



# Einladung

zu dem am Donnerstag, dem 01. Februar 2024, ab 15 Uhr  
im Kurt-Alder-Hörsaal,  
Greinstraße 4, 50939 Köln  
stattfindenden öffentlichen

**wissenschaftlichen Vortrag zur Umhabilitation**  
Leibniz-Institut für Analytische Wissenschaften – ISAS  
(Fach: Biochemie)

**Dr. Milos Filipovic**  
über das Thema

## **Does fountain of youth smell of rotten eggs?**

Life emerged in a hydrogen sulfide ( $H_2S$ ) environment eons ago and even flourished in the same environment for a billion years. However, its role outside of sulfur metabolizing bacteria was neglected, mainly due to the well-established fact that  $H_2S$  is toxic for humans. Two decades ago evidence started emerging that  $H_2S$  is endogenously produced by cells and we know now that evolution chose at least three enzymes for such function. Several physiological functions are reported to be regulated by  $H_2S$ , some of which are vasodilation, neurotransmission, and inflammation. Furthermore,  $H_2S$  is able to induce a suspended animation-like state (a hibernation-like state) in mice who are normally not hibernating animals. These findings sparked hope that the same could be done in humans and fulfil our dream of space traveling. Donors of  $H_2S$  have been under development for different disease treatments. In this talk, I will discuss evolutionarily conserved mechanism behind these mentioned effects and provide insights into how  $H_2S$  and drugs that release it improve health and increase lifespan.

G. Bareth  
Dekan