

Tuesday November 8, 2022– 9h30-10h30
Conference room AI 1153 (*) - EPFL - Lausanne

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“ Liver regeneration: insight into two critical issues”

Host: Prof. Kristina Schoonjans, EPFL

Abstract:

The liver has an extraordinary capacity to rapidly and efficiently regenerate in case of removal of a portion of the liver mass or acute destruction of part of the parenchymal hepatocytes. This occurs through a well-orchestrated process that calls into action many cellular and molecular players and requires the effective operation of several sensors. Liver regeneration renders possible the surgical resection of liver tumours as well as liver transplantation. However, when the resected liver mass is too large, and the remnant liver or liver graft is too small, the patient risks postoperative liver failure. This is called the small-for-size syndrome. I will review what we know about the pathogenesis of the small-for-size syndrome, and what we learned from pro-regenerative surgical approaches. I will present experimental data that shed light on a new paradigm and how it could be exploited for therapeutic purposes.

Liver regeneration also enables full recovery of liver architecture and function after acute hepatitis but, when the injury is chronic and the hepatocytes are poorly functional, the process faces exhaustion and liver failure occurs. The biliary epithelium provides facultative progenitor cells whose differentiation into hepatocytes offers an alternative mechanism to fuel the diseased liver with functional hepatocytes even though the efficiency and magnitude of the process are limited. Sox 9, is a transcription factor that dictates the biliary identity. I will report ongoing work exploring the effects of SOX9 manipulation on biliary-driven liver regeneration.

(*) **IMPORTANT NOTICE:** All external participants have to pass through SV Reception/Welcome Desk to be able to access to AI 1153.
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