

**FGAI4H-P-046-A08**

Helsinki, 20-22 September 2022

**Source:** Sharda University, Noida, UP, India

**Title:** Att.8 – Presentation - Artificial Intelligence in Oral & Maxillofacial Oncology

**Purpose:** Discussion

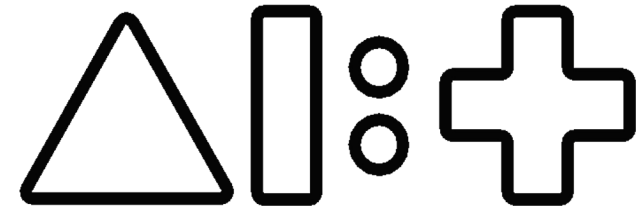
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**Abstract:** This PPT contains a presentation on Artificial Intelligence in Oral & Maxillofacial Oncology.



# AI for Health

An ITU Focus Group

In collaboration with WHO

## Principal Investigator

### **Dr Parul Khare Sinha**

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Adjunct Assistant Professor, Department of Forensic Odontology, Saveetha Dental  
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Adjunct Assistant Professor, Department of Oral Pathology & Forensic Odontology,  
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Jiao Tong University, Shanghai China



# Artificial Intelligence in Oral & Maxillofacial Oncology

# 1<sup>st</sup> June 2022, Berlin

## Artificial Intelligence in Oral & Maxillofacial Oncology

Welcome to the topic group

Live-Transkription (Untertitel) wurde aktiviert [Wer kann diese Transkription sehen? Au...](#)



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Es spricht: HHI (Ma



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Department of Pharmacology, Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Belgrade, Serbia



**Dr Parul Khare**  
Assistant Professor, MPCD & RC, Gwalior, India  
Assistant Professor (adjunct) Saraswati dental College Lucknow, India, Assistant Professor (adjunct) Saveetha Dental College, Chennai, India



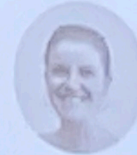
**Dr Mihiri Silva**  
Senior Lecturer Paediatric Dentistry | Division Lead Cariology, Population Health & Oral Health, Melbourne Dental School, University of Melbourne, AUS, Consultant Paediatric Dentist & Clinician Science Fellow, Murdoch Childrens Research Institute, Royal Childrens Hospital Melbourne



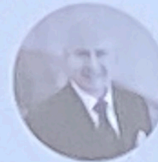
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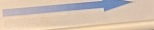


**Manal Hamdan**  
Oral and Maxillofacial Radiologist  
Lincoln, NE, USA



← HÖRSAL

ITU + AI for Health World Health Organization  
Welcome to the  
ITU/WHO Focus Group AI for Health  
Meeting  
21st May - 02 June 2022



# Machine Learning for Classification of Oral Epithelial Dysplasia and Diagnosis of Squamous Cell Carcinoma



## Co-Principal Investigator



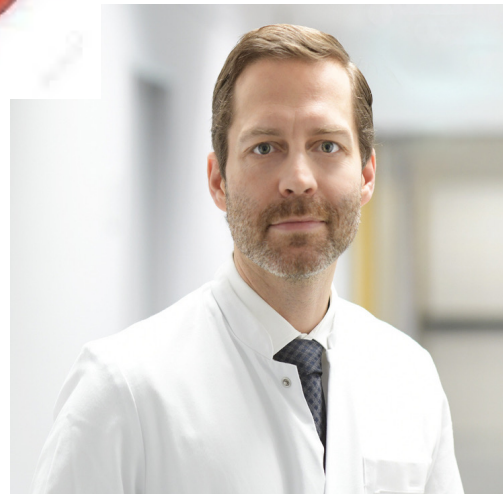
**Dr Brandon Veremis**  
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## Collaborators from AI Subtopic Focus Group



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**Dr Lisa,  
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## Collaborator Artificial Intelligence

**United States of America**



**Associate Professor, Department of Pathology & Anatomical  
Sciences, Department of Biomedical Engineering  
University at Buffalo SUNY, Buffalo, NY**



