Webinar - 17th, June 2021 3pm

Photonic medical devices for treatment and regenerative medicine

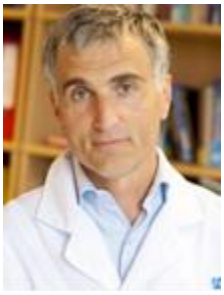
In the framework of the Interreg Atlantic Area project Atlantic Ket Med, ALPhANOV is hosting a webinar on Photonic medical devices for treatment and regenerative medicine on 17th June at 3pm.

Serge MORDON PhD, from BioTis Laboratory, will be providing an expert talk on laser scar healing technique LASH, from fundamental research to commercialization by Urgo.

Raphaël DEVILLARD PhD, also from BioTis Laboratory will present a research on animal bio-impression.

For each intervention, you will be able to ask your questions to the speakers.

DICOVER OUR SPEAKERS



Serge Mordon is a specialist in laser-tissue interactions and laser applications in medicine. For more than 30 years, he has been interested in its applications in many medical disciplines and has developed many innovative patented techniques.

He seeks to develop minimally invasive therapies using laser light. These therapies use multimodality imaging in the pre-operative (treatment simulation, dosimetric planning), per-operative (interventional imaging) and post-operative (follow-up, therapeutic evaluation) phases.

In dermatology, he developed the Hexascan® for the treatment of cutaneous angiodysplasias (Inserm patent), a laser system that was marketed worldwide for fifteen years. In the field of surgery, he is the inventor of a cartilage remodeling technique (LACR) used today to treat protruding ears and of the LASH technique for the prevention of skin scars in plastic and reconstructive surgery. He designed the multipulse system for the treatment of tumors in gastroenterology. In the late 1980s, he also developed software for modeling and simulating the thermal effects of lasers.

More recently, he has focused his research on Focal Laser Ablation techniques and on photodynamic therapy, which have applications in oncology, in particular for the treatment of prostate cancer. In 2012, in collaboration with the Ecole Nationale Supérieure des Arts et Industries Textiles located in Roubaix, he designed an original luminous textile for the treatment of pre-cancerous lesions in dermatology (Flexitheralight project, currently under clinical evaluation). Other

applications are envisaged for the treatment of ovarian cancer (peritoneal carcinoses) and pleural cancer (mesothelioma).

The research of Serge Mordon and his collaborators is based on technical platforms (software and hardware) resulting from research work carried out on the mathematical modelling of the interaction between light and biological tissue, on medical imaging and on simulation, planning and monitoring of treatments. These platforms are essential for the realization of pre-clinical or clinical studies and are the basis for technology transfer to industry.

He worked on a laser scar healing technique called LASH commercialized by Urgotouch. https://www.urgotouch.fr/

Most recently, in September 2020, he co-founded the company Hemerion Therapeutics. This company's aim is to commercialize a solution to treat glioblastoma.
https://www.hemerion.com/
https://www.linkedin.com/company/hemerion-therapeutics/

Raphael Devillard, doctor in dental surgery, is in charge of the "bio-fabrication, bio-impression" group at INSERM

During his PhD at the University of Toulouse, he worked on osteogenesis imperfecta and sphingomyelinase. Since 2011 he joined the Tissue Engineering Assisted by Laser in BioTis as associate researcher within the unit, as co-leader of the group "and Biofabrication and bioprinting ». Their research focuses nowadays on the creation of bone and vascular structures in 3 dimensions by bioprinting assisted by laser.

His early research has been to develop a printable biomaterial, choosing a composite of collagen hydrogel and alginate has set up a model for the pulp regeneration in dentistry. This work resulted in a publication in the International Journal of Endodontics (Dec 2015). Subsequently, he worked on the isolation, differentiation and bioimpression assisted laser endothelial progenitor cells co-culture cells and mesenchymal stem both from the pulp for bone regeneration.

He realized a one-year internship at mobility CELIA on the development of a new needleless injection strategy assisted by intense laser. During this internship, he acquired optical skills that allowed me to participate in the design of a new fully automated fire station used in the field of femtoseconds laser bioimpression. The prototype produced by Alphanov is currently used by the company Poietis. He also filed a patent on the use of laser for removal of fractured surgical instruments.

The main objective of his work today is to design, develop and product of a third generation of laser bioprinter for tissue regeneration in vivo and in situ to demonstrate the effectiveness of the approach based on bioprinting for the treatment of losses bone and skin tissue.

PROGRAMME

3:00 – 3:10: Introduction | **Aniss HADJI,** European Project Officer, ALPhANOV

3:10 – 3:35: Scar Healing by laser – from fundamental research to commercialization | **Serge MORDON PhD**, BioTis, France

3:35 – 3:45: Q&A

3:45 – 4:10: Work on Animal Bio Impression | **Raphaël DEVILLARD PhD**, BioTis, France

4:10 – 4:20: Q&A

4:20 – 4:30: Conclusion

CONTACT

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ABOUT THE ORGANIZERS

Atlantic KET Med (AKM) is bringing new, high tech, pilot production capacity to the EU Atlantic Area in support of SMEs and Start-ups using the Key Enabling Technologies (KETs) to produce Next Generation medical devices. AKM offers direct support to companies to enhance their: Innovation management, Value Chain Analysis, Tech specific education, research access, and much more. AKM works for greater integration of KETs into Atlantic Area Education, Production, and Innovation.

ALPhANOV is the Optical and Laser Technology Centre for “Route des Lasers” competitiveness cluster in the French Aquitaine Region. ALPhANOV acts as a “technological amplifier” in the field of photonics, bringing innovative solutions for research activities, SMEs and large companies. More than 500 customers worldwide have trusted in ALPhANOV added value in aeronautics, electronics, automotive, energy, and biomedical areas for instance. ALPhANOV aims four main missions:

- To promote laboratory research, through technological transfer and TRL increase
- To facilitate products development through collaborative projects
- To assist in the creation and development of spin-off companies
- To provide resources and services in optics and lasers.