

## DAYANANDA SAGAR COLLEGE OF DENTAL SCIENCES

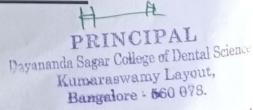
(Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka) (Recognized by Dental Council of India, New Delhi)

Accredited A+ Grade by NAAC DSCDS/ARSC/IMF(Faculty)/2023-24/

## **DERBI INNOVATION CENTRE**









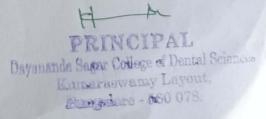
## DAYANANDA SAGAR COLLEGE OF DENTAL SCIENCES

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## DAYANANDA SAGAR COLLEGE OF DENTAL SCIENCES (Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka)

(Recognized by Dental Council of India, New Delhi)

## Accredited A+ Grade by NAAC DSCDS/ARSC/IMF(Faculty)/2023-24/

## **Details of Faculty Patents**

Sr No	Name of the Faculty	Title of the Patent	Categor y Utility/ Design	Patent Number	Date of Applicatio n	Date of Publicatio n	Date of Patent Grant
1	Dr Dharam Hinduja	Automated Tooth Shade Matching system Using Artificial Intelligence	Design	418646- 001	31/05/202		04/07/202
2	Dr Dharam Hinduja	An Endodontic Equipment With Adaptive Control	Design	421488- 001	27/06/202		19/07/202

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Dayananda Sagar College of Dental Science-Kumaraswamy Layout, Bangalore - 560 078.

3	Dr Dharam Hinduja	Automated Dental Radiograph Analysis System for Early Detection of Caries and Periodontal Disease	Design	418648-	31/05/202		18/07/202
4	Dr Dharam Hinduja	System and Method to detect the size of unerupted canines using unsupervised Machine Learning Technique	Utility	20234108 295 A	5/12/23	5/1/24	Yet to be
5	Dr Dharam Hinduja	System and Method to detect periapical granuloma using convolutiona I neural networks	Utility	20244104 2228 A	31/05/24	07/06/202	Yet to be

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Bangalere - 560 078.

6	Dr Shobha E.S	A NEW CLASSIFICATI ON FOR TEMPEROM ANDIBULAR DISORDERS BASED ON ALGOMETER READINGS	INDIAN UTILITY PATENT	20244105	07/07/202	12/07/202	Yet to be
7	Dr Shobha E.S	PINNACLE POSITIONER (PPA): A CLINICAL ADVANCED INNOVATION	-	20234101 4335	03/03/202	-	-
8	Dr Vinod Rangan	A NEW CLASSIFICATI ON FOR TEMPEROM ANDIBULAR DISORDERS BASED ON ALGOMETER READINGS	INDIAN UTILITY PATENT	20244105	07/07/202	12/07/202	Yet to be
9	Dr.Pradee p	NOVEL MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORC E	Design	20234103 5353A	22/05/202	01/09/232	
10	Dr.Pradee	L ATTACHMET	DESIGN	419760- 001	12/06/24	- 1	30/07/24

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		S FOR OVERDENTU RES TO INCREASE RETENTION ANS					
11	Dr.Savita A M	A METHOD FOR TREATING PERIODONTI TIS USING HERBAL TOPICAL GEL	Utility	02441063 500 A	22-08- 2024	30-08- 2024	Awaiting
12	Dr Hemanth M	Microimplan t Positioning guide	Indian utility Patent	20234101 4334	03/03/202		Yet to be
13	Dr Hemanth M	Pinnacle Positioner(P PA):A Clinical Advanced Innovation	Indian Utility Patent	20234101 4335	03/03/202		Yet to be
14	Dr Aravind M	MicroImplan t Positioning guide	Indian utility Patent	20234101 4334	03/03/202		Yetto be
15	Dr Aravind M	Pinnacle Positioner(P PA):A Clinical Advanced Innovation	Indian Utility Patent	20234101 4335	03/03/202		Yet to be
16	Dr Afshan Saman Waremani	Microimplan t Positioning guide	Indian utility Patent	20234101 4334	03/03/202		Yet to be
17	Dr Afshan Saman Waremani	Pinnacle Positioner(P PA):A Clinical Advanced Innovation	Indian Utility Patent	20234101 4335	03/03/202		Yetto be
18	Dr Prajwal Prabhu	Microimplan t Positioning guide	Indian utility Patent	20234101 4334	03/03/202	*	Yet to be

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19	Dr Prajwal Prabhu	Pinnacle Positioner(P PA):A Clinical Advanced Innovation	Indian Utility Patent	20234101 4335	03/03/202		Yet to be
20	Dr Smitha Sharan	Artificial intelligence based device for detection of oral cancer	Design	412578- 001	05-03- 2024	04-042024	05-06- 2024
21	Dr Prashanth NT	A NEW CLASSIFICATI ON FOR TEMPOROM ANDIBULAR DISORDERS BASED ON ALGOMETER READINGS	INDIAN UTILITY PATENT	20244105 1920	07/07/202	12/07/202	Yet to be
22	DR PRASHANT H N T	MICROIMPL ANT POSITIONIN G GUIDE	-	20234101 4334	03/03/202	-	
23	Dr Krishnana nd	Pinnacle Positioner (PP): A Clinical Advanced Innovation	Indian Utility Patent	20234101 4335	03/03/202	-	Yet to be
24	Dr.Sarand ha	NOVEL MINIATURE DIGITAL GAUGE FOR	Design	20234103 5353A	22/05/202	01/09/232	

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Rangalore - 560 078.

		ANALYSING DENTOFORC E					đ.
25	Dr.Smitha	NOVEL MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORC E	Design	20234103 5353A	22/05/202	01/09/232	
26	Dr Sreeharsh a	NOVEL MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORC E	Design	20234103 5353A	22/05/202	01/09/232	
27	Dr Brunda	NOVEL MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORC E	Design	20234103 5353A	22/05/202	01/09/232	
28	Dr.Sarand ha	L ATTACHMET S FOR OVERDENTU RES TO INCREASE RETENTION ANS STABILITY		419760- 001	12/06/24		30/07/24
29	Dr.Smitha	L ATTACHMET S FOR OVERDENTU RES TO INCREASE	R	419760- 001	12/06/24		30/07/24

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Kumaraswamy Layout,
Bangalere - \$60 078.

