MGM DENTAL COLLEGE AND HOSPITAL
NAVI MUMBAI

ACCREDITED BY NAAC WITH A++ GRADE

AMALGAM SCIENTIFIC

VERSION 2026

Innovating Dentistry's Future

MGM DENTAL COLLEGE & HOSPITAL NAVI MUMBAI

Accredited by NAAC with A++ grade

VISION

"Creating dental health professionals embodied with the light of knowledge and spirit of compassion."

MISSION

- *Equipping future dentists with comprehensive skill sets and expertise.*
- *Raising the standards of dental health education by imparting extra mural education under the mentorship of leading academicians.*
- *Addressing patient concerns empathetically and adopting patient- centric treatment approaches.*
- *Encouraging research in newer areas of dental science and teaching methodology for the benefit of the population at large.*
- *Enhancing awareness of moral and ethical values among dental health professional with a commitment towards community dental care.*
- *Laying foundations for future leaders in the field.*

DIRECTOR'S MESSAGE

Dr. Sudhirchandra N Kadam
Medical Director, Trustee

It gives me immense pleasure to present this edition of Amalgam Scientific, a publication that reflects the academic strength, research culture, and scientific outlook of our institution. In an era driven by innovation and evidence-based practice, such platforms play a vital role in encouraging students and faculty to engage deeply with scientific learning.

Amalgam Scientific showcases a wide spectrum of academic contributions, including research initiatives, clinical insights, and emerging perspectives in dentistry. The dedication and intellectual effort reflected in these works highlight the commitment of our students and faculty towards advancing knowledge and striving for excellence.

At our institution, we strongly believe that education extends beyond conventional learning. It involves fostering curiosity, encouraging critical thinking, and nurturing a spirit of inquiry. This magazine stands as a testament to these values, providing a space for young minds to explore, question, and innovate.

I extend my sincere appreciation to the editorial team, faculty members, and all contributors whose collective efforts have made this publication possible. Their dedication and collaborative spirit have resulted in a meaningful and enriching academic resource.

I am confident that Amalgam Scientific will continue to inspire a culture of research and excellence, motivating students to contribute thoughtfully and responsibly to the field of dentistry.

My best wishes to all for continued success and growth.

DEAN'S MESSAGE

Dr. Srivalli Natarajan

It is a matter of great pride and privilege to present this edition of Amalgam Scientific. This publication stands as a reflection of the academic excellence, research orientation, and intellectual curiosity that define our institution.

In today's rapidly evolving scientific landscape, it is essential for students to cultivate a spirit of inquiry and a strong foundation in evidence-based practice. Amalgam Scientific serves as a valuable platform that encourages students and faculty to engage in research, explore new ideas, and contribute to the advancement of dental science. The diverse range of topics featured in this edition highlights the commitment of our academic community towards continuous learning and innovation.

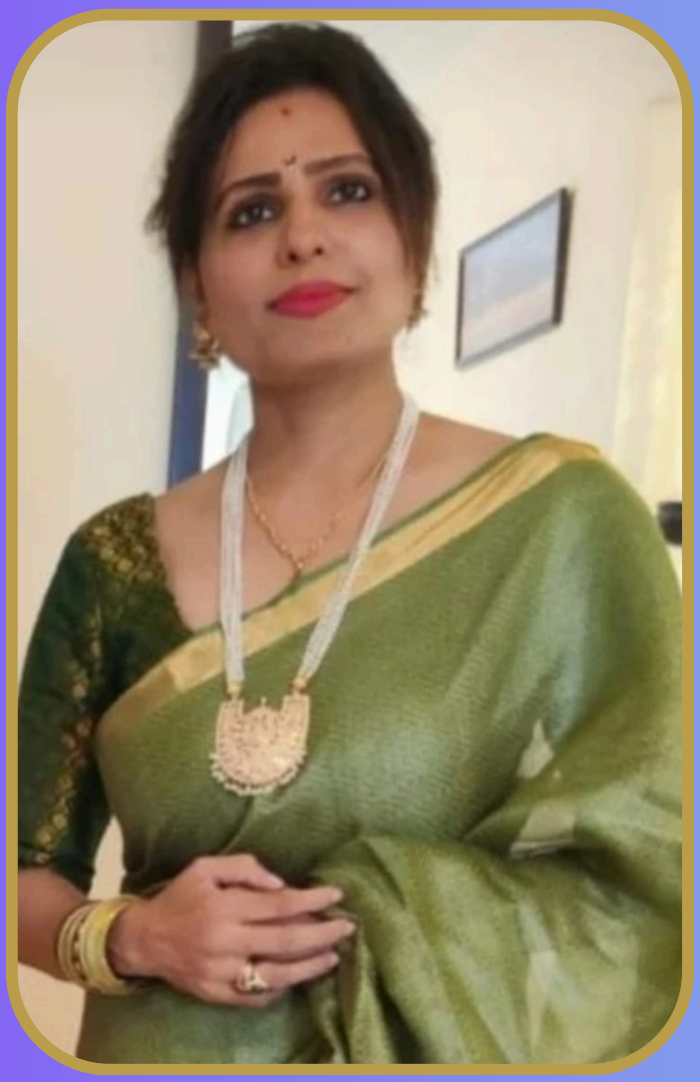
The articles, research work, and academic contributions compiled in this magazine demonstrate not only knowledge but also critical thinking and analytical skills. Such initiatives play a crucial role in preparing our students to become competent professionals who can adapt to the challenges of modern healthcare with confidence and integrity.

I sincerely commend the editorial team, faculty members, and all contributors for their dedication and hard work in bringing out this edition. Their efforts have resulted in a publication that truly reflects the scholarly spirit of our institution.

I am confident that Amalgam Scientific will inspire readers to pursue excellence in research, uphold the values of scientific integrity, and contribute meaningfully to the field of dentistry.

I extend my best wishes to all for continued success in their academic and professional endeavours.

SUBEDITOR'S MESSAGE



It gives me great pleasure to present this edition of Amalgam Scientific, a reflection of the growing academic curiosity, research aptitude, and scientific temperament within our institution. This publication stands as a platform for students and faculty to showcase their engagement with evidence-based learning and advancements in the field of dentistry.

This edition brings together a range of academic activities, research initiatives, clinical insights, and scientific discussions that highlight the commitment of our students towards continuous learning and professional excellence. It is encouraging to see such enthusiasm in exploring new ideas, strengthening analytical skills, and contributing to the evolving world of science.

Dr. Sarika Shetty

As the Staff In-Charge of the magazine, I take immense pride in the efforts of the editorial team and contributors who have worked diligently to compile this edition. Their dedication, attention to detail, and collaborative spirit have played a vital role in shaping this publication into a meaningful academic resource.
I extend my sincere appreciation to everyone involved in this endeavour. I hope Amalgam Scientificcontinues to inspire curiosity, innovation, and a deeper commitment to knowledge among all its readers.
My best wishes to all for their continued growth and success.

EDITOR'S MESSAGE

It is with great enthusiasm that we present this edition of Amalgam Scientific, a reflection of the academic curiosity, research spirit, and intellectual growth within our institution. This publication serves as a platform to showcase scientific thought, innovation, and the pursuit of evidence-based knowledge. Amalgam Scientific brings together a diverse range of contributions—from research insights and academic discussions to clinical advancements and emerging perspectives in dentistry. Each piece reflects the dedication and effort of students and faculty who strive to expand their understanding and contribute meaningfully to the field.

In an ever-evolving scientific landscape, it is essential to foster a mindset of inquiry, critical thinking, and continuous learning. This magazine stands as a testament to that vision, encouraging young professionals to question, explore, and innovate.
I extend my sincere gratitude to all contributors, reviewers, and the editorial team whose commitment and hard work have made this publication possible. Their collaborative efforts have shaped this edition into a valuable and inspiring academic resource.

I hope that Amalgam Scientific not only informs but also inspires readers to engage deeply with science and pursue excellence in their academic and professional journeys.

Keep learning, keep creating, and keep believing in the power of your journey.

- Editor

Mizba Zaidi

RESEARCH & INNOVATION HEAD

The successful organization of Hackathon 2026 at MGM DENTAL COLLEGE stands as a testament to the dedication, vision, and relentless efforts of the RESEARCH AND INNOVATION COMMITTEE and committee head KHADIJA JAVED .The event provided a vibrant platform for students to engage in problem-solving, where teams worked intensively to develop innovative and practical solutions to contemporary challenges in dentistry, including patient care, diagnostics, and digital advancements.

A key highlight of the hackathon was its interdisciplinary nature, strengthened by collaboration with 3DGRAPHY and Fr. Conceicao Rodrigues College of Engineering (FCRIT), Vashi. This partnership brought in valuable technical expertise, enabling participants to integrate engineering concepts and digital tools with dental sciences, thereby enhancing the quality and feasibility of their ideas.

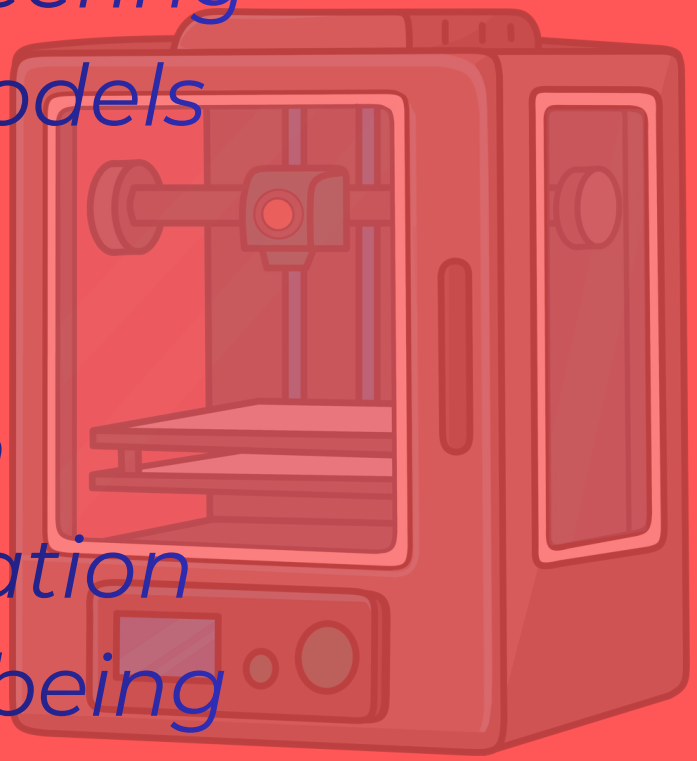
From meticulous planning and coordination to seamless execution, every aspect reflected the organizers efforts creating an engaging, competitive, and intellectually stimulating environment, making the event both impactful and memorable while setting a high benchmark for future initiatives.

HACKATHON

CODE TO CURE: WHERE AI MEETS HEALING

DOMAINS

- *Tissue Engineering*
- *Prediction Models For Genetic Disorders*
- *Simulation in Health Education*
- *Mental Well-being of Healtcare Professionals*
- *Assistive Technology for the Disabled*



United for Innovation

3D Graphy Engineering & Medical Poster Presentation

The 3D Graphy Engineering & Medical Poster Presentation Awards is a unique national platform that brings together the next generation of innovators, designers, and researchers from engineering, medical, and interdisciplinary fields. Organized under the banner of 3D Graphy, this initiative celebrates creativity, problem-solving, and applied research in 3D printing, additive manufacturing, simulation, and visualization technologies. The platform encourages participants to showcase innovative ideas, prototypes, research findings, and case studies that demonstrate how 3D technologies are transforming engineering design, medical treatment, product development, and education.

Benefits of Participation

- Recognition & Awards: Winners receive national recognition, certificates, and opportunities to present at 3D GEM and partner industry forums.
- Exposure: Showcase your ideas to industry experts, researchers, investors, and institutions.
- Collaboration: Connect with leaders in engineering, healthcare, and 3D technology startups.
- Career & Research Opportunities: Gain visibility for internships, research grants, and project funding.
- Publication: Selected posters may be featured in 3D GEM POSTER PRESENTATION ABSTRACT HANDBOOK.

