

# *Program*

## **Light-Activated Tissue Regeneration and Therapy II**

**June 24-29, 2007**

**Tomar, Portugal**

**Hotel dos Templarios**

### **Co-Chairs**

**Ron Waynant**

Food and Drug Administration, USA

**Juanita Anders**

Uniformed Services University, USA

**Josepa Rigau**

Rovira I Virgili University, Spain

# ECI

**Engineering Conferences International**

**6 MetroTech Center**

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**Sunday, June 24, 2007**

17:00 – 19:00	Registration
19:00 - 20:00	Opening Reception
20:00 – 21:30	Dinner

***Notes***

- **Please observe “No Smoking” at ECI technical sessions, meals and social hours.**
- **Speakers should allow time at the end of their presentation for questions and discussion.**
- **Please silence your cell phone during technical sessions.**
- **All cameras, camera phones, audio, video and other recording devices are prohibited from technical sessions and poster sessions.**

**Monday, June 25, 2007**

- 07:30 – 08:45            Breakfast
- 08:45 – 09:00            **Welcome and Opening Remarks**  
Ronald Waynant, FDA, USA  
Richard Fein, ECI, USA
- 09:00 – 09:45            **Keynote Address**  
Session Chair: Josepa Rigau, Rovira I Virgili Univ., Spain
- Redox Mechanisms of Laser Phototherapy***  
Tiina Karu, Russian Academy of Science, Russia
- 09:45 – 12:45            **Session I: The Mechanism of Light Therapy**  
Session Chair: Ronald Waynant, FDA, USA
- 09:45 – 10:15            ***Characteristics exhibited by the mechanism***  
Ronald Waynant, FDA, USA
- 10:15 – 10:45            Coffee Break
- 10:45 – 11:15            ***How we tracked down and verified the mechanism***  
Ronald Waynant, FDA, USA
- 11:15 – 12:15            ***The Good and Bad of Reactive Oxygen: Implications for Light-Activated Therapy***  
Michael Trush, Johns Hopkins University School of Public Health, USA
- 12:15 – 12:45            ***Low Level Laser Therapy in Inflammatory Diseases: Possible Mechanisms of Action***  
Rodrigo Martins, Universidade de Sao Paulo
- 12:45 – 14:00            Lunch
- 14:00 – 18:00            Free time/*ad hoc* sessions
- 18:00 – 18:30            Coffee Break
- 18:30 – 20:00            **Session II: Wound Healing**  
Chair: Chukuka Enwemeka, NYIT, USA
- 18:30 – 18:50            ***Combined 660 nm and 880 nm Light Promotes Tissue Repair in Recalcitrant Healing Resistant Diabetic Ulcers***  
Chukuka Enwemeka, NYIT, USA

**Monday, June 25, 2007 (continued)**

- 18:50 – 19:20      ***Irradiation with 780 nm Diode Laser Attenuates Inflammatory Cytokines while upregulating Nitric Oxide LPS-Stimulated Macrophages***  
Lilach Gavish, The Hebrew University of Jerusalem, Israel
- 19:20 - 19:40      ***Blue Light Eradicates Methicillin Resistant Strains of Staphylococcus aureus (MSRA)***  
Steve Hollosi, NYIT, USA
- 19:40 – 20:00      ***Near-Infrared Photon Therapy for Retinal Injury and Disease***  
Janis T. Eells, University of Wisconsin-Milwaukee, USA
- 20:00 – 20:15      **Group Discussion** – What wound healing studies are ready for FDA approval?  
What new studies can now be done?
- 20:15 – 21:30      Dinner
- 21:30 – 22:30      Social Hour

