



ISOBC NEWSLETTER

Volume 13, Number 3



ISOBC Newsletter

December 2018

Volume 13, Number 3

Iran Society of Biophysical Chemistry

News

15th CBC Conference on Biophysical Chemistry, Gorgan, Iran

15th Iran Biophysical Chemistry Conference (IBCC) was held at 23 and 24 October, 2018 in Islamic Azad University Gorgan branch, Gorgan, Iran. The goal of this scientific conference was to provide common areas of collaboration between academic persons, inform latest scientific finding across presentation in the different fields of Biophysical Chemistry, discussions on the application of Biophysical Chemistry, Biophysics and Biochemistry in the treatment of diseases such as cancer, diabetes, etc. This conference included both lecture and poster presentation sessions, and about 150 papers were accepted by the conference scientific committee from which 19 papers were selected as oral presentations and the rest as the posters.

The opening of conference was held in the morning of the first day of conference, 23th of October, with a public lecture given by Professor Ali Akbar Moosavi-Movahedi, Professor of Biophysical Chemistry at University of Tehran, President of Iran Society of Biophysical Chemistr. The official welcome speech was presented by Dr. Ali Taheri, the Chancellor of Islamic Azad University Gorgan branch and Dr. E. Tazikeh the General Director of 15th CBC Conference on Biophysical Chemistry.

The list of speeches were as follows:

Invited Speakers	Titles
Asghar Taheri-Kafrani (Moosavi-Movahedi Awardee)	Graphene- based nano composites: Synthesis, Characterization, and biological applications
Gholahosein Tahmasbi	Beekeeping and research on molecular biology in Iran Beekeeping and research on molecular biology in Iran
Hedaytollah Ghourchian	The current applied researches in Bio-Analysis Lab
Gholamhossien Riazi	The Effect of Tryptophan Networks in Microtubules on Learning and Memory
Abolghasem Ghadami	Analysis of conformational changes in native and mutants human transthyretin during the folding and aggregation processes
Samaneh Zolghadr	Anti-tyrosinase agents for the prevention of browning and hyperpigmentation treatments: a comprehensive review
Khosro Khajeh	Nanoscaled delivery systems for therapeutic applications
Mohammad Reza Hosaindokht	The Importance of Recognizing Binding Sites and Introducing

Volume 13, Number 3

	Methods for Identification of them
Mahboube Eslami Moghadam	Improved some anticancer Platinum drugs delivery by mesoporous Silica microparticles application in chemotherapy
Abolghasem Abbasi Kajani	Green and Facile Synthesis of Highly Photoluminescent Multicolor Carbon Nanocrystals for Cancer Theranostics
Vahid Sheikh-Hasani	The mechanical properties of a single cell measured by piconewton resolution reveal the mechanism of action of some drugs
Reza Yousefi	Diabetes treatment using third generation of insulin: the latest progress in developing new insulin analogs
Mojtaba Amani	Caution in Using High Sensitive Differential Scanning Calorimetry
Bita Zamiri	The Biophysical Characterization of the Higher-order Structures of the C9orf72 repeat
Behafarid Ghalandari	Protein Interaction and Cytotoxicity of Novel Pt(II) and Pd(II) Complexes
Abdol-Khalegh Bordbar	Novel Binding Models for Interaction of Small Molecules to Proteins
Sajjad Gharaghani	Polypharmacology in Drug Discovery
Soghra Bagheri	Interaction of all-trans retinoic acid with human serum albumin
Hadi Nedaee	NMR and MD as two methods of monitoring the self-association of small molecules in aqueous solutions for biological application

