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# L'OCT : Optical Coherence Tomography

*Training Days – Mars 2012 - Tours*

Together  
To think differently ...

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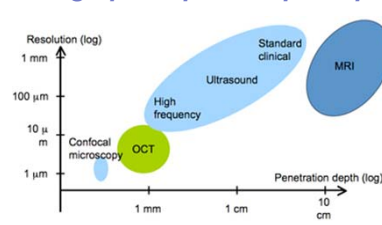
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# L'appareillage

**Principe :**

- ✓ Un balayage laser
- ✓ Une “échographie épidermique” optique






The graph plots Resolution (log) on the y-axis (1 μm to 1 mm) against Penetration depth (log) on the x-axis (1 mm to 10 cm). Techniques shown include Confocal microscopy, OCT (highlighted in green), High frequency, Ultrasound, Standard clinical, and MRI.

**Système :**

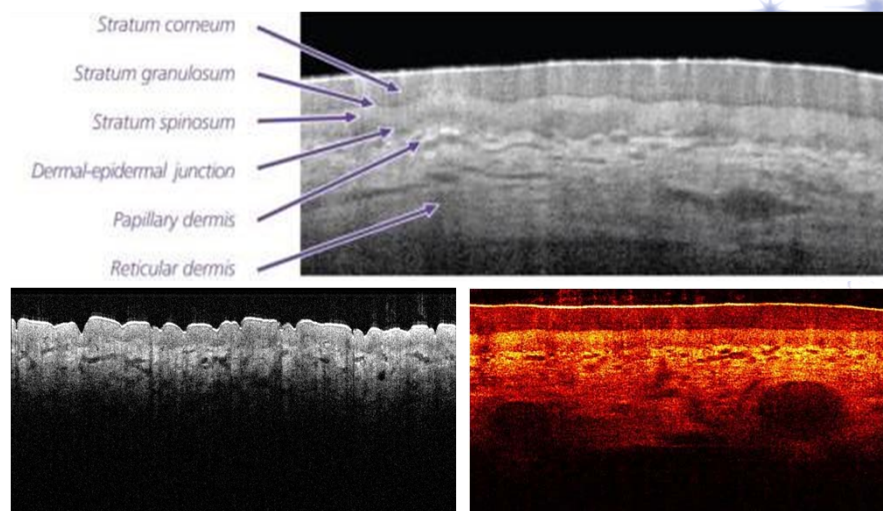
- ✓ Michelson Diagnostics (UK) OCT
- ✓ Résolution spatiale 5 μm
- ✓ Acquisition de stack
- ✓ Coupe transversale : jusqu'à 5 mm de large et 1.5 mm de profondeur



