



**K K Wagh Education Society's
K K Wagh Institute of Engineering
Education and Research, Nashik.**

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Congratulations



Third prize in the Robo Analyzer Competition held at IIT Delhi
Robotics and Automation Engineering final-year students Adarsh Ramvishal Yadav and Ruchita Arun Zope have won third prize in the RoboAnalyzer Competition held on November 9, 2024, at IIT Delhi, in collaboration with SVR Robotics Pune. Along with a cash prize of Rs. 50,000, they have also been awarded a six-month internship at SVR Robotics, Pune. The competition focused on using robotics to address the UN Sustainable Development Goals (SDGs). Their dedication earned them a spot in the Top 10 nationally and an opportunity to present at the prestigious ROC Conclave in front of IIT Delhi faculty.

SPPU Nashik Zone Intercollegiate Cricket (Men) Competition 2024-25



The Gymkhana Department of KK Wagh Institute of Engineering Education & Research proudly hosted the prestigious Savitribai Phule Pune University (SPPU) Nashik Zone Intercollegiate Cricket (Men)

Competition 2024-25 on our well-maintained college cricket ground. The event, held over several action-packed days, witnessed participation from 24 dynamic teams representing colleges across the Nashik Zone in our campus.

The opening ceremony was graced by Principal, Dr. K. N. Nandurkar, who honoured the event as the chief guest. In his inspiring address, Dr. Nandurkar motivated the players to showcase not only their talent but also the true spirit of sportsmanship. His words encouraged the participants to strive for excellence while upholding teamwork, discipline, and fair play, setting a positive tone for the competition. The tournament provided a vibrant platform for budding cricketers to exhibit their skills and engage in healthy competition. The matches were filled with thrilling moments, showcasing exceptional talent, dedication, and determination from all the teams. Hosting this event reflects our commitment to promoting sports and fostering holistic development among students. It also highlights the exceptional infrastructure and organizational capabilities of the Gymkhana Department at KKWIEER. The event concluded on a high note, leaving a lasting impact on all participants and spectators. Congratulations to all the teams for their spirited participation, and a heartfelt thank you to everyone who contributed to making this event a grand success!

Empowering Excellence: Shravani Shelke Selected for Nashik Zone Netball Team

Empowering our women athletes, Shelke Shravani Rajesh, a second-year B. Tech. Electrical student, has been selected to represent the Nashik Zone in the Interzonal Netball Competition. Her exceptional skills and dedication have set a new benchmark for aspiring sportswomen at KKWIEER.

■ **Historic Cricket Feat: KKWIEER Advances to Semifinals with Three Players in Interzonal Team**

Making history, the KKWIEER Cricket team reached the semifinals of the Intercollegiate Cricket Men Competition after a long gap, igniting a new era of success in cricket. Our talented cricketers Pawar Om Kailas (Third Year, B. Tech. Civil), Ippar Om Satish (First Year, B. Tech. Electrical), and Dawange Prasad Shantaram (Fourth Year, B. Tech. E&TC) have been selected to represent KKWIEER in the Interzonal Cricket Competition to be held in Pune in December 2024. Their journey inspires our students to strive for excellence both on and off the field.

■ **Football Men Competition**



Football Triumph: KKWIEER Reaches Quarterfinals

The Intercollegiate Football Men Competition, hosted by Sandip Foundation, witnessed an impressive performance by our KKWIEER team, which advanced to the quarterfinals. Adding to the glory, Mr. Suyash Dhakane, a second-year AIDS student, showcased remarkable skills and earned a place as a standby player in the prestigious Nashik Zone team. This achievement underlines the growing strength of football at KKWIEER and inspires budding football enthusiasts on campus.

■ **Alumni Meet at Vapi**



The K. K. Wagh Education Society, Nashik, organized an Alumni Meet on 24th November 2024, at Vapi which saw the enthusiastic participation of around 35 alumni from the various streams. The event was graced by Hon.

Sameer Wagh (Chairman), Trustee Ashok Merchant, Dr. K. N. Nandurkar (Principal), V. M. Sewlikar (Senior College Coordinator), P. T. Kadve (Principal, K. K. Wagh Polytechnic), and esteemed faculty members including Prof. P. J. Pawar, Prof. M. B. Jhade, and Prof. P. P. Joshi. The gathering provided a platform for networking, reminiscing, and discussing future initiatives. Other guests Mr. Pankajbhai and Mr. Narendrabhai, Trustee of Hirabai Hansraj Surji Trust were also present during the meeting.

