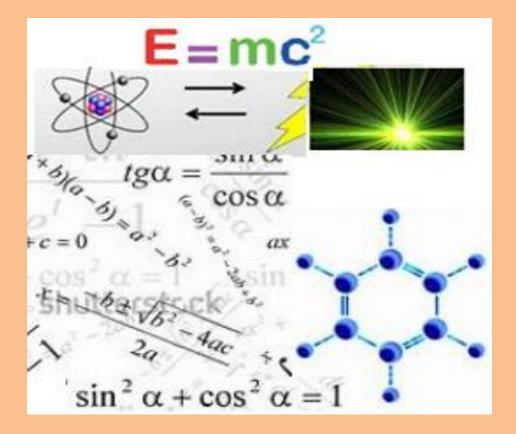




AS-NEWSLETTER



Department of Applied Sciences
Galgotias College of Engineering & Technology,
Greater Noida

VOLUME 4 JULY 2023

THE EDGE FIN FINNUFIL NEWS LETTER DEPARTMENT OF APPLIED SCIENCES

The AS-NEWSLETTER is an annual newsletter of the Department of Applied Sciences, Galgotias College of Engineering and Technology, Greater Noida. It mirrors the activities/ events organized by the Department and pinnacles the accomplishments of students and faculty members in research and other expanses during the academic session.



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HOD MESSAGE



Dr Rajesh TripathiProfessor & HOD
Department of Applied Sciences

The department of Applied Sciences plays an important role in the core curriculum of the institution. It oversees the teaching of the subjects Physics, Chemistry, **Mathematics** and **Environmental Sciences** to all courses of the Institution. The highly qualified faculty members staff and enthusiastically work

together to prepare a new generation equipped with strong quantitative and analytical skills to meet the competitive demands of the current job market. As the department is majorly associated with first year students therefore, special attention is given to familiarize them with environment of the institution and inculcate ethical learning practices in them. The department concentrates on the welfare of both the students and the faculty members. This is achieved by organizing seminars, special lectures, interactive activities and induction program for students and many Faculty Development Programs, Seminars and Conferences for faculty members. In addition to all the work, faculty members also devote their time for research work in collaboration with the various research institutes.



Dear Readers,

It is indeed a great honor to be the Editors of the Newsletter of Department of Applied Sciences, Galgotias College of Engineering and Technology, Greater Noida and with immense pleasure we present the "AS-Newsletter" for the session 2022-23.

In this issue, we recount the myriad activities and events in which the faculty members, staff and students related to the Department were actively involved during the academic session of 2022-2023. Some of the areas covered in this issue will be the research and development and awards won by faculty members and students, activities of committees and clubs of the department, recognition of our faculty members and students by various organizations and the contribution of our department in the overall growth of our institution.

We are indebted to all the persons who contributed in the successful edition of this issue.

Last but not the least, We would like to thank our Honorable Chairman Shri Suneel Galgotia, Honorable CEO Mr. Dhruv Galgotia, Director-GCET Dr. Mohd. Asim Qadri for everlasting support throughout the creation of this edition.

Dr. Rajesh Tripathi

Chief Editor, AS-Newsletter

Dr. Rajendra Prasad

Dr. Vinay Gautam *Editor. AS-Newsletter*

Editor, AS-NewlLetter

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VISION OF INSTITUTE

To be a leading educational institution recognized for excellence in engineering education and research producing globally competent and socially responsible technocrats.

MISSION OF INSTITUTE

- To provide state-of-art infrastructural facilities that support achieving academic excellence.
- To provide a work environment that is conducive for professional growth of faculty and staff.
- To collaborate with industry for achieving excellence in research, consultancy and entrepreneurship development.



VISION OF DEPARTMENT

To be a centre of excellence in education in the field of physics, chemistry, mathematics and other related interdisciplinary sciences with ethical and social values.

MISSION OF DEPARTMENT

- To provide quality education by providing state of the art facility.
- To educate the students by giving them a blend of knowledge of applied and interdisciplinary sciences.
- To make students conscious of ethical and social values in pursuingtheir education and profession.



RESEARCH SECTION OF THE DEPARTMENT

Publications from the Department in Journals/ Conference Proceeding during 2022-23

- Preeti Shrivastava, L K Gupta, Rajendra Prasad, A. J. Khan, G. K. Goswami, A K yadav, "Modeling of Bianchi type I accelerating Universe in Lyra's manifold" International Journal of Geometric Methods in Modern Physics, vol. 19(12), 2250197,pp.1-18 (2022). https://doi.org/10.1142/S0219887822501973
- Chiranjib Chakraborty, Manojit Bhattacharya, Ashish Ranjan Sharma, Bidyut Mallik, "Omicron (B. 1.1. 529)-A new heavily mutated variant: Mapped location and probable properties of its mutations with an emphasis on S-glycoprotein" International Journal of Biological Macromolecules, vol. 219, pp.980-997 (2022). https://doi.org/10.1016/j.ijbiomac.2022.07.254
- Manojit Bhattacharya, Srijan Chatterjee, Bidyut Mallik, Ashish Ranjan Sharma, Chiranjib Chakraborty, "Therapeutic role of neutralizing antibody for the treatment against SARS-CoV-2 and its emerging variants: a clinical and pre-clinical perspective" Vaccines, vol.10(10), 1612 (2022).

