

FIBRATLAS : A novel method to visualize dissection of white matter tracts. Preliminary results

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WTh-PM

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Introduction

- In Human, dissection (Klingler's method) gives access to white mater tracts anatomy
- It better preserves the 3D architecture of the specimen than techniques using slices



Goal

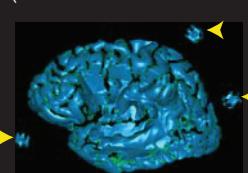
- To develop a method providing accurate surface and texture representation of anatomical specimens during dissection of white mater tracts

Method

- Specimens preparation
 - Fixation on holder
 - Paraffin and fiducial markers
- Klingler dissection
 - Surface acquisition : 3D scanner laser (FARO Arm and Laser Line Probe Geomagic software)
 - Texture acquisition : Pentax K20 digital camera (Pentax DA Macro 35mm f/2.8 lens)



Texture acquisition



Surface acquisition

Fiducial markers (Yellow arrow heads) are visible on both acquisitions

- Texture projection onto surface
 - Landmark (fiducial) based orthogonal projection
 - 3D visualization software currently developed by Laboratoire d'Informatique de l'Université de Tours (OpenGL/Qt)

Results



References

- Klingler, J. & Gloor, P. (1960), 'The connections of the amygdala and of the anterior temporal cortex in the human brain'. *J Comp Neurol*, vol. 115, 333-69.
- Ludwig, E. & Klingler, J. (1956) 'atlas humani cerebri', Basel, New York, Karger, S.
- Peltier, J., Travers, N., Destrieux, C. & Velut, S. (2006), 'Optic radiations: a microsurgical anatomical study'. *J Neurosurg*, vol. 105, 294-30.

Support



General Electric Healthcare



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