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From Amma to Us (and ALL humanity):

“Namah Sivaya”

The greeting *Namah Sivaya* is a very familiar note in all the institutions and with all the children of Amma wherever they are. In effect it is like manna from heaven for use with one and all, particularly total strangers. It creates a recognition amongst people that can foster and cement a strong goodwill for all time. This simple expression, as we all know, means, *I bow down to you (all) who are the embodiment(s) of Supreme Love and Supreme Goodness.*

The fund of spiritual and practical wisdom at the core of these two simple words is stunning! Addressing each other as *Embodiments of Supreme Love and Supreme Goodness*, we remind ourselves that ‘the Spark of the Divine’ is in every one of us. In the given context, in the speaker and the audience, particularly. That establishes an ‘equal-ness’ at the outset in the two of them, unsaid but strongly underlined. In more explicit terms, all of us are referred to as divine – to be more exact, equally divine – at the core of our being, and thus, complementary to each other, inevitable for mutual benefit and a perfect balance in nature and creation. Even gender difference fades away here, which has been imaginatively and sagaciously depicted by ancient wisdom in the enchanting principle of



‘Ardha-naareeswara’, the Siva-Partvathy combine. The extension of this principle leads us to the highest philosophy of Advaita or the ‘One-ness of All Creation’ which represents absolute equality: ‘We’re One With Everyone’. Even the Creator and the Created are not excluded from this One-ness. Indian philosophy ascribes the very purpose of our human birth as the grand opportunity afforded to us to elevate ourselves from *dvaita* to *advaita* which is, again, the glory and bliss of Self-Realization.

That, then becomes Vedanta or the base of all Indian thought. And Vedanta, though the most ancient in the world, is as scientific as any other science we know of even today. Like the study of science in an academic atmosphere, here too is a ‘theory’ part—we call it *advaita*—and its complementary ‘practical’ part, termed as *dvaita* (or duality). The latter is the experience of our ‘real’ everyday life and our routine ‘experiments’ with the subjective ‘I’ and ‘me’ on the one side and the ‘they’ and ‘you’ on the other.

Namah Sivaya, used in greeting and exchanged with all in full awareness of these expansive positive details, is bound to make non-duality ‘felt in the blood and felt along the heart’, transforming the users into Blissful Souls in the long run. May Amma bless and transport all of us to this Truth of Advaita sooner than later—to benefit all mankind and all creation.

Story

“Swami Vivekananda in America—New Discoveries”

A savage man might find a few gems, and prizing them, tie them together with a rude thong and string them around his neck. As he becomes slightly civilized, he would perhaps exchange the thong for a string. Becoming still more enlightened, he would fasten his gems with a silken cord and when possessed of high civilization, he would make an elaborate setting for his gems (with gold wire etc.). But throughout all these changes in the settings, the gems, that is, the essentials would remain the same.”

When nails grow long, we cut nails not fingers. Similarly when misunderstanding grow up, cut your ego, not you relationship

We should become aware of our negative tendencies and weaken them through good thoughts, not by fighting them. – Amma

Quotes from our Chancellor

Our education should lead us to a state from where we would see all beings on earth as part of our own self.

Just as a toddler falls before learning to walk with firm steps, our own failures are the beginning of our ascent towards the ultimate victory.

Let us invoke God’s compassion in our own hearts and hands. Only then will we experience deep joy and fulfillment in life.

The opportunity to live and serve others should be considered a rare gift, a blessing from God.

Contentment and happiness depend solely on the mind. Both heaven and hell are created by the mind.

Business is for life but life should not become a business.

Smiling is one of the highest forms of meditation.

A seed has to go down into the soil for its potential form as a plant to emerge. Only through modesty and humility can we grow.

When the presence of Divinity fills your entire life, you will be in the present. Until then you live either in the past or in the future.

The talents given by God are our wealth and the wealth of the world.

Amrita Students Win Awards

'Amrita' students of MTech have started making their presence felt, winning 'Best Paper' and 'Best Poster' awards at conferences, though this programme in Power and Energy was started only last year.

The honour goes to Kiran P. and Ravikrishnan G. of second year MTech. They won the best paper award at the International Conference on Global Innovations in Technology and Sciences organized in Kottayam, Kerala during April 4 – 6, 2013.

The conference was sponsored by the Solar Energy Society of India, Society of Automotive Engineers, Institution of Electronics and Telecommunication Engineers and Computer Society of India who selected only 250 of the 650 papers they received. At the same conference, Syam MS won the best poster award.

"We have high expectations from our students. One requirement is that the work completed for their MTech dissertation is of such quality, that a resulting paper can either be presented at an international conference or published in an international journal," explained Dr. P. Kanakasabapathy, Associate Professor and Vice-Chair, Department of Electrical & Electronics Engineering, who guided the students.

"I appreciate the hard work put forth by the students and congratulate them for their achievement," he added.



The winning paper authored by Kiran and Ravikrishnan was titled Fault Analysis and Digital Protection of Busbars Using Curvelet Transform Based Approach.

"A busbar is an integral part of a power system. It is a key component in substations. The reliability and stability of a power system depends on the efficiency of busbar protection scheme. Our proposed protection scheme uses curvelet transform based analysis. Curvelet transform overcomes the weakness of wavelets in higher dimensions and better captures curve singularities and hyper plane singularities of higher dimensional signals," explained the students.

They had tested their proposed algorithms by modeling the busbar in Simulink, simulating various fault conditions.

Syam who is working on cuk converters with Sri Sreejith Kailas T., Assistant Professor, Department of Electrical and Electronics Engineering had his poster titled Grid Connected Two-Stage Photovoltaic System Using Cuk Converter.

His proposal was a two-stage photovoltaic system that could increase or decrease the voltage level from that output at the first stage. Such a system



could be effectively used for standalone systems to power remote villages. It could also be used

in grid connected systems. When the solar power is abundantly available, the excess power could be injected into the grid. At other times, the user could take power from the grid.

