

# Bridges between Biology and Chemistry

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## Editorial

Professor Roald Hoffmann, considered by many (myself included) to be one of the most influential inorganic chemists of the 20th/21st centuries. At 80, I will say he is still going and going and going (from reading his recent publications in various fields of chemistry). During the 20th century, Roald Hoffmann and Kenichi Fukui had their work recognized by the 1981 shared chemistry Nobel Prize for their work in inorganic chemistry. The first Nobel recognition of Inorganic chemistry efforts was the Nobel Prize in 1913 awarded to Alfred Werner (the father of coordination chemistry). The most notable coordination chemist who came after Werner was A.E. Martell of Texas A&M University who passed the baton to Wes. R. Harris of UM-St. Louis.

The editor-in-chief is launching this special issue of building bridges between inorganic chemistry and biology in celebration of prof. Hoffmann's 80th birthday (July 18th, 2017). Prof. Hoffman is one of the few chemistry scholars that knows how to "search to teach and know how to teach to search". For decades, he managed to teach undergraduate chemistry courses at Cornell while keeping his national and international research groups/collaborators busy and productive [1]. The scientific community knows that Prof. Hoffmann has contributions in very diverse sub-fields of chemistry. Applied theoretical chemistry, pure inorganic chemistry, philosophy of chemistry, coordination chemistry, bioinorganic chemistry, organometallic chemistry, bioorganic chemistry, extremely high pressure effect on small molecules, to name a few. I am certain that I missed two dozen areas that he contributed to due to lack of knowledge in my part.

We wish prof. Hoffman a healthy and long productive life and many years to come to celebrate his myriad contributions to: chemistry/biology/physics/theory/poetry/life. In this special issue of the Electronic Journal of Biology (EJBio), we will attempt to excite the biologically sound scientists with a tint of chemistry to submit their work. Areas of interests for this special issue are: Biology, Bioanalytical chemistry, bioinorganic chemistry, bioorganic chemistry, biostatistics, toxicology, and bio-physical chemistry [2-4].

I have learned many things from prof. Hoffmann especially his quotes. It will suffice to mention

two of them: (1) *"I am a teacher, and I am proud of it. At Cornell University I have taught primarily undergraduates, and indeed almost every year since 1966 has taught first-year general chemistry"*. (2) *"It is not good enough to be smart; it is smarter to be good"*. I made a slight modification to the latter quote and I said *"It is good to be both smart and good"* just like Linus Pauling, Roald Hoffmann, Ahmed Zewail, Mustafa El-Sayed, C. V. Raman, Kenichi Fukui and many others whom I learned from great deal.

## 1. Anecdote

Before the advent of the Internet, Google, and Wikipedia, there was always the American Chemical Society (ACS) directory of graduate research in any chemistry department library or the university main library to search for papers and scientists so that we did not know the looks of many scientists. In the summer of 1995, I read many articles and background information about Roald Hoffmann at the chemistry department where I received my graduate education (UM-St. Louis). Two years to the date, this information came in handy when I met Hoffmann by mere chance. It was in St. Louis Union Station where Prof. Lee Brammer (University of Sheffield-England) had organized the tri-annual meeting for the American Crystallographic Association (ACA). Lee Brammer was affiliated with UM-St. Louis at that time. I was one of the helpers to Lee to prepare the meeting's materials. I was behind the counter waiting for the attendees to collect the meeting's material. Roald approached the unknown young man stating Hoffmann so I can hand him the meeting's material (assuming that he is not known, a behavior reflecting humility). From excitement, I jumped up into the air saying Roald Hoffman in a loud voice! Prof. Hoffmann understood that he met a crazy young chemist!

Over the decades, I have kept very concise written letters back and forth between wherever I am and Ithaca NY. I intentionally decided to make sure that I am not describing the whole world to someone who presented and prepared *"the world of chemistry"*, which is a series of video recordings that introduced chemistry to the general public which was an aim of prof. Hoffmann for many years. In one of such brief communications from Roald to me, Roald inquired about the start and the observance of the fasting

month of Ramadan, at which he himself witnessed one of such events in the great nation of India when he was in a visit to one of its great chemistry schools/universities. Many societies have the practice of fasting in one way or another. The discussion was about the theme of "*the stomach is the worst container to be filled*" which is also the reason behind many of the known and the unknown human diseases of the gastrointestinal tract. Most diseases are the theme of most of the chemistry, biology, or biochemistry research points. Research and its communication is an ever going activity.

## References

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