■ **Visited By Senior alumni members**



K K Wagh Engineering College senioralumni members visited the KK Wagh campus on 14th November 2024, shared their memories with the institute, and appreciated the development of the institute. The details of the alumni who visited are as follows:

- Gaurav Tewari (BE Computer 1991 batch): Director, GUVI, Geek Networks.Banglore.
- Mr. Shriram Krishnan (BE Electronics, 1992), Senior Director at Thomson Reuters.
- Mr. Sanjay Gupta (BE Electronics, 1992) Vice President- Service Delivery & Operation, Quantela Inc.
- Mr. Manish Bhargav
- Mr. Sanjay Gupta (BE Electronics, 1992) Corporate Vice President-Strategic Initiatives at HCL Technologies

■ **Felicitation of Trustee**



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On 12th November 2024, Dr. K.N. Nandurkar felicitated Shree. Ashokbhai Marchant, Trustee of K. K.Wagh Education Society, on the occasion of his birthday. On this occasion Shree Ashokbhai Marchant expressed his satisfaction on the progress made by institute in last decades.

Indian Government Design Patent



Chemical Engineering staff member Prof. Tejmal Balu Mahale has published a design patent titled "IoT-Enabled Apparatus for Impurity Detection Using Gas Chromatography Mass Spectroscopy." This interdisciplinary project involves computer science, chemical engineering, and electronics. The design patent has been commercialized with Perkin Elmer India, Mumbai.

Expert Lecture/Seminar/Courses/Workshop Organized:
The **Electronics and Telecommunication Engineering Department** organized following informative event in November 2024:

- Workshop on "Basics of Intellectual Property Rights and its importance for Innovators and Entrepreneurs" by Mr. Raosaheb Y. Ghegade Associate Professor, Gokhale Pharmacy College, Nashik on 30/11/2024.

Mechanical Engineering Department organized following informative events in November 2024.

- Expert Lecture on "Gateway to Germany: Exploring Educational and Career Prospects" by Mr. Yadnyesh Bhor on 28/11/2024

The **Chemical Engineering Department** organized following expert lectures and career guidance sessions in November 2024:

- Expert session on "Guidance to BE students for placement in Galaxy Surfactants Ltd" by Mr. Sumedh Devion 07/11/24.
- Expert session on "Scope of Chemical Engineering in Reliance Industries and How to Face an Interview" by A. Vijaya Sai on 16/11/24.

Expert Lecture/Seminar/Courses/Workshop Attended:

- Electronics and Telecommunication faculty Mrs. R. V. Chothe and Mrs. S. V. Shelke have attended One week short term training program on "Advanced Project and Scientific Paper Writing: Strategies for High impact factor Journal Publication" from 04/11/2024 to 09/11/2024.

Training & Placement :

Name of Company	Department Name	Placed Students
IBM	E & TC	01
INOX Air Products Private Limited, Mumbai	Chemical	03
Galaxy Surfactants Ltd., Mumbai	Chemical	01
Netwin, Nashik	MCA	02
Bosleo	MCA	01
Application Nexus	MCA	05
Profound Edutech, Nashik	MCA	07
Winjit Technologies, Nashik	IT	07

Industrial Visit

Sr. No.	Company Name	Department	Class	Date
1	Sai Biomass Company, Dindori	Electrical	TY (Div B)	5/11/2024
2	Teknocrat's Control Systems (I) Pvt. Ltd. (Manufacturing Division)	Electrical	BE	26/11/2024
3	Decimal Point Analytics	MCA	Final	06/11/2024

Paper Publications/Presentations:

Title: Thermal Analysis of 2-Lobe Capillary Compensated Hybrid Journal Bearings lubricated with non-Newtonian lubricant

(Mechanical Engineering Department faculty Dr. P.B. Kushare, Dr. A. S. Patil, Dr. V.K. Matsagar, Dr. Vijay Patil, and Ms. P.S. Pillai have presented paper in International conference organized by IIT Madras.)