"For tapping solar power, single-stage or two-stage topology can be employed. The former results in greater power losses. The two-stage system is more efficient and its cost as compared to the battery, which seems to be major cost for large systems, is also less," said Syam.

Syam analyzed the proposed system using MATLAB. "I found that current ripples at the output of the cuk converter were less. Thus this



model can also achieve better power quality," he explained.

To Benefit Sericulture Farmers

Sericulture, the rearing of silkworms for silk production, is a labor-intensive agro-based industry which provides additional income to marginal farmers in India, especially women.

As the largest consumer of raw silk, India also finds it necessary to import it because of its rich tradition of silk saris. Import of cheaper raw silk poses a threat to indigenous sericulture. China, the world's largest producer of raw silk supplied about 5,600 tonnes, which is 20% of the total consumption of silk.

In addition to having increased customs duty for import of raw silk from 5% to 15% to help improve prices for producers of raw silk in the



domestic market, the government also plans to encourage farmers to take up sericulture on larger scales by providing incentives to support rearing houses, modern rearing and irrigation equipment.

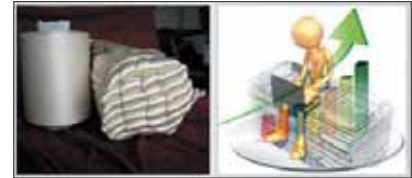
"Silk production in India needs an improvement in quantity as well as quality as compared to other silk-producing countries," emphasized Dr. Asoke Banerji, Distinguished Professor, Amrita School of Biotechnology. Dr. Banerji's research on bioactive lead compounds has led to the isolation of plant extracts namely ecdysterone, juvenile hormone analog (JHA) and moulting hormone (MH) which are known to impact insect growth for very positive implications for sericulture in India.

Sri Sreejit Mahadevan, Associate Professor at SNM College, Ernakulam, who is currently posted at ASBT under UGC's faculty improvement program is assisting with the work.

"Sreejit was instrumental in identifying Sri Sashi, a progressive farmer, who was ready to undertake the risk for our trials. A six-month pilot study was conducted during July 2012 – December

2012, at two sericulture farms in Kuthannur Panchayath and Kannadi Panchayath, both in Palakkad District, Kerala," explained Dr. Banerji, adding, "Now many other farmers are showing interest in our preparations. We aim at transfer of technology for efficient utility of the two compounds for the benefit of poor sericulture farmers of Kerala."

"Bivoltine refers to those species that have two broods in one year. Bivoltine double hybrids



(FC1 & FC2) were brought in the second instar stage from Chawki Rearing Centre of the Central Silk Board and grown in field conditions. Temperature was maintained at around 23 C and humidity was adjusted to about 75 % relative humidity. Mulberry leaves of Victory 1 genotype from a periodically watered garden were fed liberally three times a day," Dr. Banerji explained.

Elaborating further, he added, "Mounting of larvae is a cumbersome process and requires a lot of care and labour. If the cocooning is not synchronized, the larvae which are late in cocooning may damage the already cocooned shells by urinating on them, changing the colour to brown."

"In our experiments we found that MH at 10 ppm hastened cocooning. 90% of larvae matured and started spinning within 18 hours from time of spraying. A 15-25 % increase of individual cocoon weight was obtained with a 2-3 ppm JHA concentration," he specified.

"JHA can be used in sericulture for yield improvement. In the geographical regime and the bivoltine variety studied, a 1-3 ppm concentration can bring about a considerable increase in economic returns. MH is highly active in hastening larval maturation and reducing the mounting time. Both compounds are recommended for the sericulture farmer's benefit, since plants are readily available and the preparation of the spray costs almost nothing," Dr. Banerji concluded.

The Campus Revamp

In the University Main Building, to meet the ever increasing demand for classrooms and work-space, a little revamping has become inevitable. Eleven new class rooms have come up on the third floor. Additionally, space from some relocated labs has reincarnated as new classrooms. For the convenience of all and for easy access re-numbering of rooms had to be done. Sri Varadarajan at the administration shares the layout details as below, extending an online checking facility at Check New Room #s:

1. Room nos. start with "A" for the Administrative Block, "S" for Southern Wing rooms and "N" for Northern Wing rooms in our Main Building.
2. The first number denotes floor – "0" for ground floor, "1" for first floor and so on.
3. The numbers progress from the main entrance (ie, the West-end) to the east as we walk up the corridors, covering the (lab) side wings to your left in Northern side and to your right in the southern side.

The extensive research focus at Amritapuri has necessitated GAD to go all out to get ready the following labs with support from other in-house groups:

- New Nanotech research lab (room no. S-014);
- AMRITA-ISRO Multibody dynamic Simulation Lab (S-205);
- Mechatronics & Intelligent Systems Research Lab (S-205);
- New Wind tunnel and a proposed Virtual Labs (S-011);
- M Tech lab with A-View facility at Room No. 125 for Cyber Security (TBI building).



At the Biotech building a little touch-up has been done. The creative team under Sri Balamurugan of GAD has given the lobby area, guest room, auditorium and the Dean’s office a new classy look. The team-work of carpentry, painting and polishing people with support from the workshop and the electrical department has brought about the needed difference.

The teams under Sri Premakumar, Sri Mahesh and Sri Sharif of GAD have looked into the add-



on pleasntry-needs like landscape, pavements, parking lot, islands, green pastures and mini gardens over the entire campus in general and Biotech area in particular.

A new ‘fuel-less’ incinerator with special features has been installed to ‘take care of’ all combustible wastes – in a forward step to keep the campus and surroundings more clean and pollution-free.

At the E-Learning/ ARL building, a new air-conditioned recording studio has been set up in high-tech sound-proofing, acoustics, audio-visual, computer networking and lighting, thanks to the efforts of Bri Sulma and the various stake holders in the execution of the job.

