Program

Light Activated Tissue Regeneration and Therapy

August 22 - 27, 2004

OHANA Keauhou Beach Resort
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Food and Drug Administration, USA

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Uniformed Services University, USA

Tiina Karu
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ECI

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The Whitaker Foundation
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 – 10:00  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

09:00 – 10:30
09:00 – 10:30  Metronomic photodynamic therapy: Principle to practice
Stuart Bisland, University of Toronto, Canada

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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 – 21:00  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