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30	Dr.Shreeh arsha	L ATTACHMET S FOR OVERDENTU RES TO INCREASE RETENTION ANS STABILITY	DESIGN	419760- 001	12/06/24		30/07/24
31	Dr.Brunda	L ATTACHMET S FOR OVERDENTU RES TO INCREASE RETENTION ANS STABILITY	DESIGN	419760- 001	12/06/24		30/07/24
32	Dr.Harshit ha	L ATTACHMET S FOR OVERDENTU RES TO INCREASE RETENTION ANS STABILITY	DESIGN	419760- 001	12/06/24	-	30/07/24

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## DAYANANDA SAGAR COLLEGE OF DENTAL

**SCIENCES** 

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(Recognized by Dental Council of India, New Delhi)

Accredited A+ Grade by NAAC

DSCDS/ARSC/IMF(Faculty)/2023-24/

Details of Faculty PATENTS and INNOVATIONS











पेटेंट कार्यालय, भारत सरकार

The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No.

418648-001

तारीख / Date

31/05/2024

पारस्परिकता तारीख / Reciprocity Date\* :

देश / Country

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो AUTOMATED DENTAL RADIOGRAPH ANALYSIS SYSTEM FOR EARLY DETECTION OF CARIES AND PERIODONTAL DISEASE से संबंधित है, का पंजीकरण, श्रेणी 24-01 में 1.Dr. Anagha Shete 2. Dr. Puneet Ahuja 3.Dr. Khushboo Rastogi 4.Dr. Harpreet Singh Chhabra 5.Dr. G. M. Sogi 6.Dr. Bennete Aloysius Fernandes 7.Dr. Abhishek Singh 8.Dr. Shilpi 9.Dr. Dharam M. Hinduja 10.Rakesh Kumar के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 24-01 in respect of the application of such design to AUTOMATED DENTAL RADIOGRAPH ANALYSIS SYSTEM FOR EARLY DETECTION OF CARIES AND PERIODONTAL DISEASE in the name of 1.Dr. Anagha Shete 2. Dr. Puneet Ahuja 3.Dr. Khushboo Rastogi 4.Dr. Harpreet Singh Chhabra 5.Dr. G. M. Sogi 6.Dr. Bennete Aloysius Fernandes 7.Dr. Abhishek Singh 8.Dr. Shilpi 9.Dr. Dharam M. Hinduja 10.Rakesh Kumar.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्ययीन प्रावधानों के अनुसरण में। In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.



न्ती गाँडव

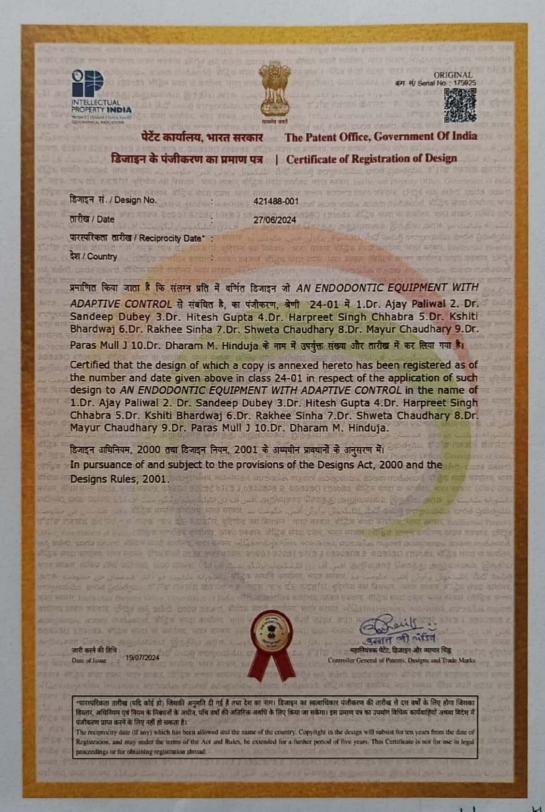
रिकता तारीख (यदि कोई हो) जिसकी अनुमति दी गई है तथा देश का नाम। डिजाइन का सदलाधिकार पंजीकरण की तारीख से दस वर्षों के लिए होगा जिस अधिनियम एवं नियम के निबंधनों के अधीन, पाँच वर्षों की अतिरिक्त अवधि के लिए किया जा सकेगा। इस प्रमाण पत्र का उपयोग विधिक कार्यवाहियों जचवा विदेश एव प्राप्त करने के लिए नहीं हो सकता है।

reciprocity data (if any) which has been allowed and the name of the country. Copyright in the design will subsist for ten years from the date distration, and may under the terms of the Acr and Rules, be extended for a further period of five years. This Certificate is not for use in legendings or for obtaining registration abroad.

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## पेटेंट कार्यालय, भारत सरकार

The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No.

418646-001

तारीख / Date

31/05/2024

पारस्परिकता तारीख / Reciprocity Date\* :

देश / Country

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो AUTOMATED TOOTH SHADE MATCHING SYSTEM USING ARTIFICIAL INTELLIGENCE से संबंधित है, का पंजीकरण, बेणी 24-01 में 1.Dr. N. Senthil Nathan 2. Dr. Swati Chhabra 3.Dr. Paras Mull J 4.Dr. Ankita Sharma 5.Dr. Siddharth Nautiyal 6.Dr. Rajinder Kumar Bansal 7.Dr. Shankar 8.Dr. Shivani Vinayakrao Chavan 9.Dr. Manu Bansal 10.Dr. Dharam M. Hinduja के नाम में उपर्युक्त संख्या

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 24-01 in respect of the application of such design to AUTOMATED TOOTH SHADE MATCHING SYSTEM USING ARTIFICIAL INTELLIGENCE in the name of 1.Dr. N. Senthil Nathan 2. Dr. Swati Chhabra 3.Dr. Paras Mull J 4.Dr. Ankita Sharma 5.Dr. Siddharth Nautiyal 6.Dr. Rajinder Kumar Bansal 7.Dr. Shankar 8.Dr. Shivani Vinayakrao Chavan 9.Dr. Manu Bansal 10.Dr. Dharam M. Hinduja.

डिजाइन अधिनियम, 2000 तया डिजाइन नियम, 2001 के अध्ययीन प्रावधानों के अनुसरण में। In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.



