*The **CREA**tion of the Department of Physical Chemistry of Biological Sys**TE**ms [CREATE]*

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Report on the visit of prof. Luyuan Li

[WP3]

Level of dissemination: PUBLIC

Warsaw, June 2017

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 666295

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INTRODUCTION

The visit of Prof. Luyuan Li at the Institute of Physical Chemistry of the Polish Academy of Sciences (IPC) was held under a series of cyclical lectures on interdisciplinary emerging research.

For this reason Prof. Luyuan Li was invited to IPC to:

- deliver seminar lecture on his studies and trends in scientific research in China,
- participate in meetings with synergetic teams to support mentoring activity of the ERA Chair holder,
- take part in the consultations on cooperation between IPC and State Key Laboratory of Medicinal Chemical Biology at Nankai University.

Prof. Luyuan Li is a Professor of Pharmacology in the College of Pharmacy, and Director of the State Key Laboratory of Medicinal Chemical Biology at Nankai University.

He obtained his BS degree in Biochemistry from Sichuan University, Chengdu, China, in 1982, and a PhD degree from Cornell University, New York, the United States in 1988, also in Biochemistry. Having completed his postdoctoral training at Pennsylvania State University, he joined American Cyanamid Company in New York in 1991 as a Senior Scientist. He moved back to academia to join the faculty of Georgetown University Medical Center, Washington, DC, in 1995, as an Assistant Professor of Biochemistry and Molecular Biology, and a Member of the Lombardi Cancer Center. He moved to University of Pittsburgh School of Medicine in 2002 as an Associate Professor of Pathology, Member of the University of Pittsburgh Cancer Institute, and Member of McGowan Institute for Regenerative Medicine. He moved his laboratory to China in 2008 and joined the faculty of Nankai University, Tianjin. He is currently a Professor of Pharmacology in the College of Pharmacy, and Director of the State Key Laboratory of Medicinal Chemical Biology at Nankai University.

During this visit, professor Luyuan Li was also accompanied by a second guest, **Professor Xizeng Feng** from the College of Life Sciences, Nankai University. Prof. Xizeng Feng is a member of Key Laboratory of Bioactive Materials which has established a broad and close collaboration with many universities and research institutions in USA, Canada, Great Britain, Germany, Japan, etc. IDue to the excellent study in biomaterials and artificial organs, Nankai University became the tenth member of the International Faculty of Artificial Organs.
Prof. Xizeng Feng's group is focused broadly on science and technology at the chemistry, biology and nanotechnology. He is interest to explore fundamental researches and applications of advance material and nanobiology at molecule and cell level, using the techniques of chemistry, biology and nanotechnology.

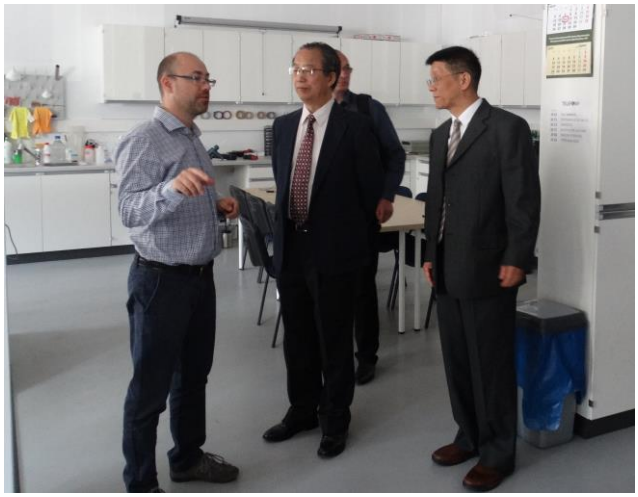
THE COURSE OF THE VISIT

The visit of Prof. Luyuan Li took place on the 20th, June 2017 [see annex 1 for agenda].

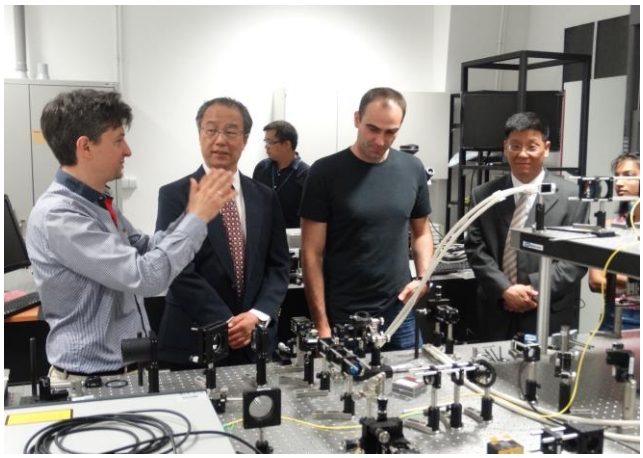
The visit began with a tour of the Institute. The guests visited selected laboratories cooperating with the Department of Physical Chemistry of Biological Systems. The aim of this lab visits was to familiarize with IPC PAS, establish contacts with synergic groups supporting the ERA Chair holder and discuss possibility of future cooperation.

