity, Concepts and Development to mark the retirement of the Chair and Senior Professor of Physics to acknowledge the 40 year academic career of an extraordinary person, our beloved Professor Dhammika Tantrigoda.

It is with great pride and pleasure that I provide a message for this event as a student of Prof. Tantrigoda and as a member of the first executive committee of the society. His encouragement was very much useful for initiating the society. His contribution in the last 22 years for the society as the first senior treasurer and as the patron of the society played a major role to build a very good relationship between academic community and university students.

Prof. Tantrigoda's ability to teach complex scenarios in Physics simply and attractively helped us to think more. Thank you for being such a fantastic teacher and for your wonderful sense of humour. You are still the best lecturer I have ever encountered, and certainly were primarily responsible for helping me to become a university academic. I certainly hope that you will continue to work and share the good that you do with all of us. Best wishes on your retirement.

Finally we are all most grateful to the distinguished academics, non-academic staff members, well wishers and past and present members of the physics society who have joined hands to make this event a success.

Dr. N. Gamage Shantha,
Senior lecturer in Physics

On the Occasion of His Retirement:

A TRIBUTE TO
Professor D.A Tantrigoda

On 10th June 1949, the village of Palatota, Kalutara, saw the birth of Dhammika Ariyakuamara Tantrigoda. He was born to a highly reputed family having a great affinity towards Sri Lankan values and traditions. His father served as a school principal and was a very influential person on his life. The environment that he was brought up in was invariably such that Literature and Science were intricate parts of it. As a school boy he showed shear brilliance in studies. He completed his school education at Kalutara Vidyalaya and Royal College, Colombo, one of the most prominent boy's schools in the island. During his schooling days he was fascinated and enthusiastic about Art, Culture, Painting and Sinhala in which he excelled abundantly in addition to the field of Science.

After the successful completion of his G.C.E Advanced level examination, he entered the then University of Ceylon (University of Peradeniya). Getting selected to do both Physics and Mathematics this young gentleman prioritized his academic activities on Physics. He then went on to successfully read for a special degree in Physics under the benevolent guidance of Prof. V. Appapillai and Prof. George Dissanayake.

In November 1974 this scholar joined the Vidyodaya Campus of the University of Sri Lanka (currently University of Sri Jayewardenepura) as a probationary assistant lecturer. The influence of prominent researchers at that time such as Prof. P.C.B Fernando, Prof. Tennakone and Dr. Mahendra Wijesingha made him continue higher studies in Physics. His close interaction with Prof. P.C.B Fernando finally led to the selection of Geophysics for higher studies. After receiving a Commonwealth Scholarship he left to the United Kingdomin order to pursue higher studies at the University of Durham. He obtained his Master's degree in 1979 while becoming the second in the batch under the supervision of Prof. Martin H.P. Bott. In 1982 he obtained his PhD.

On his return he was promoted as a Senior lecturer in Physics. He was appointed the Chair of Physics following the retirement of Prof. P.C.B Fernando in 1996. In the year 2004 he was further elevated to the position of Senior Professor of Physics which he held till the time of retirement with utmost care and passion. In his research career he has supervised a significant number of PhD students in Physics and also he has supervised one PhD and three MPhil students in Mathematics.

He has accomplished a great deal of things in his fruitful career in an academic as well as in a professional level. Such excellence and perfection is seen rarely in a human being. He has held a significant number of positions as a renowned scholar. He has been a Regular Associate at the International Center for Theoretical Physics, Trieste, Italy, for a period of three months each year and highly regards this as a good exposure and an opportunity for him to meet a lot of new people. His secret of success is to attend a gathering pretending to be a person who doesn't know anything and to learn everything such that in the end there is nothing left to learn. Joining the Sri Lanka Association for the Advancement of Science in 1974, he went on to become the president of the section E1 in 1998, Chairman of General Research Committee in 2003 and finally in 2011 became the 67th General President of the Association. He is a fellow of the prestigious National Academy of Sciences of Sri Lanka. His contribution as a consultant to the Ministry of Higher Education on "How to reform the university system in Sri Lanka" will be of much importance in improving the current education system. Prof. Tantrigoda has published over fifty research papers in reputed national and international scientific journals. "Demarcation of the outer edge of the continental margin of Sri Lanka according to the United Nations convention on the law of the sea" is a project in which he played a leading role. He was awarded the
National Science and Technology award in the year 2008. At his retirement he was also the Chairman of the National Science and Technology Commission.

Prof. Tantrigoda is a paragon for a person who has squashed the statement "Lovin Ekek Eka Deyakata Wei Samatha". He possesses exemplary skills in composing songs and is a very talented short story writer. The song composed in commemoration of the Golden Jubilee of the University of Sri Jayewardenepura in 2009, Einstein song to mark the 100th anniversary of the three great discoveries of Einstein in 2005 and the forest song to mark the international year of forests in 2011 are some of his masterpieces. Thus his contribution in uplifting the cultural and intellectual life in the University has been immense.

Though he carried a very high image, his down-to-the-earth personality was very evident from his soothing actions. It was from his parents that he learned to show such love and kindness to everyone as lighting up a lamp with another, always trying to lighten up others through love and kindness to make other people happy.

The final Gold lining to this great and humble human being is his family life. Leading and exemplary family life, Prof. Tantrigoda is happily married to Mrs. Ramani Tantrigoda an Associate Professor at the Open University, Department of Chemistry and he is the father of three sons.

On an ending note, he was a pillar of passion and strength to his students. He relied on perseverance and spent a great deal of time organizing ways to present his ideas in a sequential pattern, so that even a layman would understand Physics. Prof. Tantrigoda has had a profound impact on innumerable students throughout his career. All his students continue to achieve greater heights because Professor inspired them. Though he has now left the University, Prof. Tantrigoda's legacy as a teacher will always be hallowed by the countless minds he has awakened.

