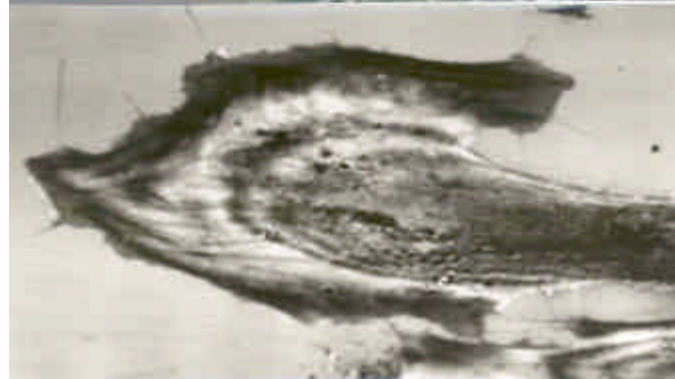
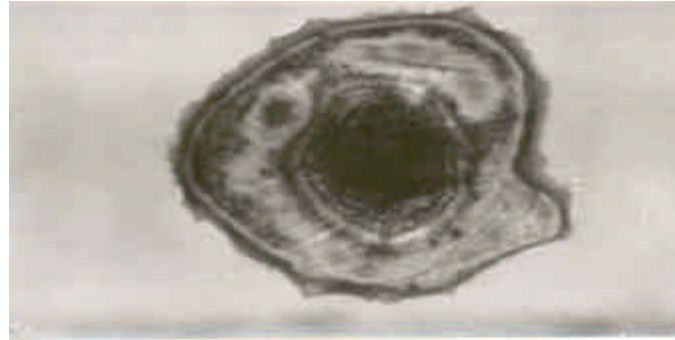


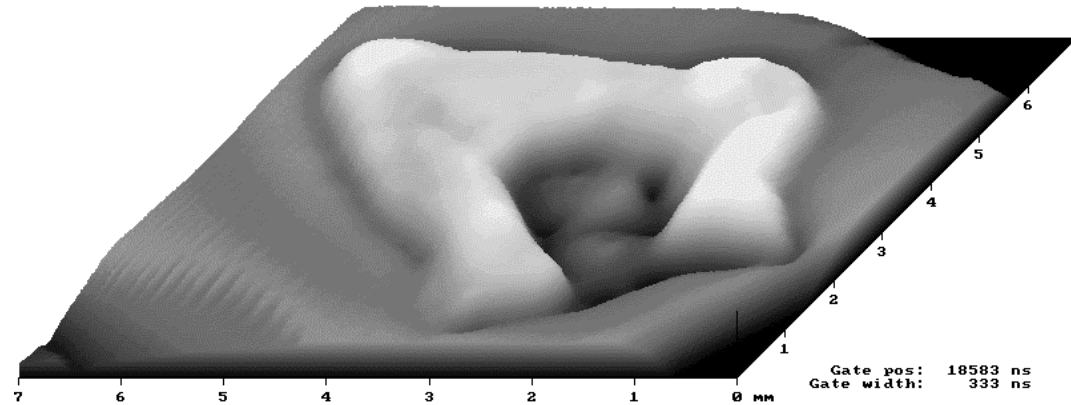
# Living cells



# Reconstruction of the inner tooth structure



enamel      dentine



The SAM image is taken with 80MHz.  
The C-scan and the 3D-image showing clearly the distinction between the outer enamel (hard) and the inner dentine (softer).

# Rabbit tibial bone



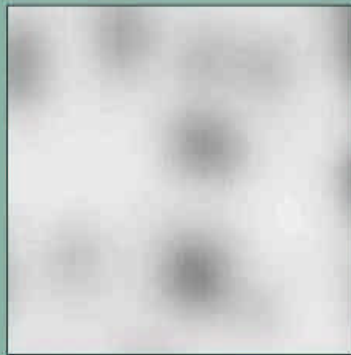
C-scan picture of a specimen of rabbit tibial bone taken at 50MHz. The tibia was subjected to osteotomy and entered into a bone distraction osteogenesis (bone elongation) pt to study the mechanical properties of the osteogenic zone (new bone formation), which is the relatively dark zone of the picture. Scanning area: 20mm x 20 mm

# Osteoporose research rittle-bone disease

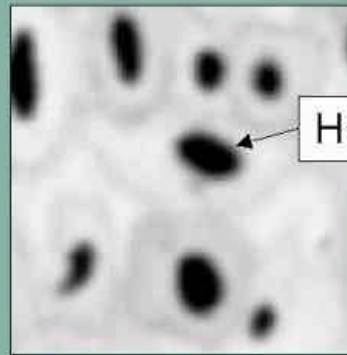
## Ultrasound - resolution



25 MHz ( $\lambda \sim 60 \mu\text{m}$ )

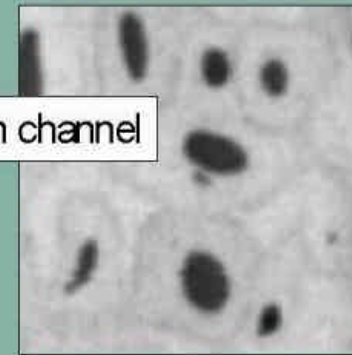


50 MHz ( $\lambda \sim 30 \mu\text{m}$ )

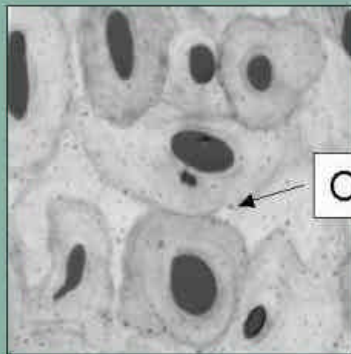


Haversian channel

100 MHz ( $\lambda \sim 15 \mu\text{m}$ )

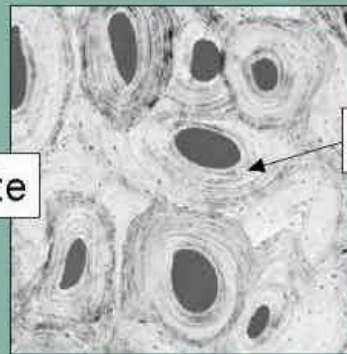


200 MHz ( $\lambda \sim 7,5 \mu\text{m}$ )



Osteocyte

400 MHz ( $\lambda \sim 3,7 \mu\text{m}$ )



Lamellae

900 MHz ( $\lambda \sim 1,6 \mu\text{m}$ )



# Bio Medical Applications: Osteoporose research brittle-bone disease

## Multi Layer Analysis - cortical bone



- 3D surface reflectivity of an osteon @ 900 MHz

