

Belgian Society of Biochemistry



and Molecular Biology

Biochemical bulletin
N° 19, May 2011

204th meeting

Friday, May 6th, 2011

Free University of Brussels

Pleinlaan, B-1050, Brussels

Aula Q(D)

The topic of this scientific meeting is:

"Redox Mechanisms"

Belgian Society of Biochemistry**and Molecular Biology**

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Contents	Page
Program of the 204 th meeting	3
List of sponsors	4
Lunch reservation	5
List of posters	6
Link to abstract book	8
General Assembly of the Society	8
List of candidate members	9
First announcement of the 205 th Meeting	9
Renewal of membership	10
The BMB on the web	11
List members of the Board	11
Membership form	14

Secretariat: Prof. F.R. Opperdoes
Dept of Biochemistry
ICP-TROP UCL 74.39
Av. Hippocrate 74
B - 1200 Brussels, Belgium
E-mail: secretary@biochemistry.be
Website: www.biochemistry.be

"Annual Meeting on Redox Mechanisms"
Free University of Brussels, Pleinlaan, B-1050 Brussels,
Aula Q (D)
Friday, May 6th, 2011
Local organizer: Joris Messens

9h - 9h25: registration and poster mounting

9h25: Welcome by **Joris Messens**

9h35: **Johannes Herrmann** (Technical University Kaiserslautern, Division of Cell Biology, Germany) The mitochondrial disulfide relay: A role in protein import and mitochondrial translation? (FEBS National Lecture)

10h20: **Carolyn Sevier** (Cornell University, NY) Oxidative stress in the endoplasmic reticulum (ER) and redox signaling via the Hsp70 BiP

11h00: Coffee break

11h20: **Deborah Fass** (Department of Structural Biology, Weizmann Institute of Science, Israel) 'Quiescin sulfhydryl oxidase: last act in the disulfide drama'

12h00: **Anje Cauwels** (University Ghent) Excessive endogenous nitric oxide production is not sufficient to cause inflammatory cardiovascular failure and shock, reactive oxygen species are essential

12h20: **Marc Fransen** (Katholieke Universiteit Leuven) Peroxisomal (dys)function and oxidative stress

12h40: lunch/poster session/general assembly of the Belgian Society of Biochemistry and Molecular Biology

14h00: **Jakob Winther** (Copenhagen Biocenter, University of Copenhagen, Denmark) Measuring thiol-disulfide redox reactions and equilibria

14h40: **Lesley Tilleman** (University Antwerp) A globin with a possible redox function in *Caenorhabditis elegans*

15h00: **Koen Van Laer** (Vrije Universiteit Brussel) The mycoredoxin-1 defense mechanism against oxidative stress in *Mycobacterium tuberculosis*

15h20: Coffee break

16h00: **Chris Grant** (University of Manchester, UK) Regulation and roles of the mitochondrial thioredoxin system in yeast

16h40: **Jean-Francois Collet** (de Duve Institute, UCLouvain, Belgium) Reducing pathways in the *Escherichia coli* periplasm

17h20: Closing by **Joris Messens**

17h30: Wine reception

This meeting is financially supported by:



**204th MEETING OF THE BELGIAN SOCIETY OF BIOCHEMISTRY AND
MOLECULAR BIOLOGY**

Friday May 6th, 2011

"Annual Meeting on Redox Mechanisms"
Free University of Brussels, Pleinlaan, B-1050 Brussels,
Aula Q (D)
Friday, May 6th, 2011
Local organizer: Joris Messens

Lunch reservation to be submitted before 29 April, 2011

Sandwiches should be ordered in advance. The price per sandwich is 4.75 €.

For special requirements please contact:
Nadine Desmaels (email: ndesmael@vub.ac.be)

Registration via the web:

(<http://www.biochemistry.be/204th/lunch.html>) is recommended.

