



DEVELOPMENT & INTEGRATION IN SCIENCE

Founded in 2008 as one of more than 80 independent non-profit research institutions under the umbrella of the Max Planck Society, the Max Planck Institute (MPI) for Biology of Ageing in Cologne has become a hub within a network of research institutes striving to become a unique cluster in the field of ageing research world-wide.

- As a driving motor within the developing life science cluster in North Rhine-Westphalia (NRW), the MPI for Biology of Ageing has close ties with the MPI for Metabolism Research (Cologne), the CECAD Cluster of Excellence (Cologne), the DZNE and the caesar research center (both located in Bonn).
- Three internationally leading scientists in ageing research were won as directors: Adam Antebi (USA), Thomas Langer (Germany) and Linda Partridge (GB). With them, the institute is positioned to become a world leader in ageing research.
- The Institute's employees represent more than 30 different nationalities, the average age of staff members being around 33 years. The MPI for Biology of Ageing is expected to expand to a size of 350 employees (scientists, technical and administrative staff).



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RESEARCH DIRECTION & VISION

- Fundamental questions on the nature of ageing and longevity are being investigated: Why do organisms age? What biological processes determine lifespan? What are the roles of genes and environment? And why do we become more prone to neurodegenerative diseases like Alzheimer's or Parkinson's with growing age?
- Scientists at the MPI for Biology of Ageing strive to uncover the underlying molecular, physiological and evolutionary mechanisms of ageing by using laboratory model organisms: fish, mice, flies, worms and yeast.
- The complementarity of experiences gathered in the MPI's departments and research groups promotes investigation of the whole ageing process, to identify genes and mechanisms that have ubiquitous effects on processes of damage and deterioration, and that can ameliorate these effects.

Our long-term goal is to pave the way towards increasing health during ageing in humans.



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RESEARCH GROUPS & CORE FACILITIES

DEPARTMENTS

- Adam Antebi Molecular Genetics of Ageing
- Thomas Langer Mitochondrial Proteostasis
- Linda Partridge Biological Mechanisms of Ageing

MAX PLANCK RESEARCH GROUPS

- Constantinos Demetriades Cell Growth Control in Health and Age-related Disease
- Martin Graef Effectors and Regulation of Autophagy during Ageing
- Ron Jachimowicz Mechanisms of DNA Repair
- Stephanie Panier Genome Instability and Ageing
- Lena Pernas Metabolism of Infection
- Peter Tessarz Chromatin and Ageing
- Dario Valenzano Evolutionary and Experimental Biology and Ageing

RESEARCH GROUPS

- Joris Deelen Genetics and Biomarkers of Human Ageing
- Martin Denzel Metabolic and Genetic Regulation of Ageing
- Ivan Matic Proteomics of Post-translational Modifications (CECAD Research Group)
- James Stewart Genome Evolution and Ageing
- Sara Wickström Skin Homeostasis and Ageing

ASSOCIATED RESEARCH GROUP

- Joanna Rorbach Mitochondrial gene expression

MAX PLANCK FELLOW

- Eline Slagboom Molecular Epidemiology

EXTERNAL MEMBER

- Nils Larsson Mitochondrial Biology



CORE FACILITIES

The research activities of the MPI's scientists are supported by state-of-the-art core facilities, providing access to latest technologies such as:

- **Bioinformatics** Jorge Boucas
- **CRISPR Screening** Steffen Lawo
- **Comparative Biology** Bettina Bertalan
- **FACS & Imaging** Christian Kukat
- **Metabolomics** Patrick Giavalisco
- **Phenotyping** Andrea Mesaros
- **Proteomics** Ivan Matic
- **Transgenesis** Ingo Voigt

CAREER DEVELOPMENT

RESEARCH GROUPS

In addition to the Directors' departments, the institute hosts research groups that are each headed by a young researcher; amongst them the so-called "Max Planck Research Groups":

„Max Planck Research Groups (MPRG) offer junior scientists who hold a doctoral degree an excellent opportunity to qualify for a further career at a high level. Leaders of MPRGs are appointed by the President of the Max Planck Society and – similar to directors at Max Planck Institutes ... – enjoy an independent status within the Institute.“ (www.mpg.de)

The junior scientists come from a wide range of areas in biology of ageing research and complement each other as well as the expertise in the institute as a whole.

INTERNATIONAL „COLOGNE GRADUATE SCHOOL OF AGEING RESEARCH“



To provide a first-class education in the field of ageing and age-related diseases, the graduate school of the CECAD Cluster of Excellence and the IMPRS Age have established a joint programme under the roof of the "Cologne Graduate School of Ageing Research".

IMPRS stands for "International Max Planck Research School". Currently, there are more than 60 such graduate schools in the Max Planck Society. The "IMPRS Age" was set up by the MPI for Biology of Ag-



ing, together with the MPI for Neurological Research and the caesar research center.

At the Cologne Graduate School of Ageing Research, outstanding PhD students receive training in biological and medical disciplines, gain experience in the use of diverse model organisms as well as state-of-the-art technologies, and develop communication skills essential for a successful scientific career. The doctoral students also benefit from the extensive scientific network in the Cologne/Bonn region and receive their doctoral degrees from the University of Cologne.

(Last Update: July 2020)