13th World Congress on Polyphenols Applications

International Society of Antioxidants

Scientific Agenda

September 30 - October 1, 2019 - Malta

www.polyphenols-site.com
### Malta Polyphenols 2019 Speakers

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<td>Giulio Maria Pesinetti</td>
<td>Epigenetic modulation of inflammation and synaptic plasticity by polyphenolic metabolites promotes resilience against stress in mice</td>
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<td>Matthias Wüst</td>
<td>Volatile Phenols– Important contributors to the flavour and aroma of herbs spices and fruits</td>
<td>Bonn University, Germany</td>
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<td>Carolina Rojas-Garbanzo</td>
<td>Metabolomic assessment of polyphenols in tropical fruits</td>
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<td>Gunter P. Eckert</td>
<td>Polyphenols and Mitochondria: Recent Advances &amp; Perspectives</td>
<td>Justus-Liebig-University Giessen, Germany</td>
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Introduction Note by the President of Malta Polyphenols 2019

On behalf of the International Society of Antioxidants in Nutrition and Health (ISANH) and the Scientific Committee, we are pleased to announce the organization of the 13th World Congress on Polyphenols Applications: Malta Polyphenols 2019, which will be held at the Excelsior Hotel, Malta, from Monday, September 30 to Tuesday October 1, 2019.

After the huge success of the previous editions of this series of conferences, Malta Polyphenols 2019 will bring together the experts from the academia and industry to discuss the latest scientific advances in research on polyphenols. In continuation of our cross-disciplinary approach, both basic research topics and practical applications of polyphenols in the food, pharmaceutical and medical sciences and related disciplines will be covered.

Among the Polyphenols 2019 Hot Topics:

**Polyphenols-Microbiome Interactions, Metabolism and Health Effects**
There is a consensus in the scientific community that phenolic compounds are extensively metabolized by the human microbiome, and evidence is accumulating that phenolics which are present in food have an effect on the composition of gut microorganisms. This session which addresses the latest findings in the field from a cross-disciplinary view, including microbiology and food chemistry, and will highlight the following strategic points: Microbiota, Polyphenols & Food: Recent Advances & Perspectives / Can polyphenols modify the quality and diversity of microbiota?

**Skin and Polyphenols: Recent Advances and Practical Applications**
We will highlight the strategic roles of polyphenols and phenolics compounds as antioxidants (anti-UV) and anti-inflammatory agents. We will also discuss the formulation of polyphenols and skin pigmentation. We will dedicate time to all innovations related to the use of polyphenols in skin care and skin aging.

**Bioavailability, Metabolism and Health Effects of Polyphenols and Their Metabolites**
Phenolic compounds have been associated with numerous beneficial effects on human health. The session will provide an overview of the latest investigations into the interrelationship between bioavailability, metabolism, and bioactivity, including among others, anti-obesity and cardiometabolic effects. We will also address recent research on the role of polyphenols in the prevention of neurodegenerative diseases.

**Technological and Biotechnological Aspects of Polyphenols and their Metabolites**
As there is still a gap in our knowledge about the effects of food processing on the stability of phenolic compounds, this session will cover studies about the impact of conventional and novel processes on phenolics. We also welcome presentations reporting the application of phenolics as natural antioxidants, preservatives, and colorants to replace synthetic food additives. In addition, recent advances in the biotechnological production of phenolic compounds and the role of volatile phenolics as food constituents will be covered.

**Chemistry of Polyphenols including Synthesis and Analysis of Metabolites and Reactions of Phenolic Compounds**
Due to the ongoing advances in analytical chemistry, our knowledge about the profile of phenolic compounds in plants and plant-derived food is continuously increasing. We will address studies on novel approaches in sample preparation, chromatographic separation and detection of phenolics, including hyphenated techniques such as LC-ion mobility mass spectrometry and LC-NMR spectroscopy. Presentations on the characterization of novel structures, reaction mechanisms, and the synthesis of phenolic metabolites are also highly welcome.