VALEDICTORY LECTURE ON

CREATIVITY, CONCEPTS & DEVELOPMENT

BY PROFESSOR D.A TANTRIGODA

CREATIVITY, CONCEPTS & DEVELOPMENT : VALEDICTORY LECTURE

Prof. Dhammika A. Tantrigoda,
Chair and Senior Professor of Physics
University of Sri Jayewardenepura

Vice Chancellor,
Dean, Faculty of Applied Science,
Head, Department of Physics,
Members of the Academic Staff,
Administrative and Non Academic Staff,
President of the Physics Society,
My Dear Present and Past Students,
Invited Guests,
Ladies and Gentleman,

First of all I would like to thank the Physics Society for inviting me to deliver a valedictory lecture on the eve of my retirement from the position of Chair and Senior Professor of Physics of the University of Sri Jayewardenepura. In leading universities of the world, it is a well known tradition to organize an inaugural lecture to mark the appointment of a new Professor and also to organize a valedictory lecture to mark his or her retirement. However, this tradition is rarely practiced in Sri Lanka. An inaugural lecture serves the purpose of introducing the vision, ideology, and the research and academic orientation of a newly appointed Professor, to the academic community. On the other hand, a valedictory lecture is delivered by a retiring Professor to bid farewell to the academic community and more importantly to celebrate his or her contribution over the years to the discipline, university and the community at large. I am indeed much obliged to the Physics society and its Senior Treasurer Dr.N.G.S. Shantha for making arrangements for this valedictory lecture which I deliver as the last formal academic activity that I perform as the Chair and Senior Professor of Physics at the University of Sri Jayewardenepura.

The topic that I have chosen for my valedictory lecture is “Creativity, Concepts and Development”. In my lecture I shall try to illustrate how the very special quality called “creativity” possessed only by human beings, has been used to give rise to a process called concept building , and how the concept so built have been used in the development process.

Philosophy has a stream of knowledge that has a long history which goes back to several millennia. Different philosophies have originated in different parts of the world. I would like to draw your special attention to ancient Greek philosophy, especially in view of its close relationship to modern science. Ancient Greek philosophy began around 6th century BC and was dominated by three great philosophers Socrates, Plato and Aristotle. Ancient Greek Philosophy covers a wide variety of disciplines such as Ethics, Political Philosophy, Metaphysics, Epistemology and Mathematics. In fact, it is acknowledged that the present day knowledge of most of the branches of modern science and other knowledge domains is based on fundamental ideas that have been expounded by the ancient Greek philosophers.

Undoubtedly, the body of knowledge created by the ancient Greek philosophers and other philosophers- Arab, Indian and Chinese- formed an important stream of knowledge. While noting the importance of this philosophical stream we need to realize that this was not the only stream of knowledge that existed during that time. There was another stream of knowledge that is much older than philosophy and can be considered as equally important, if not more. This was the knowledge of ordinary people- knowledge of the farmers who worked the agricultural fields, knowledge of the carpenters and masons who constructed buildings and edifices and knowledge of slaves who laboured to build the pyramids. In short, this was the knowledge of artisans from the world of work. These two streams of knowledge existed side by side as two independent entities for a long period of time, until two important intellectuals of the 16th century focussed their attention to this dichotomy. They were Francis Bacon and Galileo Galilei. In my lecture I would confine my remarks only Galileo's contribution even though the contribution of Francis Bacon is equally important.

Galileo Galilei was born on 18th February 1564 in Pisa. In spite of Galileo's interest in mathematics and mechanical innovations from his young days, his father expected him to pursue a career in medicine. He joined the University of Pisa and studied medicine and the philosophy of Aristotle. Having realized that Galileo has no interest in medicine and his strength is in mathematics his father allowed him to study mathematics. He studied mathematics at Florence and soon became a renowned mathematician of that era and was successful in securing a position as the Professor of Mathematics at the University of Pisa in 1589. Later he was appointed to the prestigious position of Chair of Mathematics at the University of Padua.

Galileo was never in total agreement with Aristotelian philosophy. In fact, very often he has been highly critical of certain aspects the Aristotelian philosophy. He openly disagreed with the Aristotle's geocentric theory of the universe and favoured the Copernican system of the heliocentric universe. Furthermore, he was highly skeptical of the view professed by the Greek philosophers of the time that the behaviour of nature can be understood through rational arguments alone. His contribution to knowledge has been documented in two great books authored by him. The first was the "Dialogue Concerning the Two Chief World Systems" in which he challenged the Aristotelian cosmology. The second was "Dialogue Concerning Two New Sciences" which is widely considered as the cornerstone of modern physics. This book which has been written in the form of a dialogue probably narrates the experience that Galileo gained through his interaction with the world of work. Through this book he has made a highly successful attempt to present a mechanical "model" of the universe. He tried to explain many phenomena that we are familiar with by using the concept of "force". It is true that this concept was first introduced by Aristotle. However, it was Galileo who introduced the concept to explain a wide spectrum of phenomena. He successfully explained the equilibrium of structures in terms of the concept of force. It is important to realize that force is not something that exists in reality. It is only a concept which has been created to explain certain 'class of situations'.

The concept of force was further developed by the well known English physicist and mathematician Sir Isaac Newton. He formulated three laws which are known as Newton's laws of motion through which he made the concept of force more real. Through his first law he defined the concept of force and through the second law he was successful in providing a way of quantifying it and also providing units to measure it. The force was generally understood in laymen terms as "push" and "pull". Through the third law Newton introduced a new force that came into play when two rigid objects are in contact with one another. His third law was successful in introducing two new concepts called 'action' and 'reaction' and also provided a way of describing how force arises in certain situations. The so called "force"

which was a figment of imagination or a concept has now become a real physical quantity with a well defined meaning and units of measuring it.

Newton first introduced the concept of force in relation to objects moving in straight lines. Later he further developed this idea in relation to bodies performing circular motion. He explained that for an object to move in a circular path there should be a force acting on the object directed towards the centre of the circular path. The object continues to move around the circular path provided that the force takes a certain magnitude which depends on the mass of the object, its speed and the radius of the circular path. Later he generalized his study of circular motion for objects moving in elliptical orbits.

Another concept which has a history that goes back to the days of Aristotle is gravity. During ancient days gravity was not directly considered a force as we do today. It was used to signify the importance of the Earth in the geocentric theory of the universe of Aristotle. According to the geocentric theory the Earth is situated at the privileged position of the centre of the universe. The Earth was also considered the centre of gravity of the universe for two important reasons. The first was that all heavenly bodies revolve around the Earth. The second was that any object on the Earth comes back to the Earth when projected away from it for the reason that the Earth is the most natural place for material objects to reside. With the introduction of the heliocentric theory of Copernicus which enunciated the centre of the universe is the Sun rather than the Earth, it was accepted that the centre of gravity of the universe is the Sun not the Earth. The more revolutionary idea that there can be billions of systems similar to the solar system in the universe was put forward by Bruno. If this is the case, the idea of centre of gravity is no more meaningful. However, there should be a certain property that holds the planets of each system together. The term gravity was then used to signify this property. Bruno further said that this property is universal as it prevails throughout the universe. This was how the concept of universal gravity was born.

Experimental observations that led to the formulation of a more complete theory of gravity came from a well known naked eye astronomer, Tycho Brahe and his colleague Johannes Kepler. Kepler after a careful analysis of the paths of planets recorded by Brahe and his co-workers summarized results of his analysis in three laws presently known as Kepler's laws of planetary motion. The first law states that all planets move around the Sun in elliptical orbits with the Sun at one of the foci. Other two laws deal with the speed at which the planets move around the Sun.