Meetings with the following research groups were organized:

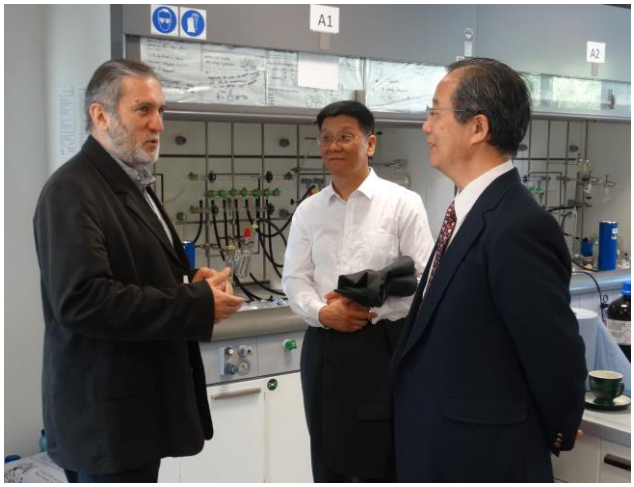
- **Marcin Izydorzak**, CEO at Scope Fluidics Inc and Curiosity Diagnostics Ltd – two spin-off companies located on the permises of IPC dealing with microfluidic devices for medicine and biotechnology (Scope Fluidics) and new technologies in digital assaying (Curiosity Diagnostics).



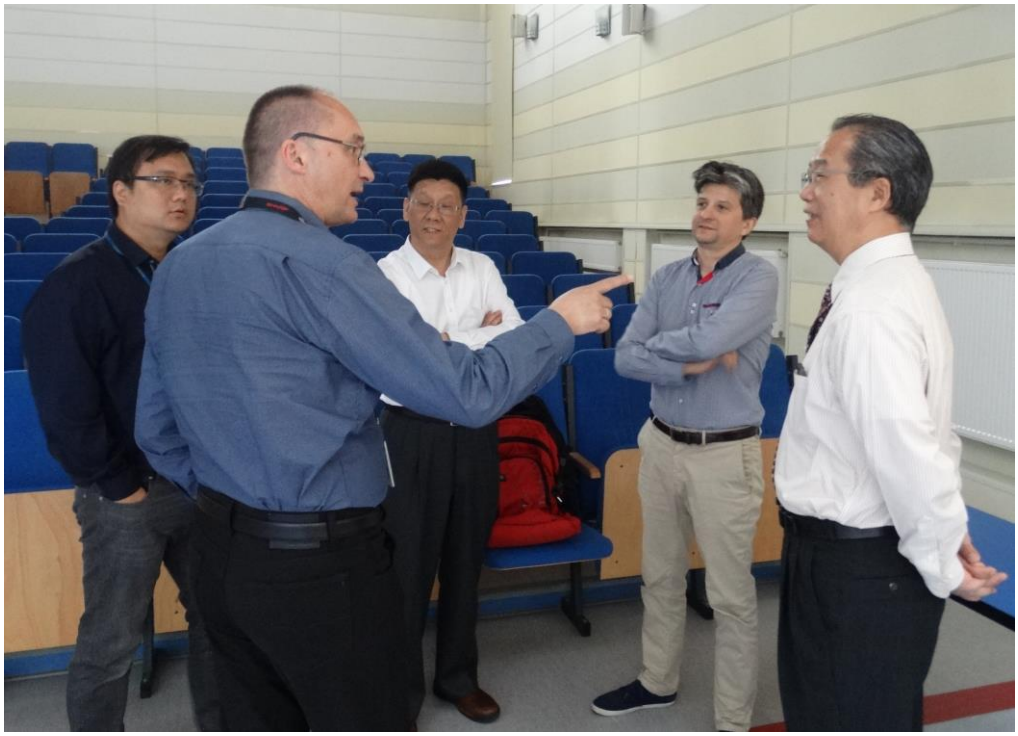
- **Prof. Maciej Wojtkowski**, ERA Chair Holder, Head of the Department of Physical Chemistry of Biological Systems, Physical Optics and Biophotonics Group.



- **Prof. Janusz Lewiński**, Head of the Organometallic and Materials Chemistry Group.



After lab visits, Professor Luyuan Li had deliver a seminar entitled *"The Surging Tide of Scientific Research in China"*. The seminar was held in the assembly hall of IPC. All researchers and PhD students employed at IPC were invited to participate in this seminar.



The seminar of Prof. Luyuan Li, assembly hall, the 20th June, 2017.

