
BIOMER'22
Kitchen Is Our Health Tool
DIFFERENT TAKES ON COOKING
HECTIC LIFESTYLE VS HEALTHY LIFESTYLE
CUMIN BEING THE ELIXIR
RIGHT WAY TO DIET
A balanced diet is crucial for maintaining our health. Diet is not just about losing body weight rather maintaining a healthy weight.

Special Thanks to all the students, teachers, and non-teaching staff of Department of Biomedical Science !

BIOMER' 2022

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The Student Society of
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Message From Principal's Desk

Another year, another issue of '**Biomer**', another chance for students to showcase their talent and to make their department and college proud. I must congratulate the Biomedical Department for bringing out this issue of 'Biomer' in short span of opening up of the College in physical mode after long lockdown because of Covid.

I feel very satisfied when I see the contribution of our students in such a mature manner. This clearly shows that the training which we give them is helping them to grow. We have always believed in holistic development and expression of thoughts in literary manner is one way of development. I hope in future 'Biomer' will have contribution from many more students. Wishing you all the best and happy reading.

PROF. RAVI TOTEJA
OFFICIATING PRINCIPAL

Message From Teacher-in-Charge

In the COVID era with dual experience of being in virtual prisons of a lockdown and back to the traditional semester offline mode has tilled within me a different yet insightful soul-searching thought process what next___?? thought process inquisitive towards our collective future. Do we as a world aiming for sustainable development really want complete transition to offline mode or the imminent need of the hour is hybrid one?

Should we save the nations fuel, electricity and time or carve physical mode with significant change. Building immunity is important or the precautionary doze the last in the series of COVID perhaps, or such six monthly chemical rush would be a persistent feature for all times to come. The shape future takes with digital and social media revolution would make the world a global village or undermine the real familial and personal ties. The shape future takes with digital and social media revolution would make the world a global village or undermine the real familial and personal ties. Gamut of such questions glare but one reality remains that healthy body which supposedly houses a healthy mind, an ancient saying for health sustainability, is an quintessential requisite of the hour. Sun rises in the east and death is inevitable, these are eternal laws but good immunity with healthy body is fast becoming a must evolutionary survival, especially given the kinds of calamities/war/pandemic the earth can be bombarded with. What better approach can be than to build health through our “traditional” kitchen practices, unearthing our replete yet cryptic self-ancient wisdom which kept early lineage decedents if not disease free but “ayushman bhava” with existence on pure, nature food in a pollution free milieu. Kitchen is your health tool, consequentially off shooed at this backdrop is this year’s theme for Cathexis and Annual magazine “Biomer”. A humble effort of our students to put up articles each having a take home message alongwith the process of magazine production is expected to rack their brain, goad them to unearth, read, discuss and inevitably spread the new found realisation of primeval understanding which is the mantra for longevity and a healthy lifestyle.

Bruce Lipton says Give me child until its seven and I would show you the man, Your life is a print out of your subconscious behaviour. As scientists, we have now realised that if you understand epigenetics you do not need the pharmaceutical industry you can heal yourself without drugs, its really adjustment of your consciousness not an adjustment of your biology, the brain is the chemist, change the picture and you change the chemistry. Adherence to such views is a personal choice but yes (Disclaimer- my suggestion) lets pledge to remain happy and believe each ordinary human being possess extraordinary powers and can " think beyond his genes'' to heal oneself the natural way and build a scientific framework for mind, body, and spirit connection, with first step as healthy lifestyle with healthy kitchen practices.

Regards and Pranam I salute to divinity within each one of you.

DR SUNITA JETLY

TEACHER IN CHARGE (BMS)

Table of

CONTENTS

Table of

CONTENTS

CREATIVE CORNER

EVENTS 2021

Not To Be Overlooked, Choose Your Cooking Oil Wisely!

BY DEEPARATI DATTA (YEAR II)

A staple in every kitchen, an important component of Indian and international cuisine is cooking oil. Your choice of oil is bound to affect your health in numerous ways.

Consumption of edible oils is not only important for the flavour of the food we eat, but also for providing energy by the metabolism of fats, which helps in contributing towards a balanced diet. Fatty acids present in the oil are the building blocks of various lipids. Since, our body cannot make essential fatty acids, we need to consume them in the form of edible oils only. Some biomolecules, like vitamins, are also selectively soluble in fats. On the other hand, excessive consumption of oils (fat) can lead to increased cholesterol levels, obesity, high blood pressure, atherosclerosis, cardiovascular complications, etc.

Since the use of oil is so widespread in the kitchen, surely the choice of edible oil should be an educated decision. India is fortunate to have a wide range of oilseed crops grown in its different agro-climatic zones. The main oils being groundnut oil, mustard-rapeseed oil, soybean oil and sunflower oil. Coconut is important when it comes to plantation crops. The maximum edible oil production is of mustard-rapeseed, at 2 million tonnes per annum and contributes to 8% of the global production.

Oils contain fats and fats are broadly classified into two categories-

- Saturated fat
- Unsaturated fat

Saturated fat is found in dairy, meat and eggs and has shown adverse health effects if consumed in large amounts. This was the reason for a significant push to decrease vanaspati and ghee intake by the Indian government in the late 1980s to 1990s and more attention was given to edible vegetable oil consumption. Notably, coconut oil contains saturated fat.

Unsaturated fat is of two kinds, which are now familiar names in homes via various advertising and marketing schemes by edible oil brands.

- PUFA (polyunsaturated fatty acids)
- MUFA (monounsaturated fatty acids)

PUFA present in sunflower and soybean oil is rarely found in animal products. These are known to protect the heart and lower blood glucose levels.

MUFA is usually considered healthier than PUFA as it can lower harmful cholesterol levels. They are found in animal and vegetable products. Groundnut and sesame seed oils are good sources of MUFA.

The main nutritional difference of oils is from two fatty acids - LA, an omega n-6 fatty acid and LNA, an omega-3-alpha linoleic acid. Our body cannot manufacture either of them but needs them for important bioprocesses, i.e. for making omega-3s and omega-6s essential Fatty Acids (EFA).

Keeping the above information in mind, how does one make an educated decision about which edible oil is the best for consumption in the Indian context?

The answer to this question is still unclear.

Every oil is unique and subject to different conditions in diverse cuisine. We, however, can make a distinction between a healthy and an unhealthy oil (consumption as the recommended amount in both cases) and distinguish a kind/mixture oil that suites our cooking habits.

When it comes to being healthy, oils that are rich in MUFA and PUFA are clear winners, which includes olive and most vegetable oils.

Note that, olive oil and some vegetable oils like canola or safflower have very low "smoke point", which means these oils break down at a low temperature, leading to loss of nutritional value and flavour rendering them unsuitable for most cases inregular Indian cooking. Other oils like Cold pressed (Kachi Ghani) mustard-rapeseed oil, peanut, sunflower oil and soybean oils have higher smoke points but have varying benefits amongst themselves. In the case of saturated fat-rich coconut oil, consumption is recommended to be controlled, however, studies have shown due to other factors of the Indian diet and consumption of non-refined coconut oil in most cases, can lead to low cardiovascular disease incidence when compared to western studies. Coconut oil also contains EFA Omega-6.

Kachi Ghani or cold-pressed mustard oil has been widely studied and the oil is aplomb with health benefits. From being rich in both MUFA and PUFA, a high vitamin E content to improve skin health, various antifungal and antibacterial properties to being the largest cultivated oilseed in India, with a suitable high smoke point.

The distinctive drawback of this oil is the flavour. The flavour of mustard oil is not suitable for certain dishes and especially in South-Indian cooking. Vice-versa is true in the case of widely used coconut oil in Southern India. Oils like peanut, sesame and soybean have high smoke points and are great for frying as in refined form have a very less prominent odour.

Since each oil has its benefits, using different oils for different purposes by blending or consumption in rotation may be the best way to consume oils. Using locally sourced, sometimes traditional or seasonal oil also has its benefits according to its use in the case.

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The Kitchen Is Our Health Tool

BY ASMITA NAYAK (YEAR I)

A kitchen is a room or part of a room used for cooking and food preparation in a dwelling or a commercial establishment. We all have some of the sweetest memories attached with food prepared in home kitchens, dhabas and restaurants. Humans with different techniques and recipes have cultivated the art of making food that tastes delicious and aromatic. However, food consumption without understanding its relationship with our body is an issue thats affecting humankind and is responsible for multiple diseases like diabetes, high blood pressure, atherosclerosis, etc. The solution to these problems and a step toward healthy life begins with a well balanced diet prepared in a hygienic kitchen. Our kitchen safeguards a lot of things that are precious to one's well-being. All the rich spices and herbs, nutritious foods like cereals, pulses, fruits and vegetables are all stored and cooked here. Therfore, it is very important to keep our kitchen as clean as possible

Before modern medicines were introduced, all healers were dependent on various items that could easily be found in one's kitchen. Have an upset stomach, prepare some ginger tea or clove tea and you can feel relief. For the cold, try some tulsi and honey tea, and voila it's all gone. All these little recipes have helped humankind for a longtime to ease their pain and cure them. From eating papaya for healthy skin, to bananas for better hydration - fruits in the kitchen has every possible solution for skin medications. You will be amused if you just Google "Home Remedies" and thousands of cures available right to you. From muscle pain to normal health issues, there's a kitchen cure for everything. Modern times can call for ancient ways too. We shouldn't be so caught up in catching technology that we forget how our previous generations used to live.

When I think about my kitchen, all I can think of is my mother and the aromas of all the meals she's preparing while my siblings and I try to figure out what's on the menu today! I never realized how much mother went out of her way to keep us healthy when I was a kid. Yes, there's a lot to learn if you pay attention, from cleaning her hands before cooking to storing them in the most sanitary manner possible. Funny story: as a child, I was taught that we should never throw food away, therefore I made it a point to finish everything on my plate. But one day, I watched my mother toss away a whole packet of bread, and I started crying. Upon asking why was she doing such a horrendous crime, she answered it was expired. Well, isn't that a life lesson, otherwise could have been hospitalised for food poisoning. So, while the kitchen is a health tool, awareness comes in handy too. We should always be considerate about many such things. According to a poll, 65 out of every 100 children report for gastrointestinal complication such as acidity, frequent vomiting, and other issues once in a year. What could be the underlying issue behind this? It could be either the lack of culinary science knowledge or the developing lifestyle choice of opting dining-out instead of home-cooked food. So, ultimately all of your hard work for a healthy lifestyle is for nought if you only go to the gym and don't eat well. I'd like to encourage myself and my peers to cook more regularly to live a long and healthy life.

I heard somewhere that humans don't trust what they give up unless it is given to them and then taken away. Consider a house that has everything except the kitchen, and it will seem ludicrous and dysfunctional to you. There would be no mouth-watering aromas, no more meal preparation for special occasions at your dining table, and one less excuse to bond with your own family.

So, let us highlight the value of the kitchen as a health tool and do our best to maintain and preserve our kitchen lifestyle.

Cibus Novus - The New Food

BY AMBUJ SINGH (YEAR I)

“Let food be thy medicine and medicine be thy food”
~Hippocrates.

“FOOD”. What is the first thought that strikes your mind after hearing this word? For some, this word might carry a great significance but for most of us, especially the people who live in the city and are rather privileged, this word has a little significance. The people who find this word rather the concept important can be further divided, they can be the people who love eating and consuming food, they can be people who are drawn to food and meals due to the socio-cultural aspects that come tagged along with it or they can belong to a group of people (who are rather important for the sake of this argument) for whom food is a scarce and a limited resource and who long for the food and see it for what it is.

In the year 1943, an American psychologist, Abraham Maslow proposed an idea of the hierarchy of needs. And in a nutshell what it suggested was that the humans have a varied number of goals and needs and if a hierarchy was to be established for the same humans always preferred to pursue those goals first which ensured their survival, propagation (physiological needs e.g., Hunger) or safety and all other relatively less important needs (from the standpoint of survival) follow. Now a major part of our population is moved so high up this pyramid that we rarely ever relate food with its prime function.

But this has not always been the same. In the past, acquiring food was relatively straight - forward but by no means an easy task. Let's go back in time and see for ourselves what our ancestors had for lunch and how it evolved and gave shape to the modern diet.

The evolutionary history of Hominins is infested with several dietary changes which not only impact our diets today but also provide an explanation of several ailments. This is also responsible for major cultural and anatomical changes. One of the early Hominins, Ardipithecus ramidus, around 4.4 million years ago (mya) moved from the earlier forest-like habitat to a relatively new open habitat which was an intermediate between forest and savannah (this has been believed to have led to the transition from earlier arboreal lifestyle to bipedalism). This transition led to the ubiquity of more mechanically challenging foods. Australopithecines' huge, thickly enamelled teeth indicated the presence of hard foods in their diet. This can be narrowed down to 2 possibilities- either they used their premolars to crack open the hard endocarps of the large seeds or they started consuming starch-rich underground storage organs (USOs) of the plants e.g., tubers, corms, etc. The idea of USOs is further backed by the presence of an abnormal number of fossils of mole-rat near their habitat and even the study of the rats suggests a similar diet.

The next big step in evolutionary history is the shift to a hunter-gatherer lifestyle which introduced meat into the diets of hominins. The earliest record of meat consumption can be dated back to around 2.5mya. Apart from being a high calorific food, meat is also a source of zinc, iron, vitamins, and other critical dietary components. Although raw meat is of a less nutritional value, hard and slow to chew, it is the flagbearer of the next big dietary cooking evolution.

According to anthropologist Richard Wrangham and his colleagues, the first purposeful occurrence of fire could date back to around 1.9mya which is most probably the time cooking came into existence. The cooking of food was a highly beneficial process, nutritionally. Cooking led to softening of food and increased the digestibility of both meat and plant foods. If Wrangham is right, the following dietary shift may have facilitated the relative increase in the brain observed in Homo erectus at the same time. The time when the brain size increased is congruent with the period when the gut size of hominins significantly reduced- which again is a consequence of dietary improvement.

Cooking is largely a boon but at the time it can also prove to be detrimental e.g., in the Maillard reaction, amino acids and reducing sugar is condensed and this is accelerated by cooking (This reaction is what gives the browned food its distinctive flavour) and is associated with some human cancers. This might have posed a new challenge to our ancestors.
A study conducted (Alexandra Rosati and Felix Warnekenet al.) on the closest relatives of humans-chimpanzees, reveal that they possess some foundational cognitive activity to start cooking i.e., the ability to wait for the food while it's being cooked, ability to plan and to transport food to the cooking site and it is possible that even early humans also possessed them.

Although the anatomical changes and dietary improvement could also be a consequence of improved stone tool technology which facilitated the primitive processing of food-pounding, cutting, grinding, etc. Cooking apart from being an anatomical and nutritional aid is also a catalyst of a great cultural paradigm shift. The advent of cooking and fire augmented a change in social behaviour- humans started socializing and sharing food. In contrast to this other apes rarely share any food.

Agriculture and animal husbandry is a relatively new practice and has its origin from 13,000 BC onwards. Its initial spread was in the areas of Africa, Asia, Africa, South America and Europe. This led to increased food security and population density. Farmer's wives gave birth to an average of 1 baby/2.5 years whereas earlier the number was around 1/3.5 years (in the hunter-gathers community).

Plant and animal husbandry didn't necessarily prove to be beneficial. The diet of the farmers was rather considered to be plain and monotonous.

A low degree of food diversity and low nutritional content led to cavities and several periodontal diseases in the farmers.
Additionally, animal domestication led to an infestation of a large number of insects and parasites which led to iron deficiency and developmental delays leading to the shrinking of body stature of farmers.

Nutritionally we had shifted from a low to a highly starch-rich diet. This turned the previously beneficial gene products into harmful diseases e.g., origin Type-2- Diabetes Mellitus is explained by the Nifty gene hypothesis and Insulin resistance leading to diabetes by Carnivore connection hypothesis by Eaton and Konner.Another interesting case is Lactose intolerance. All nonhuman mammals lose the ability to digest lactose after weaning, due to a decrease in the levels of enzyme lactose-phlorizin hydrolase. But in some humans, this digestive capability persists even in adult life. This phenotype of lactase persistence (linked to LCT gene) has a high frequency in the populations with a long history of pastoralism and milk production and consumption. Similarly, the cultures and populations with a starch-rich diet have a greater number of copies of gene encoding for salivary amylase (starch digesting enzyme). The above two examples show how our dietary patterns can exert selective pressure on evolution (Natural selection) and give rise to several adaptations in humans. Even the science here indicates, "We are what we eat".

Now let's analyse our present dietary paradigm.

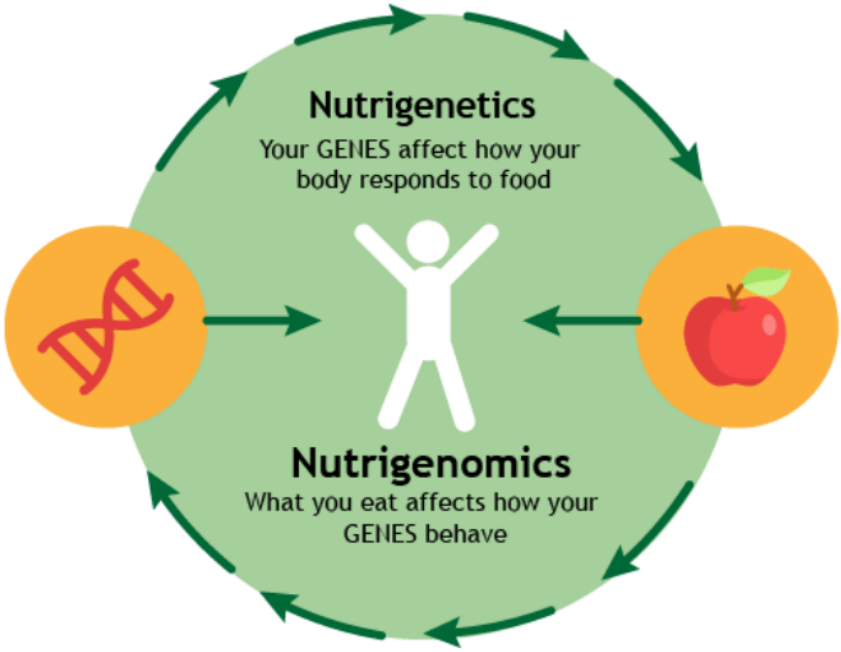
Our present-day diets are the mosaic of different foods of varying nutritional and dietary components. Although our present-day civilization is at the zenith of success; obesity, diabetes and many diseases that have a diet-based component to their causality are at an all-time high.

There are several causes for this, but the most important is "junk food." Michael Jacobson, the head of the Center of Science, coined the term "junk food." In Washington, D.C. This term is used to describe a class of food that contains high levels of refined sugar, salt, trans and polyunsaturated fats, white refined flour, monosodium glutamate, and tartrazine and paradoxically it lacks proteins, vitamins, fibres, and essential minerals. Our body has a nutrition sensing and measuring system to maintain a balance of calorific absorption, storage, and utilization. Some major components include the sodium-potassium pump, calcium channels, and the autonomic nervous system. Disordered control can lead to metabolic disease and even cancer.

Another grave threat associated with this kind of food is that it is highly addictive. This addiction can be correlated to the composition of these junk foods. If we consider the sensory component of food, we use all 5 senses to experience our food. We hold and touch the food with our hands and even examine its texture in our mouths. We can hear the crunch or the slurp of foods and drinks respectively. Now the natural foods act as baseline stimuli for our nervous system and our natural reward system works and releases a normal quantity of dopamine which in turn manifests as a normal pleasure level. The huge junk food business enterprises invest enormous sums of money to engineer the food which is very attractive looking, smelling, tasting, and fun to eat. They act as larger stimuli to our brain and are called supernormal stimuli. They excite our nervous systems to a higher extent and interfere with our natural reward pathway causing it to release abnormal amounts of dopamine leading to a heightened pleasure experience that normal food can't provide. And, as a result of this overdrive, one becomes addicted to junk food. (In the 1950s, Konrad Lorenz discovered that birds will choose brooding eggs that were similar to those of their species but bigger, demonstrating that creatures prefer larger stimuli over natural stimuli). Above all this, a stressful lifestyle and lack of physical exercise (which always keeps us in calorie excess) is the last nail in the coffin.

But of course, being the smartest species to walk on the earth, humans have started recognizing these trends and are calling out the respective authorities for the same. Humans are now also most aware of the effect of diet on our health than ever before. Extensive studies are being conducted on the subjects like Nutrigenomics, Single-celled proteins, and genetically modified foods. Thanks to the above-mentioned sciences soon the food we'll consume would be very distinct from the kind we are familiar with.

Nutrigenomics is the multidisciplinary research field that employs the principles of molecular biology, nutrition, bioinformatics, and genetics to study the relationship and effect of our diet on our gene expression. Both empirical and anecdotal evidence suggests that no one diet fits all. Everybody is unique and responds to environmental factors, such as diet, differently. However, predictability is ever-present and is a foundational feature of scientific processes, and can be used to fabricate individually-tailored diets complementary to one's genetic makeup.



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The human population is rising drastically so are our dietary requirements. Already there is enough strain on the agriculture and animal-protein production sectors and the predicted human requirement for animal-based protein for the year 2050 exceeds 400 M tones. This is beyond sustainable and very hard to fulfil. Some of the possible options include cultured meat and single-cell proteins. Cultured meat is meat that is produced by in-vitro animal cell cultures. This is brought about by tissue engineering techniques that were earlier employed in the fields of regenerative medicines.