Esteemed Jury

Dr. Sabita Ram

Dr. Sabita Ram is a distinguished academician, currently serving as Professor Emeritus at MGM Dental College & Hospital, Navi Mumbai and current President of the Pierre Fauchard Academy – India Section. She has served as former Director of Research and former Dean at MGM Dental College. She is the First Lady president of Indian Prosthodontic Society and First Chairperson of Women's Dental Council of Indian Dental Association.She has two books for publication and an experience of 55 years. An Ex-Captain of the Army Dental Corps, she brings exceptional leadership and academic excellence to this panel.

Dr. Bhanupratap Gaur

Dr. Bhanupratap Gaur, Senior Research Scientist at BETIC, IIT Bombay, leading multidisciplinary teams in translational research and medical device innovation. With a PhD in Mechanical Engineering, his work on patient-specific orthopedic implants reflects impactful technology transfer from lab to clinic.

Dr. Mansee Thakur, Professor and Head, Department of Medical Biotechnology, and Director, MGM School of Biomedical Sciences, MGMIHS, Navi Mumbai. Her research focuses on public-health-oriented diagnostics, including tuberculosis detection systems, along with expertise in biomedical research.

Dr. Mansee Thakur

Dr. Shibu John is a PhD scholar in Media Research and a 3D Technology Evangelist with over 26 years of experience across media, banking, and technology. He actively promotes 3D printing and AI by building collaborative ecosystems that translate emerging technologies into real-world applications.

Dr. Shibu John

Dr. Shubhangi Vaikole, ma'am is a Professor and Head of the Department of Information Technology at Fr. C. Rodrigues Institute of Technology, Vashi, with over two decades of academic experience. She holds a Ph.D. in Computer Engineering Her research interests span artificial intelligence, machine learning, signal processing, and data security, with numerous publications in reputed international journals and conferences.

Dr. Shubhangi Vaikole

DOMAIN: Prediction Model for Genetic Disorders

Aditi Gorhe
Intern

Khushi Sharma
IV BDS

Shreegeeta Singh
IV BDS

Dr. Adil Gandevivala

Nanhi Awaaz

●Problem Statement:

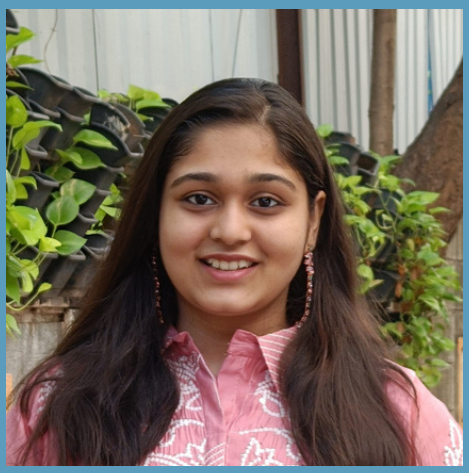
Cleft lip and palate (CLP) is a common congenital craniofacial anomaly affecting approximately 1 in 700 live births worldwide. Although genetic and environmental factors contribute to its development, current prediction models fail to adequately capture the complex interactions between multiple genetic variants and environmental influences. There is a need for a more accurate and integrative predictive model to enable early risk assessment and preventive strategies.

Abstract

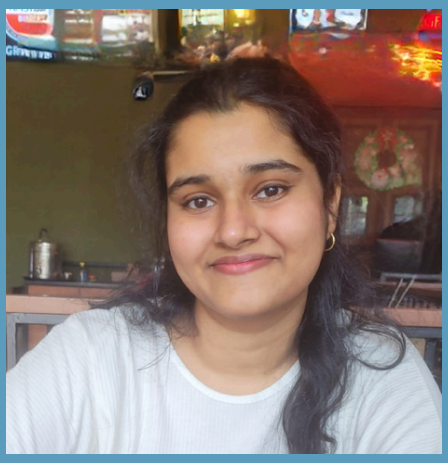
Title: Development of a Genetic Prediction Model for Cleft Lip and Palate

Cleft lip and palate (CLP) is a multifactorial congenital anomaly with significant genetic contribution. The target population includes newborns and families at high genetic risk for CLP. We developed a genetic prediction model using whole-genome sequencing data from 100 CLP patients and 100 controls. Significant variants, including those in IRF6, MSX1, and TGFβ3, were identified and integrated with environmental and clinical factors. Machine learning algorithms (random forest and support vector machine) were applied to construct the model. Compared with traditional single-gene association studies and conventional risk assessment tools, our integrative model accounts for gene–gene and gene–environment interactions. The model achieved an AUC-ROC of 0.92, with 85% sensitivity and 90% specificity. These findings suggest that the proposed approach improves predictive accuracy and may support early screening and preventive interventions. Further validation in larger, independent cohorts is required.

Preeti Chavan
III BDS



Maher Gala
III BDS



Krutika Rangnekar
III BDS

dentAIre

Problem statement :- Delayed detection of dental caries and malocclusion leads to increased disease progression, higher treatment costs, and long-term complications. There is a need for an AI-based predictive screening system that can accurately identify early pathological changes using simple intraoral photographs.

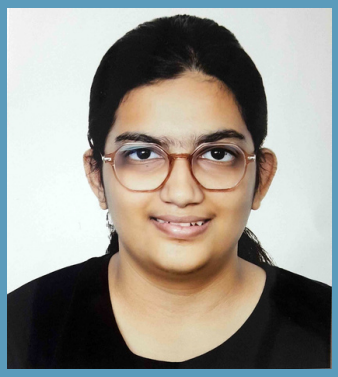
Abstract:- Early diagnosis of dental caries and malocclusion is often delayed due to inadequate routine screening and limited accessibility to professional evaluation. This project proposes the development of a deep learning–based mobile application utilizing predictive modeling for automated analysis of intraoral images captured in open and closed mouth positions.

The target population includes children, adolescents, and adults requiring early screening for dental pathologies. The intervention incorporates a supervised convolutional neural network (CNN) architecture with image preprocessing, feature extraction, and pixel-level segmentation to identify carious lesions, occlusal discrepancies, and malocclusion patterns.

Model performance will be compared with conventional clinical examination and radiographic interpretation. Primary outcome measures include diagnostic accuracy, sensitivity, specificity, precision-recall metrics, and area under the ROC curve (AUC). Secondary outcomes include improved early detection rates and optimized referral decisions.

This AI-driven predictive system aims to function as a scalable, cost-effective screening tool facilitating early risk stratification and timely clinical intervention.The target population includes children, adolescents, and adults requiring early screening for dental pathologies. The intervention incorporates a supervised convolutional neural network (CNN) architecture with image preprocessing, feature extraction, and pixel-level segmentation to identify carious lesions, occlusal discrepancies, and malocclusion patterns

Yash Rawal
III BDS



Priyanshi Doshi
III BDS

Bansi Chitalia
III BDS

Vaishnavi Nagawade
III BDS

Dr. Ruchita Balkawade

GenoRisk- AI powered Genetic disease Risk Assessment

Problem Statement:
India carries a significant burden of inherited genetic disorders such as thalassemia and sickle cell disease. A large proportion of individuals remain unaware of their carrier status before marriage or conception, resulting in preventable transmission of genetic disorders to offspring. Existing genetic
screening tools are often expensive, inaccessible in rural and semi-urban settings, or require prior laboratory reports. There is a critical need for a scalable, affordable, and AI-driven decision-support
system that can estimate genetic risk, assist couples in understanding inheritance probabilities, and
guide them toward appropriate preventive and diagnostic measures.

Abstract:
Target Population: Couples of reproductive age, individuals planning marriage, and communities in high-prevalence regions for inherited genetic disorders in India. Intervention: We propose an AI-based Genetic Disorder Prediction and Compatibility App that assesses carrier probability using two operational modes: Laboratory-based inputs such as CBC parameters and genetic reports; and questionnaire-based risk stratification for users without medical records. The system estimates both
individual and couple-based risk, visualizes inheritance probabilities, and provides structured preventive guidance based on clinically validated genetic principles. Comparison with Existing Tools: Unlike existing AI tools that focus solely on individual disease classification, our platform integrates couple-based compatibility analysis, actionable preventive pathways, and Indian demographic risk factors. It functions both with and without laboratory data, increasing accessibilityand scalability.
Outcomes: Expected outcomes include early identification of high-risk couples, improved genetic awareness, increased uptake of confirmatory testing, and reduction in preventable inherited disorders through informed, data-driven decision-making.

Faizan Thakur
III BDS

Faizan Khan
III BDS

Suheb Patel
III BDS

Dr. Khizer Syed

Implants: CBCT Planning, Patients Profile, Success and RVG Analysis

Problem statement:Dental implant success depends on multiple factors such as bone density, bone height, systemic conditions, and surgical parameters. Currently, implant planning relies mainly on clinician experience and isolated radiographic evaluation, which may lead to variability in risk assessment. There is a need for a standardized, data-driven prediction model that can assess preoperative risk and estimate implant success probability to support evidence-based clinical decision-making.

Abstract:This project aims to develop a predictive risk assessment model for estimating dental implant success. The target population includes adult patients undergoing implant therapy. The intervention involves a machine learning-based model that integrates radiographic parameters (bone density, bone height), patient factors (age, smoking, diabetes), and surgical variables to predict implant success probability.

The model will be compared with conventional clinician-based assessment methods that rely on manual CBCT interpretation and experience. Outcomes include implant success probability, risk stratification (low, moderate, high), and decision-support recommendations.

This tool aims to enhance treatment planning, reduce implant failure rates, and improve patient outcomes through standardized, data-driven risk evaluation.

DOMAIN: MENTAL WELL-BEING OF HEALTH CARE PROFESSIONALS

Mrunal Gawale
IV BDS

Swati Sonwane
III BDS

Shrutika Ohal
III BDS

Dr. Saurabh Waghchaure

Biosensors and AI Unified platform for monitoring and evaluation of mental well-being in healthcare

Problem Statement-

Healthcare professionals such as surgeons, nurses, and emergency physicians work in highly demanding environments that involve long hours, physical exhaustion, emotional pressure, and critical decision-making. Continuous exposure to these stressors often leads to burnout, decreased productivity, and reduced quality of
patient care. Most existing approaches to mental wellbeing are reactive, identifying stress only after it begins to affect performance or health. Additionally, currently available monitoring systems are generic and do not adequately address the unique challenges faced by healthcare professionals during active clinical duties. Therefore, there is a need for an intelligent system that can identify early signs of stress and support healthcare professionals through timely interventions, ultimately promoting better wellbeing and safer clinical practice.

Abstract

Title: Fellow: An AI-Powered System for Real-Time Stress Prevention in Healthcare Professionals Background:Burnout among healthcare professionals is an increasing global concern due to demanding work environments, prolonged duty hours, and high responsibility. Early signs of stress often remain unnoticed, leading to serious mental and physical health consequences.

Objective:This project proposes the development of an AI-powered system designed to monitor stress levels in healthcare professionals and detect early warning signs before burnout occurs.

Target Population:The system is intended for professionals working in high-pressure clinical settings, including surgeons, nurses, clinicians and emergency care providers.Proposed
Approach: The AI-based system will analyze physiological and behavioral indicators of stress to provide timely alerts and supportive guidance. It aims to deliver immediate micro-interventions such as break reminders, relaxation prompts, and fatigue notifications, while also maintaining long-term stress patterns to encourage proactive mental health support.

Expected Outcomes:
The proposed system is expected to promote early stress recognition, improve overall wellbeing, enhance work efficiency, and contribute to safer patient care by shifting the focus from stress management to stress prevention.

Nirmita Gulabani
JUNIOR INTERN

Aditi Gosavi
JUNIOR INTERN

Dr. Sneha Naware

Mann- Care at your Fingertips

Problem Statement-

Problem Statement: Healthcare professionals, including dentists and surgeons, face chronic stress, burnout (50% prevalence), and anxiety from high-stakes work, leading to errors, attrition, and poor patient care, with limited tailored, stigma-free digital support.

