

E-NEWS LETTER

Master of Computer Applications

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LATEST UPDATE WORLD

Researchers Close to Creating Virtual Rail Noise for Environmental Impact Studies

It is often a nuisance for residents living near railroad lines—and such a multi-faceted challenge for experts that there should be more than one word for "railroad noise." Sounds from steel wheels on rough or smoother rails, braking sounds at different frequencies, engine noise, aerodynamic noise ...all of it muffled or influenced by noise barriers, embankments, the nature of the ground beneath the tracks, and by the environment in which the sound waves propagate.



Empa researchers led by Reto Pieren from the Laboratory for Acoustics / Noise Control know from practical and theoretical experience just how complex these acoustic consequences of rail traffic are. For years, they have been exploring the phenomenon with measurements, simulations, validations: Findings that led to the two-year EU project SILVARSTAR with many partners. Now Pieren presented the results at the "forum acousticum" conference in Turin: an acoustic simulation of various types of railroad noise—audible and tangible with the help of virtual reality.

Such tools for "auralization" exist sporadically as prototypes in research, but they are not yet available in the practice of planning and noise control. The system SILVARSTAR aims to change that—thanks to the combined knowledge of numerous experts.

While the Empa team, which was leading the simulation project, incorporated its acoustic expertise from numerous projects, experts from the University of Southampton and the Zurich-based company Bandara VR GmbH contributed valuable know-how to develop a user-friendly system. Among other things, the widely used Unity software for professional game developers served as the basis for this.

Many factors, even more variations

The ultimate goal was a tool that even laypersons could use. For example, transport politicians who want to assess the impact of a future railroad line. How they experience such virtual drive-bys is exemplified by a video of drive-bys, which can be found on Empa's SILVARSTAR website.

For a single line, several scenarios can be compared, for example with train types ranging from cargo trains to a regional train to an ICE, with high or low noise barriers, specific wheel and damping types that also have an audible

impact on railroad noise, and many other factors. And because the environment also plays a role, users can decide between "city" or "countryside" or even select a ground-level or elevated position, such as on a balcony.

Behind these possibilities are complex algorithms in a physics-based computational model that does not generate acoustic signals from archived sound files, but calculates and generates them all individually—for hundreds of noise sources and influencing factors, depending on the complexity of the scenario.

This also presented challenges for the Empa team. The large variety of influences enables realistic simulations. But at the same time, it required the mesh of algorithms to be sensibly reduced to the essentials—also with the necessary computing time in mind: A modern PC needs up to three hours for a 500-meter long cargo train to pass by so that its noise emissions can be made audible under various conditions.

Positive reactions at the demonstrations

But the effort is worth it, as the validation of the system showed. The graphs of the synthesized noise curves are very close to measured real-world values and are even partly congruent. Subjective impressions were provided by demonstrations at transport technology trade fairs such as last year's InnoTrans in Berlin: Visitors attested to the simulation's high credibility and showed great interest in using the virtual "rail noise game."

For those interested, the tools, including a license agreement for non-commercial purposes, can be downloaded from Empa's SILVARSTAR website. "The first uses of the simulation are already starting," says Empa researcher Pieren, "we are very satisfied with the results and expect numerous applications in the future."

DEPARTMENT UPDATE

Alumni Lecture
27th September - 2023

Venue: SRMSCET, MCA Seminar Hall
On September 27, 2023, the Training, Development, and Placement Cell of Shri Ram Murti Smarak College of Engineering & Technology (SRMSCET), Bareilly, organized an Alumni Lecture on the topic 'Avenues in Cyber Security,' which revealed the future landscape of the field.

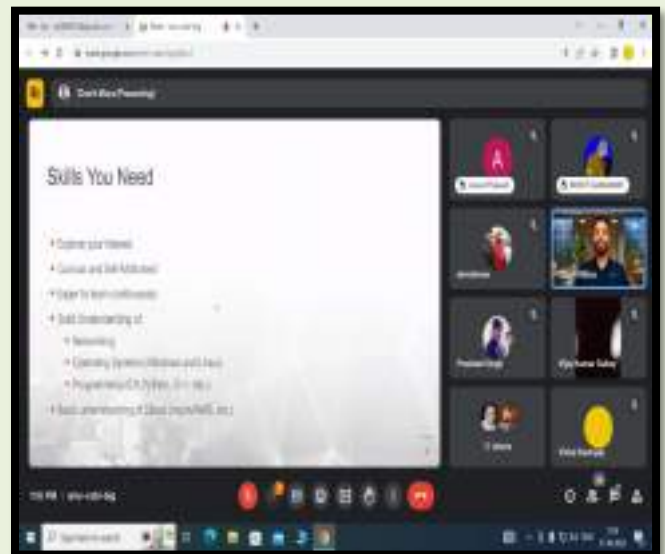
SHRI RAM MURTI SMARAK COLLEGE OF ENGINEERING & TECHNOLOGY
BAREILLY (U.P.)

