

THE SCIENCE BEHIND LLLT

From molecular biology to cell and tissue level- what are the mechanisms of action?



A TOPICAL SYMPOSIUM

7 - 8 August 2009, 8.00am - 5.00pm

University of Rochester, Rochester, NY, USA

Register at: www.pol-us.net/ASP_Home/asp_meet.html

Over the past 40 years there have been many seemingly extraordinary claims of successful treatments of a wide range of diseases, dysfunctions and injuries through the use of "low-level" laser (or light) therapy (LLLT). Many different terms have been used— from LLLT to "biostimulation," "photobiomodulation," and other terms. Claims ranging from wound healing, analgesia, reduction of inflammation and nerve regeneration have been seriously questioned by the scientific community and met with great skepticism by much of the medical community. Since irradiances are below levels that produce any significant increase in tissue temperature, it is generally agreed that if these photobiological treatments are real, then they are photochemical rather than photothermal in nature.

Although there are now FDA-cleared LLLT treatments and growing acceptance from some quarters, the scientific acceptance has been routinely set back by poorly designed, less-than-rigorous experimental and clinical studies. Clearly presented photobiological dosimetry and recognition of fundamental methodology in the field of photobiology have frequently been lacking. The aim of this ASP symposium is to explore the scientific evidence for the photobiological mechanisms behind LLLT - from molecular biology to cell and tissue level, and to review those clinical results that appear to be well founded. Ample time has been planned for discussion after each review of the key scientific questions from action spectra to temporal and spatial factors that appear to influence outcome. A key element for this symposium is to encourage photochemists, photobiologists - and even plant photobiologists - and others who are not generally involved in studies of LLLT to attend and participate in discussions. We encourage past skeptics to participate and explore with us the evidence for cellular effects. The basic scientific studies that explore mechanisms of action rather than clinical studies will be emphasized, but it is important to see what is really clinically significant. There are invited reviews of the clinical studies.



Goergen Hall, Room 101
University of Rochester, River Campus

Hotel Information:

Double Tree Hotel Rochester
1111 Jefferson Road, Rochester, NY 14623
Phone: 585-475-1510

Mention you are attending the
**American Society for Photobiology
Symposium** for the room rate of \$109.00

Invited Speakers Include:

Stefano Geuna, University of Torino - LLLT and Microsurgery

Praveen Arany, Harvard Dental School - Wound Healing: The role of TGFbeta & other factors

James Carroll, THOR Photomedicine - Developing Clinical Trials

Thomas Coohill, Siena College - UV Interaction with DNA and Cellular Repair

Juanita Anders, USUHS - Light Interaction with Stem/Progenitor Cells

Michael Hamblin, Harvard Medical School, Wellman Center - Cellular & Molecular Mechanisms of LLLT

Raymond Lazafame, Rochester General Hospital - Why the Confusion? A clinical perspective and what are likely and unlikely as mechanisms

Robert Smith, South Africa - Photoactive porphyrins & reactive oxygen species (ROS) in mitochondria

Margaret Wong-Riley, Medical College of Wisconsin - Therapeutic Role of Cytochrome c oxidase in Neurons



Registration

Registration \$150.00
Students and 'Postdocs' \$50.00

Register Online at:
www.pol-us.net/ASP_Home/asp_meet.html

Seating is limited so register early!

If you need assistance or further information,
please contact Linda Hardwick at:
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