

The Midtowner

Weekly Bulletin of Rotary Chandigarh Midtown
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Club No. 15228 R.I. District 3080

R. I. President K.R. Ravindran

2015-16

District Governor David Hilton

President Mrs. Kanan Diwan Secretary Sanjay Bhatia Editor Dr. V.J.S. Vohra

The Meeting will be

followed by

fellowship

Volume XXXX No. 25 Dated: December 22, 2015

PROGRAMME

Christmas Celebrations
Children and grand children are invited in fancy dress
Club Elections

Time: 6.30 p.m.

Venue: Hotel President, Sector 26, Chandigarh



Friday, December 25, 2015

Can we edit our genes



Prof. (Dr.) I.S. Dua



VP Ashok Puri

Our meeting on December 18, 2015 was presided over by Vice President Rtn. Ashok K. Puri, who started the meeting with a beautiful quote, well applauded by all present, "Prayer is not a spare wheel that you pull out but it is steering wheel that directs the Right path throughout life." As our keynote speaker we had Rtn. Prof. (Dr.) I.S. Dua, a Professor of Eminence, introduced by PP Rtn. Dr. Balram K. Gupta. Prof. Dua who took all of us to the realms of science, is a Professor Emeritus, Former Chairman, Department of Botany, Panjab University, Chandigarh, Professor Plant Molecular Physiology, Department of Botany, Panjab University, Chandigarh, Principal Investigator, DST Project, Govt. of India, Principal Investigator, Two Major Research Projects, DRDO, Ministry of Defence, Govt. of India, Principal Investigator, Bt. Cotton Project, Chief Editor, Panjab University Research

Journal (Science) and Consultant CSIR, IHBT Palampur (Biodiversity).

The Rotarians witnessed a unique presentation under the title, 'Can We Edit Our Genes'. In a rarely crafted colourful power point presentation he showed all of us a further leap from the world of biotechnology by revealing how we can appreciate the nuance of life through science. Prof. Dua aptly surmised how we can adopt the time honored adage that 'Science' is a way of thinking much more than a body of knowledge, and know about ourselves and to make it as a boon for the society. Any biological entity is comprised of a biological unit named CELL as discovered by Robert Hooke in the year 1665 in his work entitled 'Micrographia'. Each cell comprises of two main parts: the nucleus and the cytoplasm. The nucleus contains the DNA, the genetic code that helps shape inherited traits. The cytoplasm is the workshop of the cell, where most day-to-day functions occur. Among its constituent parts are mitochondria, chloroplasts and many other inclusions like lysomes, ribosomes a network called endoplasmic reticulum and a packaging unit called Golgi bodies. The job of every sub unit in a cell is to make it as an autonomous working unit. Each mitochondrion (and of course a chloroplast in plants) contains tiny amounts of its own DNA, some 37 genes compared with the 20,000 or so in the nucleus.

Prof. Dua further showed how scientific searches have helped to establish the properties of the genes by revealing unequivocally that the genes on the chromosomes are fragile and can easily be disarrayed in their function through radiations, chemicals and by aging, thus always making us liable to sudden heritable changes in our total gene orientation (called genome). A scientist could record the capability of a gene to be mobile and the man found it plausible to tweak it through all taxon irrespective of its place inits ecological niche. It was demonstrated by Prof. Dua that how a gene from a normal human could be off loaded and put onto the shoulders of a bacteria E.coli which in turn started producing insulin in 1977. Similarly how the how the genes from a bacterium Bacillus could be tweaked to a cotton plant in late eighties which later on was christened as Bt. Cotton by the agrarian society. This unique quality of genes has been utilised by biotechnologists to produce novel types of medicines and an array of innumerable plants out of which four are commercially grown in all the 5 continents of the world. In a case study he showed that how mitochondrial DNA plays no part in determining an individual's inherited traits, such as those that shape appearance or talents. But if it malfunctions, it can cause terrible conditions like muscle weakness, seizures, blindness, deafness, organ failure and even death.

There are more than 50 mitochondrial diseases, affecting at least one in every 8,000 children (some suggest the figure is much higher). There are currently no cures Prof. Dua explained how in a three parent in vitro fertilization (IVF) which involves taking the nucleus of one egg and inserting it into the cytoplasm of another egg which has had its nucleus removed, but still contains mitochondria DNA and then fertilizing the hybrid egg with a sperm the fertilization is executed. The purpose of the procedure is to remove a nucleus from a cell with defective mitochondria and place it in a donor cell with healthy mitochondria, which after fertilization will contain a nucleus with genetic material from only the two parents. Although the donor egg is said to contribute only 0.1% to the genetic makeup of the child, the examination of the genetic material of these children will unambiguously reveal the heritage from three identifiable genetic parents. This is due to the fact that the donor egg usually comes from a non-maternal relative. For a child having undergone this procedure to have only two identifiable genetic parents, the donor egg must have come from a maternal relative (this is because mitochondrial DNA is inherited maternally; thus maternal relatives will have identical mitochondrial DNA, barring random mutations). Maternal relative egg donation is not commonly used, because if the female egg has a mitochondrial disease then it is highly likely that the maternal relatives inherited

the disease as well. Supporters say the procedure will enable women to avoid passing on certain severe and even deadly genetically inherited diseases. But many regard the new law as an unwise, even immoral, move — the first step toward the creation of "designer babies." Some even see it as a new experiment in eugenics. The biotechnological vistas are replete with examples where the technology has helped to achieve a genotype to move closer to its optimum weird model, in a facilitated fashion over a lesser period of time as is apparent through the innovations in GM technology. What the nature executes through its different agents namely mutation, genetic drift, gene flow, assortative mating or natural selection thereby resulting in a change of allelic frequency



