

NICOLAI N. SEMKO

(dedicated to 60th Birthday)



Nicolai N. Semko was born on July 21, 1957 in the village Komarogorod, Vinnitsa Region. In 1974, Nicholai Semko became a student at Kiev State Pedagogical Institute named after Gorky (now Kiev National Pedagogical Dragomanov University), where Sergei Nikolaevich Chernikov taught algebra courses. S. N. Chernikov is known not only as a great mathematician and one of the founders of infinite group theory, but also as a very influential and caring teacher. It is worthy to mention that among his numerous students we can list such recognized mathematicians as

V. M. Glushkov, M. I. Kargapolov, V. S. Charin, V. P. Shunkov, Yu. I. Gorchakov, D. I. Zaitsev, N. F. Liman, L. A. Kurdachenko, N. F. Kuzennyi, Ya. P. Sysak, I. Ya. Subbotin, A. P. Petravchuk, and others.

In 1978, Nicolai Semko graduated from the university, and became a postgraduate student of S. N. Chernikov, having worked before that as a teacher for a while. He had to interrupt his postgraduate studies, because he was drafted for two years in the Soviet army by a simple soldier. Therefore, he completed his postgraduate studies in 1983. In 1983, Nicolai Semko was awarded his Ph. D. Degree. From 1983 to 1985 he worked as a senior fellow in NGO “Misksystemotehnika” of Kiev municipality. From 1985 to 1998, he worked as Senior Researcher, Head of Laboratory of Informatics at Institute of Education, National Academy of Pedagogical Sciences of Ukraine.

In 1998, in the spa town of Irpin near Kiev, the new university named Academy of State Tax Service of Ukraine (now the University of the State Fiscal Service of Ukraine) was organized. From that time, Nicolai Semko began his work within this Academy. He started his work as an Associate Professor. He works here up to the present day as a Professor, Chair of the Mathematics Department.

Nicolai Semko defended his Doctor of Sciences thesis in 2001 at National Kyiv University.

Nicolai Semko is the author of over 120 research papers, including 4 monographs, he supervised 5 candidates of physical and mathematical sciences. The first scientific results of N. Semko belong to groups with restrictions on subgroups which are in one sense or another, close to normal (almost normal subgroups, approximately normal, subnormal, permutable subgroups). One of his first results is related to the question posed by I. I. Eremin. Generalizing the classical result of B. Neumann, I. I. Eremin proved that groups whose abelian subgroups are almost normal have a center of finite index. After this, I. I. Eremin began to consider groups, all of whose infinite subgroups are almost normal. His main result, here, states that periodic locally solvable groups of this kind either have a center of finite index, or are Chernikov. N. N. Semko together

with L. A. Kurdachenko and S. S. Levishchenko obtained a complete description of locally almost solvable groups, all of whose infinite subgroups are almost normal.

N. F. Sesekin and G. Romalis introduced the groups, all non-abelian subgroups of which are normal. They called these groups metahamiltonian. The topics related to metahamiltonian groups have been relevant for a long time, it remains popular now (thus, some of the previously proven results on the metahamiltonian groups are reasserted again by some Chinese algebraists). A complete description of the metahamiltonian groups was obtained by N. N. Semko together with N. F. Kuzennyi and were published in the cycle of their numerous papers.

If G is a group and \mathfrak{S} is a family of subgroups of G then we say that a family \mathfrak{S} is dense in G , if for any pair of subgroups A, B of G such that $A \leq B$ and A is not maximal in B there exists a subgroup $D \in \mathfrak{S}$, situated between A and B . There can be a variety of situations ($A < D < B$, $A < D \leq B$, $A \leq D < B$, $A \leq D \leq B$). A series of articles by N. F. Kuzennyi and N. N. Semko was dedicated to the study of these various situations for some natural systems of subgroups S . The results of these studies were later reflected in a monograph written by N. N. Semko in co-authorship with N. F. Kuzennyi.

Mathematical interests of N. N. Semko are not limited to the classical theory of groups, where he continued to work together with his students. He works in the theory of modules over group rings. He published a monograph relating to the modules over Dedekind domain, written by him in co-authorship with L. A. Kurdachenko and I. Ya. Subbotin. His work on modules led N.N. Semko to the consideration of some types of infinite dimensional linear groups, which he investigated together with the Spanish algebraists. Recently, N. N. Semko investigates the Leibniz algebras — a quite interesting class of non-associative algebras.

In co-authorship with V. V. Kirichenko and L. A. Kurdachenko, N. N. Semko published a textbook on algebra and number theory. He also co-authored four other monographs, the last of which is very specific: it is a textbook for Ph.D students specializing in infinite group theory.

Nikolai is a very caring person and wonderful friend, who is always ready to extend his help and support to his numerous friends and colleagues. He is a loving and caring husband, father, and grandfather.

We warmly congratulate him on his 60th birthday and wish him strong health and many successful years of research and teaching.

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M. R. Dixon, F. de Giovanni,
R. I. Grigorchuk, V. V. Kirichenko,
L. A. Kurdachenko, V. S. Monakhov,
J. Otal, M. O. Perestyuk,
A. P. Petravchuk, M. V. Pratsiovytyi,
A. M. Samoilenko, A. N. Skiba,
I. Ya. Subbotin, E. I. Zelmanov,
A. V. Zhuchok, Yu. V. Zhuchok*