https://doi.org/10.3390/vaccines10101612

- Chiranjib Chakraborty, Ashish Ranjan Sharma, Manojit Bhattacharya, Bidyut Mallik, Shyam Sundar Nandi, Sang-Soo Lee, "Comparative genomics, evolutionary epidemiology, and RBD-hACE2 receptor binding pattern in B.1.1.7 (Alpha) and B.1.617.2 (Delta) related to their pandemic response in UK and India" Infection, Genetics and Evolution,vol.101,105282(2022).
 - https://doi.org/10.1016/j.meegid.2022.105282
- Manojit Bhattacharya, Ashish Ranjan Sharma, Bidyut Mallick, Sang-Soo Lee, Eun-Min Seo, Chiranjib Chakraborty, "B.1.1.7 (Alpha) variant is the most antigenic compared to Wuhan strain, B.1.351,

B.1.1.28/triple mutant and B.1.429 variants" *Frontiers in Microbiology*, vol. 13, 895695 (2022).

https://doi.org/10.3389/fmicb.2022.895695

- Razan Alshqari, Sarat Prasad, **Bipin** Kumar ** Α. Chandra Saleh **Srivastava**, Mohammed ΑI Ansari, Parul Gupta,. Sivakumar, Saikh Mohammad Wabaidur,. Ataul Islam, and Abdi Diriba, "Mechanical Evaluation on Carbon/Basalt Fiber-Reinforced Hybrid Polymer Polymer Matrix Composite" Advances in Technology(Hindawi), 7742349 (2022). https://doi.org/10.1142/S0219887822501973
- ❖ Harishchander Anandaram, Bipin Kumar Srivastava, B. Vijayakumar, P. Madhu, Melvin Victor Depoures, Pravin P. Patil, Sarika Chhabria, Praveen Bhai Patel, S. Prabhakar,, "Co-pyrolysis Characteristics and Synergistic Interaction of Waste Polyethylene Terephthalate and Woody Biomass towards Bio-Oil Productio" Journal of Chemistry, 3699076(2022).

https://doi.org/10.1155/2022/3699076

- P. Muthu Pandian, Santosh Karajgi, Prashant B Thakare, Amit Kumar Rawat, Bipin Kumar Srivastava, Mallepally Mamatha, Shalini Sharma, "Challenges and impact of green chemistry concepts on sustainable environmental development" Eur. Chem. Bull., vol.12, 1923(2023).
 - $\frac{https://www.eurchembull.com/uploads/paper/5196cd1654c27e56fde0}{79ec053f05e8.pdf}$
- Dr. Tasneem K.H. Khan, Dr. Bipin Kumar Srivastava, Santosh Pralhad Jengathe, Julio Andrade-Collahuazo, Abdulfatah Abdullah Abdu Saifan, Dr. Swati Chaudhary, "Impact and role of green chemistry; sustainability an innovative approach" Eur. Chem. Bull., vol. 12(4), 7784 (2023).
 - $\frac{https://www.eurchembull.com/uploads/paper/9c681fa28dde1c1902d3f}{8c43e399613.pdf}$
- P. Sivamurugan, M. Mareeswaran, M. Mareeswaran, Savita Verma, Bipin Kumar Srivastava, I. S. Chakrapani, "Development of thermally

reduced corn stover biochar and its satin weaved sisal-reinforced vinyl ester composites" *Biomass Conversion and Biorefinery*, (2023). https://doi.org/10.1007/s13399-023-04273-y

❖ A. Kushwaha, Smriti Dwivedi and R.LPrasad, "Vibrational studies of 2,3,5,6-tetrachloro-1,4- benzoquinone and its reactivity: An ab-initio computational method" Res. J. Chem. Environ, vol. 27(4),pp.89-100(2023).

https://doi.org/10.25303/2704rjce0890100

❖ SS Nagane, DM Maher, **Savita Verma**, AA Talanikar, PP Wadgaonkar, "Pendant propargyloxy-functionalized aromatic (co)polycarbonates: synthesis, thermal crosslinking and chemical modification" *Journal of Macromolecular Science*, Part A, vol. 59(11), pp.752-763(2022).

https://doi.org/10.1080/10601325.2022.2117055

RP MD Gift, Savita Verma, K Prasad, K Kathiresan, "Green Catalytic Pyrolysis: An Eco-friendly route for the production of fuels and chemicals by blending oil industry waste furniture wood" Journal of Nanomaterials, 9381646 (2022).

https://doi.org/10.1155/2022/9381646

Shreya Singh, Rahul Garg, Atanu Jana, Chinna Bathula, Soniya Naik, Mona Mittal, "Current developments in nanostructurally engineered metal oxide for removal of contaminants in water" Ceramics International, vol. 49(5), 7308 (2023).

https://doi.org/10.1016/j.ceramint.2022.10.183

Harshdeep Kaur, Rahul Garg, Sajan Singh, Atanu Jana, Chinna Bathula, Hyun-Seok Kim, Sangamesh G Kumbar, Mona Mittal, "Progress and challenges of graphene and its congeners for biomedical applications: Drug delivery, gene delivery, biosensing, bioimaging, and tissue engineering" Journal of Molecular Liquids, vol. 368, 120703 (2022).

https://doi.org/10.1016/j.molliq.2022.120703

Sajan Singh, Labeesh Kumar, Andriy Horechyy, Olha Aftenieva, Mona Mittal, Sunita Sanwaria, Rajiv K Srivastava, Tobias AF König, Andreas Fery, Bhanu Nandan, "Block Copolymer-Templated Au@ CdSe Core-Satellite Nanostructures with Solvent-Dependent Optical Properties" *Langmuir*, vol. 39(17), 6231(2023).