Abstract: Mann – AI-Powered Mental Wellness App (148 words)

Target Population: Healthcare professionals (doctors, nurses, dentists) in high-stress environments like India, prone to burnout and anxiety.

Intervention: Mann offers AI-driven daily assessments (Beck Anxiety Inventory, PSS-10), trigger logging, heart rate tracking, and personalized treatments: guided box breathing, meditation, CBT-based AI counseling. Workflow includes onboarding →AI analysis → interventions → progress dashboards with reminders.

Comparison with Other Tools: Unlike general apps (Headspace, Calm) lacking validated indices or Earkick's broad focus, Mann specializes in healthcare stressors, integrates legit scales (BAI, Maslach), holistic tracking, and professional referrals more precise and adherent for clinicians.

Outcomes: Pilots predict 25-35% anxiety reduction, 80%+ adherence, lower burnout via longitudinal data; enhances resilience, retention, and care quality over 3-6 months. HIPAA-compliant, scalable for 1M+ users.

Keywords: Healthcare burnout, AI mental health, stress indices, digital intervention.

Niral Rakesh Ostwal
II BDS

Yashwi Kumar
II BDS

Dr. Varsha Patel

App for Mental well-being for Healthcare professionals

Problem Statement: An AI-powered platform that detects early burnout in healthcare professionals through brief assessments, behavioral inputs, and predictive analytics. It delivers personalized micro-interventions and anonymous emotional support while providing institutions with aggregated wellness insights. The system promotes proactive mental health care, reduces attrition, and enhances patient safety.

Abstract

V for Us - an AI-powered platform that detects early burnout in healthcare professionals through brief assessments, behavioral inputs, and predictive analytics. It delivers personalized micro-interventions and anonymous emotional support while providing institutions with aggregated wellness insights. The system promotes proactive mental health care, reduces attrition, and enhances patient safety.

Saloni Redkar
II BDS

Pranjal Shikhare
II BDS

Ishika Prajapati
II BDS

Dr. Kanchan Sahwal

Diagnosis to Recovery!

Problem Statement
Doctors/health care professionals face significant stress but existing support systems are often inaccessible or inconvenient, highlighting the need for a practical solution.

Abstract:
The target population for this intervention is practicing doctors working in hospital settings. The proposed solution adopts a dual-approach intervention. The first component includes short-duration virtual reality (VR)–based modules such as guided meditation, calming nature visuals, and posture-related exercise clips, designed to be accessed between patient consultations. The second component involves an anonymous digital stress-screening system using a one-minute check-in form to assess stress levels and identify common stress trends among doctors. Compared to conventional mental health interventions that rely on lengthy counseling sessions or self-initiated appointments, this approach emphasizes minimal time commitment, anonymity, and ease of access. Existing tools often lack real-time integration into daily hospital routines, whereas the proposed system allows quick participation and trend-based analysis while enabling private counselor connectivity only when a doctor opts for assistance. Expected outcomes include improved short-term relaxation, early detection of stress patterns, enhanced accessibility to mental health support, and improved overall well-being. The prototype can be developed using Google Forms and Excel dashboards, with potential integration into hospital HR systems for real-world implementation.

DOMAIN: ASSISTIVE TECHNOLOGY FOR THE DISABLED

Maithelee Gavali
INTERN

Adishree Patil
IV BDS

Lavisha Valecha
IV BDS

Dr. Niharika Swain

SAKSHAM- AI enabled smart dental care system

Problem statement- AI-enabled smart dental care system designed for visually impaired, deaf, stroke survivors, and motor-disabled individuals

ABSTRACT :This project presents a low-cost, AI-enabled smart dental care system designed for visually impaired, deaf, stroke survivors, and motor-disabled individuals. The system combines early dental screening with a smart assistive toothbrush that ensures proper brushing technique. The device uses pressure sensors to prevent gum damage, motion sensors to detect brushing coverage, and a timer to ensure proper duration. It identifies “untouched areas” inside the mouth and provides feedback using audio guidance, visual indicators, and vibration alerts. The toothbrush includes an adaptive ergonomic grip designed for weak hand strength and one-hand usability for stroke patients. The system promotes inclusive healthcare, independent oral hygiene, and early detection of dental problems, making it suitable for rural healthcare camps and rehabilitation centers

Eshaan Bhagtani
III BDS

Hethvi Somaiya
III BDS

Rugveda Gulave
III BDS

Dr. Pankaj Londhe

Assessment of AI base real in life sign language translation system in dental clinics

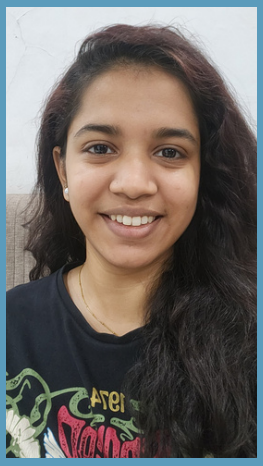
Problem Statement:

Dental clinics lack an efficient, real time communication system for hearing and speech impaired patients, leading to misunderstandings, increased anxiety, and compromised quality of care. Existing alternatives are limited, non specialised for clinical settings, and not fully privacy preserving.

Abstract :

Our project proposes an AI powered real time Sign Language Communication System tailored for dental clinics. The target population includes hearing and speech impaired patients who face communication barriers during dental consultations and procedures. The intervention involves a computer vision based system that detects and translates sign language gestures into text fordentists, while simultaneously generating animated sign language responses based on the dentist's input. Compared to existing tools such as human interpreters or basic text based communication, our system offers real time, privacy preserving, and clinic specific interaction without dependency on third party assistance. The expected outcomes include improved patient comfort and reduced anxiety, enhanced procedural safety through accurate communication, increased accessibility to oral healthcare services, and greater efficiency in dental practice workflows. This solution aims to bridge communication gaps and promote inclusive healthcare delivery through innovative AI integration.

Shravani Kangane
II BDS



Jidnyasa Bagrao
II BDS

Padmali Kulkarni
II BDS

Lipika Singh
II BDS

Dr. Jigna Pathak

Assistive Technology for self evaluation of neurodevelopemental diseases

Problem Statement:
An accessible AI enabled platform is needed for early genetic risk assessment and post diagnosis support. Limited awareness of carrier status increases hereditary disease risk, making scalable informed decision making essential for better pediatric outcomes.

Abstract:
Neurodevelopmental disorders such as Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), and other cognitive and behavioral conditions affect a child's communication, learning, and social interaction. Early detection during the first five years of life is crucial, as timely intervention can significantly improve developmental outcomes. However, in India, a large number of cases remain undiagnosed due to limited awareness, lack of accessible screening tools, and delayed clinical evaluation.

This project proposes an assistive technology solution that enables parents and caregivers to self-evaluate neurodevelopmental milestones in pediatric patients. The system provides a simple, user-friendly interface with age-appropriate questionnaires and guided observations to help identify early warning signs. Based on user responses, the tool generates a risk assessment and recommends whether professional medical consultation is needed.

By empowering parents with an accessible and easy-to-use screening platform, the proposed solution aims to support early identification, reduce delays in diagnosis, and promote timely intervention. This approach has the potential to improve developmental outcomes and enhance the quality of life for children, particularly in underserved and resource-limited communities.

Fatima Shaikh
III BDS

Praniksha Runwal
III BDS

Dr. Isha Mishra

Current dental practice lies on verbal auditory loops that exclude the deaf and speech impaired community

Problem statement: Impaired patients can't keep their mouth open or communicate discomfort. Conventional bite blocks lack feedback. AI-based smart assistive monitoring is needed.

ABSTRACT:

Patients with physical, neuromuscular, hearing, or speech impairments often face difficulty maintaining mouth opening and communicating discomfort during dental procedures, leading to pain, fatigue, anxiety, and reduced clinical efficiency. This highlights the need for an assistive solution to improve comfort, safety, and communication in special needs dentistry.

TARGET POPULATION:

The target population includes individuals with conditions such as arthritis, stroke-related hemiparesis, cerebral palsy, and deaf or non-verbal patients who cannot effectively control jaw position or express distress verbally.

INTERVENTION:

The proposed solution is a Smart Dental Bite Board, a soft adjustable mouth prop integrated with pressure sensors, LED indicators, and optional buzzer or vibration alerts to monitor bite force and discomfort in real time.

COMPARISON WITH OTHER TOOLS:

Unlike conventional passive bite blocks or hand signals, which provide limited or delayed feedback, the smart device enables continuous, hands-free communication between patient and dentist.

EXPECTED OUTCOMES:

Expected outcomes include improved patient comfort, reduced risk of jaw strain and soft tissue injury, enhanced pain management, increased patient safety and satisfaction, better clinician–patient interaction, fewer treatment interruptions, and improved procedural efficiency. Overall, it is a low-cost, adaptive assistive technology that enhances accessibility, communication, and quality of care in special needs dentistry.

DOMAIN: SIMULATION IN HEALTH EDUCATION

Harshali Gunjal
III BDS

Mahi Shinde
III BDS

Janhavi Tayshete
III BDS

Krish Neve
(Engineering)

Madhur Madane
(Engineering)

Aditi Sangle
III BDS

The Making of the Modern Dentist

Dr. Swati Singh

Problem Statement

Revolutionize the outdated Indian dental curriculum by integrating AI diagnostics, VR-haptics, and robotics to bridge the psychomotor gap and produce technologically fluent, future-ready graduates.

Abstract: The Making Of A Modern Dentist

Target Population: Primary focus: Undergraduate dental students and clinical educators within the Indian dental ecosystem.

Context: A demographic currently navigating a "technological vacuum" where traditional syllabus requirements clash with modern clinical demands.

The Intervention (Digital Revolution): Implementation of VR-Haptic Simulators (e.g., Simodont) to replace static phantom heads with dynamic, force-feedback training.

Integration of AI Diagnostic Software (Overjet/Pearl) to automate radiographic analysis and standardize student grading.

Adoption of Robotic-Assisted Surgical Units (Yomi) for precision implantology training.

Comparison with Traditional Tools: Subjectivity vs. Objectivity: Traditional manual assessment is prone to inter-examiner variability; AI tools provide 100% objective, data-driven feedback.

The Psychomotor Gap: Static phantom heads fail to simulate real-tissue resistance; VR-haptics provide high-fidelity "pre-clinical" muscle memory.

Static vs. Adaptive Learning: Standard textbooks offer one-size-fits-all education, whereas AI platforms allow for personalized, competency-based progression.

Expected Outcomes:

Diagnostic Mastery: A projected 40% increase in early-stage lesion detection among students.

Skill Precision: Significant reduction in "iatrogenic errors" during the transition from lab to live patients.

Future Readiness: Producing graduates who are "AI-native, " moving from being chronologically certified to technologically fluent.

Alfiya Anchan
(I BDS)

Ameya Palvankar
(I BDS)

Vedanti Herwade
(I BDS)

Dr. Khizer Syed

DentoLogic VR

Problem statement

Dental students often struggle to translate theoretical knowledge of tooth pain into effective clinical decision-making due to the lack of realistic simulation tools.

To address this gap, we propose the development of a virtual reality (VR)–based, choice-driven dental pain simulation system designed to enhance diagnostic reasoning and treatment planning skills through VR

ABSTRACT

Target population: Dental students and dentists

Intervention:

It provides a more engaging and interactive platform to students and doctors as compared to conventional methods of teaching.The compatibility with VR makes it more appealing to the younger generation.

Comparison with other tools:

Toothaches & other dental complaints are common causes of pain and reasons for visiting the ED. The application of simulation aims to educate the students and doctors in such tooth pain emergency. The simulation gives choices in a clinical setting thus testing the knowledge and prepare the student in better pain management.

Outcome:

This study aims to enhance and train health professional in painmanagement.

