

*Program*

# Light Activated Tissue Regeneration and Therapy

August 22 - 27, 2004

OHANA Keauhou Beach Resort  
78-6740 Alii Drive  
Kailua-Kona, HI 96740  
T: 1-808-322-3441  
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## Conference Co-Chairs

**Ron Waynant**  
Electro-Optics Branch  
Food and Drug Administration, USA

**Juanita Anders**  
Department of Anatomy, Physiology and Genetics  
Uniformed Services University, USA

**Tiina Karu**  
Institute of Laser and Information Technology  
Russian Academy of Science, Russia

# ECI

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**Sunday, August 22, 2004**

16:30 – 18:00	Registration (Kahalu'u Lanai)
18:00 – 18:30	Reception
18:30 – 20:00	Dinner
20:00 – 21:00	Introductory Remarks Ron Waynant, FDA Richard Fein, ECI

**Session I: Studies of Laser Therapy**  
Tiina Karu, Russian Academy of Science

**NOTES**

- ? **All technical sessions will be held in Kahalu'u I,II, and III**
- ? **Breakfasts and Social Hours will be in the Kahalu'u Lanai.**
- ? **Lunches will be in the Kama'aina Terrace.**
- ? **Dinners will be in the Kalanikai Bar & Grill.**
  
- ? **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.**

**Monday, August 23, 2004**

- 07:30 – 08:30 Breakfast
- 09:00 – 12:30 **Session II: Mechanisms**  
Session Chair: Robert Naviaux, UCSD, USA
- 09:00 - 09:10 ***Introduction to the Search for Mechanisms***  
Robert K. Naviaux, UCSD, USA
- 09:10 - 09:45 ***Mitochondrial Responses to Cellular Injury***  
Robert K. Naviaux, UCSD, USA
- 09:45 - 10:30 ***The Biophotonic Properties of Cells and Mitochondria***  
Paul Gourley, Sandia National Laboratories, USA
- 10:30 – 11:00 Coffee Break
- 11:00 - 11:30 ***Low Level Laser Irradiation Stimulates Mitochondrial Membrane Potential And Dispersed Subnuclear Promyelocytic Leukemia Protein***  
Lilach Gavish, The Hebrew University of Jerusalem, Hadassah Medical School
- 11:30 - 12:00 **Discussion**
- 12:00 – 13:00 Lunch
- Afternoon *ad hoc* sessions / Free time
- 14:00 – 17:00 **NAALT Education on Laser Therapy**
- 14:00 – 15:00 ***Dental Applications***  
Paul Bradley, Don Patthoff
- 15:00 – 16:00 ***Musculoskeletal Injuries***  
Karen Carroll
- 16:00 – 17:00 ***Pain Treatment***  
Jay Roberts
- 18:00 – 19:30 Dinner
- 19:30 – 22:00 **Session III: Light Activated Tissue Repair and Regeneration Using Exogenous Chromophores**  
Session Chair: Michael Hamblin, Harvard Medical School, USA
- 19:30 – 20:00 ***Photochemical modulation of wound healing and inhibition of tissue degradation***  
Michael Hamblin, Harvard Medical School, USA

**Monday, August 23, 2004 (continued)**

- 20:00 – 20:30      ***Use of photoactivated crosslinking agents for vascular repair and local drug delivery***  
Kaia Kloster, USD School of Medicine, USA
- 20:30 – 20:45      Break
- 20:45 – 21:15      ***Photodynamic tissue repair and healing***  
Michael Hamblin, Harvard Medical School, USA
- 21:15 – 21:45      ***PDT Modulates Wound Healing in Keloid Tumors***  
Brian Wong, Beckman Laser Institute, USA
- 22:00 – 23:00      Social Hour

**Tuesday, August 24, 2004**

- 07:30 – 08:30 Breakfast
- 09:00 – 10:30 **Session IV: Optical Biometrology and Sensing**  
Session Chair: Ilko Ilev, FDA, USA
- 09:00 – 09:30 ***Modern optical biometrology: The science of measurement and data validation***  
Ilko Ilev, FDA, USA
- 09:30 – 10:00 ***Novel fiber-optic biosensors***  
Richard Claus, Virginia Tech, USA
- 10:00 – 10:30 ***Metronomic photodynamic therapy: Principle to practice***  
Stuart Bisland, University of Toronto, Canada
- 10:30 – 11:00 Coffee Break
- 11:00 – 12:30 **Session IV, Part B: Theory of Energy Delivery**  
Session Chair: Kunal Mitra, Florida Institute of Technology, USA
- 11:00 – 11:15 ***Theory of Energy Delivery***  
Kunal Mitra, Florida Institute of Technology, USA
- 11:15 – 12:15 ***The Significance of Pulsing in the Stimulation of Tissue Repair and Regeneration by Light***  
Mary Dyson, University of London, UK
- 12:30 – 13:30 Lunch
- 16:00 – 17:30 **Poster Session I** with coffee
- 18:00 – 19:30 Dinner
- 19:30 – 21:00 **Session V: Cardiovascular Repair**  
Session Chair: Uri Oron, Tel Aviv University, Israel
- 19 :30 – 20:30 ***Effects of low energy laser irradiation on the ischemic heart***  
U. Oron, Tel Aviv University, Israel
- 20:30 – 21:00 Discussion
- 21:00 – 22:00 Social Hour

