3rd World Congress on

Targeting Mitochondria

Strategies, Innovations & Clinical Applications

November 8-9, 2012 - Hotel Ritz-Carlton

Berlin, Germany

www.targeting-mitochondria.com
After the success of the two first editions held in 2010 & 2011, the Scientific Committee of the International Society of Antioxidants in Nutrition and Health (ISANH) decided to organize the 3rd World Congress on Targeting Mitochondria which will be held in Berlin in November 8-9, 2012.

Mitochondrial dysfunction has been associated with the aging process and a variety of human disorders, such as cardiovascular and neurodegenerative diseases, cancer, migraine, infertility, kidney and liver diseases, toxicity of HIV drugs... It is well recognized that the (patho)physiological role of mitochondria widely exceeds that of solely being the biochemical power plant of our cells.

Targeting Mitochondria: Strategies, Innovations and Challenges

Over recent years, mitochondria have become an interesting target for drug therapy, and the research field aimed at “Targeting Mitochondria” is active and expanding as witnessed by this already third edition of the world congress on this topic. It is becoming a necessity and an urge to know why and how to target mitochondria with bioactive molecules and drugs in order to treat and prevent these pathologies and chronic diseases.

This 3rd World Congress on Targeting Mitochondria will cover a variety of new strategies and innovations as well as clinical applications in Mitochondrial Medicine. Just as for the two previous editions of “Targeting Mitochondria”, the scientific committee has again succeeded in inviting an outstanding panel of speakers; each one of which a leader in their particular field. Different sessions will be held:

- Mitochondrial dysfunctions in chronic diseases: recent advances and conclusions
- Devices, Methods & Mitochondria: Innovations & New Opportunities
- The Mitochondria Engineering concept: Challenges & Limits
- Strategies to target mitochondria : Recent Clinical data and potential Therapeutic Studies

The Scientific Committee has selected two hot topics for this year. The first topic involves Mito-Devices, which are novel tools for probing mitochondrial function under physiological and pathological conditions. The second topic focuses on Mito-Engineering, i.e. novel strategies and means towards manipulations of mitochondrial function. Strategies that restore mitochondrial function could potentially offset key aspects of mitochondrial-related diseases. Mito-devices and Mito-engineering are essential for making mitochondria-targeted therapeutics clinical feasible, therefore clinical applications are the underlying theme of the 3rd edition of Targeting Mitochondria.

With this exciting program, we look forward to welcoming you in Berlin for this particular event.

Pr Marvin Edeas - Pr Volkmar Weissig
Chairmen of the Scientific Committee
Scientific Committee:

**Marvin Edeas**, President of International Society of Antioxidants in Nutrition and Health, Paris, France
**Douglas Wallace**, Center of Mitochondrial and Epigenomic Medicine, Philadelphia, USA
**Volkmar Weissig**, Midwestern University College of Pharmacy Glendale, USA

Among Speakers:

**Daniela Arduíno**, Center for Neurosciences and Cell Biology, University of Coimbra, Coimbra, Portugal
**Thomas Becker**, Institute for Biochemistry and Molecular Biology, Freiburg, Germany
**Shanta Dhar**, University of Georgia, Athens, USA
**Richard Hartley**, University of Glasgow, Glasgow, United Kingdom
**Mary Herbert**, Institute for Ageing and Health, Newcastle, UK
**Rejko Krüger**, University of Tuebingen, Tuebingen, Germany
**Afshan Malik**, King's College London, Diabetes research Group, School of Medicine, London, UK
**Meagan McManus**, Center of Mitochondrial and Epigenomic Medicine, Philadelphia, USA
**Paulo Oliveira**, University of Coimbra, Coimbra, Portugal
**Brendan Payne**, Institute of Genetic Medicine, Newcastle University, Newcastle, UK
**Alessandro Prigione**, Max-Planck Institute for Molecular Genetics, Berlin, Germany
**Vladimir Skulachev**, Moscow State University, Russia
**Yuma Yamada**, Faculty of Pharmaceutical Sciences, Hokkaido, Japan
**Antonio Zorzano**, Institute for Research in Biomedicine, Barcelona, Spain
Day 1 - November 8, 2012

