



DEV BHOOMI
—UTTARAKHAND—
UNIVERSITY



विMarsh

A NEWSLETTER

Volume 1, Issue 2, Jan-June 2023



School of Allied Sciences

Editor-In-Chief: Prof. (Dr.) Nabeel Ahmad
Editor: Dr. Nirjara Singhvi

ABOUT

SCHOOL OF ALLIED SCIENCES



The School of Allied Sciences is dedicated to imparting the best quality of the learning atmosphere at the best Allied Science College in Dehradun through Clinical & Community exposure clubbed with discussions, seminars & classroom teaching, for modernization in the particular industry, internships, and guided tours to reputable foundations. With the commencement of the School of Allied Sciences back in the year 2006, it has shown the peak of excellence in these 18+ years of growth and is always known for being one of the trusted institutes. With the dedication to provide quality education with first-hand practical exposure, the School of Allied Sciences under DBUU became the top Allied Science College in Dehradun.

Our skilled and professional students will serve in healthcare services through their skills by training and using the understanding gained. The School of Allied Sciences at Dev Bhoomi Uttarakhand University is known for its expertise in education. Earlier, the school was recognized as the best Allied science College in Uttarakhand under the Dev Bhoomi Group of Institutions. The courses offered were Bachelors in Biotechnology, Physics, Chemistry, Mathematics, Zoology, Microbiology, Forestry, Forensic Science, Food Technology along with Masters courses in Physics, Chemistry, Mathematics, Zoology, Environmental Science and Microbiology. School also provide Ph.D programs in Zoology, Microbiology, Biotechnology, Chemistry, Mathematics, Physics and Environmental Science. The school has well furnished Chemistry, Microbiology, Zoology, Forestry, Food Technology and Botany lab with certified tech.



Shri. Sanjay Bansal

Chancellor's Desk

I extend my heartfelt congratulations to all of you in the School of Allied Sciences. Your unwavering dedication to academic excellence and groundbreaking research has been nothing short of inspiring. Together, we continue to push the boundaries of knowledge and create a brighter future for our community and beyond. Your passion and hard work are truly shaping the future of our institution, and I couldn't be prouder. Keep up the exceptional work!

Vice Chancellor's Desk

As we mark the successful completion of the first half of 2023, I extend my heartfelt congratulations to each one of you in the School of Allied Sciences for successful release of second issue of **विMarsh**. The faculty's commitment towards nurturing curious minds and the students' unwavering passion for learning have been instrumental in our collective achievements. I encourage you all to continue fostering a culture of collaboration and innovation as we navigate the challenges and opportunities that lie ahead at DBUU.



Prof. (Dr.) Preeti Kothiyal

Pro Vice Chancellor's Desk



Prof. (Dr.) R. K. Tripathi

At Dev Bhoomi Uttarakhand University, we pride ourselves on offering a harmonious blend of academic and career prospects, complemented by a vibrant campus life enriched with a diverse array of sports, cultural, and social activities at School of Allied Sciences. Our unwavering dedication to holistic development ensures that our students emerge as capable leaders, empowered to shape their future and bring about positive transformations. With a firm belief in nurturing well-rounded individuals, we pave the way for a promising tomorrow and a brighter tomorrow.

Dean's Desk

With great pleasure, I extend my warmest congratulations to each of you for your exceptional contributions to the 2nd edition of our School of Allied Sciences newsletter. Your dedication to showcasing the remarkable achievements during January to June 2023 has made this publication a true reflection of our collective success. The commitment of our faculties in shaping knowledge and the enthusiasm of our students in embracing new challenges are truly praiseworthy. Let us continue to celebrate excellence and inspire each other to reach greater heights in the journey ahead.



Prof. (Dr.) Nabeel Ahmad

Ahmad, N. Aryl fluorosulfates: powerful and versatile partners in cross coupling reactions. RSC Adv., 2023, 13, 13642-13654 **IF: 4.036**

Ahmad, N. Nano-Conversion of Ineffective Cephalosporins into Potent One against Resistant Clinical Uro-Pathogens via Gold Nanoparticles. Nanomaterial 2023,13:475. **IF: 5.67**

Singhvi, N; Ahmad, N. Comparative genomics and integrated system biology approach unveiled undirected phylogeny patterns, mutational hotspots, functional patterns, and molecule repurposing for monkeypox virus. Funct Integr Genomics 2023 23, 231 **IF: 3.67**

