VISHWAKARMA UNIVERSITY

SDG 3 REPORT 2021

SUSTAINABLE
DEVELOPMENT
GOALS

VU VISHWAKARMA
UNIVERSITY
Maximising Human Potential

University Grants Commission (UGC) Approved State Private University

Maximising Human Potential

About This Report

The United Nations "Transforming our World: the 2030 Agenda for Sustainable Development" which includes the 17 Sustainable Development Goals (SDGs) has great importance and significance to universities. The SDGs provide for a shared global vision towards sustainable development for all. Vishwakarma University (VU) firmly believes in the vital role that universities can play in the achievement of the SDGs, and has ingrained this aspect in all of its strategies and operations. As encapsulated in its motto - maximizing human potential, VU, since the year of its inception, has worked endlessly towards creating an enabling environment to ensure the wholesome development of its students - preparing them for life and livelihood.

VU has embarked on an exciting journey to transform the VU Campus to become an EcoCampus, which will be a testbed for innovative sustainability solutions for the future. The vision of the VU EcoCampus is to develop VU as "a global Sustainability thought leader, committed to improving the society, by providing an empowering partnership for the development of technology and educating the future generation". Sustainability with an aim to reduce the carbon footprint was the key theme of the function organised to celebrate the launch of the 'Eco Campus'.

This report showcases VU's commitment to sustainable development goals in which VU has been actively working in partnership with diverse stakeholders. One such example is VU's Certificate Programme in Sustainability Management in Cooperation with the Hof University of Applied Sciences Germany, a program in which students gain a deep understanding of state-of-the-art business management techniques and more importantly latest sustainable methods. Likewise, the Wilo Foundation-Vishwakarma University established through a grant from the Wilo Foundation, Germany promotes research in water treatment, purification and create the much-needed social awareness about clean drinking water through its Water Quality Centre of Excellence.

From last 2 years, VU is published SDG reports under its Sustainability mission which outlined the key initiatives undertaken by the Institute to meet the Sustainable Development Goals (SDGs). This report provides a summary of the range of activities undertaken at VU during 2021 to meet the SDGs through its teaching, research, outreach and public engagement, and operations. VU conducts a diverse range of activities across the Institute, and this report lists only some of many such initiatives. Even when all of us were severely affected by the COVID-19 pandemic, VU continually strives to implement sustainability in all its core operations, including by creating a platform to showcase its efforts toward the SDGs in a comprehensive and detailed manner.

VU continually strives to contribute to the sustainable development of the nation and society at large by developing educated and productive human resources that observe and adhere to the practices of equity, inclusiveness, excellence, ethics, and professional standards.

Prof. (Dr) Siddharth Jabade
Vice-Chancellor
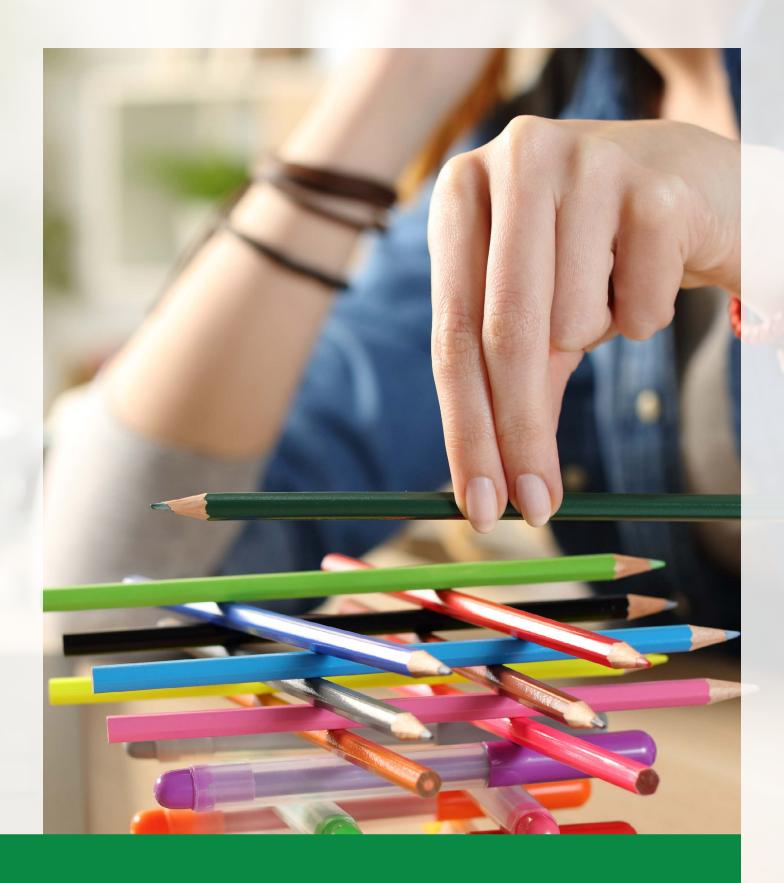**Vishwakarma University, Pune, India**

VU's Participation in the THE Impact Rankings 2022

Vishwakarma University (VU) also participated last year in Times Higher Education (THE) Impact Rankings 2022, which looks at global universities' commitment and performance in furthering the Sustainable Development Goals (SDGs).