9:00 – 12:30

Welcome Note

Marvin Edeas, President of International Society of Antioxidants in Nutrition and Health, Paris, France

Volkmar Weissig, Midwestern University College of Pharmacy Glendale, USA

9:05 General Introduction of Targeting Mitochondria 2012: Mitochondria: Huge Steps to New Medicine

Douglas Wallace, Center of Mitochondrial and Epigenomic Medicine, Philadelphia, USA

Meagan McManus, Representing D. Wallace, Center for Mitochondrial and Epigenomics Medicine, Philadelphia, USA

Session 1: Mitochondrial Dysfunctions in Chronic Diseases and Pathologies: Recent Advances & Conclusions

9:30 Mitochondria as a Perfect Drug Target in Health and Disease

Paulo Oliveira, University of Coimbra, Coimbra, Portugal

9:55 Mitochondria & HIV Infection: Mitochondria Aging is Accelerated by Anti-Retroviral Therapy through the Clonal Expansion of mtDNA Mutations

Brendan Payne, Institute of Genetic Medicine, Newcastle University, Newcastle, United Kingdom

10:20 Break & Posters Session

10:50 Diabetes and Mitochondria Alteration: Mitofusin 2 as a Potential Target for the Treatment of Diabetes Type 2

Antonio Zorzano, Institute for Research in Biomedicine, Barcelona, Spain

11:15 Mitochondrial DNA Content and Metabolic/Hyperglycaemic Memory: Is there a Connection?

Afshan Malik, King's College London, Diabetes research Group, School of Medicine, London, United Kingdom

11:40 A Comparative Genomics Approach to Mitochondrial Physiology: 50-year Search for Calcium Channel Ends

Fabiana Perocchi, Ludwig-Maximilians-Universität, Munich, Germany

11:50 The Mitochondrial Gas Pedal: Cytosolic Calcium Regulates Energization of Neuronal Mitochondria by Formation of Pyruvate trough the Malate Aspartate Shuttle. Physiological and Pathophysiological Consequences

Franck N. Gellerich, Leibniz Institute for Neurobiology, Magdeburg, Germany

12:00 Decreased Mitochondrial Function in Skeletal Muscle from Simvastatin treated Patients

Dela Flemming, University of Copenhagen, Denmark

12:10 Abnormalities in Mitochondrial Function in Human Neural Cells differentiated from Hair Follicle-derived induced Pluripotent Stem Cells (iPSC) in Schizophrenia

Dorit Ben-Shachar, Faculty of Medicine, Technion, Haifa, Israel
### Targeting Mitochondria 2012

#### Session 1: Mitochondria and Dynamics

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:20</td>
<td>Nicotine Pretreatment prevents Carbonyl Cyanide M-chlorophenol-hydrozone (CCCP)-induced Mitochondrial Fragmentation and Mitophagy via nAChR Independent Mechanisms in a Human Neuronal-like Cell Line</td>
<td>Lori Buhlman, College of Health Sciences, Midwestern University, Glendale, USA</td>
</tr>
<tr>
<td>12:30</td>
<td>Emerging Connections between the Evolution of Mitochondrial Dynamics and the Aging Process</td>
<td>Axel Kowald, Institute for Ageing and Health, Newcastle University, United Kingdom</td>
</tr>
<tr>
<td>12:40</td>
<td>Lunch Break &amp; Posters Session</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Potential Micro-Compartmentalization of Mitochondrial Thymidine Salvage, a new Dimension in Mitochondrial Thymidine Metabolism</td>
<td>Edward McKee, College of Medicine, Central Michigan University, Mount Pleasant, Michigan, USA</td>
</tr>
<tr>
<td>14:10</td>
<td>Apoptosis of Tumor Cells Induced by Inhibition of Mitochondrial KV1.X Channels</td>
<td>Mario Zoratti, CNR Institute of Neuroscience, Padua, Italy</td>
</tr>
<tr>
<td>14:20</td>
<td>A Brain Study of Lithium-treated Mice and Knockout Mice with Lithium-like Behavior Reveals a common Effect on Mitochondrial Function</td>
<td>Galila Agam, Ben-Gurion University of the Negev, Beer-Sheva, Israel</td>
</tr>
<tr>
<td>14:30</td>
<td>Functional Expression of Green Fluorescent Protein in Mitochondria of Rat Cells Following Liposome-Mediated Delivery of a Linear DNA Construct</td>
<td>Gerard D’Souza, Massachusetts College of Pharmacy and Health Sciences, Boston, USA</td>
</tr>
<tr>
<td>14:40</td>
<td>Organelle Targeting of Catalytic RNAs for Reverse Genetics in Higher Plant Mitochondria</td>
<td>Daria Mileshina, CNRS, Strasbourg University, Strasbourg, France</td>
</tr>
</tbody>
</table>