ALUMNI LECTURE ON "AVENUES IN CYBER SECURITY"
Online Session

Date: 27th September 2023 (Wednesday)
Time: 01:00 PM to 02:00 PM
Venue: MCA Seminar Hall, SRMS CET Bareilly
Target Audience: MCA Final Year Students

Speaker
Mr. Charit Mishra
Principal Consultant,
Synack Red Teamer,
Amsterdam, Netherlands

The Keynote Speaker, Mr. Charit Mishra, a Principal Consultant at Synack Red Teamer in Amsterdam, Netherlands, presented this captivating online session, which is specifically designed for MCA Final Year students from 1:00 PM to 2:00 PM at the MCA Seminar Hall on the CET Campus.



Zero Hour Activity
28th September - 2023

(Web Development Training & Competition)

Venue: MCA Computer Lab-B

On 28th September-2023, MCA department organized a Web Development Training & Competition in the club activity hour (zero hour). In which Mr. Ankur Gupta & Mr. Vijay Kumar Dubey introduced students about web development and trained them how to develop webpages. Then they organized a competition between students to make their own attractive webpages individually on editor and host the page on **000webhost.com**.

In this competition **Abhshek Mishra** got the first position by making the best webpage and second position is occupied by **Anand Kumar**. This event was held under the supervision of Mr. Ankur Gupta, Mr. Vijay Kumar Dubey and Mr. Gaurav Mathur.



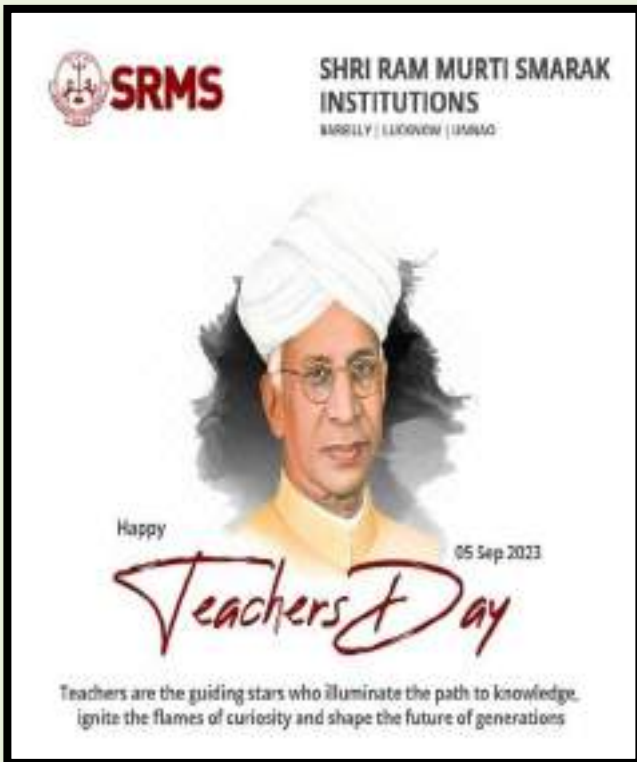
COLLEGE UPDATE

Happy Teacher's Day

5th September - 2023

गुरुः ब्रह्मा गुरुः विष्णुः, गुरुः देवो महेश्वरा ।
गुरुः साक्षात् परब्रह्मा, तस्मै श्री गुरुवे नमः ॥

There is a unique day, Teacher's Day, to recognize the mentors who shape our futures and it commemorates the birth of the legendary educator Dr. Sarvepalli Radhakrishnan in the world of education, where knowledge is the torch guiding the way. To show their appreciation for the tremendous effort put out by their devoted teachers, the students at SRMS College of Engineering and Technology (CET), Bareilly, celebrated Teacher's Day.



The ceremony began with the lighting of ceremonial lamps and the reception of dignitaries

with plant saplings. Saraswati Vandana then provided a divine touch to the event.

The festivities proceeded with wonderful performances, including elegant dance pieces and clever comedies, where everyone, including teachers, celebrated the momentous occasions.

A number of entertaining games that took the teacher down memory lane were also organized to help the mentors rediscover their inner child.

The joyful celebrations included a cake-cutting ceremony where faculty and mentors were present.

Overall, the ceremony was a lovely tribute to the role models of SRMS CET who mentor and prepare the future leaders.

