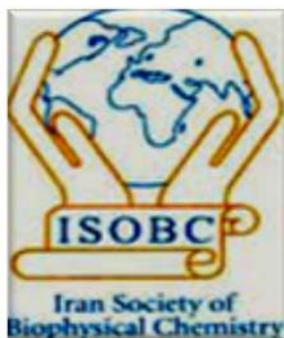




ISOBC NEWSLETTER

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ISOBC Newsletter

October, 2014

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Iran Society of Biophysical Chemistry

News

UNESCO chair in Interdisciplinary Research in Diabetes-2014 was established in University of Tehran

World Wide Organization (WHO) reported that more than 180 million peoples suffer from diabetes and the total number of them will increase more than two times even 439 million people in 2030. Without any inhibiting strategies the mortality of diabetes will increases up to 50% in the next decade. Aging, population growth, new life styles, poor diets, obesity and inactivity and especially stress are the most important factors in the worldwide development of diabetes.

Regards to Biophysics ability as a fundamental and cognitive knowledge field relative to high molecular basis identifying potential for diseases tracing, the valuable UNESCO chair in Interdisciplinary Research in Diabetes was established at Institute of Biochemistry and Biophysics of the University of Tehran in 2014 to follow these UNESCO important programs and activities. This Chair comprises strengthening international academic cooperation in diabetes research and its application for natural development, associate the chair with the activities of other chairs, inter-university network in different regions of the world, promote an integrated system of research, training, information and documentation activities in the area of Biophysics of Diabetes. This Chair invites the scientists for research collaboration in the field of molecular and cellular diabetes for worldwide advancement of science and technology.

F.Taghavi, PhD

The Chair Correspondence

Email: taghavif@ut.ac.ir





Biophysics Student in Profile

Leila Fotouhi

PhD Student of Biophysics, University of Tehran

Herewith, I would like to acknowledge the young scientist travel award (YSTA) granted to me from IUPAB providing the great opportunity for me to attend the 18th IUPAB Congress, which was held by the Australian Society for Biophysics (ASB) and the International Union of Pure and Applied Biophysics (IUPAB) at Brisbane Convention and Exhibition Centre (Brisbane, Australia) from August 3 to August 7, 2014. About 700 scientific works were accepted for oral and poster presentation sections and the number of attendee were even more from all over the world!

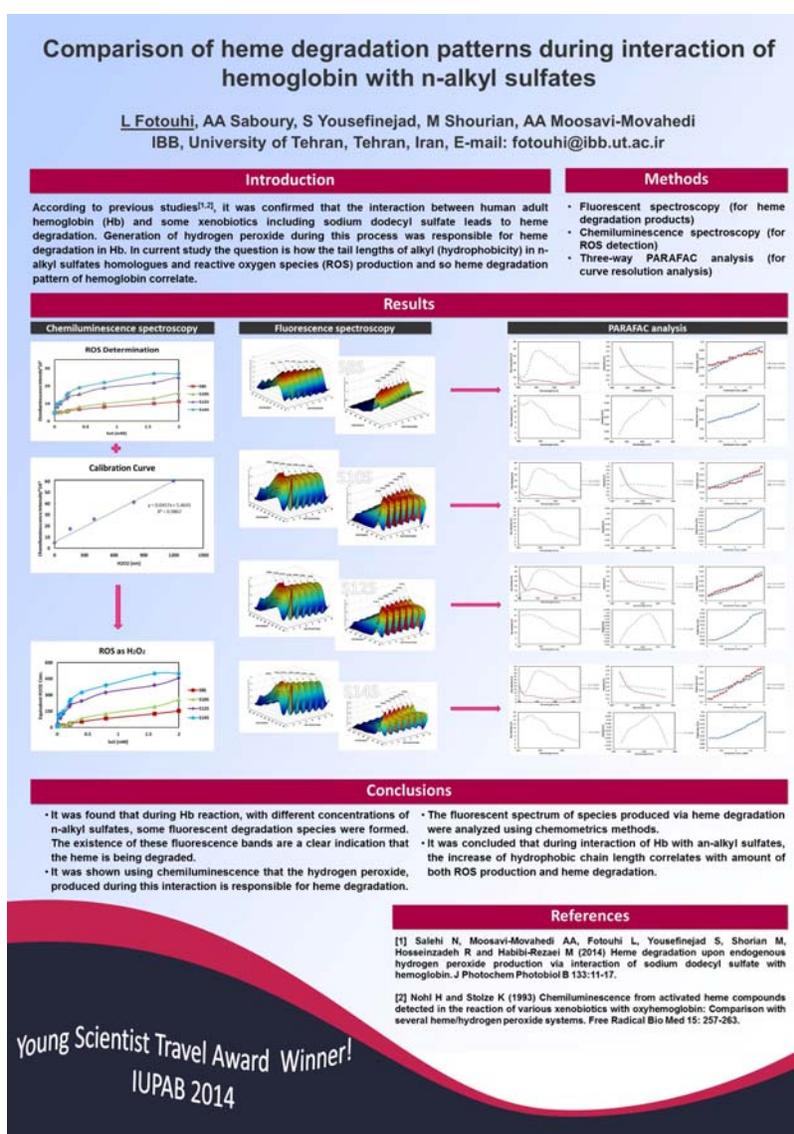
The meeting included keynote and plenary lectures by Nobel Prize winner and brilliant scientists, specialized sessions oral presentation and also poster presentations. More than 100 oral presentations were pre-selected (presumably) on the basis of their significance and timeliness by the organizers within subject areas. Some of the presenters were postdoctoral fellows and graduate students and this was amazing to me. When I was submitting my work to the congress I myself preferred to present my research result in a poster and not in an oral presentation. Actually talks in front of experts of the field could be quite an experience! I strongly believe that graduate students should attend these kinds of meeting at least once, to face the real world in competitive research.