Map of the campus of the VUB Etterbeek:
http://www.icp.ucl.ac.be/bsbmb/204th/plattegrond_etterbeek2.pdf

Programme and abstract book:
http://www.icp.ucl.ac.be/bsbmb/204th/abstract_book_redox_meeting.pdf

Poster of the meeting:
<http://www.icp.ucl.ac.be/bsbmb/204th/poster.pdf>

List of Abstracts

1. **The mitochondrial disulfide relay: A role in protein import and mitochondrial translation?** SEBASTIAN LONGEN, MELANIE BIEN, JAN RIEMER, JOHANNES M. HERRMANN. *Cell Biology, University of Kaiserslautern, Germany.*
2. **Oxidative stress in the endoplasmic reticulum (ER) and redox signaling via the Hsp70 BiP.** C. S. SEVIER¹ and C. A. KAISER² ¹Cornell University, Ithaca, NY, USA and ² MIT, Cambridge, MA, USA.
3. **Quiescin sulfhydryl oxidase: last act in the disulfide drama.** T. ILANI, A. ALON AND D. FASS. *Department of Structural Biology, Weizmann Institute of Science, Rehovot, Israel.*
4. **Measuring thiol-disulfide redox reactions and equilibria** J. R. WINTHER. *Section for Biomolecular Sciences, Department of Biology, University of Copenhagen, Denmark.*
5. **Regulation and roles of the mitochondrial thioredoxin system in the yeast *Saccharomyces cerevisiae*.** D. GREETHAM, Z. CARTER, J. PARKIN, R. WATKINS AND C. M. GRANT. *Faculty of Life Sciences, University of Manchester, Manchester, M13 9PL.*
6. **Reducing pathways in the *Escherichia coli* periplasm** J.F. COLLET. *de Duve Institute, UCLouvain, Belgium*
7. **The thermodynamic driving force behind protein sulfenylation.** LIONEL BILLIET^{1,2,3,4}, JORIS MESSENS^{3,4}, PAUL GEERLINGS¹ AND GOEDELE ROOS^{1,2,3,4}. ¹General Chemistry, ²Department of Molecular and Cellular Interactions, VIB ³Structural Biology Brussels and ⁴Brussels Center for Redox Biology, Vrije Universiteit Brussel, B-1050 Brussels, Belgium.
8. **Excessive endogenous nitric oxide production is not sufficient to cause inflammatory cardiovascular failure and shock, reactive oxygen species are essential.** ANJE CAUWELS^{1,2}, BENJAMIN VANDENDRIESSCHE^{1,2*}, JENNYFER BULTINCK^{1,2*}, ELKE ROGGE^{1,2}, AND PETER BROUCKAERT^{1,2}. ¹Department for Molecular Biomedical Research, VIB and ²Department of Biomedical Molecular Biology, Ghent University, B-9052 Ghent, Belgium, *these authors contributed equally.
9. **Lipolysis induced by a mild mitochondrial uncoupling: a potential role for macroautophagy ?** S. DEMINE¹, S. TEJERINA¹, B. BIHIN¹, P. RENARD¹, M. RAES¹, M. JADOT² and T. ARNOULD¹. ¹Unité de Recherche en Biologie Cellulaire (URBC), Faculté des Sciences and ²Unité de Recherche en Physiologie Moléculaire (URPhyM), Faculté de Médecine, NARILIS (Namur Research Institute for Life Sciences), Université de Namur, FUNDP, Belgium.
10. **Study of the crosstalk between mitochondrial abundance, ROS production and apoptotic susceptibility in muscular cybrids cells harboring the A8344G mutation, associated with the MERRF syndrome.** S. MICHEL, JM. BILLARD, G. ROMMELAERE, T. ARNOULD, P. RENARD. *URBC - NARILIS, University of NAMUR – FUNDP, Belgium.*

