

# Einladung zum virtuellen Kolloquium des

*Sonderforschungsbereiches Transregio 67  
,Matrix Engineering'*

am Montag, 28. September 2020, 16:30 Uhr

spricht

**Prof. Dr. Johannes Grillari**

Institut für Molekulare Biotechnologie (Universität Wien)

zum Thema:

## “Cellular Senescence in Tissue Regeneration and Skin Aging”

Virtuelle Teilnahme: [Skype for Business - Link](#)

Abstract:

L Terlecki-Zaniewicz, I Lämmermann, MR Bobbili, R Weinmüller, H Dellago, M Schosserer, M Hackl, F Gruber, J Grillari

Cellular senescence has evolved from an in vitro model system to study aging to a multifaceted phenomenon of in vivo importance as senescent cell removal delays the onset of a variety of age-associated diseases and chemotherapy induced premature aging.

In order to understand how senescent cells that accumulate within organisms with age negatively impact on organ and tissue function, we have characterized senescent cell derived extracellular vesicles (EVs) and their miRNA cargo and their functional role in the context of cellular and organismal aging. Thereby, we identified EVs and circulating miRNAs as bona fide members of the senescence associated secretory phenotype (SASP) that are transferred from senescent cells to their microenvironment or even the systemic environment. Upon uptake, recipient cells alter their behaviour, including changes in osteogenic differentiation of mesenchymal stem cells, in wound healing of skin keratinocytes, or apoptotic behaviour of skin fibroblasts, all negatively influencing tissue regeneration.

In summary, we present evidence of the importance of specific miRNAs and highlight their potential use as biomarkers of aging and age-associated diseases, or even as therapeutic tools and targets to prevent age-associated diseases.

Alle Interessenten sind herzlich eingeladen.

Prof. Dr. Jan Simon  
Sprecher des SFB Transregio 67