NEWS AND NOTICES

CELEBRATING EIGHTY YEARS OF PROFESSOR NOŽIČKA

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Professor František Nožička, Dr.h.c., was born on April 5, 1918 in Liberec (North Bohemia). His 80th birthday offers a good opportunity for the community of Czech mathematicians to remember this outstanding mathematician and university teacher, and to evaluate the role he played in the Czech mathematics in the second half of this century.

After having finished the primary and secondary schools in Liberec, he commenced his study at the Faculty of Science of Charles University in Prague. The complicated political situation following the splitting of Czechoslovakia, and the occupation of its Czech part by the Nazis, led Professor Nožička into student political activities, where his active participation in protest demonstrations in November 1939 caused the interruption of his studies and imprisonment in the concentration camp at Oranienburg-Sachsenhausen.

He was able to continue his studies only after the liberation and reestablishment of Czechoslovakia in 1945. After having finished his university studies, he commenced his professional career as an assistant to outstanding Czech mathematicians Václav Hlavatý and Eduard Čech, who influenced his first scientific activities. His early scientific interest was focused on classical mathematical disciplines, such as differential geometry, tensor analysis, and mechanics. In 1953 he became Associate Professor in the newly founded Faculty of Mathematics and Physics of Charles University, where he taught basic courses in mathematics (e.g. mathematical analysis, differential geometry, differential equations). His extensive educational activities were accompanied by rich scientific work, oriented at that time to the concept of the affine normal, which met with extraordinary attention in the mathematical community. At the beginning of the sixties he founded a seminar oriented to the research in the Theory of Relativity. At that time some of his substantial publications concerning the Theory of Relativity appeared, and he also prepared a research work on invariants in the Minkowski space (cca 300 pages), which unfortunately has never been published. It may happen that this work will raise interest in the future. It should be stressed at this place that Prof. Nožička always emphasized the importance of applications of mathematics in physics and in technical sciences. His mathematical lectures for physicists greatly influenced many significant Czech physicists. In 1960 he became Ordinary Professor of Mathematics. During this period the necessity arose to develop new branches of mathematics, in order to capitalize on the quickly spreading usage of computers. Computers, when driven by yet-to-be-invented mathematical procedures, had the potential for providing new and effective support for activities in technology and economic theory. It remained only to develop the appropriate mathematical and numerical processes which could best serve computer-supported applications in these (and other) fields. This situation led Professor Nožička to a fundamental change in his scientific interests and educational activities. He accepted this challenge-of-the-time and redirected his superb knowledge of classical mathematical subjects to contemporary mathematical disciplines which were highly correlated with computer implementation—such as linear, nonlinear and dynamic programming, graph theory, numerical and convex analysis—to which he made substantial contribution. During this period his institutional service at Charles University was also important. A relative "thaw" in political climate during the 1960's enabled him to occupy important positions at the University without the necessity of his being a member of the communist party. He was appointed Director of the first Computer Center at Charles University, and later a Vice-Rector. We should also mention his work in the Union of Czechoslovak Mathematicians and Physicists, where he served first as the chairman of its branch in Prague and later as president of the Union. Approximately in 1966 he commenced also to strengthen the scientific contacts with mathematicians of the former GDR, especially with departments oriented to applications at the Humboldt University in Berlin. He withdrew from institutional activities at Charles University in 1968 as a consequence of his disagreement with the political agenda, which was brought to a head with the 1968 invasion of Soviet troops. Nevertheless, he did not interrupt his scientific and educational activities, accepting an offer from Humboldt University in Berlin (in the former GDR) to establish a department oriented to Mathematical Optimization Theory and its applications. With this activity he started a fruitful period which lasted more than 20 years, establishing in Berlin a real scientific school, with mathematicians who were oriented especially to the theory and methods of parametric linear and non-linear optimization, and the application of mathematical methods in economics. He educated a large number of students (both undergraduates and postgraduates), who today occupy leading and significant positions not only in the Czech Republic and Germany, but in other countries as well (such as Canada, Cuba, Egypt, Switzerland, Slovakia, and others).

Because of his extraordinary merits for Mathematics at Humboldt University he was awarded the title Dr.h.c. of this university. During his tenure at Humboldt University he supported and promoted a fruitful scientific collaboration with Czech and Slovak mathematicians who were engaged in Mathematical Optimization. He founded a series of Czech-Slovak-German conferences on Mathematical Methods in Economics which have become traditional—the latest being hosted by the Technical University of Liberec in June 1998, in his home town, on the occasion of his 80th birthday. His large scientific output during the 1970's and 1980's devoted mainly to various branches of mathematical optimization can be judged from the attached list of publications. Even in the 1990's, in spite of his age, Professor Nožička has continued his scientific and educational activities. He participates actively in mathematical conferences, both in the Czech Republic and abroad (e.g. as an invited speaker in Germany and Japan in 1998). Until June 1998 he was member of the Scientific Council of Technical University Liberec and participated in the educational process at that institution; and the city of Liberec awarded him "honorary citizenship" this year. The whole scientific career and personal life of Professor Nožička may serve as a positive and inspiring example for younger generations. We wish him good health, good luck, strength, and success in his future years.