VU took part in the 4 SDGs listed below plus the mandatory SDG17, and the results were as follows:

Overall Ranking 1001+

3 GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

Good Health and Well Being

Good health and well-being are essential for the sustainable development of society. Efforts are undertaken in line with the SDG 3 targets to achieve universal health awareness and provide access to safe and effective medicines for all. Good quality education is the foundation of health and well-being. For people to lead healthy and productive lives, they need knowledge and awareness to prevent various diseases and disorders.

At Vishwakarma University (VU), this aspect is treated as a mission in itself. Various sensitization and awareness activities related to health issues and mental well being, supported with technology enablement, were carried out to achieve the desired objective. Interestingly, these activities were initiated as well as executed with the active participation of students from different streams of education. All of these initiatives led to significant improvement in the student's mental health as well as it could inculcate social and emotional skills along with a positive attitude in various aspects of life. Thanks to the School of Psychology and School of Pharmacy at VU – the faculty and students could make these programs possible. Some of activities of year 2021 are elaborated below:

VU Vaccination Drive

A taskforce was formed under the leadership of the Dean of Pharmacy.
The motto for the vaccination drive was

<div align="center">

V for Vaccination,
V for Victory,
V for Vishwakarma University

</div>

The university management enabled clearance for faculty members as frontline workers and a free of cost vaccination drive was arranged for entire staff on 27th and 30th March 2021. Each vaccinated member was tracked by taskforce for any post vaccination symptoms and assistance/counselling was provided to symptomatic individuals. It was also ensured that all getting vaccinated are registered on the government portal and received their vaccination certificate.

Vaccination was carried out in two separate drives.
Drive- I: For all the VU faculty members identified as frontline staff working in the pandemic era

Date: 27th & 30th March 2021.
Venue: Raja Shivchhatrapati Hospital, Bibwewadi, Pune
Faculty members vaccinated in Drive- I: 55

Drive- II: For the Vishwakarma Group employees and their family members:
Date: 25th June 2021
Venue: Building-02, Vishwakarma University, Kondhwa, Pune
Members vaccinated in the Drive- II: 130

The entire team of medical staff involved in the vaccination drive was felicitated by the Management of Vishwakarma University.

https://www.facebook.com/vishwakarmauniversity/posts/
pfbid02NYjeCniD4gZb4aeXE6v94Cb2AACduFLjcnZcUYuo71gP7zvyqPC7o5r3c1kFHLs2l

COVID-19 Awareness

VU Digital, an online initiative of Vishwakarma University, developed an online short span course on 'COVID-19 Facts, Awareness, Response, and Containment Measures'. Its objective is to strengthen the capacity to respond rapidly and efficiently to the threat of COVID-19.

Courses include:
• COVID-19 Background
• Origin of COVID-19
• Infection, Prevention and Control
• Investigation & Surveillance
• COVID-19 Diagnosis and its Management
• Stabilization and Recovery
• COVID-19 Operations Planning
• Risk Communication and Public Health Communication

Post-COVID-19 Campus Reopening and Safety Protocol

The State Government's notification regarding reopening of the campus with 50% strength was received on 15th February 2021. Accordingly, all then buildings of VU and the premises were reviewed for any challenges w.r.t. implementation of academic activities as per the prescribed norms from the government healthcare agencies. The key highlights of the protocol were:
• All the buildings were deep cleaned and sanitized regularly
• Every entrance to the building was marked with queue markers to maintain social distancing
• Sufficient sanitization devices, sanitizer, handwash & personal protective gears were made available
• Sanitization staff was provided with sufficient training for carrying out the activities of sanitization and entry protocol
• Entry protocol involved thermal check, hand sanitization, SpO2 check.
• Safety and hygiene norms were displayed at every entrance

- NO MASK- NO ENTRY
- Ambulance on campus facility was provided in case of emergency
- Students were notified and their willingness to come for on-campus learning was reviewed through a Google form survey
- Students were provided with a consent form to be filled and signed by the student and parent
- Students were given all safety and hygiene instructions to be followed in the campus
- Academic activities were planned at department level to avoid any violation of COVID-19 norms.
- It was monitored that the norms are implemented for students, faculties and visitors.

https://www.vupune.ac.in/images/Faculty_Notices_/2_VU__COVID_SOP.pdf

VU intermediate opening

After the notification from state government on campus re-opening with 50% of staff capacity in the month of February 2021, VU equipped itself with all the prescribed guidelines. The buildings were deep cleaned and sanitized, entrances were marked with social distancing indications. Adequate sanitization devices and personal protective gears were made available. Entry protocol with thermal check, hand sanitization and SpO2 check was implemented. Ambulance facility was provided in case of emergency on the campus. Students' willingness to join offline classes, on-campus were reviewed through a Google form survey in addition to form of consent to be signed by the parents.

VU Digital Course for COVID

A novel initiative for pandemic literacy was launched under our VU-Digital e-learning portal in the form of a course. This course consisted of COVID-19 Background, Origin zoonotic viruses such as COVID-19, Infection Prevention and Control, Investigation & Monitoring, Covid -19 Diagnosis and its Management, Stabilization and Recovery, Covid 19 Operations Planning, Risk Communication and Public Health, Vishwakarma University Support for Covid Care and Recovery, Course Assessment & Certification

COVID – 19 Support Group

Faculty members in various localities were identified for the support team under the leadership of Dean Pharmacy. Diurnal review of every affected staff member was taken by the team. Food supply, immediate financial support in case of hospitalization and any other support required was provided.