Next major contribution to the development of the concept of gravity came from Newton. According to legend, the idea of gravitational attraction came to Newton's mind when he saw an apple falling from a tree. It is believed that Newton formulated the concept of gravity as an attractive force when trying to explain how the apple came down to the Earth. According to historical records Newton started working on the gravitational force on the request of one of his close colleagues, Edmond Haley. Newton derived the nature of the force that is needed to keep a planet in an elliptical orbit and showed that for a planet to move in such an orbit there should be force acting on it proportional to the masses of the planet and the Sun and inversely proportional to the square of the distance between the Sun and the planet. Later he described this property called gravity is something that exist between all masses and expressed his findings in the form of a scientific law. As it has been already established that the gravity is a property that prevails throughout the universe, this law is now called the universal law of gravitation.

Gravitational force is a special type of force. Very often this is explained by the analogy of a stone tied to one end of a string with the other end held by the hand. The force required to maintain the circular motion is provided by the tension of the string. There is no difficulty in visualizing how this happens. In contrast, in the case of the gravitational force acting between the Sun and a planet there is no physical entity such as the string to provide the necessary force. If that is the case, we may have to accept the gravitational force as a very special type of force in contrast to other forces that we know. Two masses which are far apart with no physical connection can exert this force on each other.

Starting from the concept of gravitational force, a series of new concepts such as gravitational field, gravitational field intensity, gravitational potential energy and gravitational potential came into being. As a result of work carried out by mathematicians such as Laplace, a new branch of Physics and Applied Mathematics known as Potential Theory was established. Experimental methods of measuring gravity were soon found. Later these methods were improved to measure gravity to an extremely high degree of accuracy. Gravity which was a mere concept at one time has now reached the status of a real tangible physical quantity.

Newton's law of universal gravitation provided the necessary basis for the quantification of the gravitational force, but did not provide any answer to the question what causes it. It was Einstein who provided answer to this question through his highly revolutionary theory called the general theory of relativity. We live in a three dimensional universe and in this universe time flows along a single direction. In classical Newtonian mechanics space and time have been considered as two independent entities. Einstein held the opposite view that the time and space cannot be separated and they are interwoven in an inseparable manner. In fact what is existing is neither space nor time, but a combination of both called "space-time". According to Einstein the space-time exists as a continuum and it has been made up of billions of space-time lines along which objects are moving. Space-time is not a rigid continuum. It is malleable, ductile and can undergo various forms of deformations. In the presence of a large mass such as a planet the space-time continuum deforms and as a result of this deformation, space-time lines bends towards the planet and hence objects move towards the planet. The curvature of the space time continuum according to Einstein is seen as the gravitational force. As a result of deformation of space-time continuum near a large star or a planet, even light rays move in curved lines as the space-time lines get deformed. This is a fact that has been experimentally proved.

Newton's conceptualization of gravity is sufficient to explain many a practical phenomena. All calculations related to space travel are performed using Newton's universal law of gravitation. In addition, knowledge of the gravity field of the Earth is used frequently in the exploration of mineral resources and oil. Gravity field measured over the Earth varies as a result of presence of Earth structures of different densities. Therefore, the gravity measured on the surface of the Earth provides a very good indication of nature of shallow sub-surface structure of the Earth. There is many a mineral deposit which has a density higher than that of surrounding rocks and over such places gravity field is higher than over the normal places. Similarly, sedimentary rocks have a density lower than that of the surrounding rocks and gravity lows can be observed over such places. These gravity highs and lows are called gravity anomalies. It is well known that oil and gas always accumulate in sedimentary environments. The first step in oil and gas exploration is to search for suitable sedimentary structures and this is accomplished through gravity surveys and identifying extensive negative anomalies. The Mannar basin in the nearby sea area in Sri Lanka where oil and gas exploration activities are underway has been identified by examining the gravity anomalies

over the India Ocean. Once the existence of a suitable sedimentary basin is identified, the next step is to estimate the size and shape of the basin, solving the inverse problem in gravity.

Knowledge of the gravity field of the Earth has been used for many practical purposes. Recently this knowledge has been used in connection with claiming the sea area belonging to Sri Lanka. According to the Annex (ii) of the final act of the United Nations Convention on the Law of the Sea, a maritime country such as Sri Lanka can claim the surrounding sea area up to a boundary where the thickness of the sedimentary cover is 1 km. Most appropriate method of determining sedimentary thickness is reflection seismology. Carrying out a detailed systematic seismic survey to ascertain the thickness of sedimentary cover of the Indian Ocean around Sri Lanka is a prohibitively expensive exercise. Therefore, the High Level Task Force appointed by the cabinet of ministers to carry out this task decided to first make a rough estimate of 1 km sedimentary boundary using an inexpensive method such as gravity and then to carry out a detailed seismic survey around the estimated boundary for the accurate establishment of the boundary. I am glad to add that this gravity study was carried out at the Physics Department of the University of Sri Jayewardenepura and this has been a part of the PhD research work of one of my students, Dr. Madhuranga Fernando. All these examples amply illustrate how far a mere concept created in human mind can be fruitfully utilized with further creative thinking for the physical and economic development of a country.

Formulation of the concept of force is just a single example of concept building in science which led to the development of practically useful branches of knowledge such as engineering and technology. There are many other concepts that became the backbone of modern science which have ultimately helped the human race to upgrade its living standards as well as technological advancement which has in turn enhanced economic growth. Our vast present day knowledge of atomic and nuclear physics has the humble beginning of conceptualization of observations made on pieces of fur material rubbed with ebonite and pieces of silk cloth rubbed with glass. In order to explain the results of this simple experiment, concept of electric charge with two forms known as positive and negative have been introduced. Later attempts to arrange negative and positive electricity assumed to be present in matter, in such a way to satisfy many other observations, finally led to the present day conceptual model of the atom and the nucleus. Applications of this knowledge can be seen in chemistry, spectroscopy, nuclear medicine, nuclear power generation and many other situations. In addition to the practical applications of the conceptual model of the atom, it has paved the way for development of more sophisticated knowledge areas such quantum mechanics and more recently string theory.