11. **Escherichia coli YciM is a new heat-shock protein that maintains envelope integrity at elevated temperatures** V. NICOLAES. *de Duve Institute, UCLouvain, Belgium*
12. **Potential limitations in the use of the genetically-encoded photosensitizer KillerRed for fluorescence microscopy.** M. NORDGREN, B. WANG, O. IVASHCHENKO, C. BREES, P. P. VAN VELDHOVEN AND M. FRANSEN. *Laboratory of Lipid Biochemistry and Protein Interactions, Department of Molecular Cell Biology, Faculty of Medicine, Katholieke Universiteit Leuven, Leuven, Belgium.*
13. **ER-targeted photodynamic stress: modulation of autophagy and apoptosis pathways by ROS.** NOEMÍ RUBIO^{1,2}, JOHAN GROOTEN³, JACQUES PIETTE² AND PATRIZIA AGOSTINIS¹. ¹ *Cell Death Research and Therapy Laboratory, Dept. Molecular Cell Biology, Faculty of Medicine, Catholic University of Leuven, Leuven, Belgium;* ²*GIGA-Research, Laboratory of Virology & Immunology, University of Liège, Liège, Belgium;* ³ *Dept. Molecular Biology, Flanders Interuniversity Institute for Biotechnology and Gent University, Gent, Belgium.*
14. **A globin with a possible redox function in *Caenorhabditis elegans*.** L. TILLEMANN^{1*}, S. DE HENAU^{2*}, F. GERMANI¹, B.P. BRAECKMAN² AND S. DEWILDE¹. ¹*Department of Biomedical Sciences, University of Antwerp, Antwerp, Belgium;* ²*Department of Biology, Ghent University, Ghent, Belgium.* *Contributed equally.
15. **The sGC activator BAY58-2667 protects against morbidity and mortality associated with sterile inflammatory shock in mice.** B. VANDENDRIESCHE, A. CAUWELS, E. ROGGE AND P. BROUCKAERT. *VIB-UGent, Department for Molecular Biomedical Research, Ghent, Belgium.*
16. **The mycoredoxin-1 defense mechanism against oxidative stress in *Mycobacterium tuberculosis*.** KOEN VAN LAER^{1,2,3}, LIEVEN BUTS^{1,2}, KAROLIEN VAN BELLE^{1,2,3}, KHADIJA WAHNI^{1,2,3}, ALEKSANDRA DZIEWULSKA^{1,2,3}, NICOLAS FOLOPPE⁵, GOEDELE ROOS^{1,2,3,4}, NICO VAN NULAND^{1,2}, AND JORIS MESSENS^{1,2,3}. ¹*Department of Molecular and Cellular Interactions, VIB;* ²*Structural Biology Brussels, Vrije Universiteit Brussel, B-1050 Brussels, Belgium;* ³*Brussels Center for Redox Biology, Brussels, Belgium;* ⁴*Algemene Chemie, Vrije Universiteit Brussel, Brussels, Belgium;* ⁵*Department of Biosciences and Nutrition, Karolinska Institutet, Huddinge, Sweden.*
17. **Cell free expression systems optimized for disulfide-rich proteins.** WAEL MOHAMED^{1,2,3}, HIROTAKA TAKAHASHI⁴, VERONICA TAMU DUFE^{1,2,3}, KHADIJA WAHNI^{1,2,3}, YAETA ENDO⁴ AND JORIS MESSENS^{1,2,3}. ¹*Brussels Center for Redox Biology, Belgium.* ²*Department of Molecular and Cellular Interactions, VIB, Brussel, Belgium.* ³*Structural Biology Brussels, Vrije Universiteit Brussel, Belgium.* ⁴*Cell Free Science and Technology Research Center, Ehime University, Matsuyama, Japan*
18. **Peroxisomal (dys)function and oxidative stress.** B. WANG, M. NORDGREN, O. IVASHCHENKO, C. BREES, P. P. VAN VELDHOVEN AND M. FRANSEN. *Laboratory of Lipid Biochemistry and Protein Interactions, Department of Molecular Cell Biology, Faculty of Medicine, Katholieke Universiteit Leuven, Leuven, Belgium.*

Link to the abstract book:

http://www.icp.ucl.ac.be/bsbmb/204th/abstract_book_redox_meeting.pdf

General Assembly

The 60th General Assembly of the Belgian Society of Biochemistry and Molecular Biology will be held in Brussels on Friday May 6th, 2011, during the lunch break.

Agenda

- Opening
- Report by the secretary
- Report by the treasurer
- Election of new members
- Election of new board members*
- Miscellaneous
- Closure

* Thierry Arnould (FUNDP) will become president. Annemie Lambeir (UA) will become 1st vice president and will be the acting publications officer. Jason Perret (ULB), Rudy Wattiez (Mons) and Chris Ampe (UGent) will stay on as members for two more years. Marc De Ley (KUL), Johan Robben (KUL), Lode Wyns (VUB) and Carine Michiels (FUNDP) have to be replaced as board members. A new 2nd vice president is to be elected. The board proposes Carine Michiels (FUNDP) for this function. Yves Engelborghs can be reelected as treasurer. Fred Opperdoes resigns as secretary, but remains active while in search of a successor. The following new candidates for the board are proposed: Veerle Somers (Hasselt), Remy Loris (VUB), and Jacques Piette (ULg).