**Wednesday, August 25, 2004**

- 07:30 – 08:30 Breakfast
- 09:00 – 12:00 **Session VI: Nerve Regeneration and Axonal Guidance**  
Session Chair: Juanita Anders, Uniformed Services University,  
USA
- 09:00 – 09:05 ***Welcome and Introduction***  
Juanita Anders, USUHS, USA
- 09:05 – 09:30 ***Neuronal Response to Injury***  
Rosemary Borke, USUHS, USA
- 09:30 – 10:00 ***Strategies for Improving Peripheral Nerve Regeneration After Severe Lesions: The Potential Role of Low-level Laser Therapy***  
Stefano Geuna, University of Torino, Italy
- 10:00 – 10:30 ***Further Development in the Technologies of reconstruction and cell tissue engineering for the treatment of peripheral nerve and spinal cord injury***  
Shimon Rochkind, Tel Aviv University, Israel
- 10:30 – 11:00 Coffee Break
- 11:00 – 11:30 ***810 nm Light Therapy Improves Axonal Regeneration and Functional Recovery Following Acute Spinal Cord Injury***  
Kimberly Byrnes, Georgetown University, USA
- 11:30 – 12:00 ***LELI for Acute Stroke***  
Jackson Streeter, PhotoThera, Inc., USA
- 12:00 – 12:10 ***Effect of Low Power 655 and 830 nm Diode Laser Irradiation on the Neuromuscular Junctions of the Mouse Diaphragm***  
Renata A. Nicolau, Rovira i Virgili University, Spain
- 12:10 – 12:30 **Discussion**
- 12:30 – 13:30 Lunch
- Afternoon *ad hoc* sessions / Free time
- 14:00 – 17:00 **NAALT Education on Laser Therapy**
- 14:00 – 15:00 ***Veterinary Applications***  
Melyni Worth
- 15:00 – 16:00 ***Bone Healing***  
Julian Winer

**Wednesday, August 25, 2004 (continued)**

- 16:00 – 17:00      ***Wound Healing***  
Anita Saltmarche
- 16:30 – 17:30      *ad hoc* session for students  
Careers in Light Therapy
- 18:00 – 19:30      Dinner
- 19:30 – 22:00      **Session VII: Wound Repair**  
Session Chair: Lars Hode, Swedish Laser Medical Society,  
Sweden
- 19:30 – 20:00      ***New Steps Toward an Understanding of the Mechanisms  
Behind Photobiomodulation***  
L. Hode, Swedish Laser-Medical Society, Sweden
- 20:00 – 20:30      ***Effects of Low Power Irradiation on Cartilage Tissue***  
Brian Wong, Beckman Laser Institute
- 20:30 – 21:00      ***The Impossible Dose – How can something simple be so  
complex?***  
L. Hode, Swedish Laser-Medical Society, Sweden
- 21:00 – 21:30      ***Biochemical Methods Employed to Evaluate the Effects of a  
helium-Neon Laser (632.8 nm) on Diabetic Induced and  
Normal Human Skin Fibroblast Cells for Application in Wound  
Healing***  
N. Houreld, University of Johannesburg, South Africa

No Social Hour because of Monau Kea Trip Thursday morning.

**Thursday, August 26, 2004**

- 07:30 – 08:30 Breakfast
- 09:00 – 12:00 **Session VIII: Dentistry**  
Session Chair: Don Patthoff, Association for Laser Dentistry, USA
- 09:00 – 09:15 ***Introduction and Housekeeping, Why an Ethics Framework?***  
Don Patthoff, Association for Laser Dentistry, USA
- 09:15 – 09:30 ***Case Presentation – A Dental Educator’s View***  
Paul Bradley
- 09:30 – 09:40 Audience Comments and Questions
- 09:40 – 10:00 ***Case Presentation – A Veterinarian’s Experience with a Dental Marketing View***  
David Bradley
- 10:00 – 10:10 Audience Comments and Questions
- 10:10 – 10:30 Coffee Break
- 10:30 – 10:50 ***Ethical Tools – An Editor’s View***  
Don Patthoff
- 10:50 – 11:00 Audience Comments and Questions
- 11:00 Leave for trip to Mouna Kea and Gemini Telescope  
Box Lunch provided for those on the trip
- ad hoc sessions / Free time*
- 12:30 – 13:30 Lunch (for those not going on the trip)
- 19:00 – 20:30 Conference Banquet  
Speaker: Peter Michaud, ***It’s all done with Mirrors***
- 20:30 – 21:30 Social Hour

**Friday, August 27, 2004**

- 07:30 – 08:30            Breakfast
- 09:00 – 10:00            **Session IX: Pain Relief**  
Session Chair: Roberta Chow, Private Physician
- 09:00 – 09:30            ***Effects of 830nm laser on rat dorsal root ganglia –  
Implications for the analgesic effects of laser***  
Roberta Chow, Private Physician
- 09:30 – 10:00            ***Erchonia laser treatment on postsurgical pain and ease of  
extraction of fat in liposuction patients***  
K. Slattery, Erchonia Medical Lasers, USA
- 10:00 – 10:30            TBD  
Peter Whitaker
- 10:30 – 11:00            Coffee Break
- 11:00 – 12:30            **Session X: Sports Injuries**  
Session Chair: Karen Carroll
- 11:00 – 11:30            ***Laser and Acute Management – Penetration***  
Karen Carroll
- 11:30 – 12:00            Contra-indications
- 12:00 – 12:30            Conference Wrap-up
- 12:30 – 13:30            Lunch and Departure
- Conference Adjournment