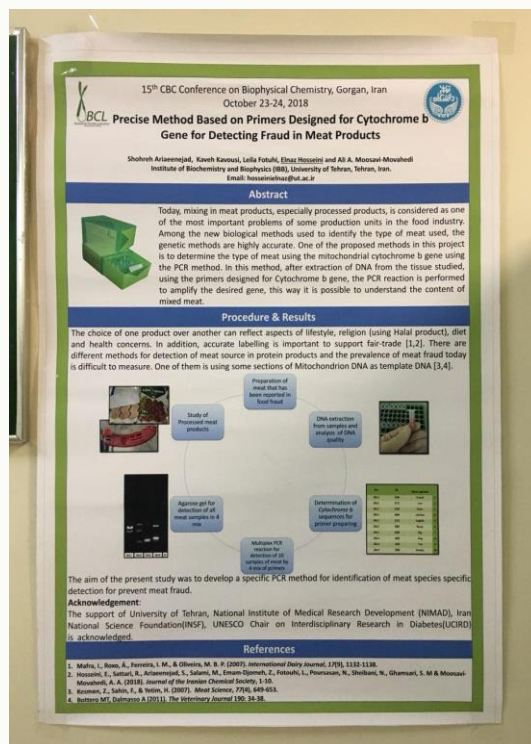
In the first day after inauguration, Professor Ali A. Saboury conferred the Moosavi-Movahedi award to Dr. Asghar Taheri-Kafrani.

In the end session at the 2nd days the awards of Iran Society of Biophysical Chemistry (ISOBC) were given to Dr. B. Zamiri and Mrs M. Pirhaghi.

In the end session, Professor A. A. Moosavi-Movahedi expressed his appreciation concerning organization of the conference to Dr. E. Tazikeh as the General Director of 15th CBC Conference on Biophysical Chemistry.

Volume 13, Number 3

In this conference a PCR method which was developed by Biophysical Chemistry Laboratory (BCL) for identification of meat species to prevent meat fraud was presented as a poster. This technique is ready for commercialization.



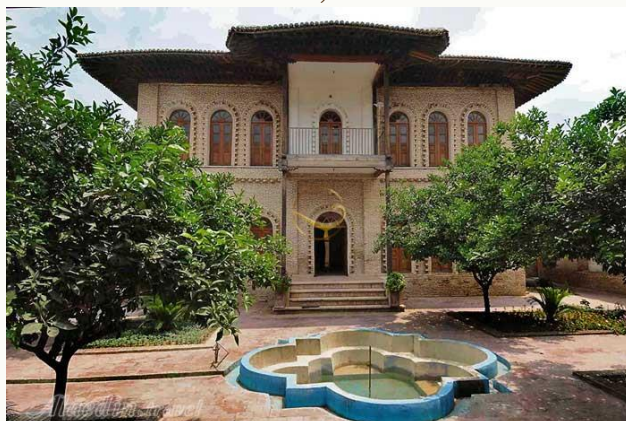
Side programs

In the first day after the completion of scientific lectures, the participants visited the cultural, historical locations and attractions of Gorgan city, including the Bagheri historical house, Latifi historical house and Alangdareh Forest Park which was planned by the executive committee of conference.



ISOBCE NEWSLETTER

Volume 13, Number 3



Overall, the conference provided a good opportunity for scientific collaboration in the field of Biophysical Chemistry.

Prepared By Elnaz Hosseini
PhD Student in Biophysics,
Institute of Biochemistry and Biophysics (IBB),
University of Tehran, Tehran, Iran

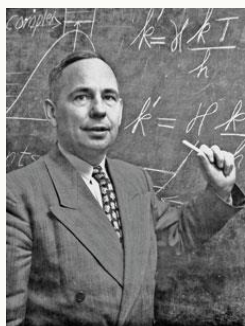


ISOBCE NEWSLETTER

Volume 13, Number 3

Scientific reflections from scientists in the area of Biophysical Chemistry

Henry Eyring was born in 1901 in the Mormon community of Colonia Juarez, Mexico. Eyring's family left Mexico to the U.S. in 1912. After he received B.S. and M.S. degrees in mining and metallurgical engineering at the University of Arizona, he left to California where he earned a Ph.D. degree of chemistry in 1927 from the California University in Berkeley. After serving as a



