cost
EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

NutRedOX network

The NutRedOx COST Action CA16112 meeting

Gdańsk 19-21.09.2018

GDAŃSK UNIVERSITY OF TECHNOLOGY

GDAŃSKI UNIWERSYTET MEDYCZNY

Programme

Session 30 BIO 2018

„Redox control of major age-related diseases"

Personalized Nutrition in aging socjety:

redox control of major age-related diseases

COST Action 16112

NutRedOx

19th – 21th September 2018

Gdańsk, Poland

ORGANIZING COMMITTEE

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WELCOME

Dear Colleagues,

We have the great pleasure to welcome you to the historical city of Gdańsk to attend the 3rd Management Committee of COST Action 16112 NutRedOx meeting and Working Groups meetings. The WG Meetings will take place at Gdańsk University of Technology campus listed among 10 most beautiful university campuses in Europe. The scientific part of our gathering will be incorporated into the annual congress of Polish Biochemical Society and related bio-societies - ***Congress BIO2018,*** *as one of the regular sessions –* ***Session 30 entitled "Redox control of major age-related diseases"*** *– including keynote lectures by invited speakers, oral and poster presentations. This scientific part of our COST Action NutRedOx meeting will be open to all interested participants of Congress BIO2018, which will give us opportunity to spread the information about our activities.*

We wish you a very inspiring and fruitful meetings and a pleasant stay in Gdańsk.

Agnieszka Bartoszek and Jędrzej Antosiewicz

COST Action 16112 NUTREDOX MC and WG meetings

FRAMEWORK PROGRAMME

Wednesday, 19 September 2018

WG meetings at GUT

$9^{00} – 10^{00}$ ***Arrival to Gdańsk University of Technology***

$10^{00} – 10^{30}$ ***Welcome and opening of Cost Action NutRedOx meetings***
Prof. Jacek Namieśnik *- Rector of Gdańsk University of Technology*
Prof. Sławomir Milewski *- Dean of Faculty of Chemistry, GUT*
Prof. Hanna Staroszczyk *- Head of Department of Food Chemistry, Technology and Biotechnology, GUT*

$10^{30} – 13^{00}$ ***Meetings of Working Groups***

$13^{00} – 13^{30}$ ***Coffee break and snacks***

$13^{30} – 14^{00}$ ***Walk around GUT campus***

COST Action NutRedOx/BIO2018 scientific session

$15^{00} – 15^{15}$ ***Opening of the COST Action session: Session 30 part I***

$15^{15} – 18^{00}$ ***Lectures and posters***

18^{00} ***Guided tour to Gdańsk***

Thursday, 20 September 2018

COST Action NutRedOx/BIO2018 scientific session

$9^{00} – 9^{30}$	Arrival to Congress BIO2018 venue at Gdańsk University
$9^{30} – 9^{45}$	Opening of the COST Action session: Session 30 part II
$9^{45} – 13^{30}$	Lectures and posters
14^{00}	Transfer to Eureka Hotel in Sopot

MC meeting

$15^{30} – 15^{45}$	Welcome and opening of COST Action NutRedOx meeting
$15^{45} – 19^{30}$	MC Meeting
20^{00}	Dinner

Friday, 21 September 2018

Core Group Meeting

$9^{00} – 11^{00}$	Core Group Meeting at Eureka Hotel in Sopot

Wednesday, 19 September 2018

COST Action 16112 NUTREDOX /BIO2018 scientific session

Session 30, part I: "Redox control of major age-related diseases"

$15^{00} – 15^{15}$ ***Opening of the COST Action session, part I***

Place: S211

Chairpersons: ***Caroline Gaucher*** *University of Lorraine, Nancy, France*

Jędrzej Antosiewicz *Medical University of Gdańsk, Poland*

$15^{15} – 15^{45}$ ***L.30.1.*** *Marc Diederich*. ***About canonical and less canonical cell death induction by natural compounds with pharmacological potential***. Seoul National University, South Korea

$15^{45} – 16^{15}$ ***L.30.2.*** *Marek Naruszewicz, A. Filipek.* ***Oleacein, translation from Mediterranean diet to preventive medicine***. Medical University of Warsaw, Poland

$16^{15} – 16^{35}$ ***L.30.3.*** *Tomris Ozben, A. Cort.* ***Natural redox modulators in cancer therapy***. Akdeniz University, Turkey

$16^{35} – 16^{50}$ ***POSTER FLASHES (30 sec presentation)***

$16^{50} – 17^{30}$ ***COFFEE BREAK AND POSTER SESSION***

$17^{30} – 17^{45}$ ***O.30.2.*** *Denisa Baci, A. Bruno, M. Gallazzi, C. Cascini, M. Tramacere, A. Albini, D. M. Noonan.* ***Acetyl-L-carnitine (ALCAR) inhibits angiogenesis, migration and macrophage recruitment in prostatic cancer cells***. IRCCS MultiMedica, Italy