Singhvi, N. Phylogenetic analysis and interactomics study unveil gene co-optive evolution of LysR-type transcription regulators across non-pathogenic, opportunistic, and pathogenic mycobacteria. 3BioTech. 2023 Jun;13(6):168. **IF: 2.89**

Singhvi, N. Computational Approaches for the Structure-Based Identification of Novel Inhibitors Targeting Nucleoid-Associated Proteins in *Mycobacterium tuberculosis*. Mol Biotechnol. 2023 **IF:2.86**

Singh, MV. Pyrolysis Processes and Physicochemical Properties of Liquid Hydrocarbon Fuel from Waste Plastics: A Review. Chemical Engineering & Technology. **IF: 2.21**

Singh MV. Toxicity of Chemical Substances in Groundwater of Jhunjhunu District of Rajasthan, India: A Physicochemical Analysis. ES General 2023, 1:857.

Singh, MV. New insight into the origin and therapeutic implication of benzopyran and there derivatives a review. ChemistrySelect. **IF: 2.30**

Sharma, R.C, Chauhan, MS. Density Functional Theory based study of the interaction energy between Ethyl tin (IV) chloride and derivatives of pyridine. Eur. Chem. Bull. 2023,12 :652. **IF: 3.71**

Chauhan MS, Bhatt N. Physicochemical Profiling of Soil and Water from the Industrial Area of Selaqui in Uttarakhand and the Effect of Effluent on Fertility Parameters of Soil. Eur. Chem. Bull. 2023,12(5), 1936-1960. **IF: 3.71**

Singh MV, Chauhan MS. Synthetic Procedures, Properties, and Applications of Thiophene-Based Azo Scaffolds. ES Food Agrofor., 2023, 12 : 887.

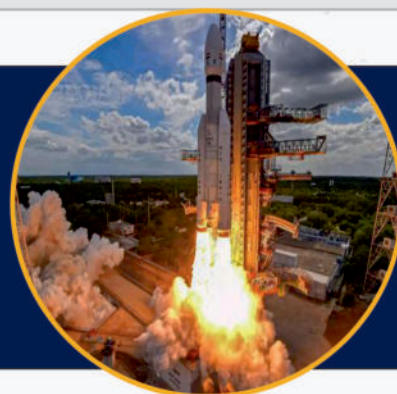
Chauhan MS. Progress in theoretical study of lead-free halide double perovskite $\text{Na}_2\text{AgSbX}_6$ (X = F, Cl, Br, and I) thermoelectric materials. Journal of Molecular Modeling 2023, 29:195 **IF:2.17**

Dabral, K. Comparative study of Indium as a filler or as a substitute in Yb filled Ni doped CoSb_3 . ECS Advances (Accepted)

Mubashshir M, Ahamd, N, Negi, T, Rawal R, Singhvi N, Khatoon H, Laxmi V, Sharma R. B., Negi G. Therapeutic Benefits of Melatonin Against COVID-19. Neuroimmunomodulation 2023, 30:196 **IF: 2.79**

"Innovative Technology and Bold Aspirations: Chandrayaan 3's Quest to Conquer the Moon!" –

Delve into the cutting -edge instruments and revolutionary innovations powering Chandrayaan 3, as it aims to leave an indelible mark on lunar exploration.



Books/Book Chapters

Laxmi V, Sudarshna, Ahmad, N, Singhvi N. Endophytic microorganism as biocontrol agent: developments and prospects. 2023 In Current Scenario in Agriculture & Allied Sciences.

Tomar, G. Water disinfectant and its health hazards to life: A Review . 2023 In Drinking Water Disinfection Byproducts: Sources, Fate & Remediation. Springer

Pandey, A. A predictive system for efficient portfolio management: An application of ANN and technical indicator. In Lecture Notes in Network & Systems (Accepted)

Patents Granted/Published

Ahmad, N, Singhvi N. Instrument used for detection of alzheimers disorder. in UK Designed Patent office Patent Application Number: 6288045

Ahmad, N. Automatic Segmentation and Classification of Brain Tumor using Machine Learning Techniques. Indian Patent 2023.