Abstract: The viscosity variation due to temperature change has shown significant effect on the performance characteristics of bearing operating with non-Newtonian lubricant. This paper presents influence of thermal effect on the performance characteristics of 2-lobe non recessed hybrid journal bearing. In this work, thermal analysis of 2-lobe non recessed bearing operating with non-Newtonian lubricant have been carried out for different bearing geometries. Finite element method with suitable iterative scheme has been used to obtain the simultaneous solution of fluid flow, energy and heat conduction equations. The numerically simulated results are obtained for various bearing geometries (δ) and nonlinearity factors. The results of thermal study for capillary



restrictor indicate that the variation in viscosity and non-linear behavior of the lubricant significantly alters the performance of bearing.

Automatic selection of controller mode for self-balancing Robot

(International Conference on Advanced Engineering Optimization through Intelligent Techniques (AEOTIT) organized by SVNIT, Surat).

Authors: Shreya P Bire, Padmakar J Pawar*, Keshav N Nandurkar

Abstract: Commonly used industrial controllers are designed to operate on one of the control modes-Proportional (P) mode, Proportional derivative (PD) mode, Proportional Integral (PI) mode, Proportional Integral Derivative (PID) mode. However, every control mode has its own merits and demerits. In a dynamic system, the system parameters will keep on changing. The controller mode selected for a particular set of parameters may not perform equally well when the system parameters are altered. The criteria for selection of controller mode is transient response which is measured in terms of rise time, peak time, percent overshoot, and steady state error. To overcome this issue, intelligent online tuning of controller settings is proposed by several researchers. Although, these methods may improve the controller performance to some extent, it may be far below than that of best fit control mode for that condition. This work therefore deals with evaluating the transient response of a controller for different control actions in a real time manner so that it will switch automatically to the control action having the compromised best transient response. To achieve this, one of the well-known multi-criteria decision making method known as 'Technique of Order Preference by Similarity to Ideal Solution (TOPSIS)' is employed in this work. The effectiveness of the proposed approach is demonstrated through an example of self-balancing robot as the self-balancing robot is required to continuously measure platform's tilt, or angle of inclination, compensate for errors relative to the reference angle, and keep the platform as a whole upright. Furthermore, self-balancing transporter platform should have a capability to react to any unexpected external force in order to return to the stable position and thereby enhancing overall safety.

Title: Authenticated image encryption using robust chaotic maps and enhanced advanced

encryption standard (Indonesian Journal of Electrical Engineering and Computer Science).

Authors: Rupaliben V. Chothe, Sunita P. Ugale, Dinesh M. Chandwadkar, Shraddha V. Shelke

Abstract: The ability of advanced encryption standard (AES) algorithm to protect information systems has given cryptography a new dimension. Recent encryption approaches to enhance randomness include the use of chaotic algorithms, which provide resistance to differential attacks. We have proposed the application of robust chaotic maps in the block cipher to design a secure authenticated encryption scheme to get advantages of both. The chaotic sequence is generated using hyperbolic tangent map and added to input image initially to increase randomness. The basic 256-bit AES key is generated using the robust Renyi modulo map. An additional 128-bit key enhances security. Instead of static values used in AES, dynamic initialization vector (IV), different for every image will be generated. The results are mathematically verified using various security parameters. The algorithm provides lower values of peak signal-to-noise ratio (PSNR) (7.81 to 9.10 dB) for encrypted images and higher dissimilarities between input and encrypted image histograms. Thus, it is highly resistant to statistical attacks. The experimental results and their comparison prove the superiority of our proposed cryptosystem against statistical, differential and brute-force attacks. Thus, the novel multi-chaotic AES-GCM (galois/counter mode) algorithm can be used for color image encryption in military and industrial applications demanding high data security and authentication.

Keywords: Advanced encryption standard, Authenticated encryption, Color image encryption, Cryptography, Robust chaotic maps

■ Other Activities:

- On 14th November 2024 Dr. K. N. Nandurkar, Dr. P. J. Pawar, Dr. A. C. Pawar, attended one day workshop for Ph. D. Research guides at IMRT institute of Nashik. It was Organised by Savitribai Phule Pune University to inform about the Ph. D tracking system developed by the university for the benefit of research guide and students.

Prof. Dr. K. N. Nandurkar
PRINCIPAL