WINNERS

First prize

Aditi Gorhe,
Khushi Sharma,
Shreegeeta Singh,
Sahil Kadu
(Intern, Final year)

Second prize

Pratik Palve,
Kanishka Salvi
(Intern)

Third prize

Adishree Patil, Maithelee Gavali, Lavisha Valecha (Final year, Intern)

Consolation Prize

Rohan Nile, Mohnish Krupale, Adarsh Sonawane, Nidhi Yadav

Category Awards

Best in Tissue Engineering & Prediction Models

Yashasvi Talele, Saloni Shah, Netra Yadav, Shravani Raut

Best in Mental Well-being

Yashwi Kumar, Niral Ostwal

Best in Assistive Technology & Simulation in Health Education

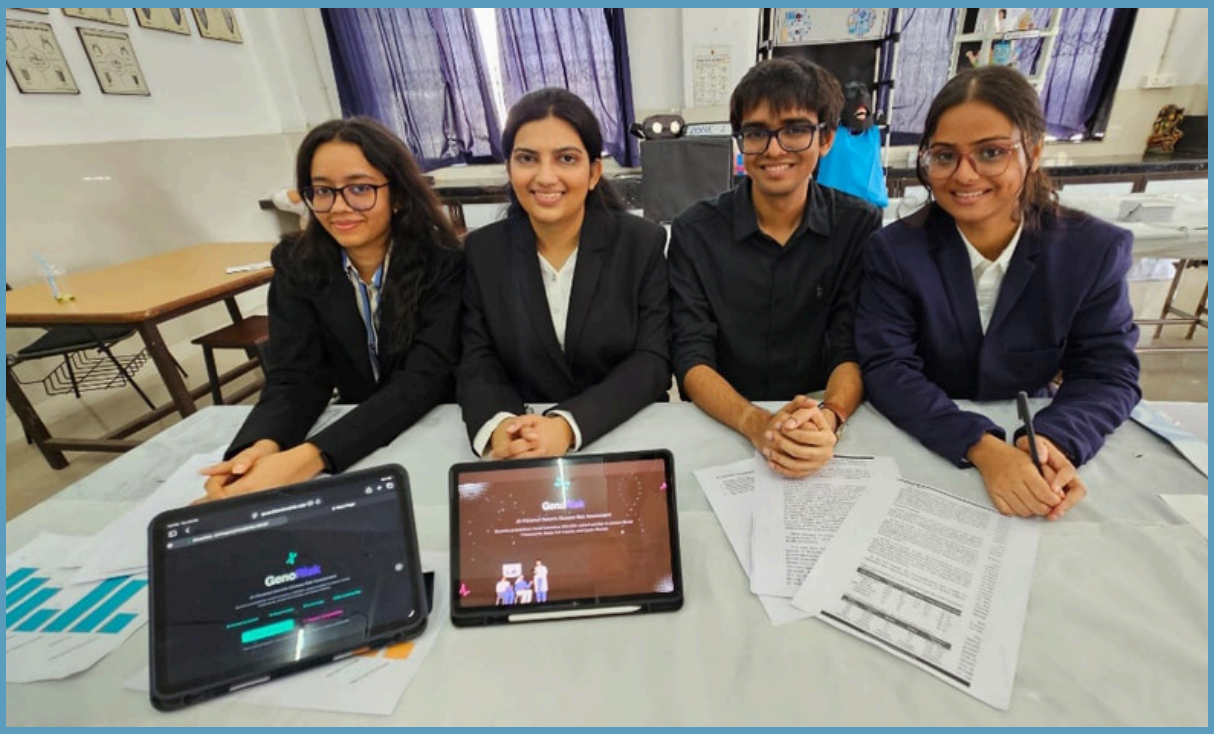



Lipika Singh, Padmali Kulkarni, Jidnyasa Bagrao, Shravani Kangane

Best Presentation

Aditi Sangle, Harshali Gunjal, Janhavi, Mahi

BEST SCALABLE IDEA

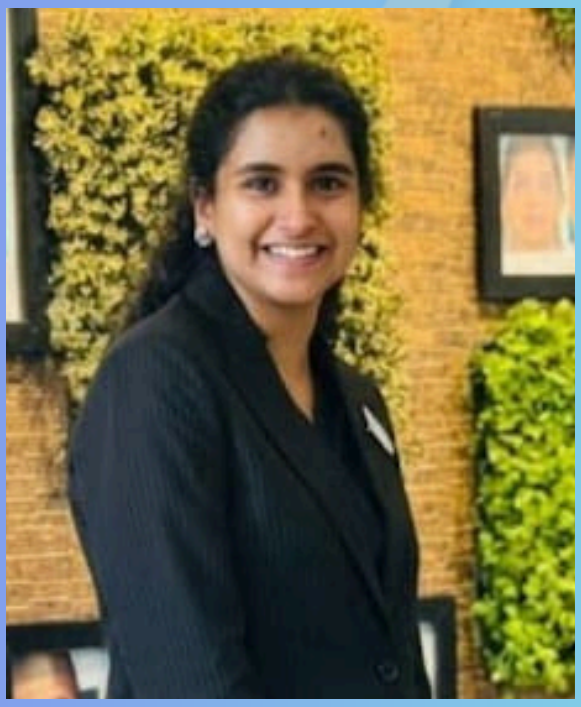


Vaishnavi Nagawade, Bansi Chitalia, Yash Raval, Priyanshi Doshi

BEST WORKING PROTOTYPE

Suheb Patel, Faizan Khan, Faizan Thakur

SCIENTIFIC HEADS



ORACLE'26 stands as a reflection of the academic excellence, innovation, and scientific temperament nurtured within our institution. This year, the event witnessed enthusiastic participation through a variety of academic activities, including scientific paper presentations, poster presentations, table clinics, and quiz competitions. These platforms provided students and professionals an opportunity to showcase their knowledge, clinical skills, and research aptitude.

Such initiatives play a vital role in fostering critical thinking, encouraging evidence-based practice, and promoting a culture of continuous learning. The dedication and creativity displayed by all participants truly exemplify the spirit of scientific inquiry.

We extend our sincere appreciation to all contributors, participants, and the organizing team for their relentless efforts in making ORACLE'26 a success. Your commitment has made this event both enriching and inspiring.

We hope this magazine serves as a source of knowledge and motivation for all its readers, encouraging them to continue striving for excellence in the field of dentistry

ORACLE' 26

Where Oral Care meets Modern Algorithm

Oracle is a premier scientific symposium designed to explore the cutting-edge intersection of technology and oral healthcare under the theme "AI in Dentistry." This event provides a dynamic platform for students and professionals to dive into how machine learning, automation, and digital tools are reshaping diagnostics, treatment planning, and patient management. Through diverse competitive categories-including ***Paper and Poster Presentations for sharing research, Table Clinics for hands-on demonstrations, and a challenging Quiz Competition****-Oracle encourages participants to showcase their expertise and creativity. By focusing on the digital revolution, the fest aims to inspire the next generation of dentists to embrace innovation and lead the way in a tech- driven clinical landscape.*

PAPER PRESENTATIONS

Beyond Matrix

ARUSHI GODBOLE
(Final year)

Forensic dental anthropology serves as a dependable adjunct in human identification, particularly in cases involving fragmented or decomposed remains. The present study analyzes characteristic non-metric traits of maxillary teeth in individuals of Maharashtrian ancestry, with specific emphasis on their forensic utility and sexual dimorphic differentiation. Non-metric dental traits are genetically regulated, population-specific, and resistant to post-mortem changes, thereby offering stable markers for medico-legal investigations.

The traits evaluated include shoveling of maxillary incisors, double shoveling, peg-shaped lateral incisors, Bushman canine, interruption groove, parastyle, cusp of Carabelli, hypocone reduction, and metacone reduction. Dental casts and extracted maxillary teeth were examined systematically. Trait expression, degree, and bilateral symmetry were recorded using standardized scoring criteria. To enhance observational accuracy, all morphological traits were reassessed under a stereomicroscope, allowing precise visualization of subtle enamel ridges, accessory cusps, and groove patterns that may be overlooked in macroscopic examination.

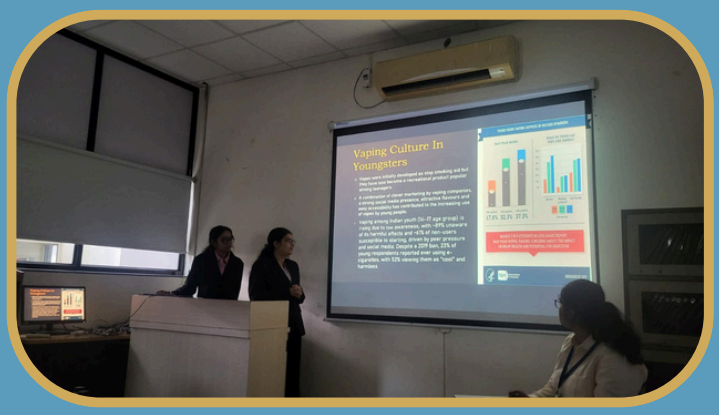
Statistical analysis revealed population-linked prevalence patterns. Incisor shoveling and cusp of Carabelli showed moderate frequency, whereas double shoveling and parastyle occurrence were relatively low. Sexual dimorphism was observed in cusp morphology and crown complexity: males demonstrated more pronounced Carabelli expression, parastyle development, and greater hypocone and metacone reduction, reflecting robust crown architecture. Females exhibited higher prevalence of peg laterals and Bushman canine traits, indicative of comparatively gracile morphology. Interruption grooves showed limited sex predilection but aided individual differentiation.

While individual traits alone lacked definitive sex predictability, combined multivariate analysis improved forensic reliability. The incorporation of stereomicroscopic validation strengthened diagnostic precision.

In conclusion, non-metric maxillary dental traits in the Maharashtrian population exhibit measurable sexual dimorphism and population specificity, reinforcing their adjunctive value in forensic identification, particularly when integrated with odontometric and skeletal parameters.

Vaping & it's effect on oral health

Bansi Chitalia and Priyanshi Doshi
(3rd year)



Introduction

Electronic cigarettes (e-cigarettes or vapes) heat a liquid containing nicotine, flavourings, propylene glycol, and vegetable glycerin to produce an aerosol. Although marketed as a safer alternative to conventional smoking, growing evidence shows that vaping has significant adverse effects on oral tissues, saliva, and the oral microbiome.

Aim

To evaluate the impact of e-cigarette use on overall oral health.

Objectives

Assess periodontal (gum) health in vapers
Evaluate risk of dental caries and biofilm formation
Examine changes in oral microbiome and mucosa
Compare findings among vapers, smokers, and non-smokers

Key Findings

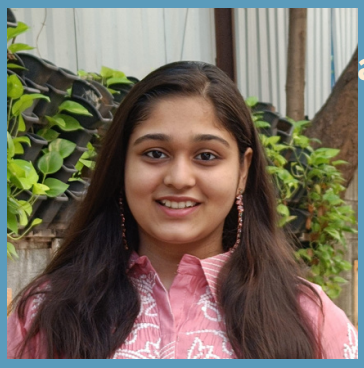
1. Periodontal Health
Increased risk of gingivitis and periodontitis compared to non-smokers
Higher plaque index and gum inflammation
Risk lower than conventional smokers but still significant
2. Dental Caries & Biofilms
Aerosols enhance bacterial adhesion and biofilm formation
Higher prevalence of dental caries in vapers than non-smokers
3. Oral Microbiome
Altered microbial composition (dysbiosis)
Increased pathogenic bacteria linked to gum disease
4. Oral Mucosa
Mucosal irritation, lesions (e.g., nicotinic stomatitis, angular cheilitis)
Oxidative stress and inflammatory changes affecting tissue repair
5. Salivary Function
Reduced salivary flow (xerostomia)
Increased susceptibility to caries and infections

Conclusion

Vaping is not risk-free. It is associated with periodontal disease, dental caries, microbial imbalance, mucosal lesions, and reduced salivary protection. Although potentially less harmful than conventional smoking, its long-term oral effects require further clinical research

Bit By Byte - Transforming Dental evidence into Digital Justice

Co-authors: Maher Gala, Krutika Rangnekar



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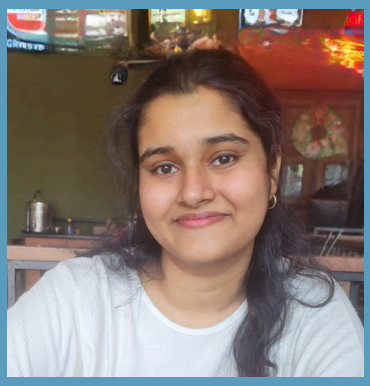


Introduction:

Forensic odontology involves the examination, evaluation, and presentation of dental evidence in criminal and civil proceedings to aid personal identification. From the identification of Lollia Paulina in 49 AD to modern mass disaster victim identification (DVI) cases such as aircraft crashes and natural disasters, dental evidence has played a pivotal role. However, increasing data complexity and digital transformation necessitate advanced analytical tools.