रिकता तारीख (यदि कोई हो) जिसकी अनुमति दी गई है तथा देश का नाम। डिजाइन का स्वत्वाधिकार पंजीकरण की तारीख से दस वर्षों के लिए होगा जिसका अधिनियम पूर्व नियम के निबंधनों के जयीन, पाँच वर्षों की अतिरिक्त अवधि के लिए किया जा सकेगा। इस प्रमाण पत्र का उपयोग विधिक कार्यवाहियों जचवा विदेश में ज प्राप्त करने के लिए नहीं हो सकता है।

procury date (if any) which has been allowed and the name of the country. Copyright in the design will subsist for ten years from the date of don, and may under the terms of the Act and Rules, be extended for a further period of five years. This Certificate is not for use in lega-ings or for obtaining registration abroad.

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## **Design Application Details**

**Application Number:** 

421488-001

Cbr Number:

211276

Cbr Date:

27/06/2024 18:19:00

Applicant Name:

1. Dr. Ajay Paliwal

2. Dr. Sandeep Dubey

3. Dr. Hitesh Gupta

4. Dr. Harpreet Singh Chhabra

5. Dr. Kshiti Bhardwaj

6. Dr. Rakhee Sinha

7. Dr. Shweta Chaudhary

8. Dr. Mayur Chaudhary

9. Dr. Paras Mull J

10. Dr. Dharam M. Hinduja

## **Design Application Status**

#### **Application Status:**

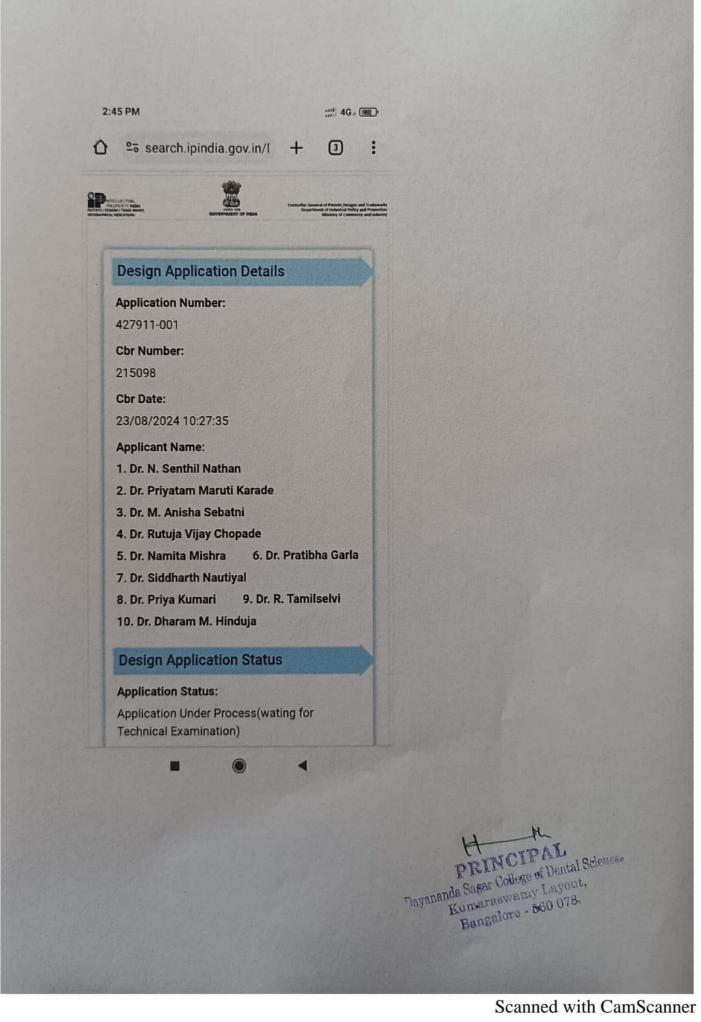
Application Under Process(wating for Technical Examination)

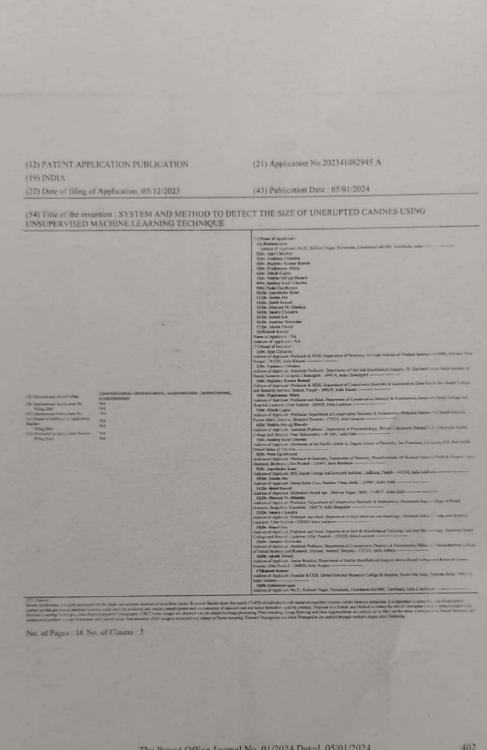
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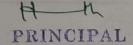
Kumaraswamy Layout,

Bangalore - 560 078.