The first proof of the principle was demonstrated by professor Mark Post at the Maastricht University in the year 2013 when he developed the first complete "Hamburger patty" directly from the cells. This alternative is being accepted rapidly by the market and despite being so new several concept-laboratory-restaurants are being opened up. Primarily beef pork and chicken are being developed in the culture but soon manufacture of seafood would also be possible.

Single Cell Protein (SCPs) or microbial protein is another such alternative. SCPs are edible unicellular organisms. Biomass or mixed cultures of yeast, fungi, algae, and bacteria are utilized for the same. Although, all of these are great sources of protein with each having at least 30% protein content, but, of all of these,bacteria are the most protein-rich organisms and can contain up to 60-80% protein on a dry weight basis. The portion sizes of our future meals might be dramatically reduced as a result of this. Essential vitamins, minerals, and omega-3 fatty acids can all be found in SCPs. Some SCPs are used as whole cells, while in others, cell walls can be broken down by various means. Algal SCPs with cell walls intact are a source of chitin and glucan which act like fibre in our diet. Some additional benefits of fungal SCPs may include the lowering of Low-density-lipoprotein cholesterol in the participants who consumed the mycoproteins from Fusarium venenatum. Blood glucose and insulin levels may also be favourably affected.

The only problem associated with SCPs is their somewhat high nucleic acid content. Purine consumption increases uric acid levels in blood plasma, which can lead to gout and kidney stones. Although such SCPs can be used for animal feeds of animals with short life spans, using them for humans can be problematic.

Thankfully, this problem is being taken care of and by the use and endogenous polynucleotide phosphorylase and ribonucleases, the nucleic acid content can be effectively controlled which makes SCPs a viable future food alternative.

Last but not least,Genetically modified organisms (GMOs) can take over soon. Genetically modified foods are obtained from the organisms whose genetic material has been modified by the processes of genetic engineering (not by traditional cross-breeding) to exhibit some desirable traits. Organisms and food can be modified genetically to produce superior yields both qualitatively and quantitatively. A number of GMOs already exist in the market e.g., GM rice strains are produced (with 3 genes that biosynthesize beta-carotene) with high vitamin content called Golden Rice. Similarly, GM papaya, Zucchini, plums, apples, soy, wheat, and even salmon are already developed. Much research is being carried out in this field and soon GM foods will end up on our plates. Apart from being nutritionally beneficial, they are also relatively easy to produce and impact our environment much less adversely. Some SCPs can even be grown on waste materials such as waste from paper mills (source of carbohydrates e.g., Pentose sugars).

Our diet is a fascinating and very dynamic part of our behaviour. Humans have realized its importance and our future holds much more hope and diversity for the realm of diet.

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Cumin Being The Elixir

BY HIRTIK SINGH RATHORE (YEAR I)

Cuminum cyminum is the Scientific name for Cumin. Famous by the name of 'Jeera' in common households and owing to its special aromatic effects, it is used for culinary purposes since ages. Cumin has many valuable compounds such as pinene, cymene, terpinene, cumin aldehyde, oleoresin, thymol and others that have demonstrated their effectiveness against numerous diseases. They are also a good source of energy and help to strengthen our bodies' immunological systems.

Medicinal uses of cumin in conventional medicines date back millennia and they include fruitful treatment for gastrointestinal distress, diarrhoea, jaundice, hypertension, epilepsy, fever, childhood maladies, gynaecological and respiratory disorders. Cumin seeds have been shown to have broncho-dilatory, anti-inflammatory, antinociceptive, antibacterial, hypotensive, hypolipidemic, cytotoxic, antidiabetic and hepatoprotective properties in the literature.

Many of the protective qualities are related to reproducible radical scavenging activity and interactions with a variety of molecular targets involved in inflammation, including pro-inflammatory enzymes and cytokines. More research is however needed to determine the precise processes responsible for this plant's antinociceptive and anti-inflammatory actions and their active ingredients.

CUMIN HELPING IN WEIGHT LOSS:

Cumin may boost body's metabolism, reduce cholesterol levels and also help lower blood sugar, due to thymoquinone (having antioxidant and anti-inflammatory properties), which targets free radicals thereby releasing toxins from it. It also helps in cell response to glucose and insulin. One small study of 72 overweight subjects ascertained that putting in cumin and lime to a weight loss ritual stimulated weight loss considerably.

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Importance And Uses Of Haldi

BY AASTHA JALUTHARIA (YEAR III)

We all have been injured in our childhood and have seen blood ooze out of our knee or elbow along with the aftermath of our mothers applying haldi with warm mustard oil over the injured area. Of course, it used to hurt, but the wound used to get healed equally fast. Have you ever thought about how haldi can do this magic? If not, then you will find it in this article.

In Ayurveda, haldi has been an important ingredient for medicinal purposes and has been mentioned in traditional Chinese and East Asian medicine literature as well. Also called 'Indian Saffron' or 'turmeric', haldi is a common spice obtained from rhizomes of the plant, Curcuma longa' of the zingiberaceae family. This bitter spice with aromatic fragrance contains an active compound called 'Curcumin' which is responsible for giving haldi its orange-yellowish colour and the multitude of health benefits. Belonging to a group of curcuminoids, curcumin exhibits a lot of healing properties, helping aid many illnesses.

Haldi's immune boosting property is also attributable to Curcumin, "the gold of turmeric". Curcumin helps the body in fighting microbes thus, preventing the chances of infections. Due to its anti-bacterial, anti-viral, and anti-fungal properties, we can use haldi in preventing fever, common cold, etc. If you are suffering from digestion problems, here comes turmeric, "the superhero" for rescue.

It reduces the formation of gas in the alimentary canal, thus reducing bloating, flatulence and abdominal distension.

Haldi also acts as an antacid that neutralizes excess acid in the stomach thereby treating indigestion, ulcer, gastritis, heart burning sensation, etc. So, in case you are feeling low due to constipation or any other digestive problems, just add a teaspoon of Haldi powder in warm water, mix and drink it early in the morning and get rid of your gastrointestinal problems happily.

However, most Indian households prefer a different recipe for preparing this 'Golden milk' aka 'Haldi ka Doodh', where turmeric and milk are boiled before serving hot in a glass. Did you know this is an incorrect method for preparing haldi enriched milk? When turmeric is boiled or roasted at high heat, its main active component curcumin gets degraded. Haldi is sensitive to high heat, also, the curcumin in it has low bioavailability i.e., it is poorly absorbed into the bloodstream. So, even if you drink boiled turmeric milk, it is not going to benefit you in any way. Then, what's the solution? The answer is we have to mix ingredients that can increase curcumin's bioavailability. Using healthy fats like coconut oil, ghee, etc., alongwith haldi improves absorption of curcumin. This is because curcumin is lipophilic (affinity for lipids) which makes it able to dissolve in fats and be absorbed into the blood.

We can also add black pepper with turmeric as it also increases the bioavailability of curcumin. Black pepper contains an active compound 'Piperine' which prevents curcumin from getting metabolized by the digestive enzymes and not being absorbed into the bloodstream. So, if you want to know the correct method of making golden milk, add milk (1 glass), Haldi (1 teaspoon), black pepper (a pinch), ghee (1 tablespoon), sugar or honey in a milk pan and warm it (not boil).

Pour the golden milk into a glass and then, pour it back again into the pan, repeating this 3-4 times to make the milk frothy with well-mixed ingredients. That's it, your golden milk is now ready to help you recover faster from injury, get good sleep and boost your immunity.

Turmeric is also added in small amounts majorly while cooking Indian food to give flavour and colour. That's how you get your curry yellow. Cooking turmeric for short time also increases the bioavailability of curcumin. We can also add black pepper and/or ghee to turmeric while cooking to maximize curcumin's absorption. In ancient times, people used to eat raw turmeric and not in foods to get more benefits from it. Turmeric keeps our heart healthy as curcumin breaks lipids that could accumulate in our blood vessels hence, reducing the risk of heart attacks, heart blocks, blood clots, cholesterol levels in the blood, etc. If you want to lose weight and become fit and strong, with exercise and a healthy diet, add turmeric, lemon and water and drink it in the morning time.

You all must have attended or seen the 'Haldi ceremony' where family and friends put Haldi (in a paste form) on the soon-to-be bride's face and body. Have you wondered, why our ancestors chose only Haldi out of vast spices? It is because, they knew the antioxidant properties of Haldi which help prevent ageing, wrinkles, blemishes and give a glow and healthy look to the skin. If you want to have a glowing, radiant effect on your face, don't keep waiting to become a bride, just make a face pack by mixing a tablespoon of besan (Gram flour), a teaspoon of Haldi powder, some Gulab Jal (rose water) and little amount of water. Curcumin on haldi is also known to decrease swelling and have anti-inflammatory activity which aids in treating pain and chronic inflammatory conditions like ulcers, arthritis, etc.

It also has antiseptic properties which make it useful to apply on cuts, wounds, burns and helps heal them faster. That is why our mothers put warm Haldi in a paste with water and ghee on our wounds which gets healed within no time.

Now, that we got to know a lot about Haldi's specialty, we must not use it in excess as even water in excess turns toxic. According to the guidelines, we should only use about 500 milligrams of curcumin i.e., one teaspoon of Haldi powder (2-4 g) per day and in raw form, 3-4g per day. Haldi is a wonderful spice with lots of positives. With the right method and amount, Haldi can indeed add longevity to our healthy life.

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Right Way To Diet

BY PRACHI SINGH (YEAR III)

Does skipping your daily meals help? What's the correct menu for a balanced diet? How can one maintain a balance? What's the right amount of food intake?

Health is the state of complete physical, mental and social well-being. A balanced diet is crucial for maintaining our health. Diet is not just about losing body weight rather maintaining a healthy weight. A healthy diet helps us to maintain our body and prevents any kind of nutritional deficiencies as well as non-communicable diseases (NCDs), heart diseases, strokes, diabetes and cancers. The exact makeup of a diversified, balanced and healthy diet will vary depending on;

1. **Individual characteristics like age, gender, lifestyle and degree of physical activity.**
2. **Cultural context.**
3. **Locally available food and dietary products.**

But the primary principles of a healthy diet remain the same.

THE RIGHT MENU

1. Fruits and vegetables; these are important source of vitamins, minerals, dietary fibers, plant proteins and antioxidants. They lower the risk of obesity, heart disease and certain types of cancer.
2. Whole grains (millets, oats, wheat barely etc.), legumes (lentils, beans etc.), starchy tubers or roots (such as potato, yam taro and cassava); these provide us with the right amount of essential nutrients and also avoid overweight and obesity.
3. Unsaturated fats found in fish, avocado, nuts and oils like sunflower, soybean, canola and olive oils can help improve blood cholesterol levels, ease inflammation and stabilize heart rhythms.
4. Iodized salt helps in synthesis of hormones that regulate heart rate and blood pressure and spices are an excellent source of antioxidants.
5. Healthy drinks and beverages provide essential nutrients.

THE RIGHT AMOUNT

1. At least 400g of fruits and vegetables per day.
2. Less than 5g (one teaspoon) of iodized salt per day.
3. Fruit juice, milk or other products such as curd, raita.

MAINTAINING THE BALANCE

1. Eat fresh fruits and vegetables as snacks.
2. Replace butter and ghee with olive oil, soybean, canola and sunflower oils.
3. Eat reduced fat, lean meat and dairy products.
4. Reduce the consumption of baked, fried and packaged foods.
5. Eat legumes, oats, and bean sprouts instead of oily sandwiches.
6. Add healthy drinks like raita, fruit juice and smoothies, milk shakes and vegetable juice in your diet.

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Indian Cuisines: Not Only Classic But Also Healthy

BY RIYA SARGIARI AND SURAVI BHAYA (YEAR II)

India is a land of diversity. We see diversity in all aspects be it soil, climate, culture or ethnic groups and, therefore the Indian cuisines vary substantially as well. Traditional Indian cuisine is considered incredibly tasty with lots of health benefits. Indian food supports immunity, brain function, inflammation and several other functions in the human body. The human body requires variety in food for a healthy lifestyle and Indian cuisines contain just that!

SPECIAL INGREDIENTS:

Indian Oils:

Vegetable oil is used extensively in India for cooking but mustard oil is used in east India, peanut oil is more popular in northern and western India, and coconut oil is used in western coast, especially in Kerala and Tamil Nadu. Ghee is also used as a cooking oil.

Spices to Spice Up your Life:

The most important part of Indian cuisine is the spices and flavourings used. Spices in Indian cuisine are whole or powdered chilli pepper (mirch), black mustard seed, cardamom (elaichi), cumin (jeera), coriander, turmeric (haldi), asafoetida (hing), ginger (adrak), and garlic (lahsoon).

One popular spice mix is Garam Masala, which is a powder that includes seven dried spices in a particular ratio. They include black cardamom, cinnamon (dalchini), clove (laung), cumin (jeera), black peppercorns, anise star and coriander seeds.

Remedial effects of spices:

- **Turmeric is a popular spice derived from the root of Curcuma longa Linn, a member of the ginger family. It is used in many ways for different diseases, due to its properties, for the treatment of coughs, colds, sore throats, and asthma. It is also used as a deworming agent and as a paste for some viral diseases such as chickenpox, smallpox and measles. It is used in arthritis and for wound healing. Turmeric also shows antioxidant properties in vitro.**

- **Garlic and ginger have many therapeutic properties, ether it be antimicrobial, antithrombotic, anti-inflammatory or anticancer activity.**
- **Spices such as mustard, allium and ginger have been seen to be antimutagenic, inducers of detoxification, and prevent DNA damage in vitro.**
- **Fenugreek, a native of South-East Europe and West Asia belongs to the family of Leguminosae. The dried seeds of fenugreek are used as a spice and the leaves are used as a vegetable. Its seeds are a great source of protein, fibre and fatty acids and the leaves are sources of beta-carotene, iron, calcium, magnesium, potassium and vitamin C.**

Figure 1 – Indian spices

Side dish:

Pickles and Chutneys :

Pickles, made with the right proportion of quality and quantity of salt and oil, is one of the best probiotic foods that one can have. It is made with ground leafy greens and seeds; traditional Indian chutney is very nutritious.

Thus, Indian cuisines are not only classic but are also healthy. The diversity of the spices and ingredients used and their possible support and beneficial use contribute to making the classic Indian delicacies way healthy. Spices such as mustard, fenugreek, turmeric, clove, onion, garlic and so on have a variety of benefits in protecting the body against various infections.

The Food:

Indian Thalis for the Heart's Content

Traditional Indian thali consists of small portions of a variety of delicacies in bowls. It includes 2-3 varieties of dal, sabzi, rice or roti (sometimes both).

Sweet dishes are always incorporated in the thalis. These thalis make up a complete meal, which includes all essential nutrients in the right proportion.

The Magical Indian Curry:

The Indian curry when cooked with the right ingredients and right amounts of oil is good for immunity. It helps reduce inflammation which is the root cause of diseases like diabetes, high blood pressure and heart diseases. It is prepared with curry leaves, onion, black pepper, tomatoes, garlic, turmeric and various other spices, the Indian curry has many health benefits. The traditional Indian curry helps reduce inflammation.

Rajma-Chawal and Dal-Chawal for the Win:

The staple of Indian food includes pearl millet (bajra), red kidney beans (rajma), rice, whole-wheat flour (atta), and a variety of lentils, such as masoor, urad, and moong (mung beans). Lentils are used whole, dehusked for making lentil soups, for example, dhuli moong or dhuli urad. Split lentils, or dal, are used extensively. Combinations like dal, rice and rajma rice have been popular in India for ages. It is a combination of perfect protein meals with all the essential amino acids.

Spices To Spice Up Our Healthy Life

BY BAMAR TAGYUG (YEAR I)

Throughout history, the usage of herbs and spices has been extremely essential. These are some of the most valuable kitchen items, both in the home and in the workplace. Spices are used as flavouring agents, colouring agents and preservation agents to improve the palatability of foods. Many are revered for their therapeutic virtues even before they are used in cooking. Spices play an important role in both the kitchen and the pharmaceutical industry since they have anti-proliferative, anti-hypercholesterolemia, anti-diabetic and anti-inflammatory properties.

Here are some of the most commonly used spices that have a huge impact on our healthy lifestyle:

1. Cinnamon (Cinnamomum verum or Dalchini):

- **Cinnamon is a popular spice found in major baked goods and food items.**
- **It helps fighting inflammation and is a potent antioxidant.**
- **Lowers cholesterol and triglycerides in the blood.**
- **Improves sensitivity to hormone insulin.**
- **Lowers the risk of heart diseases.**

2. Sage (Salvia officinalis or Dhoop):

- **It is exclusively famous for its healing properties.**
- **It is extremely helpful in improving brain function and memory specially for people with Alzheimer's disease.**
- **Ease menopause symptoms.**
- **Reduce blood sugar levels.**
- **Treats common ailments like cough,asthma, bronchitis.**

3. Garlic (Allium sativum or Lasun):

- **Lowers chances of getting heart disease.**
- **Lowers high cholesterol and high blood pressure.**
- **Eases up the blood vessels and arteries and prevents heart attacks and strokes.**
- **Treat cold, cough, asthma, toothache and constipation.**

4. Ginger (Zingiber officinale or Adrak):

- **It calms the lining of digestive system and ease an upset stomach.**
- **Has anti-inflammatory and antioxidant properties.**
- **Prevents cancer**
- **Calms pregnancy related nausea and reduces tummy upset afler surgey.**

5. Turmeric (Curcuma longa or Haldi):

- **Anti-oxidant and eases inflammation.**
- **Regularly consuming tiny amounts can help to prevent or reduce the progression of Alzheimer's disease and dementia.**
- **Cures skin disorders and upper respiratory tract disorders.**
- **Helps in arthritis, digestive disorders,liver disease , depression etc.**

6. Saffron (Crocus sativus or Kesar):

- **It improves mood and treat depression symptoms.**
- **Helps preventing cancer.**
- **Reduces PMS (Post menstrual symptoms).**
- **Aids in weight loss or prevent weight gain as it reduces appetite.**

7. Cumin (Cuminum cyminum or Jeera):

- **Helps digestion and strengthens immune system.**
- **Treats diarrhoea.**
- **Controls blood sugar.**
- **Helps lower cholesterol.**
- **Improves blood circulation.**

8. Cloves (Syzygum aromaticum or Long):

- **Promotes bone health.**
- **Reduces stomach ulcers.**
- **Improves liver health.**
- **Help regulate blood sugar.**

We use different kinds of spices daily in our foods that we eat and that aid us in our healthy lifestyle. Using the right spices in limited quantity on our food can benefit both our health and our taste buds. We should always remember that spices should be used only in limited amounts as overuse of it can harmful effects too.

“The first wealth is always heatlh”-Ralph Waldo Emerson.

And for a healthy life, healthy food is must and using healthy spices to our food can spice up our taste and health tenfolds.

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Beyond The Semblance

BY ANAGHA (YEAR I)

"The aroma might strike lively; the layout could seem astonishing and therefore the colour and flavour would stimulate our appetite. Meanwhile, the healthy us dies in between."

'Don't judge a book by its cover' ~ is one amongst the phrases we all are acquainted with, which can actually be applied to our encounter with food as well. Nowadays, people give more attention to physical appearances for all grades. If something doesn't look nice or smell as great, as one perhaps wanted it to be, people will probably be surprised once they understand it tastes amazing.

Ultra-processed and fibreless oily foods are related to adverse health outcomes.
Today's sedentary lifestyle has a great impact on life expectancy too. Significant factors in expectancy include lifestyle, diet, nutrition, access to health care and genetics. Among these, lifestyle plays an important role in longevity.
Food has always been associated with celebrations, emotions, relieving boredom, comforting someone in times of depression, sadness and uncomfortable situations. The problem arises when emotional drive takes over healthy eating habits resulting in something that we call emotional eating and eventually leading to decreased longevity. Following a healthy lifestyle could significantly reduce premature mortality and even prolong the lifetime.

The mere absence of disease cannot be defined as 'health', rather it's complete physical, mental, social and economic well-being. However, health is a personal responsibility. To avoid being a risk to society, individuals should modify their behaviour and lifestyles. Effective self-care is vital to health and is entirely upon individuals themselves.

In today's society, the general public plans their daily meals according to their busy schedules. Food plays a vital role in our lives and most just depend upon sustenance, the fast food, being quicker and easier to prepare is consumed by many people nowadays. However, devouring healthy victuals is one of the worst choices someone can make.

To maintain a healthy body and prevent diseases, the consumption of healthy homemade meals should always be the priority. Home-cooked meals have lesser fats, sugar and processed components. Hence, people who eat home-cooked meals consume fewer carbohydrates.

Because many folks work full-time and reach home very late they frequently eat fast food without being aware of the damages it's doing and also the health risks that it can eventually carry in the long run. Given today's generation's demand for high-quality food options, it's critical to compare and contrast the effects of making healthy, prepared meals vs relying on restaurants for everyday meals. Healthy, home-cooked meals have numerous long-term advantages.

This is the worldwide global warming of human health. Trends like these are often an eyeopener, a bit like melting icebergs and rising sea levels, they are telling us that there's something horribly wrong in our food environment. The solutions to the current situation lie within our reach. Food companies are doing a really good job at tempting us towards their products in lots of ways.

