GENERAL PRESENTATION



- Complete denomination: University of Zurich
- Location: Zurich, Switzerland
- Director: Prof. Dr. Mutlu Özcan
- Contact person in NEWGEN: Prof. Anne Leriche (anne.leriche@univ-valenciennes.fr)
- Working Group involvement: WG1 (A. Leriche)
- Staff: 2 (1 Prof, 1 technician)

➢ Research topics:

- >Adhesion aspects to dental tissues and dental biomaterials
- Surface conditioning methods
- >Aging of dental/medical appliances in simulated environments

Researchers expertises:

- ≻Adhesion
- Biomechanics of dental/medical appliances



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BIOMATERIALS/NEWGEN TOPICS



>Minimal invasive, less destructive, durable dental/medical appliances

➢Retrieval analysis





Failures and their analysis





BIOMATERIALS/NEWGEN TOPICS

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>Adhesion aspects to dental tissues and dental biomaterials

Enamel



Glass ceramic



Hydrofluoric acid (HF) 5-10%



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Acids





BIOMATERIALS/NEWGEN TOPICS



Surface conditioning methods



Particle technologies for chairside and lab use



Abrasives:

-Al₂O₃ -SiO_x

-Synthetic pearls

Particle size: 30, 50, 110, 250 µm Pressure: 1-5 bar





BIOMATERIALS/NEWGEN TOPICS



Development of physico-chemical surface modification methods (Abrasives+silane coupling agents)



Siloxane Bonds Si=O=Si Al=O=Si

Si and Al





Acronym/name partner BIOMATERIALS/NEWGEN TOPICS



>Aging of dental/medical appliances in simulated environments



FACILITIES

Adhesion tests

Simulation and aging methods

Surface characterization and wear measurement methods

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