Considering the advantage of gaining lots of feedbacks and ideas in a face to face manner, a poster presentation may be preferable than oral one. There were about 150 posters in each of three sessions. I had a poster entitled "Comparison of heme degradation patterns during interaction of hemoglobin with n-alkyl sulfates" on the first day for which I could win YSTA. Our findings shows that during Hb reaction with different concentrations of n-alkyl sulfates some fluorescent degradation species were formed and that the increase of hydrophobic chain length of n-alkyl sulfates correlates with amount of both ROS production and heme degradation. There were some scientists stopped by my poster, asked me about the core idea of our work and gave me quite a few good suggestions.

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In general, I feel that attending the 18th IUPAB, as my first international event during my PhD really helps me a lot. The congress provided me with an excellent opportunity to share and to know interesting new research results and to discuss about them, leading to knowledge exchange and the generation of new ideas. At the end, I would like to thank my thesis supervisors Prof. Moosavi-Movahedi and Prof. Saboury too for the patient guidance, encouragement and advice they have provided throughout my research.

Please see my poster that was presented in 18th IUPAB:





Biophysics Student in Profile

Amir Homayoun Keihan

PhD Student of Biophysics, University of Tehran

First of all, I wish to acknowledge the travel fund from the University of Tehran and Baqiyatallah University of Medical sciences providing the great opportunity allowing me to attend the 65th Annual Meeting of the International Society of Electrochemistry, which was held at the Swiss Tech Convention Center (École polytechnique fédérale de Lausanne, Lausanne, Switzerland) from 31 August to 5 September, 2014.

Lausanne is a city in Romandy, the French-speaking district of Switzerland; it is the capital of the canton of Vaud. The seat of Lausanne District, the city is situated on the shores of Lake Geneva. It faces the French town of Évian-les-Bains, with the Jura Mountains to its north-west. Lausanne is located northeast of Geneva. Lausanne is the fifth largest city in Switzerland. The headquarters of the International Olympic Committee (IOC) is located in Lausanne – the IOC officially recognizes the city as the Olympic Capital as is the headquarters of the Court of Arbitration for Sport. It lies in the middle of a wine-growing region. The city has a 28-station metro system, making it the smallest city in the world to have a rapid transit system.

The main theme of the Meeting – “Ubiquitous Electrochemistry” highlights the fact that many of today’s challenges and opportunities can be addressed through electrochemistry. ISE plays an important role in this effort, emphasizing the links between fundamental understanding at the nanoscale and application at the industrial and societal level. The meeting gave the participants an opportunity to discuss common challenges and propose innovative solutions to the problems that face us as we enter this new era.

At the Opening Ceremony, the participants were welcomed by Professor Hubert H.Girault, Chair, organizing committee and Thierry Lenzin, conference administration, Hasuck Kim, President of the International Society of Electrochemistry.

The scientific contributions from the participants were extensive and excellent in quality. Five plenary lectures were presented by Yang Shao-Horn (MIT, USA),



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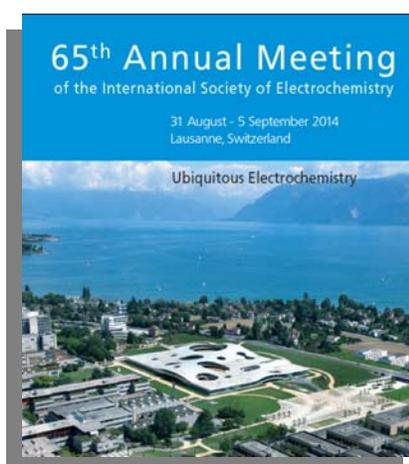
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Patrick R. Unwin (University of Warwick, UK), Nenad Markovic (Argonne National Laboratory, USA), Patrick Schmuki (University of Erlangen, Germany) and Digby Macdonald (University of California at Berkeley, USA).

