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Department of mathematical analysis and theory of functions celebrates 100 years!

У 2019 році кафедра математичного аналізу і теорії функцій Дніпровського національного університету імені Олеся Гончара святкує своє 100-річчя. У статті з нагоди ювілею кафедри зроблено історичний екскурс у минулі роки щодо її діяльності. Охарактеризовано основні напрями наукових досліджень, якими займалися співробітники кафедри математичного аналізу і теорії функцій із моменту її створення. Велику увагу приділено значному внеску в розвиток кафедральної наукової школи таких відомих математиків, як А.М. Колмогоров, С.М. Нікольський, М.П. Корнейчук, О.П. Тіман, В.П. Моторний і В.Ф. Бабенко.

Крім того, у статті висвітлене сьогодення кафедри. Свого часу саме від кафедри математичного аналізу була відокремлена кафедра теорії функцій, а в порівняно недавні роки вони знову об'єдналися. Науковий напрямок цих двох кафедр завжди був спільним. Сьогодні кафедра математичного аналізу і теорії функцій плідно працює в науковому, методичному й організаційному полі діяльності. Науковці кафедри продовжують дослідження в напрямку відомої школи з теорії наближень. На кафедрі працює науковий семінар під керівництвом члена-кореспондента Національної академії наук України професора В. П. Моторного. Кафедра має тісні зв'язки з різними науковими установами й закладами вищої освіти України та інших країн.

Кафедра є випускаючою зі спеціальностей „Математика" і „Середня освіта (математика)" й готує фахівців за освітніми рівнями бакалавра, магістра, а також спеціалістів вищої кваліфікації. Указано факультети, на яких викладають співробітники кафедри, та наведено основні дисципліни, що читаються студентам різних факультетів Дніпровського національного університету імені Олеся Гончара. Кафедра математичного аналізу і теорії функцій сприяє тому, щоб студенти механіко-математичного факультету мали всі можливості проявити себе в науковій сфері. Результатом наукової співпраці студентів і викладачів є опубліковані спільні статті, доповіді студентів на наукових конференціях, роботи студентів, які надсилаються на конкурси наукових студентських робіт з математики, а також призові місця на всеукраїнських та міжнародних студентських олімпіадах з математики.

Ключові слова: кафедра математичного аналізу і теорії функцій, теорія підсумовування рядів та інтегралів, теорія апроксимації.

In 2019 the Department of Mathematical Analysis and Theory of Functions celebrates its 100th anniversary. The history of its creation and development is given in the article in terms of the anniversary. Great attention is given to the famous mathematicians who have made a considerable contribution to the direction of the department's scientific

school, A.M.Kolmogorov, S.M.Nikolskyi, M.P.Korneichuk, O.P.Timan, V.P.Motornyi, V.F.Babenko are among them. The contemporary stage of the department is highlighted in the article as well.

Key words: Department of Mathematical Analysis and Theory of Functions, theory of series and integrals summation, approximation theory.

MSC2010: Pri 97A40, Sec 01A72, 01A73, 97A30

SCIENTIA POTENTIA EST

The Department of Mathematical Analysis was founded in Katerynoslavskyi University (now Oles Honchar Dnipro National University) in 1919. The great contribution to the department's foundation was made by such professors as S.F. Sharbe, Ya.I. Hrdyna and G.O. Gruzyntsev. In 1923 professor I. Yu. Ogievetskyi was appointed to be the Head of the Department. In 1935 he started the research in the theory of series and integrals summation. In general the investigations in this direction were dedicated to the general theory of series and integrals summation, to the theorems of Tauberian type, to the problems of Fourier series and integrals summation as well as some aspects of the continued products theory.

In the same 1935 according to the initiative of academician A.M. Kolmogorov the investigations in the approximation theory were started. The Department of the Theory of Functions with the brunch of its scientific researches connected with the extremal problems of the theory of functions and functional analysis. Lectures on functional analysis were given by A.M. Kolmogorov himself. S. M. Nikolskyi, his student and member of the Department of Mathematical Analysis, then a Corresponding member of the Academy of Science of the USSR; he was awarded M. V. Ostrogradskyi's Prize of the National Academy of Science of Ukraine became the department chairman. Both of the departments cooperated tightly and fruitfully having been united by a similar scientific school of the approximation theory. The foundation of this school at Dnipropetrovsk (now Dnipro) University coincides with the time of the seminar on the approximation theory organized in 1937 under the guidance of S. M. Nikolskyi. During the seminar A. M. Kolmogorov raised a number of important problems and