https://doi.org/10.1021/acs.langmuir.3c00479

- Priyanka Dubey, Sadanand, B.K. Pandey, D. K. Dwivedi, "Contribution towards the selection of electron and hole transport layers for the development of highly efficient PbS colloidal quantum dot solar cell" Optik, vol.266, 169600 (2022). https://doi.org/10.1016/j.ijleo.2022.169600
- Naureen, Sadanand, Pooja Lohia, D. K. Dwivedi, Sadia Amin, "Comparative Study of Quantum Dot Solar Cell with Two Different ETLs of WS2 and IGZO Using SCAPS-1D Simulator" Solar, vol.2(3), pp.342-355(2022). https://doi.org/10.3390/solar2030020
- ❖ Pooja Tiwari, Maged F Alotaibi, Yas Al-Hadeethi, Vaibhava Srivastava, Bassim Arkook, Sadanand, Pooja Lohia, D.K. Dwivedi, Ahmad Umar, Hassan Algadi and Sotirios Baskoutas, "Design and simulation of efficient SnS-based solar cell using spiro-OMeTAD as hole transport layer" Nanomaterials, vol. 12(14), 2506 (2022). https://doi.org/10.3390/nano12142506
- P. Srivastava, , Sadanand , Shambhavi Rai, Pooja Lohia, D. K. Dwivedi, Hussam Qasem, Ahmad Umar, Sheikh A. Akbar, Hassan Algadi, and Sotirios Baskoutas., "Theoretical study of perovskite solar cell for enhancement of device performance using SCAPS-1D" Physica Scripta, vol. 97(12), 125004(2022). https://doi.org/10.1088/1402-4896/ac9dc5
- ❖ Ahmad Umar, Pooja Tiwari, Sadanand, Vaibhava Srivastava, Pooja Lohia, Dilip Kumar Dwivedi, Hussam Qasem, Sheikh Akbar, Hassan Algadi, and Sotirios Baskoutas, "Moeling and Simulation of Tin Sulfide (SnS)-Based Solar Cell Using ZnO as Transparent Conductive Oxide (TCO) and NiO as Hole Transport Layer (HTL)" Micromachine, vol. 13(12), 2506(2022).
- ❖ Sadanand, Ahmad Umar, Pravin Kumar Singh, D. K. Dwivedi Hassan Algadi, Ahmed A. Ibrahim, Mohsen A. M. Alhamami, Sotirios Baskoutas,, "High power-conversion efficiency of lead-free perovskite

solar cells: A theoretical investigation" *Micromachine*, vol. 13(12), 2201(2022).

https://doi.org/10.3390/mi13122201

- Ahmad Umar, P. K. Singh, Sadanand, D. K. Dwivedi, Ahmed A. Ibrahim, Mohsen A. M. Alhamami, Hussam Qasem, Sheikh Akbar, and S. Baskoutas, "Design and Simulation of Lead-Free Perovskite Solar Cells with a Hole Transport Layer Made of NiO Nanocomposite" Science of Advanced Materials, vol. 14(9),pp.1511-17 (2022). https://doi.org/10.1166/sam.2022.4368
- Ahmad Umar, P. Srivastava, Sadanand, Shambhavi Rai, Pooja Lohia, Dilip Kumar Dwivedi, Hassan Algadi, and Sotirios Baskoutas, "High-performance lead-free perovskite solar cell: a theoretical study" Emerging Research Materials, vol. 12(1), pp.92-99(2023). https://doi.org/10.1680/jemmr.22.00129
- Naureen, Sadanand, Shambhavi Rai, R.K. Yadav, Pooja Lohia, D.K. Dwivedi, "A Simulation Study of Quantum Dot Solar Cells Using Two Distinct ETL of WO3 and WS2" Optical and Quantum Electronics, vol. 55, pp.541-549(2023). https://doi.org/10.1007/s11082-023-04809-6
- Pramod Kumar Yadav and Amit Kumar Verma, "Analysis of two non-miscible electrically conducting micropolar fluid flow through an inclined porous channel: Influence of magnetic field" Journal of Applied Mathematics and Mechanics, vol. 103(1)(2022). https://doi.org/10.1002/zamm.202200047
- Pramod Kumar Yadav, Sneha Jaiswal, Amit Kumar Verma, Ali.J. Chamkha, "Magnetohydrodynamics of immiscible Newtonian fluids in porous regions of different variable permeability functions." Journal of Petroleum Science and Engineering, vol.220, 111113 (2023). https://doi.org/10.1016/j.petrol.2022.111113
- Eddy, Nnabuk Okon, Rajni Garg, Rishav Garg, Samson I Eze, Emeka Chima Ogoko, Henrietta Ijeoma Kelle, Richard Alexis Ukpe, Raphael Ogbodo, and Favour Chijoke "Sol-Gel Synthesis", Computational Chemistry, and Applications of Cao Nanoparticles for

the Remediation of Methyl Orange Contaminated Water" *Advances in Nano Research*,vol.15(1),pp.35–48(2023). https://doi.org/10.12989/anr.2023.15.1.035

Odoemelam, Steven A, Esther O Oji, Eddy, Nnabuk Okon, Rajni Garg, , Garg Rishav, Islam Saiful, Khan Mohammad Amir Khan, Nadeem A. and Sasan Zahmatkesh "Zinc Oxide Nanoparticles Adsorb Emerging Pollutants (Glyphosate Pesticide) from Aqueous Solutions" Environmental Monitoring and Assessment, Springer, 195, 658 (2023).

https://doi.org/10.1007/s10661-023-11255-0

- ❖ Rajni Garg, Rishav Garg, Mika Sillanpää, Alimuddin, Mohammad Amir Khan, Nabisab Mujawar Mubarak, and Yie Hua Tan "Rapid Adsorptive Removal of Chromium from Wastewater Using Walnut-Derived Biosorbents" *Scientific Reports*,vol.13, 6858(2023). https://doi.org/10.1038/s41598-023-33843-3
- Okon Eddy, Nnabuk, Anduang O. Odiongenyi, Eno E. Ebenso, Rajni Garg, and Rishav Garg "Plant Wastes as Alternative Sources of Sustainable and Green Corrosion Inhibitors in Different Environments" Corrosion Engineering, Science and Technology, vol. 58, 5(2023).