In total, the program included 5 plenary lectures, more than 200 oral presentation and 400 poster presentations, distributed among 15 symposia. There were three poster presentation sessions which took place in the late morning in a large space, facilitating excellent interaction among the delegates. I had a poster entitled “Comparing the Effect of Three Different Ionic Liquids on the Electrocatalytic Performance of Prussian Blue/Carbon Nanotubes Composites” on the third day. Our results showed that the type of RTIL can greatly affect the electrocatalytic performance of PB nanocomposites. There were some scientists stopped by my poster, asked me about the core idea of our work.

As a consequence, I feel that attending the 65th ISE Annual Meeting (for the third time) during my PhD really helps me a lot. This conference is very interesting and enriches my experience with more information, knowledge and confidence.

At the end, I would like too many thanks to my supervisor, Professor Ali Akbar Moosavi-Movahedi for his generous support and guidance and Dr. Sharareh Sajjadi for her kind assistance.





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New Conference:

***3rd International Symposium on Green Chemistry
May 3-7, 2015
La Rochelle-France***



3rd International Symposium on Green Chemistry
May 3-7, 2015 - La Rochelle - FRANCE



More information: <http://www.isgc2015.com>



***2015 Spectroscopy and Spectral Analysis Conference (SSA2015)
January 31 - February 2, 2015
Shanghai, China***



More information: <http://www.scirp.org/conf/ssa/2015feb>



***Protein Aggregates and Particles
5-6 November 2014
Lisbon, Portugal***



More information: <http://www.pegsummiteurope.com/protein-aggregates>



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2nd Protein-Protein Interaction Conference
October 23-24, 2014
Boston, MA

The banner features a network diagram on the left with nodes and connecting lines. To the right, the text reads: **2nd PROTEIN-PROTEIN INTERACTION**. Below this, it says **OCTOBER 23-24, 2014 • BOSTON, MA**. There is a search bar and social media icons for Facebook and Twitter.

More information: <https://www.gtcbio.com/conferences/ppi-overview>



**The International Joint Conference on Biomedical Engineering Systems
and Technologies (BIOSTEC 2015)**
January 12 - 15, 2015
Lisbon, Portugal

BIOSTEC 2015
8TH INTERNATIONAL JOINT CONFERENCE ON
BIOMEDICAL ENGINEERING SYSTEMS AND TECHNOLOGIES

12 - 15 JANUARY, 2015
LISBON, PORTUGAL

BIODEVICES
BIOIMAGING
BIOINFORMATICS
BIOSIGNALS
HEALTHINF

More information: <http://www.biostec.org>



The "Global Biotechnology Congress 2015"
July 22nd- 25th
Boston, USA,

Global Biotechnology Congress 2015
July 22 - 25, 2015, Boston, MA, USA

MOBILE WEBSITE

ABSTRACT BOOK GBC 2014
GENERAL INFORMATION
SPEAKERS & POSTERS
SPONSORSHIP
PROMINENT PARTICIPANTS
ACCOMMODATION

More information: <http://biotechnology-conference.us>



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4th Conference of ISOCARD
"SILK ROAD CAMEL: THE CAMELIDS, MAIN STAKES FOR SUSTAINABLE DEVELOPMENT"
June 8-12, 2015
Almaty, Kazakhstan



More information: www.isocard2015.kz



The National Conference on Protein & Peptide Science
10 & 11 Dec 2014
Shiraz

کنفرانس ملی علوم پروتئینی و پپتیدی از پایه تا کاربرد های پزشکی و صنعتی
دانشگاه شیراز ۱۹ و ۲۰ آذرماه ۱۳۹۳

The National Conference on Protein and Peptide Sciences
"From Basic to Medical and Industrial Applications"
Shiraz University 10 & 11 Dec 2014

More information: <http://pps.shirazu.ac.ir>

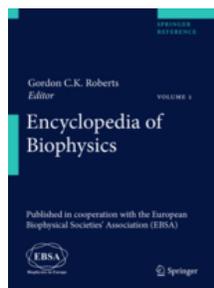


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New books & journals:

Encyclopedia of Biophysics

Roberts, Gordon C.K. (Ed.)