Another concept that had far reaching consequences is the concept of wave. The concept of wave was formulated to explain the propagation of energy when an elastic medium that is repeatedly disturbed. This concept was first used successfully to explain many phenomena related to sound and light. Through the mathematical formulation of known laws in electricity and magnetism, James Clerk Maxwell showed that the electric and magnetic fields can propagate as waves introducing a new concept called electromagnetic waves. Developments that took place utilizing this concept revolutionized our communication capabilities reducing the whole world into a global village. Through this enhanced communication capabilities people had a better opportunity to access knowledge bases throughout the world paving way for a knowledge society. Today it is generally believed that knowledge is power and providing speedy access for knowledge will provide lasting solutions to many social and other problems.

In this lecture I made an attempt to illustrate how the creativity of human beings led to the formulation of scientific concepts and with further creativity how these concepts have been assigned a practical meaning. Scientific concepts became the building blocks of conceptual models and scientific theories have been put forward to explain how nature behaves. With these models and theories it became possible to predict the future behaviour of natural processes. Adjustment and readjustment of models to minimize the discrepancy between predictions and observations lead to the better understanding of how nature works.

Today two distinct branches of scientific endeavour have emerged. First is basic or fundamental science where scientists attempt to unravel the mysteries of nature. This can be seen as pursuing the path followed by the likes of Galileo, Newton and Einstein. The second is the application of already available knowledge to solve practical problems and for development purposes. This branch is known as applied science or technology. It appears as if today there is a higher encouragement for applied sciences than for the basic sciences. This has been aptly demonstrated by the nature of discoveries for which the Nobel Prize has been awarded during the last few years. In the past, the Nobel Prize for Physics went to work carried out on the basic aspect of the discipline. This trend has changed now and application oriented discoveries have come to the centre stage today. This may probably be due to the absence of revolutionary discoveries in basic branches of science that warrant this award as in the past. Nevertheless, we need to understand that new knowledge which enriches applied research comes from basic research. Basic science prevents technology stagnation by providing new discoveries that sustain it. Therefore, it is important to encourage basic research as the future survival of technology depends very much on the progress of the basic sciences.

Modern science has gone through a long journey since the days of Bacon and Galileo. Science which was first originated due to the curiosity and enthusiasm of a few highly creative individuals has today become an enterprise with dedicated trained scientists, technicians and many others working on a multitude of scientific disciplines. In the past the direction in which scientific activities should be pursued was decided by the scientists themselves. However, today the scientists alone cannot decide the direction along which they steer their research. This is mainly because science today is a resource intensive enterprise in terms of money, trained personnel and expensive equipment. As a result of this they have to heavily depend on funding agencies. Throughout the world funding needed for research mainly comes from the State and therefore the State has the suasion to influence the direction of scientific research. As a result of this, direction of scientific knowledge creation or research is influenced to a certain degree by the political realities of the present day world. During the cold war period more funds have been made available for defence and space research. Most of the oceanographic, marine geophysics and geology research carried out in the US during nineteen fifties, sixties, seventies and early eighties were funded by the US Navy. Whatever the purpose for which research was carried out, at the end of the day, it produces a valuable ensemble of information that enrich our knowledge and understanding of nature. This knowledge if used with creativity, innovativeness and responsibly can always be diverted towards applications that lead to the well being of mankind.

Thank you.

A Greater Teacher.

Dear Professor. Thanthirigoda,
You taught me how to teach in an effective way.
It was splendid, the time what we had together.
You did not have boundaries of teaching as well as in treating us
It was fantastic, it was passionate
the way you transmit the knowledge, skills and attitudes.
You spiced the enthusiasm of learning up.
You made us excited because you are excited.
You taught us attractively.
You made all possible complex scenarios simple.
Simply you distilled my physics knowledge.
It is indescribable
Dear sir, thank you for expanding my thinking horizon.
Thank you for dissolving fear and purifying me.
Let me be devoted with my full of gratitude
Let me applause, every single inspirational
thought what you had with us.
Thank you and have a long life.....

V. R. Inthiran,
MSc in Physics Education, 2008 Batch

විශ්‍රාම ගිය ගුරුසඳ
මහාචාර්ය ධම්මික තන්ත්‍රීගොඩ

එතුමා අපට "සැබෑ මහාචාර්යවරයෙකි " "කරුණාවන්ත ගුරුවරයෙකි "ආදරණීය පියෙකි" "කලණ මිතුරෙකි". එමෙන්ම වරෙක එතුමා අපගේ "ශිෂ්‍යයෙකි." එතුමාගේ භෞතික විද්‍යාව සහ ගණිතය පිළිබඳ දැනුම අපරිමිතය. එතුමාගේ මෙම දැනුම් සම්භාරය ආසන්නයටවත් ආ වෙනත් අයෙක් අප රටේ නැත. එමෙන්ම එතුමා ඉතාම නිහතමානී පුද්ගලයෙකි. එතුමා ඕනෑම විටක සිනාමුසු මුහුණින් සිටිනවා ඕනෑම කෙනෙකුට දැකගත හැකි සුලබ දසුනකි. එතුමා අප රටේ සහ අප විශ්වවිද්‍යාලයේ තනතුරු විශාල ගණනක් හෙබවුවත්, එතුමා එම කිසිම තනතුරකින් ඔලුව උදුම්මවා ගත් මිනිසෙක් නොවේ.

දේශීය හා ජාත්‍යන්තර පර්යේෂණ පත්‍රිකා *(Research Papers)* 50 කට වැඩි සංඛ්‍යාවක් ප්‍රකාශයට පත්කොට ඇති මහාචාර්ය ධම්මික තන්ත්‍රීගොඩ මහාත්මාණන්, ශ්‍රී ලංකාවේ සිටින පර්යේෂකයින් අතුරෙන් ඉහළින්ම තැබිය හැකිය. ශ්‍රී ලංකා මුහුදු වෙරළේ ජාත්‍යන්තර මායිම නිර්ණය කිරීමේ ව්‍යාපෘතියේ ප්‍රධානියා හැටියට කටයුතු කරන ලද්දේ එතුමා ය. එම අද්විතීය සේවය උදෙසා 2008 වසරෙදී ජාතික විද්‍යා හා තාක්ෂණ සම්මානයෙන් එතුමා පිදුම් ලැබීය. මෙතුමා විශ්වවිද්‍යාලයේ සිටින කුඩාම රැකියාව කරන පුද්ගලයාගේ සිට ඉහළම රැකියාව කරන පුද්ගලයාට දක්වා උදව් කරති. ඒ කිසිදු කෙනෙකුට එතුමාගේ සැලකිල්ලේ වෙනස්කමක් නැත. මා මෙතෙක් ජීවිතයේ දැක ඇති සුන්දරම හදවත හිමි තැනැත්තා එතුමාය.