https://doi.org/10.1080/1478422X.2023.2204260

Eddy, Nnabuk Okon, Anduang Ofuo Odiongenyi, Rajni Garg, Richard Alexis Ukpe, Rishav Garg, Ahmed El Nemr, Comfort Michael Ngwu, and Imeh Jospeh Okop "Quantum and Experimental Investigation of the Application of Crassostrea Gasar (Mangrove Oyster) Shell-Based CaO Nanoparticles as Adsorbent and Photocatalyst for the Removal of Procaine Penicillin from Aqueous Solution" Environmental Science and Pollution Research, vol.30,pp.64036–64057(2023).

https://doi.org/10.1007/s11356-023-26868-8

Gopalakrishnan, Vidyadharani, Anand Balasubramanian, Loganathan Subramanian, Rabiu Ibraheem Muhammed, Rajni Garg, and Nnabuk Okon Eddy "Experimental and Theoretical Analysis on Mild Steel Corrosion Inhibition by Two Novel Compounds (FD and ACP) in Acidic Media" *Portugaliae Electrochimica Acta*,vol.41,pp.223-246 (2023).

https://doi.org/10.4152/pea.2023410304

- Bhardwaj, Sweta, Suman Lata, and Rajni Garg, "Application of Nanotechnology for Preventing Postharvest Losses of Agriproducts" The Journal of Horticultural Science and Biotechnology,vol.98(1),pp.31-44 (2023).
 - https://doi.org/10.1080/14620316.2022.2091488
- Bhardwaj, Sweta, Suman Lata, and Rajni Garg, "Application of Nanotechnology for Preventing Postharvest Losses of Agriproducts" The Journal of Horticultural Science and Biotechnology,vol.12(3),pp.317-330 (2023). https://doi.org/10.1080/21650373.2022.2054477
- ❖ Rajiv Kumar Satish kumar, Mukesh kumar and Dushyant Kumar "An Overview on Integers of the form 6ⁿ+1" SCIREA Journal of Mathematics, vol.8(3)(2023).
 - https://doi.org/10.54647/mathematics110403
- ❖ Manju Kashyap, S P Singh, Surbhi Gupta and P L Mehta "Novel Solution for Time-fractional Klein-Gordon Equation with Different Applications" International Journal of Mathematical, Engineering and Management Sciences, vol.8(3),pp.537-546,(2023). https://doi.org/10.33889/TIMEMS.2023.8.3.030
- Rajeev Kishore, Indu Tyagi, Y S Rao, Deepak Kumar, "Epidemic model on rumor propagation in e-commerce" Materials Today: Proceedings (Elsevier), vol.57, pp.2056-2060 (2022). https://doi.org/10.1016/j.matpr.2021.11.263
- Rajeev Kishore, Indu Tyagi, Y S Rao, Deepak Kumar, "Control of rumor spreading in online social network through an Epidemic model" IEEE Xplore(IEEE), vol.4, pp.2036-2043 (2023). https://doi.org/10.1109/ICAC3N56670.2022.10074270
- Virender Singh, Dr. Archna Sharma, "A note on Discrete q-Modified Hermite polynomials of Type-I" Materials Today: Proceedings (Elsevier), vol.57(5), pp.2140-2143(2022). https://doi.org/10.1016/j.matpr.2021.12.081

- ❖ Virender Singh, Dr Archna Sharma, W. A. Khan, "Certain properties and their Volterra Integral equation associated with the second kind Chebyshev matrix polynomials in two variables" Frontiers in Industrial and Applied Mathematics(Springer), vol.410, pp.49-65 (2023). https://doi.org/10.1007/978-981-19-7272-0_5
- Tania Sharma, Sushma Yadav, Mona Mittal, "Recent advancement in the sustainable synthesis of BiOX (X= I, Br, and Cl) nanomaterials and their applications in the photocatalysis" Materials Today: Proceedings (Elsevier), In Press (2023). https://doi.org/10.1016/j.matpr.2023.02.209
- ❖ Sunny Dhariwal, **Mona Mittal**, "Wastewater treatment with perovskite-based photocatalysts: Environmental sustainability from a green perspective" *Materials Today: Proceedings (Elsevier),In Press* (2023).
 - https://doi.org/10.1016/j.matpr.2023.03.048
- ❖ Sadanand, Malkesh Kumar Patel, Naveen Kumar, Lee Woo Chan, Joondong Kim, "New concepts in all-metal-oxide-based ultraviolet transparent photovoltaics" *IEEE Xplore(IEEE)*, vol.69(9), pp. 5021-27, 22008474(2022).
 - https://doi.org/10.1109/TED.2022.3194105

Publications from the Department in Book Chapter/ Book during 2022-23

- Sanjay Agrawal and Rajeek Kumar Mishra, Book of "Renewable Energy Technologies" Published by All India Council for Technical Education(AICTE), Nelson Mandela Marg, Vasant Kunj, New Delhi(India),(2023).
- ❖ Deepak Kumar and Rajeev Kishore,"Mathematical modelling and simulation of multiple effect evaporators in paper industry" Book Chapter of "Futuristic Trends in Science and Engineering" Published by Astitva Prakashan Nehru Nagar, Bilaspur, Chhattisgarg(India), pp.53-103(2022).

