

## Photobiomodulation: An Accepted Therapeutic Modality?

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It is almost 10 years ago, 2006 to be precise and approximately 3 years after initiating my research on the effect of low intensity laser irradiation on biological tissue, when I attended my first World Association for Laser Therapy conference in Cyprus. I was a novice to this treatment modality, the guru's in the field and the politics surrounding the different personalities and countries. I met magnificent scientists, kind critics and generous mentors at that conference. While my usual demeanor is to silently stand and observe at conferences, this time I unexpectedly found myself presenting a bid to host the next WALT conference in South Africa and the rest is history. That event solidified my association with the research field but also introduced me to the journal *Photomedicine and Laser Surgery*.

Over the last 10 years our group has contributed a number of publications to the journal and established itself as a major contributor to the area of photobiomodulation and photodynamic therapy research. I was delighted to have our research accepted for publication in this journal and even more proud when I was requested to act as reviewer. Once again my role developed over the years to senior editor and I was honored and proud when approached to act as co-editor in chief. I hope to introduce a number of new interventions for the journal with the aim of increasing its readership and improving the impact factor which have now become such an important measure of the value of one's contribution to science. I wish to thank and acknowledge Prof Chukuka Enwemeka both for his significant contribution to the field and journal but also for his role in introducing me to the photobiomodulation as a science and therapy.

I would now like to turn to issues with which we have all struggled and that has contributed to both successes but also controversies in phototherapy. *Photobiomodulation* – I used to find it quite appropriate to start a manuscript introduction with the phrase “Despite significant progress in the field of low intensity laser irradiation as a therapeutic modality and the fact that this treatment has been studied and clinically applied for more than 40 years, controversy still remains as to its’ “effectiveness”. Currently I prefer the following introduction: “Photobiomodulation is the application of low intensity laser irradiation to biological tissue with the aim to stimulate cellular processes enhancing the activation of biochemical mechanisms which induce activation of specific factors that contribute to healing, pain relief, reduction of inflammation and tissue regeneration”. Despite poor reporting and research design, I am of opinion that the research produced and reported over the last 10 years, both basic and clinical, have cemented photobiomodulation as a scientifically proven stimulant to activate biological pathways and cascades that introduce significant changes in biological organisms.

*Laser parameters* – In 2008 Prof Enwemeka published an editorial stating that less than 20% of published reports in the literature had sufficient dose-related data to permit statistical meta-analysis. In addition it is well recognised that parameters used in laboratory studies cannot be directly translated into clinical application. Poor reporting remains a major contributing factor to rejection of manuscripts and controversy surrounding effectiveness of treatments due to insufficient inference of parameters used and reported on and subsequent practice in clinical environments. Treatment parameters reported in publications should include: irradiance / power density; energy density or fluence; duration of each treatment session; frequency of treatment and cumulative dose. This requirement should remain compulsory for all publications accepted in PMLS [1].

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The 2016 International Conference on Biomedical and Biological Engineering (BBE2016) will be held in Shanghai, China, on July 15th-17th, 2016. Experts from different areas and countries will be invited to give specific speeches. We warmly welcome you to BBE 2016! Biomedical and Biological Engineering is a highly comprehensive interdisciplinary which synthesizes the theories and methods of Engineering, Biology and Medicine. It researches the changes of state of the human body systems at every level, and it applies the way of engineering technology to control this kind of changes. Its purpose is to solve the relevant problems in the field of medicine, to guarantee the health of human, to serve the prevention, diagnosis, remedy and recovery of disease.

The International Conference on Biomedical and Biological Engineering (BBE 2016) will be the most comprehensive conference which focuses on the various situations of Biomedical and Biological Engineering. It will cover different types of topics such as biological engineering, biomedical, healthcare technologies, and medical and clinical applications. The conference program will consist of invited plenary lectures, symposia, workshops, invited sessions and oral and poster sessions of unsolicited contributions.

In addition to the attractive and interesting conference, you can also take a short trip to Shanghai, China. It is not only the largest city in China, but also a famous tourist city. There are many places in Shanghai which are worth going to. You could also take a short trip after participating in the attractive and interesting conference.

Please click [here](#) for the conference website.

### **Preface**

The 2016 International Conference on Biomedical and Biological Engineering (BBE 2016) is to provide a platform for researchers, engineers, scholars as well as industrial professionals from all over the world to present their research results and development activities about Biomedical and Biological Engineering. The conference will be held in Shanghai, China, on July 15th-17th, 2016. Specialists from different countries and territories will be invited to give specific speech for every important section of the conference. BBE 2016 aims to bring researchers, engineers, and students to the areas of Biomedical and Biological Engineering. BBE 2016 features unique mixed topics of Biological Engineering, Biomaterials, Biomedical Engineering, and Bio-Medical Materials and application.

We received 135 papers in total, and accepted 77 papers (55.5 percent). The Technical Program Committee worked very hard to have all papers reviewed before the review deadlines. There are seven keynote speeches. All the keynote speakers are internationally recognized leading experts in their research fields, who have demonstrated outstanding proficiency and have achieved distinction in their profession. All the papers accepted by BBE2016 will be published by Atlantis Press and submitted to EI and CPCI index by the publisher. Every submitted paper went through a rigorous review process. Therefore, we are not able to include many fine papers in the technical program. Our apology goes to those authors.

As General Chair, I have many people to thank. I would like to express my sincere gratitude to all the members of Technical Program Committee and organizers for their enthusiasm, time, and expertise. My deep thanks also go to many volunteers and staffs for the long hours and hard work they have generously given to BBE2016. Finally, I would like to thank all the authors, speakers, and participants of this conference for their contributions to BBE2016.

Prof. Congo Tak Shing Ching  
BBE2016 General Chair

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preface

the people

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[preface](#)

[the people](#)

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