**Tuesday, June 25, 2007**

- 07:30 – 09:00 Breakfast
- 09:00 – 13:00 **Session III: Photodynamic Therapy**  
Chair: Stuart Bisland, Ontario Cancer Institute and University of Toronto, Canada
- Session III presentations will consist of 20-minute talks followed by 10 minutes of discussion**
- 09:00 – 09:30 ***Combining Low-Level Light Therapy and Photodynamic Therapy: Mechanisms and Applications in Medicine***  
Stuart Bisland, University of Toronto, Canada
- 09:30 – 10:00 ***Light-Fractionated ALA-PDT Pre-clinical Models to Clinical Practice***  
Dominic Robinson, Erasmus MC – Daniel den Hoed Cancer Center, the Netherlands
- 10:00 – 10:30 ***Novel Targeting and Activation Strategies for Photodynamic Therapy***  
Gang Zheng, Ontario Cancer Institute and University of Toronto (Stuart Bisland, University of Toronto, to present)
- 10:30 – 11:00 Coffee Break
- 11:00 – 11:30 ***Combined immunotherapy and Photodynamic Therapy for Wound Infections***  
Michael Hamblin, Wellman Center for Photomedicine, Massachusetts General Hospital, USA
- 11:30 – 12:00 ***Development of Patient Specific Dosimetry for Photodynamic Therapy***  
Jarod Finlay, University of Pennsylvania, USA
- 12:00 – 12:30 ***Contribution of Mitochondria and Lysosomes to Photodynamic Therapy Induced Death in Cancer Cells***  
Anna Liisa Nieminen, Case Western Reserve University, USA
- 12:30 – 13:00 ***Discussion***
- 13:00 – 14:00 Lunch
- 14:00 – 17:30 Free time/*ad hoc* sessions
- 17:30 – 18:00 Coffee Break

**Tuesday, June 25, 2007 (continued)**

18:00 – 20:00

**Session IV: Cardiology**

Session Chair: Uri Oron, Tel Aviv University, Israel

18:00 – 18:45

***Low Energy Laser Irradiation of Stem Cells Prior to Their Implantation to the Infarcted Rat Heart Reduces Scarring and Modulates Angiogenesis***

Uri Oron, Tel Aviv University, Israel

18:45 – 20:00

**Group Discussions – Light Treatments for the number one killer – Heart Attack, Stroke, Plaque Reduction**

20:00 – 21:30

Dinner

21:30 – 22:30

Social Hour



**Wednesday, June 27, 2007**

- 07:30 – 09:00 Breakfast
- 09:00 – 12:30 **Session V: Dentistry**  
Session Chair: Donald E. Patthoff, Academy of Laser Dentistry, USA
- 09:00 – 09:30 ***Ethical Considerations for Clinical Trials Involving Photobiomodulation***  
Donald E. Patthoff, Academy of Laser Dentistry, USA
- 09:30 – 10:00 ***Optical Coherence Tomography for Evaluating the Photobiomodulation Effects on Tissue Regeneration in Periodontal Tissue***  
Craig B. Gimbel, Academy of Laser Dentistry, USA
- 10:00 – 10:30 ***Photobiomodulation Laser Strategies in Periodontal Therapy***  
Akira Aoki, Tokyo Medical and Dental University, Japan
- 10:30 – 11:00 Coffee Break
- 11:00 – 11:30 ***Combined New Technologies to Improve ental Implant Success – Quantitative Ultrasound Evaluation of NBIR-LED Photobiomodulation***  
Jerry E. Bouquot, University of Texas Dental Branch at Houston, USA
- 11:30 – 12:00 ***Molecular Insights into Photobiomodulation***  
Praveen R. Arany, Harvard University, USA
- 12:00 – 12:30 ***Summary of Dental Indications and Research Abstracts***  
Gerry Ross, General Practice Dentistry, Canada
- 12:30 – 13:30 Lunch
- 14:00 – 17:00 **Session VI: Diabetes**  
Session Chair: Leonardo Longo, Siena University
- 14:00 – 14:30 ***The Role of Laser in Diabetes Management***  
Leonardo Longo, Siena University
- 14:30 – 15:00 ***He-Ne Laser Irradiation Stimulates Proliferation and Migration of Diabetic Wounded Fibroblast (WS1) Cells***  
Nicolette Houreld, University of Johannesburg, South Africa
- 15:00 – 15:30 ***Light Therapy Treatments for Diabetes, Treatments for AIDS and Breast Cancer***  
Richard Kolt, Rejuv-a-Light, USA