- ❖ Leena Singh and Aryaman Singh,"Organochlorine and Organophosphate Pesticides an Emerging Pollutants in Ganga River System: An Overview" Book Chapter of "Environmental Management Technologies: Challenges and Opportunities" Published by CRC Press, Taylor and Francis, pp.49-69(2022). https://doi.org/10.1201/9781003239956
- Smriti Dwivedi, S. Jaiswal, A. Kushwaha, "Renewable Biofuel Resources: Introduction, Production Technologie, Challenges, and Applications" Book Chapter of "Bio-Clean Energy Technologies" Published by Springer, vol.2 pp.27-52(2022). https://doi.org/10.1007/978-981-16-8094-6_3
- ❖ Garima Pandey, Smriti Tripathi, Sangeeta Bajpai, and Monika Kamboj, "Approaches, Challenges, and Prospects of Nanotechnology for Sustainable Agriculture" Book Chapter of "Agricultural and Environmental Nanotechnology Noval Technologies and their Ecological Impact" Published by Springer, pp.83-103(2023). https://doi.org/10.1007/978-981-19-5454-2_3
- Dr. Bipin Kumar Srivastava, Dr. Atul Sarojwal, & Sarvani J. Khanam Book of "Solar Energy: Fundamentals, Modelling and Its Applications" Published by Scientific International Publishing House(India),(2022).
- Dr. Bipin Kumar Srivastava, Dr. Savita Verma, Dr. M. Pradeep Kumar Book of "Nanotechnology and Applications" Published by Scientific International Publishing House(India),(2022).
- Dr. Bipin Kumar Srivastava, Dr. Amit Sharma & Dr, Ashwani Kshirsagar, Book of "Engineering Chemistry" Published by Alpha International Publication(India),(2022).

Patents from the Department during 2022-23

Dr. Rajesh Tripathi, Mr. Arvind Dhurve, Mr. Sri Krishna Singh, Dr. Rajeev Kumar Mishra and Dr. Rajendra Prasad, "Method for designing concept of solar fraction in solar still" National Patent, Patent Office- IN(India), 202311029470A(2023).

- Dr. Rajeev Kumar Mishra, Dr. Rajesh Tripathi, Dr. Rajendra Prasad, "Hybrid PVT-CPC Solar Distillation Unit with Rear Condensing Cover" National Patent, Patent Office- IN(India), 202211046352A (2022).
- Dr. Bipin Kumar Srivastava, Dr. Savita Verma, Dr. S. Imam Pasha, Dr. P. Arthi, Dr. Monika Singh, Dr. Amit Sharma, Dr. D.T. Sakhare, Dr. K. Hema. Dr. Mayuri R Joshi, "Synthesis and characterization of vanadium complexes with quadridentate schiff bases" National Patent, IN(India), 202211037064 (2022).
- Dr. M.S.N.A. Prasad and Dr. Bipin Kumar, "Composition of green nanomaterials synthesized using sustainable and renewable energy sources" National Patent, IN(India), 202341026698(2023).
- Dr. Bipin Kumar Srivastava, Rama Srivastava, Dr. Annu, Dr. Amit Sharma, Dr. Prasant Singh Yadav, Dr. Pankaj Yadav, Manoj Kumar Goel, "Face recognition based attendance management system" National Patent, IN(India),202211054426 (2022).
- Dr. Bipin Kumar Srivastava, Dr. Annu, Dr. Govind Krishna Mishra, Dr. Viraj Hanumantrao Mankar, Ms. Admane Swati Sudhakar, Sarika nigam, "Method of making noble metal nanoparticles formed by green chemistry techniques" National Patent, IN(India), 202211067158(2022).
- Dr. Bipin Kumar Srivastava, Dr. Annu, Sarika nigam. Ankita Mathur, Dr. Jyoti Sharma, "A green chemistry method for synthesizing iron rich coal fly ash/organic polymer/metallic nanoparticle composite" National Patent, IN(India), 202311001413 (2023).
- Dr. Anurag Shrivastava, Dr. Bipin Kumar Srivastava, Dr. Prateek Nigam, Dr. Chandra Mohan, Dr. Shiva Johri, Abhishek Kumar Singh, "Renewable green energy for sustainable development" National Patent, IN(India), 202221033886(2022).
- Dr. Savita Verma, Dr. Bipin kumar Srivastava, Sandeep Gupta, Akshay Raj, Dr. Vaishali Joshi, Dr. Milan Hait, Dr Satish Piplode, Dr. Harishchander Anandaram, Dr surendra kumar Yadav, Thejovathi Murari, Dr. P. Satheesh Kumar, Dr.A.Geetha Bhavani, "An Artificial Intelligence based approach integrated with the aspects of Photo-

- Catalysis for Safeguarding the Environment from Pollution caused by Vehicles" National Patent, IN(India), 202211033385(2022).
- Dr. Bipin Kumar Srivastava, "Design of bifacial solar panels for efficient utolization of solar energy" National Patent, IN(India), 202241021306(2022).
- ❖ Dr. Bipin Kumar Srivastava, "Designing wireless sensor netyworks by implementing optimization" National Patent, IN(India), 202211009477(2022).
- Dr. Rajeev Kishore, "Method and System to Manage a Bandwidth in a Wireless Sensor Network" National Patent, IN(India), 202311008432(2023).
- ❖ Dr. Rajeev Kishore Disabled Person's Smart Wheelchair System Design with IoT-Based Eye Tracking and Gesture Control National Patent, IN(India), 202341015526(2023).
- Dr. Mukta Sharma, Prof. Mahima Sharma, Dr. Ansar Anjum, Dr. Sarika Agarwal, Dr. Sabir Salim Sayyed, Prof. Khuspe Pankaj Ramdas "Face mask with air purification method" National Patent, IN(India), 379569-001(2023).
- Dr. Gurmeet Kaur, Dr. Urvashi Chaudhary, Rashmi Vaishnav, Dr. Sudhir Kumar Sharma Dr. Dushyant Kumar, Dr. Vinay Gautam,"A System and method for evaluating generalized transportation problem" National Patent, IN(India), 202211046186 A(2022).

