SOLTANOV KAMAL NASIR OGLU
(to the 50-th anniversary)

In March 19, 1999, 50 years passed since the birth of the doctor of physico-mathematical sciences, professor Soltanov Kamal Nasir oglu.

K.N. Soltanov was born in Kurdamir city, lived and finished school in Gheogchay.

In 1966 he enters the mechanico-mathematical faculty of the Azerbaijan State University (ASU-BSU). From 1971 up to date K.N. Soltanov is working at the Institute of mathematics and mechanics of Academy of Sciences of Azerbaijan and he is the head of the nonlinear analysis department created by himself.

In 1972-1975 Soltanov K.N. was studying at the post graduate courses of Moscow Energetic Institute (MPI) where professor Yu.A. Dubinski was his supervisor. In 1976 K.N. Soltanov defends his candidate dissertation "On the solvability of some degenerate nonlinear parabolic problems in Sobolev's and Orliez-Sobolev spaces". In 1986 he represented to the specialized council of mathematical institute (MI) AS USSR his thesis for a degree "On nonlinear mappings and solvability of nonlinear equations". On different not depending on him subjective reasons the defense of thesis is not carried out, for five years, was forced and in consequence in view of exerted pressure upon him in 1991 K.N. Soltanov was forced to take his work from this council. However, in a year, in 1992, he represents and in 1994 he defends his new thesis for a doctor's degree "Some applications of nonlinear analysis to differential equations" in Moscow State University (MSU).

As a matter of fact, living for 20 years in Moscow, K.N. Soltanov takes part and speaks in seminars, lead by known mathematicians of MIAS USSR, MSU, MPI. And there at different times he conducts teaching activities and with a number of candidate's for a degree. Specifically, by suggestion of corresponding member of AS USSR A.V. Bitzadze he conducts supervise studies of postdoctor's scientific works of scientists from Bulgary. Beginning from 1994 K.N. Soltanov as a professor of the faculty he teaches at Baku State University and other higher schools of Azerbaijan.

Already in his first papers related with problems of Prandtl-Mizes type equations K.N. Soltanov develops an effective device based on the imployment and study of imbedding theorem for some, generally speaking, nonlinear subset of linear spaces.

In a series of works carried out mainly from 1977 to 1982 K.N. Soltanov has studied classes of nonlinear spaces that may be the domain for definition of nonlinear mappings, imbedding theorem for them and their application in investigation of different nonlinear boundary value problems. Further, these results allowed him to perceive and

use newly the known compactnless method in investigation and also more general problems in the case of introduced by him generalized coerciveness.

The study of interpolational properties of *pn* and *qn* - spaces introduced by K.N. Soltanov allowed him from 1983 to 1992 to investigate the normal solvability of nonlinear equations in Banach spaces, to prove the solvability of nonlinear equstions with operators of the form of the sum of the pseudomonotone and weakly compact operators. At the same period K.N. Soltanov is engaged in investigation of nonlinear mappings in general topological spaces and obtains different generalizations of solvability theorem, including the generalization of the mean value Cauchy theorem. He proved theorems on a fixed point that are valid in the case of many valued and discontinuous mappings being more general beginning from two-dimensional case. Besides, he investigates a problem on the connectedness of sets and image of sets under discontinuous mapping in local convex vector topological spaces, and establishes a criterion based on the property of a functional.

We are to note that in papers on discontinuous and multy-valued mappings he shows that the known results related with monotone operators follow the results obtained by him as a partial case.

From 1989 to 1997 K.N. Soltanov has published a series of papers devoted to the investigation of continuous in some sense mappings (both single-valued and multy-valued) in Banach spaces. We can divide them into two groups. In the first group of papers, on the basis of algebraic topology construction, there was developed a method brought by the geometry of reflexive Banach space and coerciveness type condition found more suitable to investigate the properties of mappings image and solvability theory. Here Cauchy's mean-value theorem is generalized and new general solvability theorems have been obtained. In the second group of papers fixed-point theorems have been proved for continuous mappings without compactness condition, which in the case of reflexive Banach spaces generalize such type known theorems. The results on the openness of mappings, and on perturbed mappings have been also obtained.

Not only the obtaining of general results and also their realization is the aim of K.N. Soltanov's researches. The above-reduced general results are applied to the study of solvability of different elliptic and parabolic type nonlinear problems. In all his works devoted to these results the realization of the method or a general result in demonstrated in concrete problems, mainly in problems of mechanics, physics and etc.

From 1993 to 1998 K.N. Soltanov intensively investigates problems for various hydromechanics type equations such as an unstable filtration equation, Navier-Stock's equation, completely nonlinear equations and others. Besides, he has investigated and solved the known problem connected with the solvability of nonlinear equations with the operators of the form of the sum of pseudo-monotone and compact operators.

Together with scientists from EU countries K.N. Soltanov has taken part in three year (1995-1997) joint scientific work by the INTAS (no INTAS-94-2187) program. K.N. Soltanov is invited to Germany (Berlin) and Turkey (Istanbul and Conya) where he has prepared a number of scientific papers published in various known scientific journals.

K.N. Soltanov is the author of more than eighty scientific publications, among them more than fifty fire are scientific works. His scientific creative work influenced and influences to the development of many sections of nonlinear analysis, nonlinear differential equations and imbedding theory. The variety of K.N. Soltanov's scientific interests is brightly expressed in his scientific papers and in works of his followers.

Being the participant of many International Conferences, mathematical Congresses and symposiums he always fittingly represents the Azerbaijan science

introducing perceptible contribution to the formation of the high International scientific prestige of our Republic.

K.N. Soltanov conducts great scientific pedagogical activity, giving his force and time to his followers. He is the member of the editorial board of journals "Proceedings of IMM of AS of Azerbaijan" and "Transactions of AS of Azerbaijan", the member of expert commission of the Supreme CertificationBoard of Azerbaijan.

Many congratulations to our Kamal muallim on the occasion of his 50-year-old. We wish him health for many years and many new remarkable scientific achievements in his life.

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