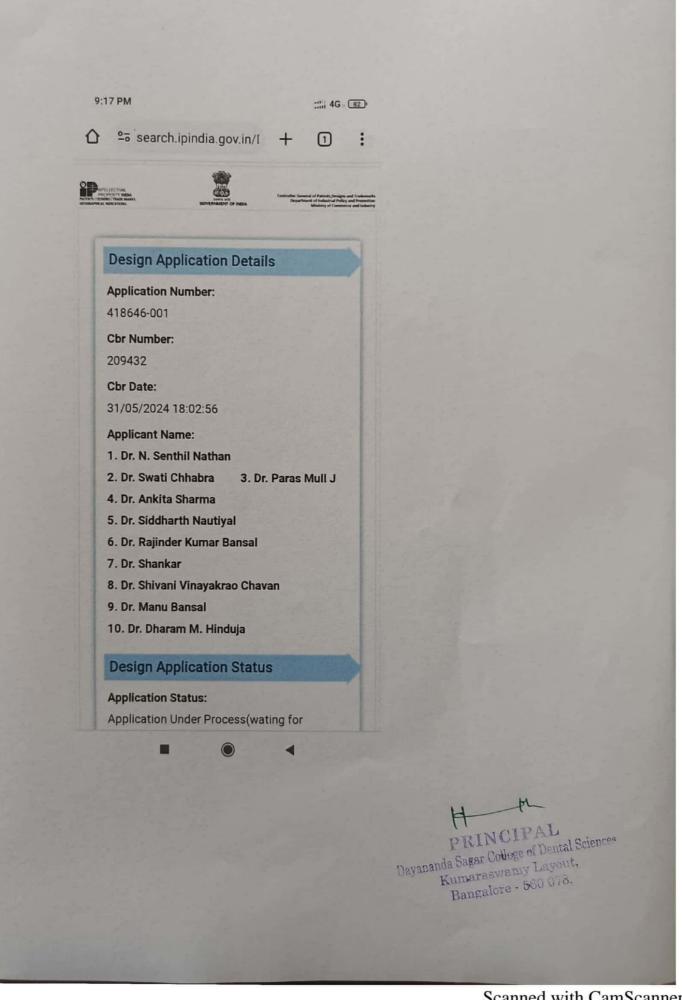


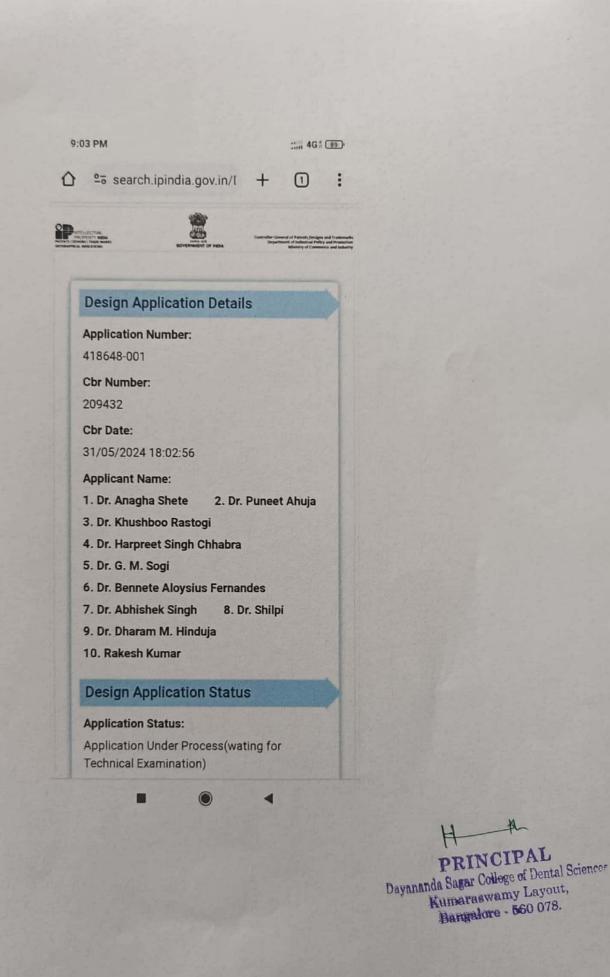


The Patent Office Journal No. 01/2024 Dated 05/01/2024



Dayananda Sagar College of Dental Sciences Kumaraswamy Layout, Bangalore - 560 078.







Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India

Applicati	on Details
APPLICATION NUMBER	202441051920
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	07/07/2024
APPLICANT NAME	1 . Dr. Samiksha Gour 2 . Prof. Dr. Prashanth N.T 3 . Prof. Dr. Shobha E.S. 4 . Dr. Vinod Rangan 5 . Dr. Neha V Nainoor 6 . Dr. J. Shirisha 7 . Dr. Anusha B L
TITLE OF INVENTION	A NEW CLASSIFICATION FOR TEMPOROMANDIBULAR DISORDERS BASED ON ALGOMETER READINGS
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
E-MAIL (As Per Record)	subramaniannagu@gmail.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	
PUBLICATION DATE (U/S 11A)	12/07/2024

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## FORM 2

THE PATENTS ACT, 1970 [39 of 1970]

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THE PATENTS RULES, 2003

## COMPLETE SPECIFICATION

[See section 10 and rule 13]

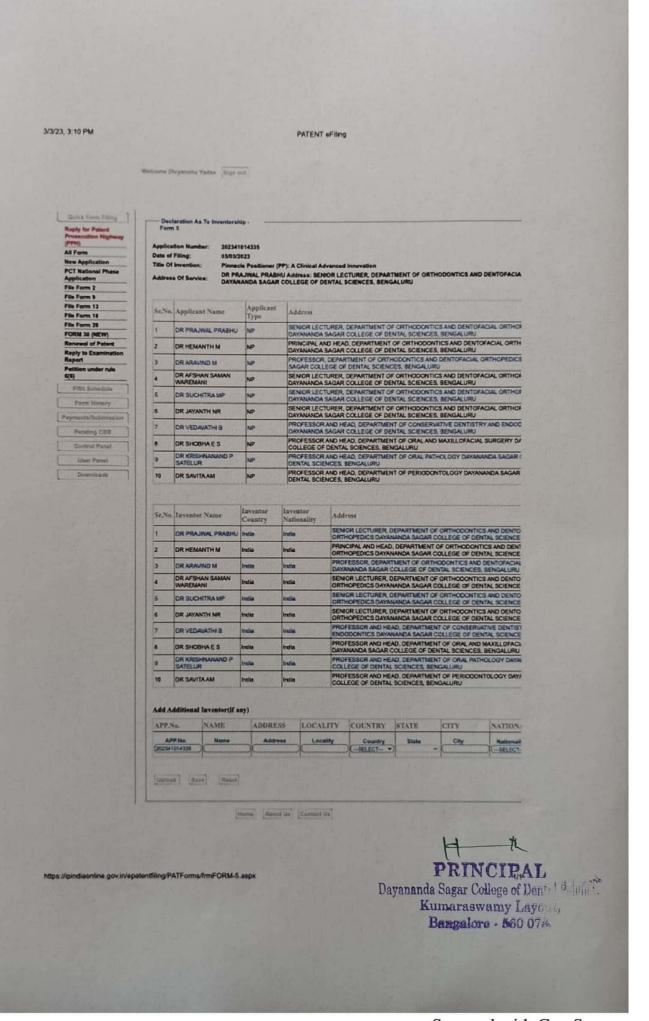
## "A NEW CLASSIFICATION FOR TEMPOROMANDIBULAR DISORDERS BASED ON ALGOMETER READINGS"

