



## Life Sciences Seminar

# Molecular and evolutionary mechanisms in planarian regeneration

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**Host: Michael Sixt**

Some animals have the ability to regenerate body parts lost to injury, while already closely related species are often unable to regenerate. Why regeneration should remain an exception rather than the rule represents a fascinating question in the face of survival of the fittest. My lab studies the ability of planarian flatworms to regenerate complete animals from random tissue fragments as model system for regeneration. In addition, we are pioneering the laboratory culture of regeneration-deficient planarians and have established a large live collection with currently > 60 species. Together, these approaches allow us to analyze the molecular mechanisms that orchestrate regeneration in the well regenerating model species, the specific changes in the underlying regulatory networks that cause regeneration defects in other species and finally the evolutionary mechanisms that might explain their natural selection. My talk will illustrate our model taxon approach by example of the Wnt signaling network, which we identified both as core mechanism of normal regeneration and as a hot spot in the repeated evolution of planarian regeneration defects.

**Thursday, March 8, 2018 09:00am - 10:00am**

IST Austria Campus Mondi Seminar Room 2, Central Building



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.