Abstract of the seminar

It seems that China has caught up with the advancing tide of modern science in the last two decades. The amount of scientific publications increases markedly each year, now second only to the United States in total numbers annually. Improvement in the quality of the research is also evident as a rising number of important discoveries authored by Chinese scientists now frequently appear in most highly influential journals, especially in the fields of chemistry and

biological sciences. The surge is likely driven by increasingly sizable government spending on science and technology development as well as by the repatriation of tens of thousands of Western-trained scientists. One essential component of the infrastructure of the Chinese scientific community is the system of the State Key Laboratories, more than 250 strong and covering a wide range of research fields. Most of the SKLs are affiliated with major research universities and the Chinese Academy of Sciences. An example is the State Key Laboratory of Medicinal Chemical Biology at Nankai University. Inaugurated in 2011, the SKLMCB is a multidisciplinary research laboratory currently consisting of a faculty of 54 Principal Investigators interested in disease mechanisms, medicinal chemistry, bio-analysis, and nanomaterials. Their research is supported mainly by funds from the Ministry of Science and Technology and the National Science Foundation of China in the form of program grants and investigator-initiated research grants. The researchers in the SKLMCB have achieved considerable advances in the areas of mechanisms of cancer development, stem cell biology, multimode probes for bio-imaging, and biomimetic polymers, among others. They collectively published more than 800 papers in 2011-2015 in international scientific journals, with the Impact Factors averaging 5.07. The publications were apparently influential, averaging 13 citations per paper in the five years, with more than 100 of these papers cited 10 or more times each year, and 8 of them being among the top one percentile of the most cited papers world-wide. Additionally, a first-in-class anti-glioblastoma new drug is being tested in clinical trials, and two investigational new drug applications are recently approved by the Chinese Food and Drug Administration.

After the seminar, the discussion on strategic planning of the future Polish-Chinese joint cooperation took place in the Director's office in a group of:

- **Professor Luyuan Li** – the visiting guest, Nankai University,
- **Professor Xizeng Feng** – the accompanying guest, Nankai University,
- **Professor Marcin Opałło** – Director of the IPC PAS,
- **Professor Maciej Wojtkowski** – the ERA Chair holder, head of Department of Physical Chemistry of Biological Systems, IPC PAS
- **Professor Robert Holyst** – Project Coordinator, head of Department of Soft Condensed Matter, IPC PAS
- **Dr habil. Sen Hou** – member of Soft Condensed Matter Group, IPC PAS.

Discussion on strategic planning of the future Polish-Chinese joint cooperation.

The whole discussion lasted about 1 hour. During this meeting, as a result of combination of the capacities of brain imaging at the Institute of Physical Chemistry and medicinal chemistry and polymer chemistry at State Key Laboratory of Medicinal Chemical Biology at Nankai University, the three following joint research projects have been identified to future cooperation:

1. Anti-Alzheimer polymer studies (PI: Dr Linqi Shi, Dr Xizeng Feng, Prof. Maciej Wojtkowski, Prof. Robert Hołyst),
2. Anti-Glioblastoma drug ACT001 studies (PI: Dr Yue Chen, Prof. Luyuan Li, Prof. Maciej Wojtkowski, Prof. Robert Hołyst),
3. Micro-fluid PCR device for rapid identification of infectious microbes (PI: Prof. Luyuan Li, Prof. Robert Hołyst).

The last stop during the visit of prof. Luyuan Li was the Nencki Institute of Experimental Biology of the Polish Academy of Sciences. Prof. Luyuan Li visited the laboratory of the group cooperating with prof. Maciej Wojtkowski, ERA Chair holder.

Visit to the Nencki Institute of Experimental Biology of the Polish Academy of Sciences

ANNEX 1.

Full agenda of the visit of Prof. Luyan Li

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CREATE lectures

The Institute of Physical Chemistry of the Polish Academy of Sciences (IPC PAS)

Agenda

20th June, 2017

8.30 am	**pick up from the hotel**	
9.00-11.15	**business meetings and lab visits in the IPC PAS**	
	9.00-9.45	Marcin Izydorzak (CEO)
		Scope Fluidics Inc and Curiosity Diagnostics Ltd
	9.45-10.30	Prof. Maciej Wojtkowski, ERA Chair Holder
		Dept. of Physical Chemistry of Biological Systems
	10.30-11.15	Prof. Janusz Lewiński
		Organometallic and Materials Chemistry Group
11.15-12.00	**formalities connected with the visit (administration building)**	
12.00-13.00	**Luyuan Li**	
	„The Surging Tide of Scientific Research in China"	
13.00-14.00	**Lunch**	
14.30-15.30	**visit to Nencki Institute of Experimental Biology PAS**	
15.30	**back to the hotel**	
17.45	**taxi from the hotel (accompanied by prof. Sen Hou)**	
18.30	**Dinner** Warszawa Wschodnia Restaurant Minska 25, 03-808 Warsaw	

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