

Photonics in Cosmetics Research & Digital Health

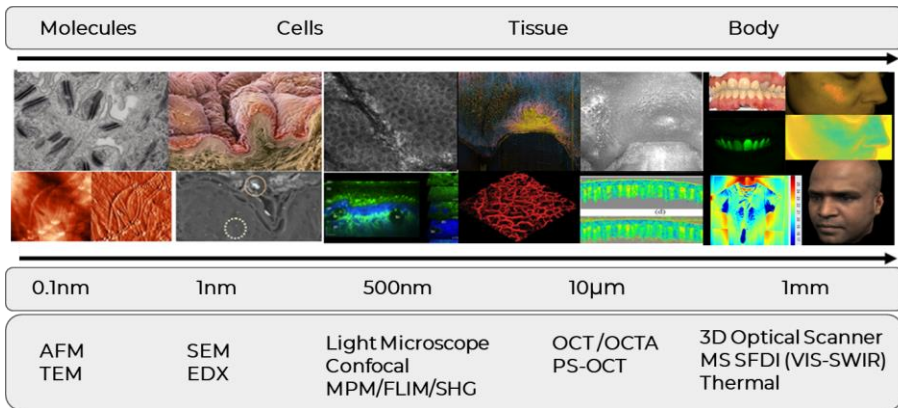
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Advanced Imaging Technologies



Oral Care



Knowledge Acquisition

Mode of Action
Safety &
Efficacy

Clinical Trials
&
Studies

Personal Care

PALMOLIVE



PCA skin



Instrumental Cosmetics & Diagnostic Devices

Therapeutic Devices



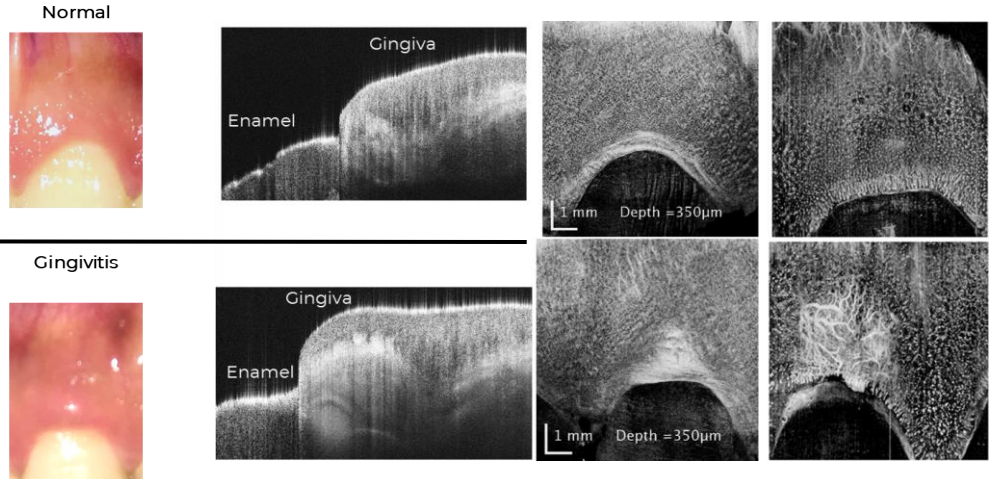
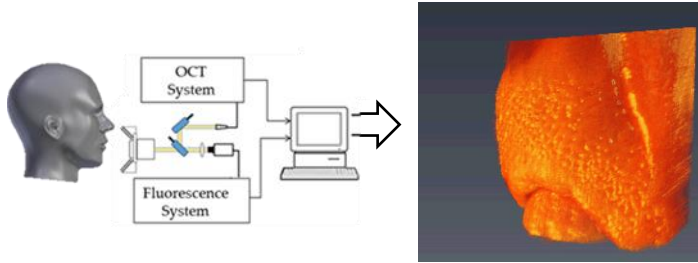
- Low level light therapy
- Photobiomodulation
- Photodynamic therapy
- Laser resurfacing
- Photochemistry