All we've got to try is to merely flip the entire script back and understand the fact that those highly sugared drinks and attractive advertisements of crunchies slowly lead us to the globe of heart-throb addiction towards junk and repulsion from healthy foods.

So why not consider home cooking a necessary life skill just like brushing our teeth or cleaning our body? Regardless of how busy we are with our daily chores, we do follow our morning routine properly. So, a bit like that, let's end the habit of ordering junk foods from bed and start cooking for ourselves. Let our foods made in kitchen receive more popularity among everyone and as expected it deserves more appreciation.

Avoid junk, accept health. No junk, know health!

Healthy Recipes

BY ARPITA SINGH (YEAR I)
& ANAMIKA BINU (YEAR II)

STEAMED SESAME CHICKEN

Prep: 15 mins
Cook: 40 mins
Total: 55 mins

INGREDIENTS:

- 1 Chicken breast (1/2 kg)
- 2 onions (thinly sliced).
- 7 cloves garlic & grind into a paste
- 2-inch ginger
- Roasted jeera powder (1 tsp).
- Roasted dhania powder (1 tsp).
- Roasted black & white sesame paste (4 tsp)
- Mustard oil (2 ½ tsp).
- Coriander leaves (as required)
- Turmeric powder (1/2 tsp)
- Salt (as required)
- Pepper (as required).
- Green chilli (as per taste
- Lemon juice (2 tsp)

STEPS:

1. Put the chicken pieces in a bowl. Add onion, ginger-garlic paste, turmeric, salt, pepper, jeera -dhania powder, queen chillies. Mix all ingredients properly and keep aside for half an hour.
2. Now pour mustard oil, sesame seeds paste and lemon juice. Add coriander leaves (keep some aside for garnishing) and mix all ingredients again.
3. Steam the marinated chicken for 30 mins on medium heat.
4. Garnish with coriander leaves and top with 1 tsp mustard oil.
5. Serve hot with rice or eat directly as a snack.

NUTRITIONAL VALUE:

Servings Per Recipe: 1

- **Calories: 216.2**
- **Protein: 25.1g (49 %)**
- **Carbohydrates: 10.9g (21.2 %)**
- **Dietary Fibre: 2.5g (4.9 %)**
- **Sugars: 3.1g (6.05%)**
- **Fat: 8.1g (15.8 %)**
- **Saturated Fat: 1.5g (3.35 %)**

POHA

Preparation time - 5 minutes
Cooking time - 10 minutes
Serving - 1 serving

INGREDIENTS:

- 1 cup poha
- Some finely chopped onions
- 1/3 tablespoon mustard seeds and cumin seeds
- One pinch of asafoetida
- Handful of peanuts
- 1 green chilly
- 1/2 tbsp turmeric powder
- 1/2 tbsp lemon juice
- 1/2 tbsp sugar
- Salt according to taste.
- 1/4 cup pomegranate seeds
- 1 tablespoon chopped fresh Coriander
- 1 tbsp desi ghee.

STEPS:

1. Take 1 cup of poha.
2. Wash it gently under running water and drain excess water.
3. Sprinkle some salt and sugar, toss it and keep it aside.
4. Preheat a non-stick pan for a minute.
5. Add 1 tablespoon of desi ghee to it, add mustard seeds, and once they begin to splutter, add cumin seeds, green chilies, curry leaves, peanuts, and a pinch of asafoetida. Allow the dry spices to sizzle until the chilies turn crisp.
6. Add chopped onions and saute them till they turn light brown. Then add chopped potatoes and salt (only for potatoes).
7. Mix well and cover them with a lid till potatoes turn tender. This will take around 3-4 minutes. Stir occasionally to prevent sticking or burning.
8. Add turmeric powder and cook it for a minute. Add soaked poha and mix it well.
9. Add lemon juice, finely chopped coriander, and a handful of sev and some pomegranate seeds (optional).
10. Turn off the flame and our delicious poha is ready to serve!

NUTRITIONAL VALUE:

Serving size-100 gm

- **Calories – 110 cals**
- **Fats - 2.87gm**
- **Carbs - 18.8 gm**
- **Protein - 2.34gm**
- **Sugar - 0.5 gm**
- **Iron - 1.06mg**
- **Sodium - 201 mg**

CHOCOLATE CAKE

Preparation Time: 10 mins
Cooking time: 25-30 mins
Serving: 10 slices

INGREDIENTS:

- 1.5 cups whole wheat flour
- 3/4 cups cocoa powder
- 1/2 tsp baking soda
- 1tsp baking powder
- 3/4 cup olive oil
- 1 + 1/2 cups sugar/ jaggery powder
- 2 eggs
- 1/2 tsp vanilla extract
- 3/4 cup milk
- ½ cup roughly chopped almonds
- 10g Dark Chocolate (optional for garnishing)

STEPS:

1. Preheat the oven to 170˚C. Prepare an eight-inch cake tin with parchment paper and dry cocoa powder.
2. Sift through a sieve and add all the dry ingredients into a big bowl and whisk the cocoa powder, flour, baking soda and baking powder to mix well.
3. In another large bowl, with a whisk beat olive oil and sugar until the mixture is light and pale.
4. Add eggs, one at a time and mix well after each addition ensuring A homogenous batter.
5. Add the vanilla extract.
6. Add the flour mixture to the wet ingredients alternating with milk, starting and ending with flour mixture. Beat until smooth. Do not over-mix or it will crack the cake top.
7. Pour the batter into the pan. Top with an even layer of chopped almonds.
8. Bake for 25-30 minutes. You can garnish your chocolate cake with melted chocolate and nuts. Enjoy it warm!

NUTRITIONAL VALUE:

Serving: 1Slice

- **Calories: 98kcal**
- **Carbohydrates: 21g**
- **Protein: 3g**
- **Fat: 1g**
- **Sodium: 306mg**
- **Fibre: 2g**

FRENCH POTATO SALAD

Preparation Time: 20 mins
Cooking Time: 30 mins
Servings: 6

INGREDIENTS:

- 3-4 Medium-Sized Potatoes
- 3 tbsp Olive oil
- 2tsp Salt
- 3/4 tsp Black Pepper
- 1/4 cup Sweet corn
- 2-3 tbsp Butter
- 1/4 cup Bell Peppers
- 2 tbsp Apple Cider Vinegar
- 1 tbsp Marinara Sauce
- 1/4 Cup Chopped Onions

STEPS –

1. Soak the potatoes with Salt (as per your taste) and set them to boil. Drain the water and let them cool for a while.
2. Heat Olive Oil in the pan, when hot, add chopped onions and boil sweet corn separately.
3. Sauté bell peppers in the olive oil
4. Dice the potatoes into bite-sized cubes and place them in a bowl, mix the sautéed bell peppers, onions, and boiled sweet corn in that bowl.
5. Add Apple Cider Vinegar, Butter, marinara sauce, a pinch of black pepper, and salt (as per your taste) to the bowl.
6. You are ready with the French Potato Salad.

NUTRIOTIONAL VALUE:

Servings Per Recipe: 6

- Calories: 121.0 cals
- Total Fat: 4.5 g
- Saturated Fat: 0.6 g
- Cholesterol: 0.0 mg
- Sodium: 60.0 mg
- Total Carbohydrate: 20.2 g
- Dietary Fiber: 2.3 g
- Sugars: 2.3 g
- Protein: 3.1 g

PUMPKIN SOUP

Ingredients – Ginger (A small piece chopped), Green chilli (one chopped), Pumpkin (250 g), Salt, Black pepper, Coconut milk (One cup)

Preparation – 1. Steam ginger, pumpkin and chopped green chilli till the contents get soft.
2. Grind all the steamed vegetables in a mixer till you get a purée.
3. Now transfer this purée into a pan and let it boil for some time.
4. Add water as per the consistency and finally add coconut milk to the purée, along with salt, black pepper and chilli powder.
5. Garnish with some cream and chopped coriander.

COCONUT AND MANGO FLAVOURED CHUTNEY

Ingredients – Salt, tamarind (one medium size), dried red chilli (one), grounded coconut (one cup), one mango flower, red onion (one small), curry leaves

Preparation 1. Grind tamarind, dried chilli and salt in a mixer.
2. To this add grounded coconut and mango flower and again grind it to a coarse texture. Make sure that it is not in the puree form.
3. Finally mix it with a spoon in mixer jar, add red onion and curry leaves and grind it one more time. The chutney is ready now you can eat with rice.

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BITTERGOURD (KARELA) AND TOMATO SALAD

Ingredients – one large bitter gourd, two tomatoes, one green chilli, olive oil, one small onion, lemon extract, salt, oil (for frying)

Preparation

1. Cut the bitter gourd into thin circular pieces.
2. Fry these pieces in the oil as preferred by you and keep it aside.
3. Now cut tomato and onion into thin circles.
4. Chop one green chilli into small pieces and mix it with tomato and onion.
5. To this add 3 spoons of olive oil and lemon extract. Shake the mixture well.
6. Add salt and black pepper as required and at last add fried bitter gourd pieces. Mix well and serve.

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Hectic Lifestyle vs. Healthy Lifestyle

-BY RIYA RAJPUT (YEAR I)

Vaibhav is a young professional, whose day starts at 7 in the morning and continues late in the night without almost no time to exercise and plan a healthy diet. In his work, there are times wherein there are vast amounts of pressure and stress on him. When he gets some time, he likes to catch up by taking a nap or watching favourite shows.

This lifestyle sounds kind of familiar, right? Today, most of our lives have become like this. Due to hecticness, we have no time for ourselves which ultimately leads to serious health problems like diabetes, stress, heart disease, hypertension, cancer, stroke many more, and the first solution which comes to our mind are 'medicines'. But medicines have serious side effects too, which instead of curing you, frustrates you. You are the only guardian of your happiness. Don't give power to anything to control your smile even if it is a medicine.

So, what to do now and how to get rid of it?

Nothing looks as good as a healthy life. So, to get rid of this frustration and make our 'hectic' lives 'healthier', we have to move towards the kitchen. Yes, you read it right. The kitchen is the best place to start a healthy lifestyle.

Kitchen contains many home remedies to cure our diseases but unfortunately, we often ignore them. It is the only place from where we get nutritious food. So, let food be the medicine and medicine be the food.
Stress, the cause of many diseases can be lowered by bananas, water, leafy vegetables like broccoli, kale, and spinach. These leafy vegetables produce the hormones serotonin and dopamine which improves your mood. Next, is diabetes. As per WHO, India has the second-highest number of diabetic patients and the number is still increasing. Aloe Vera, cinnamon, ginger, pulses, bitter gourd, all these ingredients are effective to cure diabetes.

To add to that, cancer is one of the most lethal diseases on the planet. The saying "one apple a day keeps the doctor away" now appears to be more relatable than ever. Apple has promising anticancer properties. Carrots, walnuts, and legumes are the other food that can cure cancer.

Home remedies can cure or control every disease. That's the power of our kitchen. Home remedies are cheaper and don't have any or very minor side effects and the taste is much better than the unpleasant taste of allopathic medicine.

It is eminent to take care of our body since it is the only place we inhabit. So, let's take a step towards the kitchen, as it is one of the best tools for our health. Other helpful practices are being happy, having a good night's sleep, daily exercise, thinking positively, meditation and mindfulness. When we acquire all the necessary habits that are required for healthy lifestyle, our lives will go on the right path.

Practice a healthy lifestyle now, and you'll be appreciating it later in your life. The body is a temple and you got to treat it as one. Afterall "Health is an asset and not liability".

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Healthy Kitchen Habits

BY HIRDAY SEHGAL (YEAR II)

Kitchen is not just a room with utensils, veggies and spices, but it can become our hospital if we use it properly. It has the key to all our health problems, whether it's physical or mental. In earlier days, kitchen was considered as an extension of temple where people never entered without having bath or wearing sleepers/shoes. Nowadays, in the light of so many restaurants and home delivery apps to choose from, our kitchens have lost their value. Well it might not be possible to get back to old customs but we can surely make some small changes in our kitchen which can help in reviving our health conditions. Here are some healthy kitchen habits which cannot only improve our physical health, but can also help us to stay active and live long.

- **AVOID USING PLASTIC AS MUCH AS YOU CAN**

In today's lifestyle plastic has taken a very common place in our kitchen ranging from packaging material for various grocery items, plastic containers for storage, plastic bags for buying goods to plastic water bottles. Plastic can cause tremendous harm to our body. The chemicals used in the production of plastic are toxic and detrimental to the human body. Chemicals in plastic-like lead, cadmium and mercury directly can come in contact with the humans. These toxins can cause cancers, congenital disabilities, immune system problems and childhood development issues.Other toxins like BPA or health-bisphenol-A are found in plastic bottles and food packaging materials. When the polymer chains of BPA break down and enter the human body through contaminated water or fish, it could lead to some fatal damage to our body. BPA can decrease thyroid hormone receptor which can lead to hypothyroidism. Especially when we eat/drink any hot item in plastic, it can cause many hazardous effects in our body. In place of plastic utensils we can use steel, earthen or glass which can help us reducing pollution inside and outside our body. Jute and cotton bags should be used while going to market to buy food stuff. We should refuse the plastic bags given by shopkeepers and encourage the use of paper or cloth bags.

- **AVOID PACKAGED FOOD**

Anything with nutrient label on it is considered safe and healthy but actually it is not. Most of these packed food items are loaded with metal ions and chemicals in order to increase their shelf life. We should avoid buying such products rather we should buy fresh vegetables and fruits, which are good for our mental health and provide nourishment to the person consuming it. Freshly grown vegetables are at least less exposed to the chemicals. Washing them properly and taking their peels off can also reduce the chemical load.

- **SETTING OUR OWN KITCHEN GARDEN**

Kitchen produces a lot of bio-degradable waste that can be used in our gardens. Whenever we peel off a fruit or a vegetable, rather than throwing it off, we should try to make compost of it. For example banana peels can be used for fulfilling the phosphorus needs of our plants, growing legumes around plants can help with nitrogen requirements. Egg shells are rich in calcium whereas tea leaves add that nitrogen-rich component to the compost. Some fruits and vegetables have seeds in them, out of which good quality seeds can be sown in the soil which will give rise to new plants. These plants will be pesticide free and can be used for cooking healthy and delicious food. These vegetables will also have some different taste and vibes in them as they will be grown by us. And what more, it will be pocket friendly too.

- **SEGREGATION OF WASTE**

Kitchen waste not just includes bio-degradable items but also harmful non bio-degradable materials like plastic and sometimes sharp waste. Such items must not be thrown out along with bio-degradable waste. Recent studies have indicated the presence of micro plastics in human blood, which is the result of improper segregation. As a result these non-biodegradable things end up in landfills or deep inside the oceans and eventually find way into our food cycle. It also causes soil degradation and water pollution. That's why it is important to separate/segregate kitchen waste. It not only reduces the overall load on hill forming landfill sites but also affects our environment positively. Bio-degradable waste can act as medicine for plants growing in our garden or balcony as already discussed above.

Refrences

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Health Benefits Of Lavender Tea

By Aastha Gupta (YEAR II)

When we think about lavender, we think of a gorgeous bunch of purple-coloured blossoms with a wonderful aroma that makes our hearts go wow. But have you ever considered that these lovely blooms aren't simply for adorning perfume bottles or for decorating a special event venue? To make a flavourful tea with a fragrant smell, we add brewed lavender buds to a hot cup of water.
Lavender tea is a sort of herbal tea that has a lot of health benefits. So, let us delve deeper into the benefits of lavender tea.

1) It aids in the reduction of anxiety
Are you worried and don't want to talk to anyone? Grab a cup of lavender tea and you'll feel revitalised and calm in no time. According to a study, lavender has an active chemical that influences impulses between brain cells, resulting in a soothing effect. It also aids in the treatment of depression and anxiety.

2) Menstrual cramps are lessened
In the event of menstrual cramps, one of the most common ailments faced by women around the world, nothing beats the wonder of lavender tea. During the menstrual cycle, it can help with bloating and pain. Take a cup of Lavender tea the next time you have a nasty menstrual cramp and enjoy your periods with a grin on your face.

3) Improves the quality of your sleep
What will you do if it's 2:30 a.m. and you're wide awake with no sleep in your eyes? The answer is far too simple: drink lavender tea regularly. It will help you get a better night's sleep and increase the quality of your sleep. Sleep deprivation can lead to a variety of health issues, so drinking lavender tea can help you stay healthy.

4) Improves the appearance of your skin
Are you wondering if lavender is only useful for relaxing? That is not the case. Lavender tea is also beneficial to the skin. Lavender oil has been demonstrated to have anti-inflammatory and antibacterial properties, reducing acne and aiding wound healing, resulting in bright, radiant skin.

5) Immune system booster
The COVID - 19 pandemic showed us that we need a robust immune system to battle the world's deadliest bacteria and viruses. Lavender tea is abundant in antioxidants and antibacterial components, which can aid in the fight against colds and flu.

6) Aids in the detoxification process
Are you bothered by cell ageing? The antioxidants in lavender tea aid in the elimination of pollutants that are present in the form of free radicals as a result of pollution, heavy drinking, and smoking. These free radicals generate oxidative stress, which causes cell mutation and speeds up ageing.

7) Healthy Digestive System
Diarrhoea, nausea, and stomach pains are frequent issues that we all confront. These issues point to a problem with your digestive system. Indigestion, gas, and bloating can all be relieved by drinking lavender tea. The scent of lavender increases the formation of bile, which aids in the more efficient breakdown of foods. Lavender's relaxing scent can also help with nausea by causing chemical reactions in the brain.

Lavenders are attractive to the eyes, and the health benefits that they provide make them deserving of praise.

The flowers' appealing purple colour and aroma come with a slew of health advantages. As a result, if you want to improve your health, you should drink lavender tea. So, the next time you wake up, relax with a cup of lavender tea and keep your body healthy and fit

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Anti Quorum Sensing Properties of Tulsi, Garlic, Clove, Tea and Honey

MEHAK SHARMA (YEAR II)

The health benefits of Tulsi, Clove, Garlic, Tea and Honey have long been known and can never be ignored. But who knew the impact of these compounds on bacteria and their metabolic processes? Eugenol, present in clove and tulsi has anti-inflammatory properties and is known to alleviate the symptoms of diseases such as arthritis and reduce their risk. Eugenol is also a potent antioxidant and for that reason, clove is said to possess antioxidizing properties. Polyphenols are an important compound present in tea and honey. Tea polyphenols have been widely used as antioxidants in disease treatment and animal husbandry. These phenolic compounds have demonstrated antimicrobial, antiviral, antifungal, anticancer, and antidiabetic properties. Polyphenols are powerful antioxidants and have been associated with reducing the risk of heart diseases and cancer. Ajoene is an organosulfur compound primarily found in garlic and possesses antiplatelet and fibrinolytic effects in patients suffering from cardiovascular diseases.

Biofilm development and Quorum sensing (QS) are social bacterial behaviours that enable them to safeguard themselves from environmental stresses and communicate with other bacteria. Quorum sensing is a mechanism employed by bacteria to communicate and coordinate their activities in a cell density-dependent manner. It involves the formation of small peptide molecules that regulate gene expression. Biofilm is a complex 3-D structure made by the extracellular matrix of bacteria which enables them to persist for longer periods and gain resistance to environmental stresses like the action of antibiotics. Biofilm formation is facilitated and coordinated by the QS system. Formation of biofilm results in higher antibiotic tolerance and the emergence of multiple drug-resistant strains (MDR) of bacteria.

Interestingly, metabolic activity of bacteria under the biofilm is a function of depth such that the bacterial cells near the surface have low metabolic activity while those at the greatest depth are dormant and metabolically inactive.

Several natural compounds like eugenol from Clove and Holy basil (Tulsi), polyphenols from Tea or Honey and, ajoene from Garlic have been studied to possess anti-QS properties. These phytocompounds have been proven to be more effective than some of the existing antibiotics. These compounds can potentially inhibit and decelerate the formation of biofilms and can serve as a great alternative or atleast a co-therapeutic agent alongwith antibiotics. Eugenol and Linalool extracted from Ocimumtenuiflorum, holy basil or Tulsi leaves have been reported to show bioactivity against the biofilm formation by Pseudomonas aeruginosa. Essential oils and phytocompounds extracted from different aromatic plants have been used for centuries and can replace present-day antibiotics. These compounds have shown promising results against biofilm formation and can interfere with the quorum sensing mechanism of the bacteria. Moreover, inhibition of biofilms can reduce the number of antibiotic tolerant bacteria.

These phytocompounds bind competitively to LuxR type proteins and inhibit QS-regulated behaviours. Polyphenolic compounds found in Tea, Turmeric and Honey have similar effects on biofilm formation and QS. Ajoene, an organosulfur compound rich in sulphur that is extracted from garlic, has QS gene inhibitory properties, which can hamper the QS mechanism and eventually result in hindrances in biofilm formation.

The disruption of biofilm can lower the number of ever-increasing MDR bacterial strains, and existing antibiotics may again be effective against these strains. These QS inhibitors along with biofilm disruptors and antibiotics can have synergistic effects on MDR strains as well. Garlic, Clove, Tea, Honey, Turmeric, Tulsi are routinely used in our kitchens and compounds extracted from them have shown encouraging outcomes in QS inhibition and biofilm destruction and their usage can one day serve as a combinatorial approach to conventional antibiotic therapies and treatments.

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Eat wisely and stay fit!