Rtn. Arjan Singh presents a memento to Rtn. Prof. Dr. I.S. Dua. Looking on are VP Rtn. Ashok Puri, Secretary Rtn. Sanjay Bhatia and Office Secretary V.P. Sharma

nomenclatured as evolution followed by its probable natural selection bring a novel change. Such a process has been occurring in the last 3.8 billion years and has synthesized a collage what we call biodiversity.

However, the

natural process is too slow and what the technology has done in the last twenty years is to expedite such vernal combinations, with utmost care and precautions, through genetic engineering. Scientific issues whether on nuclear reactor, or GM crops have produced a well behaved and decipherable science. It was for the first time the audience were told the beautiful technique of CRISPER-CAS technology targeting gene editing and how beautiful beagles have been produced in U.S.A. using this technique of all the varied and incredible possibilities presented by the controversial new gene-editing technique known as CRISPR-Cas9, perhaps the most intriguing are efforts to bring animals back from extinction. Candidates for de-extinction, as the process is known, include species like the passenger pigeon (the last one died in captivity in 1914), the dodo (last seen in 1662) and the sea cow (1768, a mere 27 years after it had been discovered by Europeans.). CRISPR is about 1,000 times cheaper than previous methods, and that can change everything. It sounds like it is just a quantitative difference, but it can result in whole new capabilities. We have made 15 different genetic changes already in the elephant genome using CRISPR, which is not the bottleneck anymore. It is growing up the embryos and making sure that they are developing normally.

Rtn. Arjan Singh thanked our learned Rtn. Prof. Dr. I.S. Dua, "for demonstrating to us the secrets of life." PP Rtn. R.K. Luther remarked, "Thank you for the knowledge given to all our Midtowners who had the privilege to listen to your talk on genes. May God bless you."





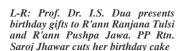


Prof. Dr. I.S. Dua presents birthday gifts to Rtn. Maj. Gen. R.S. Chopra, Rtn. Vinod Sobti and wedding anniversary gift for Dr. Rohit Sahni & Rtn. Dr. Manisha Sahni who also gets punctuality award. Looking on are VP Ashok Puri and Secretary Sanjay Bhatia











R'ann Sudha Puri and PP Saroj Jhawar National Anthem



Rtn. Rekha Sawhney Invocation



Introduction



and Vote of thanks



PP Dr. Balram Gupta Rtn. Arjan Singh Scholarship Secretary Sanjay Bhatia Glimpses of the week



Congratulations. Sanmeet Kaur Sawhney, daughter of Rtn. Sundeep Singh Sawhney represented her school, Yadvinder Public School, Mohali for Unique Inter School Poster making competition on Energy Conservation organized by PEDA at Shivalik Public School. She won special appreciation award from the jury and her creation was adjudged one of the most creative in her league





Rtn. Salil Chopra teaching students the skills. 47 programs completed in current Rotary year

Scholarships



Scholarship cheques presented to students

In this week's meeting two scholarships were awarded to girl students of the English department, Panjab University. Ms. Tsering Angmo is from Ladakh and Ms. Venus Madaan is from village Mamdot, Ferozpur. Both belong to families with limited means. Cheques for Rs. 7500/- each per semester will be given to both students for the duration of their Master's degree course of two years. The students were selected by the alumni of the department with the active help of Rtn. Dr. Rana Nayar. Rtn. Arjan Singh informs that this is an effort to indigenize the scholarship project and raise resources from within our country and club. The contributions have come from the following alumni of the English department:

Mrs. Malvinder Kalha of North Carolina, Mr. G.S. Kang, Chief Secy. Retd, Mr. G.S. Aujla, DGP Retd. In the years to come several other alumni have also promised to contribute to the project.

Thanks giving and some more glimpses of RI President's visit to Chandigarh

In our regular meeting on December 18, 2015, on behalf of President Rtn. Kanan Diwan, who was away to attend a Rotary event in Jaipur, Secretary Sanjay Bhatia was pleased to read her thanks giving message in which she expressed great sense of satisfaction and pride for the very successful Intercity, 'Meet the President' held in Chandigarh Judicial Academy on 10th December 2015. She said, "How I wish I was with you personally to share this joy and thank you all for it. But another Rotary event has kept me away. It was indeed the result of team effort put up by Rotary Club Chandigarh Midtown as one joint force."