Paper Presented/Invited talk in Conference/ Seminar from the Department during 2022-23

Dr Rajendra Prasad	Paper presented on "Annealing Effect on the Structure and Electrical Properties of amorphous GaAs/Ge Multilayer Thin Film" in International Conference on Advancement in Core and Frontier of Physics(ACFP-2023), organized by
	Department of Physics, GLA University, Mathura, February 17-19, (2023).

Dr.Smriti Dwivedi	Invited talk on "Application of Nanotechnology for water purification" in International Conference of Spiritualism, Yoga, Herbal Renaissance & Environmental Consciousnes in the World-SYHRECW-2023, Organised by Kamla Group of Colleges, Dholpur, Rajasthan, May14-15,(2023).
Dr Sadanand	Invited talk on "Opportunities and Challenges of Hybrid Perovskite Photovoltaic Devices" at International Forum on Environmental Science and Applications held at Hyderabad, April 10, (2023).
Dr. Pankaj Pathania	Paper Presented on "Responsive PNIPAM Coated Au Core-Shell Nanoparticle for Optical Sensing" in DRDO supported National Conference in "Advances in Polymer Materials (APM-23)" organized by College of Basic Sciences & Humanities ,G.B. Pant University of Agriculture & Technology Pantnagar (Uttarakhand),India April 25-26,(2023).

Participation in FDP/ Workshop/ Seminar/ Training Program/ Short Term Courses by faculty members from the Department during 2022-23

Dr Rajesh Tripathi	FDP on "Technology Integration and NEP 2020" organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr Rajesh Tripathi	Short Term Professional Development Programme on "Implementation of NEP2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, Indira Gandhi National Open University, New Delhi, Oct.27-

	Nov.05(2022).
Dr Monika Malik	FDP on "Technology Integration and NEP 2020 "organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr Monika Malik	Short Term Professional Development Programme on "Implementation of NEP2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, Indira Gandhi National Open University, New Delhi, Oct.27-Nov.05(2022).
Dr Rajendra Prasad	FDP on "Technology Integration and NEP 2020 " organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr Rajendra Prasad	FDP on "OFC Systems: Design & Simulation "organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, Oct.31-Nov.04,(2022).
Dr. Smriti Dwivedi	Short Term Professional Development Programme on "Implementation of NEP¬2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, Indira Gandhi National Open University, New Delhi, September 09-17(2022).
Dr.Smriti Dwivedi	FDP on "Technology Integration and NEP 2020 " organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr Indu Tyagi	Short Term Professional Development Programme on "Implementation of NEP-2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on

	Teachers and Teaching, Indira Gandhi National Open University, New Delhi, Oct.07-Nov.15(2022).
Dr. Bipin Kumar Srivastava	Short Term Professional Development Programme on "Implementation of NEP-2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, Indira Gandhi National Open University, New Delhi, Oct.07-Nov.15(2022).
Dr. Bipin Kumar Srivastava	IP Awareness Training Program Under National Intellectual Property Mission, Govt. of India, September 08(2022).
Dr. Bipin Kumar Srivastava	FDP on "OFC Systems: Design & Simulation "organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, Oct.31-Nov.04(2022).
Dr. Bipin Kumar Srivastava	FDP on "Technology Integration and NEP 2020 " organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr.Pratap Kumar	Short Term Professional Development Programme on "Implementation of NEP-2020 for University and College Teachers" Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, Indira Gandhi National Open University, New Delhi, Oct.07-Nov.15(2022).
Dr. Rajeev Kishore	FDP on "Technology Integration and NEP 2020 " organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, June 12-16,(2023).
Dr. Leena Singh	FDP on "Technology Integration and NEP 2020 " organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering

	& Technology, Greater Noida, June 12-16,(2023).
Dr. Manju Kashyap	FDP on "Research Methodology 2.0" organized by Lioyd Business School, Greater Noida, December 05-13,(2022).
Dr.Smriti Dwivedi	FDP on "OFC Systems: Design & Simulation "organized by Collaboration with NITTTR, Chandigarh and Galgotias College of Engineering & Technology, Greater Noida, Oct. 31-Nov 04(2022)
Dr. Dushyant Kumar	Workshop on "New Dimensions in vedic mathematics" organized by Department of Mathematics, CCS University, Meerut, March 28-29, (2023).
Dr. Dushyant Kumar	FDP on "Real Analysis Topology" organized by Division of Mathematics, School of Advanced Sciences (SAS), Vellore Institute of Technology, Chennai, August. 26-30 (2022).
Dr. Dushyant Kumar	Workshop on "Vedic Mathematics" organized by Department of Mathematics, CCS University, Meerut, August 22-28,(2022).

REVIEWER /EDITORIAL BOARD MEMBER/ MEMBER OF ANY DIGNITARY BODIES 2022-23

	Reviewer of International Journal of "Solar Energy"
Dr Rajesh Tripathi	Reviewer of International Journal of "Desalination.
	Reviewer of International Journal of "Renewable and Sustainable Energy".
Dr Rajendra Prasad	Reviewer of "4 th International Conference of Computational & Experimental Methods in Mechanical Engineering".
Dr Vinay Gautam	Editorial Board member of "International Journal of Management and Fuzzy Systems".
Dr Dushyant Kumar	Reviewer of "International Conference of temporary research on Mathematics and computer science (ICCRMCS-2022).
Dr. Mona	Reviewer of 2nd international conference on "Functional Materials and Simulation Techniques (ICFMST-2022)
Dr Ansar Anjum	Peer-Reviewer of Journal of "Drug Research"
	Editorial Board Member in SCIREA Journal of Mathematics
Dr Padam Singh	Editorial member of "SRMS Journal of Mathematical Sciences"
	Reviewer of "Journal of Engineering Research and Report"