BY DR. SATENDRA SINGH

Not feeling well? Planning to visit a doctor? Thinking of medicines and their side effects? Of course you should? Once you take medicine, thereafter you do not have any control on their movement in your body, besides hitting the target, they can roam here and there and can interact with many more host cells and also can cause lots of disturbances in your body's equilibrium. Along with this they can sit for very long period of time in body's fat cells, if they are little bit hydrophobic. Paracelsus, a Swiss Physician stated that "All things are poison, and nothing is without poison; the dosage alone makes it so a thing is not a poison." It can also be simplified as "The dose makes the poison". So what to do? Don't worry, I can simplified your problem, go to your kitchen and look around. Can you spot raw turmeric (Curcuma longa), Ginger (Zingiber officinale), lemon (Citrus limon) mustard oil (Brassica campestris) etc. you may also find many more. But today, I am going to describe the medicinal importance of turmeric powder and their wonder constituents only.

TURMERIC: THE ROUND 'O' CLOCK UNIVERSAL PHARMACY OF YOUR KITCHEN

You know our grandparents/parents many times applied turmeric powder along with mustard oil to our wounds and they also gave milk with turmeric powder. Be unsure why? Let me explain: If you dissolve turmeric powder in petroleum ether, all the essential oils can quickly come in filtrate. Simply, evaporate petroleum ether and get essential oils of turmeric.

Figure 1: Essential oil obtained from turmeric powder contains squiterpenes among which ar-turmerones are major constituents.

This turmeric oil contains three important sesquiterpenes i.e α-turmerone, ar-turmerone, and β-turmerone, and among them ar-turmerone is a key major active molecule (Fig. 1). All these turmerones are biologically active especially against cancer cells and pathogenic microorganisms.

The rationale behind the application of turmeric powder to wounded part or abrasion is as follows: mixing powder with oil leads to extraction and mixing of turmerones in the mustard oil which itself possess antimicrobial properties. Now turmeric oil and mustard will show synergistic effect on the microbes around the wound. Application of such an oily preparation on wounded part will prevent the growth of any microorganism. As this preparation is hydrophobic, it will be quickly absorbed into deep layers of skin and speedup the healing process. It has been already proved by many scientific literatures that essential oil along with many other constituents of turmeric powder protects us from bacterial and fungal infection. Many of us take lots of synthetic antibiotics and antioxidant to prevent further escalation of the infection in wounded part or any other accidental internal injury. Patients can be vulnerable to oxidative stress due internal injury because of generation of reactive oxygen species (ROS) and reactive nitrogen species (RNS), depends on various synthetic drugs which further raise the problem of toxicity. Turmerones play significant role in removal of free radical and prevent oxidative stress. An article appeared in the journal Stem Cell Research and therapy (Hucklenbroich 2014) showed that turmerone from curcuma induces neural stem cell proliferation both in vitro and in vivo conditions

CURCUMINS: THE WONDER MOLECULES AGAINST CANCER AND IMPORTANT NATURAL BODY HEALER

Other major important groups of polyphenolic molecules in turmeric powder are curcumins which show large number of biological activities (Fig. 2)

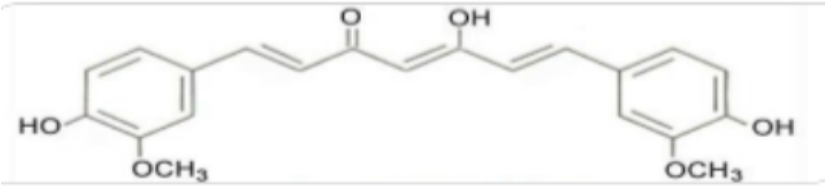


Figure. 2 Curcumin: an important molecule in the curcuminoids class of molecules in turmeric powder

Curcumins targets several signaling molecules at cellular level and has reported to shown strong anti-inflammatory, anticancer, ease symptoms of osteoarthritis, antidiabetic, protect your brain against common degenerative diseases like Alzheimer's, antidepressant effects, shows promise as a treatment for rheumatoid arthritis, effective in treatment for a variety of skin conditions, including acne, psoriasis, eczema, and photoaging, Addition of turmeric powder to hot milk enhance the solubility of all these hydrophobic and hydrophilic active constituents. Milk proteins and fats also stimulate their absorption in the intestine. So probably now you clearly understood the significance of addition of turmeric powder to milk and their health benefits. Taking turmeric powder in milk during accidental internal injury helps in quick recovery of patients.
So next time don't use any bandage or ointment on a wound, instead apply a paste of turmeric powder and drink a glass full of milk with 1 tea spoon turmeric powder

COMIC

Comic

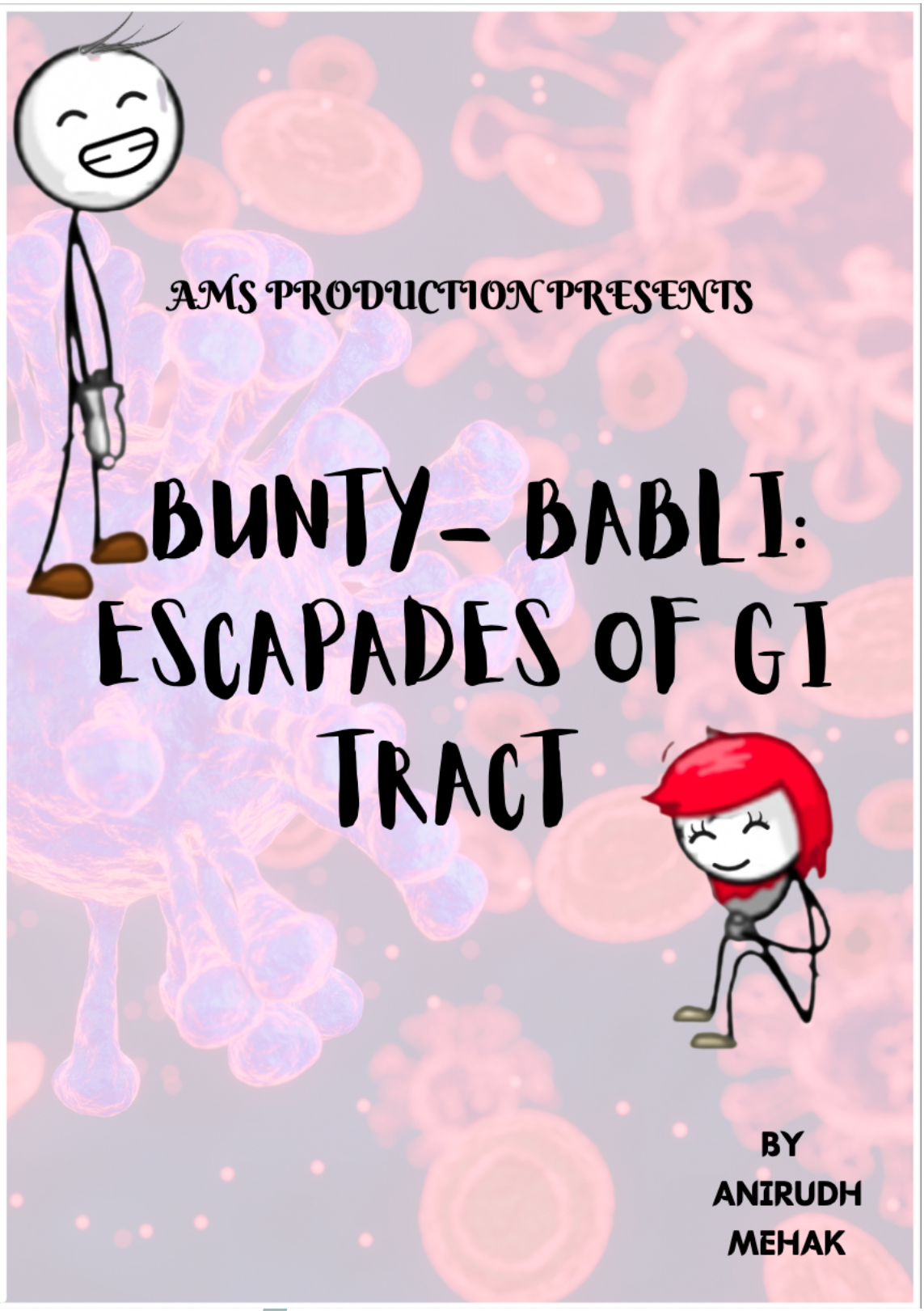
Job Vacancy Alert

By Prachi Singh (III year)

Comic

Escapades of GI tract

By Anirudh Kumar and Mehak Sharma (II year)



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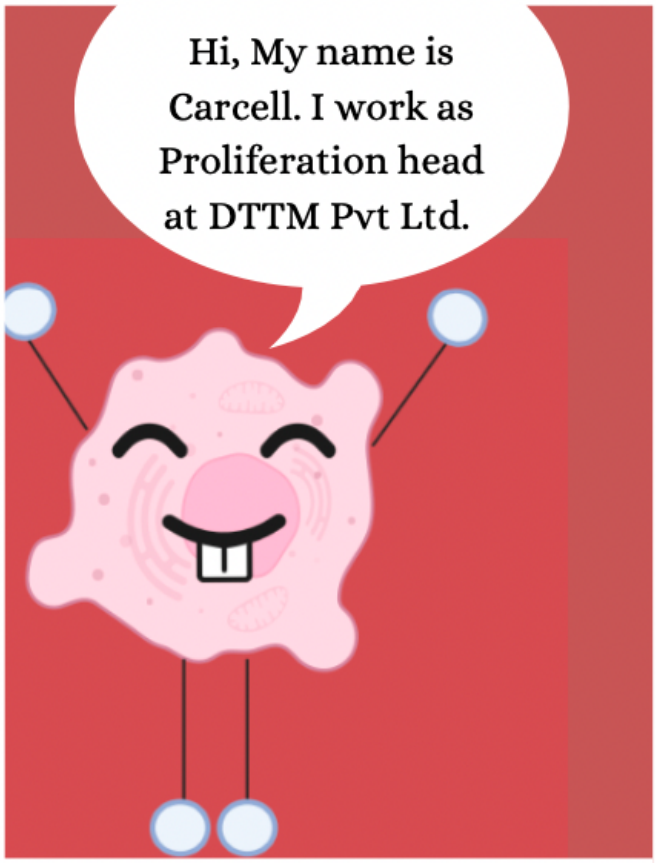
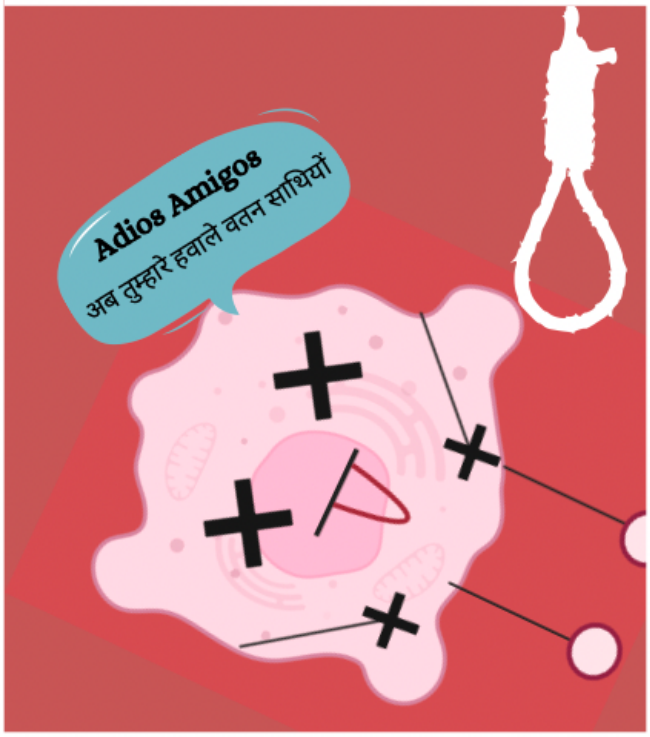
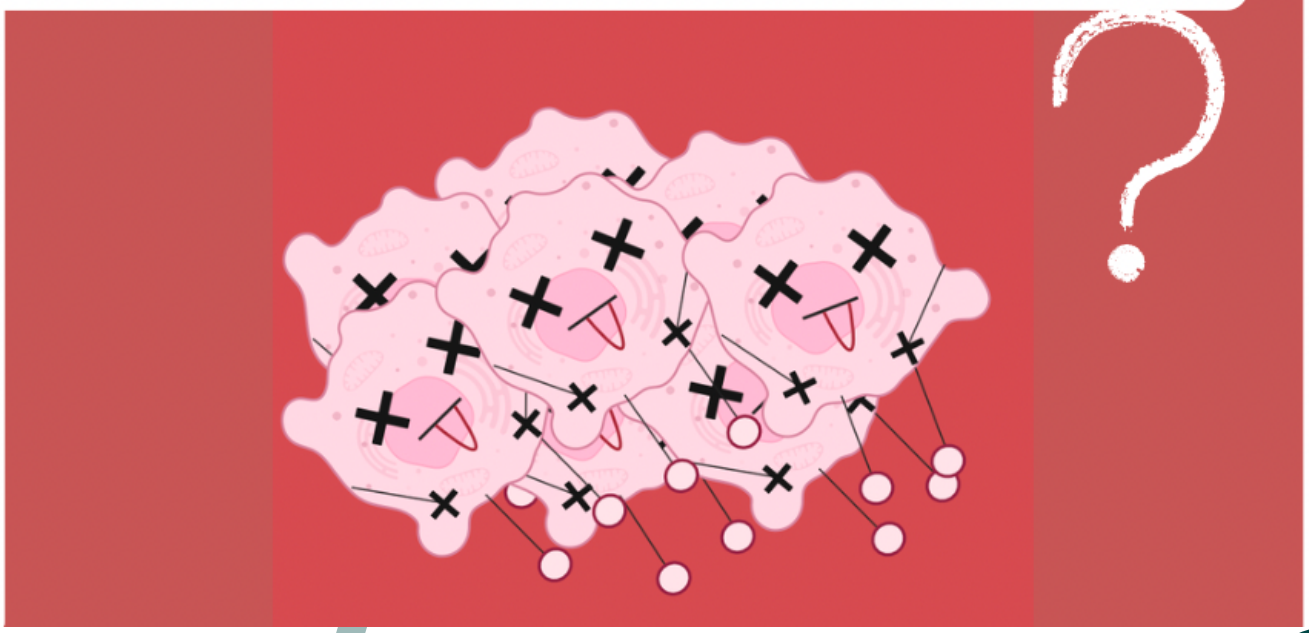


DTTM- Digestive Tract Tumor Machinery

Mr. Carcell was a happy-go-lucky cell but he committed suicide. This was shocking. He too had feelings. Maybe he was sad, or depressed or maybe he sacrificed his life for others or it was a planned murder...

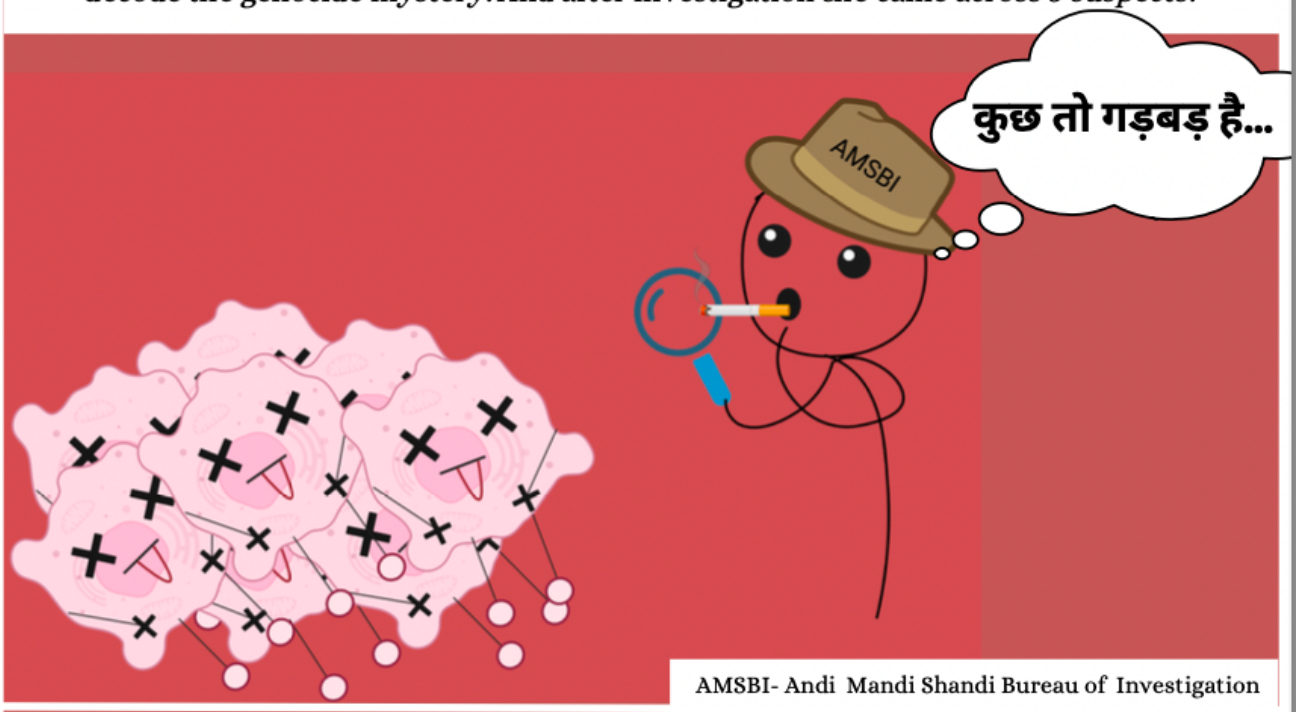


Mr. Carcell was no more. But this wasn't the only setback for DTTM. Mr. Carcell's sudden demise was subsequently followed by suicides of many his coworkers, just like a plague, for say, the dancing plague of 1518. Maybe they died of grief of loosing their mate, or maybe the cause is hidden, or maybe it is something **अद्भुत अविश्वसनीय अकल्पनीय**...



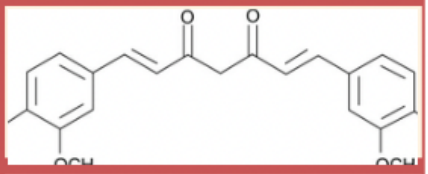
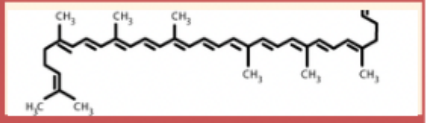
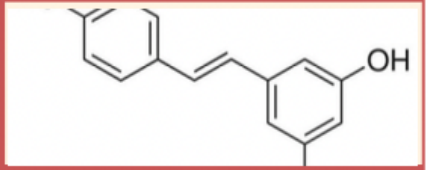
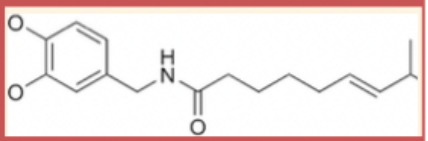
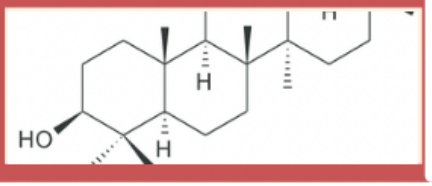
Comic

*Detective Mehak took it to her **Glenohumeral Joints** (shoulders) to solve the unsolved and decode the genocide mystery. And after investigation she came across 5 suspects.*

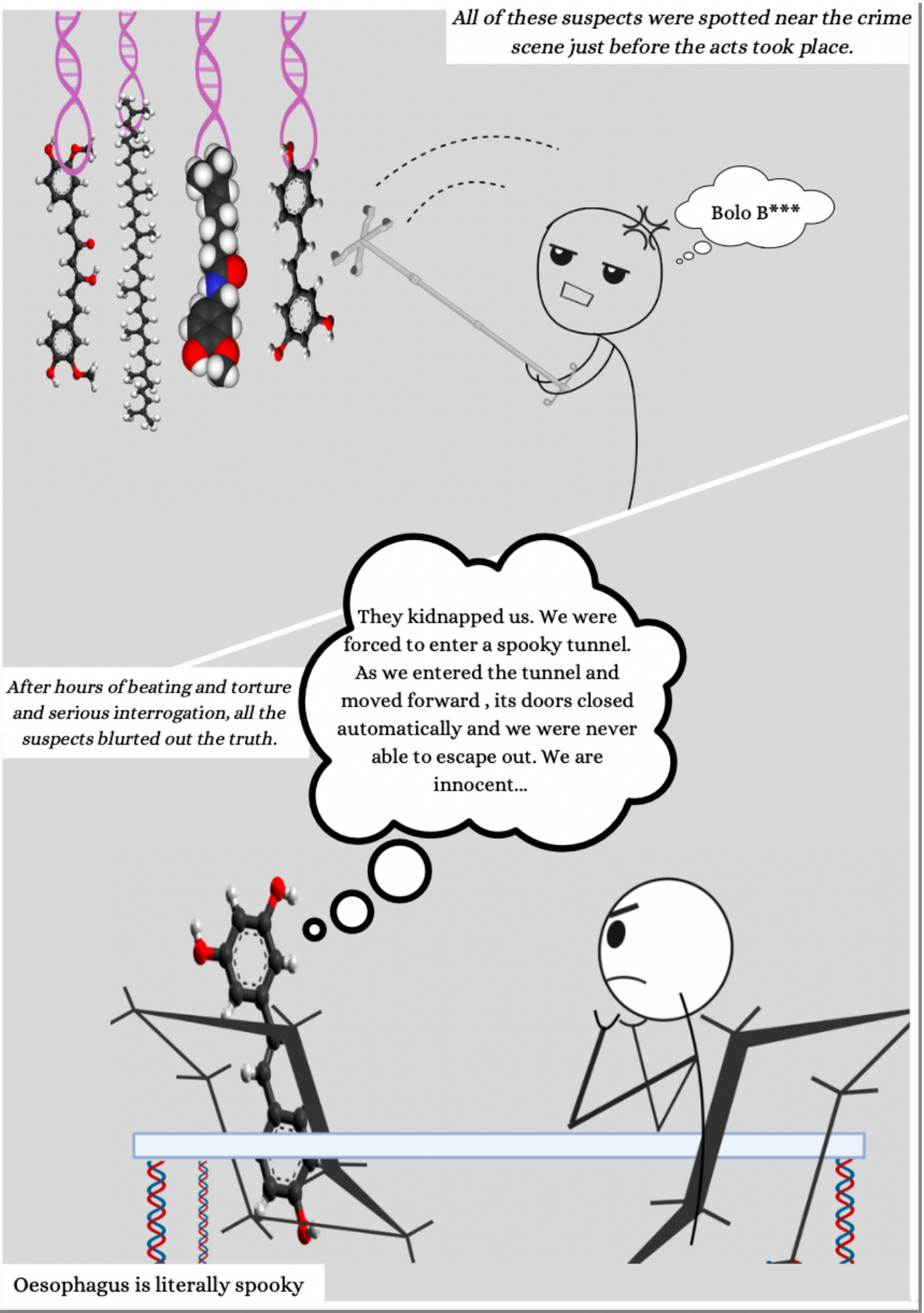


AMSBI- Andi Mandi Shandi Bureau of Investigation

SUSPECT LIST

NAME	ORIGIN	COLOUR	PROFILE PIC.
CURCUMIN	TURMERIC	no colour provided as we are against racism	
LYCOPENE	TOMATO	no colour provided as we are against racism	
RESVERATROL	GRAPES, COCOA, BERRIES (अंगूर खट्टे है)	no colour provided as we are against racism	
CAPSAICIN	CHILLI PEPPERS (हाय हाय मिर्ची)	no colour provided as we are against racism	
LUPEOL	WHITE CABBAGE, CUCUMBER (सलाद तक सीमित)	no colour provided as we are against racism	

Comic


All of these suspects were spotted near the crime scene just before the acts took place.
Bolo B***
After hours of beating and torture and serious interrogation, all the suspects blurted out the truth.
They kidnapped us. We were forced to enter a spooky tunnel. As we entered the tunnel and moved forward , its doors closed automatically and we were never able to escape out. We are innocent...
Oesophagus is literally spooky

Comic

But who were they, the real culprits???