Success and Well-Being in Life

Swami Anubhavananda Saraswati, a great scholar known world-wide for his expositions, brought Vedanta and Indian Thought very beautifully and eloquently to the faculty, staff, students and other residents of Amritapuri in a series of lectures during June 3-13, 2013. He expounded in a language easily understood by all what Success and Well-Being in Life are according to ancient Indian concept and as explained in the Bhagavad Gita. He elaborated on how it is no less applicable today – and will be so till eternity. The



audience had an unmatched, highly charged feel when he summed up, saying, now that we are born on the earth, our one business is ‘to live well’.

We all can do it. But we must understand a few facts and make a few adjustments in everyday life which is only easy with a simple change of attitude. All of us are, generally, overburdened with thoughts such as, I want this, or I want that. What we fail to realize is, the fulfillment of these desires alone does not bring fulfillment in life – rather lasting fulfillment. Also, each temporary fulfillment points in the direction of the next thing we badly want for ‘fulfillment’! We thus go drifting under the shadow of a lack of success. What is it, if not our own making, if we overlook the actual prerequisite for ‘real’ success, which is, a well-organized ‘inside’. Meditation is the best means to accomplish such an ‘inside’. Right effort and total involvement help lubricate the process. A close watch on the quality of our

own mind clears the way and ascertains success because these are what decide the flow of Grace towards us – and without Grace, no success ever ‘happens’.

Swamiji also reiterated the role and power of prayer, quick-decisions and an uncomplaining temper elaborated by Sri Krishna in the Bagavat Gita. “Once you have heard or read the Gita and understood it properly you will automatically lose your freedom to be miserable—that is ‘Yoga’. The word ‘yoga’ is the most wrongly interpreted word today. It is not about twisting our bodies in all possible ways or sitting in different astounding, un-natural or uncomfortable postures. According to the Gita, it is rather “consolidating in ourself the ability to refuse to be miserable under any circumstance.”

The hallmark of the speaker was the way he punctuated the entire talk on the serious subject with anecdotes, day-to-day examples and parables dealing infectious laughter. None in the audience ever sensed that the talk was actually didactic. They could easily make out at the end of the programme why the Swamiji is popularly known as the ‘Be-Happy Swami’. He had effectively told us, “Be happy always”; “Begin your day in an inspired manner. You will ever be successful” and “Don’t be serious in life. But be sincere.”

Amrita Students’ Flight to Success



Abhay Sengar, Abhiram C. Anil, Rahul Krishnan and Vivekanand Mishra, students of Second-year ME, won cash award of Rs 10,000/- for designing and fabricating a remote controlled airplane in a nationwide aero-modelling competition.

The competition, AirStrike (March 2013), was part of the fifth edition of the Techno-Astro fest of the Indian Institute of Space Science and Technology (IIST), Trivandrum, in which other 40 student teams competed.

Asked to design a craft weighing under 700 grams and other specifications like power of the aircraft, fuselage and wing size, our students designed a craft with 98 centimeter fuselage and wing size, weighing 410 grams.

In the aero-show, the aircraft flew to specified spots in expected time and landed smoothly in the landing zone having impressively all with various stunts including flying above and below ropes tied at fixed heights

The highlight of the performance is that our Second Year students (not even enrolled in an Aerospace Program) won the Second Prize in the competition earning 185 points, losing the first place only to a Final Year team of IIST, Trivandrum (250 points).

The support received from Ashwath, II year student of ECE, to make all the electrical connections was thankfully acknowledged by the winners who shared enthusiastically, “We have been working on aero-modeling planes and had developed some 6 models. This was the first competition we took part in and it was a good learning experience.”

Immensely pleased at this innovative developmental work, Dr. Ganesh Udupa, Professor, ME, said, “This brilliant work shows that indigenous ideas can be practically implemented successfully.” His sincere prayer was for all Amrita students to emulate this, bring laurels to the University, achieve the best in their lives and serve society with all their intellectual capabilities.



campus day²⁰¹³

Celebrations @ Amritapuri

(April 30)

The celebration of our Campus Day this year was scheduled in two sessions to suit the convenience of our Chief Guests. The forenoon programme started as usual with an invocation and lighting of lamps by the VIPs on the dais.

Swami Amritaswaroopananda Puri, in his benedictory address, filled the atmosphere with a serenity felt by all. He touched upon how our beloved Chancellor Amma constantly emphasized the significance of contentment. "Our heart is the vital factor and the most important ingredient to transform and transport all our work and our entire life to another dimension – the dimension of joy, happiness, bliss and love," the Swamiji said. "The absence of this (our heart in whatever we are doing) is what makes things boring and dry, and ultimately leads to unhappiness and discontent. So, without your heart in the work that you do, it will become mere labor. It will tire you, exhaust you, and leave you utterly empty... and benefits none!" Highlighting the attitude needed for real success in life, he said, "Let us perform our actions in a prayerful manner and contribute to the future."

Padma Shri Dr Ashok Jhunjhunwala, member of the Scientific Advisory Council to the Prime Minister of India, made this observation inaugurating the Campus Day: "Seeing the kind of research that Amrita University does, I will say that yours is an institute with a difference. Yours is an institute devoted to very high quality science and technology, research and development for social benefit, and you bring values to education." Professor at IIT Madras Dr.Jhunjhunwala leads the Telecommunications and Computer Networks group (TeNeT) there, currently. "This institute is developing some of the best technologies that I have seen, such as video-based tools for education, virtual experiments and technology for enhancing vocational skills. Some extraordinary technology is being born here. It is still at an early stage, but this is not something you will easily find in most other institutes in our country," he added.





the coming years. “Amma’s message to us is to make this a top research university internationally, particularly by emphasizing on research that has a strong flavor of direct societal benefit.”