Name of the Applicant(s)	Nationality	Address				
Dr. Samiksha Gour	Indian	III Year MDS Postgraduate, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				
Prof. Dr. Prashanth N.T	Indian	Professor and Head, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				
Prof. Dr. Shobha E.S.	Indian	Professor, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				
Dr. Vinod Rangan	Indian	Reader, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				
Dr. Neha V Nainoor	Indian	Consultant Oral and Maxillofacial Surgeon (Private Practice), #003, Shivashree Gardens-1 Apartments, 4th Cross, 1st Main Road, BEML 3rd Stage, Rajarajeshwari Nagar, Bangalore – 560098, Karnataka, India				
Dr. J. Shirisha	Indian	II Year MDS Postgraduate, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				
Dr. Anusha B L	Indian	II Year MDS Postgraduate, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India				

## PREAMBLE OF THE DESCRIPTION

The following specification particularly describes the invention and the manner in which it is to be performed.

1



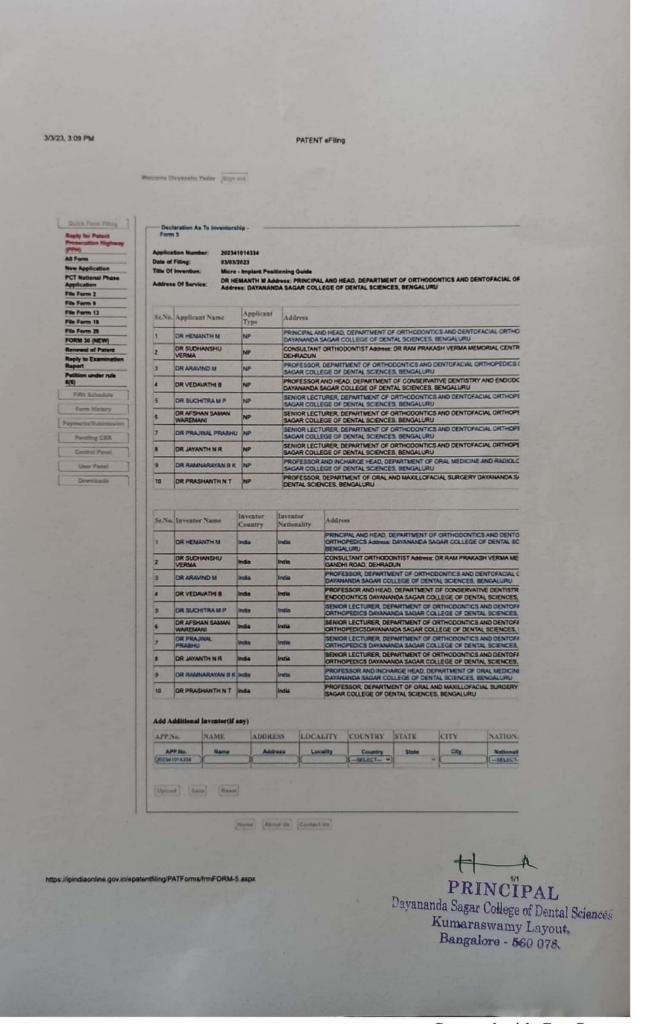
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Name in Full		Nationality	Country of Residence	Address of	the A	pplicant	
Dr. Samiksha	Gour	Indian	India	House No.		ear MDS Pos	
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Prof. Dr. Pras	houth N.T.	Indian	India	House No.	Delatition.		
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Prof. Dr. Shol	bha E.S.	Indian	India	House No.	Prof	essor,	
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Dr. Vinod Rangan Indi		Indian	India	House No.	Read	der,	P. P. L.
			17.15	Street		Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Den	
			2 6 8	City			
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			1000	Street		geon (Private	
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Kumaraswamy La

Bangalore - 560 018



## FORM 2

THE PATENTS ACT, 1970 [39 of 1970]

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THE PATENTS RULES, 2003

#### COMPLETE SPECIFICATION

[See section 10 and rule 13]

## "A NEW CLASSIFICATION FOR TEMPOROMANDIBULAR DISORDERS BASED ON ALGOMETER READINGS"

Name of the Applicant(s)	Nationality	Address
Dr. Samiksha Gour	Indian	III Year MDS Postgraduate, Department of Oral and Maxillofacial Surger y, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India
Prof. Dr. Prashanth N.T	Indian	Professor and Head, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India
Prof. Dr. Shobha E.S.	Indian	Professor, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India
Dr. Vinod Rangan	Indian	Reader, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India
Dr. Neha V Nainoor	Indian	Consultant Oral and Maxillofacial Surgeon (Private Practice), #003, Shivashree Gardens-1 Apartments, 4th Cross, 1st Main Road, BEML 3rd Stage, Rajarajeshwari Nagar, Bangalore – 560098, Karnataka, India
Dr. J. Shirisha	Indian	II Year MDS Postgraduate, Department of Oral and Maxillofacial Surger y, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India
Dr. Anusha B L	Indian	II Year MDS Postgraduate, Department of Oral and Maxillofacial Surgery, Dayananda Sagar College of Dental Sciences, Bangalore - 560078, Karnataka, India

#### PREAMBLE OF THE DESCRIPTION

The following specification particularly describes the invention and the manner in which it is to be performed.

1

PRINCIPAL
Payananda Sagar College of Dental Sciences
Kumaraswamy Layout,
Bangalore - 560 078.

## पेटेंट कार्यालय शासकीय जर्नल

## OFFICIAL JOURNAL OF THE PATENT OFFICE

निर्गमन सं. 28/2024 ISSUE NO. 28/2024 शुक्रवार FRIDAY दिनांकः 12/07/2024 DATE: 12/07/2024

पेटेंट कार्यालय का एक प्रकाशन PUBLICATION OF THE PATENT OFFICE

The Patent Office Journal No. 28/2024 Dated 12/07/2024

60412

Dayananda Sagar College of Dental Sciences Kumaraswamy Layout, Bangalore - 560 078.