Breast Cancer Awareness Session:

Purpose:
To celebrate international commemorative days
Day & Date: Friday, 29th October 2021
Time: 11:30 am
Venue: Zoom Platform

Pink October! October is observed as the month of "Breast Cancer Awareness" globally. "Educating yourself, educating others" is the key to fighting against the second most common cancer observed in women. Early detection increases the chances of survival; hence awareness is the first step in healing.VU School of Pharmacy organised an expert session on "Breast Cancer Awareness" to spread the awareness, protect our loved ones and society to maximise the awareness. Session was delivered by Ms. Rebecca D'Souza, Director of Survivorship and Community Research, Nag Foundation.

BREAST CANCER AWARENESS

Organised by School of Pharmacy, Vishwakarma University, Pune

29th October 2021   11:30 am

Scan to Attend

OUR EXPERT
Ms. Rebecca D'Souza
(Director of Survivorship and Community Research, Nag Foundation)

Coordinator
Prof. Sonali Manwatkar

https://www.facebook.com/vishwakarmauniversity/photos/a.25083500394 57359/2786850441607316/?type=3

World Pneumonia Day Celebration

Day & Date: Friday 12th Nov 2021
Time: 11:0am- 12:00 pm
Venue: Zoom Platform

To create awareness about the dreadful disease and the severe complications related to Pneumonia, VU School of Pharmacy arranged a guest session. The session was helpful to understand the aspects related to preventive care as well as patient care in Pneumonia. The guest speaker invited for the session was Dr. Ajit Thokal.

Guidance to Adolescent Girls at Mamata Bal Sadan

On the occasion of International Women's Day, 08th March 2021, Vishwakarma University School of Pharmacy had organised various social activities and health check-up camp for adolescent orphan girls and old age women. Students pursuing Bachelor of Pharmacy (B.Pharm.) volunteered the event guided by faculties from the department. This team of faculties and students visited Mamta Bal Sadan, Saswad, Pune, established by late Padma Shri Smt. Sindhutai Sapkal housing 55 orphan girls. The students guided these orphan kids present at the centre on various aspects like importance of health and personal hygiene, demonstrated techniques of self-defence, guided about good touch-bad touch, and also conducted few fun activities and games.

On this occasion the adolescent girls were gifted with a personal hygiene kit consisting of a pack of sanitary napkins, hand sanitizer, surgical masks, and Red Dot paper disposable bags for the disposal of used sanitary napkins, which is an initiative of Department of Art and Design, Vishwakarma University. The centre was also gifted with first-aid kit. On this occasion Mrs. Smita Pansare (Superintendent) of Mamata Bal Sadan, expressed her gratitude towards Vishwakarma University School of Pharmacy for conducting the informative and interesting session for the adolescent girls of the centre. She also appreciated and highlighted the significance of self-defence as explained and demonstrated by the students of VU School of Pharmacy.

https://www.facebook.com/vishwakarmauniversity/posts/
pfbid0CeWYtPDP8NvN41FJSmXYzs3hRRjygM8KBGV76iU7cdM44xrqci32MViD29KHXgomI

Mental Health Week (4th October 2021 to 9th October 2021)

For the Mental Health Week, the faculties and students of Department of Psychology, Vishwakarma University had planned and organized an event called "Synesthesia" which involved a variety of events, workshops and activities throughout the week from 4th October to 9th October, 2021, every afternoon, post regular academic sessions. Within "Synesthesia" a number of workshops like Art therapy, Play Therapy, Mindfulness and many more were organized for which expert faculties from all over India were hosted and provided guidance to the students.

https://www.facebook.com/innocent.steps1212/posts/mental-health-awareness-week-2021-by-department-of-psychology-vishwakarma-univer/399097668482601/

Webinar on Mental Health of the LGBTQ community.

Day & Date: Saturday 18th Sept 2021
Time: 3:00 pm – 4:30 pm
Venue: Zoom Platform

Dr. Arbaaz Mushtaq enlightened us with the challenges and prejudices faced by the LGBTQ community and talked about the various misconceptions, ways to approach and enable a person to express themselves and what can we do to integrate everyone together as a society.

Webinar on Emotional Health of Employees and Workplace Productivity

Day & Date: Thursday 25th March 2021
Time: 6:00 pm – 7:30 pm
Venue: Zoom Platform

Prof. Vrushali Raut, faculty from Department of Psychology had conducted a session on "The Emotional Health of Employees and Workplace Productivity" for Indian Society for Training & Development (ISTD), Mumbai chapter. She spoke about "Impact of emotional health on workplace productivity". It was a 1.5 hour online session which was well received by 35+ attendees.