**Innovations in Industrial Applications of Polyphenols**
The session will highlight approaches in product development, exploitation of novel sources of phenolic compounds, characterization and application of novel nutraceuticals based on plant phenolics, and new processes for extraction and formulation of polyphenols on industrial scale. Abstracts for consideration of potential inclusion as oral or poster presentation are welcome for all these topics.
What is New for Polyphenols 2019: Round Table Discussion

Traditional ways of delivering scientific information to the audience during congresses are oral and poster presentations. However, despite the wealth of data typically presented, lots of questions remain unanswered for the participants and for many scientists as well, even for those who have been considered as keynote speakers, there is only limited opportunity to interact with colleagues. To facilitate the scientific discourse and make the conference more interactive, the scientific committee decided to include two round table discussions that address hot topics, challenges and pressing questions related to various areas of research about polyphenols.

Day One Round Table Discussion: Polyphenols and health applications

- Where are we now and what are the prospects?
- What is assured knowledge and what are the gaps?
- How do microbiota and metabolites, the new players in the world of polyphenols, affect our classical thinking and make us rethink and redesign our strategies concerning applications of polyphenols?

Day Two Round Table Discussion: Polyphenols and food applications

- What is the impact of established and novel processing methods on polyphenols?
- How can we control and exploit reactions of polyphenols in food applications?
- How can we utilize side streams of food processing more efficiently for the recovery of polyphenols?
- Are there applications at the horizon beyond food – what about feed, cosmetics, and others?

All participants are invited to participate in these discussions by presenting their questions and thoughts before the meeting by September 6, 2019.

We look forward to welcoming you in Malta!

Prof. Andreas Schieber
University of Bonn, Germany
President of Malta Polyphenols 2019
13th World Congress on Polyphenols Applications

September 30 – October 1, 2019 – Hotel Excelsior, Malta

Preliminary Agenda

Reminder Key Dates: Submit your abstract for:
Oral Presentation before September 2, 2019
Poster Presentation before September 10, 2019

September 29, 2019

17h00 – 19h00  Registration – Badges & Material Delivery at the Hotel

September 30, 2019

Malta Polyphenols Day One:
Polyphenols and Health Applications

7h45  Welcoming of Attendees - Registration

9h00  Malta Polyphenols 2019: General Introduction by President of Malta Polyphenols 2019
Andreas Schieber, University of Bonn, Germany

Session 1: Polyphenols-Microbiome Interactions, Metabolism and Health Effects

9h10  Mitochondria, Microbiota and Polyphenols: Introductory Remarks
Marvin Edeas, Université Paris Descarts, INSERM, France

9h30  Polyphenols and Mitochondria: Recent Advances & Perspectives
Gunter P. Eckert, Justus-Liebig-University Giessen, Germany

9h50  Epigenetic Modulation of Inflammation and Synaptic Plasticity by Polyphenolic Metabolites Promotes Resilience against Stress in Mice
Giulio Maria Pasinetti, Icahn School of Medicine at Mount Sinai, USA

10h10 Role of Polyphenols in Cognitive Diseases
Yves Desjardins, Laval University, Canada

10h30  Coffee Break & Poster Session

11h10 Novel Insights of Polyphenols in Obesity
Gerard Aragonés, Rovira i Virgili University, Spain

11h30  Short oral presentations (7 minutes for presentation + 3 min for questions)

Chicory Polyphenols Impact on Gut Microbiota Composition and Appetite Regulation
Anca Lucau-Danila, University of Lille, Institut Charles Violette, France
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Inflammatory Biomarkers According to Polyphenol Intake in European Adolescents: The Helena Study
Ratih Wirapuspita Wisnuwardani, Ghent University, Belgium

Green Coffee Extract Modulates the Immune Response, Mitigates High-Fat Diet-Induced Dysbiosis And Improves Cardiometabolic Parameters in APOE-Deficient Mice
Jelver Alexander Sierra Restrepo, Vidianum, Nutrition, Health and Wellness Research Center, Colombia

Interactions of Conjugated and Colon Metabolites of Flavonoids with Serum Albumin and Biotransformation Enzymes
Miklós Póor, University of Pécs, Hungary

Quantitative Profiling of Urinary Xanthohumol Metabolites in Humans Reveals Metabotypes that Reflect Differences in Gut Microbiomes
Luca Micaela Mattio, Università degli Studi di Milano, Italy