**Session 2: Mitochondria into Practice - Devices & Methods for Mitochondria Evaluation**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:50</td>
<td>General Overview: Innovations, Contradictions and Perspectives</td>
<td>Egbert Mik, Erasmus MC, University Medical Center, Rotterdam, The Netherlands</td>
</tr>
<tr>
<td>15:05</td>
<td>“In Vivo” Respirometry in Sepsis</td>
<td>Floor Harms, Erasmus MC, University Medical Center, Rotterdam, The Netherlands</td>
</tr>
<tr>
<td>15:15</td>
<td>C. elegans as a Model System to study Drug-induced Mitochondrial Dysfunction</td>
<td>Reuben Smith, University of Amsterdam, Amsterdam, The Netherlands</td>
</tr>
<tr>
<td>15:25</td>
<td>A Multiparametric Assay on Isolated Mitochondria to Predict Human Liver Injury Induced by Chemicals</td>
<td>Annie Borgne-Sanchez, Mitologics SAS, Paris, France</td>
</tr>
<tr>
<td>15:35</td>
<td>Break &amp; Posters Session</td>
<td></td>
</tr>
<tr>
<td>16:05</td>
<td>Exploration of the Infrared Radiation-induced Mitochondrial Oxidative Stress understanding Pathways to better Prevent</td>
<td>Emilie Cornille-Robert, ICDD, Meyreuil, France</td>
</tr>
<tr>
<td>16:15</td>
<td>In Vitro Assessment of an Active Bioenergising Cosmetic and Cell Protector against Oxidative Stress</td>
<td>Aurora Garre, R+D Area Laboratorios Cinfra, Huarte Pamplona, Spain</td>
</tr>
<tr>
<td>16:25</td>
<td>Optical and Electrochemical Microarrays for Large Scale Studies of Single Mitochondria Metabolic Responses</td>
<td>Stéphane Arbault, Institute of Molecular Sciences, University of Bordeaux, Pessac, France</td>
</tr>
<tr>
<td>16:35</td>
<td>Measuring Mitochondrial Function Using the Seahorse XF Flux Analyzer under Physiologic Oxygen Concentrations</td>
<td>Per Bo Jensen, Seahorses Biosciences, Copenhagen, Denmark</td>
</tr>
</tbody>
</table>

#### Session 3: Mitochondria and Function

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:00</td>
<td>End of the First Day</td>
<td></td>
</tr>
<tr>
<td>19:45</td>
<td>Speakers’ Dinner</td>
<td></td>
</tr>
</tbody>
</table>
Day 2 - November 9, 2012

Session 3: Mito-Engineering 2012

The Mitochondria Engineering Concept: Challenges & Limits

9:00  Correcting Human Mitochondrial Mutations with Targeted RNA Import: Recent Advances and Perspectives for Mitochondria Medicine  
      Michael Teitell, David Geffen School of Medicine at UCLA, Los Angeles, USA

9:25  Mitochondria Gene Replacement & Engineering Mitochondria: New Options and Perspectives for Prevention of Mitochondrial Diseases  
      Mary Herbert, Institute for Ageing and Health, Newcastle, United Kingdom

9:50  Mitochondria Modeling of Mammalian Development and Human Disease  
      Carl Pinkert, Auburn University, Auburn, USA

Session 4: Strategies to Target Mitochondria: Recent Scientific Data and Potential Applications