Webinar on Emotional health while Work from Home during Covid19
Day & Date: Friday 21st May 2021
Venue: Zoom Platform

Dr Vrushali Raut, faculty from Department of Psychology conducted an hour-long session on "Emotional health while WFH during Covid19" for Prometheus Group, USA on 21st May 2021. She guided Indian employees of Prometheus Group, USA who are working in various Indian cities on following factors:
• Emotional health: Concept
• Consequences of continuous WFH on emotional health
• Developing coping mechanism

Webinar on Understanding Self & Others: Emotional Intelligence
Day & Date: Friday June 04th 2021
Venue: Zoom Platform

Dr. Bhupender Singh, Head of the Department, Department of Psychology, Vishwakarma University on the invitation of Institute of National Integration, College of Military Engineering, Pune, delivered the lecture on 'Understanding Self & Others: Emotional Intelligence' in the online mode on June 04th, 2021. The session with open interaction on common situations was well appreciated by the participants.

Webinar on Emotional Well-being

Day & Date: Thursday 4th March 2021
Time: 3:00 pm – 4:00 pm
Venue: MS Team

Dr. Vrushali Raut, faculty from Department of Psychology had conducted a session on "Emotional Well-being" for women employees of TATA Motors, Pune. This session was held on occasion of International Women's Day 2021.

She spoke about "energy management" for working women which mainly revolved around exercise, nutritious diet, sleep and managing emotions. It was a 1-hour online session which was well received by 40+ attendees and this was her 3rd session for TATA motors, Pune on the topic of well-being.

Antarnaad

The aim of this project is to develop a music intervention program that will act as a healthy coping mechanism and encourage them to tap into their inner potential. This project takes into consideration the unique abilities of music and its impact on adolescents. The "Antarnaad" project is a joint venture of Vishwakarma University's Department of Psychology and Department of Music. A total of three studies were carried out during the Pandemic. The main objective of this study was to see whether music had an impact on the students' coping strategies and whether it could enumerate multiple intelligences. For coping, the Children's Coping Strategies Checklist-Revised (CCSC-R) developed by Ayers and Sandler (1999), The Multiple Intelligence Profiling Questionnaire VII (MIPQ-VII) developed by Terri and Komulainen (2002) based on Gardner's Multiple Intelligence (1983) was used. A preliminary survey was conducted to identify the student's music preferences. Based on the data, and with the help of music

experts from the Vishwakarma University School of Music, Pune, India and the University of Valladolid, Spain, a tune was created that had a medium to fast tempo, ranging between 120-140 beats per minute. The tune was a fusion of the pieces taken from the student's preferences, and certain Western and Classical pieces were also added with the motive of balancing and exposing the students to the variety of music. The studies concluded with establishing the positive impact of music intervention on the coping mechanism and multiple intelligence factors of the children. These findings were reported in the published research articles.

https://journalppw.com/index.php/jpsp/article/view/8107/5272
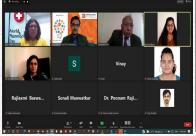https://www.journalppw.com/index.php/jpsp/article/view/2019/1196

Word Pharmacist Day

"Pharmacy: Always trusted for your health" was the theme suggested by the International Pharmaceutical Federation (FIP), a global body in official relations with World Health Organization (WHO), to mark the World Pharmacist Day 2021.

During the COVID-19 pandemic, public trust in pharmacy was experienced more prominently than ever before. Pharmacist should give advice based on the best scientific evidence. Pharmacist can use this trust to benefit communities. To inculcate this thought in the minds of our future ready pharmacists, Vishwakarma University had organized expert sessions, presentations and various competitions like Tech Pharma Rangoli competition, Collage/ Digital poster competition & Pharma detailing competition on the occasion of World Pharmacist Day.

https://m.facebook.com/vishwakarmauniversity/photos/a.175026498423054/2763525413939819/

Collaborations for Health Services

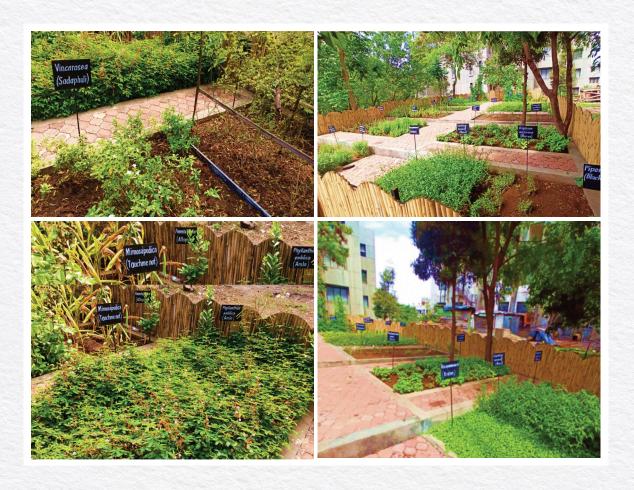| ORGANIZATION	NATURE OF LINKAGE/ COLLABORATION	BRIEF ABOUT ORGANIZATION
Jnana Prabodhini	Collaborative Research in Healthcare	A multifarious institution working in the fields of Education, Research, Rural Development, Stree Shakti Prabodhan, Youth Organisation, National Integration and Health, with a view to Motivation Building and Attitude Formation of every person in all age groups to Change the Face of India for Better.
Nea life Pvt. Ltd, Pune	Collaborative Research and training in healthcare	Nea life is mental health research, assessment and training company.
J T Foundation Pune	Development of online courses in field of diabetes and obesity management	JT Foundations is a Non- Governmental Organization registered under Section 8 of the Companies Act,2013.
ClinSearch, France	Study on Medicines Acceptability in the Older Population Sub-study in Pune, India	ClinSearch is a French Clinical Research Organization which provides clinical development and commercialization services for medical device and drug development on a European level.
Yodda Care, Pune	Development of Image Based Fall Detection System for Monitoring the Health and Well-being in Elderly People	Yodda is the world's first premium parent care service built using state-of-the-art technology when families can't be together, and these times are not easy.

