

The Biology of Aging:  
Mechanisms and  
Intervention

8 - 10 April 2010



program

## organization

### **German Society for Biochemistry and Molecular Biology**

Mörfelder Landstraße 125  
60598 Frankfurt am Main  
Germany

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[www.gbm-online.de](http://www.gbm-online.de)

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Jens Brüning  
Thomas Langer  
Aleksandra Trifunovic

University of Cologne  
CECAD Cologne  
at Institute for Genetics

CECAD is the Cluster of Excellence "Cellular Stress Responses in Aging-Associated Diseases" funded within the Excellence Initiative by German Federal and State Governments



## chair persons

Jens Brüning  
Thomas Langer  
Nikolaus Pfanner  
Irmgard Sinning  
Björn Schumacher  
Wolfgang Trommer



# Content

content	page
Organizers / Chairs	2
Content	3
Welcome	4
Program - At a Glance	6
Programme - Wednesday	8
Thursday	9
Friday	11
Saturday	13
Meet the Prof (for students)	14
Funding Opportunities (for junior scientists)	15
General Remarks	16
Acknowledgement	19



# Welcome

Dear Visitor,

A desire to last is part of our nature. The life expectancy in the Western countries has been constantly increasing over the last two centuries at the average rate of 1,7 years for each decade. Today the average lifespan of people in Western countries is around 80 years. This means that today's men and women are suffering from age-related diseases due to the significant number of years they have already lived. Can we not only add years to life, but also life to years i.e. increase the quality of life in old age? Understanding basic processes behind some of the age-related diseases could help to alleviate the consequences of the process of aging. This is one of the most important questions aging societies of today have to face. This question provokes a lot of others: How do cells age? How is the process of aging regulated in the complex network of cells? What causes diseases associated with aging?

What is aging and how can the process be understood? Aging is certainly congenitally determined and most likely dependent on multiple genes. There are strong evolutionary arguments why aging is not programmed, like development, but is rather caused by an inevitable decline in cellular repair and maintenance functions accompanied by stochastic accumulation of damage and decline in function.

To bring together leading experts in the field, to discuss the open questions and to help junior scientists enter the field are the main aims of the Mosbacher Kolloquium in April 2010. The meeting's headline is "The Biology of Aging: Mechanisms and Intervention".

# Welcome

It is a long lasting tradition that the German Society for Biochemistry and Molecular Biology (GBM) is organizing its spring meeting in the picturesque town of Mosbach in Baden/Germany. For the event in 2010, they accepted the “Cologne Excellence Cluster on Cellular Stress Responses in Aging-associated diseases (CECAD Cologne)” as a partner.

We are glad to welcome you in Mosbach and are looking forward to an interesting meeting.

Aleksandra Trifunovic  
Thomas Langer  
Jens Brüning



meeting venue: alte maelzerei

## At a Glance

Wednesday, 7 April 2010

17.00	Start Registration
20.30	Welcome Reception

Thursday, 8 April 2010

08.30	Opening
08.40	Introductory Keynote Lecture A. Bartke
09.20	Morning Session: Caloric Restriction (Mechanisms and Mimetics) A. Dillin M. Kaeberlein R. Miller J.O. Holloszy A. Trifunovic*
12.45	Lunch
13.45	Poster Session 1
15.00	Afternoon Session: Longevity and Insulin/IGF-1-Signaling A. Antebi V.D. Longo
16.10	BayerSchering Pharma Thesis Prize Prize Lecture R. Hilf
17.00	General Meeting of the GBM
19.00	Feodor Lynen Lecture C. Kenyon

\* originally scheduled for Friday, 9 April, 11:15

## At a Glance

Friday, 9 April 2010	
09.00	Morning Session Mitochondrial Control of Aging N.-G. Larsson D.C. Wallace H. van Remmen L.P. Guarente* T. Nyström
12.25	Lunch
13.15	Poster Session 2
14.30	Otto Warburg Medal Award Lecture A. Helenius
16.00	Afternoon Session Aging-Associated Diseases (1) T. Kadowaki B. Canlon J.M. Penninger