10:15 Targeting Mitochondria by "Magic Molecules": Strategic Role of Chemistry  
      Richard Hartley, University of Glasgow, Glasgow, United Kingdom

10:40  Break & Posters Session

11:05 Importing Mitochondrial Proteins: Lessons & Perspectives to Target Mitochondria  
      Thomas Becker, Institute for Biochemistry and Molecular Biology, Freiburg, Germany

11:30 Mitochondria Targeted Nanocarriers for Delivery of Contrast Agents and Therapeutics  
      Shanta Dhar, University of Georgia, Athens, USA

11:55 Mitochondrial Delivery of Nucleic Acids by DF-MITO-Porter toward Mitochondrial Gene Therapy  
      Yuma Yamada, Faculty of Pharmaceutical Sciences, Hokkaido University, Japan

12:05 BPM 31510: A Novel Mitochondrial Sensitizer for Treatment of Cancer  
      Rangaprasad Sarangarajan, Berg Pharma, Natick, USA

12:30 Maximizing the Therapeutic Window of an Antimicrobial Drug by Imparting Mitochondrial Sequestration in Human Cells using Mitochondria Penetrating Peptides  
      Mark Pereira, Department of Biochemistry and Pharmaceutical Sciences, University of Toronto, Toronto, Canada

12:40 Lunch Break & Posters Session

14:00 Mitochondria, Protein Homeostasis and Microtubule Networks in Parkinson’s Disease: When the Tracks Get Patchy  
      Daniela Arduíno, Center for Neurosciences and Cell Biology, University of Coimbra, Coimbra, Portugal

14:25 Mitochondrial Reprogramming in Human Induced Pluripotent Stem (iPS) Cells  
      iPS Cells and Mitochondrial Rejuvenation: Fact or Fiction?  
      Alessandro Prigione, Max-Planck Institute for Molecular Genetics, Berlin, Germany

14:50 Targeting Mitochondrial Dynamics as Therapeutic Approach: New Perspectives for Neurodegeneration in Parkinson’s disease  
      Rejko Krüger, University of Tuebingen, Tuebingen, Germany

15:15 Cationic derivative of plastoquinone (Visomitin), the first mitochondria–targeted medicine available in drugstores  
      Vladimir Skulachev, Moscow State University, Russia

15:25 Inhibition of the Malate-Aspartate Shuttle during Early Reperfusion Preserves Mitochondrial Function and Attenuates Reactive Oxygen Species Production in Ischemia/Reperfusion Injured Heart  
      Takashi Yokota, University of Copenhagen, Copenhagen, Denmark
15:35  Bezafibrate improves Mitochondrial Function in the CNS of a Mouse Model of Mitochondrial Encephalopathy  
Tina Wenz, University of Cologne, Cologna, Germany

15:45  Therapeutic Manipulation of Mitochondrio-active Regions from Bcl-2 Family Proteins  
Romain Jugé, ENS Lyon, Lyon, France

15:55  Multiple Large Deletions In The Mt DNA Of Human Embryonic Stem Cells  
Lindsey Van Haute, Vrije Universiteit Brussel, Brussels, Belgium

16:05  Break & Posters Session

16:20  Targeting Mitochondrial Dysfunction in the Treatment of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) – A Cohort Audit  
Norman E Booth, University of Oxford, Oxford UK

16:30  Bridging the Gap between Nature and Antioxidant Setbacks: Delivering Hydroxycinamic Acids to Mitochondria  
José Teixeira, University of Porto, Porto, Portugal

15:40  Mitochondriotropic Resveratrol Derivatives: Cytotoxicity Mechanisms  
Lucia Biasutto, CNR Institute of Neuroscience, Dept. Biomedical Sciences, University of Padova, Italy

16:50  General Discussion and Conclusion of Targeting Mitochondria 2012

17:15  Scientific Contribution Awards & Targeting Mitochondria Awards 2012

17:30  End of the Conference

Drinks & Snacks Meeting for Network Session and B to B Contacts
Posters Session

Targeting Mitochondria Attendees, Academics and Industrials, are invited to a warm-up networking session over drinks and snacks.

