

LUMINEUX

A Newsletter of Physics Department
Daulat Ram College

Edition 2

Superposition of Life

*When I revved the engine of my life
Decrpyting the mysteries of this four
letter ride*

*You walked towards me ceaselessly
When I was leading my life
incoherently*

*Life will move like alternating current
Where emotions will act as catalytic
reagents*

*On the ground of electromagnetic field
Proton and electron will deflect on
either side*

*While neutron will be your paradigm
You will have a lot of sound waves
Carrier and medium dancing in the
caves*

*This journey of life is insulated and
constant*

*Number of thoughts exceeds the
Avogadro's constant
Your mind should run like velocity
selector*

*So that you can choose people using
this reflector*

*The lens of your eye will only see faces
It is your heart which has to realize
the traces*

*Even matter and radiation has a dual
nature*

*Then we are just humans, mostly
immature*

*What I am trying to say is
inexplicable!*

*You are the nucleus of your own
universe!*

*Responsible for everything- good or
worse*

*Sometimes the frequency of your
intention*

*Doesn't match the receiver which
creates tension*

*Be like electricity- sharp and charged
Because there is only one chance
before you get discharged*

(Yashasvee Goel)

"Millions saw the apple fall, but **Newton** was the one who asked WHY?" The only reason why Sapiens is the lone species that has managed to survive out of all in the genus Homo, is because of the characteristic trait unique to us, **Curiosity!**. Physics quenches our thirst of curiosity with the satisfaction of knowledge. Superficially, it might look like a bunch of equations that distill the magic of how nature works with logic but if you dig deeper, you'll get to know it is the simplest way one can understand the meaning of life.

The dictionary defines art as the expression or application of human creative skill and imagination. Physicists constantly question and challenge the norm that surpasses one's imagination and result in groundbreaking discoveries. That's why, to us, Physics is nothing short of an art.

Acknowledging the fact that to question and understand is prime; we, **Coherence- the Physics Association of Daulat Ram College**, present the second edition to our **annual newsletter, Lumineux**. Lumineux is the French word for light. This newsletter strives to be a subtle metaphor that replaces the darkness of ignorance with the light of cognition.

Upholding the spirit to probe ceaselessly, we present a report of all the activities that were conducted during the current session by the department and association, the latest discoveries that baffled minds in the world of physics along with a little showcase of the student's creative expression.

-Muskan Arora

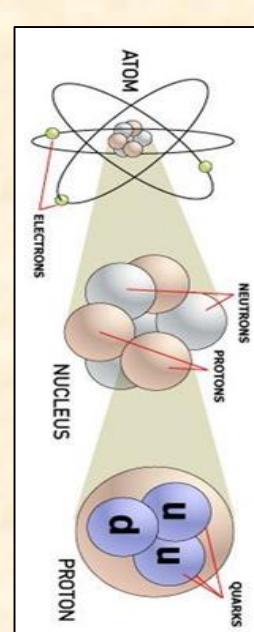
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Water has to
talk to you

Yes I'm Gravity

Celeste '19



Elementary Particles in the Standard Model

FERMIONS					
u UP	c CHARM	t TOP			
d DOWN	s STRANGE	b BOTTOM			
LEPTONS					
e ELECTRON	ν_e ELECTRON NEUTRINO	μ MUON	ν_μ MUON NEUTRINO	τ TAU	ν_τ TAU NEUTRINO
FORCE-CARRIERS					
	γ PHOTON				
	g GLUON				
	Z⁰ WEAK FORCE				
	W[±] WEAK FORCE				

"It is reasonable to ask who or what created the universe, but if the answer is god, then the question has been merely deflected to that of who created god."

-Stephen Hawking

Our Gurus



Dr. Savita Roy (Principal, Daulat Ram College). She started the Physics honors course at undergraduate level in 2017 in the college. She is constantly involved in upgrading the quality of education imparted to students and at the same time finds time to pursue her research interest. She has all qualities that a teacher and leader should have. Thanks for having all the patience and even bigger hearts.



