



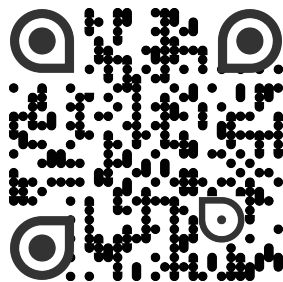
BIOMORA24

**Unique biology of mole-rats
from husbandry to biomedical applications**

28 Nov - 29 Nov, 2024

MPINB Bonn

PROGRAM



Wednesday, November 27, 2024

17:00 - 19:00 Icebreaker - Snacks and Drinks at the Venue

Thursday, November 28, 2024

08:00 REGISTRATION

09:30 – 09:45 **WELCOME**
Organizing Committee
 Alison Barker, Pascal Malkemper, Paul Friedemann Pohlig, Jane Reznick

SCIENTIFIC SESSION 1
 Chair: Pascal Malkemper

09:45 - 10:15 **Gary Lewin, Max Delbrück Center for Molecular Medicine in the Helmholtz Association, Berlin, DE**

Navigating with touch to avoid cold

10:15 - 10:30 **Sonya Pyott, University Medical Center Groningen, NL**

Peripheral and central auditory mechanisms in naked mole-rats

10:30 - 10:45 **Mohammed Khallaf, Max Delbrück Center for Molecular Medicine in the Helmholtz Association, Berlin, DE**

An olfactory social language in the naked mole-rat?

10:45 - 11:15 **COFFEE BREAK**

SCIENTIFIC SESSION 2
 Chair: Sabine Begall

11:15 - 11:45 **Thomas Park, University of Illinois, Chicago, US**

Mole-rat adaptations to living in low O₂ and high CO₂ and colony management in the lab setting

11:45 - 12:00 **Markus Zöttl, Linnaeus University, Kalmar, SE**

Cooperative behaviour of wild naked mole-rats

12:00 - 12:15 **Jan Šklíba, University of South Bohemia, Budweis, CZ**

Seasonal variation of the daily activity pattern in a subterranean rodent as a response to underground temperature variation

12:15 - 12:30 **Matěj Lövy, University of South Bohemia, Budweis, CZ**

Habitat requirements of African mole-rats: key to understanding the evolution of sociality

12:30 - 12:45 **Ema Hrouzková, University of South Bohemia, Budweis, CZ**

Informational content of the vocalization of naked mole-rats

12:45 - 13:45 **LUNCH BREAK**



HUSBANDRY SESSION 1

Chair: Paul Friedemann Pohlig

- 13:45 - 13:55 **Katharina Dinger, University of Cologne, DE**
Challenges in establishing a new animal husbandry for an unknown species: Interpersonal, legal and ethical perspectives
- 13:55 - 14:05 **Nina Vogt, Max Planck Institute for Brain Research, Frankfurt am Main, DE**
Veterinary approaches to health and breeding in naked mole-rats
- 14:05 - 14:15 **Sandra Buhl, Max Planck Institute for Biology of Ageing, Cologne, DE**
Mole-rat research: challenges to circumvent regulatory pitfalls
- 14:15 - 14:45 **Discussion**

HUSBANDRY SESSION 2

Chair: Paul Friedemann Pohlig

- 14:45 - 15:15 **Martin Toft , QM Diagnostics, Nijmegen, NL**
Establishment of health screening for naked mole-rats
- 15:15 - 15:45 **Sandra Honigs, Aquazoo Löbbecke Museum, Düsseldorf, DE**
Keeping and breeding naked mole rats in zoological gardens - challenges and problems

15:45 - 16:15 COFFEE BREAK**SCIENTIFIC SESSION 3**

Chair: Gary Lewin

- 16:15 - 17:00 **Nigel Bennett University of Pretoria, ZA**
Socially induced infertility in highly social mole-rats: a tale of two mechanisms of reproductive suppression
- 17:00 - 17:15 **Lenka Gahurova, University of South Bohemia, CZ**
Long-term female fertility of African mole-rats
- 17:15 - 17:30 **Kai R. Caspar, Heinrich Heine University Düsseldorf, DE**
African mole-rats are not eusocial – and here is why