Medicinal Plant Garden

India has a very rich diverse ecosystem nurturing a variety of medicinal plants. These plants have tremendous value in the various medicinal systems to cure a different range of diseases. At Vishwkarma University School of Pharmacy, as per the regulations of the Pharmacy Council of India, we have specifically identified and nurtured different medicinal plants in a dedicated, well-maintained, lush green Medicinal Plant Garden within the campus. Every plant has been tagged with its generic name and scientific species name for easy identification.

Objectives of Medicinal Plant Garden:
1) To sensitize the students about the basics techniques of cultivation and collection of various drugs of natural origin.
2) To promote research attitude in the students through learning about drug extraction, morphological studies, study of various quality parameters as per official books of different medicinal systems.
3) To make the students aware about the commercial value of drugs of herbal origin.
4) To promote a green eco campus.

The medicinal garden consists of various valuable medicinal plants like Aloe, Tulsi, Maka, Turmeric, Shatavari, Peppermint, Hibiscus, Vinca, Allspice, Bryophyllum, Shankhpushpi, Gulvel, Brahmi, Black pepper etc.

International collaboration for Research in Health & Well-Being
Project 1:
Title: Facial Emotion Recognition System Using Deep Learning Approach
Description:

Facial emotion recognition (FER) is the procedure of identifying human emotions from facial expressions. It is often difficult to identify the stress and anxiety levels of an individual through the visuals captured from computer vision. However, the technology enhancements on the Internet of Medical Things (IoMT) have yielded impressive results from gathering various forms of emotional and physical health related data. The novel deep learning (DL) algorithms are allowing to perform application in a resource constrained edge environment, encouraging data from IoMT devices to be processed locally at the edge. This project presents an IoMT based facial emotion detection and recognition system that has been implemented in real time by utilizing a small, powerful, and resource constrained device known as Raspberry Pi with the assistance of deep convolution neural networks. For this purpose, we have conducted one empirical study on the facial emotions of human beings along with the emotional state of human beings using physiological sensors. It then proposes a model for the detection of emotions in real time on a resource constrained device, i.e., Raspberry Pi, along with a co processor, i.e., Intel Movidius NCS2. The facial emotion detection test accuracy ranged from 56% to 73% using various models, and the accuracy has become 73% performed very well with the FER 2013 dataset in comparison to the state of art results mentioned as 64% maximum. A t test is performed for extracting the significant difference in systolic, diastolic blood pressure, and the heart rate of an individual watching three different subjects (angry, happy, and neutral).

Collaborating Universities:
a) Vishwakarma University, Pune 411048, India.
b) Lovely Professional University, Jalandhar 144001, India;
c) Taif University, P.O. Box 11099, Taif 21944, Saudi Arabia

Paper Publication:
- IoMT based Facial Emotion Recognition System using Deep Convolution Neural Networks, Electronics, MDPI, SCIE, IF=2.690, May 2021. DOI: 10.3390/electronics10111289

- Real-Time Facial Emotion Recognition Framework for Employees in Private Organizations using Raspberry-Pi, Electronics, MDPI, SCIE, IF=2.690, November 2021. DOI: 10.3390/app112210540

Project 2:
Title: Blockchain-Based Confidentiality-Privacy Preserving Big Data Scheme for Healthcare Applications
Description:

Healthcare big data (HBD) allows medical stakeholders to analyze, access, retrieve personal and electronic health records (EHR) of patients. Mostly, the records are stored on healthcare cloud and application (HCA) servers, and thus, are subjected to end-user latency, extensive computations, single-point failures, and security and privacy risks. A joint solution is required to address the issues of responsive analytics, coupled with high data ingestion in HBD and secure EHR access. Motivated from the research gaps, this project proposes a scheme, that integrates blockchain (BC)-based confidentiality-privacy (CP) preserving scheme, CP-BDHCA, that operates in two phases. In the first phase, elliptic curve cryptographic (ECC)-based digital signature framework, HCA-ECC is proposed to establish a session key for secure communication among different healthcare entities. Then, in the second phase, a two-step authentication framework is proposed that integrates Rivest-Shamir-Adleman (RSA) and advanced encryption standard (AES), named as HCA-RSAE that safeguards the ecosystem against possible attack vectors. CP-BDAHCA is compared against existing HCA cloud applications in terms of parameters like response time, average delay, transaction and signing costs, signing and verifying of mined blocks, and resistance to DoS and DDoS attacks. We consider 10 BC nodes and create a real-world customized dataset to be used with SEER dataset. The dataset has 30,000 patient profiles, with 1000 clinical accounts. Based on the combined dataset the proposed scheme outperforms traditional schemes like AI4SAFE, TEE, Secret, and IIoTEED, with a lower response time. For example, the scheme has a very less response time of 300 ms in DDoS. The average signing cost of mined BC transactions is 3,34 seconds, and for 205 transactions, has a signing delay of 1405 ms, with improved accuracy of ≈ 12% than conventional state-of-the-art approaches.