List of publications

[1] Le vecteur affinonormal et la connexion de l'hypersurface dans l'espace affin (Affine-normal vector and the connection of a hyperplane in an affine space). Čas. Pěst. Mat. Fys. *75* (1950), 179–209.

[2] The theorem on the supremum and the theorems equivalent to it. Čas. Pěst. Mat. Fys. *76* (1951), 121–140.

[3] La connexion et la normale de l'hypersurface dans l'espace riemannien du point de vue de la geometrie affine (Connection and the normal of a hyperplane in Riemannian space from the point of view of affine geometry). Czechoslovak Math. J. *76* (1951), 19–31.

[4] On imbeddings of total geodesics in a Riemannian space I., II. Čas. Pěst. Mat. *78* (1953), 65–72 and 215–228.

[5] La courb et son arc dans l'espace affin (Curve and its arc in an affine space). Čas. Pěst. Mat. *78* (1953), 307–339.

[6] On the problem of the affine normal and the induced connection in a hypersurface in affine space. Čas. Pěst. Mat. *79* (1954), 101–134.

[7] Ein Beitrag zur Affingeometrie der Fläche (A contribution to the affine geometry of a surface). Čas. Pěst. Mat. *81* (1956), 137–156.

[8] Sur le contact des hypersurfaces dans une espace affine (On the contact of hypersurfaces in an affine space). Rev. Math. Pures Appl. *1* (1956), 85–90.

[9] Die Graphentheorie in Anwendung auf das Transportproblem (Theory of graphs and its application to the transport problem). Czechoslovak Math. J. *8* (1958), 94–121 (with Bílý, J., Fiedler, M.).

[10] Sur le contact des varietes dans une espace affine lineaire (On the contact of varietes in a linear affine space). Čas. Pěst. Mat. *83* (1958), 171–201.

[11] Zur Berührung von zweien Mannigfaltigkeiten in einem affin-eukleidischen Raum (On the contact of two varietes in an affine-Euclidean space). Ann. Polon. Math. *6* (1959/1960), 83–86.

[12] Les lignes geodesiques, asymptotiques et les lignes de courbure du point de vue de la mecanique d'un point materiel (Geodesic lines, asymptotes, and curvature lines from the point of view of mechanics of a mass point). Appl. Math. *4* (1959), 83–108.

[13] Les principes fondamentaux de la mecanique et leur equivalence (Fundamental principles of mechanics and their equivalence). Appl. Math. *4* (1959), 243–277.

[14] Über ein Modell in der klassischen Theorie des Zwei-Körper-Problems (About one model in the classical theory of the problem of two bodies). Appl. Math. *5* (1960), 1–29.

[15] Über ein Kriterium in der Theorie des Transportproblems (About one criterion in the theory of the transportation problem). Czechoslovak Math. J. *11* (1961), 204–212.

[16] Elementareigenschaften der Weltlinien und gleichformig beschleunigte Bewegung in der Minkowskischen Mechanik (Elementary properties of worldlines and uniformly accelerated movement in the Minkowski Mechanics). Comment. Math. Univ. Carolin. *3* (1962), 3–31.

[17] Proprieté speciale de la derivee (A special property of the derivative). Mathematica (Cluj) *5* (1963), 261–277.

[18] Přehled užité matematiky (K. Rektorys et al: Survey of Applied Mathematics; one chapter in the textbook). Státní nakladatelství technické literatury, 1963, pp. 1137.

[19] Les formules de Frenet pour la geodesique dans la mecanique de Minkowski (Frenet's formulae for a geodesics in the Minkowski's mechanics). Czechoslovak Math. J. *13* (1963), 290–321.

[20] Les transformations de Lorentz en tant que cas special des correspondances plus generales dans l'espace de Minkowski (Lorentz transformations as a special case of more general correspondences in the Minkowski's space). Czechoslovak Math. J. *14* (1964), 609–628.

[21] La methode des hypespheres dans la appoximation linaire (The method of hypersheres in linear programming). An. Stiint. Univ. Al. I. Cuza Iasi Sect. I a Mat. *118* (1965), 569–595.

[22] Profesor Václav Hlavatý a Czech mathematician of world renown (Obituary). Čas. Pěst. Mat. *94* (1969), 374–380.

[23] Survey of applicable mathematics. (One chapter in the textbook by K. Rektorys). English translation from the Czech, edited by the staff of the Department of Mathematics, University of Surrey, Iliffe Books Ltd., London, 1969, pp. 1369.