She received a personal call from PRIP Raja Saboo and Usha ji followed by email, "Please accept my heartiest compliments for the role of Chandigarh Midtown in organizing events and programs during the visit of RI President K.R. Ravindran and First Lady Vanathy." PRIP Raja also appreciated the inauguration of the hand washing unit and e-Learning project at Manimajra Govt. School on the second day of RI President's visit, followed by the remarkable Intercity. RI President Ravindran had written to him that he enjoyed every minute of Chandigarh program.

In his mail District Governor David Hilton said, "Patricia joins me in thanking you and the team for organizing an excellent Intercity which has done us proud. Congratulations to all!" He also thanked PDG Shaju Peter for brilliantly planning the program and organizing the logistics for the event which was appreciated by one and all.

President Kanan thanked PDG Shaju Peter and Event Chair PP Ajit Gulati for their meticulous planning and working out the minutest

details. Thanks to PP Dr. Balram Gupta for organizing all the logistics at Chandigarh Judicial Academy and the cooperative staff. The job of registration committee headed by PE Amarjit Singh, PP Gurdip S. Deep and Rtn. Salil Bali and other members of the team Rotarians Sundeep Sawhney, Rekha Sawhney, PP Vinod Jawa, Dr. Shashi Jain, VP Ashok Puri, Vinod Sobti, R.P.S. Gulati, Harinderjit Kaur, PP Pallav Mukherjee, Brij Gulati and Ajay Gupta handled a herculean task very ably.

Sergeant-at-Arms PP Dr. V.J.S. Vohra and Rtn. Salil Chopra along with their team — Rtn. Maj. Gen. R.S. Chopra, Rtns Jeeten Bhambari, Ravinder Jain, Nitin Kapur and Prof. Dr. I.S. Dua handled the photography session in an efficient manner to finish the session before time and we could start the proceedings of the Intercity dot on time. Thanks are due to the bulletin editor Dr. V.J.S Vohra for bringing out two colour bulletins one after the other conveying all the news. Salutation to all the Board members and volunteers who stood like a rock to the call of duty and looked after the guests so spontaneously.

Thanks to Rtn. Maj. Gen. A.S. Kahlon and Rtn. Maj. Gen. Hardev Singh for arranging the Army band. Thanks to Director Community Service Dr. Rita Kalra, PP Deepak Sood and R'ann Renu Chopra for meticulously organizing the visit of RI President to Govt. Model High School, Manimajra where we have installed a Wash in Hand facility and also for inauguration of our Global Grant Project of e-Learning by President K.R. Ravindran.

Thanks are due to PP R.K. Luther who escorted the RI President from place to place. Special thanks to Dr. Rita Kalra and Rtn.



Sundeep Sawhney for organizing the Interact club function at Elante Mall in which 1800 children participated. Dr. Rita also got donation of Rs. 37000/- collected under the program 'children to children fund' for polio during her talk to students of The Gurukul

Sector 20 Panchkula and Gurukul Global School Manimajra.

Last but not the least, thanks to our gracefully dressed ladies R'anns Archana Mathur, Malabika Sengupta and Shashi Gupta representing the tri colour of the flag, who sang the National Anthem. Thanks to Rtn. Dr. Manisha Sahni for the beautiful invocation, R'ann Ritu Bhatia and R'ann Sudha Puri for the back stage support.

President Kanan concluded, "I thank



PDG Shaju Peter, PP Dr. Balram Gupta and PP Ajit Gulati escorting RI President Ravindran and his gracious wife Vanathy in Chandigarh Judicial Academy



RI President Ravindran at Wash in Hand facility at Manimajra with DG David Hilton and Rtn. Dr. Rita Kalra

each and every member of the club for registering for this grand event, and though some of the members could not attend, but their registering for the event is acknowledged with thanks and compliments."



Rtn. Dr. Rita Kalra and Rtn. Mona Khattar welcoming World First Lady Vanathy at Elante Mall



Welcoming RI President Ravindran at the Manimajra School for the inauguration of the e-Learning Global Grant Project of our club

Birthday of Spouses

R'ann Santosh Gupta R'ann Nirmal Nagra R'ann Sushma Kamra R'ann Bir Gulati

Wedding Anniversary

R'ann Maniki & PPRtn. Gurdip S. Deep R'ann Archana & Rtn. Dr. Nitin Mathur R'ann Manpreet & Rtn. Dev Jeet Singh

December 25 December 29 December 29 December 31

December 27 December 27 December 28

Congratulations: Gurmehar Singh Bedi son of Shruti and Jasjit and grandson of R'ann Shashi and PP Dr. Balram Gupta has secured the first position in the National Science Olympiad at the State level. Earlier, he had won the medal in Maths - Olympiad.

Birthday of Rotarians PPRtn Dr. Kesho Ram Gupta Punctuality Award

Won by Rtn. Dr. Manisha Sahni



PP Rtn. Dr. Kesho Ram Gupta

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December 25

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Design & Printed at: Satyadeep Offset Printers (P) Ltd 292, Industrail Area, Phase II Chandigarh. Ph.: 4624942 Email: salil.bindra@gmail.com