



General Information

Module Title *Introduction to cell biology and signalling related to tissue regeneration*

Tutor Name(s) *P. Knaus, D. Obradovic, L. Schomburg, S. Stricker*

Location where module takes place *Freie Universität Berlin
Institute of Chemistry/Biochemistry
Thielallee 63, 14195 Berlin
Lise-Meitner Lecture Hall in the Otto-Hahn-Building
2nd floor
17 to 26 August (not on 19 + 20 August), 09:00 to 10:30*

Suitable for the tracks	<input checked="" type="checkbox"/> <i>Biology/Biochemistry Track</i>		
	<input checked="" type="checkbox"/> <i>Chemistry/Physics/Engineering Track</i>		
	<input checked="" type="checkbox"/> <i>Clinical Scientist</i>		
Type	<i>Lecture;</i>	Level	<i>beginner</i>
Days	<i>6</i>	Max. Participants	<i>no limit</i>

Objectives this module

The lecture will be divided in 6 parts:

1. General introduction in cell biology and signal transduction: cellular compartmentalization, membrane trafficking, proliferation, differentiation and apoptosis

2. Evolution of signal transduction cascades and tissue regeneration

3. Signal transduction of BMP and Wnt factors

4. Limb regeneration in different organisms (zebrafish, amphibia, mouse, human), bone fracture healing

5. Physiology of bone: hormones, structure & function, trace elements, regeneration

6. Clinical studies related to signal transduction and to improve tissue regeneration

This Lecture takes place on 6 days for 1.5 hours.

Participation in this lecture is mandatory for those who wish to take the practical course "Signaltransduction on muscle and bone precursor cells"

Which course materials, software, or instruments do students use in this module?

What are the prerequisites for taking this subject?

We recommend the text book "Molecular Cell Biology", by HF Lodish et al. (Freeman) to prepare for and concomitant to the lecture.