[24] Über die Eindeutigkeit der Lösung von linearen Optimierungsproblemen (On the uniqueness of the solution of linear programming problems). Math. Operationsforschung und Statistik *1* (1970), 5–20.

[25] Ein geometrischer Beweis des Dualitätsprinzips in der linearen Optimierung (A geometric proof of the principle of duality in the linear optimization). Math. Operationsforschung und Statistik *2* (1971), 3–17.

[26] Über eine Klasse von linearen einparametrischen Optimierungsproblemen (About a class of linear one-parametric optimization problems). Math. Operationsforschung und Statistik *3* (1972), 159–194.

[27] Theorie der linearen Optimierung (Theory of linear optimization). Math. Lehrbücher und Monographien, Band XXI., Akademie Verlag Berlin, 1972, pp. viii+378 (with Guddat, J., Hollatz, H.).

[28] The existence of a solution of the limited capacity transportation problem. Second National Conference on Mathematical Methods in Economics. Harmonia, 1972, pp. 215–231. (In Czech.)

[29] Über einfache Mannigfaltigkeiten in linearem affinen Raum A_n in globaler Auffassung (About simple varietes in the linear affine space A_n in a general form). Czechoslovak Math. J. *26* (1976), 541–578.

[30] Lineare parametrische Optimierung (Linear parametric optimization). Wissenschaftliche Taschenbücher, Reihe Math./Physik 166, Akademie Verlag Berlin, 1976, pp. 160 (with Kausmann, U., Lommatzsch, K.).

[31] Sphärische Abbildung von konvexen Mengen und konvexe Optimierung (Spherical mapping of convex sets and convex optimization). Z. Angew. Math. Mech. *57* (1977), T326–T327 (with Grygarová, L.).

[32] Über asymptotische Berührung von konvexen Mengen (About asymptotic contact of convex sets). Z. Angew. Math. Mech. *58* (1978), T471–T473 (with Grygarová, L.).

[33] Spherical mappings of convex sets and convex parametric optimization. Survey of Mathematical Programming (Proc. 9th Math. Programming Symposium Budapest 1976). vol. 1, 1976, pp. 299–306.

[34] Konvexität und konvexe Optimierungsprobleme in gekrümmten Räumen (Convexity and convex optimization problems in curved spaces). Z. Angew. Math. Mech. *59* (1979), T109–T111.

[35] Anwendungen der linearen parametrischen Optimierung I., II (Applications of linear parametric optimization). Contribution in a collection LMW-Mathematische Reihe 69. Birkhäuser Verlag, Basel, 1979, pp. x+189.

[36] Über metrische und affine Konvexität in gekrümmten konvexen Räumen (On metric and affine convexity in curved convex spaces). Z. Angew. Math. Mech. *61* (1981), T343–T346.

[37] Einige physikalische Modelle in der mathematischen Optimierung (Some physical models in mathematical optimization). Approximation and Optimization in mathematical physics, Oberwohlfach 1982. Peter Lang, Frankfurt/M., 1983, pp. 11–33.

[38] A generalization of the notion of convexity on the basis of certain optimization problems. Parametric optimization and approximation, Oberwohlfach 1983. Birkhäuser Verlag, Basel, 1985, pp. 217–230.

[39] Parametric optimization and approximation (Ed.). Symposium Oberwohlfach 1983, Birkhäuser Verlag, Basel, 1985, pp. 263.

[40] Parametric optimization and related topics (Ed.). Proceedings from the Conference in Plaue October 7–12, 1985, Akademie Verlag, Berlin, 1987, pp. 407.

[41] Sur une metrique speciale dans l'espace lineaire et les mouvements du Kepler (On a special metric in linear space and Kepler motions). Appl. Math. *33* (1988), 49–67.

[42] Geometrie konvexer Mengen und konvexe Analysis (Geometry of convex sets and convex analysis. Mathematische Lehrbücher und Monographien, II. Abteilung, Akademie Verlag, Berlin, 1988, pp. 423 (with Grygarová, L., Lommatzsch, K.).

[43] Some topological questions connected with convex functions. Optimization *22* (1991), 177–191 (with Grygarová, L.).

[44] Parametric optimization and related topics II. (Ed.). Proceedings from the conference, Eisenach, June 27–July 2, 1989, Akademie Verlag, Berlin, 1991, pp. 175.

[45] Survey of applicable mathematics. Volume II. (One chapter in the textbook by K. Rektorys), Kluwer, Dordrecht.

[46] Parametric optimization and related topics III. (Ed.). Proceedings from the conference, Guestrow August 30–September 5, 1991, Peter Lang, Frankfurt/M., 1993, pp. 568.

[47] Parametric optimization and related topics, IV. (Ed.). Proceedings from the conference, Enschede June 6–9, 1995, Peter Lang, Bern, 1997, pp. 382.