විශ්‍රාම යන විට එතුමා ශ්‍රී ජයවර්ධනපුර විශ්වවිද්‍යාලයේ භෞතික විද්‍යා අධ්‍යයනාංශයේ ජ්‍යෙෂ්ඨ මහාචාර්යවරයා මෙන්ම ජාතික විද්‍යා හා තාක්ෂණ කොමිසමේ *(NASTEC)* සභාපතිවරයාද වශයෙන්ද සේවය කළේය.

ගුරු සඳ - අවිදු අඳුර බිඳ හළ අප
ගුරු සඳ - අඳුරු දිවිය එළි කළ අප

එතුමාට නිදුක් නිරෝගී සැපවත් විශ්‍රාම දිවියක් සමග දීර්ඝායුෂ ප්‍රාර්ථනා කරමි. එතුමන් සැමදා අපගේ හදවතේ ජීවත් වන්නේ ය.

ආචාර්ය ප්‍රසන්න මධුරංග ප්‍රනාන්දු

Wishes at the VALEDICTORY LECTURE

Light breaks the darkness – Darkness shows the value of light
Breeze calms the surroundings – Tornados show the value of breeze
Trees provide the shade – Deserts show the value of shade

Dear professor,
You have the maturity – Many show the value of it, being immature yet

Academics will never retire. Thus, our best wishes to continue your service of guiding next generation towards a success.

Postgraduate students (2006 -2014)

සැබෑ මහාචාර්යවරයෙක්,
කරුණාවන්ත ගුරුවරයෙක්,
ආදරණීය පියෙකු
සහ
කලණ මිතුරෙක් වූ

මහාචාර්ය ධම්මික තන්ත්‍රීගොඩ මහත්මාට
නිදුක් නිරෝගී සැපවත් විශ්‍රාම දිවියක් සමඟ
දීර්ඝායුෂ ප්‍රාර්ථනා කරමි.

ගුරු සඳ - අවිඳු අඳුර බිඳ හළ අප
ගුරු සඳ - අඳුරු දිවිය එළි කළ අප

රාජිත ජයරත්න
ආචාර්ය විරාජ් ජයවීර
ආචාර්ය ප්‍රසන්න මධුරංග ප්‍රනාන්දු

I would like to express my deepest gratitude to you for being such a wonderful professor and mentor throughout my academic odyssey at University of Sri Jayewardenepura. Needless to say, it has been a great privilege studying under such an extraordinary scholar and Professor. You have not only imparted a great amount of knowledge onto your students, but you have also been a true father to all of us. In the humanistic nature, you have time to establish rapport with students by getting to know them personally. Most moving for me personally was the belief you showed in my ability to thrive in a different aspect of responsibilities in academic career. I hope you will enjoy directing your energies to continue our fruitful dialogue on education and research in Sri Lanka.

I conclude my words by wishing you the very best in retirement. Thank you for your service and been a great representative for University of Sri Jayewardenepura.

Wasanthi De Silva - 2009 Batch

WE TAKE PLEASURE TO SAY THAT, DR. DHAMMIKA TANTRIGODA WAS A REAL TEACHER FOR US AND HE LED US TO A NEW WAY OF THINKING. ALSO, HE TAUGHT US THAT HUMANITY IS GREATER THAN MERE KNOWLEDGE. ADMITTEDLY, HE IS A WONDERFUL TEACHER WHO WE HAD MET IN OUR UNIVERSITY LIFE.

May he shine forever,
& we wish him a
healthy & glorious life.

4th year students (physics special, 2010-2015)

Tharaka de Silva, Lahiru Naveendra, Helani Singhapura, Dulanjan Dharmasena, Rusiri Rathnasekara, Niluka Bandara, Jeevan Jayasooriya, Dinusha senarathna, Sandaruwan Chameera, Amali de Silva, Anuradha Mahanama, Bathiya Samarakoon


Wishing you all the joy
& Happiness
that a happy retirement
can bring
Prof. D. A. Tantrigoda
Physics Special Batch
1997
In the first year of university life things were a little frightening
Our young thoughts and decisions were waving and vibrating
You then walked in with a personality; deep and reviving
Strength and calmness -what we needed, we found you propagating
Great amplitudes of knowledge we absorbed by constructively interfering
Things you left in our hearts, to date are still resonating
While delivering Mathematical methods in physics
Came lessons for life quite aesthetical and 'meta'-physics
Can't forget vector spaces, matrices and differential equations
Also remember your guiding light, at the year 2000 celebrations
Outside all the 'mathematics' were messages embedded for 'life'
This phenomenon in your conversations was not at all a surprise
When Geophysics was what you wrote on the board
Being down to earth is what you exemplified and showed
Between the lines of Earth's internal structure, composition and dynamics
Were parental nurture, compassion and semantics
While you took us on a journey through the earth and around
We were under your wings! All safe and sound!
Our dearest Sir, a print in our hearts is what you've left
With the physics you taught and advice and guidance that came next
You were there for us in our need, our future you could foresee
Taught us not just physics but to be the best we can be
Let us come together once more to send our love and wishes
To one of the greatest teachers and a human being so precious!
Alanka
Chithranie
Dileepa
Gaya
Nadeera
Yamini
Sarathi
Hasitha

සරසවි බිමේ දිසාපාමොක් ඇඳුරු තුම
සරසවි ලොවේ දොරගුළු හැරුණු දා සිට
සිප් කිරෙන් ඔබෙ පොහොණී වන්නට වරම් නොලදද
සරසවි අසපුවේ පහන් ටැඹ වූ ඔබ ගැන
වරම් ලඳිම් බඳින්නට පද වැලක් අද දින

සෙනෙහෙවන්තව දයාවෙන් ශිල්ප නැණ දුන්
අඳුරු අහසට පෑයු සඳවතම ය අපට
සතළිස් වසක් පුරාවට අපේ නැණ වැඩුවාට
ඔබේ දෙපා මත හිස තැබුවත් නොහැක ණය ගෙවන්නට

මෙ බිම අස්වද්දන්නට හෙලූ දා බිඳු
නිමක් නැත ඔබේ ජීවිතේ
ඒ අස්වනු රන්කරල් වී දිදුලවයි ලොව දසඅතේ
එකම පැතුමකි සැම මුවකින් ගිලිහුනේ මේ අද දිනේ
අපෙත් ආයුගෙන චිරත් කළක් ඔබ
යෙහෙන් වැජබෙනු ගුරු දෙවිඳුනේ

D.P. Thiwanka Premarathna
3rd Year

හිරු එබෙන අළුයම
සැදී පැහැදී පොත් සමඟ
ඔබ පැමිණ ජපුරට
බෙදා දුන්නේ දැනුම අපහට

මුව පුරා නැඟුනු
සුන්දර ඔබේ මදහස
හඳ පුරා නැඟුනු
ආදර ඔබේ සෙනෙහස
අමතක නොවේ අප හට
ඉසිඹු ලැබ ගියත් අද

මතු ඔබ දකින දින
එකතු කර දෑත් දෙක
දන නමා හුන් තැනම
වඳිමි ඔබෙ පා යුගල

P.W. Dilruk Madushan
2nd Year

The backbone of a good university
is not made from fancy classrooms
& huge buildings.
It is made from the excellent
education imparted by teachers like you.
Bid you farewell sir &
wish you a happy retirement.