Bunty and Babli, two scientists from ***Hutututu Institute of Biological Sciences*** *were found to be the main culprits who were responsible for playing with those innocents lives. They were summoned to the* ***Intercellular Court of Justice*** *where they confessed their crime. The court found them guilty and they met their fate...*

COURT CONFESSION STATEMENT

16.03.2021

We, Bunty and Babli hereby, accept that the massacre at DTTM Pvt. Ltd. was caused by our acts. All the early suspects weren't aware of what was happening to them and hence they all are innocent.

Your Honour, we didn't want to commit anything like this in the first place but we had no other option. DTTM Pvt. Ltd. no matter unintentionally but was killing and prohibiting the normal growth and differentiation of other neighbouring cells. Hadn't we stopped it from doing such acts it would have turned malignant and this would have been catastrophic.

We had to intervene and protect the individuality and normal functioning of other cells. Therefore, we gave compounds which act as manipulators for the workers of DTTM who then committed suicide. Technically speaking, we hypnotised them to kill their own-selves.

Comic

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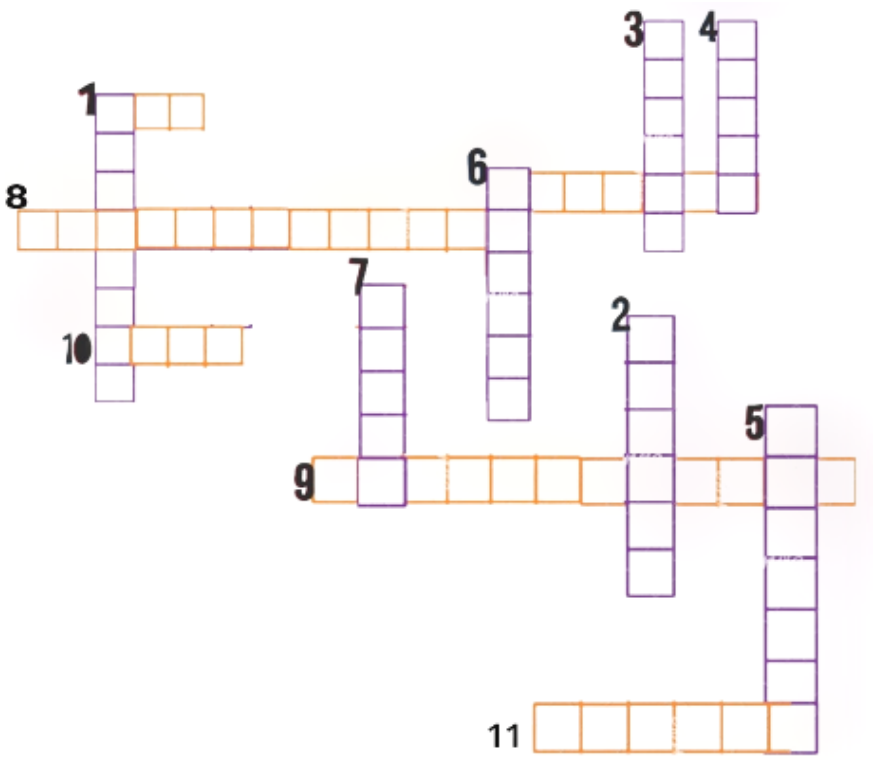
3. Artistic illustrations made using Biorender and Canva

In my lovely kitchen

By Anamika Binu (II YEAR)



ACROSS

1. Morning and evening drink loved by every Indian
6. People like to eat me in winters for healthy digestion
8. Hotness in my name and spicy in taste
9. No one likes our taste but together we make a good paste
10. Powder used by every Indian in food to avoid gas trouble
11. Tiny colourful beads healthy to feed

Comic

DOWN

1. I can provide taste to your food and can also heal you
2. This mixture can help you in cold and cough
3. I can go smooth on desi parathaas
4. Sweet syrup used for weight loss
5. I am salty, spicy, oily, acidic and found on every Indian plate
6. National sweet of India
7. Punjabis love to drink me

Answer
Across: 1.Tea 6.Jaggery 8.GaramMasala 9.GingerGarlic 10.Hing 11.Pulses

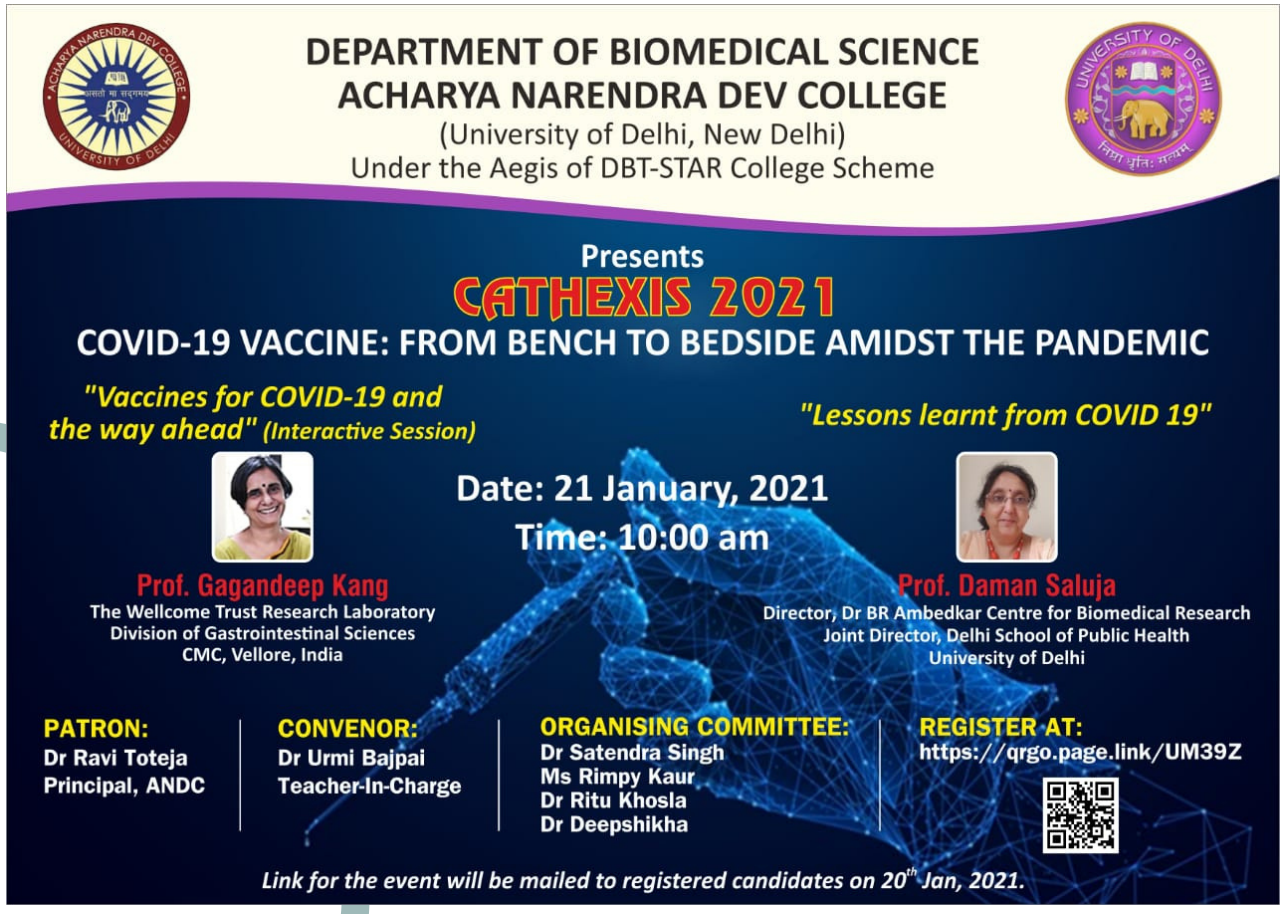
Down : 1.Turmeric 2.Khaada 3.Butter 4.Honey 5. Pickles 6.Jalebi 7. Lassi

EVENTS

Cathexis'21

Theme: "Covid-19 Vaccine: From Bench To Bedside Amidst The Pandemic"

Department of Biomedical Science, Acharya Narendra Dev College organized its annual festival, Cathexis'21, in an online mode via 'Microsoft Teams' platform on 21st January 2021, 10 am. The organizing team comprised of Dr. Urmi Bajpai (Convener), Dr. Satendra Singh, Dr. Rimpy Kaur Chowhan, Dr. Deepshikha and Dr. Ritu Khosla.



The fear of pandemic or shutdown of colleges couldn't suppress the enthusiasm of students to organize and participate in the most celebrated event of the department. This was evidenced from the fact that more than 100 students from within and outside the college attended the live programme. Considering the theme of the event "Covid-19 Vaccine: from bench to bedside amidst the pandemic", the two most renowned scientist of our country who are actively involved in Covid-19research, Prof. Daman Saluja (Director, Dr. B. R. Ambedkar Center For Biomedical Research and Joint Director, Delhi School of Public Health, University of Delhi) and Prof. Gagandeep Kang (Wellcome Trust Research Laboratory Division of Gastrointestinal Sciences, Christian Medical College, Vellore) were invited for a lecture cum interaction session.

Prof. Saluja gave talk on topic "Lessons learned around the pandemic" and discussed all the ways we as a country, society and individual have evolved post-Covid-19 to better such pandemics in the future. Dr. Kang's talk summarized all the different types of vaccine being developed against SARS-CoV-2, the causative virus of Covid-19, and explained briefly their working mechanism and limitations. This was followed by a lively Q & A session mediated by Dr. Urmi Bajpai.

During the event, editorial Society of the department also released their annual magazine, Biomer'21. The contents of the magazine, including articles, poems, sketches, puzzles, etc. when showcased to everyone present, were appreciated profoundly, especially by our guest speakers and principal, Dr. Ravi Toteja. A short cultural programme comprising of digital lamp lighting and saraswati vandana performance was also held in the beginning of the programme.

Career Counselling Series

Studying In Europe - Interaction With Seniors

Department of Biomedical Science, Botany and Zoology of Acharya Narendra Dev College, University of Delhi under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC) organized the second session of ANDC career counselling series titled "Studying in Europe - Interaction with Seniors" under the aegis of DBT-STAR College Scheme on 14th March 2021 on google meet. The organizing team comprised of the convenors - Dr. Archana Pandey (Department of Biomedical Science), Dr. Rashmi Sharma (Department of Botany) and Dr. Seema Makhija (Department of Zoology); organizing committee - Dr. Satendra Singh, Dr. Rimpy Kaur Chowhan, Dr. Ritu Khosla, Dr. Deepshikha, Dr. Manoj Kumar Singh, Dr. Sumit Sahni, Dr. Vineet Kumar Singh, Dr. Neelgagan Singh, Dr. Rahul Dev and Mr. Sanjay Kumar; and student coordinator, Sudeepta Singh.
The information about the webinar was disseminated on various official social medial channels of the college including instagram, facebook, twitter and college website, and the webinar was released on the YouTube channel of the college at https://www.youtube.com/watch?v=CNEPf7bHqmQ. The session intended to provide an insight to the opportunities available to the students to study post-graduate courses abroad, particularly in Europe through a group of five panellists - Ms. Aparna Shandheep, Ms. Srishti Vajpayee, Mr. Rahul Saha, Mr. Shazeb Ahmad and Mr. Madan Khatiwada. The information about the webinar was disseminated on various official social medial channels of the college including instagram, facebook, twitter and college website, and the webinar was released on the YouTube channel of the college at https://www.youtube.com/watch?v=CNEPf7bHqmQ.

ACHARYA NARENDRA DEV COLLEGE

University of Delhi

(All India NIRF 2020 Ranking-18, NAAC Score-3.31)

Under the Aegis of DBT-STAR College Scheme

Presents

ANDC Career Counselling Series

"Studying in Europe - Interaction with Seniors"

Aparna Shandheep

M.Sc. Biomedical sciences- Infectious and tropical diseases, Belgium
PG Diploma in Forensic Science, University of Delhi
B.Sc. (Hons) Biomedical Science, ANDC, University of Delhi

Madan Khatiwada

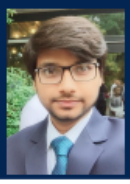
Researcher at University of Antwerp, Belgium
M.Sc. in Leading International Vaccinology Education (Erasmus Mundus)
B.Sc. (Hons) Biomedical Science, ANDC, University of Delhi

Srishti Vajpayee

Ph.D. at University of Heidelberg, Germany and Cyanagen Srl, Italy.
M.Sc. in Biomedical Science with specialisation in molecular life sciences from Radboud University, Netherlands.
B.Sc. (Hons) Biomedical Science, ANDC, University of Delhi

Rahul Shaha

Int. PhD at International Max Planck research school, Germany
M.Sc. Biotechnology from IIT Bombay
B.Sc. (Hons) Biomedical Science, ANDC, University of Delhi



Shazeb Ahmad

PhD at GARV laboratory at Helmholtz Institute for RNA based Infection Research
MS in FOKUS Life Science from University of Würzburg, Germany
B.Sc. (Hons) Biomedical Science, ANDC, University of Delhi

Date: March 14, 2021; Time: 07:30 pm to 09:00 pm

On Google Meet (https://meet.google.com/ycs-uzoy-ume)

Patron

Dr. Ravi Toteja
Officiating Principal

Convenor

Dr. Archna Pandey
Department of Biomedical Science

Dr. Rashmi Sharma
Department of Botany

Dr. Seema Makhija
Department of Zoology

Organizing Committee

Dr. Satendra Singh, Dr. Rimpy K Chowhan, Dr. Ritu Khosla, Dr. Deepshikha (Department of Biomedical Science)
Dr. Manoj Kumar Singh, Dr. Sumit Sahni, Dr. Vineet Kumar Singh (Department of Botany)
Dr. Neelgagan Singh, Dr. Rahul Dev, Mr. Sanjay Kumar (Department of Zoology)

Student Coordinator

Sudeepta Singh
(Department of Biomedical Science)

The session intended to provide an insight to the opportunities available to the students to study post-graduate courses abroad, particularly in Europe through a group of five panellists- Ms. Aparna Shandheep, Ms. Srishti Vajpayee, Mr. Rahul Saha, Mr. Shazeb Ahmad and Mr. Madan Khatiwada. All the panellist are college alumni who went to pursue higher studies in the field of science and are currently employed as research scholars or pursuing their PhD.

The first speaker, Ms. Aparna Shandheep did PG Diploma in Forensic Science from University of Delhi, then moved on to pursue Masters in Biomedical sciences- Infectious and tropical diseases in Belgium. Her talk was followed by Ms. Srishti Vajpayee who did her M.Sc. in Biomedical Science with specialisation in molecular life sciences from Radboud University, Netherlands and has presently secured a Ph.D. position at University of Heidelberg, Germany and Cyanagen Srl, Italy under European Union's Marie Skłodowska-Curie fellowship. Next we had, Mr. Rahul Saha who is an Integrated PhD student at International Max Planck research school for Molecular biology, Germany. Mr. Shazeb Ahmad, PhD student at GARV laboratory at Helmholtz Institute for RNA based Infection Research (HIRI) spoke next about his experiences and struggles. The last speaker was Mr. Madan Khatiwada. He did Masters in Leading International Vaccinology Education as Erasmus Mundus program and is currently working as a researcher at University of Antwerp, Belgium on vaccines and Immunization. All panellists shared their journey from the time of their under-graduation in Biomedical Sciences to the present day and discussed the plethora of options available for the students to apply.

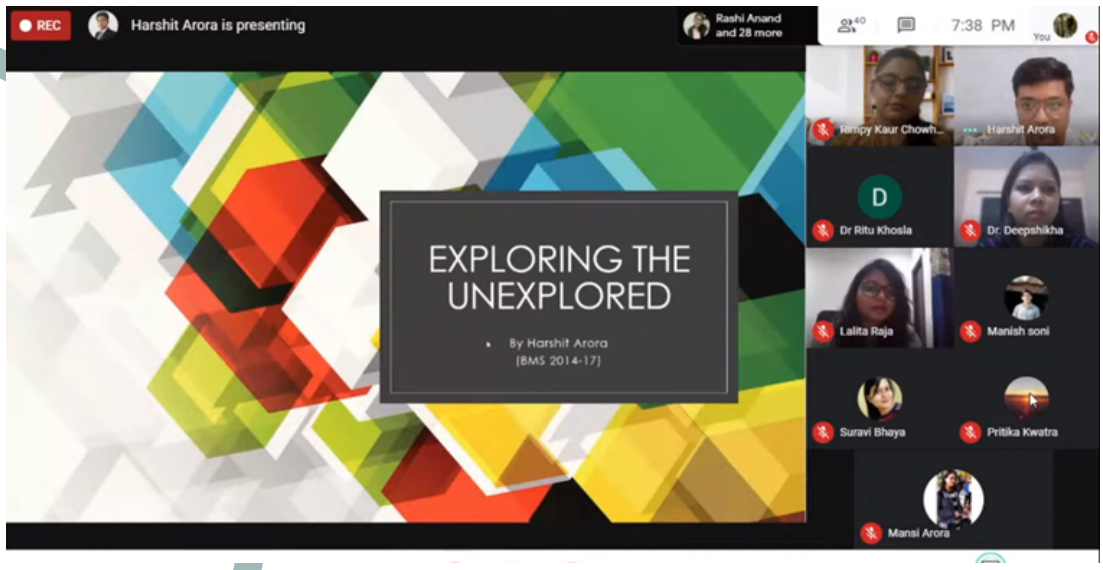
The talk was followed with an extensive Question and Answer session where they explained the process of applying to the colleges abroad, and guided the students on formulating the required documents within a given timeline. They provided with excellent explanations on how studying abroad broadens your horizons in the field of research and development and enhances your personality. The students who thought that applying to study abroad was a daunting and nerve-wrecking process were rather optimistic at the end of the session and gave affirmative and overwhelming feedback and were thankful to the organizers for the event. The session was concluded with a vote of thanks by Dr. Rashmi Sharma. It was truly a wonderful and inspiring session, and filled the students with enthusiasm to keep progressing in the field of science.