Ahmad, N. Compact DNA/RNA Extraction System in UK Designed Patent office Patent Application Number: 6290390

SoAS @ Various Forums

Dr. Nabeel Ahmad. Keynote lecture on Entrepreneurship: Need and Scope in India at Saroj Education Group, Lucknow (Jan'23)

Dr. Nirjara Singhvi. Invited as Resource Person to conduct Hands-on Bioinformatics Workshop at University of Jammu, Jammu (Jan'23)

Apoorva Narad. Keynote lecture on 'Forensic Toxicology' at Forensic Consultancy Crime Investigation Services (FCCIS), Jharkhand, India (April'23)

Apoorva Narad. Keynote lecture on 'Two days Online Workshop on Forensic Toxicology' at FCCIS, Jharkhand, India (June'23)

Apoorva Narad. Keynote lecture on 'Poisons: Administration, Extraction, Isolation and Analysis' at FCCIS, Jharkhand, India (July'23)

Aakansha Chaudhary. Expert lecture on 'Questioned Documents' at Applied Forensic Research Sciences Pathshala (July'23)



AWARDS & RECOGNITIONS



Ms. Tulika won 1st prize and Mr. Parth Chaturvedi was 2nd Runner Up in Debate Competition on 'India against corruption' organized in association with Vigilance Establishment, Uttarakhand under G20 Summit, Uttarakhand 2023.

26 April 2023



Students from Department of Mathematics won 1st prize in Treasure Hunt organized during PINAK 2k23

15 May 2023



School of Allied Sciences bagged 3rd prize in Nukkad Natak Competition Organized by Internal Complaints Committee (ICC), DBUU on theme 'Gender Sensitization - Breaking Barriers

07 April 2023

17 May 2023

Ankit Kashyap and Ritesh, Dept. of Microbiology & Parth Chaturvedi & Priyanka Kandwal, Dept. of CBZ under the guidance of Prof. Nabeel Ahmad won 3rd Prize of Rs. 21,000/- at Navadhara Technofest 2k23

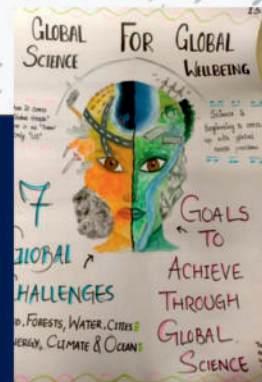
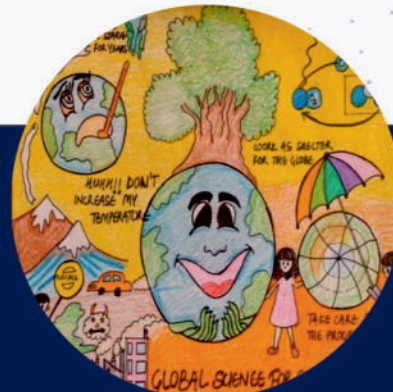


SARANG: A Germicidal Pocket Torch that will protect you from the worlds biggest enemies, Virus and Harmful bacteria. Time to light your way into safer future.

2nd Runner Up

"Beyond Boundaries: National Science Day 2023 Ignites a Passion for Exploration!" –

From space exploration to nanotechnology, delve into the vast array of scientific disciplines fueling our quest for knowledge and a deeper understanding of the universe we inhabit.



"Pathogen Escape" in the Environment

Environmental sample act as reservoirs as well as play a major role in the dissemination of drug-resistant bacteria. The production of β lactamase is an inevitable result of the inappropriate use of antibiotics among people and animals. β lactamase production results in multidrug resistance (MDR) & Antimicrobial resistance (AMR). The presence of antibiotic resistance in pathogenic bacteria represents one of the major public health issues.

AMR has been recognized as a global threat to public well-being due to its links to higher rates of morbidity, mortality, and financial costs. By 2050, it is anticipated that AMR will cause 10 million deaths yearly, reduce the world GDP by 3% to 4%, and cost \$100 trillion US dollars.

Many studies have been done which show the presence of drug resistance in various environmental samples such as soil and natural water resources. This discloses that multiple antibiotic resistance genes have already been spread beyond clinical settings and entered the food chain by including foods (animal origin and non-animal origin), aquaculture, and agriculture. Now a day's environmental samples become the reservoir for the pathogen. Before it is too late an effort to stop its spread from all around the world is important.