Aim and Objectives:

To highlight the need and applications of Artificial Intelligence (AI) in forensic odontology for enhancing accuracy, efficiency, and standardization.

Methods:

A narrative overview of historical forensic cases and current digital practices was undertaken to analyze the transition from conventional manual methods to AI-assisted systems.

Results:

Traditional techniques such as antemortem–postmortem dental comparison, bite-mark analysis, and radiographic matching are reliable but time-consuming and prone to observer variability. AI-based technologies, including Artificial Neural Networks (ANN), Machine Learning (ML), Convolutional Neural Networks (CNN), and meta-heuristic algorithms, enable automated dental record comparison, age and sex estimation, radiographic interpretation, bite-mark analysis, and AI-assisted virtopsy. These systems facilitate rapid analysis of complex datasets, reduce human bias, and improve diagnostic precision. Furthermore, digital dental charts and cloud-based databases promote structured data management and standardization.

Conclusion:

AI functions as a supportive and transformative tool in forensic odontology by improving reliability and expediting identification, particularly in DVI scenarios. Despite limitations such as lack of standardized databases and technical expertise, continued interdisciplinary collaboration will strengthen its future integration

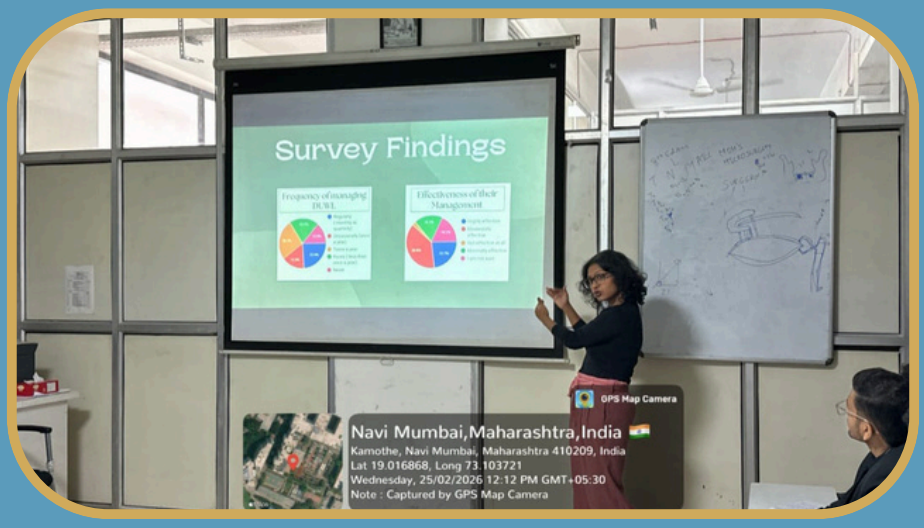
Revolutionizing Oral Care:

SAYEE TAMBOLE AND TUSHTI DUNGRANI
(2nd year)

Smart Toothbrushes for Enhanced Plaque Control
Smart toothbrushes leverage sensors and real-time feedback to improve brushing techniques, disrupting plaque formation and preventing biofilm maturation. Data-driven guidance enhances plaque control, reducing the risk of oral diseases. This presentation explores the technology and efficacy of smart toothbrushes in promoting optimal oral hygiene.

Breaking biofilm- a Survey on dental unit waterline management

ADISHREE PATIL
(Final year)



Abstract : Dental Unit Waterlines (DUWLs) are highly susceptible to biofilm formation, posing significant risks of microbial contamination to both patients and dental practitioners. This study aims to evaluate the awareness, practices, and challenges associated with DUWL maintenance among dental professionals in Navi Mumbai. A cross-sectional survey was conducted among practicing dentists to assess their knowledge of biofilm hazards, current disinfection protocols, frequency of waterline maintenance, and perceived barriers to implementing optimal DUWL care.

The results revealed considerable variation in awareness and adherence to recommended DUWL management guidelines, with a notable gap between knowledge and consistent practice. While some clinicians utilized commercially available disinfectants and followed regular flushing routines, others relied solely on water supply changes or performed infrequent maintenance. The study further highlights evidence-based methods for effective biofilm control, including the use of anti-retraction valves, continuous chemical treatment systems, and routine microbiological monitoring.

This research underscores the urgent need for standardized protocols, periodic training, and greater emphasis on DUWL management in clinical settings. Promoting evidence-based practices can significantly reduce the risk of cross-infection and enhance overall patient safety in dental care.

Awareness and Perception of Artificial Intelligence and Metaverse in Dental Education and Clinical Practice among Dental Students and Interns: A Pilot Study

RIYA SAWANT
(Final year)

Background: Traditional dental education has long relied on physical phantom head simulations and supervised clinical exposure. However, the rapid emergence of Artificial Intelligence (AI) and immersive digital platforms, such as the Metaverse, is beginning to transform the healthcare landscape. These technologies offer immersive 3D learning environments, real-time AI feedback, and virtual smile simulations. The successful integration of these tools into dentistry depends heavily on the readiness and attitudes of the upcoming generation of dental professionals.

Objectives: This pilot study aims to evaluate the current level of awareness, perception, and readiness regarding AI and Metaverse technologies among dental students and interns at MGMDCH.

Methodology: (Note: Since the methodology slide isn't visible in the screenshot, you would typically insert: "A cross-sectional pilot study was conducted using a structured questionnaire distributed to final-year dental students and interns...")

Results: The preliminary findings highlight the shift in dental education, recognizing that today's students represent the first generation to practice in an AI-integrated healthcare ecosystem. Early data suggests a growing recognition of the benefits of Metaverse platforms for remote collaborative treatment planning and improving patient acceptance through virtual simulations.

Conclusion: While AI and the Metaverse hold significant potential to enhance dental pedagogy and clinical outcomes, there is a clear need for formal integration into the curriculum. Assessing student awareness is a critical first step in transitioning from traditional simulation methods to advanced, tech-driven dental practice.

"AI-Assisted Risk Assessment of Inferior Alveolar Nerve Injury in Impacted Third Molar Extraction."

Purva Chhabda and Parshv Raka
(2nd year)

Abstract :-

The close anatomical relationship between the inferior alveolar nerve (IAN) and impacted mandibular third molars presents a significant risk during surgical extraction. Inadequate assessment or improper technique selection may lead to nerve injury and other complications. IAN damage can cause temporary or permanent altered sensation of the lower lip and chin, affecting quality of life and increasing medico-legal risk.

AI-assisted CBCT analysis enhances surgical planning by automatically identifying the IAN, mapping its three-dimensional relationship to third molar roots, and stratifying injury risk. This objective assessment supports evidence-based technique selection, including consideration of coronectomy in high-risk cases.

Building on this capability, CBCT combined with deep learning enables automated detection and segmentation of the IAN and third molars with high accuracy. A 2025 systematic review reported Dice coefficients exceeding 0.95 for IAN and 0.98 for third molars, reducing analysis time from approximately 39 minutes manually to about 3 seconds using AI. Furthermore, a within-patient 3D AI-driven study demonstrated a sensitivity of 0.87 for predicting IAN injury risk—comparable to conventional CBCT interpretation (0.89) and superior to panoramic radiography (0.73).

Integrating AI with CBCT may enhance surgical planning and provide safer, more predictable patient outcomes.

WINNERS

First Prize

Deflection Analysis of 3D-Printed Dental Models During Thermoforming

SHAILVI BANG
(Intern)

Introduction : Clear aligner fabrication requires high precision. During thermoforming at 4–6 bar pressure, 3D-printed dental models risk deformation. This study analyzes how varying wall thicknesses influence model stability and deformation resistance during aligner **production.**

Aims & Objectives: The primary objective of the study was to analyse deformation as a result of thermoforming of 3D-printed dental models of varying wall thicknesses.

Citation-
Deflection Values As A Result Of Thermoforming Of 3D-Printed Dental Models Of Varying Wall Thicknesses During Clear Aligner Fabrication: 3D Deformation Analysis. Int. J. Environ. Sci. [Internet]. 2025 Sep. 10 [cited 2025 Oct. 26];:6435-44. Available from: https://theaspd.com/index.php/ijes/article/view/9656

Material & Methods : A total of hundred models of varying wall thicknesses (10 each of 1.0mm,1.25mm, 1.5mm,1.75 mm, 2.0mm,2.25mm, 2.5mm, 2.75mm, 3.0mm and solid) were printed using a MSLA 3D Printer (Saturn 3 12K,Elegoo, Shenzhen, China) using model resin (Elegoo Standard LCD Light-curing UV resin, Shenzhen, China).Printing was followed by cleaning and curing of the models according to the manufacturer's guidelines. Aligners were then fabricated using Bio Star (Scheu Dental, Iserlohn, Germany) utilizing a 30sec cycle for a 0.8mm aligner sheet (Erkodent-AL, Erkodur, Pfalzgrafenweiler, Germany). Each model was then scanned with a lab scanner (T710, Medit Corp., Seoul, South Korea) and compared with the original 3D model using 3D comparison software (CloudCompare v2.13.1, Santry, Dublin, Ireland) and results were quantified.

Results: Models with 1mm and 1.25mm showed visible deformation, hence were not considered for deformation analysis. The average post deformation accuracy ranged from 83.529% for 1.50mm thick models to 99.1495% for solid models.The results show that model with wall thickness of 2.75mm or greater showed negligible deformation and can be used for clear aligner fabrication.

Conclusion: Hollow models with a shell thickness exceeding 2.75 mm are suggested for aligner production due to their ability to withstand stresses during thermoforming, while using less resin per unit compared to solid models. This approach,also offers cost savings, time efficiency, and environmental benefits, making it a more viable option for aligner fabrication

First Prize

"From Gums to Gonads: Systemic Effects of Oral Health on Reproductive Function"

JUI JAYAWANT AND JANHAVI PANCHAL
(2nd year)

Oral health is extremely important for the general wellbeing of the individual. From a number of research articles, it is established that there is a definitive connection between periodontal health and many systemic diseases

AIM

Evaluate the association between oral health and reproductive health conditions

Introduction

Periodontitis establishes a bidirectional link with infertility through chronic gingival inflammation that disseminates periodontal pathogens (*Porphyromonas gingivalis*, *Fusobacterium nucleatum*) hematogenously to reproductive tissues. These bacteria trigger systemic immune dysregulation, impairing gamete quality and endometrial receptivity. Hormonal fluctuations during IVF cycles worsen gingival indices, creating a vicious cycle where poor oral health predicts fewer oocytes/embryos. This review examines inflammation, oxidative stress, hormonal receptor alterations, implantation failure, miscarriage risk, and therapeutic interventions via scaling/root planing (SRP).