List of candidate members for election at the general Assembly

Surname	Name	Affiliation	Sponsor1	Sponsor2
	Nguyen			
Trong	Duc	VUB	Movahedi	Pellis
DEMINE	Stephane	FUNDP	Thierry Arnould	Carine Michiels
Stynen	Bram	KUL	Patrick Van Dijck	Sona Mucharikova
Peeters	Ken	KUL	Patrick van Dijck	Sona Kucharikova
Dejeans	Nicolas	UCL	Buc Calderon	Tulkens
Doumit	Mary	UCL	Morsomme	Soumillion
Nichane	Miloud	UCL	Chaumont	Rezsohazy
Taminiau	Arnaud	UCL	Knoops	Rezsohazy
Gerlo	Sarah	UGent	K. De Bosscher	S. Lievens
Ceuninck	Leentje	UGent	Jan Tavernier	Sam Lievens
				Carolien De
Masschaele	Delphine	UGent	Jan Tavernier	Bosscher
Van Acker	Tim	UGent	Celia Bovijn	Sam Lievens
				Carolien De
Uyttendaele	Isabel	UGent	Celia Bovijn	Bosscher
Titeca	Kevin	UGent	Sam Lievens	Jan Tavernier
Di Paolo	Alexandre	Ulg	Galleni	Frère

Announcement of the 205th Meeting of the Society

The National Committee for Biochemistry and Molecular Biology, as part of the Royal Academies for Science and the Arts of Belgium, the Belgian Society of Biochemistry and Molecular Biology and the F.W.O. Contact group on Protein Structure, Folding and Dynamics, have the intention to organize a Contactforum on:

Synthetic Biology: the future of (Bio)chemistry?

On Monday the 12th of December 2011 in the “Paleis der Academiën/Palais des Academies”,
Hertogstraat 1, 1000 Brussels

Local organizers: Yves Engelborghs and Johan Robben

Renewal of membership of the Belgian Society of Biochemistry and Molecular Biology

Membership fee for 2011 is 25 Eur.

As a member of the Society, you can participate free in two meetings a year. Thanks to the contribution of many members we have been able to invite very good scientists from abroad.

As a senior researcher you can get financial and logistic support to organize a meeting yourself. The board of the society has decided that you can inscribe your PhD students for the sum of 50 Eur for the whole period of their PhD work. (If you do, send the names of the students to the treasurer by email).

As a young scientist-member you can present your work in a poster session, or in an oral contribution and you can even win the poster price at each meeting, getting support to participate in a FEBS conference (You get the payment of the inscription fee and 200 Eur extra as a participation in the travel costs).

It is recommended to make a permanent order of payment. You can do it from your PC, you can stop it at any time, and we will not bother you again.

The treasurer, Prof. Y. Engelborghs

Payments should be made on the following account :
(Make sure your name is mentioned on the payment slip)

IBAN: BE60 2300 0183 8370 BIC: GEBABEBB
Fortisbank, Naamsesteenweg 173, 3001 Leuven

ACCOUNT: 230-0018383-70
ASBL Soc. Bel. Biochem. Ver.
C/O De H. Yves Engelborghs, Celestijnenlaan 200 G /2403, 3001 Leuven

The BMB on the web

In addition to its mailing list and website (www.biochemistry.be) the Society has additional tools to communicate with its members. The Society is available on Facebook (Fred Opperdoes), on Twitter (biochem_be) and has its own blog especially designed for mobile users, which can be accessed from the website.