Ms. Pooja Bisht
Assistant Professor
Department of Microbiology

FACULTY CORNER



Biosurfactant: A tool for remediation of oil pollutants

A wide range of microbes can produce the biosurfactant as their secondary metabolites utilizing low cost substrates. The natural surfactant or biosurfactant (BS) play a vital role to remediate not only the highly hydrophobic pollutants but also heavy metal removal from the environment. Biosurfactant has been considered as surface active biomolecule because they can reduce the surface and interfacial tension between the two liquid phases, therefore, BS can act on the oil pollutants. In addition, we can use low cost substrates like agro-waste material and industrial waste for the BS production. Several industrial by-products which are rich in nutrients such as molasses, wheat bran, rice bran and corn steep liquor can be used as a carbon and nitrogen source for the higher production of BS. There is a huge demand of production of biosurfactant due its excellent properties like non-toxic, degradable, compatibility towards the environment and amphipathic in nature and by this way we can save environment in eco-friendly manner



Ms. Geeta Rawat
Assistant Professor
Department of Microbiology



Recent Advancement in Food Technology

In recent years, the landscape of food technology has undergone a profound transformation, giving rise to an array of innovations that are redefining how we produce, distribute, and interact with food. One of the most noteworthy breakthroughs is the emergence of cellular agriculture, which has unlocked the potential to cultivate meat and other animal products in controlled environments, independent of traditional livestock farming. This innovation addresses a multitude of challenges, including resource-intensive land use, greenhouse gas emissions, and ethical concerns associated with conventional animal agriculture.

Precision agriculture, another pivotal advancement, has harnessed the power of data and technology to optimize farming practices. Through the integration of sensors, drones, and data analytics, farmers can monitor and manage their crops with unprecedented precision. This data-driven approach enhances crop yields, minimizes the use of water and pesticides, and reduces waste. By ensuring that resources are allocated more efficiently, precision agriculture contributes to both food security and sustainability, crucial considerations in a world where population growth and changing climate patterns pose significant challenges to traditional farming methods.

Intriguingly, the realm of 3D printing has extended its influence to the culinary sphere. The advent of food-grade 3D printers allows chefs and food manufacturers to craft intricate and customized food structures. This technology has applications ranging from artistic food presentations to creating specialized diets for individuals with specific nutritional needs. While still in its nascent stages, 3D food printing has the potential to redefine culinary creativity and personalization, showcasing how technology can seamlessly merge with the artistry of food preparation.



Mr. Mohd. Suhail
Assistant Professor
Department of Food Technology



**FACULTY
CORNER**

TRIUMPH OVER ADVERSITY" 'FROM DARKNESS TO LIGHT

My name is Sabiya Majeed, I am from Kashmir and currently pursuing my B. Sc. Zoology (Hons) at Dev Bhoomi Uttarakhand University.

I am here to share my story about how I overcome mental health illness. This story begins three long years ago. When I found myself trapped in the suffocating clutches of depression. Everyday I felt like an uphill battle as darkness engulfed my mind, and robbed my all happiness and peace. Panic attacks would often strike, leaving me feeling helpless and alone. Behind my smile I was carrying a heavy burden - a silent struggle that had plagued me for three long years.

Being an introvert person since my childhood I rarely shared anything and felt more comfortable keeping things to myself. I was living in a society where mental health was often considered a taboo subject. As the people were correlating madness with depression even though these are two different things. It is a common illness like other diseases fever, flu etc, that can take years to overcome. The stigma surrounded mental illness only intensified my struggle as I feared judgement and rejection. But deep down, I knew I couldn't continue suffering in silence.

I reached out to my family and shared my pain, revealing the battles I had been fighting alone for far too long. The love, concern, understanding and empathy from my family became pillars of strength that lifted my spirits during my darkest phase. Through the professional help, medication, therapies and proper counseling gradually developed coping mechanism to combat the overwhelming emotions and thoughts that plagued me .

Today, I stand tall as a survivor, and an inspiration. I have emerged from the depths of depression and found purpose to break the shackles of societal judgement and encourage others to seek help fearlessly. I realised that what I was experiencing was not unique, my story resonates with many people there were and there are countless people even in this university like me battling the same demons.

As my story found its way into the pages of SOAS department of Dev Bhoomi Uttarakhand University's newsletter, it is a call action for every one struggling out there . Let us unite in creating a safe space where mental health can be discussed openly, where stigma is shattered and where healing can take root. Together we can break the chains of silence and embrace a future where mental well being is cherished and nurtured.

BEING ASKED "WHY ARE YOU DEPRESSED? LIFE IS SO BEAUTIFUL!" IS LIKE SAYING "WHY DO YOU HAVE ASTHMA? THERE IS SO MUCH AIR!"