Dr. Onkar Mangla (Teacher in-charge, Physics Department) A very interesting teacher with always a smiling face. He loves to ask tricky questions to students. The way he makes everything easy and straightforward to learn is praiseworthy. He is not only admirable in physics but also has unbeatable computing skills and coding skills. The way he makes coding incredibly interesting is superb. He is very patient with students and a very helpful and kind teacher.



Dr. Omwati Rana. With some extraordinary art, she is always ready to tackle tricky situations and tricky derivations in an easy way. She is always energetic. Her time management makes students enthusiastic for studying. She always encourages all of us to participate in events and activities for students' wholesome development. One can learn the idea of time management from her.



Dr. Neetu Agrawal, it is a supreme art for a teacher to awaken joy, creative expression and knowledge. Indeed, Neetu ma'am has excellence in this art. She is admired not only for dignified elegance but also for her understanding demeanor, great presence of mind, ability and excellent teaching skills. Students never get bored in her class. She works tirelessly to create a challenging as well as a nurturing environment for her students.



Dr. Neeru Sehdev, is one of the sweetest as well as most disciplined teacher. She is a perfectionist and makes it a priority that students maintain the required decorum in class. She appreciates and is also herself very punctual and expects students to value her time as she does theirs. She tries that the class never gets monotonous and also helps students understand the concepts to the best of her capabilities.



Dr. Tarun Choudhari, is an epitome of patience. His casual and calm approach towards students makes them comfortable enough to question him about anything during class. He takes the time to explain all the basic concepts and make them crystal clear to everyone. He tries his best in making his classes as engrossing as they can be. He addresses all the doubts that come his way and tries to get rid of them the most efficient way possible.

Editor's Note



The process of experiencing an event closes on an end only when one looks back on one's memories of it, has always been of my personal beliefs. Lumineux is nothing short of walk down my memory lane of an amazing semester that marked the beginning to a big milestone of my life, making it a great experience to be a part of the editorial.

-Muskan Arora



'The world of reality has its own limitations but the world of imagination is boundless'. As a part of the editorial board, I am highly obliged as it gave me a sneak peek into the world of writing. I thoroughly enjoyed it a lot and if I had the opportunity again I would accept without any dithering.

-Kokil Adhikari



Lumineux is an explosion of creativity and flashback of a year one from enthralling poems to fascinating paintings, spellbinding articles to engrossing reports, it's an assembly of creativity. The value of college education is not learning the facts but training the mind to think in an interesting manner. Being the part of it for second time been a thrilling experience.

Happy Reading!!

-Tannu Garg



Writing is an exploration. You start from nothing and learn as you grow. It's been a privilege to be a part of the editorial board. I hope as you flip through the pages, striving to spot your snapshot or article, you are struck by something that makes you grin from ear to ear and may that smile persist in every walk of your life.

Srishti Aggarwal

Departmental & Association Activities (2018-19)

Union Elections

"Leadership is not about the title or designation. It is about the impact, influence and inspiration. Impacts involves getting results and influences is about spreading the passion you have for work"

The Physics Department of Daulat Ram College conducted their union elections for four positions respectively taken by **Shreya Sharma** as President, **Tanika Gupta** as Vice President, **Jyoti** as treasurer, **Yashasvee Goel** as Secretary.

A big congratulations to them!!



Fresher' 2018-19

A good beginning makes a good ending. So to give the juniors a dazzling start to their college life, Physics Department of Daulat Ram College organized a Fresher's Party to welcome all the lovely girls of batch 2018 on 1st September 2018. The theme of the party was 'Twilight'. Accordingly, the decorations were made to look spooky and the dress code was set as Black and Red.

The party started with great zeal. All the creative ladies showcased their unique talents and on the basis of that the titles of Miss Fresher, Miss talented, Miss Diva and Miss Brainy were honored. **Anushka Sharma** was announced as *Miss Fresher* for 2018, **Tanya Singh** as *Miss Talented*, **Nikita** as *Miss Diva* and **Muskan Arora** as *Miss Brainy*.