Discussion

Chronic inflammation elevates cytokines (IL-6, TNF-α, IL-1β) that disrupt ovarian steroidogenesis and prolong endometrial proliferation via ERα/PR upregulation, blocking progesterone-driven decidualization essential for implantation. *P. gingivalis* induces uterine hypertrophy mimicking chronic endometritis, while neutrophil-derived ROS damages sperm DNA fragmentation, motility, and oocyte membranes, contributing to oligospermia (50% male infertility cases) and asthenospermia. Clinical data reveal 2-month conception delays (7.1 vs. 5 months), reduced IVF embryo quality, and elevated miscarriage risk from placental inflammation.

Conclusion

Periodontitis compromises fertility through interconnected inflammatory, hormonal, oxidative, and microbial pathways targeting implantation and gamete viability. Preconception periodontal therapy demonstrates 60-70% parameter improvement, warranting integration into reproductive protocols despite evidence gaps. Dental professionals must screen fertility patients to optimise outcomes.

First Prize

AI-POWERED SMART SYRINGE

KHUSHI SHARMA & DARSHI PARMAR
(Final year)

Background: Local anesthesia is a cornerstone of pain management in dentistry, yet its administration still presents challenges such as inaccurate dosing, patient anxiety and accidental tissue injury. While Computer-Controlled Local Anesthetic Delivery (CCLAD) systems have improved injection comfort by controlling flow rates, they remain limited to mechanical modulation and do not adapt to patient-specific needs.

Objective: To propose an AI-powered Smart Syringe - a next-generation device designed to bring personalization, safety and precision into dental anesthesia, overcoming the limitations of CCLAD.

Methods: The Smart Syringe integrates multi-parameter patient monitoring(age, weight, sex, medical conditions, anxiety levels and vitals) to calculate the most appropriate dose. A sensorized needle tip with Bioimpedance sensor helps in detecting the tissue pierced by the needle with a feedback loop to provide real-time guidance on depth and resistance, minimizing chances of nerve injury. A defining feature of our system includes a Cloud-based AI integration, which records anonymized anesthetic delivery data from multiple patients. By learning from past injections - analyzing dosage patterns, delivery sites and physiological responses - the AI continuously refines its algorithms.

Expected Results: Compared to CCLAD, the Smart Syringe is expected to enable adaptive anesthesia delivery, enhanced patient comfort, fewer complications and safer management of high-risk patients. With continuous algorithm refinement, each procedure benefits from the collective intelligence of prior cases, ensuring safer, more effective and increasing patient-friendly outcomes.

Conclusion: “With every injection, our syringe doesn’t just deliver anesthesia - it learns, adapts, and evolves. This is not just anesthesia for today, it’s intelligent anesthesia for tomorrow.”

First Prize

"From Gums to Gonads: Systemic Effects of Oral Health on Reproductive Function"

ADITI SANGLE & MAHI SHINDE
(3rd year)

Core Problem: There is a gap between high smartphone ownership (94.23%) and low curriculum readiness for AI (16.7%) among Indian dental students.

· Digital Paradox: Students own devices but do not learn AI skills in school; 55.4% rely on social media for AI education.

· Proposed Framework: A three-tiered curriculum—VR-Haptics for motor skills, AI Diagnostics for pattern recognition, and Robotics for precision surgery.

· NYU Case Study: Dental students successfully performed robot-assisted surgery, proving that readiness depends on tools, not seniority.

· Key Finding: AI can act as a coach for precision and grading, but empathy and complex decisions require human dentists.

· Ethical Concern: 81.8% of students fear over-reliance on AI; curriculum must address this bias.

· Final Takeaway: The future of dentistry lies in a Human-Machine Partnership—AI handles data and accuracy, humans handle empathy and touch.

Second Prize

Forensic Odontology in Accurate Measurements of Facial Dimensions

TUSHAR MANDLECHA
(Final year)

Forensic odontology is essential in human identification, where accurate measurement of facial dimensions plays a key role. With the integration of Artificial Intelligence (AI), digital tools such as ImageJ software offer improved precision and reproducibility in morphometric analysis.

This study focuses on the application of AI-assisted ImageJ in measuring facial parameters, including intercanthal distance, bizygomatic width, nasal height, and facial index. Standardized images are analyzed using ImageJ, with AI algorithms aiding in automated landmark detection and measurement. The outcomes are compared with conventional manual methods to assess accuracy and reliability.

In conclusion, AI-integrated ImageJ emerges as a promising tool in forensic odontology, offering efficiency and reliability in facial dimension analysis. Future work should focus on larger datasets and standardized protocols for broader forensic applications.

Second Prize

Bridging the future by integrating Artificial intelligence in implant dentistry: A systematic review and meta-analysis

MRUNALI GHARAT
(Intern)

Despite the success of dental implants, the field is not without its challenges. Factors such as patient-specific anatomical variations, the complexity of surgical procedures, and the risk of complications necessitate a high level of precision in treatment planning and execution. As a result, the integration of advanced technologies, particularly artificial intelligence (AI), has become increasingly relevant in enhancing the outcomes of implant dentistry as these are capable of analyzing extensive datasets to aid in diagnostic processes, treatment planning, and surgical procedures. By leveraging machine learning algorithms and predictive analytics, practitioners can improve decision-making, reduce the likelihood of complications, and optimize resource utilization. This transformative potential of AI in implant dentistry underscores the need for a thorough evaluation of its applications, effectiveness, and implications for clinical practice. Ultimately, the rationale for this systematic review is to ensure that the integration of AI into implant dentistry is grounded in robust evidence, paving the way for improved patient outcomes and advancements in dental care. PubMed, Scopus, Web of Science, Semantic scholar, Cochrane Library were searches for studies on AI in implant dentistry with a search strategy. Two reviewers screened studies per PRISMA guidelines, assessed quality with QUADAS-2, and extracted key data. Results were meta-analyzed using RevMan and narratively synthesized based on heterogeneity. Most included studies evaluated deep learning models, particularly convolutional neural networks, for CBCT or panoramic radiograph analysis in implant dentistry. AI systems showed high accuracy (often >85%), with performance generally superior in 3D imaging. While results were promising, variability in datasets and limited external validation were common limitations.

Second Prize

Where Oral Care meets Modern Algorithm

AYUSHI THATHERA & KHUSHI AGRAWAL
(2nd year)

Oral cancer is a leading cause of mortality in rural India, where delayed diagnosis is driven by a lack of specialized clinicians. Our presentation highlights a study evaluating a neural network framework designed to assist frontline health workers in early-stage detection. Neural networks are computational models inspired by the structure and functioning of the human brain. They consist of interconnected layers of artificial neurons that learn to recognize patterns from large amounts of data. In medical image analysis especially with convolutional neural networks (CNNs), these systems are trained using thousands of labeled clinical images so they can automatically identify subtle visual features such as color variation, texture border irregularity, and surface changes that may not be easily detectable to the human eye. In the context of AI-assisted oral cancer diagnosis, the neural network processes an intraoral photograph and compares its learned features with previously trained data to classify the lesion as normal, potentially malignant, or malignant. It then provides a probability-based output that helps in risk stratification and early detection.

Our presentations demonstrates how technology can serve as a quick, non-invasive, and affordable screening adjunct. AI-generated diagnostic outputs were compared with established clinical diagnoses and histopathological findings, considered the gold standard. In addition to assessing diagnostic sensitivity, specificity, and accuracy, the study suggests a useful community screening pathway that allows frontline healthcare providers to use cellphones to take pictures of lesions, facilitating immediate AI-based risk assessment and prompt referral to dental facilities. A scalable solution to close the healthcare gap between urban and rural areas is envisioned by this fusion of clinical science and digital innovation, which ultimately aims to move oral cancer detection from late-stage treatment to early, life-saving intervention.

Second Prize

Luminous Healing – Merging AI with Cold Atmospheric Plasma

PREETI CHAVAN & APARNA BHARNE
(3rd year)

Background: Cold Atmospheric Plasma (CAP) has emerged as a groundbreaking modality in modern biomedicine. By generating a highly reactive cocktail of reactive oxygen and nitrogen species (RONS), electric fields, and UV photons at room temperature, CAP demonstrates remarkable efficacy in accelerating tissue regeneration, eradicating multidrug-resistant pathogens, and facilitating targeted therapies in oncology.

The Challenge: Despite its immense clinical potential, the complex, multifactorial nature of CAP presents a significant challenge for precise dosimetry. Standardizing treatments is difficult because individual biological tissues respond dynamically and unpredictably to plasma exposure, risking either suboptimal healing or collateral tissue damage.

The Solution: This paper introduces "Luminous Healing," a conceptual and technological framework that integrates Artificial Intelligence (AI) with CAP therapy to solve the dosimetry challenge. By pairing machine learning algorithms with real-time diagnostic sensors—such as optical emission spectroscopy (OES) and biometric tissue monitoring—we propose a closed-loop, adaptive treatment system.

Methodology & Impact:
The AI models continuously analyze multidimensional data from the plasma plume and the patient's immediate physiological feedback. This allows the system to autonomously modulate plasma parameters (e.g., voltage, frequency, and gas flow) in real-time. By dynamically optimizing RONS delivery based on predictive modeling, this synergy transforms CAP from a static, one-size-fits-all tool into an intelligent, reactive therapeutic system. Ultimately, "Luminous Healing" paves the way for hyper-personalized, precision plasma medicine, maximizing therapeutic outcomes while ensuring absolute patient safety.

POSTER PRESENTATIONS

Digital Occlusal Analysis vs. Traditional Articulating Paper

➜ Research how computerised occlusal systems (T-scan) improve precision.

JUI JAYAWANT
(2nd year)

Introduction

Accurate occlusal evaluation is crucial for functional harmony and patient comfort. Traditional articulating paper identifies contact points but fails to quantify occlusal force or timing. Computerized systems like T-Scan enable dynamic, real-time analysis of contact sequence and load distribution, improving diagnostic precision.

Discussion

Articulating paper remains a conventional method for detecting high points; however, studies have shown that mark size and intensity do not correspond to actual occlusal force (Carey et al., 2007). Such limitations often lead to inaccurate adjustments, particularly in complex restorative or implant cases. The T-Scan system, developed for computerized occlusal evaluation, provides objective data on the timing and magnitude of occlusal contacts with millisecond accuracy (Maness et al., 1987). Research demonstrates its effectiveness in identifying premature contacts, evaluating implant loading, and improving occlusal equilibrium in full-mouth rehabilitation (Kerstein & Radke, 2017). Digital systems also enhance clinical reproducibility, documentation, and patient education. Recent studies confirm that T-Scan-guided adjustments reduce postoperative discomfort and enhance long-term prosthodontic stability (Majithia et al., 2014; Manziuc et al., 2024). Nonetheless, high equipment cost and operator training remain barriers to routine use.

Conclusion / Clinical Significance

Digital occlusal analysis complements, rather than replaces, articulating paper. By providing measurable, time-based data on occlusal contacts, it enhances diagnostic accuracy, supports precision adjustments, and advances evidence-based occlusal management.

Smiles Without Barriers: Awareness and Preparedness in Special Care Dentistry

SERENA ABJANI
(2nd year)

Special Care Dentistry (SCD), also known as Special Needs Dentistry, is a specialty that addresses the oral health needs of individuals who cannot receive routine dental treatment due to medical, physical, intellectual, or psychological conditions. This group includes patients with physical disabilities, intellectual impairments, psychiatric disorders, elderly patients with frailty, and those with complex medical histories such as congenital heart disease, diabetes, or cancer therapy. They often face multiple barriers, including inaccessible facilities, communication difficulties, behavioral challenges, and limited professional expertise.

Dentists are expected to adapt their approach when treating such patients. Effective strategies include empathetic communication, involvement of caregivers, and behavior guidance methods such as “tell–show–do” and desensitization. Clinical modifications, like providing sensory friendly environments or shorter appointments, can greatly improve patient cooperation. In complex cases, sedation methods ranging from nitrous oxide inhalation to general anesthesia may be required. Minimally invasive techniques such as atraumatic restorative treatment (ART) and silver diamine fluoride (SDF) are also valuable in reducing patient discomfort. Review articles highlight the importance of these approaches, it also points out that undergraduate exposure to SCD is often limited, leaving dental students underprepared to manage such patients with confidence.