17:30 - 19:30 POSTER SESSION, followed by Dinner and Networking**Friday, November 29, 2024****08:00 REGISTRATION****SCIENTIFIC SESSION 4**

Chair: Rochelle Buffenstein

- 09:00 - 09:45 **Hynek Burda, University Duisburg-Essen, DE |Czech University of Life Sciences, Prague, CZ**
Research on subterranean rodents in its fifth decade: history, achievements and challenges
- 09:45 - 10:00 **Maria Sol Jacome Burbano, Cologne Excellence Cluster for Aging and Aging-Associated Diseases, University of Cologne, DE**
The naked mole-rat: a new model for heart regeneration
- 10:00 - 10:30 **Michaela Frye, German Cancer Research Center, Heidelberg, DE**
Cellular ecosystems driving natural cancer resistance

10:30 - 11:00 COFFEE BREAK

SCIENTIFIC SESSION 5

Chair: Jane Reznick

- 11:00 - 11:45 **Rochelle Buffenstein, University of Illinois, Chicago, US**
Cardiovascular protective mechanisms of naked mole-rats that contribute to unchanged cardiac function during aging and resistance to cardiovascular insults
- 11:45 - 12:00 **Dustin Sokolowski, Ontario Institute for Cancer Research, Toronto, CA**
De novo diploid genome and annotation of the naked-mole rat unveils genetic and regulatory underpinnings of their unique physiology
- 12:00 - 12:30 **Radim Sumera, University of South Bohemia, Budweis, CZ**
News on African mole-rats diversity and phylogeny: museum material barcoding and genomic approaches
- 12:30 - 12:45 **Miguel Briño-Enríquez, Magee-Womens Research Institute, Pittsburgh, US**
Naked mole-rat as model of reproductive aging: the role of the extracellular matrix
- 12:45 - 13:00 **Koki Sekiguchi, Kumamoto University, JP**
*In vivo evidence for cancer resistance in the Damaraland mole-rat (*Fukomys damarensis*)*

13:00 - 14:30**LUNCH BREAK****SCIENTIFIC SESSION 6**

Chair: Hynek Burda

- 14:30 - 14:45 **Arne Sahm, Ruhr Universität Bochum, DE**
Increased longevity due to sexual activity in mole-rats is associated with transcriptional changes in the HPA stress axis
- 14:45 - 15:15 **Sabine Begall, University of Duisburg-Essen, DE**
Tensile skin properties of naked and Ansell's mole-rats
- 15:15 - 15:30 **Ewan Smith, University of Cambridge, UK**
The (non-)ageing naked mole-rat cortex

15:30 - 16:00**COFFEE BREAK****SCIENTIFIC SESSION 7**

Chair: Alison Barker

- 16:00 - 16:30 **Kaori Oka, Kumamoto University, JP**
Unique regulation of cell death in the naked mole-rat, a long-lived cancer-resistant rodent
- 16:30 - 16:45 **Joseph Kissil, The Moffitt Cancer Center, Tampa, US**
*The naked mole-rat (*Heterocephalus glaber*) and cancer resistance-development of an autochthonous model of lung cancer*
- 16:45 - 17:00 **Helder Gomes Rodrigues, Centre de Recherche en Paléontologie - Paris| Sorbonne Université, Paris, FR**
A long in the tooth story: morpho-functional convergence and evolutionary divergence in mole-rats
- 17:00 - 17:30 **Melissa Holmes, University of Toronto, CA**
Neuroendocrinology and plasticity of social phenotype in eusocial mammals

17:30**CLOSING REMARKS AND AWARDS****Networking at Christmas Market Bonn**