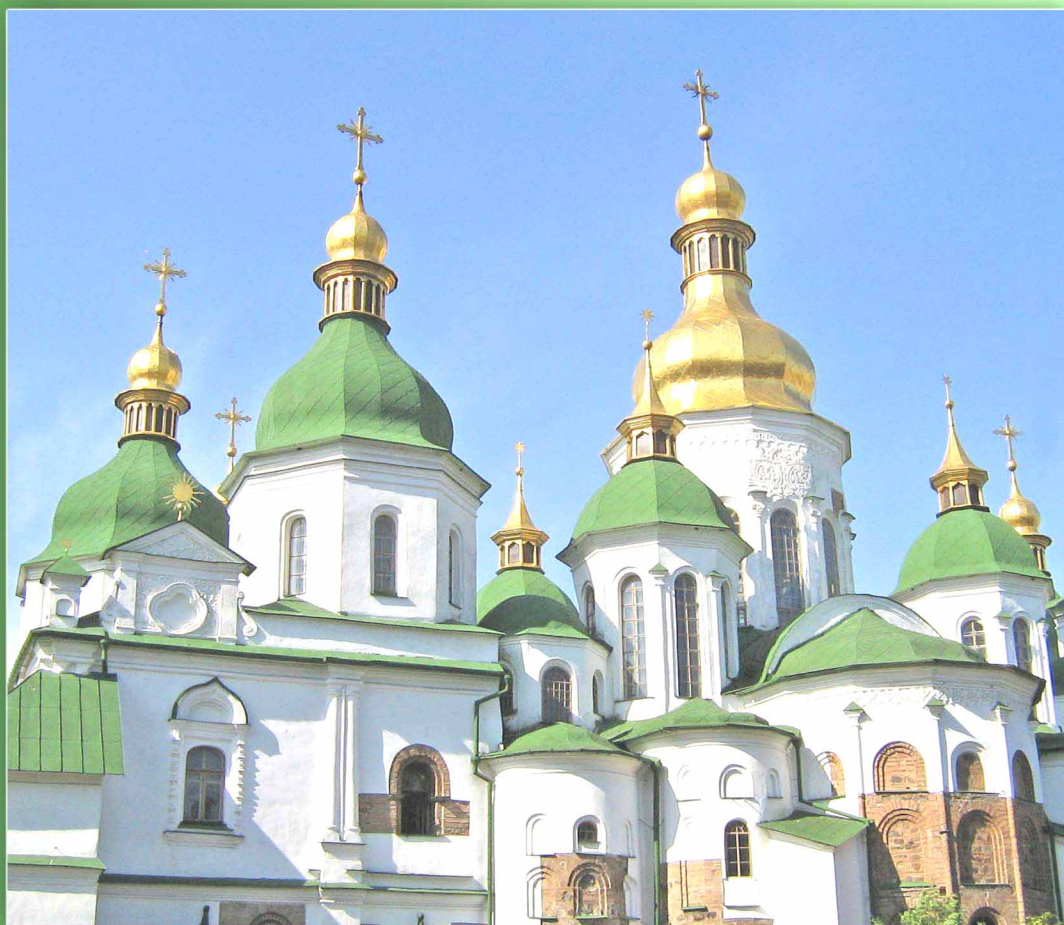




**2<sup>nd</sup> International Symposium**

**PLANT GROWTH SUBSTANCES:  
INTRACELLULAR HORMONAL SIGNALING  
AND APPLYING IN AGRICULTURE**

**ABSTRACTS**



**8-12 October 2007 Kyiv, Ukraine**

National Academy of Science of Ukraine  
Ministry of Education and Science of Ukraine  
Fundamental Researches State Found  
Institute of Bioorganic Chemistry and Petroleum Chemistry NAS of  
Ukraine  
Ivan Franko National University of L'viv  
M.G.Kholodny Institute of Botany NAS of Ukraine  
National Technical University of Ukraine "KPI"  
Institute of Plant Physiology and Genetics NAS of Ukraine



## **ABSTRACTS**

# **of 2<sup>nd</sup> International Symposium “Plant Growth Substances: Intracellular Hormonal Signaling and Applying in Agriculture”**

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# Welcome Address

## **PLANT GROWTH SUBSTANCES: ACHIEVEMENTS AND NEW IDEAS.**

Kuchar V.P.

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On behalf of the Organizing Committee, it gives me a great pleasure to extend a warm invitation to you to participate in the 2-nd International Symposium of Plant Growth Substances to be held in Kyiv, Ukraine. The theme of the conference highlights the desire of the committee to bring together experts from a variety of fields to further knowledge and research in plant growth regulators. Our aim is to arrange a Symposium that is not only of high scientific standard, but also a socially memorable event for all participants. We are pleased to invite you to come and enjoy the science, meet your colleagues and friends and take the opportunity to establish new fruitful collaborations.

Ukrainian scientists have made a great contribution to plant hormone research. The Symposium is devoted to the 125<sup>th</sup> anniversary of N.G. Kholodny, the great phytophysiologist, one of the founders of the phytohormonal theory, creator of tropism hormonal theory and one of the founders of phytohormone doctrine. He was the first to formulate the notion "hormone". Plant hormone research had become rapidly developing study within modern plant physiology since Kholodny. He has founded the physiological polifunctionality of plant hormone auxin, role of hormone synthesis and transport. The main phytohormonal research activities in Ukraine concern phytohormonal regulation of growth and development processes in plants both on the cell and whole plant level, adaptive role of growth regulators and phytohormones as well as agricultural use of synthetic and natural growth regulator substances.

The object of the Symposium is to promote the progress of the study of plant growth substances at the international level. A plant growth regulator is an organic compounds, either natural or synthetic, that while in low concentration modify or control one or more specific physiological processes in a plant. Entire life of plants from fertilization of the egg cell up to the senescence and death is controlled by phytohormones, they also play an important role in plant responses to environmental factors and in forming plant tolerance to extreme conditions. Virtually every aspect of plant growth and development stays under hormonal control to some degree. A single hormone can regulate considerable diverse arrays of cellular and developmental processes, while at the same time multiple hormones often affects a single process. Well-studied examples include the promotion of fruit ripening by ethylene, regulation of the cell cycle by auxin and cytokinin and the maintenance of seed dormancy by ABA. Historically, the effects of each hormone have been defined largely by the application of exogenous hormone. More recently, the isolation of hormone biosynthetic and response mutants has provided new powerful tools for visualizing a clearer picture of the roles of various phytohormones in plant growth and development.

The study of hormonal regulation of plants is one of "hot points" of world biochemistry, physiology, and plant molecular biology. The most crucial problem of modern plant hormone research is a discovery of primary effects evoked by phytohormones in cells leading to modulation of plant growth and development. While great strides have been made in understanding of the molecular basis of phytohormone action in recent years, many fundamental questions remain to be solved. Receptors and other upstream signaling components remain to be identified for the majority of the phytohormones. Equally important are the elucidation of hormonal networks and the integration of these networks within the morphogenetic program, and thus our understanding of hormone action can be placed in a developmental context.

It's a great pleasure for me to mention a contribution of Institute of Bioorganic Chemistry and Petroleum chemistry researchers in elaboration of plant growth regulator synthesis.