The aim of the present study is to assess the awareness, attitudes, and preparedness of dental students toward Special Care Dentistry. A questionnaire based survey will be conducted among undergraduate students to evaluate their knowledge of SCD, confidence in managing special needs patients, perceived challenges, and awareness of treatment strategies. Findings are expected to identify gaps in current training and emphasize the need to integrate structured SCD modules into dental education, thereby equipping future practitioners to deliver compassionate and equitable care to vulnerable populations.

Artificial Intelligence–Assisted Tooth Preparation: Enhancing Precision, Predictability, and Clinical Outcomes

MANASVI PATIL
(3rd year)

Tooth preparation is a critical determinant of the biomechanical, biological, and esthetic success of indirect restorations. Conventional preparation techniques rely heavily on operator skill, visual estimation, and tactile feedback, which may introduce variability in taper, margin design, and reduction depth. Recent advancements in artificial intelligence (AI) have introduced innovative tools that assist clinicians in achieving standardized and minimally invasive preparations. AI-integrated systems—combined with intraoral scanning, real-time image analysis, and digital reduction guides—enable objective evaluation of preparation parameters such as convergence angle, finish-line configuration, and occlusal clearance. These technologies provide instant feedback, enhance training for students, and support evidence-based clinical decision-making.

In educational settings, AI-assisted preparation systems have demonstrated improved accuracy, reduced over-reduction, and enhanced consistency compared with traditional methods. Clinically, they contribute to better marginal integrity, restoration fit, and long-term prognosis. This table clinic presentation highlights the principles, workflow, advantages, limitations, and future scope of AI-guided tooth preparation, emphasizing its role as a transformative adjunct in modern restorative dentistry.

Clinical Assistant in Dentistry: A Three-Phase Predictive and Educational Model

SHRADDHA KONDALKAR
(1st year)

Artificial Intelligence (AI) is rapidly transforming healthcare by enabling data-driven decision making and enhanced patient engagement. In dentistry, large volumes of clinical data—including patient history, diagnostic records, radiographs, treatment outcomes, and recovery timelines—remain underutilized for predictive and communicative purposes. This poster proposes a three-phase AI-based Clinical Assistant model designed to optimize diagnosis, treatment planning, and patient understanding within a dental hospital setting.

Version 0 (V0) focuses on structured integration of electronic patient records into a centralized database capable of identifying patterns between symptoms, diagnoses, treatment modalities, and recovery outcomes using machine learning algorithms. This phase aims to support evidence-based clinical decision-making and improve treatment predictability.

Version 1 (V1) introduces an AI-powered chatbot integrated with radiographic analysis tools. By analyzing uploaded reports and dental X-rays, the system can suggest probable diagnoses, relevant departments, and potential treatment procedures, while maintaining mandatory dentist supervision to ensure ethical and clinical accuracy.

Version 2 (V2) enhances patient communication through personalized animated visualizations explaining disease progression, procedural steps, and expected outcomes. This interactive approach aims to reduce anxiety, improve informed consent, and strengthen patient trust.

The proposed model emphasizes AI as a supportive tool rather than a replacement for dental professionals. With proper data security, ethical safeguards, and clinical oversight, such a system has the potential to revolutionize patient-centered dental care by integrating predictive analytics

The Not-So-Sweet Side of Screen Time

ADITI SANGLE
(3rd year)

· Problem: Excessive screen time promotes poor eating habits, increased junk food advertising exposure, and distracted snacking in children.

· Consequence: This leads to higher sugar intake, reduced saliva production, and elevated risk of dental cavities and broader health issues.

· Solution: Introducing practical “Screen-Time Smile Hero” actions—such as snack-free screen zones, swapping soda for water, and timed viewing—to protect oral and overall health.

· Goal: Encourage mindful screen use and healthier family habits through a simple, actionable Screen-Time Pact.

Smart Braces That Think: A New Era in Orthodontics

KHUSHI SHARMA
(Final year)

Background:
Precise control of orthodontic forces is essential for efficient tooth movement and prevention of adverse effects. Conventional orthodontic brackets act as passive components and do not provide real-time feedback on force magnitude or direction, limiting biomechanical precision during treatment.

Aim:
To highlight the concept of smart orthodontic brackets and their role in improving orthodontic biomechanics and treatment monitoring.

Core Content:
Smart brackets incorporate embedded sensors capable of measuring orthodontic forces and tooth movement in three dimensions. Integration with digital platforms, artificial intelligence, and the Internet of Dental Things (IoDT) enables continuous monitoring, remote data transmission, and teledentistry-based supervision. Unlike clear aligners, smart brackets provide continuous biomechanical feedback independent of patient compliance.

Conclusion:
Smart brackets represent a shift toward intelligent, data-driven orthodontic care. Despite existing challenges, they show significant promise for personalized and digitally integrated orthodontic practice.

WINNERS

First Prize

Atmanirbharta through dentistry

MAITHELEE GAVALI
(Intern)

Background:
Dental clinics are significant yet under-recognized contributors to healthcare-related carbon emissions due to high energy consumption, biomedical waste generation, material expiry, and aerosol-producing procedures. Despite India's growing emphasis on sustainable healthcare aligned with national climate commitments and World Health Organization guidelines, there is currently no integrated, data-driven sustainability model in dental practice.

Aim:
To develop and evaluate an Artificial Intelligence (AI)-integrated net-zero dental clinic model that reduces carbon footprint, optimizes energy consumption, minimizes material wastage, and enhances infection control in Indian clinical settings.

Methods:
A prospective interventional innovation model was designed and proposed across dental clinics incorporating a centralized AI system integrating smart energy meters, solar hybrid systems, dental equipment, inventory management software, aerosol sensors, and hygiene automation tools. The implementation was structured in sequential phases: baseline carbon audit, AI-based energy optimization, solar integration, predictive inventory management, aerosol monitoring, and sterilization compliance tracking. Key outcome measures included electricity consumption, carbon emission per patient, material wastage, aerosol contamination levels, and operational costs.

Results (Projected/Pilot-Based):
Implementation of the AI-Integrated Green Dental Clinic System (AIGDCS) demonstrated a potential reduction of 30–40% in electricity consumption, 35–50% in carbon emissions, and 50–60% in material wastage. Aerosol load and infection risk indicators showed an estimated decline of approximately 40%, while operational costs were reduced by 20–30%. The system enabled real-time monitoring of carbon footprint, cost, and infection risk per patient, improving both clinical efficiency and patient trust.

Conclusion:
The proposed AI-driven net-zero dental clinic model is a scalable, cost-effective, and sustainable solution tailored for Indian healthcare settings. By integrating renewable energy, intelligent monitoring, and automation, it bridges the gap between clinical practice and environmental responsibility. Nationwide adoption could significantly reduce carbon emissions while transforming dental clinics into smart, sustainable healthcare units.

First Prize

Virtual Histopathology via Deep Learning-Augmented Label-Free Fluorescence Lifetime Imaging (FLIM)

SAYEE TAMBOLE & PRATEEK DIXIT
(2nd year)

Background: Traditional histopathological interpretation relies on hematoxylin and eosin (H&E) staining, a labor-intensive, destructive, and time-consuming process. While H&E remains the gold standard for cancer diagnosis, its reliance on chemical fixation and exogenous dyes limits real-time intraoperative assessment and can compromise tissue integrity for downstream molecular analysis.

Methodology: We present a breakthrough computational imaging framework that utilizes Fluorescence Lifetime Imaging Microscopy (FLIM) to capture the intrinsic metabolic signatures of unlabeled biological tissue. By measuring the decay kinetics of endogenous fluorophores (e.g., NADH and FAD), FLIM generates high-dimensional data reflecting cellular states. A deep learning architecture—specifically a generative adversarial network (GAN)—is employed to transform these label-free metabolic maps into high-fidelity, virtual H&E-stained images.

Results: The AI-generated images demonstrate high concordance with physical H&E sections, successfully identifying critical morphological features and tumor margins. This "digital staining" enables the differentiation of diverse cell types within the tumor microenvironment based on metabolic heterogeneity rather than chemical affinity.

Conclusion: This integration of optical physics and artificial intelligence facilitates instant, biomarker-free tissue interpretation. By bypassing traditional histology, this approach offers a pathway toward real-time bedside diagnostics, automated cancer screening, and the total preservation of biopsy samples for subsequent genomic profiling.

First Prize

Transformation of India's healthcare system by shifting away from unqualified medical practitioners (quacks) towards technology-driven, fact-based medical solutions.

MAHI SHINDE & JANHAVI TAYSHETE
(3rd year)

· Problem Statement: It highlights the prevalence of "quack" doctors in India who practice without proper qualifications, leading to misdiagnosis, unsafe treatments, and a lack of trust in rural healthcare.

· Proposed Solution (AI as Savior): The central argument is that Artificial Intelligence (AI) can act as a "Smile Savior" by providing accessible, accurate, and standardized primary healthcare guidance, reducing dependency on unqualified practitioners.

· Key Benefits of Digitization:

· Accuracy: Replaces guesswork with data-driven diagnostics.

· Accessibility: Brings reliable medical facts to remote areas via digital platforms.

· Trust: Aims to restore patient confidence through transparent, fact-based digital interactions.

· Vision: A future where every Indian, regardless of location, has access to verified digital health facts, ensuring safer healthcare and building a healthier nation.

First Prize

Bridging the future by integrating Artificial intelligence in implant dentistry: A systematic review and meta-analysis

MRUNALI GHARAT
(Intern)

Despite the success of dental implants, the field is not without its challenges. Factors such as patient-specific anatomical variations, the complexity of surgical procedures and the risk of complications necessitate a high level of precision in treatment planning and execution. As a result, the integration of advanced technologies, particularly artificial intelligence (Al), has become increasingly relevant in enhancing the outcomes of implant dentistry as these are capable of analyzing extensive datasets to aid in diagnostic processes, treatment planning, and surgical procedures. By leveraging machine learning algorithms and predictive analytics, practitioners can improve decision-making, reduce the likelihood of complications, and optimize resource utilization. This transformative potential of Al in implant dentistry underscores the need for a thorough evaluation of its applications, effectiveness, and implications for clinical practice. Ultimately, the rationale for this systematic review is to ensure that the integration of Al into implant dentistry is grounded in robust evidence, paving the way for improved patient outcomes and advancements in dental care. PubMed, Scopus, Web of Science, Semantic scholar, Cochrane Library were searches for studies on Al in implant dentistry with a search strategy. Two reviewers screened studies per PRISMA guidelines, assessed quality with QUADAS-2, and extracted key data. Results were meta-analyzed using ReMan and narratively synthesized based on heterogeneity.

Most included studies evaluated deep learning models, particularly convolutional neural networks, for CBCT or panoramic radiograph analysis in implant dentistry. Al systems showed high accuracy (often >85%), with performance generally superior in 3D imaging. While results were promising, variability in datasets and limited external validation were common limitations.

First Prize

The Automation Paradox in AI-Driven Dentistry

APARNA BHARNE & MAHER GALA
(3rd year)

The rapid integration of
Artificial Intelligence (AI) into clinical dentistry promises unprecedented precision in diagnostics and treatment planning. However, this technological leap introduces the "Automation Paradox": the phenomenon where the more reliable an automated system becomes, the less prepared a human operator is to intervene when that system fails or encounters an edge case.

This paper explores the critical barrier between algorithmic efficiency and human clinical judgment. We analyze how over-reliance on AI-driven tools—such as automated radiograph segmentation, robotic endodontics, and CAD/CAM prosthetics—can lead to skill atrophy and cognitive bias among practitioners.

Key themes include:

The Reliability Trap: How high-performing AI can diminish situational awareness.
Human-in-the-Loop (HITL) Architectures: Developing interfaces that maintain practitioner engagement rather than passive oversight.
Breaking the Barrier: Strategies for "Augmented Intelligence" that prioritize diagnostic transparency and "explainable AI" (XAI) to ensure the clinician remains the final, informed authority.
Ultimately, we argue that breaking the barrier in AI dentistry requires a shift from replacing human tasks to enhancing human capabilities, ensuring that as the drill becomes more precise, the dentist's expertise remains even sharper.