$17^{45} – 18^{00}$ ***O.30.3.*** *Giorgia Del Favero, D. Marko.* ***Nrf2 and the intestine: chemical and physical regulators to highlight the difference between non-transformed intestinal epithelial cells and colorectal adenocarcinoma***. University of Vienna, Austria

Thursday, 20 September 2018

COST Action 16112 NUTREDOX /BIO2018 scientific session

Session 30, part II: "Redox control of major age-related diseases"

$9^{30} – 9^{45}$ ***Opening of the COST Action session, part II***

Place: S211

Chairpersons: ***Agnieszka Bartoszek,*** *Gdańsk University of Technology, Poland*

Mustafa C. Malki, *Université de Bourgogne, Dijon, France*

$9^{45} – 10^{15}$ ***L.30.4.*** *A. Corrochano, Linda Giblin.* ***Whey Protein: Can it boost cellular antioxidant processes?*** Teagasc Food Research Centre, Ireland

$10^{15} – 10^{45}$ ***L.30.5.*** *Jarosław Paluszczak, R. Kleszcz, A. Majchrzak-Celińska, E. Studzińska-Sroka, V. Krajka-Kuźniak, W. Baer-Dubowska.* ***Modulation of Wnt signaling by natural and synthetic compounds in cancer cells.*** Poznan University of Medical Sciences, Poland

$10^{45} – 11^{05}$ ***O.30.4.*** *N. Sahakyan, M. Petrosyan, Armen Trchounian.* ***Antioxidant activity of alcohol extracts from some plants of Armenian flora: the highest level and its possible nature.*** Yerevan State University, Armenia

$11^{05} – 12^{15}$ ***COFFEE BREAK AND POSTER SESSION***

$12^{15} – 12^{30}$ ***O.30.5.*** *Vanja Todorovic, M. Baranowska, B. Kusznierewicz, B. Vidovic, S. Sobajic, A. Bartoszek.* ***Antioxidant and cytotoxic activity of cocoa powders.*** University of Belgrade, Serbia

$12^{30} – 12^{45}$ ***O.30.6.*** *Kari Espolin Fladmark, A.J. Edson, A.K. Froyset.* ***Role of the Parkinsons Disease-related protein DJ-1 in redox control and neuronal protection.*** University of Bergen, Norway

$12^{45} – 13^{00}$ ***O.30.7.*** *L. Sánchez-Alcoholado, C. Gutiérrez-Repiso, J. Alcaide, E. García-Fuentes, R.M. Bernal-López, F.J. Tinahones, Isabel Moreno-Indias.*

Gut microbiota is differentially affected by distinct weight loss strategies. Universidad de Málaga, Spain

$13^{00} – 13^{30}$ ***L.30.5.*** *Carla Ferreri, C. Chatgilialoglu, A. Sansone, R. Scanferlato.* ***The interplay of desaturase enzymatic activities and the first observation of a de novo synthetic pathway to PUFA in human cancer cell line***. Consiglio Nazionale delle Ricerche, Italy

$13^{15} – 13^{30}$ ***CLOSING REMARKS***

POSTER PRESENTATIONS

P.30.1. *D. Gjorgieva Ackova, K. Smilkov, A. Cvetkovski.* ***Biosynthesis of silver nanoparticles using plant extracts as reducing/capping agents****.* University Goce Delčev, Macedonia

P.30.2. *M. Baranowska, K. Suliborska, W. Chrzanowski, J. Namieśnik, A. Bartoszek.* ***The influence of catechins and phenolic acids on the redox balance of cells.*** Gdańsk University of Technology, Poland

P.30.3. *L. Bordoni, D. Fedeli, C. Nasuti, R. Gabbianelli.* ***Antioxidants protect overexpression of*** **Nurr1** ***in stressed dopaminergic cells****.* University of Camerino, Italy

P.30.4. *A. Borkowska, J. Antosiewicz.* ***Homocysteine-induced changes in iron metabolism in HUVEC cells are mediated by Akt-FOXO3a signalling pathway.*** Gdańsk Medical University, Poland

P.30.5. *W. Brankiewicz, M. Bagiński.* ***Cancer inhibitory activity of dietary berries****.* Gdańsk University of Technology, Poland

P.30.6. *R. Celik, M.S. Kaymakci, D. Akalın, E. Karademir, B. Tuncer, A.M. Yilmaz, G. Bicim, A.S. Yalcin.* ***Effect of whey proteins on the immune system and its relation to examination stress****.* Marmara University, Turkey

P.30.7. *D. Dulko, A. Macierzanka.* ***Effect of the kinetic of protein digestion on sarcopenia inhibition****.* Gdańsk University of Technology, Poland

P.30.8. *J. Głazowska, A. Bartoszek.* ***Nucleic acids as food components and their impact on epigenome.*** Gdańsk University of Technology, Poland