- 15:30 – 16:30      **Group Discussion - Studies and Trials for these Killer Diseases**
- 16:30 – 18:00      **Poster Session** with refreshments
- 18:00 – 20:00      **Session VII: Neuroscience**  
Session Chair: Shimon Rochkind, Tel Aviv Medical Ctr, Israel
- 18:00 – 18:30      ***Phototherapy and Nerve Tissue Repair***  
Shimon Rochkind, Tel Aviv Medical Center, Israel
- 18:30 -19:00      ***Laser Regeneration of Spine Discs Cartilage: Mechanism, In Vitro Study and Clinical Applications***  
Emil Sobol, RAS, Russia
- 19:00 - 20:00      **Group Discussion – Light Interactions with Nerves**
- 20:00 – 21:30      Dinner
- 21:30 – 22:30      Social Hour

**Thursday, June 28, 2007**

- 07:30 – 09:00 Breakfast
- 09:00 – 12:30 **Session VIII: Pain**  
Session Chair: Mary Dyson, Kings College, UK
- 09:00 – 09:30 ***“Modulation of Grannular Tissue Development by  
Phototherapy”***  
Mary Dyson, Kings College, UK
- 09:30 – 10:00 ***Pain Studies***  
Roberta Chow, University of Sydney, Australia
- 10:00 – 10:30 ***Dental Applications to treat pain***  
Gerry Ross, General Practice Dentistry, Canada
- 10:30 – 10:45 Coffee Break
- 10:45 – 11:15 ***A Systematic Review of Post-Operative Pain Relief By Low  
Level Laser Therapy (LLLT) After Third Molar Extractions***  
Jan Bjordal, University of Bergen, Norway
- 11:15 – 12:15 ***Complex Regional Pain Syndrom (CRPS)***  
Alan Gardiner, PhotoMed Technologies, Inc., USA
- 12:15 – 12:30 Discussion
- 12:30 – 13:30 Lunch
- 14:00 – 17:30 Free time / **Optional Excursion to Convento de Cristo (walking  
distance)**
- 17:30 – 19:00 **Session IX: Unusual Sources for “Light Therapy” Medicine**  
Session Chair: Martin van Gemert, University of Amsterdam, the  
Netherlands
- 17:30 - 18:00 ***The painful derivation of the Refractive index from  
Microscopical Considerations***  
B.J. Hoenders, University of Groningen, the Netherlands
- 18:00 – 18:30 ***Unusual Sources that have Produced Positive Results***  
Ronald Waynant, FDA, USA
- 18:30 – 19:00 ***EEG changes caused by mobile phones: Reversing the side  
effects with a protective device***  
Ngozi Mbonu and Careen A. Schroeter, Medical Center  
Maastricht, The Netherlands
- 20:00 – 20:30 Reception
- 20:30 – 22:30 Conference Banquet

**Friday, June 29, 2007**

07:30 – 09:00 Breakfast

09:00 – 12:00 **Session X: Now that we know the Mechanism, Where do we go from here?**

Session Chair: Josepa Rigau, Rovira I Virgili University, Spain

09:00 – 09:30 ***Lasers, Still a good way of treatment***  
Ronald Waynant, FDA, USA

**Group Discussions**

09:30 – 10:00 ***FDA in the aftermath of the mechanism***

10:00 – 10:30 ***How industry can capitalize on the new mechanism***

10:30 – 11:00 Coffee Break

11:00 – 12:00 ***Is there a need for another conference?***

12:00 Lunch and departure