Second Prize

AI-DRIVEN RURAL SMILES!
AI-POWERED ORAL HEALTHCARE FOR RURAL COMMUNITIES

PRESENTED BY: ADWAIT SHALIGRAM AND KALYANI SONAWANE (IIND BDS)

Rural communities face significant oral health disparities due **to limited access** to dental professionals and infrastructure and lack of awareness. **Artificial intelligence** (AI) offers innovative solutions **to bridge these gaps.**

➢ AI-powered diagnostic tools can assist in the early detection of dental caries, periodontal disease, and oral lesions.

➢ Tele dentistry platforms connect rural patients with remote specialists.

➢ AI-driven educational tools improve oral health awareness and engagement.

➢ AI can reduce travel burdens and treatment delays.

➢ AI chatbots can offer multilingual support, simplifying complex dental terms into easily understood information.

Overall, AI-driven oral healthcare has the potential to improve equity and outcomes in rural populations.

Second Prize

THE ORAL–BRAIN AXIS: PERIODONTAL INFLAMMATION AND MASTICATORY FUNCTION AS MODULATORS OF ALZHEIMER'S DISEASE

PREETI CHILUKA & PRIYANSHI CHHAJWANI (INTERN)

Alzheimer's disease is traditionally viewed as a neurodegenerative disorder driven by complex genetic and biochemical mechanisms. However, emerging evidence suggests that the oral cavity may play a far more influential role in cognitive health than previously assumed. Chronic periodontal inflammation has been increasingly associated with systemic inflammatory burden, microbial dysbiosis, and potential neuroinflammatory pathways implicated in cognitive decline. Simultaneously, mastication is now being explored as a neuroprotective activity, capable of stimulating cerebral blood flow and supporting hippocampal function. This poster explores the intriguing possibility that oral health may represent both a risk-modifying factor and a preventive target in the context of Alzheimer's disease. By examining the dual influence of periodontal disease and chewing efficiency on brain health, a compelling "oral–brain axis" model is proposed. Understanding this connection may shift preventive strategies beyond neurology, highlighting dentistry as an unexpectedly critical component in protecting cognition.

Second Prize

ODONTOEVIDENCE- PRESERVED IDENTITY

AHANA KOLEY & JILL VYAS
(3RD YEAR)

Introduction:

Forensic Identification of deceased individuals becomes challenging in cases of advanced decomposition, incineration or mass disasters where soft tissues are destroyed. Dental and sex. Forensic odontology plays a crucial role in utilising these remaining dental tissues for reliable identification.

Aims & Objectives:

- To highlight the forensic significance of enamel, dentin, and pulp in identifying deceased individuals when only dental tissues remain.
- To describe the stepwise forensic examination of dental tissues and to explain their role in determining age, sex and individual identity.

Content:

Identification begins with examination of enamel morphology, crown characteristics and enamel rod patterns and restorations provide additional identifying features. Dentin analysis involves assessment of dentin all transparency and secondary dentin deposition, which aid in age estimation. Pulp tissue serves as a valuable source of DNA for sex determination and individual identification. Radiographic evaluation and comparison and antemortem dental records further support positive identification.

Results:

Dental tissues provide durable and reliable evidence for identification. Enamel preserves unique structural patterns, dentin demonstrates measurable age related changes, and pulp provides genetic material for definitive identification and sex determination.

Conclusion:

Dental tissues offer a reliable and scientifically valid method for forensic identification Systematic analysis of enamel, dentin, and pulp enables accurate determination of identity, age, and sex when other identification methods are not possible.

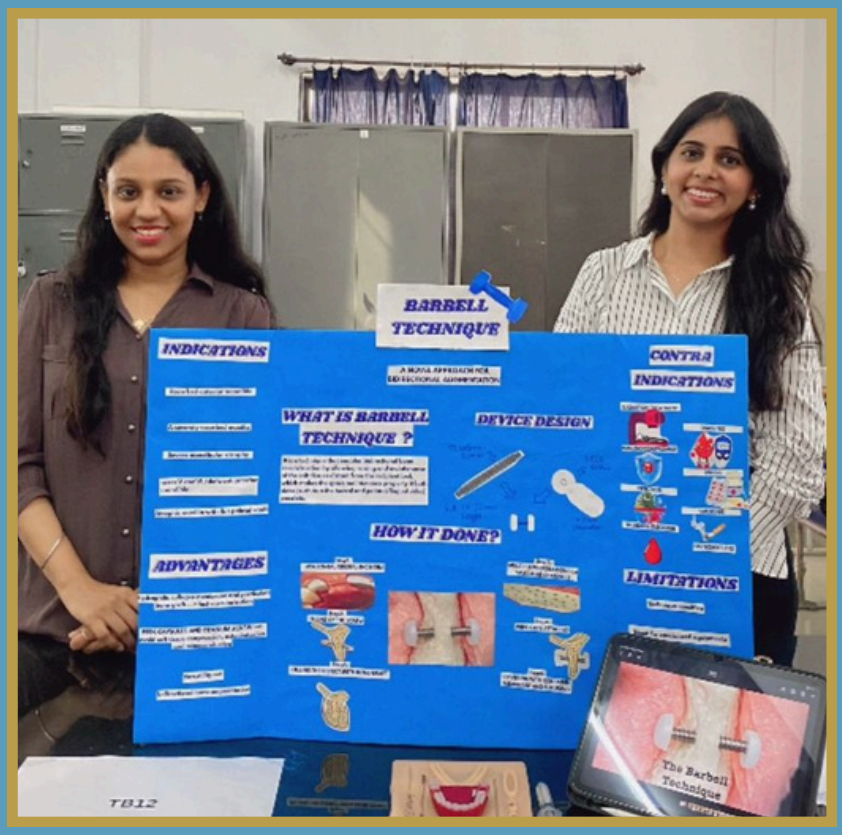
Second Prize

DIGITAL TO SURGICAL: PATIENT SPECIFIC SOLUTIONS FOR PRECISE MAXILLOFACIAL RECONSTRUCTION

KEVAL SALOT & SAUMYA SAVLA
(3RD YEAR)

Background:
Reconstruction of maxillofacial defects caused by trauma, tumor resection, infection, or congenital anomalies remains a major clinical challenge.
Aim :
To review the role, clinical applications, advantages & limitations of titanium scaffolds & patient- specific implants in oral & Maxillofacial reconstruction.
Methodology:
4 narrative review of contemporary literature was conducted focusing on digital workflow: naterial properties, manufacturing techniques, and clinical indications of titanium scaffolds and PSis.
Comparison:
These technologies were compared with conventional reconstruction methods, including autogenous bone grafts and standard fixation plates, in terms of accuracy, surgical time functional outcomes, and aesthetics.
Outcomes:
Patient-specific titanium implants demonstrated improved anatomical accuracy, reduced intraoperative plate bending, shorter operative time, and better functional and aesthetic outcomes. Porous titanium scaffolds further enhanced osseointegration and load distribution.
Conclusion:
Titanium scaffolds and PSis represent a significant advancement in maxillofacial reconstruction by enabling precise, patient-tailored treatment. With ongoing developments in biomaterials, bioactive coatings, and digital planning, these technologies are expected to play a major role in the future of reconstructive surgery.

TABLE CLINICS



Aditi Gorhe (INTERN) & Shreegeeta Singh (IV BDS)

Barbell technique

Dolly Gabada & Saloni Vaghani (PG)

Anvi Hajeri (Final year)
AI dental seva kiosk

Serena Abjani (2nd year)
Implant Intel

Lavisha Valecha & Adishree Patil (IV BDS)

Cariox: care not caries

Kavish Sanghavi & Akanksha Das (2nd year)

Dentobiotics

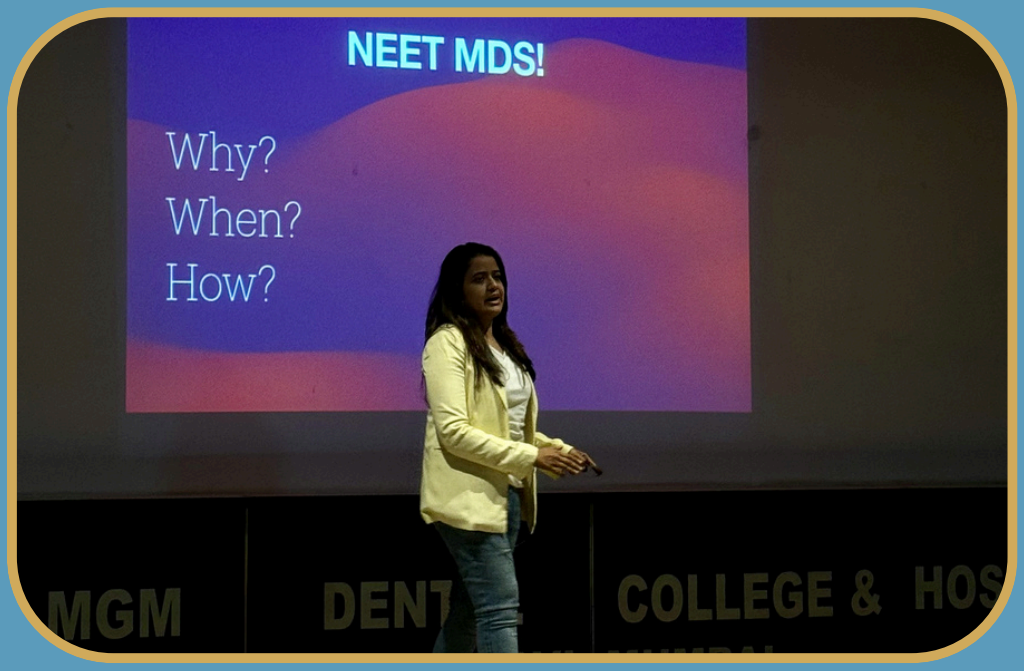
Veda Desai & Ananya Karnik (III BDS)

AI voice assistant in dentistry

Maithilee Gavali (INTERN)

Smile- Artificial intelligence model

SCIENTIFIC TED TALK



Dr. Shaili Mehta

Topic: NEET MDS & Shade Selection

MGM ALUMNI BATCH-2015

Dr.Shaili Mehta is a highly accomplished dentist specializing in Conservative Dentistry and Endodontics from Government Dental College, Mumbai. She is the youngest fellow of Style Italiano Endodontics from India and practices exclusive micro-endodontics at her clinic in Vashi, Navi Mumbai.

Her passion for aesthetic dentistry is evident in her numerous awards and recognitions, including the prestigious Pierre Fauchard Award, IACDE Clinical Excellence Award 2024, and IES Endo Case Contest 2024.

Dr. Ratan Upadhyay
Topic: My journey of life
MGM ALUMNI BATCH- 2014

It is my privilege to introduce Dr. Ratan Upadhyay, a dedicated Prosthodontist and Implantologist known for his precision, aesthetics, and patient-centered approach. Dr. Upadhyay completed his BDS in 2018 from MGM Dental College and went on to pursue his MDS in Prosthodontics and Implantology from Teerthanker Mahaveer Dental College between 2019 and 2022. Early in his career, he trained under Dr. Swaroop Pramanick in Goregaon West, Mumbai, while preparing for NEET-PG, gaining strong clinical exposure in comprehensive prosthetic rehabilitation. Beyond clinical dentistry, Dr. Upadhyay has contributed prosthetic expertise to major Bollywood and OTT productions such as 83, Gunjan Saxena: The Kargil Girl, Sacred Games, Shamshera and many more. An active academician, he has presented research at national and international conferences and was also the Winner of the Voice of IPS Singing Competition in 2021 — a testament to his multifaceted personality. Please join me in welcoming a clinician who blends science, artistry, and compassion — Dr. Ratan Upadhyay.