Collaborating Universities:
a) Vishwakarma University, Pune 411048, India.
b) eHealth Institute, Linnaeus University, Vaxjo, Sweden
c) Innovation Division, Denmark Faculty of Technology, Technical University of Denmark, Kongens Lyngby, Denmark
d) Canadian Institute for Cybersecurity, University of New Brunswick, Fredericton, Canada
e) Department of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, India
f) Symbiosis Institute of Technology, Symbiosis International (Deemed) University, Pune, India.

Paper Publication:
• CP-BDHCA: Blockchain-based Confidentiality-Privacy preserving Big Data scheme for healthcare clouds and applications, IEEE Journal of Biomedical and Health Informatics, SCIE, IF=7.021, July 2021. DOI: 10.1109/JBHI.2021.3097237

Project 3:
Title: Deep Learning Approach for Discovery of In Silico Drugs for Combating COVID-19
Description:

Early diagnosis of pandemic diseases such as COVID-19 can prove beneficial in dealing with difficult situations and helping radiologists and other experts manage staffing more effectively. The application of deep learning techniques for genetics, microscopy, and drug discovery has created a global impact. It can enhance and speed up the process of medical research and development of vaccines, which is required for pandemics such as COVID-19. However, current drugs such as remdesivir and clinical trials of other chemical compounds have not shown many impressive results. Therefore, it can take more time to provide effective treatment or drugs. In this project, a deep learning approach based on logistic regression, SVM, Random Forest, and QSAR modeling is suggested. QSAR modeling is done to find the drug targets with protein interaction along with the calculation of binding affinities. Then deep learning models were used for training the molecular descriptor dataset for the robust discovery of drugs and feature extraction for combating COVID-19. Results have shown more significant binding affinities (greater than −18) for many molecules that can be used to block the multiplication of SARS-CoV-2, responsible for COVID-19.

Collaborating Universities:
a) Vishwakarma University, Pune 411048, India.
b) Design, Manufacturing & Engineering Management, University of Strathclyde, Glasgow G1 1XJ, UK
c) Imperial College London, Exhibition Road South Kensington, London, UK
d) College of Computer Science and Information Technology, Jazan University, Jazan, Saudi Arabia
e) School of Computer Science & Engineering, Lovely Professional University, Phagwara, India
f) College of Computer and Information Technology, Taif University, Taif, 21944, Saudi Arabia

Paper Publication:
• Deep Learning Approach for Discovery of in Silico Drugs for Combating COVID-19, Journal of Healthcare Engineering, Hindawi, SCIE, IF= 3.822, July 2021. DOI: 10.1155/2021/6668985

• Deep Learning Approach for Analysis and Characterization of COVID-19, Computers, Materials & Continua, SCIE, IF=3.860, Manuscript ID: 15350, September 2021. DOI: 10.32604/cmc.2022.019443

Project 4:
Title: Internet of Things Assisted System for Stress Monitoring

Description:
Currently, the Internet of Things (IoT) has gained attention for its capability for real-time monitoring. The advancement in sensor and wireless communication technology has led to the widespread adoption of IoT technology in distinct applications. The cloud server, in conjunction with the IoT, enables the visualization and analysis of real-time sensor data. The literature concludes that there is a lack of

remote stress-monitoring devices available to assist doctors in observing the real-time stress status of patients in the hospital and in rehabilitation centers. To overcome this problem, we have proposed the use of the IoT and cloud-enabled stress devices to detect stress in a real-time environment. The IoT-enabled stress device establishes piconet communication with the master node to allow visualization of the sensory data on the cloud server. The threshold value (volt) for real-time stress detection by the stress device is identified by experimental analysis using MATLAB based on the results obtained from the performance of three different physical-stress generating tasks. In addition, the stress device is interfaced with the cloud server, and the sensor data are recorded on the cloud server. The sensor data logged into the cloud server can be utilized for future analysis.

Collaborating Universities:

a) Vishwakarma University, Pune 411048, India.

b) College of Computer and Information Technology, Taif University, P.O. Box 11099, Taif 21944, Saudi Arabia

c) Uttaranchal Institute of Technology, Uttaranchal University, Dehradun 248007, India

d) University of Petroleum and Energy Studies, Dehradun 248001, India

Paper Publication:

Cloud server and Internet of Things Assisted System for Stress Monitoring, Electronics, MDPI, SCIE, IF=2.690, December, 2021. DOI: 10.3390/electronics10243133

https://www.vupune.ac.in/centres-of-excellence/center-of-excellence-for-health-informatics