Saturday, 10 April 2010	
09:00	Morning Session 1 Aging-Associated Diseases (2) R. Tanzi T.M. Dawson
10:10	Morning Session 2 DNA Damage and Stem Cells J.H.J Hoeijmakers J. Campisi K.L. Rudolph G. de Haan
13:00	Poster Prizes and closing Remarks

\* originally scheduled for Thursday, 8 April, 11:00

## Afternoon

17.00	Start of Registration
20.30	Welcome/Get together (in the city hall)



mosbach city hall

### Day of arrival:

The Steering Committee of the German Society for Biochemistry and Molecular Biology (Gesellschaft für Biochemie und Molekularbiologie, GBM) and the city of Mosbach invite you to a **welcome reception at 8.30 p.m.** in the town hall (Rathaus, Marktplatz / Hauptstraße) in Mosbach (to end about 10 p.m.).(no registration required)

We thank the city of Mosbach for the kind hospitality.



# Program - Thursday, 8 April

## Morning

08.30	<b>Opening remarks</b> (Nikolaus Pfanner (GBM President), Jens Brüning (CECAD Coordinator))
08.40	<b>Introductory Keynote Lecture</b> (Chair Person: Jens Brüning)  <b>Andrzej Bartke</b> , Carbondale/US <i>Growth hormone, insuline and aging</i>
	Morning Session: <b>Caloric Restriction (Mechanisms and Mimetics)</b> (Chair Person: Nikolaus Pfanner)
09.20	<b>Andrew Dillin</b> , La Jolla/US <i>Finding specificity in the genetics of aging</i>
09.55	<b>Matt Kaeberlein</b> , Seattle/US <i>Molecular mechanisms linking diet, disease, and aging</i>
10.30	Coffee Break
11.00	<b>Richard Miller</b> , Ann Arbor/US <i>Multiple approaches for lifespan extension in mice</i>
11.35	<b>John O. Holloszy</b> , St. Louis/US <i>Caloric restriction in humans</i>
12.10	<b>Aleksandra Trifunovic*</b> , Köln/DE <i>How much mtDNA mutations contribute to ageing: lessons from mtDNA mutator mice</i>
12.45	Lunch Break
13.45	Poster Session 1

\* originally scheduled for Friday, 9 April, 11:15

Afternoon

Afternoon Session:

**Longevity and Insulin/IGF-1-Signaling**

(Chair Person: Jens Brüning)

15.00

**Adam Antebi**, Köln/DE

*Steroid hormone control of the reproductive longevity pathway*

15.35

**Valter D. Longo**, Los Angeles/US

*Growth signaling pathways and aging: from yeast to humans*

**BayerSchering Pharma Thesis Prize**

Award Lecture

(Chair Person: Irmgard Sinning)

16.10

**Ricarda Hilf**, Portland/US

*A prokaryotic perspective on pentameric ligand-gated ion channels*

16.30

Coffee Break

17.00

General Meeting of the GBM /  
Mitgliederversammlung

**Feodor Lynen Lecture**

(Chair Person: Nikolaus Pfanner)

19.00

**Cynthia Kenyon**, San Francisco/US

*From worms to mammals: genes that can increase lifespan*

## Program - Friday, 9 April

### Morning

Morning Session:

#### **Mitochondrial Control of Aging**

Chair Person: Thomas Langer

09.00

**Nils-Göran Larsson**, Köln/DE  
*Regulation of mtDNA expression*

09.35

**Douglas C. Wallace**, Irvine/US  
*The bioenergetic and epigenomic interaction in health and disease*

10.10

**Holly Van Remmen**, San Antonio/US  
*Mitochondrial dysfunction, oxidative stress and age-related skeletal muscle atrophy*

10.45

Coffee Break

11.15

**Leonard P. Guarente\***, Cambridge/US  
*SIRT1 controls neuro-endocrine signaling*

11.50

**Thomas Nyström**, Göteborg/SE  
*Unequal inheritance and retrograde transport of protein aggregates - a means to rejuvenation in yeast*