postdoctoral studies associate for a year at the University of Wisconsin, he went to Kaiser Wilhelm Institute in Berlin where he held a National study Foundation Fellowship. He was assistant, then associate, and full professor of chemistry at Princeton University from 1931 to 1946. In 1946, Eyring moved to the University of Utah to undertake a professorship in chemistry and to serve as the first head of the graduate school. He held his faculty

place at Utah until his death in 1981. During the time he spends on the Utah faculty, Eyring served as president of the American Chemical Society in 1963 and was chosen to the National Academy of Sciences. He won the National Medal of Science in 1966, ACS's Priestley Medal in 1975, and in 1979 won the Sweden's Berzelius Medal, and the Wolf Foundation Prize in Chemistry in 1980, among many honors. Throughout his academic career, Eyring applied statistical mechanics and quantum mechanics to an extremely broad range of problems in physical chemistry. For chemical reactions and the use of instrument in statistical mechanics to developing his absolute rate theory, he pioneered calculations of electronic potential energy surfaces. In future, that became the cornerstone of the theory of chemical reactions which all chemists know that as transition state theory. Henry Eyring, passed away in 1981[1].

1. Book review of "Mormon Scientist: The Life and Faith of Henry Eyring, By Henry J. Eyring

<http://cen.acs.org/articles/86/i23/Remembering-Henry-Eyring.html>

Prepared by E. Homami, Sh. Kialashaki, M. Aghamolaei, Y. Sajadimehr, N. Moradi, N. ElmiGhiasi, M. Qafary, N.Pishkari, X. Khosrozadeh Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran



ISOBBC NEWSLETTER

2018

Volume 13, Number 3

New National & International Conferences:

***International Symposium of Structural Biology and Molecular Basis of Diseases, Zanzan, Iran
January 9-11 (2019)***

More information: <https://iasbs.ac.ir/news-conference?id=41&is-news=0>

***4th National Conference on Protein and Peptide Science, Isfahan, Iran
May 1-2 (2019)***

More information: <http://conf.ui.ac.ir/pps4/fa/news.php?rid=14>



MADRID
20-24 JULY 2019

**JOINT 12TH EBSA
10TH ICBP-IUPAP
BIOPHYSICS CONGRESS**

BIOPHYSICS FOR LIFE AND TECHNOLOGY

More information: <http://www.ebsa2019.com/index.php>



ISOBC NEWSLETTER

2018

Volume 13, Number 3

ISOBC member Awarded at Research Festival of University of Tehran 2018

Fahimeh Salehi

Fahimeh Salehi, is an ISOBC member and her MSc thesis was awarded and selected as outstanding MSc thesis in Research Festival of University of Tehran 2018. She is now a talented PhD student at Institute of Biochemistry and Biophysics (IBB), University of Tehran. She has published 3 papers in prestigious International Journals (2 research articles in Scientific Reports and 1 in RSC advances) based on her Msc thesis. She has already published totally 7 international papers in prestigious international journals. One of Fahimeh's major interests is cancer biology and she is at the beginning of the path through understanding the biological phenomena taking place in cancer cells and believes that a lot of devotion and enthusiasm is required to delve into the biochemistry of cancer cells.

Biophysicist in Profile

Asghar Taheri-Kafrani, PhD

ISOBC Member



1-Please explain your scientific achievements as the awardee of Iran Society of Biophysical Chemistry (ISOBC)?

The main interest in my research group is synthesis, characterization, and biological applications of nanomaterials (either in targeted drug delivery or enzyme immobilization). Enzymes are used as biocatalysts for analytical purposes in diagnostics and preparative purposes in large-scale industrial processes. Despite perfect catalytic properties of enzymes, their industrial applications are limited due to the drawbacks regarding the lack of long-term stability under process conditions. The difficulties associated with recycling have to be resolved before enzyme implementation at industrial scale. Enzyme immobilization, as a novel approach, can improve the half-life, stability, catalytic activity, and reusability of enzymes. In our research group, we have concentrated on strategies for preparing various functionalized nanomaterials for enzyme immobilization. Nanostructures and their derivatives with adjustable surface chemistry caused them to be excellent candidates for immobilization of enzymes. As a result of the fascinating properties of the synthesized nano-carriers, with respect to structures that can be oriented and surfaces that can be modified, in our opinion, they offer some important advantages for biotechnological applications, especially in the areas of enzyme immobilization