"The magic in the air tuned into the chords of pulsating rhythmic hearts and created bonds for the years that lay ahead."

-Anushka Sharma



"Best Out of Waste" Competition

"Creativity, as has been said, consists largely of rearranging what we know in order to find out what we do not know. Hence, to think creatively, we must be able to look afresh at what we normally take for granted."

- George Kneller.

The department conducted a competition for best out of waste. All participants performed with great zeal and enthusiasm. Kajal Kaushik and Khushboo (2nd year) bagged the first position where they made a wall hanging out of match boxes. The second position was achieved by Manya Dawra and Madiha (1st year).



"We are just an advance breed of monkeys on minor planet of a very average star. But we can understand the universe. That makes us something very special. We only have to look at ourselves to see how intelligent life might develop into something we wouldn't want to meet."

-Stephen Hawkins

Inaugural lecture of the Physics Association “COHERENCE”

Coherence, the Physics Association conducted its inaugural lecture on 5th September 2018. The inaugural ceremony was graced with the presence of Prof. Avinash Khare, Professor, Dept. of Physics, University of Delhi and Dr. Savita Roy, Principal, Daulat Ram College. Prof. Khare who is an eminent scientist and researcher spoke on a very interesting topic “Plasma Physics: A New Science of 21st Century” and introduced the students with the fourth fundamental state of matter ie. Plasma. He also talked about the response of plasma to electromagnetic fields that is used in many modern technological devices.



In-House Skill Development Program

“Tell me and I forget, teach me and I may remember, involve me and I learn.”

Indeed nothing can be more spurring at the same time gratifying and worthwhile than putting one's knowledge into practice. Skill development program on ‘Basic Electronics skills and Applications’ organized by our department from 24th to 31st December, 2018 aimed at providing opportunities for hands on training for fabrication on PCB, making circuits of day to day use. From thought provoking lectures to the hands on training that included the designing of visitor counters and water level indicators using ICs, the program was an entire package of fun and learning.

-Rajkumari Babysana

One Day Seminar on Optoelectronic Devices

A one day seminar on "Application of optoelectronic devices in day to day life" was organized by Physics Department on 5 October 2018.

The eminent speakers that joined us were Dr. R. Raman from SSPL, Defence Research and Development Organization (DRDO) and Prof. K. Thyagarajan from Bennett University, Greater Noida. The seminar was attended by all the students of Physics Department and respective teachers. The first lecture was given by Dr. R. Raman in which he briefly explained the Optical Spectroscopic techniques involving absorption and radiation, Solar cell, Optical Spectrometers, Raman Effect, Raman shift and other related topics .Prof. K. Thyagarajan's lecture was focused upon Quantum Mechanics, Quantum entanglement, and experiments on dual nature. The lectures proved to be very beneficial for us.

-Kritika Singla



“To raise new questions, new possibilities, to regard old problems from new angle, requires creative imagination and marks real advance in science.”

-Albert Einstein

Visit to National Physics Laboratory

On 28th September 2018, Department of Physics organized an educational trip to National Physics Laboratory (NPL), New Delhi. This was on the occasion of the foundation day that NPL hosted Open Day for students. It was a rich opportunity for students to visit and acquaint with new techniques and research equipment viz. Ultrafast transient absorption spectroscopy with femtosecond laser, Superconductors using liquid nitrogen or liquid helium at extremely low temperatures, Raman spectroscopy, Mobile radiations, National standards of mass & length, Cesium atomic clock etc. Around 30 students along with 2 faculties (Dr. Neeru Sehdev and Dr. Tarun Choudhari) visited the place. It was a very valuable learning experience for all.



Visit to International Engineering and Technology Fair IETF 2019 (23rd Edition)

Around 25 students along with 2 faculties (Dr. Onkar Mangla and Dr. Tarun Choudhari) from Physics dept. participated in the 23rd edition of International Engineering and Technology Fair IETF 2019 on 4th February 2019, held at Pragati Maidan New Delhi. This was organised by Confederation of Indian Industry (CII) and showcased specific industry sectors like – Environment and Pollution control, Robot and Factory automation, Artificial Intelligence, Gaming technologies etc. The students participated with great enthusiasm and learned about various upcoming technologies.

