

## ANNIVERSARIES AND DATES



### ANNIVERSARY OF MARIA NIKOLAEVNA PREOBRAZHENSKAYA

In September Maria Nikolaevna Preobrazhenskaya, eminent scientist in the field of heterocyclic and medicinal chemistry, developer of a series of medicinal products, and long-standing author in our journal, celebrates her birthday.

M. N. Preobrazhenskaya graduated from the Chemical Faculty of M. V. Lomonosov Moscow State University. She then studied as a post-graduate student and defended a Ph.D. thesis. During her post-graduate work she developed the so-called indoline–indole method for the production of substituted indoles, which is widely used to this day in organic synthetic chemistry.

From 1954 to 1971 she worked at the All-Union Scientific-Research Pharmaceutical Chemistry Institute. During this period she developed new methods for the synthesis of a series of biologically important compounds, including a total synthesis of the antibiotic indolmycin and its stereoisomers, indolyglycerol (the biological precursor of tryptamines),  $\alpha$ -methyltryptamine (indopan), a highly active antidepressant, and an inhibitor of monoamineoxidase. In 1969 Maria Nikolaevna defended a doctoral dissertation for chemical sciences on "Bioorganic chemistry and the chemistry of physiologically active substances," and seven years later she received the title of professor of organic chemistry.

From 1971 to 1987 M. H. Preobrazhenskaya headed the Laboratory of Chemical Synthesis of the All-Union Cancer Center, Academy of Medical Sciences of the USSR. Under her leadership a series of investigations were carried out on the production and study of nucleoside–antimetabolites of the purine,

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pyrimidine, and other series. The antitumor product Aranoza created in those years is now used in clinical practise for the treatment of melanoma and a series of other malignant neoplasms.

From 1987 Maria Nikolaevna works at the G. F. Gauze Scientific-Research Institute of New Antibiotics as head of the laboratory and then Deputy Director of the Institute, and from 2004 she is in the position of Chief Executive of the Institute. From 1987 the main directions of her investigations are the creation of new generations of products overcoming the multiple drug resistance of tumors or bacteria by the chemical transformation of antibiotics. Under Preobrazhenskaya's leadership researches are being conducted on the drug resistance of tumors due to the presence of glycoprotein gp 120 in the cell membrane; researches on the modification of eremomycin, vancomycin and other antibacterial glycopeptide antibiotics based on the molecular concepts of the targets of glycopeptides in sensitive and resistant cells; derivatives exhibiting high activity against vancomycin-resistant enterococci were produced; the antiretroviral activity of derivatives of the aglycones of glycopeptide antibiotics, which are of interest for use in medical practise as microbicides preventing the transmission of HIV infection, was discovered. A series of investigations were carried out with a new type of ascorbic acid derivatives, i.e., ascorbigens, where the role of ascorbigen as a powerful nonspecific prospective immunomodulator for use in the chemotherapy of cancer for the removal of the toxic effects of cytostatics. Researches are being conducted on the creation of a target-specific antitumor product based on the antibiotic olivomycin. Semisynthetic derivatives of the antitumor antibiotic streptonigrin and the antifungal polyene antibiotics have been investigated.

M. N. Preobrazhenskaya is the author of more than 400 scientific papers and 35 author's inventions and patents, and in the last five years she has published more than 40 scientific articles, most of which were in international journals; she is the author of a monograph on antimetabolites of nucleic exchange (VINITI, USSR) and chapters in the monograph "Chemistry of Nucleosides and Nucleotides" (Plenum Press, 1994). She is a member of the editorial team of the "Chemicopharmaceutical Journal" [in Russian], "Antibiotics and Chemotherapy" [in Russian], and the international journals, "Journal of Antibiotics" (Japan), and Current Drug Targets – Infectious Disorders (CIIIA).

As an authoritative scientist Maria Nikolaevna has often been invited to present plenary or invited reports at international conferences and to participate in the work of conference organizing committees. Professor Preobrazhenskaya works actively with diploma students and graduate students and 32 PhD.

From 1972 to 1985 Preobrazhenskaya was president of the All-Union Problem Commission on the Drug Therapy of Tumors, which coordinated work on the experimental and clinical chemotherapy of cancer. At present she is president of the Scientific Council on Antibiotics of the Russian Academy of Medical Sciences, a member of the Council on the protection of doctoral dissertations (M. V. Lomonosov Moscow Academy of Fine Chemical Technology), and member of the international societies "International Society of Heterocyclic Chemistry" and "International Society of Microbiology."

The editorial team and the publisher of the journal "Chemistry of Heterocyclic Compounds" sincerely congratulate Maria Nikolaevna on her distinguished birthday, wish her good health, happiness, new creative successes, and express the hope for our continued collaboration.