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|------------------------|---|
| 1 DR2 Inserm | 12 University Hospital Dentistry-Medicine (Paris-Diderot Paris-Descartes) |
| 1 CR1 Inserm | 10 Hospital Dentistry (Rothschild, la Pitié, Mondor-Créteil, Ivry and Rouen) |
| 1 CR1 CNRS | 2 Medicine (Hospital Necker) |
| 1 PU ENS Cachan | 1 MCU PhD University Paris-Diderot |
| 1 IR – Inserm | 1 IR, 1 AI, 2 TR , 1 Adj, 1.3 ETP secretaries Dental Faculty Garancière |
- Master, Doc and Post-Doc 1 + 9 temporary positions (6 permanents 2019-23)**

Molecular Oral Pathophysiology

Ariane Berdal DDS-PhD



Sylvie Babajko PhD

Circulation Metabolism Nutrition ITMO (INSERM - CSS3 - 220 units)

Maxillary bone loss: 5 millions patients/year - 350 000 grafts before implant Millenium Research Group, 2015



B. Fournier
B. Gogly

MSC Aneurysmal aorta (TIMP-1 +) ATVB 2007, CTR 2007, JMCC 2009, Durand, Fournier ATVB 2012, 3 Patents
MSC bone regeneration Fournier 2010, Periodontology 2011...
Gueules Cassées Annual Grant 2011, recurrent funds (50kEuros/year from 2012)



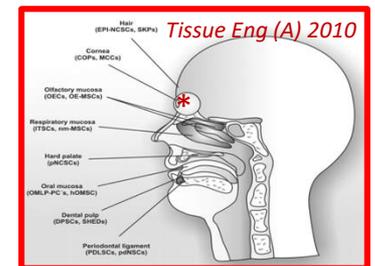
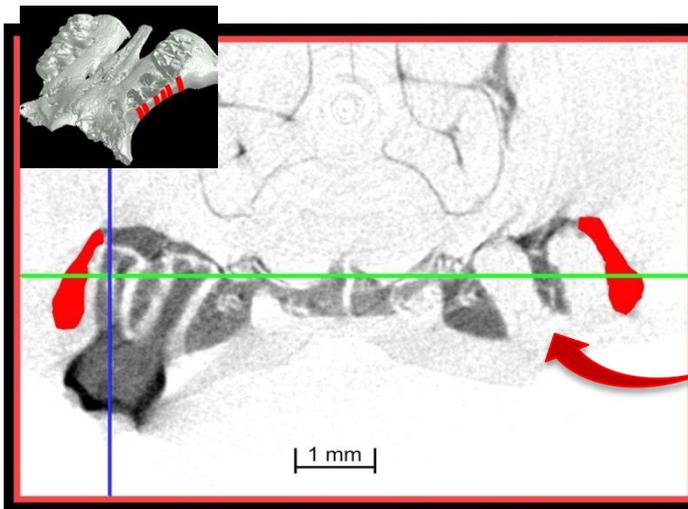
J. Isaac

Material Engineer Intramural NIH

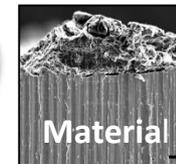


S. Simon

Tooth regeneration International Group President, IADR - Henett Award/Societies & J. Endodontics (Citations Board)



Alternative ORAL CELLS



EFS J Cohen
Mondor Hospital
MAXIBONE 779322
GRANT 2018-2022

**Embryologic origin ?
Properties ?
Clinical use ?**



Benjamin Fournier team

Stéphane Simon team

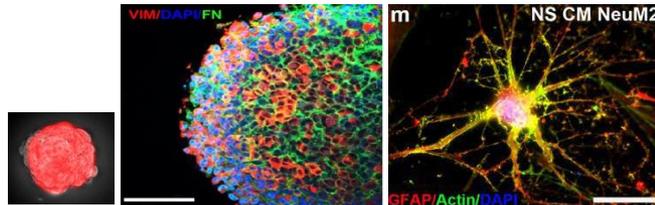
**MOLECULAR PROFILE
PROPERTIES OF ORAL
MESENCHYMAL CELLS**

*MSC
GINGIVAL CELL
(vs dermal cells)*

*DIFFERENTIATED ODONTOBLASTS
JAW OSTEOBLASTS
(vs tibia osteoblasts)*

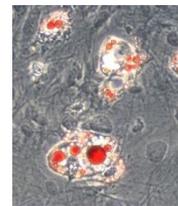
*Omics (matrisome, RNA)
Healing properties
Differentiation capacities
Immunomodulation
...
Clinical-grade culture condition
Biobanking (rare diseases)*

*Site specific markers (Jaw vs Tibia)
Putative expression gradients
Hormonal regulation
Mechanical regulation
...
In vitro material studies
Experimental surgery*