He also outlined the policies and mechanisms that were put into place recently towards this lofty goal. Every masters-student, henceforth, would be required to publish in a refereed journal and/or present at a top conference, a paper, in order to fulfill her/his program requirements. Doctoral students will be expected to publish one paper a year at least, post their comprehensive exams. Appraisal for faculty members will take note of the number of publications and funded projects.

With a touch of humour, he pointed out that before long we all are bound to get habituated to ‘this tough-looking ordeal of writing paper after paper’ and it will become a passion with us! “The goal is to have every student and faculty member become involved in research that has some impact on society at the grass roots level.”

The Vice Chancellor pointed out that the Amritapuri campus, has now grown to eighty acres of land and two million square feet of built-up area and has five schools, viz, engineering, arts and sciences, biotechnology, ayurveda and management. Research centers jointly oversee funded projects worth over Rs 100 crores. We also have over a 100 scholars pursuing their doctoral programmes.

Awards of Excellence and Certificates of Appreciation were given to outstanding researchers. Leading research projects came to be appreciated and recognized.

The campus magazine Amritarpan and the first issue of the campus newsletter Samved were released by the honorable guests.

The second leg of the Campus Day celebrations was the evening function with several heart-felt farewell speeches from representatives of graduating students. Cultural programs featuring songs, skits and dance presentations by students made a fitting finale.

Advising the graduating students, Dr. Jhunjhunwala said, “Amrita not only teaches technology, but also values, directly and indirectly. It talks about service to the nation, and motivates you to adapt your life as service to humanity. I want to say that you should also think about service to your alma mater, post graduation. Because if you strengthen an institute like this, society will change, the nation will surge forward. It’s up to you, who are graduating to give back to your institute and make the change possible.” He further emphasized, “Whatever job you get, convert it into a loving action. This will transform your job. Your motivation will become very different.”

The guest of honor, Prof HA Ranganath, Director, National Assessment and Accreditation Council (NAAC), echoed the sentiments of the previous speakers. “Amrita provides a holistic education to students. With divine blessings, I am sure that the university will bring laurels to the country and become an important model in higher education. At the global level, we need to have Indian

institutions in the academic ranking lists. Amrita has all the ingredients and the critical mass to move forward and aspire to a rank in the global lists,” he emphasized.

Dr. Venkat Rangan, Vice Chancellor, Amrita University, recalled Amma’s mission when the university was formed. “Our goal is to take what the rest of the world might consider as ordinary students and transform them into extraordinary during the course of their studies here.” Dr Rangan highlighted the goals of the university for



Free (Ayurveda) Medical Camp

'All's not well with the health of our cops who are entrusted with the task of maintaining law and



order besides discharging various responsibilities associated with the police department.' This was stated by the members of Amrita Life Ayurveda Pharmaceuticals and Amrita School of Ayurveda who organized a health camp on May 25, 2013 at the Chandrasekharan Nair Stadium in Thiruvananthapuram. The surprise finding was that excessive exercise takes toll of the cops' knees. About 35 per cent of these police personnel, including many in the age group of 28-35, were found to be suffering from arthritis and knee joint problems. About 500 police personnel had turned up along with their families to avail themselves of the free services.

At a medical camp organised by here, about 500 police personnel turned up to check their health status. According to Dr. Mini of Amrita Life, excessive physical exercise and standing for hours as part of their duty were the major reasons for their knee-joint problem. "Many of the cops have joined the force just recently and are below 35. Normally we don't come across such a large number of youngsters with such problems. Perhaps the excessive exercise is causing knee joint pain," she added.

"Excessive physical exercise may be required as part of their duty, but it also leads to low rate of fat content in their blood resulting in knee-joint pain. Non vegetarian food and irregular food pattern also aggravates the problem, said Dr Muraleedharan.

Apart from knee-joint pain, other common health problems included high blood pressure and sinusitis. A team of thirteen doctors from Amrita

Pharmaceuticals had conducted the various medical examinations in the Camp.

Home Health-Monitoring System

Most people, honestly, would rather live on their own though care centers for the elderly are an option. Equally true, homebound patients face many problems, including having their health regularly monitored or ensuring a timely response to emergencies.

In this context, the 'Amrita' team, Galla Mourya, Goutham Pocklassery and Vivek Jayakrishnan with Rajesh Kannan Megalingam, creating the Home Health-Monitoring System, made Greater independence possible for the Elderly through technology. Called HOPE, the system relies on sensors affixed to a person's body to monitor heart rate, body temperature, tilt (whether a person is about to fall), and other factors. The data is transmitted to a caregiver's smartphone, where an application sounds a warning if a reading falls out of range.

The team received the 2012 IEEE Student Enterprise Award for its home health-monitoring system for the elderly, which provides US \$1500 to the student members to further their project.

HOPE has a motherboard consisting of a Bluetooth interface card, a temperature sensor, a pulse oximeter to measure heart rate, and an accelerometer to measure tilt and fall.



This was an idea of Prof Rajesh Kannan Megalingam and along with three students Vineeth Radhakrishnan, Deepak Krishnan, and Denny C. Jacob (who graduated last year), he came up with HOPE in 2011. Galla, now a third-year engineering undergraduate, learned of the project from Prof Megalingam and was inspired to take on the project to meet the need of the growing elderly population in India. His

classmates Goutham Pocklassery and Vivek Jayakrishnan soon joined him. They first acquainted themselves, in consultations with doctors at 'Amrita' university's medical school, with the health problems that come with old age, so as to look for the right approach to a solution.

'HOPE has three components,' they explained, 'A sensing unit that measures body heat, blood pressure, oxygen content in the blood, and tilt; an interface that transmits the data via Bluetooth to a mobile device; and an application developed by another group of students, for Android devices, that monitors the measurements and notifies a caretaker if a reading is out of the norm.'