-Physics Special Batch 2011-

"A Good Teacher is like a candle,
it consumes itself
to light the way for others."

We want you to know that
you have touched our lives in so many ways
as a teacher, mentor and a father.

We would like to take this opportunity
to appreciate your teaching,
You smoothly took us
from the basics to the deep ends in physics.

Thank you so much for all that you did.
You have made such an impact on all of us.
Your words of wisdom will guide us
and will give us courage to chase our dreams.

MAY ALL THE YEARS AHEAD BRING YOU GREAT JOY AND RELAXATION. HAPPY RETIREMENT SIR!

PHYSICS SPECIAL BATCH 2012

We would like to express our deepest gratitude to you for being such a wonderful teacher, mentor to us throughout our academic odyssey. We were fortunate to attend and listen to your voice which echoed with eminent wordings, experiences, inspirations and many more. Actually we are really lucky and blessed to be students of you. Thanks a lot for being a symbol of excellence whom we can consider as a role model and correct our faults and try to be proud products of you in the nation. It has been proven that you are of course an intellectual eminent important person in the field of physics but also we are convinced that you are a multi disciplinary person with extraordinary habitats, qualities, patience and lot more which are going away from most of us now a days. May this earth be a heaven with more and more genuine stars like you.

Superb teachers like you are the reason why ordinary students dream to do extraordinary things. You are simply irreplaceable. Wish you all the joy and happiness for the new chapter of life.

2014 Physics Special Batch

Dear Sir,

You were an amazing experience for many genarations....
With your dedication and conscientiousness
you obligated many students,
helping them to go the right track when
they needed it the most....
We all will remember your positive and
energy with which we are saying
good bye to your retirement....

May the coming days be filled with joy and fun!
Happy retirement!

Manesha Samarasinghe,Neranga Prasadi,Rasika Chamini,Sathya Vimukthini, Nipuni Adikari,Gayathri Nanayakkara,Chamalie Gunawardana,Upeksha Perera, Chathu Dilrukshi,Jayantha Kumara,Laknath Mendis,Sasadara Adikari,Sasanka Dharmasiri,Hemal Sendanayaka,Randika Lakshman.
Physics Special Batch (2015)

Even though you are retiring,
the values &
knowledge that you have
imparted to us will never retire.
Happy Retirement!

★
★
★

Physics Special Students
Millennium Batch
Faculty of Applied Sciences
University of Sri Jayewardenepura

HONORING
A VERY SPECIAL PROFESSOR

DHAMMIKA. A. TANTRIGODA

We appreciate your enduring commitment
and valuable guidance.

Thank you Sir ...!

You have been an inspiration to us all.
May all your future endeavors be successful and fruitful.

Physics Special Students
2010 Batch
University of Sri Jayewardenepura

Sir,

You have been a dedicated and appreciated service for us,

Happy Retirement Sir,

2002/2003(A) Physics Special Batch
University of Sri Jayewardenepura

BEST WISHES FROM PHYSICS SPECIAL GROUP '96

We are here today serving our families, our communities, our country and the world at large because of professors and mentors like you. We still remember the days when we were listening to you in lecture-theater at our beloved USJP. You were writing on the blackboard with your impeccable, hand written letters, giving us a lecture on Math Methods going on about Fourier Transforms trying to excite and engage us with wonder and beauty of physics that you so dearly felt. We felt the same, as you were contagious in your love for physics. You were always caring and pushing us to excel in our studies. You had a perpetual smile even when we were at fault, letting us know what matters is understanding, where and how we got it wrong not the mistake itself. You have been a model to us so that we become better human beings not just better students of Physics. We wish you the very best in life, health, and happiness. We know you would still have energy and time to be engaged in physics, sciences and with the students in our country for years to come. It has been indeed a privilege and an honor to be your students. Thank you for being part of our lives and changing them for better.

Nadee Prashanthika, Wimalarathne Bandara,
Susantha Wijesinghe, Sanjeewa De Silva, Aruna Kumara,
Nandika Jayamuni, Thushara Wijerathne,
Indrajith Senevirathne, Prashantha Wimalasooriya

සොඳුරු ආචාර්යයාණනි,
ලබැඳි මුණිවරයෙකු විලසින්
පුත නුඹ නෙදුටු ලොව මෙතෙක් යැයි
ඔරු බැඳි රුවලක් සේ
උගත් මහට ගුණදම් කෙතරම් අවැසිදැයි
පැහැදූ

ගුරුලොවට පහනක් වෙමින්
හැඩට ගැඹුරට දුරට සිතන්නේ මෙලෙසයැයි
උගත් ලොව කිරුලු දරමින්
ඔබ දිනූ විදු ලොව මන්තනන්නේ කෙලෙසදැයි
ඉගැන්වූ

සොඳුරු ආචාර්යයාණනි,
දස දහස් උගත් දරු පරපුරක මුල පුරුක වෙමින්
විදදෝදය ඥාන අසපුව දැනුමින් පුරවමින්
ඉටුකලාවූ අපරිමිත මෙහෙයට මෙලෙසින්
තුති පුදන්නෙමු හද පිරි බැතියෙන්

Chamalie Gunawardhana
Physics Special Batch 2015

ගුරු සඳ - බැති පුද

දැකීමු හෘදිස්නෙමු අපි
ඔබ හෘබෘ මහෘදුරුකු වග
හෘදයාංගම් ගුරු පියකු වග
සදුදරණීය කලණ මිතුරකු වග

දයාබර දෙවු මෘහෘදුරු
ධම්මික තන්ත්‍රිගොඩ
ගුරු පියසඳුනි

අපරිමිත යි, ඔබ අපට දුන් දෙය
වදන් පෙළකින් කිව නොහැක එය
අපේ හදවල පිපිකුසුම් ගෙන
බැති හදින් පුද කරමු ඔබ වෙත
විඩාවක් කිසිවිට නොවේවා !
නිදුක් සුවබර ඉසිඹු දිවියක්
උරුම වේවා ! උරුම වේවා !
පිරුණු හදකින්
පතමු නිබඳව