in the 40-50es S. M. Nikolskyi got the results which determined greatly the following development of the school's scientific researches. Scientific school of the approximation theory still exists. At different times this school was headed by professors O. P. Timan (from 1945 to 1963), M. P. Korneichuk (from 1963 to 1974), V.P. Motornyi (from 1974 to now). Fundamental works of the Academician of the National Academy of Science of Ukraine M. P. Korneichuk even today give the topicality to the scientific researches by mathematicians – representatives by Dnipro School of the Approximation Theory. Outstanding scientific results of our mathematicians were awarded by the state. In 1973 M. P. Korneichuk was awarded the USSR State Prize for a number of his works in extremal problems of the approximation theory. In 1994 scientific activity of the Approximation Theory School's representatives (S. M. Nikolskyi, M. P. Korneichuk, V.P.Motornyi, V.F.Babenko, V.L. Velykin, A. O. Lygun) was awarded the State Prize of Ukraine in the field of techniques and science. Professor V.P.Motornyi's scientific activity (S. M. Nikolskyi's student, a Chairman of the Department of the Theory of Functions from 1974 to 2010) was awarded the title "Honored Scientist and Technologist his appointing a Corresponding member of the National Academy of Science of Ukraine. Professors V.F. Babenko (a Chairman of the Department of Mathematical Analysis from 1988 to 2010) and A. O. Lygun were awarded the title of "Honored Scientist and Technologist of Ukraine". In 2010 two departments were united again under the mutual title of the Department of Mathematical Analysis and Theory of Functions. The Department was headed by N.V. Parfinovych - V.F.Babenko's student, Doctor of Sciences.

Now the department comprises three Doctors of Science and eight Candidates of Science in Physics and Mathematics. The Department of Mathematical Analysis and Theory of Functions is a graduate department on specialties «111 Mathematics» and «014.04 Secondary Education (Mathematics)». The department teaches the specialists on education and qualification levels of the Bachelor and Master as well as the specialists of high qualifications: there is a postgraduate department and its graduates have successful examination of thesis to get the Academic Degree of the Candidate of Science in Physics and Mathematics. Department's assistants give lectures on mathematical analysis, the measure and integral theory, complex analysis, functional analysis, the approximation theory, mathematic methods in micro- and macroeconomics, Actuarial mathematics, etc. at the Faculty of Mechanics and Mathematics. The department members give mathematical classes at other faculties, for example, Physical and Technical Faculty, the Faculty of Economics, the Faculty of Physics, Electronics and Computer Systems, the Faculty of Applied Mathematics.

The stuff of the department is active in scientific work; there is a scientific seminar under the guidance of an active member of the National Academy of Science of Ukraine, professor V.P. Motornyi. During the seminar the university teachers, postgraduates and students as well as the scientists from Dnipro and other city establishments of Ukraine give their reports on the results of the scientific researches, of the Candidate of Science and the Doctor of Science dissertations in particular. V. P. Motornyi is a responsible editor of the professional journal «Researches in

Mathematics» (before 2019 it was released under the title «Visnyk of Dnipro University. Series Mathematics»). The department members regularly give reports at the whole-Ukraine and international conferences, publish articles in the journals that are in the list of the professional journals on mathematics, and foreign editions, for example, those registered at scientometrical data base SCOPUS. The department has tight contacts with the Institute of Mathematics of the National Academy of Science of Ukraine, Taras Shevchenko Kyiv National University, Ivan Franko Lviv National University, I.I. Mechnykov Odesa National University and other scientific establishments and institutions of higher education of Ukraine and other countries.

The Department of Mathematical Analysis and Theory of Functions provides the students of the Faculty of Mechanics and Mathematics of DNU with all the possibilities to realize themselves in the scientific sphere. The result of the scientific cooperation of students and teachers is their published mutual articles and students' reports at the scientific conferences. The department annually sends students' scientific works to the scientific competitions of students' works on mathematics. Many times our students took prizes at the all-Ukraine and international olympiads in mathematics.

Teachers, postgraduates and students of the department take part in organization and holding annual Regional Math Tournament "Evrika". For a long period of time the Department assistants are the members of jury of the 3rd stage of All-Ukraine Pupils' Olympiad in Mathematics. Now its head is the Department Chairman N. V. Parfinovych. Since October 3, 2017, the department members along with the students of the Faculty of Mechanics and Mathematics organize annually a kind of such probation testing in mathematics for senior schoolchildren of our city.

Our congratulations to all the members of the department on its 100th anniversary and wish to achieve a high scientific level and gain methodic potential at Oles Honchar Dnipro National University.

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