Members of the Board

[Prof. Christophe AMPE](#)

VIB Department of Medical Protein Research, UGent Department of Biochemistry, Ghent University, Baertsoenkaai 3, B-9000, Ghent, Belgium, Tel: 32 9 264 9336; Fax: 32 9 264 9488

[Dr. Thierry ARNOULD](#), 1st Vice President

Unité de Biologie et Biochimie Cellulaire, Facultés Universitaires Notre-Dame de la Paix 61, rue de Bruxelles, B-5000 Namur, Belgium. Tel: +32-81-72.43.21; Fax : +32-81-72.41.35

[Prof. Marc DE LEY](#)

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[Prof. Yves ENGELBORGHES](#), Treasurer

Laboratory of Biomolecular Dynamics, Celestijnenlaan 200g, B-3001 Leuven, Belgium. Tel: +32-16-32.71.60, Fax:+32-16-32.79.74

[Prof. Anne-Marie LAMBEIR](#), 2nd Vice President, Publications Officer

Universiteit Antwerpen, Laboratory of Medical Biochemistry, Campus Drie Eiken, Universiteitsplein 1, 2610 Wilrijk. Tel: 32-3-820.27.27; fax 32-3-820.27.34

[Dr. Carine MICHIELS](#)

Laboratoire de Biochimie et Biologie Cellulaire (URBC) , Facultés Universitaires Notre Dame de la Paix , 61 rue de Bruxelles, 5000 NAMUR Belgium. Tel : 32-81-724131; Fax : 32-81-724135

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Research Unit for Tropical Diseases and Laboratory of Biochemistry, de Duve Institute and Catholic University of Louvain, Avenue Hippocrate 74-75, B-1200 Brussels, Belgium. Tel: +32-2-764.74.39; Fax: +32-2-762.68.53

[Prof. Jason PERRET](#)

Laboratoire de Chimie Biologique et de la Nutrition (L.C.B.N.), Faculté de Médecine, Université Libre de Bruxelles, Campus Erasme, Bat. G/E, C.P.611. B-1070 Bruxelles, Tel :32-(0)2-5556216; Fax :32-(0)2-5556230

[Prof. Johan ROBBEN](#)

Afd. Biochemie, Moleculaire & Structurele Biologie, Celestijnenlaan 200g - bus 02413, B-3001 Heverlee, Belgium. Tel +32-16 327316

[Prof. Lode WYNS](#), President

Vrije Universiteit Brussel, Dienst Ultrastructuur, Building E, room E4.1, Pleinlaan 2, B-1050 Brussel. Tel: +32-2-629.19.62; Fax: +32-2-629.19.63

[Prof. Ruddy WATTIEZ](#)

Department of Proteomics and Protein Biochemistry, University of Mons-Hainaut, Place du Parc 20, 7000 Mons

LIST OF MEETINGS

Meetings and seminars in Belgium

DMBR Seminars (VIB/RUG- Department of Molecular Biology Research)
Info: <http://www.dnbr.ugent.be/index.php?id=seminars>

De Duve Institute Seminars
Web<http://www.icp.be/research/agenda.htm>

See the BMB Blog: http://www.biochemistry.be/bmb_blog/

Meetings abroad

[Glutathione en other related thiols in living cells, 4-9 Sep, 2011](#)

FEBS and IUBMB meetings

36th FEBS Congress
Biochemistry for Tomorrow
Torino 25-30 June, 2011
Info : <http://www.febs2011.it/>

13th IUBMB Conference and 3rd National Meeting of the Signal Transduction Branch of the Sociedad Mexicana de Bioquímica, 22 - 27 October 2011

<http://www.csn2011.com/>

A list of FEBS Advanced Courses is available at:

http://www.febs.unibe.ch/Activities/Advanced_Courses/ADVCGEN.HTM

MEMBERSHIP FORM

I would like to become a member of the Belgian Society of Biochemistry and Molecular Biology

LAST NAME :

Ms/Mrs/Mr

FIRST NAME:

Work address:

Private address:

Email address:

Last degree obtained (diploma):

Present research interest:

My candidature is proposed by two persons who are member of the Belgian Society of Biochemistry and Molecular Biology

NAME:

NAME:

Signature:

Signature:

I would like to ask the Secretariat to submit my candidature for approval by the next General Assembly (March 2006)

Date and signature

Send back to the secretary: Dr. F.R. Opperdoes, UCL-ICP 74.39, Avenue Hippocrate 74, B - 1200 Brussels, Tel: (02) 7647439, Fax: (02) 7626853, Email: secretary@biochemistry.be

Also downloadable from the web at: www.biochemistry.be/form_fr.html