Career After MBA – Exploring The Unexplored

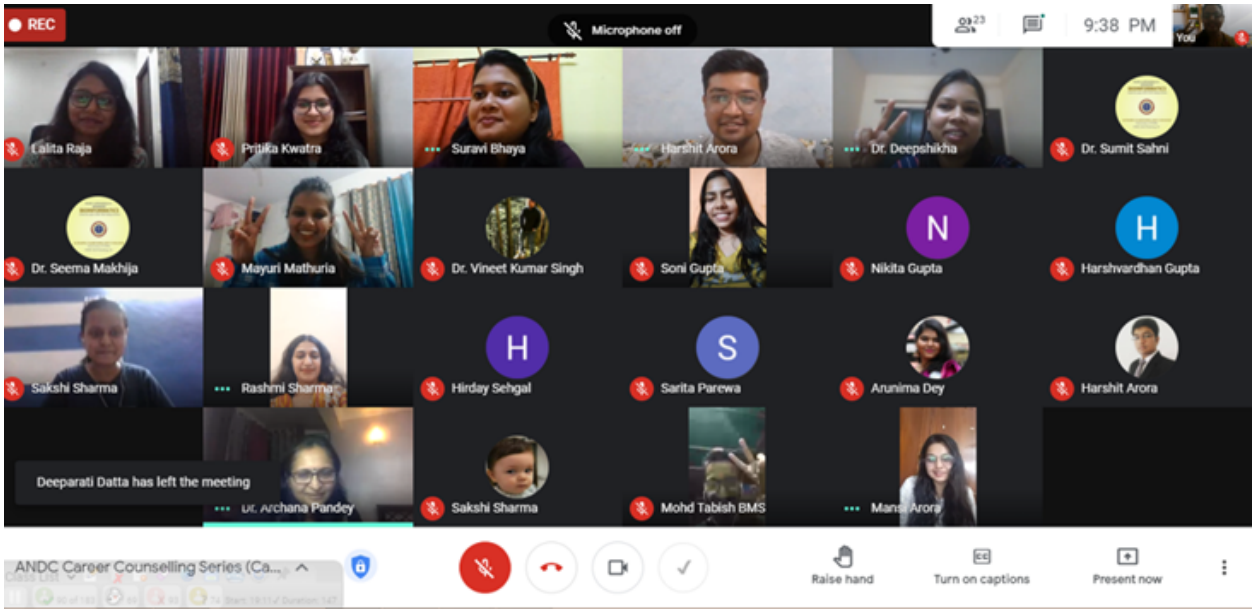
Department of Biomedical Science, Botany and Zoology of Acharya Narendra Dev College, University of Delhi under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC) organized the first webinar of ANDC career counselling series on topic "Career after MBA – Exploring the Unexplored" under the aegis of DBT-STAR College Scheme on 7th March 2021 on google meet. The organizing team comprised of the convenors - Dr. Archana Pandey (Department of Biomedical Science), Dr. Rashmi Sharma (Department of Botany) and Dr. Seema Makhija (Department of Zoology); organizing committee - Dr. Satendra Singh, Dr. Rimpy Kaur Chowhan, Dr. Ritu Khosla, Dr. Deepshikha, Dr. Manoj Kumar Singh, Dr. Sumit Sahni, Dr. Vineet Kumar Singh, Dr. Neelgagan Singh, Dr. Rahul Dev and Mr. Sanjay Kumar; and student coordinator, Mansi Arora.

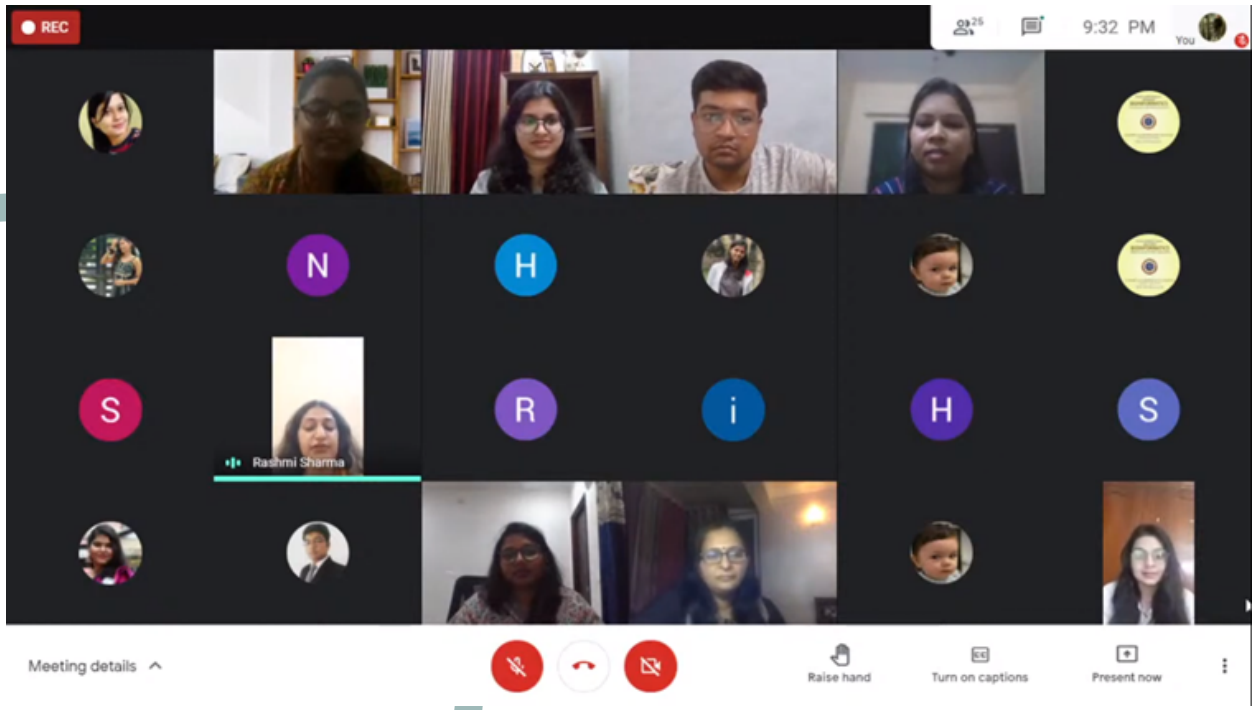
The three distinguished guests invited for the talk were college alumni who deviated their paths from science to the world of business administration and found huge success. Mr. Harshit Arora did his PGDM (Healthcare management) from GIM, Goa and is currently the Knowledge Management Associate at ZS Associates. Ms. Lalita Raja did her MBA (Hospital and Health management) from IIHMR, Jaipur and is currently the Research associate at Clarivate. Ms. Mayuri Mathuria did her MBA (Hospital and Health management) from IIHMR, Jaipur and is currently the Knowledge Management Associate at ZS Associates. The information about the webinar was disseminated on various official social medial channels of the college including instagram, facebook, twitter and college website, and the webinar was released on the YouTube channel of the college at https://www.youtube.com/watch?v=sks8N1wwD4E.

The guest speakers shared their experiences and presented engrossing slides to explain their journey and their own ways of selecting respective career options. For instance, Mr. Harshit shared with undergraduate students his own experience of appearing in exams like CAT, CMAT and NMAT and his selection criteria for applying and choosing among several Colleges like GIM, NMIMS, IIHMR and IMT. He advised students to focus on immediate next steps and to not lose their strength even in darkest hour. Ms. Lalita highlighted how having a bachelor degree in science could be used advantageously after MBA for placements in various healthcare associated companies. Ms. Mayuri on similar notes shared her experiences while shifting from B.Sc. in Biomedical Science to MBA in Healthcare, and suggested everyone to build string network connections and follow their passions instead of conventional routes.



The session was concluded with a vote of thanks by Dr. Rashmi Sharma.
Students attending the webinar were highly encouraged by the talk which was evident by the lively discussion session which yielded a huge range of ideas and suggestions about following a career in MBA. The discussions gave attendees the opportunity to raise questions and seeked suggestions about what they would like to get covered in future learning events.





Career In Forensic Science

Under the Aegis of DBT-STAR College Scheme, the third webinar of the ANDC career counselling series entitled "Career in Forensic Science" was successfully organized by the Department of Biomedical Science, Department of Botany and Department of Zoology of Acharya Narendra Dev College (ANDC). The event was held on google meet on 20th March 2021 (https://meet.google.com/ujx-wony-big, IST 19:30 to 21:00 hours). The underlying theme was to introduce the current students to the enticing and challenging field of forensic science and make them explore the plethora of career opportunities available in the field.

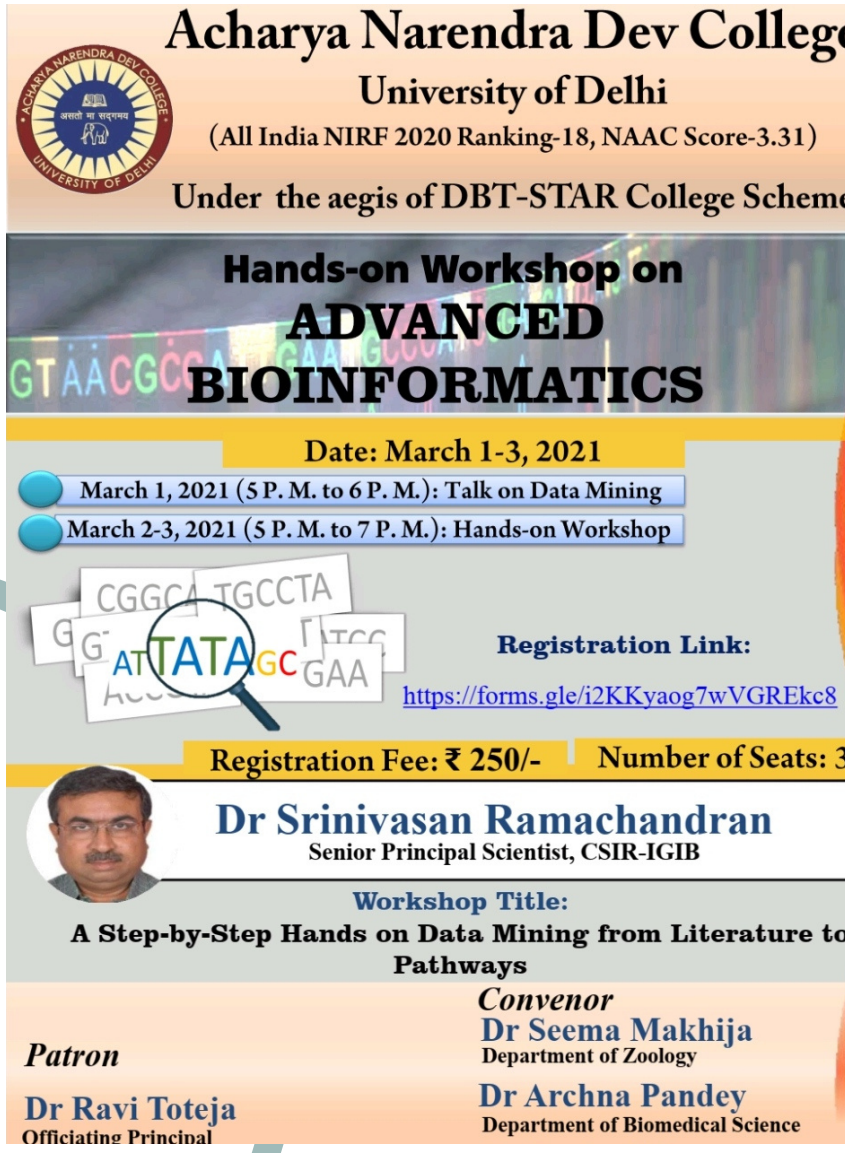
The first speaker for the day, Ms. Sweta shared a glimpse of her journey from a bachelor's in biomedical science from ANDC to pursuing a master's in forensic science with specialization in Forensic Chemistry and Toxicology from LNJN National Institute of Criminology and Forensic Science, MHA, Govt. of India. She explained the prerequisites for entrance process for NICF, covering the syllabus in detail and introduced the participants to different specialization fields and the most sought-after career options for forensic science.

The second talk was by Ms. Maniki Mathur, an alumnus of Daulat Ram College, University of Delhi. She completed her M.Sc. in Forensic Molecular Biology from George Washington University, USA and is currently working as DNA technologist at Bode Technology Group Inc., USA. She explained the application process for foreign universities, citing her experience as an example. She also focused on the importance of internships while exploring job opportunities in the field and shared the details of her work profile to help the students understand what it means to be a forensic scientist. The final speaker, Ms. Arti Varshney went on for a master's in forensic science from Sam Higginbottom University of Agriculture, Technology and Sciences, India after completing a PG Diploma in Forensic Science from SGTB Khalsa College, University of Delhi. She got employed at Sherlock Institute of Forensic Science, India through a training-cum-placement program and is currently working as a content developer and educational trainer. She told about the various professional fields available at SIFS and emphasized on the hard work the field demands. The participants engaged in a lively discussion with the speakers at the end of the event reflecting their enthusiasm for the field of forensic science. The speakers too responded in a friendly manner to all their queries, shared their expert knowledge to ease the anxiety regarding the opportunities in forensic science. The event ended on a warm note with a very hearty vote of thanks extended by Dr. Rashmi Sharma (Department of Botany), on the behalf of the entire college.

The success of the event is attributed to the sincere hard work of the organizing team under the patronage of Dr. Ravi Toteja, Officiating Principal, ANDC. With explicit guidance from the convenors of the event- Dr. Archana Pandey (Department of Biomedical Science), Dr. Rashmi Sharma (Department of Botany) and Dr. Seema Makhija (Department of Zoology), the organizing committee worked diligently to make the event a great success. The committee members included Dr. Satendra Singh, Dr. Rimpy K Chowhan, Dr. Ritu Khosla and Dr. Deepshikha from the Department of Biomedical Science; Dr. Manoj Kumar Singh, Dr. Sumit Sahni and Dr. Vineet Kumar Singh from the Department of botany; and Dr. Neelgagan Singh, Dr. Rahul Dev and Mr. Sanjay Kumar from the Department of Zoology. A special thanks to student coordinators: Bisakha Das, Pritika Kwatra and Sakshi Sharma.

National Workshop On Advanced Bioinformatics

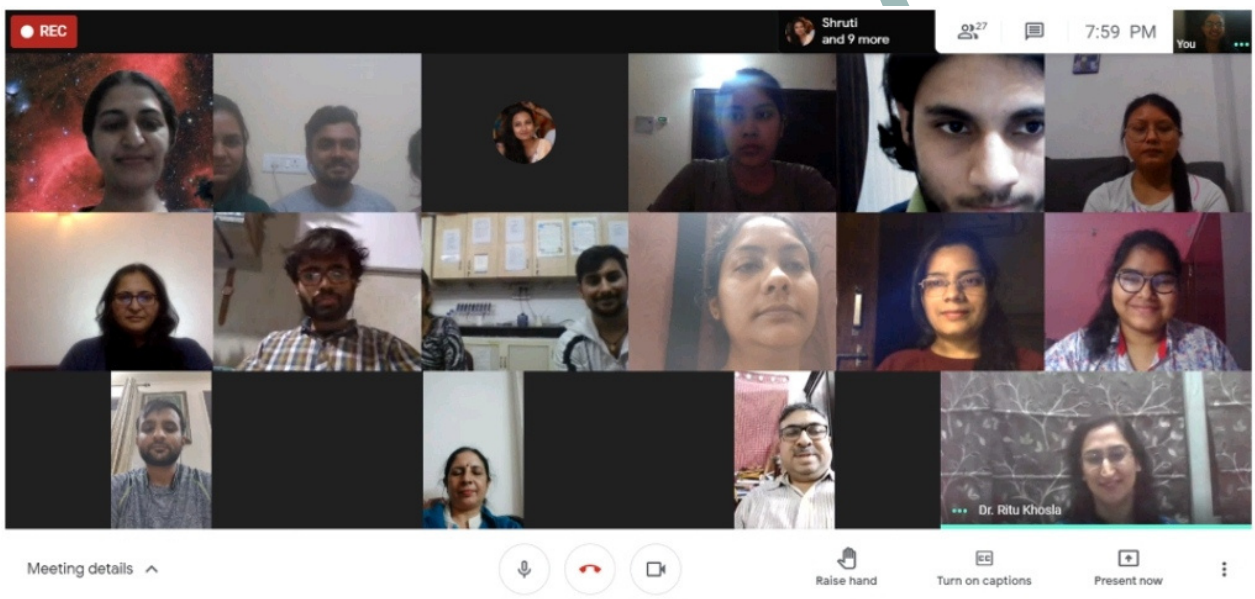
Department of Biomedical Science, Botany and Zoology of Acharya Narendra Dev College, University of Delhi under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC) organized three days long national workshop on the topic "A step-by step guide to data mining from literature to database" under the aegis of DBT-STAR College Scheme on 1st-3rd March 2021 on google meet. The organizing team comprised of the convenors - Dr Seema Makhija (Department of Zoology), Dr Archna Pandey (Department of Biomedical Science) and Dr Rashmi Sharma (Department of Botany).



The resource person for the workshop was Dr. Srinivasan Ramachandran, Senior Principal Scientist, CSIR- Institute of Genomics and Integrative Biology. To ensure maximal interaction between participants and resource person, the maximum participant number was limited to 30 seats. The information about workshop was disseminated on various official social medial channels of the college including instagram, facebook, twitter and the college website, wherein the list of interested participants were sought via a registration form. All the participants selected on first-cum-first-serve basis were required to pay the nominal fee of Rs. 250 each. The first day talk was also released on the YouTube channel of the college at https://www.youtube.com/watch?v=cvnMiSaGqek.

On the first day participants were given theoretical instructions on the significance and techniques involved in performing data mining from literature to pathways. For the subsequent two days the participants were divided into small groups of 4-5 participants, where each group was guided in a step-by-step manner to work on any one disease case or a technology case. During this workshop, the participants learned how to extract gene list for different topics from t2doacid.igib.res.in, Enrichment analysis functional interactive network, Pathways recognition and biological interpretation of data using Gene cards and Uniprot. After the hands-on work each group also presented for about 5-8 minutes on their results with discussion. The session was concluded with a vote of thanks by Dr. Rashmi Sharma.

This immensely interactive session bridged the communication gap, we often feel during online workshops, and allowed participants to enhance their applied bioinformatics knowledge. The participants were highly satisfied with their experience and showed willingness to attend many more such workshops in the future.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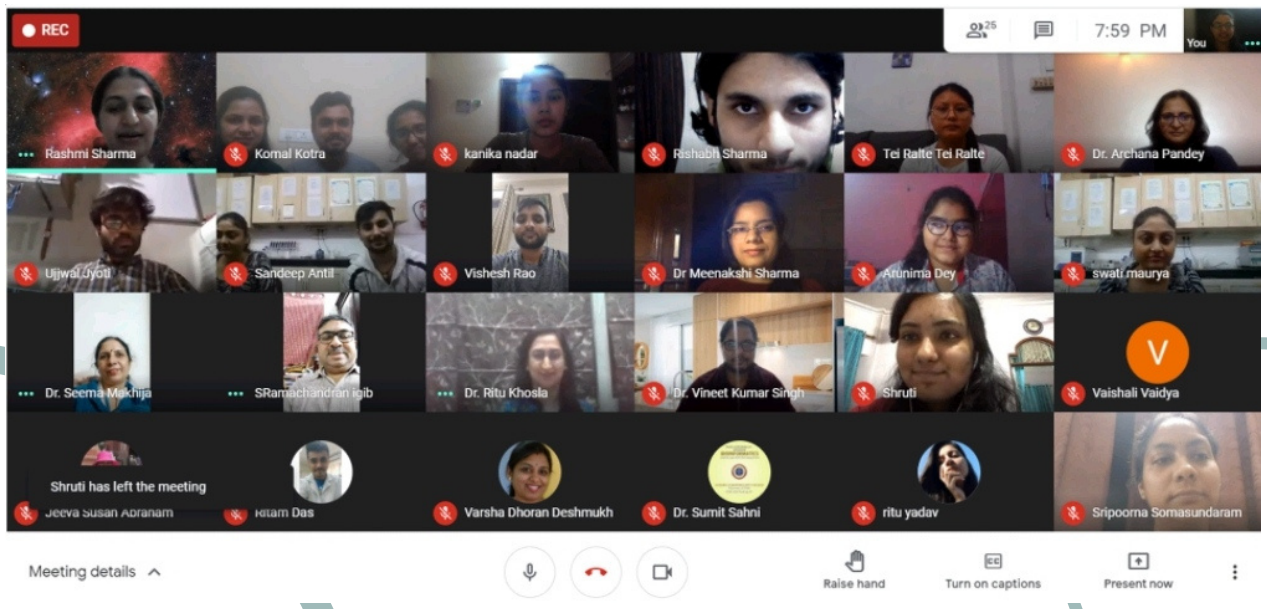
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Introduction To Digital Forensics And Electronic Evidences

Department of Biomedical Science, Acharya Narendra Dev College, University of Delhi under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC) organized a webinar on the topic "Introduction to Digital Forensics and ElectronicEvidences" under the aegis of DBT-STAR College Scheme on 3rd April 2021 on google meet. The organizing team comprised of the convenors - Dr Archna Pandey (Department of Biomedical Science) and Dr Ritu Khosla (Department of Biomedical Science).

The resource person for the webinar was Dr. Mohit Soni, CEO WhiteLintGlobal Pvt Ltd. and Associate Professor, Lovely Professional University, Punjab. The webinar was attended by over 50 participants. The webinar was an introductory lecture delving into the various aspects of digital forensics. Dr Soni discussed several types of computer crime investigation scenarios and the eventual processing of different electronic evidence collected from them. This session took the participants through all classes of digital forensics. It also threw light on different career options in digital forensics as well as forensic sciences in general.