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202441051920 A

(22) Date of filing of Application :07/07/2024

(43) Publication Date: 12/07/2024

(54) Title of the invention: A NEW CLASSIFICATION FOR TEMPOROMANDIBULAR DISORDERS BASED ON ALGOMETER READINGS

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(57) Abstract:

Temporomandibular joint disorder (TMDs) pain intensity has mostly been a subjective study of pain experienced by the patients. There are studies evaluating pain perception in TMD patients but limited literature is present quantifying the pain perception. It has been proposed that TMD may be a part of generalized pain condition. There is a need for a study investigating the general pain perception in TMD patients order to understand the underlying mechanism of TMD. The readings determined by algometer gives valuable proposition to adjust the dosage of analgesizes before any treatment is initiated and also if any behavioural / psychosocial therapy needs to be provided. An algometer is used to measure the general pain pressure threshold (GPPT) at hypothenar region of healthy individuals and TMD patients three times. Mean T score was considered the GPPT of the subject. Upon analysis higher mean T score was recorders compared to TMD subjects and the difference between them was not statistically significant (P>0.001). The mean T score was higher in males compared to females but the difference between them was not statistically significant (P>0.05). Temporomandibular disorders (TMD) tend to exhibit a lower pain threshold compared to those without the condition. This paper adds in providing a framework for classification of TMD on the basis of readings of pain pressure threshold on algometer. The classification aims at categorizing the treatment modality for TMD based on the reading considering if any behavioural / psychosocial therapy needs to be provided.

No. of Pages: 10 No. of Claims: 5

The Patent Office Journal No. 28/2024 Dated 12/07/2024

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PRINCIPAL Dayananda Sagar College of Dental Sciences Kumaraswamy Layout, Bangalore - 560 078.



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Bangalore - 560 078.



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## (http://ipindia.nic.in/index.htm)



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	Application Details
APPLICATION NUMBER	202341035353
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	22/05/2023
APPLICANT NAME	1 . Dr. Pradeep Chandra K 2 . Dr. Mir Shahid Ulla 3 . Dr. Sarandha D.L. 4 . Dr. Smitha Sharan 5 . Dr. Sreeharsha T.V. 6 . Dr. Brunda K 7 . Dr. C.M. Zameer Ahmed 8 . Dr. Shelvi Pandey 9 . Dr. Monika N 10 . Dr. Sujana S 11 . Dr. Syeda Noor Ayesha N 12 . Dr. Diksha
TITLE OF INVENTION	NOVEL-MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORCE
FIELD OF INVENTION	PHYSICS
E-MAIL (As Per Record)	vaagaiip@gmail.com
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#### (54) Title of the invention: NOVEL-MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORCE

:G01L0005000000, G01L0025000000, (51) International A61B0005000000, G01N0021470000, classification A01K0097120000 (86) International :PCT// Application No :01/01/1900 Filing Date (87) International Publication No (61) Patent of Addition :NA to Application Number :NA Filing Date (62) Divisional to Application Number Filing Date

#### (57) Abstract

NOVEL-MINIATURE DIGITAL GAUGE FOR ANALYSING DENTOFORCE A method for this paper presents the design and development of a low cost and reliable maximal voluntary bite force measurement device which can be manufactured in-house by using an Arduino Nano and flexi force sensor with chief advantage of it being portable which can be delivered to the patient, store the readings in the SD card as well as OTA display of forces. The device has been designed for ease of fabrication, assembly, calibration, and safe use. The device is capable of use within an hour of commencing production, allowing for rapid prototyping/ modifications and practical implementation. The measured data shows a good linear relationship between the applied force and the electrical resistance of the sensor. The output signal has low drift, excellent repeatability, and a large measurable range of 0 to 800 N. A high signal-to-noise response to human bite forces was observed, indicating the high potential of the proposed sensor for human bite force measurement.

No. of Pages: 11 No. of Claims: 1

The Patent Office Journal No. 35/2023 Dated 01/09/2023

56397

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## पेटेंट कार्यालय शासकीय जर्नल

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निर्गमन सं. 35/2024 ISSUE NO. 35/2024

शुक्रवार FRIDAY दिनांकः 30/08/2024 DATE: 30/08/2024

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The Patent Office Journal No. 35/2024 Dated 30/08/2024

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Buogalare - \$60 078.

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(22) Date of filing of Application -22/08/2024
(54) Title of the invention : A METHOD FOR TREATING PERIODONTITIS USING HERBAL TOPICAL GEL

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(56) International Application No : NA
(58) International Application No : NA
(59) International Publication No : NA
(51) Patent of Addition to : NA
(51) Patent of Addition to : NA
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(52) Divisional to Applicant: NA
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(54) Patent of Addition to : NA
(55) International Publication No : NA
(56) Divisional to Applicant: NA
(57) Abstract in Addition to : NA
(58) Internation Number
(59) And Address of Applicant: Department of Periodontology, Dayananda Sagar College of Dental Sciences, Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore, Karnataka, India, 500111. Bangalore
(62) Divisional to Application
Number
(62) Divisional to Application
Number
(63) Address of Applicant: Department of Periodontology, Dayananda Sagar College of Dental Sciences, Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore, Karnataka, India, 560111. Bangalore
(57) Abstract:
Abstract The present invention discloses a method of treatment of periodontiis using a topical gel formulation of flax seed extract. The invention also discloses the composition and method of preparation of the topical gel formulation of flax seed extract. The invention also discloses the composition and method of preparation of the topical gel formulation of flax seed extract.

