ReALity Workshop on Regeneration

Monday, September 04, 2023

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Functional tissue repair after acute or chronic injury is crucial for organ function and cardiovascular and mental health. Tissue resident immune cells are essentially present in every organ of the body and perform not only critical functions in immunity but essentially contribute to tissue homeostasis and regeneration. We will focus on:

(i) Proteostasis- and senescence-associated changes in immune cells during aging,
(ii) age-associated changes in gene expression and epigenetic identity of tissue resident immune and vascular cells,
(iii) tissue and context specific repair mechanisms and their decline in aging,
(iv) metabolic communication of immune and non-hematopoietic cells in age-associated tissue repair and organ decline, and
(v) molecular mechanisms of systems interactions in regeneration (e.g. regeneration in the central nervous system).

To put into perspective the clinically relevant organ systems that are afflicted by functional decline with increasing age, we grouped the topics with the respective speakers into the following 4 areas: **Brain, Heart, Metabolism and Bone Marrow**.

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	4. Sep 2023. ReALity Workshop on Regeneration			
Areas		**Speaker**	**Title**	**Topic**
	13.00	Hansjörg Schild, Philip Wenzel	Welcome	
Bone marrow	13.15	Petra Beli	Contribution of G4 and R loops to age-related DNA damage	DNA repair and stem cell exhaustion
	13.30	Carsten Deppermann	Megakaryocytes and regenerative platelets	
	13.45	Wolfram Ruf	Hematopoietic stem cell exhaustion and regeneration	
Cardio-vascular	14:00	Katrin Schäfer	Reversal of Endothelial to mesenchymal transition	Prevention of Cardiovascular Decline
	14:15	Michael Molitor	Acidosis related macrophage reprogramming after MI for cardio-protection	
	14:30	Moritz Brandt	Cardiomyocyte telomere shortening, cardiac regeneration and longevity	
	14:45	**Coffee Break**		
Meta-bolism	15:15	Luis Almeida	Manipulation of T cell function and their decline in aging	(Cellular) Metabolism and Tissue Repair
	15:30	Thati Madhusudhan	Remodeling of Gut Epithelium in Metabolic Health and Disease	
	15:45	Fazilet Bekbulat	Autophagy as a key player in proteostasis and cellular repair	
	16:00	Georg Bündgen	Metabolic communication in tissue repair	
	16:15	Michael Delacher	T-cells as drivers of tissue repair	
	16:30	**Coffee Break**		
Brain	17:00	Nicolas Ruffini	Brain derived neurotrophic factor, cognitive decline and healthy ageing	Neuro-Regeneration
	17:15	Maja Papic	The impact of inflammation on the CNS cell fate determination	
	17:30	Stefan Bittner	De-/regenerative pathways in the inflamed CNS	
	17:45	Hansjörg Schild, Philip Wenzel	Wrap Up and conclusion	

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