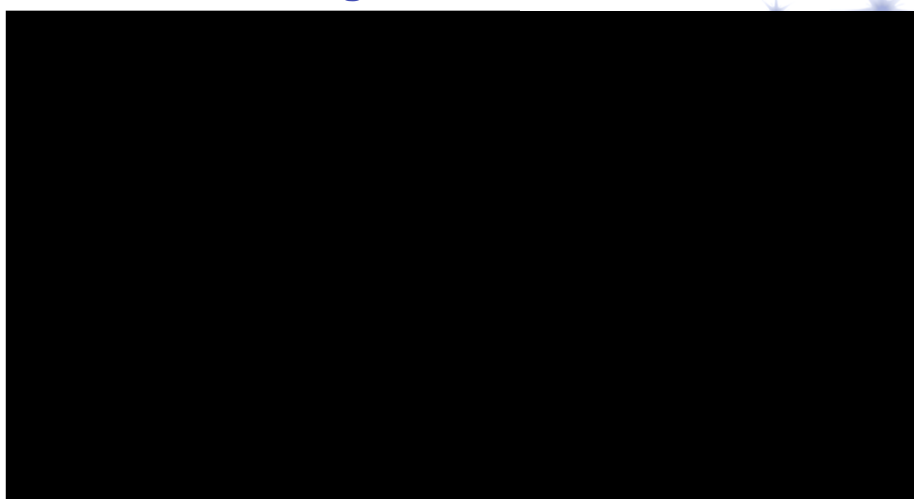
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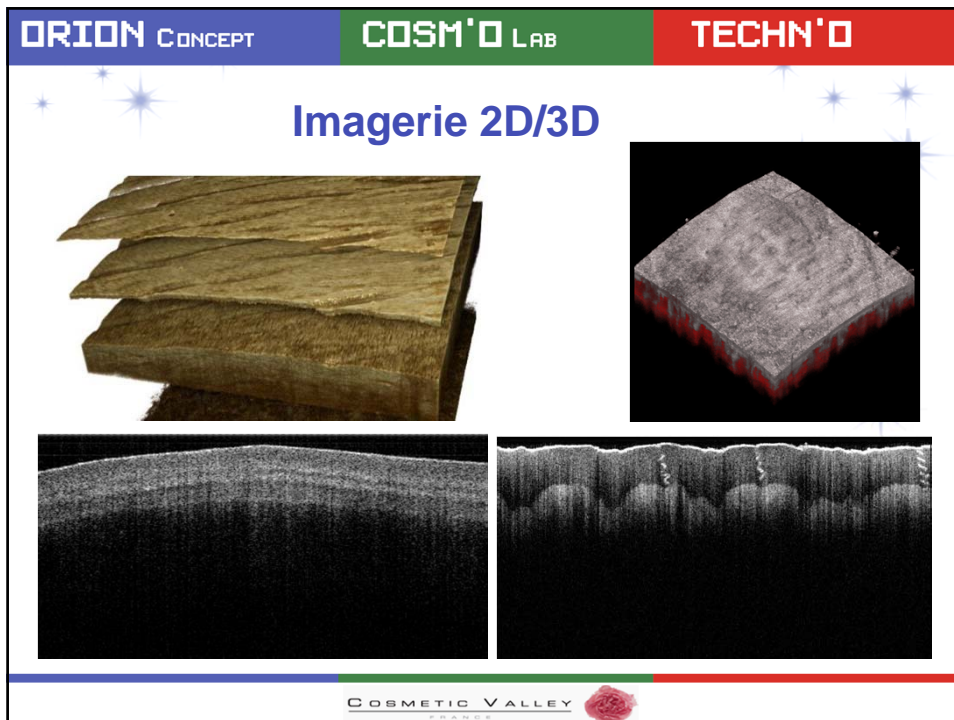
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## Imagerie



## Imagerie 2D/3D





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*Exemple d'étude :  
Optical Coherence Tomography*

★ **Objectives :**

- ✓ *Measurement of the thickness of the epidermis*

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## Methodology

**Number of subjects:**

- ✓ 30 women aged from 40 to 55 years
- ✓ Baseline, T2 months – Twice daily application of skin care product onto the face
- ✓ Active vs placebo : improvement of the epidermis cell turnover

**System :**

- ✓ Michelson Diagnostics (UK) OCT
- ✓ Acquisitions onto the face
- ✓ Stacks of cross sections – (5x5 mm – step 2 µm)

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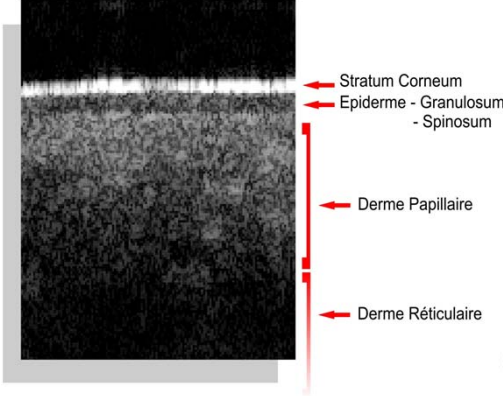
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## Methodology

**Acquisitions and measurements and 3D calculation :**



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## Validation of the accuracy of this technique Variability

- ✓ *A significant increase in the thickness of the epidermis was observed on active product and not confirmed on the placebo due to a low variability of this method and a high accuracy for such a measurement*