Publications

NAME OF THE AUTHOR/S	TITLE OF PAPER	NAME OF THE JOURNAL	VOL/ ISSUE	ISSN NUMBER
Preeti Mehta,Yogita Ozarde, Manish S Wani , Jivika A Naik , Bhakti N Jadhav, and Gayatri M. Karadkhedkar	Covid-19: An Account On Novel Coronavirus Disease	Annals of R.S.C.B	25(4)	ISSN:1583-6258
Preeti Mehta,Ranjit Gadhave,Yogita Ozarde,Arti Swami	Selective Optimization of Side Activities as an Efficient Approach for Generation of New Leads from Old Drugs	JPRI	33(42B)	ISSN: 2456-9119
Poonam R. Inamdar, A. Sheela	Peculiar DNA partial threading intercalative ability of tetradentate copper complex based on ONO hydrazone backbone and an ancillary ligand	Nucleosides, Nucleotides and Nucleic acids, Vol 40, Issue 5, Page no 518-529.		1525-7770 (print) 1532-2335 (web)
Chaitrali Bidikar, Poonam Inamdar	Exploration of Physicochemical Parameters of Natural Origin Polymers	Current Applied Polymer Science, Vol 4, Page no 1-5.		ISSN: 2452-2724 (Online) ISSN: 2452-2716 (Print)

NAME OF THE AUTHOR/S	TITLE OF PAPER	NAME OF THE JOURNAL	VOL/ISSUE	ISSN NUMBER
Nisheeth C. Desai, Krunalsinh A. Jadeja, Dharmpalsinh J. Jadeja, Vijay M. Khedkar & Prakash C. Jha	Design, synthesis, antimicrobial evaluation, and molecular docking study of some 4-thiazolidinone derivatives containing pyridine and quinazoline moiety	Synthetic Communications	51/6	0039-7911 (print); 1532-2432 (web)
Nisheeth Desai, Niraj Shihory, Ashvinkumar Khasiya, Unnat Pandit & Vijay Khedkar	Quinazoline clubbed thiazole and 1,3,4-oxadiazole heterocycles: synthesis, characterization, antibacterial evaluation, and molecular docking studies	Phosphorus, Sulfur, and Silicon and the Related Elements	196/6	ISSN: 1042-6507 Online ISSN: 1563-5325
Chetan K. Jadhav, Amol S. Nipate, Asha V. Chate, Pratiksha M. Kamble, Ganesh A. Kadam, Vidya S. Dofe, Vijay M. Khedkar, Charansingh H. Gill	Room temperature ionic liquid promoted improved and rapid synthesis of highly functionalized imidazole and evaluation of their inhibitory activity against human cancer cells	Journal of the Chinese Chemical Society	68/6	ISSN: 0009-4536 (print) 2192-6549 (online)
Kulkarni, MR, Lad, NP, Khedkar, VM, Gaikwad, ND	Synthesis, in vitro cytotoxicity, and molecular docking study of novel 3,4-dihydroisoquinolin-1(2H)-one based piperlongumine analogues	J Heterocyclic Chem	58/6	Online ISSN:1943-5193
Navneet P Mori, Priti K. Parmar, Vijay M. Khedkar, Gaurav Sanghavi, Ranjan C Khunt	Synthesis, Characterization and Docking Studies of Some New Alkyne Containing Thiazole Derivatives	Asian Journal of Organic & Medicinal Chemistry	06-Feb	2456-8937
Tejshri R. Deshmukh, Vijay M. Khedkar, Rohit G. Jadhav, Aniket P. Sarkate, Jaiprakash N. Sangshetti, Shailee V. Tiwari & Bapurao B. Shingate	A copper-catalyzed synthesis of aryloxy-tethered symmetrical 1,2,3-triazoles as potential antifungal agents targeting 14 α-demethylase	New J. Chem	45/29	ISSN 1369-9261
Bhaiyyasaheb Harale, Saqib Kidwai, Divya Ojha, Manisha Singh, Dwarika Kumar Chouhan, Ramandeep Singh, Vijay Khedkar, Ambadas B. Rode	Synthesis and evaluation of antimycobacterial activity of riboflavin derivatives	Bioorganic & Medicinal Chemistry Letters	48	0960-894X

