LAUDATION

ON THE 70TH BIRTHDAY OF FERENC SCHIPP
AND
ON THE 60TH BIRTHDAY OF PÉTER SIMON

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2009 will be a memorable year in the history of our department, the Department of Numerical Analysis, Faculty of Informatics, Eötvös L. University (ELTE), Budapest, Hungary. Two of our leading scientists, educators celebrate their special birthdays. Professor Schipp, the founder of our department, reached 70 and professor Simon, the present chair, turned 60 this year. On this occasion the Faculty of Informatics of ELTE in cooperation with the Computer and Automation Research Institute of MTA (SZTAKI), the Department of Mathematics of the University of Pécs, and the Department of Mathematics of the College of Nyíregyháza organized a "Workshop on Dyadic Analysis" at Dobogókő, Hungary. Many friends and colleagues from several countries around the world took part in the workshop in order to celebrate our jubilarians in a "professional" way. Another scientific form to honor professors Schipp and Simon is this issue of the journal Annales Sectio Computatorica of the Faculty of Informatics which is dedicated to them. Both professors have long and rich careers so it would be hopeless to give a complete review about them in a couple of pages. Therefore the only intention of the short one below is just to give an impression.

It was 10 years ago when we celebrated the 60th birthday of professor Schipp. By age 60 professionals, including mathematicians, have usually reached the zenith of their career. So it is a perfect occasion when colleagues can express their appreciation to the jubilarian. We did so in 1999 when we gathered at a workshop in Kövestető, and Mathematica Pannonica issued a special volume dedicated to professor Schipp. In the foreword of that volume me and my colleague, Péter Simon tried to give a short biography, including the various positions in which he served the higher education and the Hungarian and international mathematical communities. Also, we gave an overview about his carrier as a scientist, and educator. We highlighted some of his results that earned him international reputation in harmonic analysis. The book "Walsh series, an introduction to dyadic harmonic analysis", published in 1990, became

the fundamental work in this field. Let me illustrate it with a recent comment from one of the top scientists in harmonic analysis "I bought the Schipp, Simon, Wade book about 20 years ago, and I use it more each year. It is aged beautifully!...." His excellence as scientist could be measured by the number of his papers, monographs or his fame by the many citations to his works but his achievement is way beyond that. It could be better characterized by the originality of his ideas that inseminated several areas in harmonic analysis. He related areas seemingly far from each other like martingale theory and fast Fourier transforms, Carleson's theorem, or the famous problem of Banach on Schauder bases.

He has always been unselfish in sharing his ideas with his colleagues and so encouraging them to exercise these ideas on open problems. As a result there are many of us, not only at our department or in other institutes within Hungary but also in many countries around the world, who are proud to call ourselves his students. This is what one calls a genuine indicator of greatness. He keeps continuing his good tradition. At age 70 it would be too early to think that Professor Schipp's mission is accomplished. In the last decade of his life he has been just as active and creative as ever. He resigned from chairmanship at age 65 and became professor emeritus at age 70. We still can count on his experience and wisdom whenever we need. He is always ready to help in his tactful way. No administration and teaching only means that all that time he had to spend with these duties before he can now use for research. He still likes working on new ideas and on applications of mathematics. In the last decade he has been involved in a "cornea project" with Computer and Automation Research Institute of MTA (SZTAKI). He worked out a model both theoretically and numerically that provides a new approach in the representation of the surface of human cornea. As a byproduct he and his coauthors published several research papers on Zernike polynomials. Another new idea of him is the use of rational function in processing biological signals, in particular in ECG signal. He has worked with rational function systems in connection with problems in system and control theories. Then he noticed many of their advantageous properties which can be utilized in signal processing as well. There is now a team of colleagues and students around him that is working on different issues of this complex problem. The preliminary results generated by this novel approach are very promising and have been presented at several conferences. Besides doing research he still has a PhD student, teaches on a PhD seminar, and works on a lecture notes on rational function systems.

His research accomplishments in mathematics and activity in mathematical pedagogy have been recognized by several prizes, including the Mathematical Prize of the MTA in 1978, the Prize of the MTA in 1990, and the Szentgyörgyi Prize of the Government of Hungary in 1996. The most precious one is however the Széchenyi prize which was awarded to him for his exceptional

career in 2008. It is the highest prize in Hungary that one can earn as a scientist. For us this high level of his activity means a solid hope that we will see another 10 years full of successes from him.

Péter Simon was born in Nagymaros, a town in the picturesque area of the so called Danube bend in Hungary in 1949. He stayed there until finishing his studies in the local high school. Then he started his higher education studies at Eötvös Loránd University in mathematics and physics. He graduated with award in 1973, and received a diploma as a teacher of mathematics and physics. After graduation he started his professional carrier in mathematics as the student of professor Schipp. Under Schipp's guidance he earned his university doctor degree in 1975. Continuing his scientific carrier he earned the so called candidate degree in 1982, habilitation in 2000 and the doctor of science degree in 2006. He was among the first mathematicians who started to study the problems of harmonic analysis with respect to the so called Vilenkin systems. These systems can be considered as the generalization of the Walsh system. Péter Simon was especially interested in the case when the generating sequence is not bounded. The problems with respect to the so called unbounded systems can not be considered as trivial generalizations of those of the Walsh system. In many cases new approach was needed in theoretical, technical and conceptual senses. For instance it was Péter Simon who introduced a concept of conjugation that plays similar role as the trigonometric conjugate in trigonometric Fourier analysis. He used this conjugation to prove that the Vilenkin system is a basis in the L^p spaces if p is between 1 and infinity. Another useful concept introduced by him was a type of a Hardy space that is related to the finer structure of Vilenkin groups. An early and well known result of him was a joint result with Ciesielski and Sjölin on the equivalence of Haar and Franklin bases. After Butzer and Wagner had introduced the concept of dyadic derivative Péter Simon proved many fundamental results with respect to it. This concept turned to be the substitute of the classical derivative in the dyadic analysis. He intensively and successfully studied problems on multipliers, Paley inequalities, the Sunouchi operator, the Hardy-Littlewood inequality involving Hardy spaces over the Walsh or the Vilenkin groups. In several cases he was able to solve the multidimensional problem as well. Lately he published a number of interesting results on the Walsh system in the so called Kaczmarz ordering. He was a coauthor of professors Schipp, Wade and Pál in the monograph "Walsh series, Introduction to dyadic analysis". Since its publication in 1990 this monograph became the bible of those who research or apply Walsh series. Maybe he does not even count it anymore, but he received more than 700 citations on his works. This number itself shows his

high reputation as a professional. His scientific achievement was acknowledged also by the Hungarian Academy by honoring him with the Alexits Prize in 1989.

Péter Simon is famous about the high standard of his teaching activity. He writes on the blackboard during his lectures as if that would go directly to print. His care in teaching is appreciated also by the students. They voted him the Outstanding Teacher of the Faculty award several times. For his high quality teaching he also received this award from the senate of the university. He has written several lecture notes in various fields of mathematical analysis which are very popular among students. In all of these lecture notes the materials are selected and presented with a great care. Without giving up mathematical correctness he clarified even the most complicated theorems in them.

He has always been an active faculty member and served the interest of the faculty in various important positions. He took over the chairmanship of Department of Numerical Analysis, ELTE after professor Schipp had retired from that. During his service in five years in this position he proved that he continues the good traditions of his predecessor.