12.25

Lunch Break

13.15

Poster Session 2

\* originally scheduled for Thursday, 8 April, 11:00

Afternoon

**Otto-Warburg-Medal**  
(sponsored by QIAGEN)  
(Chair Person: Nikolaus Pfanner)

14.30

Award lecture: **Ari Helenius**, Zürich/CH  
*How animal viruses enter their host cells*

15.30

Coffee Break

Afternoon Session:  
**Aging-Associated Diseases (1)**  
(Chair Person: Wolfgang Trommer)

16.00

**Takashi Kadowaki**, Tokyo/JP  
*Potential role of adiponectin and adiponectin receptors in metabolic fitness and longevity*

16.35

**Barbara Canlon**, Stockholm/SE  
*The aging auditory system*

17.10

**Josef M. Penninger**, Wien/AT  
*From a little mutant mouse to human medicine for bone loss*

Morning

Morning Session I:  
**Aging-Associated Diseases (2)**  
(Chair Person: N.N.)

09.00

**Rudolph Tanzi**, Charlestown/US  
*Clues to the causes of Alzheimer's Disease from genetics*

09.35

**Ted M. Dawson**, Baltimore/US  
*Molecular insights into mitochondrial dysfunction and neurodegeneration in Parkinson's Disease*

Morning session II:  
**DNA Damage and Stem Cells**  
(Chair Person: Björn Schumacher)

10.10

**Jan H. J. Hoeijmakers**, Rotterdam/NL  
*Quality control of DNA and the connection with aging*

10.45

Coffee Break

11.15

**Judith Campisi**, Berkeley/US  
*DNA damage links inflammation, cancer and aging*

11.50

**K. Lenhard Rudolph**, Ulm/DE  
*Telomere dysfunction, DNA damage, and stem cell aging*

12.25

**Gerald de Haan**, Groningen/NL  
*Aging of hematopoietic stem cells: a program or noise?*

13.00

**Poster prizes and closing remarks**  
(Irmgard Sinning (GBM Vice President),  
Jens Brüning (CECAD Coordinator))

13.10

End of the Kolloquium

### meet the prof

Dear students,

at this year's Mosbacher Kolloquium, you will once again have the opportunity to meet two of the speakers in an informal way to ask questions.

This year's guests are:

**Ari Helenius** (Otto Warburg Medal laureate)

**Cynthia Kenyon** (Feodor Lynen laureate)

Dates:

Thursday, April 8, 1.00 p.m. (Cynthia Kenyon)

Friday, April 9, 12.30 p.m. (Ari Helenius)

Location:

Alte Maelzerei, Room: Darre

A registration is required ([meettheprof@gmail.com](mailto:meettheprof@gmail.com)).

### get-together for students

The special section 'Students' of the German Society for Biochemistry and Molecular Biology is organizing an informal get-together for young participants in Mosbach's brewery on Thursday and Friday evening.

Dates:

Thursday, April 8, 9.00 p.m.

Meeting point: Main entrance of the Alte Mälzerei

Friday, April 9, 7.00 p.m.

Meeting point: Main entrance of the Alte Mälzerei

### funding opportunities

for PostDocs Going Abroad

Before the Kolloquium starts, the GBM offers some information about attractive fellowship programs for young scientists. Experts of the European Union (EU), the Deutsche Forschungsgemeinschaft (DFG), the Human Frontier Science Program (HFSP) and the European Molecular Biology Organisation (EMBO) will meet in a panel discussion and give an overview over the grants and scholarships provided by their institutions.

PhD students and PostDocs who intend to go abroad and apply for one of the fellowship programs are invited to join the session. The speakers will also answer questions.

Date:

Wednesday, April 7, 4.30 to 7.30 p.m.

For information and registration please address Oliver Bruns ([oliver\\_bruns@gmx.de](mailto:oliver_bruns@gmx.de)).

## General Remarks

### mosbach (baden)

Mosbach is located on the railway line (S-Bahn) Mannheim-Heidelberg-Mosbach-Osterburken, 45 kilometres east of Heidelberg.