From Fruits to Compounds: The Importance of Metabolomics in Bioprospection Studies
Alexandre Foito, The James Hutton Institute, Ukraine

Session 2: Skin and Polyphenols: Recent Advances and Practical Applications

14h00 Introductory Remarks: Skin and Polyphenols 2019
Alessandra Napolitano, University of Naples Federico, Italy

14h20 Natural and Bioinspired Phenolic Compounds as Skin Depigmenting Agents: Recent Advances
Lucia Panzella, University of Naples "Federico II", Italy

14h40 Use of nanosystems to improve delivery of polyphenols for skin repair
Carla Caddeo, University of Cagliari, Italy

15h20 Short oral presentations (7 minutes for presentation + 3 min for questions)

Influence of Curcumin and Black Pepper, On Exercise-Induced Pain, Fatigue and Stress
Ramona-Niculina Jurcau, Iuliu Hatheganu University of Medicine And Pharmacy Cluj-Napoca, Romania

15h30 - Coffee Break & Poster Session

16h10 Short oral presentations (7 minutes for presentation + 3 min for questions)

Resveratrol Induced Growth Inhibition in Human PH+ Acute Lymphoblastic Leukemia by Modulation of Sphingolipid Mechanism
Aysun Adan, Abdullah Gul University, Turkey

Citrus Flavonoid Naringenin Slows Down Myocardial Senescence Through the Stimulation of SIRT1 Enzyme
Lara Testai, Signora, Italy

Possible Antitumor Activity of a Polyphenolic Rich Extract from Thymbra Spicata (Lamiaceae) Aerial Parts
Mohamad Khalil, University of Genoa, Italy

Maternal Polyphenols Supplementation during Pregnancy
Antonio Gonzalez-Bulnes, National Institute for Agricultural and Food Research and Technology, Spain

Effect of Polyphenols on Athletic Performance
Stefania D'Angelo, University of Naples Parthenope, Italy

Naringenin-Induced MITOBKCA Channel-Dependent Changes in Endothelial Mitochondria
Anna Kicinska, Adam Mickiewicz University, Poland

Polyphenol-Enriched Black Elderberry (Sambucus nigra L.) Fruit Extract Inhibits 7-Ketocholesterol-Induced Endothelial Inflammation via Erk Dependent Signaling Pathway
Karolina Rudnicka, University of Łódzki, Poland

Natural Polyphenols-Rich Pomegranate Juice Positively Modulates Olympic Performance and Selected Biological Responses following Resistance Exercises in Elite Athletes: A Double Blind, Placebo-Controlled, Crossover Trial
Achraf Ammar, Otto-von-Guericke University, Germany
17h50 Round Table discussion Day One – Polyphenols and Health Applications
Chair: Prof. Marvin Edeas

To facilitate the scientific discourse and make the conference more interactive, the scientific committee has decided to include two round table discussions that address hot topics, challenges and pressing questions related to various areas of polyphenols research.

- Where are we now and what are the prospects?
- What is assured knowledge and what are the gaps?
- How do microbiota and metabolites, the new players in the world of polyphenols, affect our classical thinking and make us rethink and redesign our strategies concerning polyphenols applications?

18h30 End of the first day
20h00 Malta Polyphenols Dinner

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October 1, 2019

Malta Polyphenols Day two:
Polyphenols and food applications

08h00 Opening of Day 2

Session 3: Technological, & Biotechnological aspects of Polyphenols

Characterization and analysis of polyphenols and their metabolites

08h05 Phlorotannins – Extraction, Profiling and Bioactivities
Mariana Barbosa, University of Porto, Portugal

08h25 Phenolic Compounds from Wine Industry By-Products: Characterization and in Vitro Bioaccessibility
Ariel Fontana, National University of Cuyo, Argentina

08h45 Metabolomic Assessment of Polyphenols in Tropical Fruits
Carolina Rojas-Garbanzo, University of Costa Rica, Costa Rica