## **INTRODUCTION**

### **N**

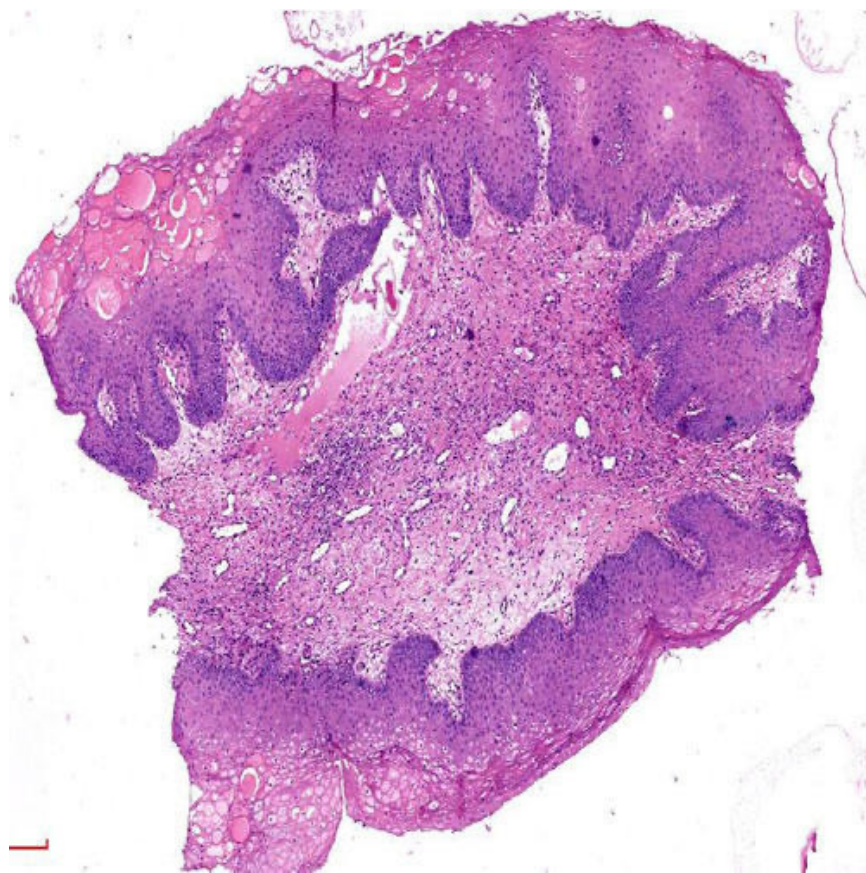
**Head and neck carcinoma are the sixth most common cancer in the world**

**According to World Cancer research Fund International lip and oral cavity cancers are most common, with more than 377700 cases world wide in 2020.**





**There is not only subjectivity among oral pathologists but also need to have involvement of AI to have standardization**



**Aim** - is to use a machine learning approach to address the lack of reproducibility in epithelial dysplasia.

**Objectives:**

- The first approach we will use is to use outcomes data to predict the risk of malignant transformation.
- If not, enough outcomes data is available, we will develop a classifier for epithelial lesions of the oral cavity.