Tools And Techniques In Statistical Analysis

Department of Biomedical Science, Botany, Mathematics and Zoology of Acharya Narendra Dev College (ANDC), University of Delhi under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC) organized the two week national workshop (online) on "Tools and Techniques in Statistical Analysis" under the aegis of DBT-STAR College Scheme on 6-19th April 2021 on Zoom from 4-6 pm every day.

Prof Balaram Pani, Dean of Colleges, University of Delhi was the chief guest and Prof S M Anwar Alam, Chairman governing body, ANDC was the chief patron of the workshop. The organizing team comprised of the convenors - Dr. Vatsla Kohli (Department of Mathematics), Dr. Seema Makhija (Department of Zoology), and Dr. K. R. Meena (Department of Mathematics); co-convenors – Dr. Archana Pandey (Department of Biomedical Science) and Dr. Rashmi Sharma (Department of Botany); organizing secretaries – Dr Sumit Sahni and Dr Vineet Kumar Singh; and technical team – Dr Manoj Kumar Singh, Dr Neelgagan Singh, Dr Rahul Dev, Dr Rimpy Kaur Chowhan, Dr Ritu Khosla, Dr Neeti Goel, Dr Gurudutt Rao Ambedkar, Dr Narain Singh, Dr Deo Dutt Arya, Mr Tarun Sharma, and Mr Sanjay Sangwan.

Statistics or state arithmetic, as called in the roman era, is not a new field, in fact it dates back to as early as 1st century B.C with roots in real life applications. In the current scenario, the statistical methods are used extensively in mathematics, biology, medicine, physics, chemistry, engineering, environmental science, sociology and several other interdisciplinary fields. Thus, making the knowledge of various tools and techniques in statistical analysis and how to effectively use them for research and decision making as an imperative tool for any scientific endeavour.

To upkeep these goals, with the kind counsel of our advisory team comprised of Dr Garima Gupta, Scientist E, Department of Biotechnology; Prof C S Lalitha, Head and Dean, Faculty of Mathematical Sciences, University of Delhi; Professor Umesh Rai, Head, Department of Zoology, University of Delhi; Professor S B Babbar, Head, Department of Botany, University of Delhi; Professor ShobhaBagai, Cluster Innovation Centre, University of Delhi; Dr.Anjan, Associate Professor and Head, Department of Natural Resource Management and Geoinformatics, Khallikote University; Prof. Daman Saluja, Director, Dr. B R Ambedkar Centre for Biomedical Research(ACBR), University of Delhi; Dr. Abdullah A Ansari, Assistant Professor, International Centre for Advanced Interdisciplinary Research; Dr. Kamlesh Jangid, Assistant Professor, Department of Mathematics, Rajasthan Technical University; and

Dr. Manish Khandelwal, Assistant Professor, Department of Mathematics, Indira Gandhi National Tribal University (IGNTU), Amarkantak, this workshop has been meticulously designed to provide knowledge on statistical modelling, data mining, and fitting statistical models to data in real-world applications using various statistical analysis tools like R and SPSS.

The information about the webinar was disseminated on various official social medial channels of the college including instagram, facebook, twitter and college website with few selective sessions of the workshop to be released on college's youtube channel as well. Approximately, 205 participants including undergraduate and postgraduate students, research scholars and academicians from all over the country, registered for the event after paying the registration fee of Rs. 100 for ANDC Students (UG and PG), Rs. 200 for other Students (UG and PG), Rs 500 for Research Scholars, and Rs 1000 for Industry Sponsored individuals.

Workshop Schedule

April 6	3:30 pm-3:45 pm Welcome Address Dr Ravi Toteja Officiatng Principal	3:45 pm-4:00 pm Inaugural Address Professor Balaram Pani, Chief Guest Professor Anwar Alam, Chief Patron	4:00 pm-5:00 pm Biostatistics: General Perspective Professor T.R. Rao	5:00 pm-6:00 pm Basics of Statistics, Measurements Dr Amit Kumar Misra
April 7	4:00 pm-5:00 pm Probability Theory in Information Security Dr Aditi Gangopadhyay	5:00 pm-6:00 pm Basics of Statistics, Measurements Dr Amit Kumar Misra		
April 8	4:00 pm-5:00 pm Normal Distribution Professor T.R. Rao	5:00 pm-6:00 pm Collection of data, Classification of data, Sampling methods Dr M. Arshad		
April 9	4:00 pm-6:00 pm Collection and classification of data, Sampling methods. Measure of central Tendency Dr M. Arshad			
April 10	4:00 pm-5:00 pm Measure of Dispersion Dr Akanksha Gupta	5:00 pm-6:00 pm Basics of R-software Dr Qazi Azhad Jamal		
April 11	OFF DAY			
April 12	4:00 pm-5:00 pm Skewness and Kurtosis Dr Akanksha Gupta	5:00 pm-6:00 pm Correlation and regression analysis, similarities and dissimilarities Dr Qazi Azhad Jamal		
April 13	4:00 pm-5:00 pm Correlation and regression analysis, similarities and dissimilarities Dr Qazi Azhad Jamal	5:00 pm-6:00 pm Standard probability distributions, Estimation procedures-I Dr M. Arshad		
April 14	4:00 pm-5:00 pm Standard probability distributions, Estimation procedures-I Dr M. Arshad	5:00 pm-6:00 pm Estimation procedures-II Dr K.R. Meena		
April 15	4:00 pm-5:00 pm Hypothesis Testing Professor T.R. Rao	5:00 pm-6:00 pm Testing of Hypothesis-I Dr Amit Kumar Misra		
April 16	4:00 pm-6:00 pm Testing of Hypothesis-II Dr Amit Kumar Misra			
April 17	4:00 pm-5:00 pm Non-parametric procedures Dr Akanksha Gupta	5:00 pm-6:00 pm Simulation and data analysis using R-software Dr Qazi Azhad Jamal		
April 18	OFF DAY			
April 19	4:00 pm-6:00 pm Sampling techniques Professor Ram Kumar	6:00 pm-7:00 pm Valedictory Session		

During this 15 day long workshop, two sessions were being conducted almost every day by the eminent speakers - Professor T R Rao, IISER, Berhampur; Professor Ram Kumar, Central University of South Bihar; Professor Aditi Gangopadhaya, Department of Mathematics, IIT-Roorkee; Dr Mohd. Arshad, Assitant Professor, Department of Mathematics, IIT-Indore; Dr Amit Kumar Misra, Assistant Professor, Department of Statistics, Babasaheb Bhimrao Ambedkar University, Lucknow; Dr Akanksha Gupta, Assistant Professor, Department of Statistics, Institute of Science, Bangalore; Dr Qazi Azhad Jamal, Assistant Professor, Department of Mathematics and Statistics, Banasthali Vidyapith, Rajasthan; Dr Shashi Bhushan, Associate Professor and Head, Department of Mathematics &Statistics, Dr. Shakuntala Misra National Rehabilitation University, Lucknow; and Dr K R Meena, Assistant Professor, Department of Biomedical Science, Acharya Narendra Dev College. They gave lectures on the broad themes of Fundamentals of Statistics (special reference to biology), Data types and collection, Sampling techniques, Measures of central tendency and Measures of dispersion, Correlation and Regression Analysis, Statistical inference, Estimation procedures, hypothesis testing (Student's 't' test, chi square test, F test), Introduction to Binomial, Poisson and Normal distribution, and uses of advance softwares (R, SPSS and Sigmaplot) in modern biostatistics. The end of every session was followed by a Q & A session, where all the attendees actively participated and all of their doubts and queries were answered.

The workshop ended with a lively valedictory session with speeches by Prof Ravi Toteja, Prof Balaram Pani, Prof T R Rao, Dr Amit Kumar Misra, several participants and a formal vote of thanks by Dr Rashmi Sharma. Overall, it was definitely a successful workshop, evident by the hordes of positive feedbacks and quiz turnouts submitted every day.

National Workshop On Flow Cytometry And qPCR

Acharya Narendra Dev College, University of Delhi (under the aegis of DBT STAR College Scheme) in collaboration with Flow Cytometry Solutions Pvt. Ltd. organised a 5 day National Virtual Workshop from 20-24 October, 2021. The topic for the same was Flow Cytometry and qPCR based Blood Analyses.

The workshop was organised under the patronage of Prof. Ravi Toteja (Officiating Principal, ANDC). Prof. Balaram Pani, Dean Colleges and Principal of Bhaskaracharya College of Applied Sciences was invited as the chief guest for the event. Dr. Sunita Jetly and Dr. Ritu Khosla (Department of Biomedical Science) were the convenors for the 5 day long Workshop. The advisory committee comprised of Prof. Daman Saluja (Director, ACBR, Delhi), Prof. Nirupma Trehanpati (ILBS, Delhi) and Prof. Seema Kapoor (in-charge Division of Genetics & Metabolism MAMC, Delhi).

Eminent speakers from different renowned institutes were invited to deliver their talk on different aspects of Flow Cytometry and qPCR based analyses. Prof. Daman Saluja, Dr. Hemamt Agarwal, Dr. Sunita Jetly, Dr. Nirupma Trehanpati, Dr. Navkiran Kaur, Dr. Ritu Kholsa, Dr. Ashish Vyas and Dr. Anirudh Singh spoke on topics like PBMC isolation, Flow Cytometry and its application, PCR and qPCR and their applications.

Overall 78 people from different domains participated in the workshop. Participants included Undergraduates, Postgraduates, Research Scholars, Doctors, Ph.D. students and Faculty Members from various institutes.The workshop was conducted in online mode and sessions for each day were concluded by quiz, assignments and feedback forms.

Participants were given presentations for each day for future reference and were provided with the e-certificate of participation after the successful completion of the Assignments and submission of Feedback Forms.

ACHARYA NARENDRA DEV COLLEGE

UNIVERSITY OF DELHI

ACCREDITED 'A' GRADE BY NAAC

ALL INDIA NIRF 2021 RANKING -20

Under the aegis of DBT STAR Scheme and IQAC

in collaboration with

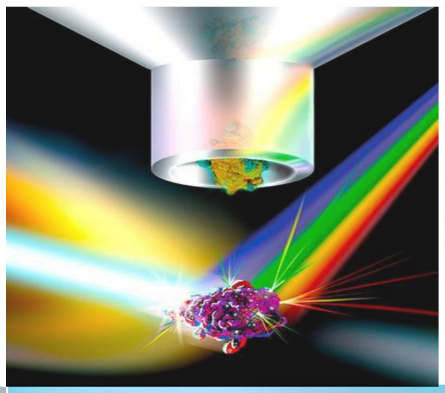
FLOW CYTOMETRY SOLUTIONS PVT. LTD.

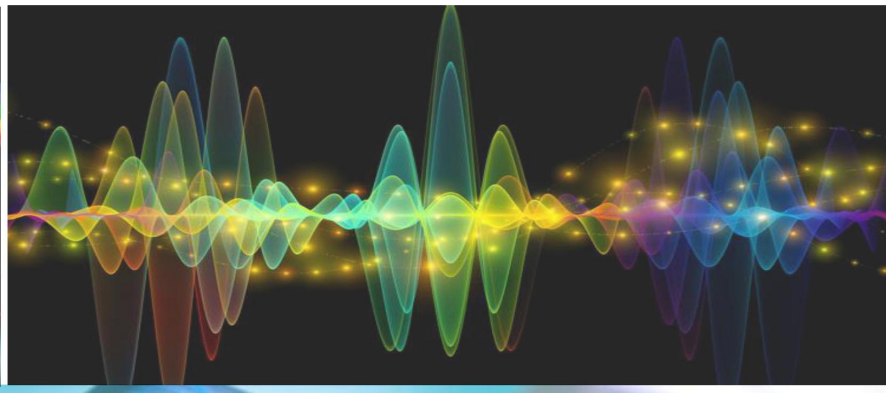
Organizes a

NATIONAL WORKSHOP (VIRTUAL) ON

20-24 OCTOBER 2021

FLOW CYTOMETRY & qPCR BASED BLOOD ANALYSES





REGISTRATION FEE

Graduate/Post Graduate Students: Rs 300

Ph.D Students: Rs 400

Faculty: Rs 500

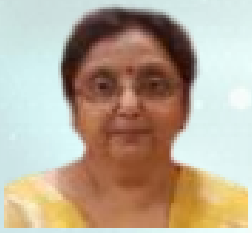
E-certificates will be given to all participants

Scan QR Code for registration

Link for registration

https://bit.ly/3mF4IUf

SPEAKERS



Prof. Daman Saluja, Director
Dr. B.R. Ambedkar Centre for Biomedical Research, DU

Dr. Hemant Agarwal, Director
Flowcytometry Solutions Pvt Ltd.

Dr. Sunita Jetly, Assoc. Prof.
Acharya Narendra Dev College, DU

Dr. Nirupma Trehanpati, Prof.
Institute of Liver and Biliary Sciences

Dr. Navkiran Kaur, Asst. Prof.
Amity University, Noida

Dr. Ritu Khosla, Asst. Prof.
Acharya Narendra Dev College, DU

Dr. Ashish Vyas
DBT INSPIRE Faculty, AIIMS Bhopal

Dr. Anirudh Singh, Scientist D,
AIIMS, Bhopal

Thallasemia Screening Program

Dr Sunita Jaitley who has been designated as state blood cell coordinator for Delhi University colleges, organized thalassemia awareness and screening programs in different places and colleges like Netaji Subhash University of technology, Gargi College and Bhaskaracharya college of Applied Sciences. Thalassemia is not only a financial, but emotional and social burden for the family. These screening programs allow analysis of the "genetic kundli", and prevent the bad genetic load of careers from coming into existence.

Bhaskaracharya College of Applied Sciences, University of Delhi

Netaji Subhas University of Technology

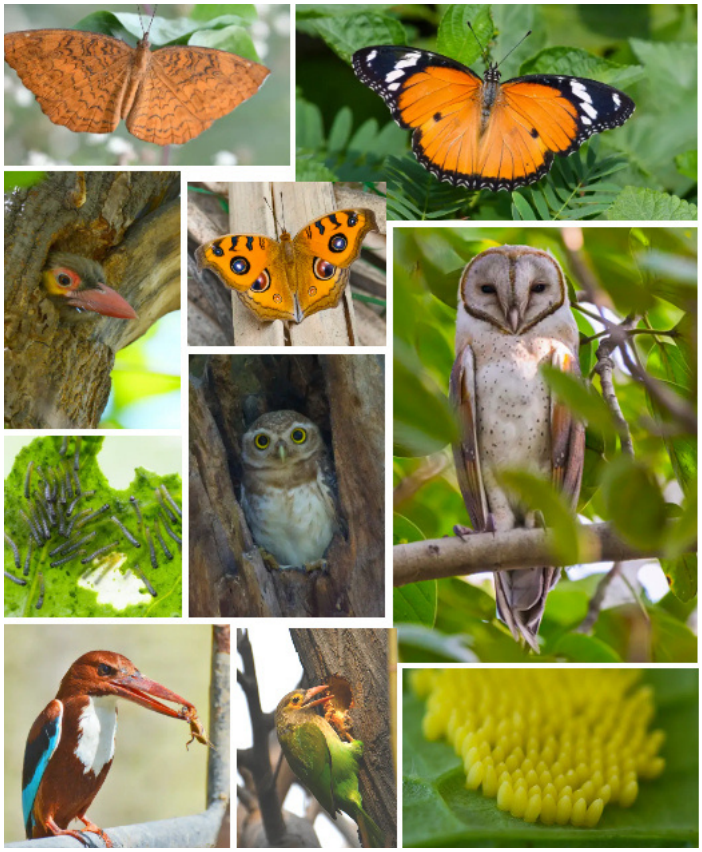
Gargi College University of Delhi

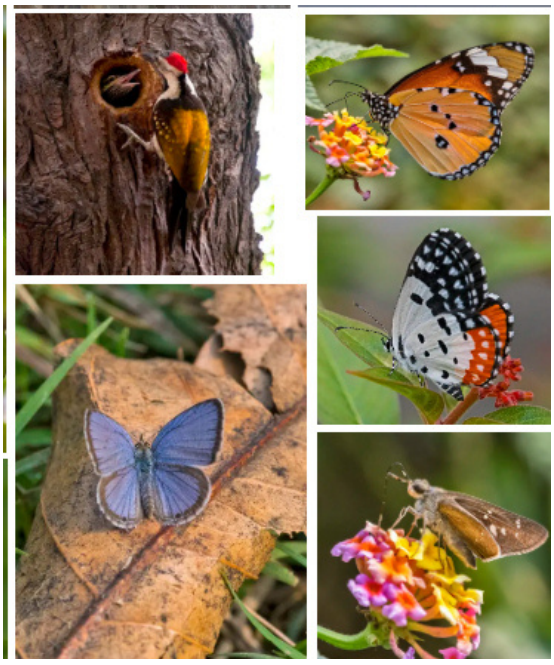
Cancer Screening Program

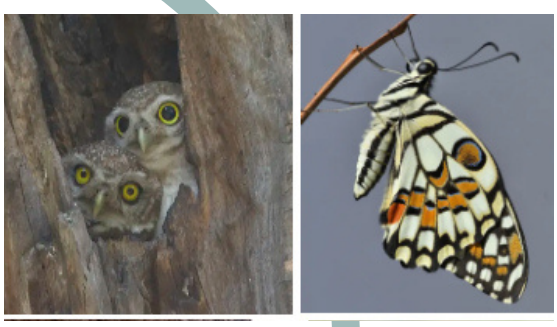
Dr B. R. Ambedkar Centre for Biomedical Research (Prof. Daman Saluja), Acharya Narendra Dev College (Dr Sunita Jetly) and Delhi School of public health under Institute of Eminence under the aegis of Department of Science and Technology organised Pan India cancer awareness programs.

Nature @ ANDC

Dr Rajesh Chaudhary, Associate Profesor and Mr Vinesh Kumar, Laboratory Assistant, Department of Biomedical Sciences, Acharya Narendra Dev College have captured these beautiful flying visitors in our college campus.







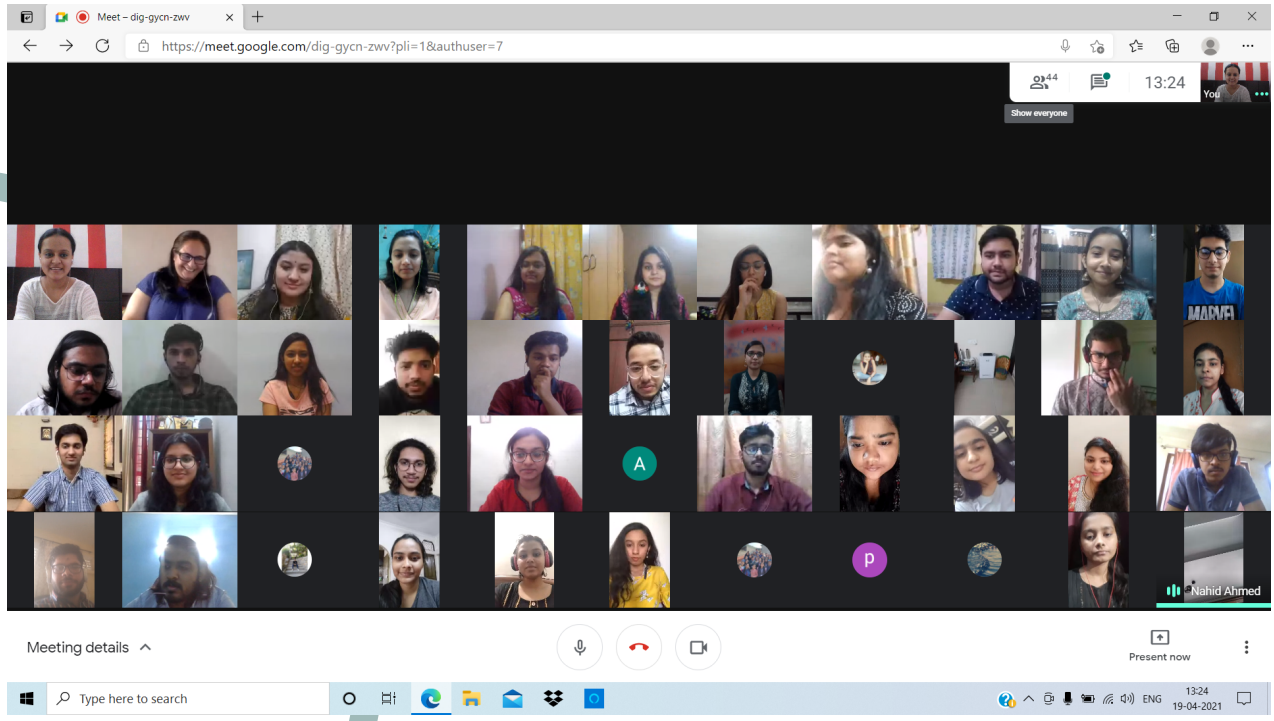
Farewell Of Batch 2018-21

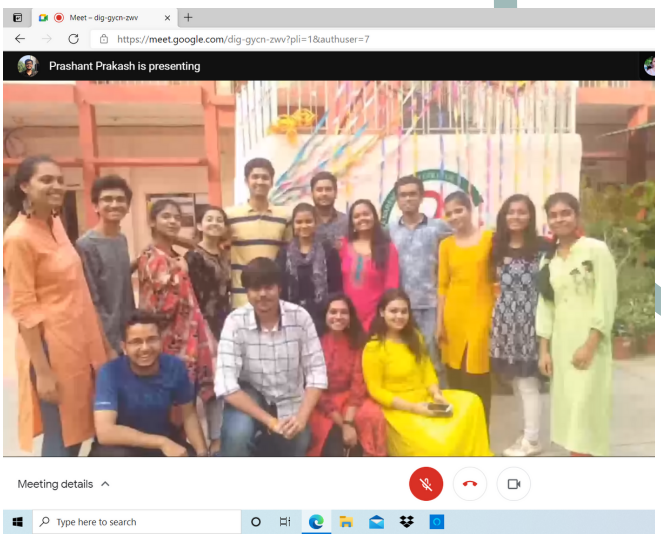
A farewell is a bittersweet moment, they say. For the seniors graduating each year from our Biomedical Science department, the story is no different. So, every year the junior batches join hands to give the senior batch a memorable, fun-filled and, if I may permit myself to say, an emotional trip down memory lane.