श्री कृष्ण जन्माष्टमी

6 सितम्बर-2023

Venue: Radha Mohan Temple (SRMSCETR)

श्री कृष्ण जन्मोत्सव 6 सितम्बर-2023 को बड़ी भक्ति और आनन्द के साथ मनाया गया। इस स्मरणोत्सव का आयोजन श्री राम मूर्ति स्मारक कॉलेज ऑफ इंजीनियरिंग एंड टेक्नोलॉजी द्वारा कॉलेज के राधा मोहन मंदिर में किया गया इस पावन अवसर पर सभी डॉक्टर्स, फैकल्टी, स्टाफ़ और स्टूडेंट्स को सादर आमंत्रित किया गया ।



भक्तों द्वारा विलक्षण भक्ति के साथ भगवान कृष्ण की मूर्ति

की पूजा की गई। पूरे मंदिर परिसर को फूलों, आम के पत्तों के साथ-साथ चमकदार रोशनी और दीयों से सजाया गया था, जो पर्यावरण को आध्यात्मिक सकारात्मकता और निष्ठा से भर देते थे।

यह पवित्र अवसर लोगों को एक साथ लाता है, जो एकता और विश्वास का प्रतीक है। एसआरएमएस रिद्धिमा ने विभिन्न नृत्य कथाओं और प्रदर्शनों द्वारा उत्साह और खुशी की भावना के साथ पर्यावरण को प्रफुल्लित किया।

माननीय श्री देव मूर्ति जी द्वारा महाभिषेक किया गया। पंजिरी और पंचामृत भगवान कृष्ण के आशीर्वाद से भरे दो दूध आधारित व्यंजन हैं जो सभी भक्तों को दिया जाने वाला आम प्रसाद था।

विश्वकर्मा पूजा 17th सितम्बर-2023

Venue: Workshop, SRMSCET, Bareilly

इंजीनियरों, कारीगरों और हमारे आस-पास के सभी मेहनती श्रमिकों के कौशल और शिल्प कौशल को श्रद्धांजलि देने के लिए, एसआरएमएस कॉलेज ऑफ इंजीनियरिंग एंड टेक्नोलॉजी, बरेली ने विश्वकर्मा दिवस मनाया और मशीनों और शिल्प कौशल के दिव्य निर्माता भगवान विश्वकर्मा को श्रद्धांजलि अर्पित करते हुए विश्वकर्मा पूजा मनाई।

एसआरएमएस ट्रस्ट के अध्यक्ष श्री देव मूर्ति द्वारा औजारों और मशीनरी की प्रतिष्ठा सहित पारंपरिक अनुष्ठानों के बीच पवित्र पूजा और हवन किया गया। सफल और दुर्घटना रहित वर्ष के लिए भगवान विश्वकर्मा से दिव्य प्रार्थना की गई। श्रद्धा समारोह के माध्यम से कौशल, सुरक्षा, समृद्धि और एकता की पूजा का संकेत दिया गया, जो प्रसाद वितरण के साथ संपन्न हुआ।

पूजा में डॉ. प्रभाकर गुप्ता - डीन एकेडेमिक्स, (एसआरएमएस सीईटी) और डॉ. एल.एस. मौर्य - प्राचार्य ((एसआरएमएस सीईटीआर) की गरिमामय उपस्थिति देखी गई।





Engineer's Day
15th September, 2023

Venue: Shri Ram Murti Centennial Auditorium, CET, Bareilly

To honor the brilliant minds of SRMS engineering institute, Engineers Day was celebrated at SRMS College of Engineering & Technology (CET) and SRMS College of Engineering Technology & Research (CETR), Bareilly to recognize the remarkable achievements of its engineering students and faculties who are shaping the future through innovation and creativity.

The celebrations began with garlanding and birth anniversary celebrations of Shri Mokshagundam

Visvesvaraya – one of India's greatest engineers by Shri Dev Murti, Chairman SRMS Trust and Aditya Murti, Trust Secretary. In the presence of Dr. Prabhakar Gupta, Dean Academic -CET; Dr. L.S. Maurya, Principal-CETR along with other faculty members and students.

The event had inspirational and motivational speeches by Shri Dev Murti, Aditya Murti and Dr. Prabhakar Gupta who recognized the hard work and dedication of our engineers and nurtured the spirit of engineering among all.

Later, the Best Engineer Award was given to two B Tech (CS) students namely Prashant Bhalla (CET) and Devansh Patel (CETR).

The memorable day ended with vote of thanks by Dr. L.S. Maurya followed by National Anthem.