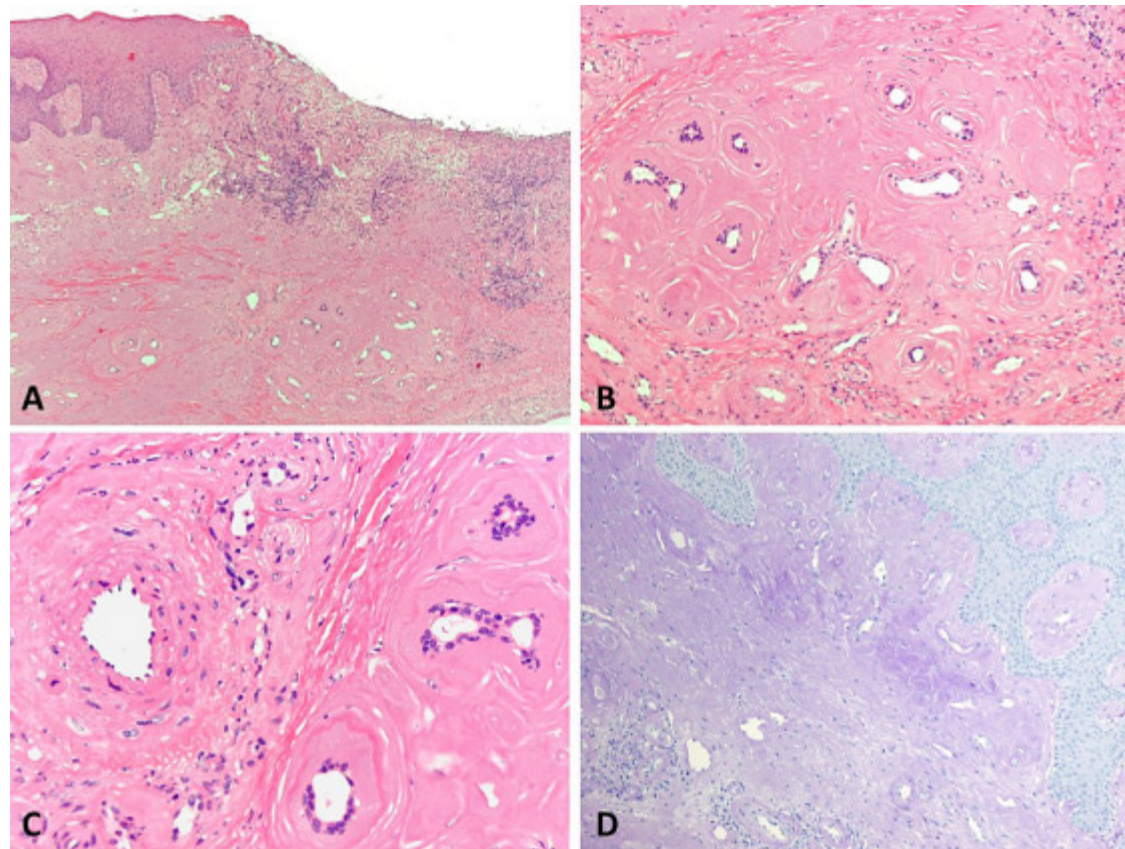


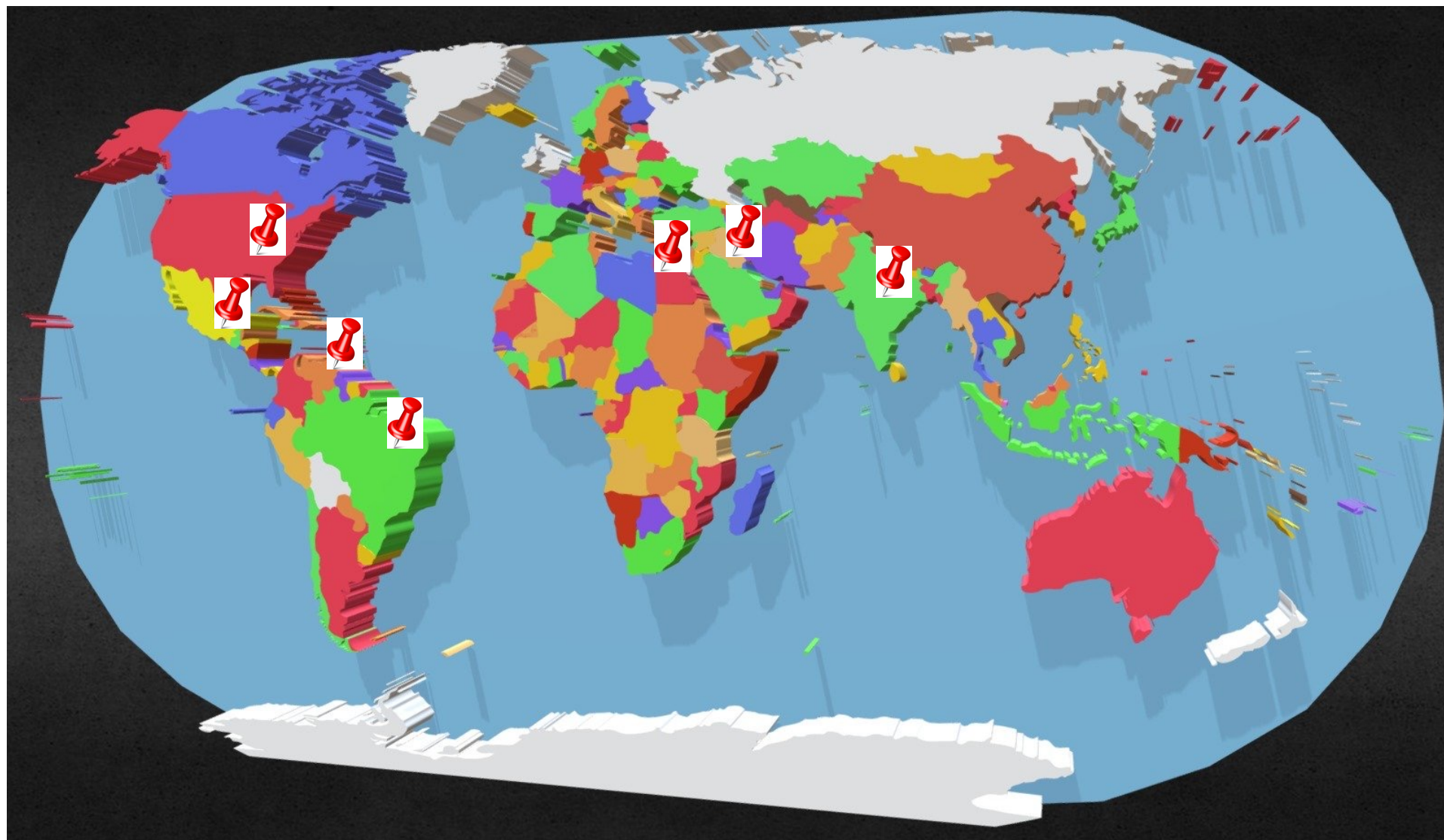
## Study samples-

**2000** whole slide images from **10** international institutions (**200** each)

**10** different oral pathologists will review the annotations

**Category- Benign, PMLs & SQCC**





We are in phase two of the research project, wherein our collaborators have applied for ethical permissions & IRBs and we are waiting for permissions to start data





**BRAZIL**



**Dr Felipe Fonseca**

**DDS, PhD**

**Lecturer/Researcher Oral Pathology and Oral  
Medicine**

**Universidade Federal de Minas Gerais (Belo Horizonte)**





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# VENEZUELA



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**Dr Mariana Villarroel**  
**Professor, Director Oral Med programme. Head Oral**  
**Pathology Lab.**  
**Central University of Venezuela**



**ISRAEL**



**Dr. Marilena Vered**

**Dept. Oral Pathology, Oral Medicine and Maxillofacial  
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Tel Aviv; Institute of Pathology, Sheba Medical Center,  
Tel Hashomer, Ramat Gan**



**JORDAN**



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**Dr Rima**

**-Vice Dean of Faculty of Dentistry**

**-Professor of Oral and Maxillofacial Pathology, Department of Oral Surgery and Medicine, Faculty of Dentistry, Jordan University of Science and Technology, Irbid, Jordan**

**-Consultant Oral and Maxillofacial Pathologist, King Abdullah University Hospital, Irbid, Jordan**



**MEXICO**



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**Dr Beatriz Aldape**  
**Professor**  
**Private Practice**



**INDIA**



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**Sri Ramachandra  
Dental College**



**INDIA**



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Bhargava  
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Oral Pathology  
Microbiology  
School of Dental**



**Dr Alka Kale  
Principal,  
Professor  
Oral Pathology  
Microbiology  
KLE VK Institute  
of Dental Sciences,  
KLE Belagavi**



# UNITED STATES OF AMERICA



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**Dr Margaret Brandwein, MD**  
**Professor of Pathology and**  
**Site chair**  
**Department of Pathology**  
**Mount Sinai West**  
**United States**



Road To **Success**



THANK

YOU!