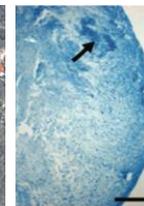


Neurosphere

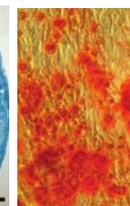
Oligodendrocyte



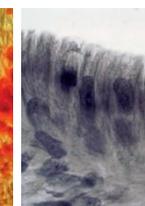
Adipocyte



Chondrocyte



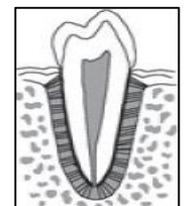
Osteocyte



Synoviocyte



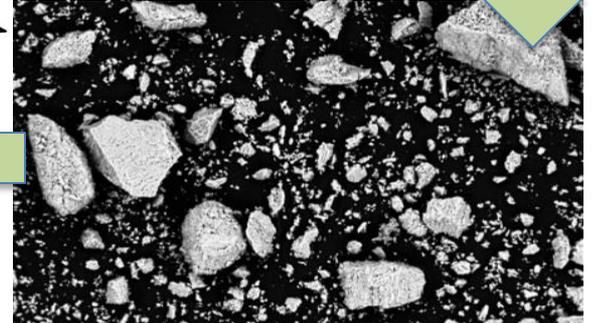
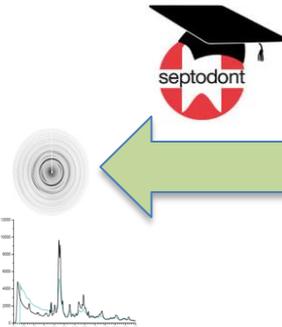
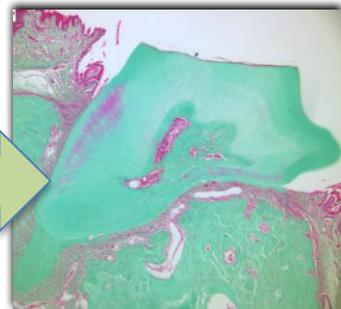
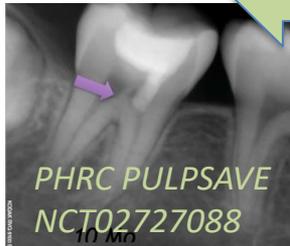
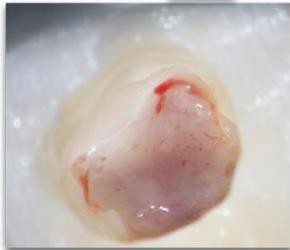
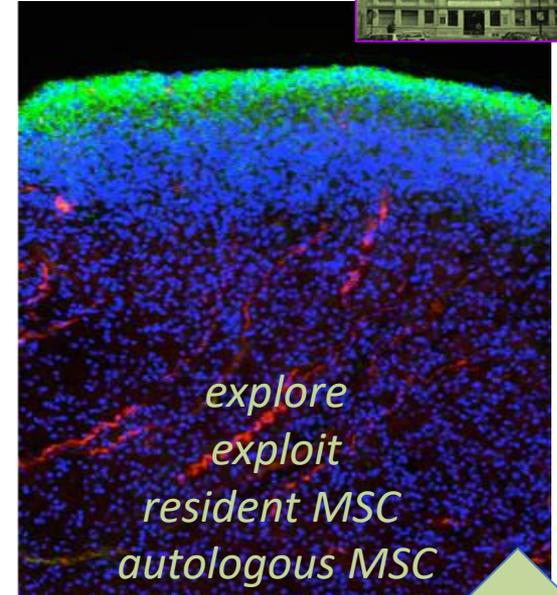
Odontoblast





Stéphane Simon team

3. Mésenchyme



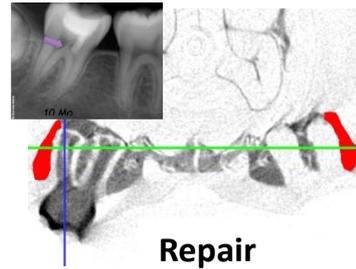
study preclinics cells chemicals

design material (mineral)

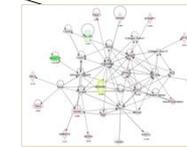
From clinical genetics to bench
from bench to EDCs-free clinics.

RECONSTRUCTION
MECHANISM

DISEASE



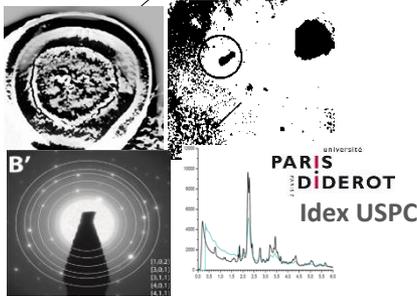
Repair



Molecular network

Pathophysiology

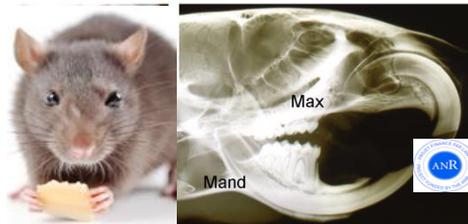
Reconstruction



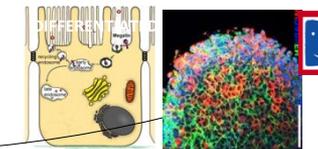
Minerals /Materials



Lineages



Functionality



Epithelial Mesenchymal Cells

BREAST
I Cremer

LIVER
S Colnot

CICC platform

RETINAL-EYE
F Behar-Cohen

RENAL
G Crambert

Cell metabolism and cancer



Epithelial pathophysiology

Oral Omics Pathophysiology Cell biology Therapy

Genetics

Environment

MSC. therapy

Clinical Pathophysiology and substance loss Reconstruction

UBC
Vancouver

COFECUB
Ecos-Nord

Leeds U
UK



**CELL
THERAPY**
Mondor Hosp

**IMAGINE
ERN
Genetics**

INDUSTRIES
Material