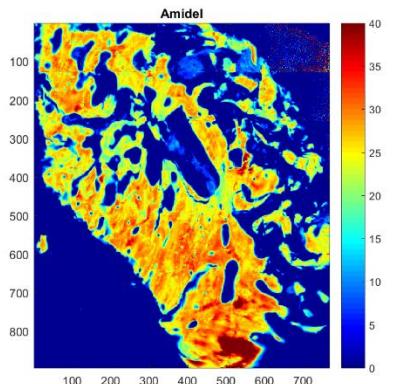


# STRUCTURAL ANALYSIS OF BIOMEDICAL TISSUE SAMPLES WITH FTIR AND RAMAN MICROSCOPY

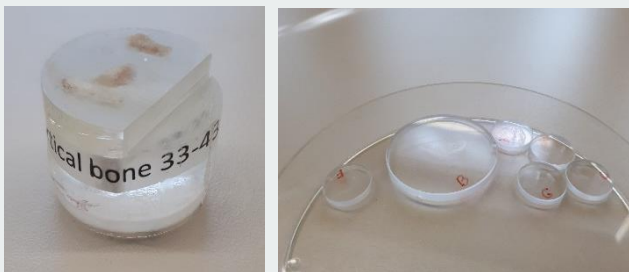
- Microspectroscopy: vibrational spectroscopy coupled to microscopy
- FTIR: absorbance of infrared light
- Raman: inelastic scattering of light
- Chemical and spatial information – compound types and locations in tissues



## WORKFLOW

### SAMPLE PREPARATION FOR FTIR

- Fixation, embedding in plastic, cutting to thin sections
- Or cryosectioning
- Sections to IR transparent windows



Raman does not usually require sample preparation!

### Sample types:

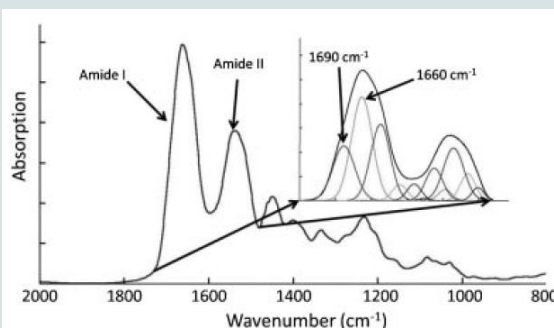
- Hard tissues - bone, cartilage, tooth
- Smooth tissues – brain, cancer, cells

### Research questions:

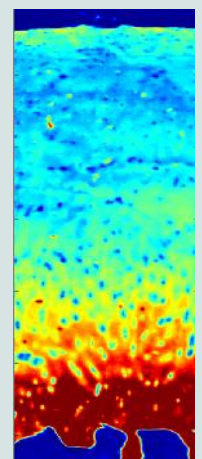
- Structural changes related to pathologies
- Development of diagnostic methods
- Effects of treatments or medication

## EXAMPLES

### MEASUREMENT AND DATA ANALYSIS



- Spectral manipulations
- Spectral maps
- Statistics, interpretation



## SIB LABS INFRASTRUCTURES



**IMAGING FTIR**  
Agilent Cary  
670/620 & 128x128  
FPA detector

**CONFOCAL  
IMAGING RAMAN  
MICROSCOPE**  
Thermo DXR2xi



### CONTACT

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