The components are wired to a belt the students created to hold the system's main circuitry and power supply. It has the microcontroller to digitize and process the signals. A Bluetooth interface chip that transmits data to the mobile device runs on rechargeable batteries.

Perhaps unique to the system is its ability to monitor whether a patient is tilting dangerously or has already fallen! "Although many home health-monitoring systems are available, few address the common problem of falling," according to these researchers.

Now that the prototype is finished, the students are preparing it for trials on patients at the Amrita Institute of Medical Sciences, Kochi.

"We hope to sell the system around the world and at a low price so it is available to anyone who needs it," Galla says. If HOPE gets the approval of the government, the students plan to consult electronic companies like Philips, Siemens, and others regarding commercial manufacture of it.

"Our vision is to ensure that every elderly person who needs it 'has a HOPE'," they say. "We feel privileged to be working on a project that supports IEEE's vision: advancing technology for humanity. Our Chancellor Amma too has specified that only that research which is directed towards service to humanity has meaning."

IEEE INDUSTRY APPLICATIONS SOCIETY SBC

IEEE has approved the formation of IEEE-SIGHT (Special Interest Group on



Humanitarian Technology) HuT (Humanitarian Technologies) at Amritapuri campus. This is an award for Outstanding IEEE IAS Student Chapter, in appreciation for the initiative to contribute to the good of humanity. This is the first approval in an Engineering College in Kerala.

The laurels come along with great responsibility and documentation of our activities in full and great detail as we go.

Our Medical Director, in CCIM-UGC

The Central Council for Indian Medicine (CCIM) under the University Grants Commission (UGC) monitors higher education in the Indian systems of medicine such as Ayurveda, Siddha and Unani in India. Formed under the Department of

World Environment Day



Swami Jnanamritananda Puri inaugurated the new Herbal Garden of the School of Ayurveda on 05/06/2013, World Environment Day.

Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) of the Ministry of Health and Family Welfare, Government of India, the council came into being in 1971.

Br. Dr. Sankara Chaitanya, Medical Director, Amrita School of Ayurveda has been selected unanimously as its honored board member.



Br. Dr. Sankara Chaitanya's selection to the esteemed national council marks a first for Amrita.

"It is a matter of great pride for all of us. We are excited that Amrita School of Ayurveda is represented in the national council and has the opportunity to help steer the path of holistic medicine in this country," stated Registrar, Dr. Krishnamoorthy.

The CCIM President, Dr. Veda Prakash Tyagi, visited Amritapuri Campus in March 2013. He was happy to meet our Chancellor Amma and to take a look at the other schools here. He was deeply impressed by the general sense of discipline prevailing here and the morals that were inculcated.

After his detailed discussions with Br. Dr. Sankara Chaitanya he expressed his deep desire for making Ayurveda the first choice of treatment for people in the Indian society. The stalwarts emphasized that "Quality education should be our motto. We should aim at raising the standards of education in Ayurveda to enhance the recognition and appreciation of Ayurveda globally."



Paraptosis for Cancer Treatment



"All organisms have the capacity to remove damaged cells from

the body. It is a 'programmed cell death' known as apoptosis," explained Dr. Nandita Mishra, Assistant Professor (at ASBT).

Having completed her PhD from the Department of Biotechnology at IIT Kharagpur, Dr. Nandita engaged in post-doctoral research at the Health Sciences Centre of the University of Texas in San Antonio, USA, before moving back to India to join Amrita University.

Dr. Nandita recently received funding from the Department of Science and Technology (DST) of the Government of India for a research project titled Paraptosis: A Newer Approach to Target Cancer.

This three-year project will also see the involvement of research scholars such as Ms. Divya Nedungadi.

"Cancerous cells escape the programmed cell death pathway and are resistant to many existing therapies and drugs. Our studies will investigate

the use of natural products to kill the drug-resistant cancerous cells through paraptosis," Dr. Nandita stated.

The phenomenon of paraptosis also follows the programmed cell death pathway. Unlike apoptosis, however, it is characterized by the formation of large vacuoles in the cell cytoplasm and the swelling of mitochondria.

Although apoptosis has been extensively studied, paraptosis has not been investigated as much.

Dr. Nandita will study and screen natural products previously isolated and characterized by Prof. Asoke Banerji's team in the Phytochemistry Laboratory of the Amrita School of Biotechnology. Work has already begun with breast cancer cells.

"Cancerous cells grow faster and hence need to synthesize new proteins for their survival, when compared to normal cells. These are more susceptible to misfolding and aggregation," explained Dr. Nandita.

Elaborating further, she added, "Proteins need to fold in the proper shape for their activity. If they misfold, they aggregate inside the cells and form large cytoplasmic vacuoles in the rapidly dividing cancer cells."

"This mechanism of misfolding and aggregation is also responsible for neuronal cell death in neurodegenerative diseases such as Alzheimers,



Parkinson's etc. We are exploring the possibility of using this phenomenon for cancer treatment," she highlighted.

Dr. Nandita's proposed study is directed towards the identification of new natural compounds that would induce cytoplasmic vacuolation mediated cell death. "We hope to find out their mechanism of action on cancer cells," she underlined.

Overall Championship

Our campus POWER LIFTING TEAM won the Overall Championship (Junior Category) in the Kollam District Power Lifting Championship, which held at Paravoor, Kollam on 26-05-2013.

The team is also runners-up in Arm Wrestling.

All participants thank and congratulate our Gymnasium Instructor Mr. Bijish for this great achievement.



Instilling Social Responsibility in Students

Instilling Social Responsibility in Undergraduate Students: Amrita University Model—was the title of the paper on Amrita Sanjeevani presented by Dr. Renjith R. Pillai, Chairperson, and Veena Suresh, Teaching Assistant, (Department of Social Work), and Bri. Meera Lecturer in Sanskrit (ASAS), at the Second Annual Conference on Interdisciplinary Approaches to Social Responsibility: Empirical Evidences of Best Practices in Bangalore, organized by the Centre for Social Research (CSR), India in association with the Department of Humanities and Social Sciences, Christ University, Bangalore.