Ms. Sabiya Majeed
Student, B. Sc. (H) Zoology

EVENTS & ACTIVITIES



A Semester filled with exciting events including

INDUSTRIAL EXPOSURES

DAY CELEBRATIONS

EXPERT TALKS

SEMINARS & EXPO

INDUSTRIAL VISITS

- Patanjali, Haridwar
- Zoological Survey of India, Dehradun
- Survey of India, Dehradun
- Indian Institute of Petroleum, Dehradun
- Krishivan Research Centre, Dehradun
- ICAR-Indian Institute of Soil & Water Conservation, Dehradun



DAY CELEBRATIONS

- Science Day Celebration with Debate, Poster and Rangoli Competitions
- Earth Day Celebration with Awareness drive, Cleanliness drive, Paper bag distribution

INTERNATIONAL EDUCATION SUMMIT 2023

BREAKING BARRIERS

DBUU BRINGS THE WORLD TO YOU WITH **INTERNATIONAL PARTNERSHIPS**

- Student Exchange
- Faculty Exchange
- Research
- Scholarships

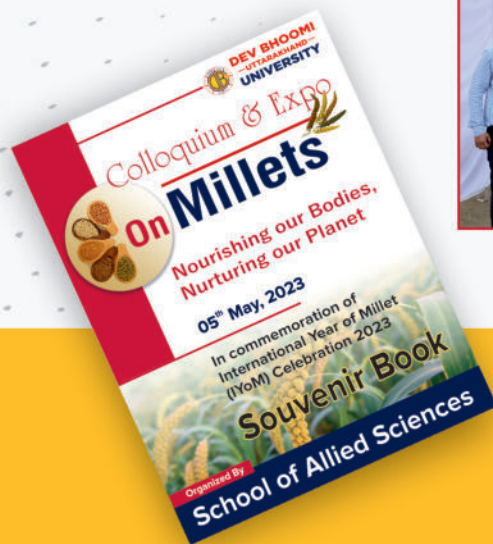


Colloquium & Expo On Millets



DEV BHOOMI
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Nourishing our Bodies, Nurturing our Planet



RELEASE OF SOUVENIR BOOK



"International Millet Year: Celebrating Nature's Ancient Superfood Revolution!" -

Uncover the environmental significance of millets, as we shed light on their drought-tolerant nature and role in fostering biodiversity and climate change resilience.





School of

Allied Sciences in association with
Hotel Management & Tourism

Fusion Food - Cooking Competition



On Millets



Nourishing our Bodies, Nurturing our Planet



Upcoming Events @SoAS

August 2023

- Orientation and Induction Program

September 2023

- World Ozone Day/ Microbial Literacy Awareness Program
- EVIDENTIA' 23- Forensic Week Celebration

October 2023

- Guest Lecture on Sustainable Materials for greener future

November 2023

- Workshop on Self Management- Path of Perfection
- Hands on Bioinformatics Workshop

December 2023

- Hands-on workshop on Developing Fingerprints



G20 maxim of 'Vasudhaiva Kutumbakam', literally means the whole world is one single family, and further refers to India's advocacy of 'One Earth, One Family and One Future', which finds its mention in the Maha Upanishad and is also engraved at the entry of the Central Hall of the Parliament of India.

UG/PG/Ph.D. Program

Dev Bhoomi Uttarakhand University (DBUU), one of the best colleges for Allied Sciences in Dehradun aim to lay a strong foundation in Modern Science. The understudies here get comprehensive all-round development through the course educational program and the chances to conduct individual research and field trips. Likewise, they will acquire mastery in lab work through adequate practical meetings, preparing them for origination plans and creating research center



Undergraduate

Bachelor of Science (B.Sc.) - Hons. / With Research

- | Forestry
- | Mathematics
- | Physics
- | Zoology
- | Chemistry
- | Microbiology
- | Food Technology
- | Biotechnology
- | Forensic Science

Eligibility : The candidate must have passed 10+2 with PCM/PCB/CBZ from a recognized board or its equivalent with minimum 45% marks.

Postgraduate

Master of Science (M.Sc.)

- | Mathematics
- | Zoology
- | Chemistry
- | Physics
- | Environmental Science
- | Food Technology
- | Microbiology
- | Biotechnology

Eligibility : The candidate must be a Graduate with PCM from a recognized university with minimum 45% or equivalent CGPA in aggregate.

Ph.D.

- | Botany
- | Mathematics
- | Physics
- | Zoology
- | Chemistry
- | Microbiology
- | Biotechnology
- | Environmental Science





DEV BHOOMI
—UTTARAKHAND—
UNIVERSITY

Meet Our Proud Achievers

Congratulations

For Getting Placed On



Soni Tiwari
M.Sc Chemistry



Gurjeet Singh
M.Sc Chemistry



Navneet Kaur
B.Sc. (H) Food Technology



-By Lalit Kishor
(B.Sc. CBZ)