Diagnostic Devices

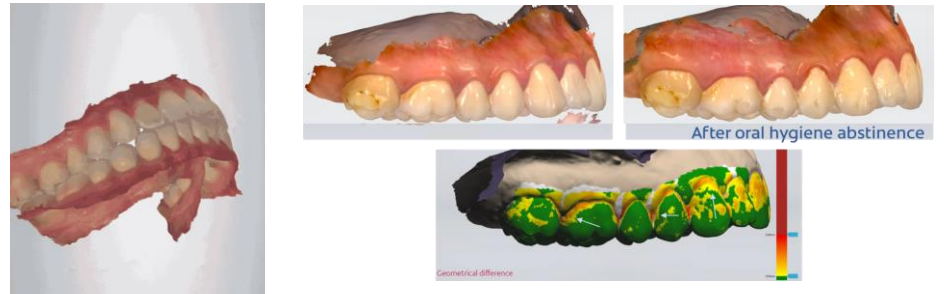
- ToF Sensors
- MEMS
- Micro spectrometers
- LIDAR
- NIR camera
- 3RGB-D Cam
- CMUT/PMUT Sensors



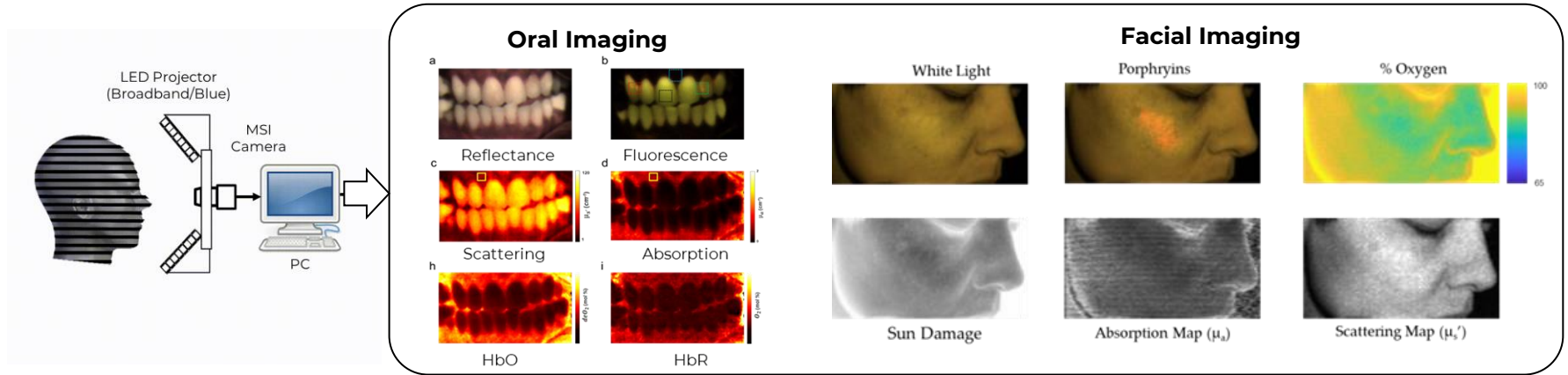
Optical Coherence Tomography/Angiography