During festivals such as Diwali and Onam, student members volunteer at orphanages, schools



and old age homes.

But above all, the association passionately embraces and promotes eco-friendly living. Its members tend to an organic garden in their free time in the evenings and weekends.

"Our members see beauty and value, where others see trash," the association office-bearers proudly note.

They oversee the efforts to create greeting cards, pen stands, bracelets, key chains and wall hangings, from waste materials carefully retrieved and restored.

Inspired by the work of Amrita Sanjeevani, the co-authors of the paper had studied its social activities, assessing the level of social responsibility inculcated among students. A significant increase in the level of social responsibility among students after their association with Amrita Sanjeevani is very evident. "The program is definitely helping students develop more awareness of their dharma towards the community and environment, and imparting noble values to young minds. This model can be replicated in other educational institutions," they said.

"It was an excellent opportunity to tell them how Amma always remind us to include snehama (love) and seva (service) in the blueprint of all our programmes. Through her own satsangs, our Chancellor is constantly seeking to create awareness about environmental and societal issues," explained Bri. Meera. "We are proud and happy of the fact that everyone at the conference appreciated our University for these socially responsible activities. The organizers encouraged other colleges to follow suit."

Reunion of Generations of 'Amrita' – on June 8, 2013

It all looks too fantastic, wonderful and difficult to believe, looking back after two decades. Few of the recent



entrants into the 'Amrita Family' would even believe that in the 1990s 'Amrita' was a humble 'AICT' – Amrita Institute of Computer Technology, just 'another computer institute'.



And, AITEC or Amrita Institute of Technology and Science, was an engineering college affiliated to the Kerala University in 2002. Both these came under the purview of a University with UGC permitting it, in 2003. The former is now

known to us as the Amrita School of Arts and Sciences and the latter, the Amrita School of Engineering. The world knows now in detail, how many campuses and schools we are, offering how many undergraduate, postgraduate and doctoral programs, in different branches of engineering, medicine, sciences and arts.

June 8, 2013 saw an alumni reunion of the past



two decades of these Amrithians at the Amritapuri Campus. Recalling their glorious days here, many an alumnus shared their joy at this coming together and thanking the alma mater that had helped shape their lives and careers.

"I am so happy to meet everyone, my friends and my teachers," stated Georgie Rajan, adding, "We, Amrithians, have a unique identity. Wherever we go, we make an impact. I have experienced it and I am proud of it."

"I just cannot forget my student life here. It was a defining period of my life. One couldn't have imagined that such a big university would come up in this remote village. We have got everything because of this college and Amma," remarked Aditya.

Dr Sankaran, the Principal of ASE, addressed the alumni. "Our faculty and students are now undertaking world-class research. We have



received funding of several crores of rupees from funding agencies for this research. On our campus, we have research centers for Cybersecurity, E-Learning, Wireless Networks, Computational Neurosciences, Haptics and Biotechnology."

Post the grand lunch which awaited all, entertaining skits, song and dance presentations followed.

"We learned how to face challenges while at Amrita, we received very good training here. Thanks to Amrita," summed up Remya.

UPCOMING EVENTS

Symposium on Education, Technology and Entrepreneurship

The ISEE 2013 (IEEE Symposium on Education, Technology and Entrepreneurship), a flagship event of IEEE Student Branch of our campus, will be held on July 28, 2013, for the second year in a row. It is entirely student managed and embraces uniqueness in appearance and management. Included in it are various events in Education, Technology and Entrepreneurship. The event is exclusively meant for students, seeking to provide collegiate students with a platform to excel in their talents. As our student branch has seven society chapters including RAS, EDSOC, IAS, IES, SPS, CS and PES, each of these societies are expected to conduct an event during the symposium.

There will be seven tracks sponsored by various chapters (1/Robotics and Automation, 2/Signal Processing, 3/Industrial Electronics, 4/Computer Science, 5/Networking, 6/Entrepreneurship and 7/Education- only for school students). Each of these will have workshops and/or seminars by prominent personalities from all over the world, two of who are, Dr. Mohan Rajesh Elara from Singapore University of Technology and Design who will be one of the Keynote Speakers and will conduct a half-day workshop on Robotics, and Mr. Vysakh Pillai, Senior Software Engineer at CISCO, Bangalore, who will conduct a half day workshop on Embedded Systems.

(Can we not, surely, recall the 2012 ISEE, which was a great success with more than 350 students from all over India benefiting from this event, when IEEE EDSOC Global President, Dr. Rob Reilly was the Chief Guest.)

Inspire-Innovate-Integrate

Amrita School of Biotechnology and Research (ASBT) has slated the mega event – an International Conference on Biotechnology for Innovative Applications, BIOQUEST 2013 – through five days in August 2013. The ball will be set rolling on August 10th, at our AIMS Campus (Amrita School of Medical Sciences) at Kochi. The events of the next four days, with their venue at the Amritapuri Campus, are predicted to make ripples that matter. The impressive array of 7 Tracks, 70 odd Speakers and near 700 delegates, affording a great experience to all concerned, is bound to throw up a lot of new light in the areas of The Quest and be the main interest and attraction to learners as well as researchers alike.

Educative, exciting instructions to learners of all levels from the eminent guest lecturers converging here from far and wide specially for the purpose is being looked forward to on this occasion. The Conference also expects to prepare the next generations to meet squarely the challenges of the future in the field of biotechnology. No need to add that demonstrations, workshops and entertainment sessions are to add colour to the great event.