අනධ්‍යයන කාර්ය මණ්ඩලීය උත්සුදය
මෙනෙහික විද්‍යා අධ්‍යයනාංශය

සිප් නැණ බෙදා සිත සාදා ඔවා මිණි
දහසක් දසුන් ඔබ හින්දා සිනාසුනී
ඔබේ ගුණ වයන්නට පද නැති නසාවෙනී
ඉතින් ආයුබෝවන් ගුරු පියාණනි

දුර කතරක ගෙවන් දැනුමට ආවාම
ලඟපාතක හිඳන් දැනුමට ආ සේම
දැනමෙන් සපල කර විදු බිම දිලුනාම
අවැසිය ඔබගේ සේවය නොනිමිය තාම

විකසිත කරපු දැනුමට සිත් සතන් පෙති
ඔබහින්දම දිනු ලොව වෙත දැනුම දෙති
ඉන්නට සුවෙන් නිදුකින් කිසි දුකක් නැති
දහසක් නුවන් දැල්වූ ඒ පිම ඇති

දෙවන වසර Physics අපි

දැනුම ඉතිරෙන
මහා ගඟුලට
දෙඅත් දිගු කලද
අප සැම
ලබා ගත්තේ මිටක් පමණය

මිටෙන් ලද
ඒ මහා ගුණ කඳ
සිතා ගන්නට බැරිය
මා හට
මිටක් කල මේ මහා පුදුමය

පහස ලැබුමට
නොහැක එක විට
මිටින් මිට ගෙන
පහස ගනු මිස

දෙඅත් දිගු කර
සිටින අප වෙත
විටින් විට හෝ
පහස දෙනු මැන
පියාණනි

Supun Thiwanka
2nd Year

හතළිස් වසක් පුරාවට
විදුදය සෙවනේ
අතුබරව
ඵලදරා
පරිණතව
මනා ලෙසටම පැසුණු
සරු බීජ
වියපත්ව බිම පතිත
පත්‍ර මත ඔබ්බවා
සෙවණ දී
අහර දී
දැනුම් ඇකයෙන් හොවා
මහ රුදු සුළං මැද
අඳුරු රාත්‍රීන් පුරා
දිරිය දී
සවිය දී
ඵල දරන්නට
වරම් දුන්
සෙනෙහසේ අතු පතර
සතර අත විහිද වූ
මහා වෘක්ෂය නුඹයි
දයාබර පියාණනි
මේ දුර සසර අතර මල
අප සිත් නිවාහළ
හිමන්ළ වූවාට
ඔබට බොහොමයක් පින්

E.L. Hansani 3rd Year

WISH BEST COMPLIMENTS FOR FELICITATION CEREMONY OF PROF. DHAMMIKA A TANTRIGODA.

FROM, 2008 – 2010 M.SC. PHYSICS EDUCATION BATCH.

1. *Chrishanthi Atukorale*
2. *Nishantha Sendanayake*
3. *Padma Rubasinge*
4. *Parakrama Hettiarachchi*
5. *M. T. S. P. Perera*
6. *V. R. Inthiran*
7. *K. Thewaraja*
8. *Vilva Annaluxmi*
9. *K. P. W. Kumara*

මට
භෞතික විව
ඉගෙන ගන්න
අවැසි නැත

හැකිනම්
ඉසඹුලන්නම්
මොහොතකට
පෙර

කියලා දෙනවද
අපි වයසට යද්දී
ඔබ ඇයි තවමත්
තරුණ

පළමු වසරෙහි
ඔබෙන්
උගන්නා අතරතුර

කෑගැසීම්
සුපුරුදු විලස
එදවස අප
පමා වුවෝ වීමු

විෂය රසවූ
දිනෙක
හඳුනා ගතිමි

ඒ
ධම්මික තන්ත්‍රීගොඩ
මහා ඇදුරු බව

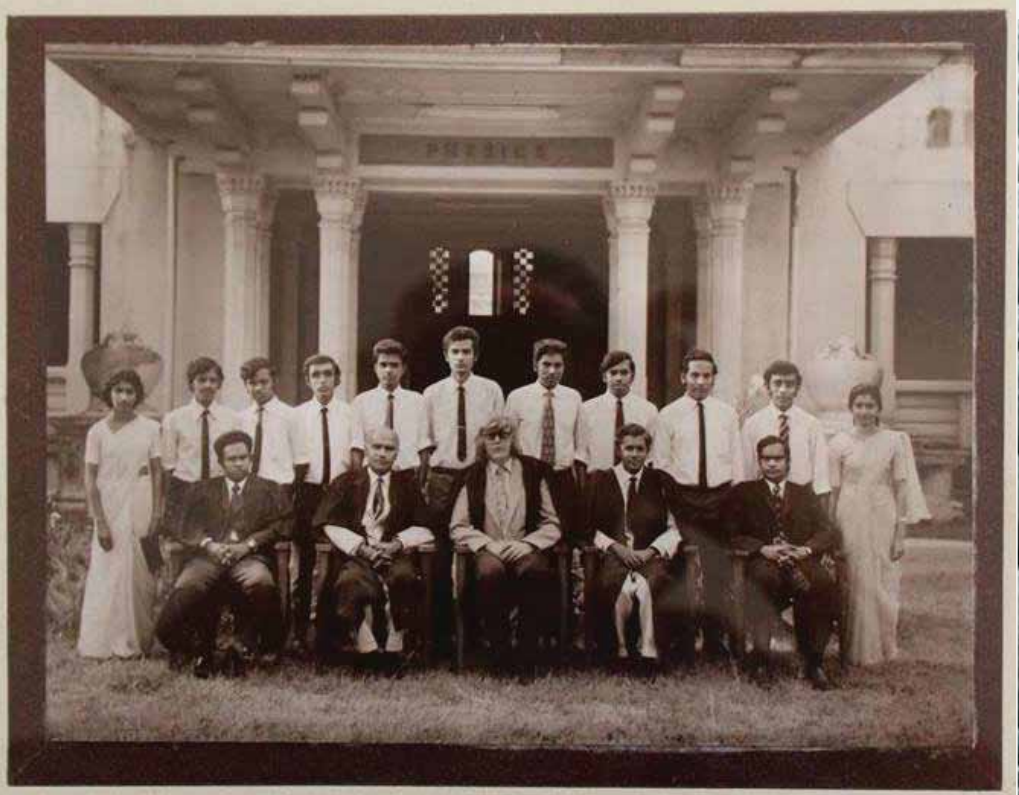
මා
සිටි අසුනෙන්
නොදැනිම
නැඟිටුනි

ඒ කිමදැයි
මා නොදනිමි

Prasad Maduranga Bombuwala
4th year

UNIVERSITY OF SRI LANKA – PERADENIYA CAMPUS

PHYSICS SPECIAL BATCH – 1973.



