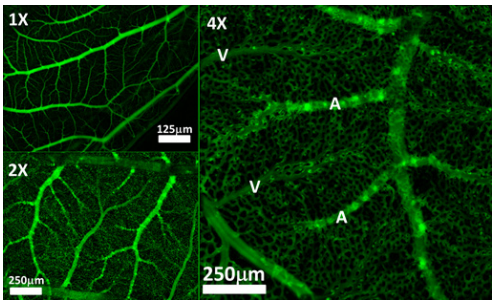
VIRTUAL CAST ANGIOSCOPE

New resolutive imaging of fine tissue vasculature.

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

Correctly imaging blood vessels is of critical importance in the diagnosis and treatment of vascular pathologies, as well as in the conduct of clinical research.Most methods of studying changes in blood vessels are invasive and require injections of toxic products, such as contrast agents, fluorophores or radioactive markers, in association with costly techniques (synchrotron, optical coherence tomography, etc). Researchers have developed a single algorithm allowing to extract at a very high resolution and in only few minutes, the vasculature of a flat organ such as the chorio-allantoïc membrane (CAM) of the chicken or the eye, just by using a single HD camera and red blood cells themselves as flow tracers. No need for costly imaging apparatus or specific contrast agents, if red cells can be followed.
This method & algorithm is particularly suitable for microvasculature imaging, in animal models such as the chicken or rabbit models, it may be of interest in ophtalmology for example, but it has also demonstrated its interest in cancer neovascularization research and in induced ischemia assays. Time-Lapse imaging reveals the wealth of the dynamic behaviour of the vessels in pathological instances, and the pathway for recovery.



Imaging - Software - Vasculature
Diagnostic - Research

DEVELOPMENT PHASE

- [x] 1sts proof of concept in chick chorioallantoic membrane, in cancer neovascularization, and in induced ischemic angiopathy.

APPLICATIONS

- Angiogenesis research
- Vascular drug effect
- Ophtalmology diagnostics

COMPETITIVE ADVANTAGES

- No injection required
- High resolution
- Fast use
- Only require a vessels video
- 3D rendering
- Time-Lapse with down to 15" time interval

INTELLECTUAL PROPERTY

Patent Application 06.2018 (priority) EP18305795.9, international filling (05.2019) WO2019/242994
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PUBLICATIONS

Richard S. , Brun, Fleury, Direct imaging of capillaries reveals the mechanism of arteriovenous interlacing in the chick chorioallantoic membrane. Communication biology 2018.

CONTACT

+33 (0)1 44 23 21 50
industriels@erganeo.com
Ref. project : 496