EVENTS AT A GLANCE

Amrita Engineering Entrance Examination - 2013 was conducted in more than 120 centres across the country, including in Lakshadweep on Sunday, April 21, 2013, between 10:00 am and 01:00 pm. Admission of students to the various courses of engineering leading to the BTech Degree began in the middle of June and are expected to be completed before the reopening of the academic session, July-June. In this regard, usually the application forms are available to interested students during December every year.

Amrita School of Ayurveda conducted their entrance examination for admission to the UG program, Bachelor of Ayurvedic Medicine and Surgery (BAMS) in May.

The following three papers were presented at the 2013 Global Humanitarian Technology (South Asia Satellite) Conference held at Technopark, Trivandrum on August 23-24, 2013. The highlight is that the acceptance ratio of papers has been less than 30%. They are to be published in IEEEExplore.

1. Title: Assistive Technology for Pregnant Women Health Care - Rural, Mobile Ultrasound Scan System. The Authors: Rajesh Kannan M, Boopathi K, Sarathkumar, Sreedevi, Vishnu GB (All S6 BSc CS students)

2. Title: PULSS: Portable Ultrasound Scanning System. The Authors: Rajesh Kannan M, Goutham P, Vivek J and G Mourya (All S6 ECE students)

3. Title: Prosthetic Arm, Arm Strap & Control for Paralyzed People and Arm Amputees. The Authors: Rajesh Kannan M, Ajithesh Gupta, Uday Dutt, Hithin S (All S6 ECE students)

The paper titled "The Yagna Spirit - New Age Business Dynamism" co-authored by Sri Avinash Shivdas, Faculty, ASB, has been accepted for publication in The International Journal of Business and Emerging Markets.

Earlier, this paper received the 'Best Paper' Award at the International conference held at IIM Ranchi, August 2012.

Our student Suranya Jayan has received her visa for her fully funded Masters programme in a University in Santa Fe, New Mexico.

Avinash joshi, ex-Amrita IT graduate, having completed his Masters in Computer Science at the University of Dallas, has entered a fully funded PhD programme in the University of Toronto in CSE.

Our IEEE-IAS student-branch chapter, formed only in November 2012 with 8-9 members from MTech- Power and Energy, has been able to bag the following two prestigious IAS awards,

- 'Outstanding New Student Branch chapter' award
- First prize in the 'Website Contest'.

The Chapter which conducts at least one 'high level' activity every month thanks the support and guidance of Dr Chandramohan, Dr Sabapathy, Ms Preetha, Sri Murali Krishnan (Chair) and Sri Srikanth (IAS SBC Advisor).

The cultural group, Samskruti, organized an 'Ashtapati' Concert by Thiruvalla Vinodkumar, during the Graduation Day celebration at the School of Ayurveda on May 15, 2013

Swami Purnamritananda Puri, senior disciple of Mata Amritanandamayi (our Chancellor) inaugurated the E-Learning Classroom (Studio) on May 14, '13. It was indeed a great blessing that Swamiji, as one involved in making films, recordings and editing for many years, could spare the time for this function.

Lateral entry of students to II MCA class has been planned depending on availability of seats. It is worth noting that lateral entry is introduced for the first time, on demand, in 'Amrita'. Students will be selected based on their performance in academics and technical interview for the direct admission.

A 2-day Introductory Workshop in Astronomy and Astrophysics was conducted by the Department of Physics on May 21-22, 2013. Expert talk and guidance was given on the occasion by Dr. Anil Bhardwaj [on the Solar System], Dr. K. Indulekha [on Sky Watching], Dr. Narayanankutty Karuppath [on Cosmic Connections] and Dr. Anand Narayanan [Measurements on Stars and on Stellar Evolution]. Dr. Ganesh Sundaram conducted the Tutorials. There was a complementary documentary which was lively, interesting and enlightening.

Our (PG AND Research) Department of Mechanical Engineering conducted a workshop on "Multibody Dynamics Simulation and Analysis" from 27th May to 7th June 2013. 'This is made possible because of the enthusiasm of the students

and faculty, some of the most sophisticated lab equipments available in the department state-of-the-art laboratories and the dedicated team of our lab staff,' said Dr Udupa.

Dr. Maneesha V Ramesh has been elevated as Senior member of IEEE (in May 2013), in recognition of her experience and professional maturity. Dr. Maneesha thanks all whose support has made this possible.

Ms. Srishti Srivastava of S6 CSE, has been selected for the prestigious Google Summer of Code 2013 project. The Google Summer of Code (GSoC) is an annual program, in which Google awards stipends (of US\$ 5,000) to students to write code for open source projects. Now Srishti will work with Mozilla Foundation on PDF.js, a PDF viewer component of the popular browser Firefox and popular email client Thunderbird.

Incidentally, at the same time more importantly, she is the THIRD student from the Amritapuri Campus selected for the GSoC in the past four years. Aditya Rao (in 2010) and Bithin A (in 2012) were the Amrita students selected for GSoC earlier.

LATE NEWS

'Sashti-Poorthi' or 60th 'Happy Birthday' of Our Chancellor 'Amma'

'Amma' is the cynosure of all eyes now. The most important event of the next quarter the entire Amritapuri folk eagerly await now is 'Amritavarsham-60', the 60th birthday celebrations of Amma. Truly speaking, more than Amritapuri, it is an event the whole 'Amrita-family' is awaiting – either to participate and involve in person or otherwise. Heard that all well-wishers who had missed 'the Kochi' ten years ago are gearing up to ensure that they are at Amritapuri during September 2013.

While the 'Sahasra Chandi Homan' will be a feast to the soul among the scheduled programmes, the scientists, technologists, philanthropists and business executives will present food for thought and the intellect on the occasion.

Many of Amma's institutions have come up with cultural events, their own, to be staged here to entertain the crowds didactically. Songs, choruses, dance performances, skits and short plays, mimicry are some of them.