09h05 Hemisynthesis of Anthocyanin Phase II Metabolites and Their Characterization by LC-ESI-IMS-QTOF Mass Spectrometry
Sarah Schmitt, University of Bonn, Germany

09h25 Influence of Juice Processing and Natural Variation in the Bioaccessibility of Phenolics from Grapes and Blueberries
Mario Ferruzzi, North Carolina State University, USA

09h45 Short oral presentations (7 minutes for presentation + 3 min for questions)

Polyphenol blends as technological antioxidants
Juan Javierre, Layn-USA, USA

10h30 - Coffee Break & Poster Session

11h15 Short oral presentations (7 minutes for presentation + 3 min for questions)

Resveratrol Derived Monomers and Dimers: Design, Synthesis and Biological Evaluation as Antidiabetic Agents and Food Preservatives Against Foodborne Pathogens
Andrea Pinto, University of Milan, Italy

4-Stilbenol: A Promising Tool in Medicinal Chemistry
Barbara De Filippis, University G. D'Annunzio Chieti, Italy

Dietary Polyphenols and Their Immuno-Modulating Effects: Implications during Parasite-Induced Inflammation in the Gut
Audrey inge Andersen-Civil, Copenhagen University, Denmark

Supercritical CO2 Extraction of Polyphenols from Agri-Foods Residues
Stefania Marzorati, Università degli Studi di Milano, Italy
**12h30 - Lunch Break & Poster Session**

**Session 4: Polyphenols Applications & Innovations in 2019**

### 14h00
- **Volatile Phenols – Important contributors to the flavour and aroma of herbs spices and fruits**
  - Matthias Wüst, Bonn University, Germany

### 14h20
- **Polyphenols of Bulgarian oil-bearing rose (Rosa damascena Mill.): Recovery and potential applications in food industry**
  - Rada Dinkova, University of Food Technologies, Bulgaria

### 14h40
- **Computation-Assisted Annotation of Biological Activity to Polyphenols in Botanical Supplements and Herbal Medicines**
  - Fred Stevens, Oregon State University, USA

  **Short oral presentations including industry contributions** (7 minutes for presentation + 3 min for questions)

- **Polyphenols for the Treatment of Local Tissue Necrosis of Victims Bitten by Cobras: A Structure-Activity Analysis of Cobra Venom Phosphodiesterase by Quercetin and Related Flavonoids**
  - Wen-guey Wu, National Tsing Hua University, Taiwan

- **Determination of Anthocyanins and Target Phenolic Acid Metabolites in Sweet Cherries: Implications for Clinical Studies**
  - Nadine Höfler, University of Tasmania, Australia

**15h40 Coffee Break & Poster Session**

### 16h20
- **Short oral presentations** (7 minutes for presentation + 3 min for questions)

  - **Developing of Trilobatin Dihydrochalcone as a New-Class Of Phytochemical Agent**
    - Mwafaq Ibdah, Newe Ya’ar Research Center, Agricultural Research Organization, Israel

  - **Polyphenol Extract from the Medicinal Plant Antirhea Borbonica Attenuates Renal Tubulointerstitial Fibrosis**
    - Bryan Veenen, INSERM U1188, France

  - **Phytosomes with Persimmon (Diospyros kaki L.) Extract: Preparation and Preliminary Demonstration of In Vivo Tolerability**
    - Rosa Fernandes Direito, University of Lisbon, Portugal

  - **Grafting of Polyphenols from Grape Pomace to Implantable Biomaterials: A Chemical and Biological Characterization**
    - Silvia Spriano, Politecnico Di Torino, Italy

### 17h00
- **Round Table discussion Day Two – Polyphenols and food applications**
  - Chair: Prof. Andreas Schieber

  - **What is the impact of established and novel processing methods on polyphenols?**
  - **How can we control and exploit reactions of polyphenols in food applications?**
  - **How can we utilize side streams of food processing more efficiently for the recovery of polyphenols?**
  - **Are there applications at the horizon beyond food – what about feed, cosmetics, and others?**

### 17h50
- **Concluding Remarks of Malta Polyphenols 2019**

- Malta Polyphenols Scientific and Innovation Awards 2019

### 18h00
- End of Polyphenols 2019