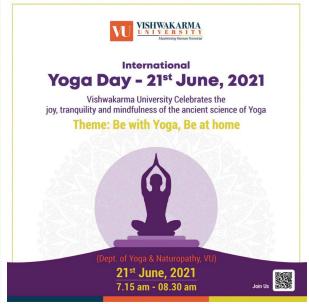| NAME OF THE AUTHOR/S	TITLE OF PAPER	NAME OF THE JOURNAL	VOL/ ISSUE	ISSN NUMBER
Rajendra R. Kshirsagar, Pradip K. Gadekar, Vijay M. Khedkar, and Vijayaparthasarathi Vijayakumar	Design, Synthesis, and the Effects of (E)-9-Oxooctadec-10-en-12-ynoic Acid Analogues to Promote Glucose Uptake	ACS Omega	Jun-37	2470-1343 (print); 2470-1343 (web)
Ashruba B. Danne, Mukund V. Deshpande, Jaiprakash N. Sangshetti, Vijay M. Khedkar, and Bapurao B. Shingate	New 1,2,3-Triazole-Appended Bis-pyrazoles: Synthesis, Bioevaluation, and Molecular Docking	ACS Omega	Jun-38	2470-1343 (print); 2470-1343 (web)
Desai, N. C., Vaghani, H. V., Jethawa, A. M., Khedkar, V. M.	In silico molecular docking studies of oxadiazole & pyrimidine bearing heterocyclic compounds as potential antimicrobial agents	Arch. Pharm.	354/10	Online ISSN:1521-4184
Nisheeth C. Desai, Kandarp Bhatt, Jahnvi Monapara, Unnat Pandit, and Vijay M. Khedkar	Conventional and Microwave-Assisted Synthesis, Antitubercular Activity, and Molecular Docking Studies of Pyrazole and Oxadiazole Hybrids	ACS Omega	Jun-42	2470-1343 (print); 2470-1343 (web)
Varsha S. Honmore, Vidya K. Kalyankar, Arun D. Natu, Vijay M. Khedkar, Dhiman Sarkar and Supada R. Rojatkar	In vitro Antitubercular Screening and in silico Study of Germacradienolide from Blainvillea latifolia	Asian Journal of Chemistry	33/12	
Zala, M.J., Vora, J.J. & Khedkar, V.M	Synthesis and Molecular Docking Study of Arylsulfanyl Pyrazolylpyrazoline Derivatives as Antitubercular Agents	Russ J Org Chem	57	Electronic ISSN: 1608-3393, Print ISSN: 1070-4280
Desai, N. C., Rupala, Y. M., Khasiya, A. G., Shah, K. N., Pandit, U. P., Khedkar, V. M.	Synthesis, biological evaluation, and molecular docking study of thiophene-, piperazine-, and thiazolidinone-based hybrids as potential antimicrobial agents	J. Heterocycl. Chem.	59	Online ISSN:1943-5193
Nisheeth C. Desai, Darshita V. Vaja, Surbhi B. Joshi & Vijay M. Khedkar	Synthesis and molecular docking study of pyrazole clubbed oxazole as antibacterial agents	Res Chem Intermed	47	Electronic ISSN: 1568-5675, Print ISSN: 0922-6168

Wellness Culture at VU

VU has a 24/7 Ambulance facility that is provided to ensure immediate medical and para-medical attention to the VU community. There is an on-campus medical facility as well. However, for any of the severe ailments / accidents, the ambulance is used. An annual medical check-up is conducted for all the students. Employees have mandatory medical insurance to meet most of their medical needs. In addition, VU strictly implements a no-smoking policy on its campus to ensure the wellbeing of the students and staff.

International Yoga Day

Yoga is very well known and recognized for creating the right balance for the mind to promote patience, discipline, good mental and physical health. VU also encourages society to remain fit and healthy by offering a special program in Yoga & Naturopathy. The Department of Yoga & Naturopathy is the ideal place to build a successful career in yoga, fitness and naturopathy. With the boom in the national and international fitness industry, there are a plethora of career opportunities in this sector.

The Department of Yoga & Naturopathy has celebrated the International Yoga Day on 21stJune 2021. Due to the pandemic, International Yoga Day was celebrated through Online mode. Theme of the day was "Be with Yoga, Be at home" which is guided by Indian Government. Prof. Sanika Bam, Head of the Department, Yoga & Naturopathy, had conducted the activities, which witnessed active participation from Leadership team, staff & students of VU. According to Government of India Yoga protocol, International Day of Yoga was celebrated. Asana, Pranayama, Mudra, Meditation, health awareness were the main features of the day.
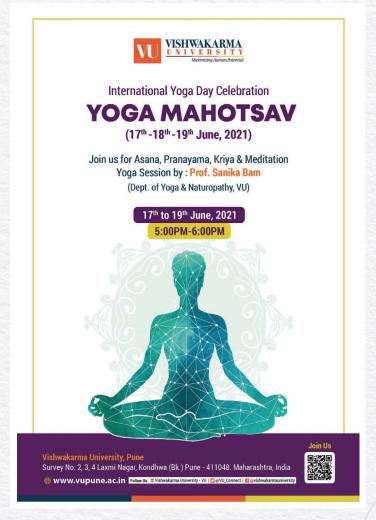
https://www.vupune.ac.in/department-of-yoga-and-naturopathy
https://www.facebook.com/vishwakarmauniversity/photos/pb.100064105980810.-2207520000./2697403903885304/?type=3

Yoga Workshop

Department of Yoga & Naturopathy, Vishwakarma University, Pune had conducted a 3 days Yoga Workshop for VU staff and students. Prof. Sanika Bam taught Asana, Pranayama, Mudra and Meditation. This workshop aimed to spread awareness about physical fitness, mental & emotional health. Workshop was conducted through online mode on 17th, 18th 19th June 2021 due to the prevailing pandemic situation.

https://www.facebook.com/photo/?fbid=2695787337380294&set=pb.100064105980810.-2207520000.
https://www.vupune.ac.in/department-of-yoga-and-naturopathy

Group Insurance Initiative for VU teaching and non - teaching members healthcare

The Mediclaim & Personal Accident Policy (from United Insurance) as well as Term Insurance (from LIC of India) are in place in VU, Pune effective from 20th October 2020 for all the employees of the University. These schemes are made available with the aim to provide, at a low-cost and on a wholly contributory and self-financing basis, the benefits of an insurance cover to the faculty and staff. Since this is a group insurance, it includes privileges such as allowing claims for diseases caused prior to the date of insurance which is not available as an individual insurance coverage. VU, Pune is always exploring ways in which it can support the needs of all the faculty and staff members. Importantly, the amount of yearly premium paid initially by the VU, Pune will be recovered from the monthly salary.

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