No. of Pages: 29 No. of Claims: 5

The Patent Office Journal No. 35/2024 Dated 30/08/2024

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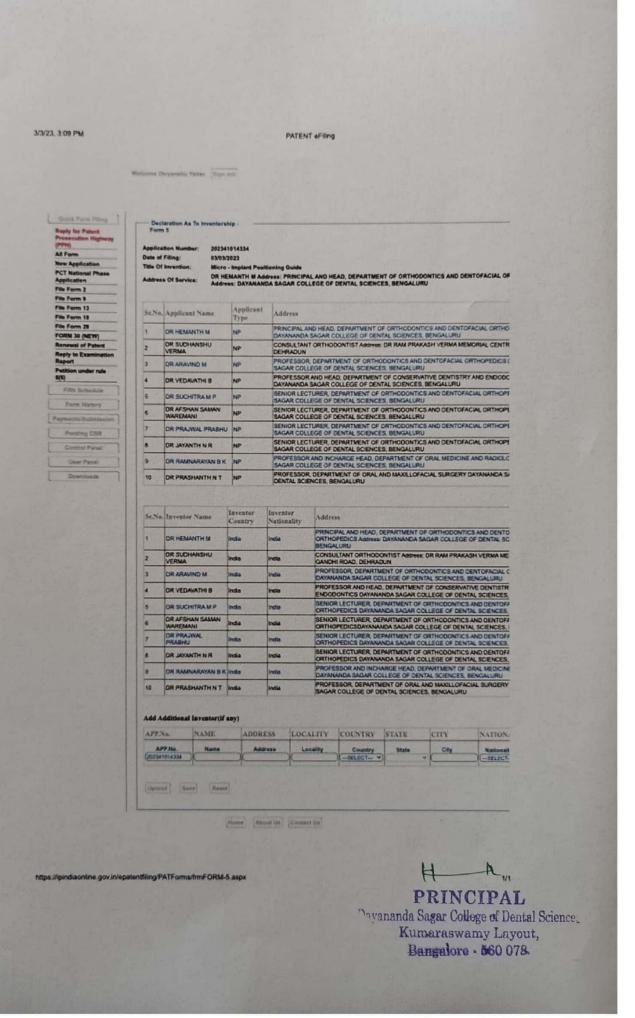
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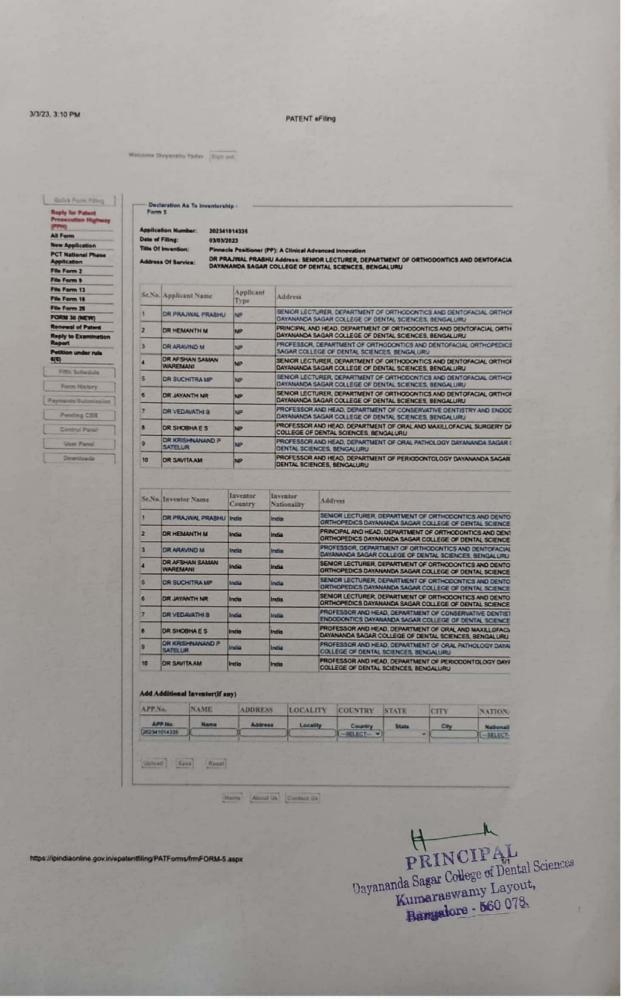
Payananda Sagar College of Dental Science.

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TITLE OF THE CLINICAL INNOVATION- 6 MASSI KASEE WAS RIVEOUS STREETING MORE

NAME OF THE PRESENTER: DR. RADIKSANTALAMANDATY & DR. CHANDNI KESHRI



## Indian Orthodontic Society

PRESIDENT Dr. JAYESH S RAHALKAR HON SECRETARY Dr. SANJAY LABH

#### Table Clinic

Reg No	Prize	Category	Name	College	Topic
752	1	Innovation C TAB I 010	Dr. Meghnaa S (SLM12491)	Krishnadevaraya College of Dental	Effortless Orthodontics
0980			Dr. Sreejit Saha (SLM12662)	sciences	(Redefining Bonding Techniques)
868	п	Innovation	Dr. Adil Mohamed Ashraf (SLM14417)	Yenepoya Dental College	Nasoal veolar Molding an Artificial Intelligence
944		C TAB I011	Dr.Niha.M ( SLM14461)		
1523	Ш	Innovation C TAB I 018	Dr.Radhika Agarwal (SLM12556)	Rajasthan dental college	Revolutionizing orthodoni care and Future paradigm
1528		C TAB TOTS	Dr.Pulkit Sharma (SLM13312)	and hospital	tut ma i mut paadagii

	No		A STATE OF			
	1996 1992		Innovation (C TAB I 031)	Dr. Adnan A Mandaty (SLM12733) Dr. Chandni Keshri (SLM12728)	Dayananda Sagar  College of Dental Sciences	Swiss Knife In Orthodontics
PRINCIPA  Payananda Sagar College of D  Kumaraswamy La	1749 11966 ental S	i II	Innovation C TAB 1 045	Dr.Santhosh Ram Kumar M (SLM12231) Dr. M Harivadhani ( SLM12059)	K.S.R.Institute of Do Ityourself- Guided Miniscrews Science and Research	Do Ityourself- Guided Miniscrews
Bangalore - 560	1412	III	Innovation (C TAB I 051)	Dr. Rajkumar.P (SLM14151) Dr. Sanjai J (SLM13655)	Sri Venkateswara Dental College and Hospital Chennai	Gearax (Gear Activated Rapid Expander)

TITLE OF THE CLINICAL INNOVATION- SWISS KNIFE IN ORTHODONTICS NAME OF THE PRESENTER: DR. ADNAN A MANDATY & DR. CHANDNI KESHRI



## **Indian Orthodontic Society**

PRESIDENT Dr. JAYESH S RAHALKAR HON SECRETARY Dr. SANJAY LABH

## **Table Clinic**

Reg No	Prize	Category	Name	College	Topic
752 0980	1	Innovation C TAB I 010	Dr. Meghnaa S (SLM12491) Dr. Sreejit Saha (SLM12662)	Krishnadevaraya College of Dental sciences	(Redefining Bonding Techniques)
944	П	Innovation C TAB 1011	Dr. Adil Mohamed Ashraf (SLM14417) Dr.Niha.M ( SLM14461)	Yenepoya Dental College	Nasoal veolar Molding and Artificial Intelligence
1523 1528	Ш	Innovation C TAB I 018	Dr.Radhika Agarwal (SLM12556) Dr.Pulkit Sharma (SLM13312)	Rajasthan dental college and hospital	Revolutionizing orthodontic care and Future paradigm