Several new philanthropic schemes of the Mata Amritanandamayi Math are expected to be initiated on this holy occasion. Competitions for school children too are afoot to culminate here in their finals and prize distributions. Massive preparations are on to meet the task of housing the delegates as well as the volunteers descending on Amritapuri.

Sanskriti

Sanskriti has plans of an Independence Day celebrations 2013 with a Quiz Programme on the topic "India, Past and Present". It is slated for the first week of August in the School of Engineering and the finals among the four teams after the 'prelims' is expected to be 'a tough competition'.

Sanskriti has also plans for a "Brush the Story of India" exhibition at the same time in the same venue with more than 50 artists of our Campus giving free vent to their brushes to drawing and sketching the 'Story of India' on a big canvas.

When two humans meet,
They communicate
In vocal or silent companionship
Or mutual animus.

Each bundle of energy, vibrates with
Its own brand of thoughts,
To discuss, dismiss or demonstrate.
A word, a glance, a gentle touch with love
Warms the soul to ecstasy.
A stinging word,
A stare, a violent thrust,
In all consuming anger or distrust
Could souls destroy.

Is it a matter of choice or chance
Such relationships take place?
Do souls meet and part at will?
Or do they, guided by some unknown consciousness,
Forever wander the cosmos,
Pausing briefly on earth, to bump into one another:
Seemingly without design,
Attracting or repelling,
To leave their mark and be marked
By each passing atma?

And in this endless process be tutored, honed and tempered
With slow and painful precision,
To perfection and nirvana?
Few know.
Most don't care.

Cosmic Relationships

Krishnan Nair, CIR

The Samved Crossword- 1

'Fusion Crossword' is a "Crossword-in-Crossword" as the colours used indicate. The 'special' letter 'N' in '16' is marked out – it 'links' the main and the in-set crosswords in all four directions (D- 4 & 16, A- 11 & 16).

1	2	3	4	V	5	6	
P	7						R
8				15	9		10
11			16 -N-		17	12	
13		18					
	19					14	

Solution in the last page

Clues Down

- 2 Accepting a child one's own
- 3 Emphasis as "of no importance"
- 4 Steady and unchanging
- 5 Good-for-nothing 'dog'
- 6 Deer
- 8 To make something dirty
- 10 Outdoor game which needs a lot of ground
- 15 A very strong wind
- 16 Negative, referring to a second thing
- 17 Container for an indoor plant

Clues Across

- 1 Activity in which people compete as per agreed rules
- 5 Computer Science Engineering
- 7 One with a strong belief in religion
- 8 Being angry or upset about something
- 9 Piece of old cloth (used for cleaning)
- 11 Remove the cover of a container
- 12 Move away from a place
- 13 Pronoun, third person
- 14 A conditional
- 16 A short sleep
- 18 The lower part of the small intestine
- 19 Measure of purity of gold ornaments



From the Editors' Desk,

June 30, 2013

India is the land of "God's Plenty"—even now! In the past, it reflected invariably in every sphere of activity: arts, commerce, science, governance, architecture, wisdom, philosophy, spirituality... you-name-it! This culture of plenty-in-everything has been so self-sufficient and self-sustaining that we can look up to it to sustain and make our lives sublime till eternity, for sure.

The term 'sustain' brings to mind 'sustainability', the talk of modernity! Is it not really just the richness of a nation's or an individual's culture and mind? It is, again, the knowhow to live in harmony with the rest of creation, including humans and nature. That, indeed, was the hallmark of ancient Indian civilization. Unfortunate that it is all a contrast today—decades of mere talk of not meddling with Mother Nature! More so, that we want to do it solely from a scare of extinction. And, most unfortunate that national and personal hypocrisy of selfish leaders and rulers the world over (India included) does not let them see beyond their own noses and pockets—dragging us all in the direction of a 'no redemption'.

It is a solace, reminding ourselves that the ever young and energetic Swami Vivekananda has pointed out that only India can assure a future for humanity on this planet. In full awareness of the magnitude of the task on hand, Swamiji did say in unequivocal terms that if India perishes (referring to Indian culture), the Homo sapiens will have no future on this planet.

'Amma' has created her (educational) institutions only to ascertain a 'future for man' on this planet—in that sense. She reiterates that willing sacrifice, unselfishness, love and compassion alone can assure sustainability. Blessed are we—even if unsure of this significance—who are directly and indirectly engaged in the task of rebuilding and reinstating the lost humane culture, the spine of ancient Indian glory reflected in the one prayer, Loka: Samasta: Sukhino Bhavantu.

The magnitude of the task on hand need not send us aghast. Ours is an asset a billion fold more reliable and lovelier: the full blessings of the 'Task-Master'! But it does presuppose a sincerity to put our shoulders to the wheel with an honesty of purpose. Nothing is impossible, is the mantra, once we line up with that Grace—the unfailing 'master battery' that can keep us charged perennially. Shall we not then substitute 'happy duty' for 'task'? As we reassemble for the new session in July 2013, let us wish each other a happy, prosperous and purposeful new academic year, remembering that it is not just another 'year of teaching-learning' but activity to take entire humanity forward. A lion's share of this millennia is ours, as per Swamiji's prediction! Let us plunge into concerted action and not sit back complacently awaiting 'the promised land'.

Aum Namah Sivaya

SOLUTION TO 'FUSION CROSSWORD'

1	G	2	A	3	M	4	E		5	C	6	S	E
		7	D	E	V	O	U	T					
8	S	O	R	E	15	G	9	R	A	10	G		
11	O	P	E	16	N	A	17	P	12	G	O		
13	I	T	18	C	O	L	O	N	L				
L	19	C	A	R	E	T	14	I	F				

Note: Any possible omission of news items since they did not reach us in time is regretted. Our student & staff editorial assistants in the various departments are requested to be alert to avoid recurrence of such a lapse in the future. Thank you all. (Please send Feedback & Articles to samved@am.amrita.edu)

Editorially yours ...

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