	Reviewer of "Asian Research Journal of Mathematics"
	Reviewer of International Journal "Frontiers in Heat and Mass Transfer"
	Reviewer "Enhanced Heat Transfer Research"
Dr Padam Singh	Guest Editor: R. Tripathi et al 2022 J. Phys.: Conf. Ser. (22-23) 011001 (SCOPUS)
Di i dadili Olligii	Guest Editor "Materials Today : Proceedings Special Issue" (ISSN 2214-7853, SCOPUS).
	Reviewer of "International Conference of contemporary research on Mathematics and computer science(ICCRMCS-2022).
	Organizing Committee member in an International Conference on Mathematical Models, Statistics and Applications "ICMMSA-2023"
Dr. Bipin Kumar Srivastava	Associate Editor, International Journal of Research in Chemistry and Environment (IJRCE) e-ISSN 2248-9649 is a peer-reviewed international quarterly e-journal devoted to Chemical and Environmental Science
	Reviewer of "Materials Today: Proceedings".
Dr. Rajni Garg	Reviewer of the Journal "Advance Engineering Forum".
	Reviewer of the Journal- "Advanced materials research".
	Reviewer of Journal of "Nano research".
	Reviewer, "Journal of Biomimetics,

	Biomaterials and Biomedical Engineering".
	Reviewer, "International Journal of Engineering Research in Africa". Reviewer of the Journal- "Molecules."
	Reviewer of the Journal- "Gels"
	Reviewer of the journal- "Crystals."
Dr. Daini Carr	Reviewer of the "Journal- Biomass Conversion and Biorefinery" Reviewer of the Journal- "BBA Advances"
Dr. Rajni Garg	Reviewer of the Journal- BBA Advances
	Reviewer, "Walailak Journal of Science and Technology"
	Reviewer of the Journal- "Vegetos"
	Editorial Board Member for the journal-Communications in Physical Sciences published by University of Nigeria
	Reviewer of Journal of "Solar energy."
Dr Sadanand	Reviewer of Journal of "Journal of Physics and Chemistry of Solids." International Journal of Energy Research, Solar Energy Materials and Solar Cells, Advanced Theory and Simulations and Optical Materials.
	Reviewer of Journal of "International Journal of Energy Research.", Solar Energy Materials and Solar Cells, Advanced Theory and Simulations and Optical Materials.
	Reviewer of Journal of "Solar Energy Materials and Solar Cells." Advanced Theory and Simulations and Optical Materials. Reviewer of Journal of "Advanced Theory and Simulations and Optical Materials."

ACHIEVEMENT OF THE DEPARTMENT

To initiate the Bottles for Change Program, Bisleri International Pvt. Ltd. New Delhi Team signed Letter of Association (LoA) with Galgotias College of Engineering and Technology, Greater Noida,



affiliated with Dr. A.P.J. Abdul Kalam Technical University, Lucknow on 10th February 2023.

The signing of LoA was done in esteemed presence of HoD Applied Sciences, Dr. Rajesh Tripathi, Mr. K Ganesh Senior General Manager

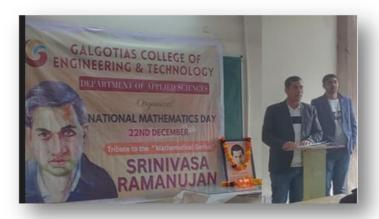


Sustainability & CSR, Bisleri International Pvt. Limited and Dr. Bipin Kumar Srivastava, Associate Professor & Coordinator, The Green Environment Club.

This signing with the college is to drive the cause of appropriate plastic segregation, disposal and recycling under its sustainable programme - Bottles for Change. As a part of the initiative, the organization has partnered with The Green Environment Club of the college, to mobilise college students and drive a movement by creating awareness about used plastic and building a plastic circular economy.

CURRICULAR SECTION OF THE DEPARTMENT

National Mathematics Day on 22nd December 2022



Department of Applied Sciences, Galgotias College of Engineering and Technology celebrated National Mathematics Day on 22nd December 2022. The program was hosted by Dr Dushyant Kumar.



and Dr Padam Singh in the presence of faculty members, staff and students. Dr Dushyant informed about the importance of Mathematics day. He also discussed about the magic number given by the great Indian Mathematician, Srinivasa Ramanujan. Dr Padam Singh addressed about creating awareness and importance of mathematics in day-to-day life.

Dr. Rajesh Tripathi, Head of the Department of Applied Sciences, addressed the gathering and informed that the number 1729 had special significance in Sir, Sri Srinivasa Ramanujan's life. At the end, certificates were distributed to students for performing in quiz competition on National Mathematics Day.

Celebration of National Science Day-2023



The Green Environment Club Celebrated National Science Day on 28th February,2023. National Science Day is celebrated every year on 28 February to mark the discovery of the Raman Effect. This year the

theme of National Science Day has been kept, "Global Science for Global Welfare" which will be celebrated across the country. The theme of National Science Day means that the whole world including India will face new global challenges in 2023. It is necessary to highlight the importance of science to face these challenges and for the welfare of the world.

Dr. Rajesh Tripathi, Head Department the Applied Sciences, said that number the eight special significance in C.V. Raman's life. He said that National Science Day is celebrated every year to increase interest in science among people and to create awareness about



science in the society. It highlights the importance of scientific analysis and discovery for the progress of mankind.

Dr Tripathi, advised that Physics, Chemistry, Mathematics and Environmental Science should jointly publish patents and research papers, so that the name of our college and department becomes.global.