College Freshers' Sports Meet

"All work and no play makes jack a dull boy".

The college conducted a fresher's sports meet in order to promote the emotion of companionship and the good old sportsman's spirit. All the first year students from physics department participated with great enthusiasm. The Physics team for Kho-Kho landed the title of the second runner up whereas the kabaddi team achieved second position. **Bhumja Choudhary**, won the gold medal in the event of Discus Throw.



"It is wrong to think that the task of physics is to figure out what nature says. Physics concerns what we say about nature"

- Niels Bohr

Physicista Visionista!

Water Has To Talk To You

In the book, "The Hidden messages in water" written by a Japanese scientist Dr. Masaru Emoto. There pictures of water crystals showcasing how water's molecular structure is differently affected by words and vibrations. Emoto's water crystal experiments consisted of exposing water in glasses to different words, pictures, or music and then freezing and examining the aesthetic properties of the resulting crystals with microscopic photography. Through high speed photography Emoto captured thousands of water crystals.

kadeeja Irfana



"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less."

Losing

I've been counting on the stars at night,
That raise heads after a twilight.
I'm pretending airplanes to be shooting
stars,
Lying here as the clock counts on the
countless hours.
Hoping when it's time to jump,
I don't fear the fall.
Hope when my turn comes,
Am ready to give it all.
Cause even when the water rises,
I can build a wall.
There's gonna be a higher mountain;
I'd wanna make it move.
It feels the best to win,
But it's not bad even to loose.
Cause a time will come,
When the world chants your name...
And you will proudly say "yes I lost a
hundred times,
But I never feared again."

Shatakshi Sharma

Yes, I Am Gravity

When something goes up,
It comes down
Nothing can beat the unbeatable
Because I am here, everywhere
Hidden, invisible, yet renown.

Once human questioned my existence,
Predictions made, Theories were
supposed
And then, I was born in your eyes
You named me Gravitation.

I united planets, galaxies and stars,
I attract the objects apart,
Compelling, yet essential for survival
Not just Attraction,
I am the exuberant fundamental.
I complete you,
I make up the universe,
Amorphous and indelible,
Yes, I'll always be alive.
Yes I am gravity

-Kajal Kaushik

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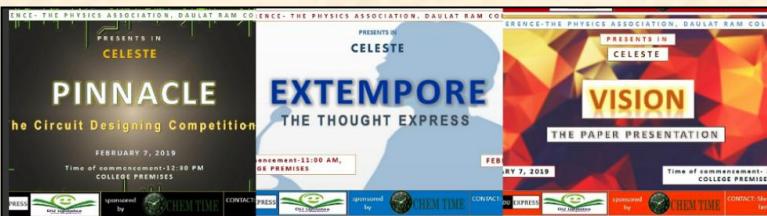
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-Marie Curie

Celeste '19



Coherence- the Physics Association, Daulat Ram College organized its one day technical fest **Celeste** on 7th feb 2019. The fest hosted a plethora of events tending to the technical tastes of one and all. The day began with the Inaugural Ceremony presided over by Principal Madam Dr. Savita Roy. This was then followed by conducting various competitions namely *Vision: The paper presentation* where the participants were supposed to present their understanding about any conventional science topic using PowerPoint presentation, *Extempore: The thought express* event, *Uptown funk: The Pop culture quiz*, *Pinnacle: The circuit designing competition*, that tested the circuitry skills of the contesting teams, and *Accio Horcrux:* A treasure hunt based event that turned out to be one of the main attractions of the fest drawing a large number of students. This was an intercollege event and students from various colleges took part. The whole day was filled with learning and fun.





Coherence- The Physics Association
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“Science is fun. Science is curiosity. We all have natural curiosity. Science is the process of investigating. It’s posing question and coming up with method its delving in.”

-Sally Ride