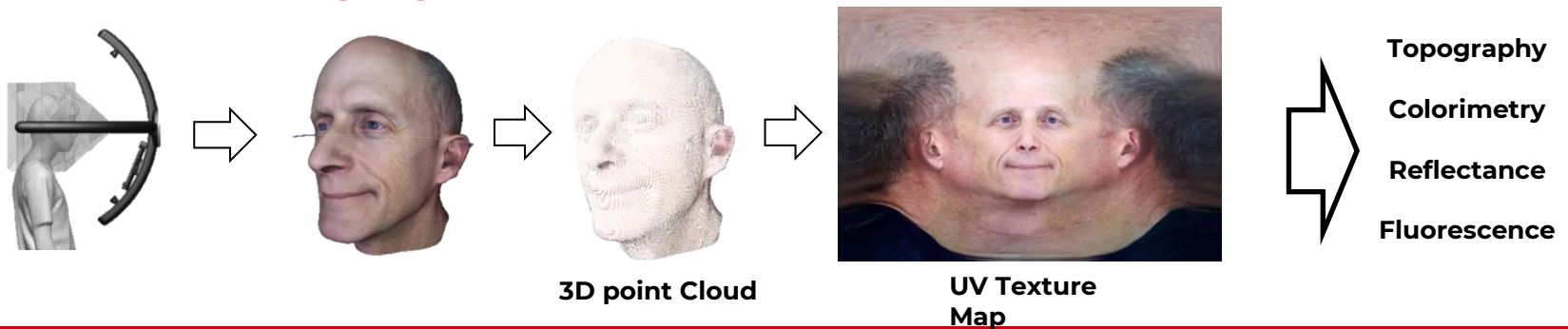
Intraoral Optical 3D Scanner



Snap-shot Multispectral Spatial Frequency Domain Imaging

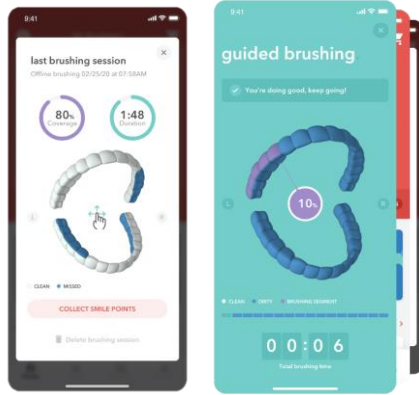


3D Optical Imaging



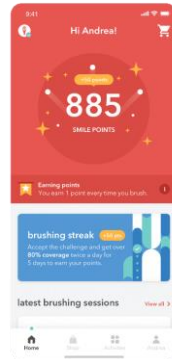


by Colgate® Connected Toothbrush



Connected smart electric toothbrush

- Track you
- Guide you
- Time you
- Remind you



hum for Kids - Augmented Reality Powered Gaming Brush



replaceable brush

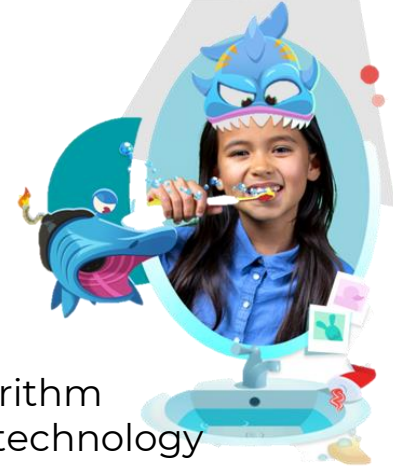
refresh or swap out brushes for every kid in the family

ergonomic grip

designed for a kid-sized grip

AR dots

Augmented Reality dots track your child's brushing movements



Gesture Tracking Algorithm incorporated with AR technology

Colgate® Optic White Advanced LED Whitening Technology



- Dot Printed Blue LED
- Uniform illumination
- Just 10 mins a day for 10 days
- Designed for no sensitivity
- Enamel safe & clinically proven whitening efficacy
- Hands free, no phone needed



Colgate® Plaqless Pro Smart Toothbrush

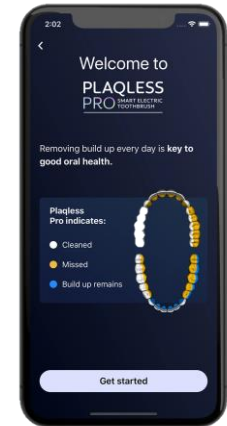


Optical Fluorescence Sensor

- Biofilm buildup

MEMS-IMU Position Sensor

- Mouth mapping
- Brushing parameters



Summary

Photonics has a significant growth potential in the field of cosmetics research, consumer level aesthetic and instrumental cosmetic space

Cosmetics Research

- Optical imaging devices : Ingredient discovery, Mode of action, product efficacy & clinical studies

Instrumental Cosmetics

- Low level light therapy
- Laser resurfacing
- Photochemistry & light activated devices

Digital Health

- Consumer level diagnostic & biometric monitoring devices

Thank you

A thick, white, curved line that starts on the left side, dips down, and then curves back up towards the right side, resembling a wide smile or a decorative flourish. It is positioned in the lower half of the image, below the text.