Seated L. R:– Dr. L. H. Dayaratne, Prof. V. Appapillai, Dr. T. J. Fairclough, Prof. G. A. Dissanaike, Dr. K. Sunderalingam.

Standing L. to R:- Miss W. M. F. Vincent, N F.Hettiarachchi, K. Kandasamy, R. N. Ediriweera, K. D. B. Wijewardana, W. A. Jinadasa, C. K. D. Amarasekara, D. A. Tantrigoda, K. Yogalingam, N. T. A. Jayawickrema, Miss T. Nagalingam.

ARTHUR C CLARKE INSTITUTE FOR MODERN TECHNOLOGIES

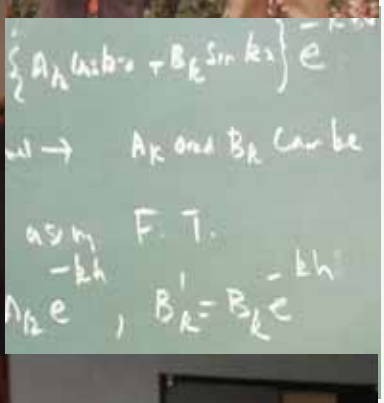
Life: Is it an Illusion?

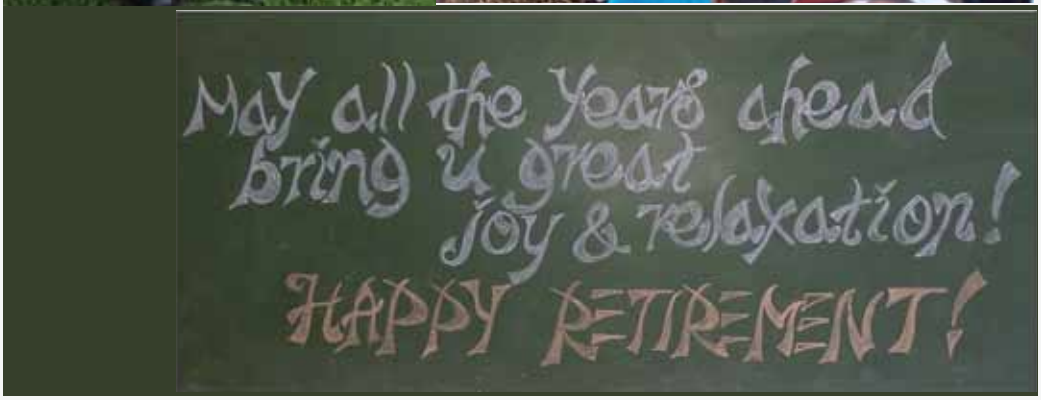
Very often I wonder what is meant by the present. We usually refer to what is happening at a particular point in time as the present. It is the point in the time line that demarcates the past and future. We feel that the past is real because of the memories that we have about the past. In the same way we feel that the future is also real because of our expectations.

Nothing can happen at present as it is only a point in time. For something that is meaningful and that can be experienced to happen a range in the time line is required. But we always feel that present is something real. This is because what we feel by present is not just a point in time but a small range around that point including a little bit of the past and a little bit of the future. If this is the case, what we experience as present is not something real. It is only an illusion. If the present is an illusion, the past which was present sometime back is also an illusion. Since future is the present yet to come, it is also an illusion. If this so, I wonder whether life is an illusion.

- Prof. Dhammika Tantrigoda -


CONVOCATION 2003


$\{A_k \cos kx + B_k \sin kx\} e^{-kt}$
$\omega \rightarrow$ A_k and B_k can be
as x, F. T.
$A_k e^{-kh}$, $B_k' = B_k e^{-kh}$


May all the years ahead
bring u great
joy & relaxation!
HAPPY RETIREMENT!

Teacher: Pinter Sans a Brush

Task of a good teacher in many ways similar to that of a good painter. A good painter's task is no way limited to painting what he sees or making faithful replicas of what he sees. As Pablo Picasso once said the painter should express what he feels about what he sees or in other words what he tells himself about what he sees.

An average teacher transmits the received knowledge to his students; teaches the fact that are given in books, journals and in other media. These facts may include definitions, principles, laws, hypotheses, assumptions, descriptions etc. A good teacher is expected to do more than that. He should make his own opinions about these facts and transmit those to the student. A better teacher may go another step further and trained his students to critically analyze the opinions of others differentiating between the sound and irrational thinking and to have their own opinions about the received knowledge. Then only the student will understand the truth and the reality of the nature and start thinking creatively. A best teacher is the one who creates creative minds or open up minds towards creativity while doing all above.

Unfortunately today teaching has become mere transmission of received knowledge. One of the reasons for this is that there was an explosive development of creation of knowledge in the recent past and the quantum of knowledge that the teacher is expected to transmit has increased in many folds. Sad outcome of this is that the process of teaching has reduced to a mere transmission activity relegating the student to a mere collector of knowledge. When the students who have undergone this process have become teachers consequences are disastrous with possibility of creativity commingling to a halt.

- Prof. Dhammika Tantrigoda -

Dear Sir,
Wishing you the best in this next phase in your life !!
From the first & second executive committee members of the Physics Society 93-94

SPECIAL THANKS TO,

Ms.Maheshi Fernando
Mr.Ravi Wickramathilake,
&
Organizing committee.

ACKNOWLEDGEMENT

On behalf of the physics society of University of Sri Jayawardenapura, we extend our gratitude to our most valued invitee Prof. D. A. Tantrigoda for accepting the souvenir and addressing today's gathering. We are humble to say thank you for your tremendous years of service as a professor of physics. The lessons learned will be held dear in minds and hearts of all the students in every generation.

We are grateful to the vice chancellor of university of Sri Jayewardenepura, Prof. Sampath Amarathunge and the dean of faculty of Applied Sciences, Prof. Sudantha Liyanage for allowing us to launch the Valedictory lecture On Creativity, Concepts and Development.
We also extend our most sincere thanks to Dr. P. Geekiyanage, head of the department of physics and department's academic staff members for guiding us and giving their valuable advices to make this a successful event and the non-academic staff for their support.
In addition we would like to thank all the invitees from other universities and institutions for eye witnessing this memorable occasion.

Besides that, it is our glowing feeling to express our deepest appreciation towards the past students and executive committee of physics society and organizing committee for providing their generous contribution to make this a reality.

Finally I would like to thank all the individuals who supported in numerous ways to make this a successful event.

A. R. L. Mendis
Secretary
Physics Society