The nearest airport is Frankfurt/Main. There are good train connections from Frankfurt airport station to Mannheim and from there to Mosbach (about 110 km).

By car: From Frankfurt / Heidelberg: Motorway A6 exit Sinsheim - then B292 to Mosbach; From Stuttgart / Heilbronn: A6 exit Neckarsulm - B27 to Mosbach; From Würzburg / Nürnberg: A81 exit Osterburken, B 292 to Mosbach.

### alte maelzerei - the conference center

Alte Bergsteige 7, 74821 Mosbach,  
[www.maelzerei.de](http://www.maelzerei.de),

is located just above the old city centre. When arriving by car, please follow the yellow signs to parking areas P5 „Alte Mälzerei“ or P6 „Altstadt“.

### general information

GBM office:

Tino Apel, Gabriele Holz, Manfred Braun,  
Mörfelder Landstr. 125, D-60598 Frankfurt  
Tel. ++49 (0) 69 660 567-0, Fax -22  
Email: [info@gbm-online.de](mailto:info@gbm-online.de)  
[www.gbm-online.de](http://www.gbm-online.de)

The technical organization of the Mosbach Colloquium is supported by

Christopher Schippers, CECAD Cologne  
Lena Schmidt (Secretary of GBM's secretary general,  
Prof. Ulrich Brandt) University Frankfurt

We would like to thank for their assistance.



## General Remarks

### registration

There is an opportunity for on-site registration at the Conference office in Mosbach.

Registration fees for on-site registration:

members* academia	225 €
non-members academia	300 €
student members*	50 €
student non-members	75 €
members* industry	355 €
non-members industry	430 €

\*Member of the GBM, VAAM, DGZ, Dechema

The registration fee includes coffee/tea/mineral water during the conference breaks

Your name badge, program, abstract booklet and further information will be available at the registration desk. We kindly ask to wear your name badge as an entry ticket during the whole meeting.

### conference office

Opening hours:

Wed., April 7	05.00 p.m. - 08.00 p.m.
Thu., April 8	08.00 a.m. - 04.30 p.m.
Fri., April 9	08.30 a.m. - 04.30 p.m.
Sat., April 10	08.30 a.m. - 11.00 a.m.

**Telephone and Fax** numbers of the conference office (March 19-21, 2009) are:

Tel. +49 (0) 6261 9292-78,  
Fax. +49 (0) 6261 9292-79.

### email/internet access

There will be a wireless LAN access point in the foyer next to the conference office.

SSID: AM Key: GBM\_2010

## General Remarks

### accommodation

Accommodation can be booked through  
Städtisches Verkehrsamt (Tourist office) only:  
Tel. +49 6261-9188-20, Fax -15.  
You will receive confirmation by mail.

### projection

Overhead and beamer projection are available.  
Please contact the conference office if you need  
further technical assistance.

### poster

Posters should be presented throughout the whole  
meeting.  
Please see the abstract book for poster numbers and  
authors.

The posters should be presented in Portrait format  
(DIN A0 resp. ~120 x 85 cm)

There will be poster discussion sessions  
on Thursday and Friday afternoon. During the poster  
sessions the presenting authors are requested to stay  
near their posters.

The best three posters will be awarded prizes.  
The winners will be announced by the end of the  
Kolloquium on Saturday, 1 pm.

### lunch and coffee breaks

Coffee, tea and mineral water will be provided for free  
during the coffee breaks.

Lunch is available at your own expense in the  
conference center or you can also visit one of the  
restaurants in the town of Mosbach.

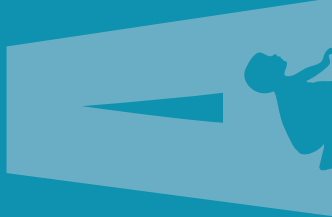
### industrial exhibition

Please visit the booths of our industrial sponsors.

# Acknowledgement

We acknowledge financial support by





## 61. Mosbacher Kolloquium

A meeting of the German  
Society for Biochemistry and  
Molecular Biology (GBM)