ISOBC NEWSLETTER

2018

Volume 13, Number 3

and medicine. Also, significant advances have been made in the recent years for design and development of drug delivery systems based on nanoparticles. Various functionalized magnetic nanoparticles (MNPs), and carbon-based nano-composites were used in our research group for targeted drug delivery systems. Recently, we have launched into combining the unique properties of carbon-based nanomaterials with the MNPs to offer a convenient to obtain platform for improved therapeutics and biomedical applications. I am a person who love challenge. My passion on developing novel drug nano-carriers for enhancing the clinical efficacy of nano-medicines struggled me to think about the strategy of modifying anticancer-drug nano-carriers with extracellular matrix (ECM)-degrading enzymes for enhancing nano-carrier diffusion in tumors as the objective of my future research. This may be valuable to enhance the clinical efficacy of a broad range of drug nano-carriers which is a great need for human health.

2-What is your view about your membership in Iran Society of Biophysical Chemistry (ISOBC)?

I am one of the ISOBC members from 2012 until now. I found ISOBC as a dynamic community with friendly environment for scientist and researchers. The ISOBC is professional organization which follows some common aims with its special approach related to health, education and sustainable development. In my opinion, one of the most interesting events organized by ISOBC is the “Conference on Biophysical Chemistry”. I think this conference actually is a friendly environment for scientists and researchers in the fields of Biophysics, Biochemistry and Biophysical Chemistry to share their ideas, start new contributions and planning joint works. So



Volume 13, Number 3

this event should be supported and the conference should look for the financial assistance of the fixed volunteers among industry section and voluntary helpers.

3- Would you please explain your biography sketch, University and your CV?

I was born in 1983 in Isfahan province and did my education until end of high school in my born place. Then, in 2001 I've been attended to University of Isfahan as a bachelor student in Chemistry. My Master in Physical Chemistry from University of Isfahan was awarded in 2007. I received the double PhD degree in Biochemistry from University of Nantes, France, and in Physical Chemistry from University of Isfahan, based on a cooperation agreement between two universities securing the framework of the double degree PhD program (Co-tutelle). In 2011, I started my career at Department of Biotechnology, University of Isfahan, as an Assistant Professor (2011-2016) and Associate Professor (2016 to now). I have published over 45 peer-reviewed research articles in reputed international journals, several conference proceeding papers, 4 books (in Persian), and 3 book chapters (Elsevier publisher). I have served as a member in the organization committees of several scientific conferences in Iran. Also, I have collaboration with some scientific international journals as reviewer.

4- What are your suggestions for promotion of ISOBC members?

ISOBC as a scientific society with its special concern on Biophysical Chemistry and its related research center can provide a good capacity to fulfill other national and international scientific



ISOBC NEWSLETTER

Volume 13, Number 3

communities. Besides the conferences which are always hold, education leading to certificate for students and researcher, short term training, and executing workshops can effectively promote the relation and activation of ISOBC members. Also, creating conditions to attract the great diversity of foreign researchers and organizations from all over the world to encourage participation and involvement and to use their techniques and positive points of view would be beneficial for ISOBC members. Moreover, organization of more specialized scientific society related to biophysical chemistry, for topics with useful view and top future, could be another useful action. For example, establishment of new “Protein and peptide society” with the aid of ISOBC is an auspicious event which should be supported and extended.

At the end, I would like to thank you to giving me the opportunity of current interview



ISOBCE NEWSLETTER

2018

Volume 13, Number 3



news@isobc.com

Editor: Dr A. Ebrahim-Habibi

Executive Manager: A. Agheli

E-mail: a_agheli@ut.ac.ir

IT Manager: A. Mohsenimehr