P.30.9. *A. Hać, A. Herman-Antosiewicz****. The role of S6K1/2 kinases in the process of lysosomal membrane permeabilization and cell death induced by sulforaphane – a natural anticancer agent.*** Department of Medical Biology and Genetics, University of Gdansk, Gdansk, Poland

P.30.10. *M. Heldt, J. Lica, M. Misiak, A. Skladanowski, M. Bagiński.* ***ROS scavengers modulate anthrapyridazones activity****.* Gdansk University of Technology, Poland

P.30.11. *P. Jakubek, M. Baranowska, J. Rajić, M. Vidaković, A. Bartoszek, J. Namieśnik,* ***Catechins as epigenetic modulators****.* Gdańsk University of Technology, Poland

P.30.12. *J. Kamińska, P. Langa, A. Wardowska, M. Deptuła, J. Zieliński, M. Pikuła, P. Sachadyn.* ***Transcriptional acitivity of epigenetic remodelling genes in human skin and regenerative capacity****.* Gdańsk University of Technology, Poland

P.30.13. *M. Khvedelidze, T .Mdzinarashvili, E. Shekiladze****. Novel technology of preparation liposomes with antioxidant vitamins to treat age-related diseases****.* I. Javakhishvili Tbilisi State University, Georgia

P.30.14. *Z. Koziara, M. Baranowska, J. Namieśnik, A. Bartoszek.* ***The impact of redox active compounds belonging to different flavonoid groups on the antioxidant activity system of HT29 cells.*** Gdansk University of Technology, Poland

P.30.15. *T. Mdzinarashvili, M. Khvedelidze, N. Turkadze, I. Papukashvili, E. Lomadze.* ***On possible mechanisms of resistance of bacteria to antibiotics and phages - ways to overcome them***. I. Javakhishvili Tbilisi State University, Georgia

P.30.16. *N. Maciejewska, M. Bagiński.* ***Caffeine – new insight of known antioxidant.*** Department of Pharmaceutical Technology and Biochemistry Gdansk University of Technology, Gdansk

P.30.17. *K. Parchem, A. Bartoszek.* ***Dietary oxidized phospholipids: from digestion to biological effect.*** Gdansk University of Technology, Poland

P.30.18. *P. Riso, S. Bernardi, C. Del Bo, M. Porrini, G. Gargari, A. Cherubini, P. Kroon, C. Andres-Lacueva, S. Guglielmetti.* ***Rationale of MaPLE project focused on intestinal permeability in the older subjects***. Università degli Studi di Milano, Italy

P.30.19. *R. Sghaier, T. Nury, A. Vejux, M. Cherkaoui-Malki, T. Moreau, A. Masmoudi, A. Zarrouk, G. Lizard.* ***Prevention of 7β-hydroxycholesterol-induced mitochondrial dysfunction and cell death by dimethylfumarate and monomethylfumarate on 158N murine oligodendrocytes***. University Bourgogne Franche-Comté, France

P.30.20. *M. Tomczyk, J. Kortas, D. Flis, B. Kaczorowska, A. Przybytkowska, E. Lewicka, A. Dabrowska-Kugacka, J. Antosiewicz.* ***The role of iron in marathon-induced changes on the EPO-erythroferrone-hepcidin axis***. Gdansk University of Physical Education and Sport, Poland

P.30.21. *E.E. Totu, D. Petre, D. Mănuc, C.M. Cristache.* ***Spectrophotometric procedure for melatonin detection***. University Politechnica of Bucharest, Romania

P.30.1. Biosynthesis of silver nanoparticles using plant extracts as reducing/capping agents

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Searching for and developing of non-toxic, clean and ecofriendly methods for synthesis of nanoparticles (NPs), intended for medical application, is a scientific topic permanently attracting attention due to the great impact of biomedical applications in tissue engineering, bioanalytical diagnostics, cancer therapy and new drug delivery systems. A variety of physical, chemical or hybrid methods for synthesis of metal NPs exist, but in general, they are toxic, expensive, with low yield and with limitations for use in medicine (e.g. contamination from precursors, etc.).

Thus, the aim of our study was to design "green" method for synthesis of AgNPs compatible for pharmaceutical formulation, by using capping agent from natural source. Plant extracts are rich in enzymes and variety of phytochemicals that can reduce metal (silver) salts. Since many plant species are well-known, and have wide spread traditional use, there is a perspective for new, non-traditional uses because of the already reported antioxidative, antibacterial, antifungal, bioenchancing activity, etc. Plant extracts with antioxidative properties are also suitable to be incorporated into or be deposited on the surface of AgNPs, while at the same time serving as a reagent for NPs synthesis.

We used plant extracts for biosynthesis of AgNPs. The obtained AgNPs have to be thoroughly characterized using different and suitable analytical techniques to reach final formulation, which will confirm the possible synergistic effects of AgNPs and antioxidative compounds with plant origin.