The session started off with great inertia, with the juniors and seniors all arriving at the online venue dressed up according to the theme. Apparently, the virtual setting did not deter anyone's enthusiasm. Hosts of different events took the lead, some for games, others for cultural events, all curated according to the eccentricities of the leaving class. There was stellar participation, plenty of fun and memories re-lived and made.

A unique title was given to each senior, along with heaps of recollections of funny, embarrassing moments.

Most importantly, the best of wishes were conveyed by the juniors for each senior's future endeavours. As such, we rejoiced in this bittersweet moment, with nothing but smiles on all our faces

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Meeting details
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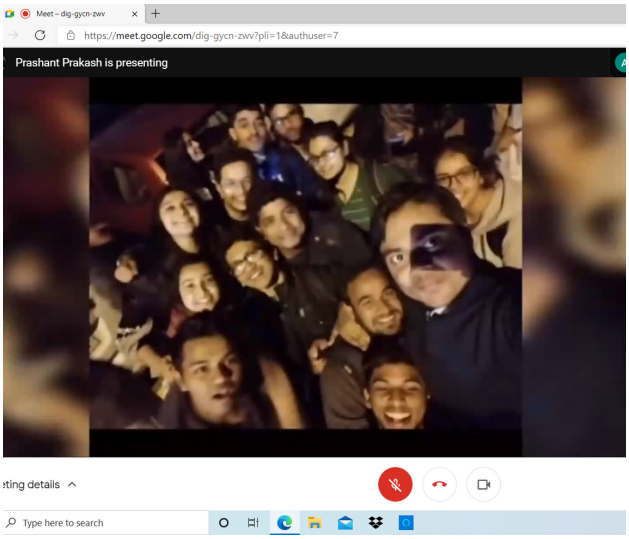
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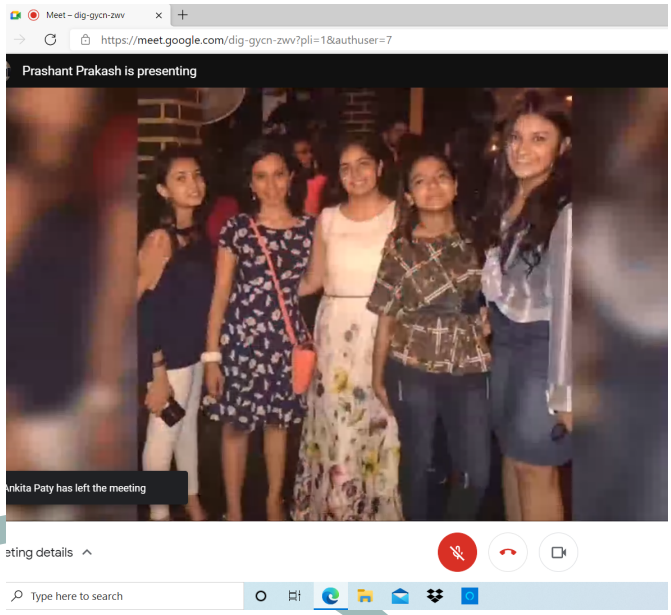
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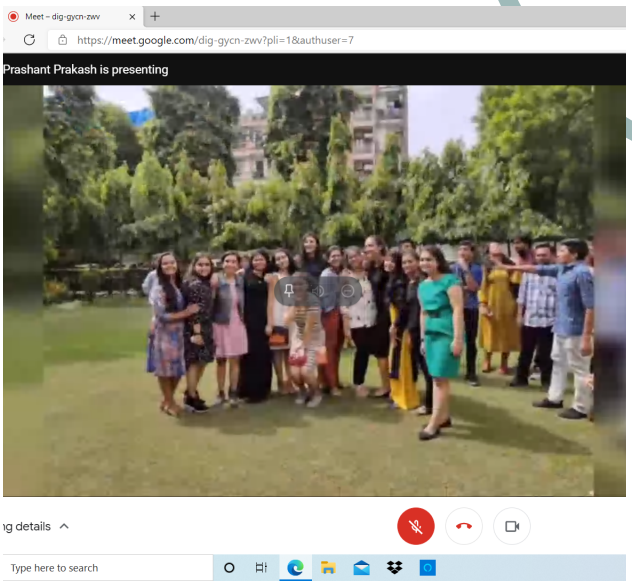
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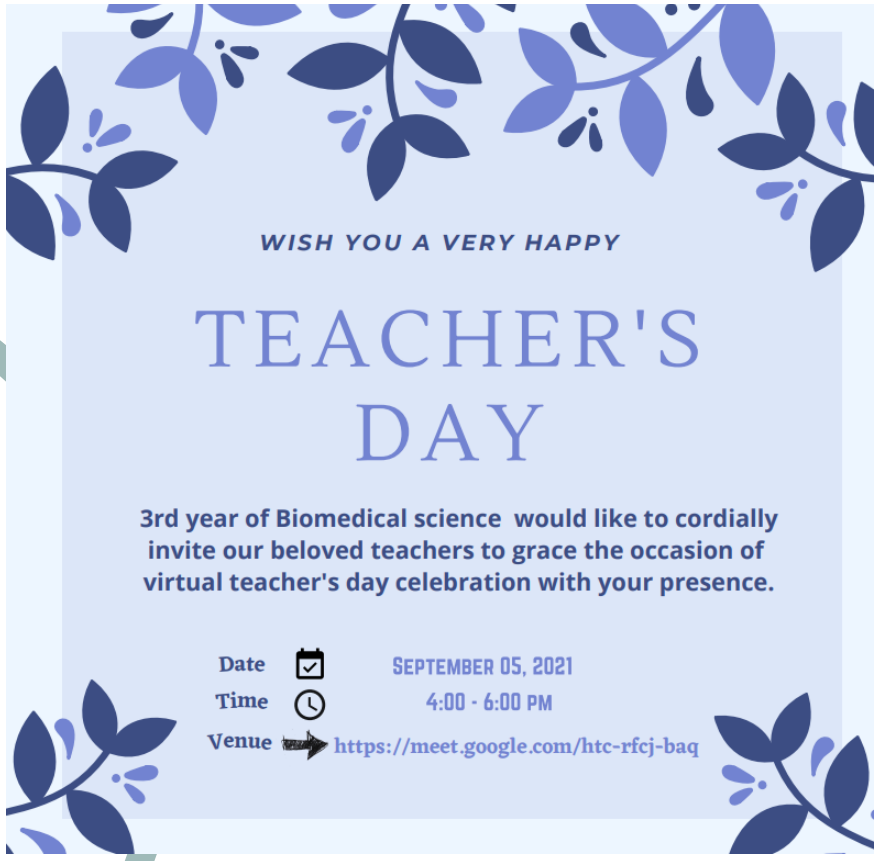
Teacher's Day - 2021

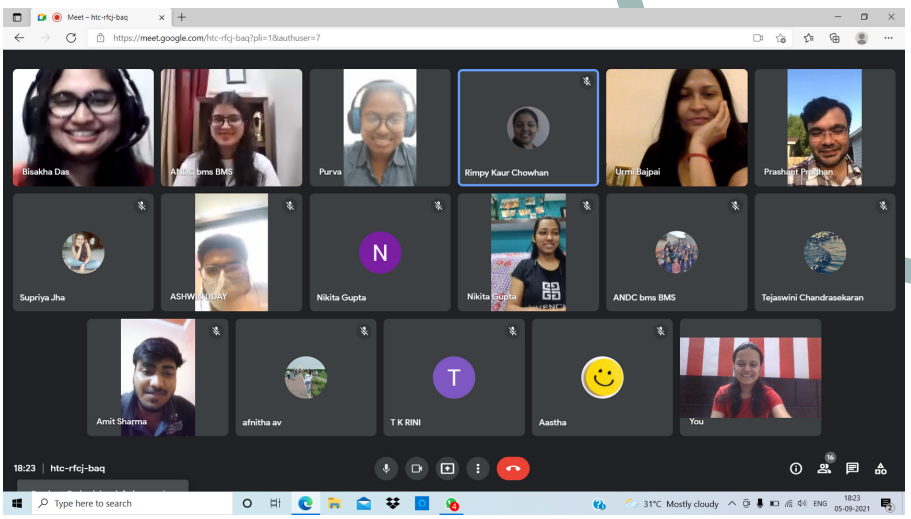
Some people's influence on our lives is rarely quantifiable. Teachers are some of those people who have an indelible effect on our lives and in plenty of cases, the people who shape our whole lives altogether.

Our department organized a Teacher's Day Celebration to take a moment and truly thank our teachers for their guidance and seek their blessings.

Adopting the new normal, it was held via Google Meet on 5th September, 2021. This fact, however, did not affect the spirit of the students and teachers. The teachers were ushered in with great gusto and the programme began. Pre-recorded clips were made by students to show their obeisance, admiration, and deep respect for their teachers. Both parties engaged in banter, participated actively, and the outcome was a truly grand event!

With wise words, the teachers conveyed many deep emotions and thanks to the student panel for the event. After all, all's well that ends well!

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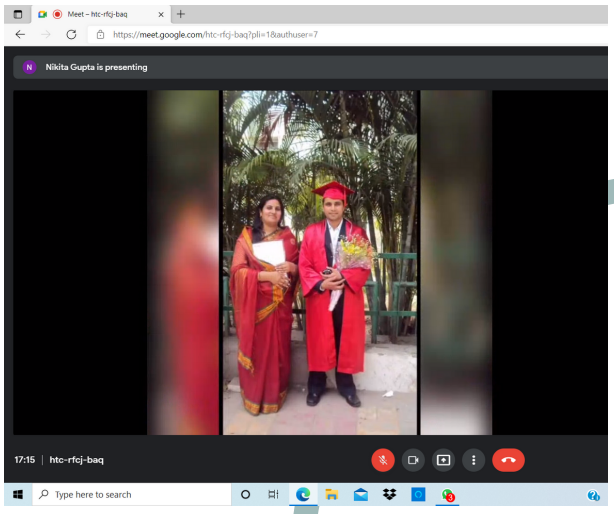
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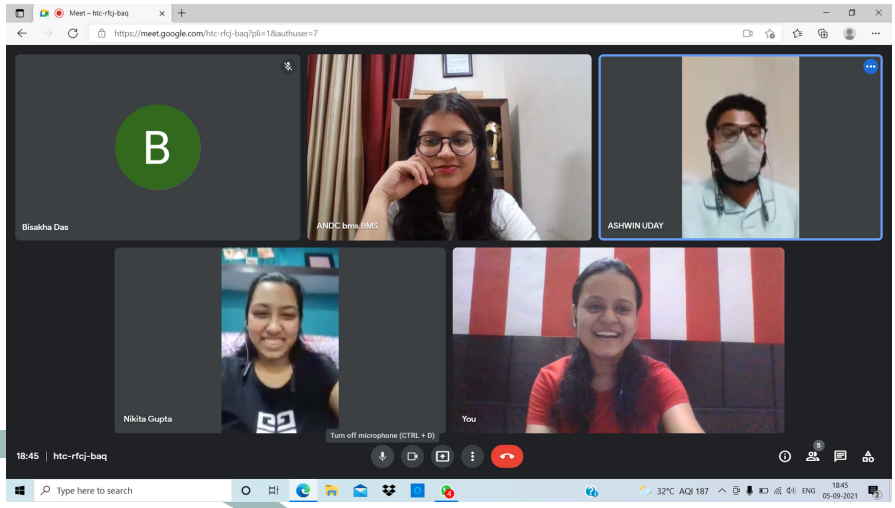
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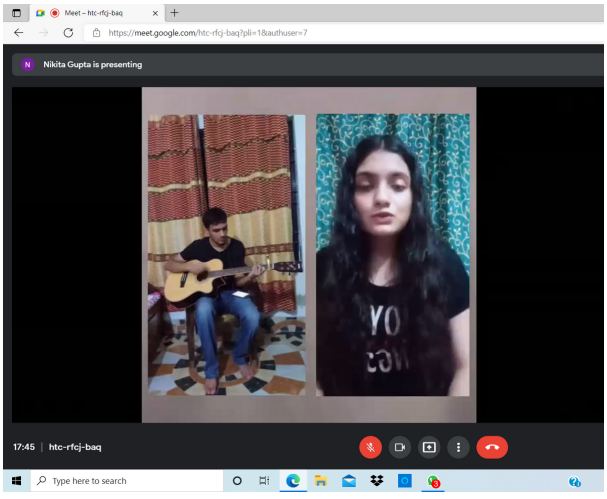
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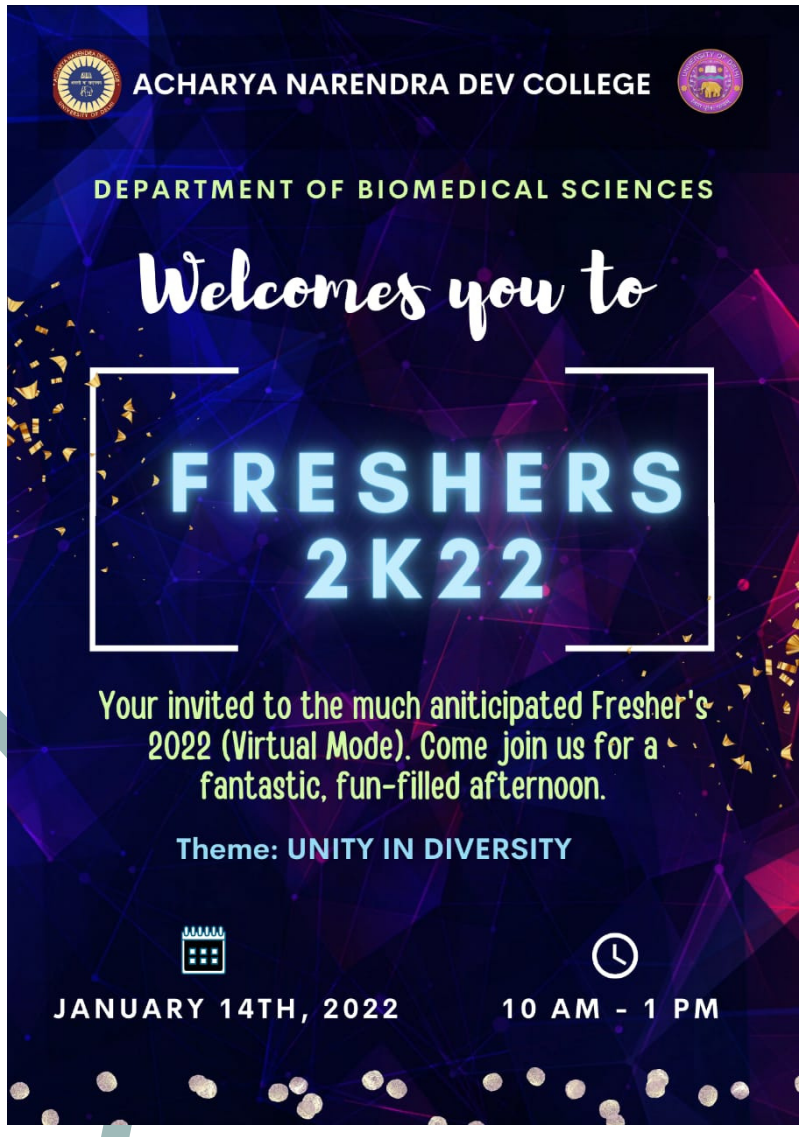
Freshers - 2021

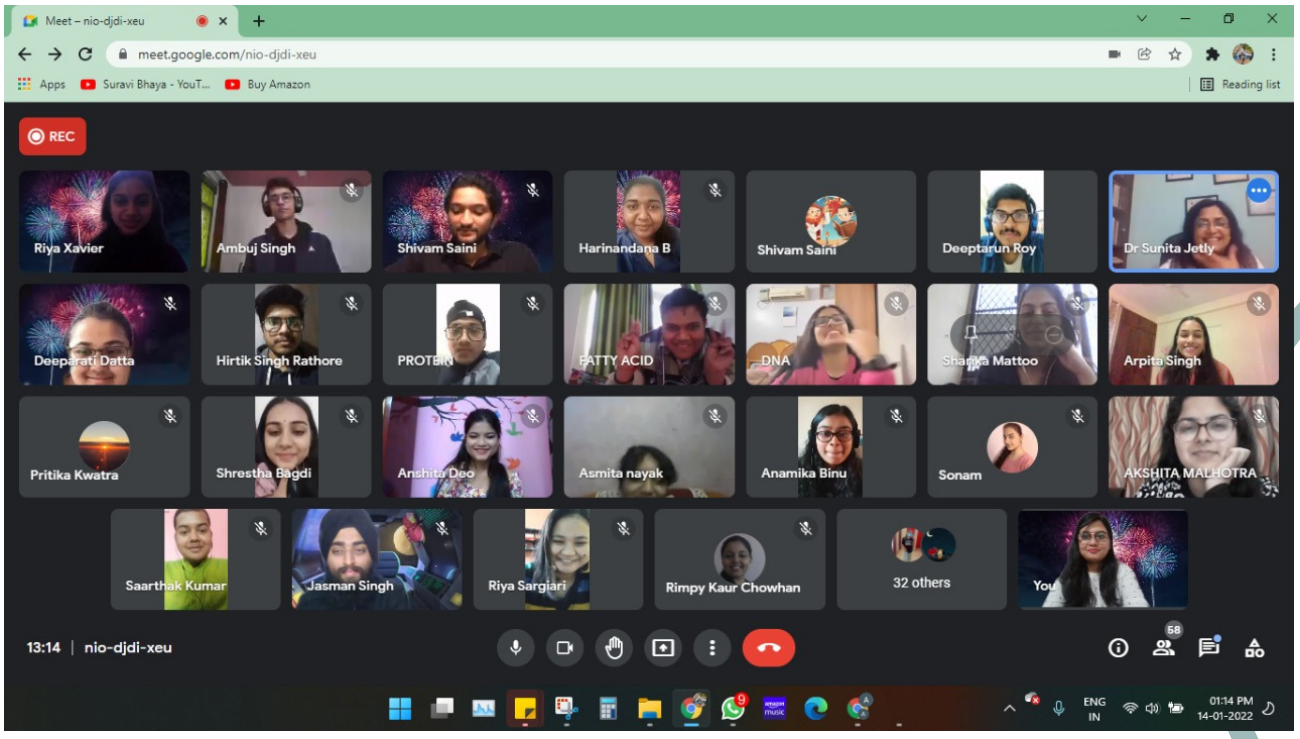
Life is a journey that has many different paths, but any path you choose you use it as your destiny. Keeping that in mind the students of Department of Biomedical Sciences organized a virtual Freshers' Party on 14th January, 2022 to welcome the Batch of 2021. It was a platform for an interaction between seniors and juniors which help juniors to be comfortable in the new family.

The theme of the party was UNITY IN DIVERSITY. It was a fun filled day with lots of amazing events during which the fresher's got an opportunity to showcase their talent and interact with the department people. The day started with introduction of Teacher-in-charge Ms. Sunita Jetly followed by introduction of all the freshers.



Lively games were conducted by the seniors in which everyone participated enthusiastically and enjoyed to the fullest. The excitement augmented to a joyful high with the mesmerizing dance and music performances by the seniors.

At the end of the competition, Arpita was crowned as "Miss Fresher 2021" and Ambuj was crowned as "Mr. Fresher 2021. Finally, the program ended, leaving behind sweet memories that will be cherished lifelong.



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(Teacher-in-charge)

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Dr. Archana Pandey

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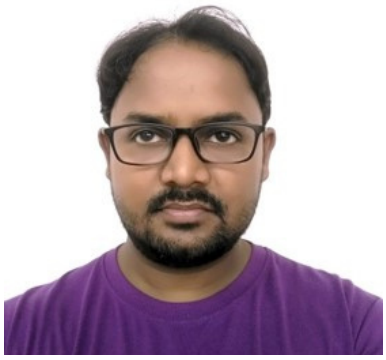

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In a world of such uncertainty, especially in times like these, to be able to stand together, voice opinion and contribute to a cause is a great opportunity. We thank you for taking the time to read Biomer 2022 and giving us the chance to contribute. We hope that we have been truly able to show you that indeed, your kitchen is your health tool.

Thank you!