

Les mardis de  
**L'IAB**

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**MATERIALS FOR BIOMEDICAL APPLICATIONS :  
PERSONAL EXAMPLES FROM RESEARCH TO  
INDUSTRIAL AND CLINICAL TRANSLATION**

**3.JUNE 2025 – 11 AM – LECTURE HALL**


Biomaterials play a crucial role in a wide range of medical applications—from cardiovascular and orthopedic interventions to dental, ophthalmologic, dermatologic, and cosmetic procedures. Initially, biomaterials were developed to serve as simple mechanical replacements for missing body parts, such as limbs. However, with advances in materials science, their function has significantly expanded. Many modern biomaterials now incorporate drug delivery systems—such as active stents—and are increasingly designed with biological integration in mind. This evolution has led to their growing role in tissue engineering and molecular imaging, where the boundaries between biology, chemistry, engineering, and medicine are becoming ever more interconnected.

In this presentation, I will share three examples of clinical and industrial translation from our own research:

1. An expansible aortic ring with over 10 years of follow-up in more than 2,000 patients worldwide;
2. A polysaccharide-based imaging system currently in Phase II clinical trials for thrombus targeting;
3. A 3D porous polysaccharide scaffold recently approved for clinical trials as a bone substitute in dental repair.

In addition, I will highlight emerging research directions, including organ-on-chip devices for the retina and the use of immersive technologies in clinic.

**Invited by : Jean-Luc Coll**

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