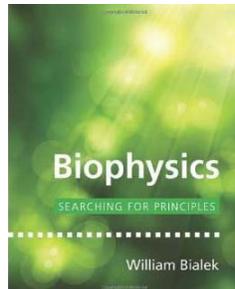
2013, CDXXV, 2807 p. 1690 illus., 1253 illus. in color. In 5 volumes

- Offers comprehensive coverage of biophysics
- Examines all fields of modern biophysics
- Online version available with extensive cross-referencing / hyperlinks
- Published in cooperation with the European Biophysical Societies' Association (EBSA)

More information: <http://www.springer.com/life+sciences/biochemistry+%26+biophysics/book/978-3-642-16711-9>

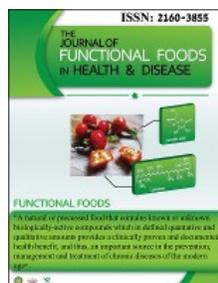
Biophysics: Searching for Principles

2012 /William Bialek (Author)



More information: http://www.amazon.com/Biophysics-Searching-Principles-William-Bialek/dp/0691138915/ref=zg_bs_13514_6/188-3671757-3519215

The Journal of Functional Foods in Health and Disease (FFHD)



Food Science Publisher

ISSN: 2160-3855

Editors-in-Chief:

Danik M. Martirosyan, PhD, Department of Internal Medicine, UT Southwestern Medical Center, Dallas, TX, USA;

Garth L. Nicolson, PhD, Professor, Department of Molecular Pathology, The Institute for Molecular Medicine, S. Laguna Beach, CA, USA;

More information: <http://functionalfoodscenter.net/the-journal-of-ffhd.htm>



Interview

Dr. Maghami is a postdoctoral researcher at Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran. Here is an interview with her:

Please introduce yourself as a member of Iran Society of Biophysical Chemistry and your position in postdoct.

I m Parvaneh Maghami, a PhD in Biophysics graduated from Tarbiat Modares University. After I graduated, I joined to Dr. Mikkel Anderson's lab and research on Cooling Laser and Atomic Trapping in Department of Physics at Otago University, New Zealand from Sep. 2010- March, 2012. I believe that my experiences in Otago University have broadened my mind and provide me with a breadth of knowledge. From January 2013 I am working in laboratory of Professor Ali Akbar Moosavi-Movahedi at IBB, University of Tehran to attend new experience and to acquire a new and deep knowledge related to Biophysical Chemistry. I am very glad that I had the opportunity to enter in this lab and it is a great honor for me to work with such prepared and smart people.

How you acquainted familiar with Iran Society of Biophysical Chemistry?

Since I was PhD student, I was familiar with ISOBC newsletter. I really enjoy reading the newsletters due to I have found it very informative in field of Biophysical Chemistry. When I started working as a postdoc position at IBB, I become a member of ISOBC.

What is your research area?

I do research on Effect of Methyl Tertiary Butyl Ether (MTBE) on Human Hemoglobin, and Heme degradation. The purpose of this research is to determine the effect of MTBE on human health at molecular level. Methyl tertiary butyl ether (MTBE) is a fuel additive commonly used to reduce carbon monoxide and ozone levels caused by auto emissions. However, the significant increase in its use in recent years has raised new questions related to its potential toxicity. In fact, although available data are somehow conflicting, there is evidence that MTBE is injurious substance that may have harmful effects on both animals and humans. In this study, the toxic effects of MTBE have been analyzed on Human

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Hemoglobin and Insulin in order to clarify the toxic effect and diabetic diseases related to MTBE exposure.

What are some of your latest research achievements in Biophysical Chemistry and Biological Calorimetric?

From January 2013, I have followed Professor Moosavi- Movahedi's research team as a postdoctoral researcher. Since now, some of our joint works have been published in international journals:

1-Potassium sorbate as an AGE activator for human serum albumin in the presence and absence of glucose, Potassium sorbate (PS) as a widespread preservative is an oxidative agent and used in different dairy and drug products, has a stimulatory effect on glycation and fibrillation of HSA in the presence or absence of glucose, and could exacerbate complication of diabetes. (International Journal of Biological Macromolecules 62 (2013) 146– 154)

2-Investigation of thermal reversibility and stability of glycated human serum albumin, Protein glycation, the process by which carbohydrates attach to proteins upon covalent binding, can alter protein thermal reversibility and stability. The glycation of HSA increased its thermal reversibility and stability, but decreased its conformational entropy compared to fresh native HSA and untreated HSA.(International Journal of Biological Macromolecules 62 (2013) 358– 364)

3-Inhibition of fluorescent advanced glycation end products (AGEs) of human serum albumin upon incubation with 3-bhydroxybutyrate, the inhibitory effect of 3BHB on AGEs formation by glucose from the human serum albumin (HSA) was studied at physiological conditions after 35 days of incubation, using physical techniques such as circular dichroism and fluorescence spectroscopy, as well as differential scanning calorimetry (DSC). (Molecular Biology Reports 41(6) (2014) 3705-3713)

A furthermore, I have gained valuable work experience in the biophysical chemistry lab and contribute fruitfully to Biocalorimetry research being carried out at the lab.



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