Dr. Smriti Dwivedi informed that if a light passes through a transparent object, som e part of the light is deflected, which causes change in wavelength. This discovery was named the Raman Effect. He was awarded the Nobel Prize for it. The program was coordinated by Dr Bipin



Kumar Srivastava, Dr. Rajeev Kishore, members of "Green Environment Club", professors and staff of the department.

World Earth Day, 22nd April 2023

Environment The Green Club (TGEC) of Galgotias College of Engineering and Technology organized multi event program on the occasion of World Earth Day. The chief guest was Dr. Kuldeep Malik, renowned activist of spreading for the awareness sustainable environment in the youth. The program was welcome started with Dr. Malik Kuldeep bν





Dr. Bipin Kumar Srivastava, coordinator of TGEC. The chief Kuldeep quest Dr. Malik addressed the students, faculty, staff and enlightened them with his activity for protecting our Earth for next generation. He emphasized also on three RRRs and encouraged all for more plantation and minimal

use of plastic, polybags etc. The program consisted of Poster Making Competition, Debate Competition and Awareness Camp. The theme of the event was "Invest in our planet, Protect our Future". Students participated enthusiastically in all the events. The students showcased their concern for the deteriorating health of mother nature through beautiful colors and drawings. The overwhelmed students presented their views on sustainable growth and development through their debates. At the end of the program, plantation was done by Prof. Mohd. Asim Qadri, Director

accompanied by Dr. Bipin Kumar Srivastava, Dr. Ansar Anjum, DSW, Dr. Kuldeep Malik, Dr. Kanchan, HoD-MCA & members of TGEC, faculty members, and students.

World Environment Day on 5th June 2023

The Green Environment Club (TGEC), Applied Sciences at Galgotias College of Engineering and Technology celebrated World environment

Day on 5th June 2023. The programe was started with a pledge taken by all the students, faculties and guest to follow significant rules in our daily life in order to celebrate World Environment



day throughout the year. The chief guest for the event was Mohd.Farazuddin, alumni of GCET, and founder and CEO "SYLPH SPACE". startup The program commenced with Dr. Srivastava, a TGEC member, extending welcome to the chief warm guest. Addressing students, faculty, and staff, Mohd. Farazuddin enlightened them about his on going efforts of free



distribution of sapling in various institutions, companies to protect the environment for future generations. He emphasized the significance of the three RRRs and encouraged everyone to actively engage in more tree planting initiatives. Later, he showed his gratitude to all the teachers by gifting them beautiful plants, spreading awareness about making our planet green on this



auspicious day. Later engaging activities for students were also held including a Poster Making Competition, drama, poem recitation etc. The students displayed immense enthusiasm and actively participated in all the events.

Through their vibrant colors and artistic expressions, they showcased their concern for the deteriorating state of our natural surroundings. Dr. Leena, faculty of environment and ecology addressed the students about the latest development in various program in this mission. Also students were honored and recognized for their participation in the events. At the end of the event Dr. Bipin, members of TGEC, facultie's, and students along with Mohd.Farazuddin,chief guest planted trees.

CLUBS OF THE DEPARTMENT

THE GREEN ENVIRONMENT CLUB

GREEN ENVIRONMENT CLUB

DEPARTMENT OF APPLIED SCIENCES

GALGOTIAS COLLEGE OF ENGINEERING AND TECHNOLOGY

VISION :

To make students conscious towards the environment and their responsibility to protect it.

MISSION:

- . To create awareness among students about the importance of the environment.
- · To inculcate an Eco-friendly attitude in students through an action-based program.
- · To exert value-oriented efforts for a clean and green environment thus creating awareness towards the three 'R's-reduce, reuse and recycle of conservation.



ASSOCIATE PROFESSOR







MS. PRATIKSHA BHATIA **ASSISTANT PROFESSOR**

















ENVIRONMENT











Department of Applied Sciences

Galgotias College of Engineering & Technology, Greater Noida



Dr Rajest Tripathi Professor & HoD

Dr Monika Malik
Associate Professor & Dy-HoD
Subject Coordinator-Engg. Chemistry





Dr Rajendra Prasad Professor Subject Coordinator-Engg. Physics

Dr Dushyant Kumar Associate Professor Subject Coordinator-Engg. Mathematics





Dr Leena Singh
Associate Professor
Subject Coordinator-Environment & Ecology

- O Dr Indu Tyagi, Professor
- O Dr Pratap Kumar, Professor
- O Dr Smriti Dwivedi, Professor
- O Dr Ansar Anjum, Professor
- O Dr Deepak Kumar, Professor
- O Dr Rajeev Kumar Mishra, Associate Professor
- O Dr Bipin Kumar Srivastava, Associate Professor
- O Dr Manju Kashyap, Associate Professor
- O Dr Rajeev Kishore, Associate Professor
- O Dr Amanpreet, Associate Professor
- O Dr Pankaj Pathania, Associate Professor
- O Dr Savita Verma, Associate Professor
- O Dr Padam Singh, Associate Professor
- O Dr Vinay Gautam, Associate Professor
- O Dr Bidyut Mallick, Associate Professor
- O Dr Rajni Garg, Associate Professor
- O Dr (Mohd.) Kashif, AP
- Dr Virendra Singh, AP
- Ms. Pratiksha Bhatia, AP
- Mr. Gaurav Singh, AP
- O Dr Mona, AP
- O Dr Avinash Kumar Yadav, AP
- O Dr Smriti Tripathi, AP
- Dr Sadanand, AP
- O Dr Pankaj Verma, AP
- O Dr Shailendra Singh, AP
- O Dr Amit Verma, AP
- O Dr Arohi Dixit, AP