Reg No	Prize	Category	Name	College	Topic
1996 1992	1	Innovation (C TAB I 031)	Dr. Adnan A Mandaty (SLM12733) Dr. Chandni Keshri (SLM12728)	Dayananda Sagar College of Dental Sciences	Swiss Knife In Orthodontics
1749 1966	11	Innovation C TAB 1 045	Dr.Santhosh Ram Kumar M (SLM12231)  Dr. M Harivadhani (SLM12059)	K.S.R.Institute of Dental Science and Research	Do Ityourself- Guided Miniscrews
1339	111	Innovation (C TAB 1 051)	Dr. Rajkumar.P (SLM14151) Dr. Sanjai J (SLM13655)	Sri Venkateswara Dental College and Hospital Chennai	Gearax (Gear Activated Rapid Expander)

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## DAYANANDA SAGAR COLLEGE OF DENTAL SCIENCES



(Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka)
(Recognized by Dental Council of India, New Delhi)

Accredited A+ Grade by NAAC

DSCDS/ARSC/IMF(Faculty)/2023-24/

This is to certify that the following innovation is being conducted in association with DERBI.

<u>TITLE: DETERMINING DENTAL IMPLANT STABILITY QUOTIENT USING</u>
<u>CONE BASED COMPUTERISED TOMOGRAPHY:</u>

<u>Name of the innovator :Dr.Anagha M D and Dr.Shobha</u> <u>Date of submission: Jan 24,2024</u>

## Abstract:

- "Dental implant stability quotient" commonly referred to as ISQ could be determined using CBCT scans. In order to achieve this, we are going to be using a Machine Learning model in order to analyse the given CBCT datasets and train the model to provide a predicted result closest to the accurate value that would be most commonly be obtained using Resonance Frequency Analysis [RFA] technique which is found to be relatively more cumbersome and highly expensive when compared to our solution.
- The issue of the technique used through RFA technique is found to be not widely implemented due to the high costs associated with the devices involved with it. These devices include Ostell® Beacon and Penguin® instruments which are highly expensive which when paired with the accessories associated with it makes them highly unfeasible to use in common day to day clinical applications. This method also includes the added complications of inserting a probe into the implant which would increase the complexity and make it increasingly cumbersome.
- The solution developed by us would not only solve the problems associated with complexity and the
  higher cost, but it would also make it highly accessible to most doctors around the world and this
  solution could also be seamlessly integrated without the need of added equipment to the list
  generally rendering the solution almost free of cost.
- In order to achieve this, we would be using an ML model that would be trained by us with almost 450 datasets which would also result in this model being highly accurate. The model assumes a Supervised Learning approach and a Support Vector Regressor [SVR] as the model.
- First off, the obtained Datasets\* consisting of CBCTs will be "pre-processed".

  This process would begin with the encryption of the obtained patient data the Cash protocols which would generate unique SSH keys. This would ensure the Sagar Determined anonymisation of the obtained data sets by encoding their informatio Kumaraewamy Layout, anonymisation of the obtained data sets by encoding their informatio Kumaraewamy Layout, and the obtained data sets by encoding their informatio Kumaraewamy Layout, and the obtained data sets by encoding their informatio Kumaraewamy Layout, and the obtained data sets by encoding their informatio Kumaraewamy Layout, and the obtained data sets by encoding their information.
- The obtained Datasets\* (In the form of CSV files) would then be run through various pre-processing

algorithms in order to enhance their quality and facilitate accurate analysis before the data is to be fed into the model. This process includes converting the images to greyscale to generate a binary contrast gradient to facilitate easier attachment. Gaussian blue to remove any noise in the image and a contrast enhancing histogram to increase the contrast of the images.

- The model design comes up next. In order to achieve this, various libraries are used for various functionalities. The ones used are stated below.
  - 1) Numpy for Numerical Operations.
  - 2) Pandas for data handling
  - 3) Scikit learn for image processing
  - 4) TensorFlow-for developing the Deep learning model
- The labelled CBCT Datasets\* would then be loaded on from a CSV file and the features and labels would then be separated.
- The data would then be split into Training and testing sets. This would enable us to train the data from one subset and evaluate it using the other.
- We would then proceed to designing a Feedforward Neural Network using 'Keras' which would enable us to use libraries from TensorFlow which is a free and opensource library to develop Machine Learning models.
- The model being designed would have an input layer with 128 neurons and a ReLU Activation function. This would then be followed with a hidden layer with 64 neurons and another ReLU Activation function. The output layer would have only 1 neuron since it's a regression task.
- The model would then be compiled while specifying the optimiser. 'Adam' is the optimization algorithm being used here for deep learning. The loss function used here would be 'mean squared error' for regression tasks.
- The model would then be trained after this. The neural network is trained on the training data for 450 epochs with a batch size of 32. The 'validation\_split' parameter would be specified to be 10% of the data sets to be used for validation during training.
- The model would then be evaluated to make predictions on the test set and evaluate its performance using Mean Squared Error and R-squared metrics.
- The model would then be interfaced with a user friendly UI to make it easier for seamless integration
  and make it more accessible to all the doctors around the globe for use in their clinical applications
  irrespective of their economic stature.
- In summary, this code uses a neural network to learn the mapping between CBCT features and dental
  implant stability quotient (ISQ). The training process involves feeding the model with labelled data,
  adjusting its parameters to minimize the prediction error, and then evaluating its performance on a
  separate test set. The trained model can then be used for making predictions on new, unseen data.
- In Summary,
- 1. We reshape the input data to accommodate the CNN architecture.
- 2. We load a pre-trained EfficientNetB0 model without the top layers.
- 3. We build a custom model on top of the pre-trained base model, adding global average pooling and additional dense layers.
- 4. We freeze the weights of the pre-trained layers to retain the knowledge learned from ImageNet.
- 5. We compile the model using the Adam optimizer and mean squared error loss.
- 6. We use early stopping and model checkpointing during training to prevent overfitting and save the best model.
- 7. The model is trained on the reshaped training data.
- 8. We evaluate the model on the reshaped test data and print the management of the same follows of the same values.

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  Bangalore 560 078.

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