Practical Information

For all information related to Programme, Abstract Submission & Timing, please contact the Scientific Secretary:
isanh@isanh.com

For Supporting & Devices Display:
mitochondria@targeting-mitochondria.com

Conference Venue
The Ritz-Carlton, Berlin
Potsdamer Platz 3 - 10785 Berlin, Germany
For more information about access and hotel, please visit
www.ritzcarlton.de

www.targeting-mitochondria.com
Registration Form - November 8-9, 2012 – Berlin, Germany

Registration Form to return by Mail, Fax or Email:
Targeting Mitochondria 2012 Conference / ISANH - 15 Rue de la Paix - 75002 Paris
Tel: +33 1 55 04 77 55 - Fax: +33 9 72 16 84 14 - mitochondria@targeting-mitochondria.com

☐ I would like to register to Targeting Mitochondria 2012 on November 8-9, 2012
  ☐ Industrials  o After September 17th  895 €
  ☐ Academics  o After September 17th  495 €

  Registration includes conference entrance, two lunches and one abstracts book.

☐ I would like to subscribe to ISANH
  (Subscription available one year since reception of payment)  135€

☐ I cannot attend the conference and I would like to order Supplementary Abstracts Book
  (Unitary Price)  125 €

☐ I would like attend the Speakers’ Dinner on November 8  80 €

☐ I would like to support the conference  Contact us

☐ Ms ☐ Mrs ☐ Mr ☐ Dr ☐ Pr

Last name: ..........................................................................................................

First name: ..........................................................................................................

Society/Faculty: ..................................................................................................

Division / Department: ......................................................................................

Street address / PO box: ...................................................................................

.............................................................................................................................

State / ZIP code: ................. City: .......................................................Country: ..........................

Email: .................................................................................................................

Tel.........................................................................................................................

VAT Number (obligatory mention) ......................................................................

.............................................................................................................................

Registration...................................... €  Membership.............................................. €

Abstracts-Book..................................... €  Total .................................................... €

Please select the mean of payment on following page .../...
My payment will be done by bank transfer:

Account Holder Name: TAKAYAMA
Banque Nationale de Paris (BNP), 2 place de l’Opéra 75002 Paris
Bank Code: 30004; Agency: 00895
Account number: 00010008521 Key: 26
IBAN: FR7630004008950001000852126. CODE SWIFT: BNPATFRPPPOP

Payment by check to Takayama

By Credit Card (please complete all following blanks)

I hereby, (first name, name)……………………………………. authorize Takayama to debit my credit card of total amount of (total amount) …………… by:

- Master Card
- VISA

Name of Credit Card Holder………………………………………………………………………………………………………………………………………………..

Credit Card Number…………………………………………………………………………………………………………………………………………………………

Security Code…………………………Expiry Date……………………………………………………………………………………………………………………

Please date and sign your registration form.

Date: ____________

Signature of Credit Card Holder  Signature of Registrant

Sales Contract

Takayama is authorized to handle all the conference logistics and payments.

1. Registration fees include 2 lunches, 4 coffee/tea breaks and the abstract book of the conference.
2. This Sales Contract constitutes a legally binding contract.
3. VAT Number is an obligatory mention. If you don’t mention it, all prices will be majored by French VAT (19.6%).
4. It may be necessary for reasons beyond control of Takayama to change the content and timing of the program, the speakers, the date or the location without notice. If for any reason, Takayama decides to postpone this conference, Takayama is not responsible for covering airfare, hotel or other travel costs incurred by clients. The conference fee will not be refunded, but can be credited to a future conference. In the unlikely event of the program being cancelled, Takayama will automatically make a full refund but disclaim any further liability.
5. Copyright: All intellectual property rights in all materials produced or distributed by Takayama in connection with this event is expressly reserved and any unauthorized duplication, publication or distribution is prohibited.

Refund Policy - Cancellation

Refund of the registration fee must be applied for in writing to the conference secretariat. One month prior to the conference, 50% of the registration fee will be refund. After the said date, no refunds will be given. Substitutions are free of charge, but you must submit a letter authorizing the transfer signed by the registered delegate two days before the event starting date.

www[targeting-mitochondria.com