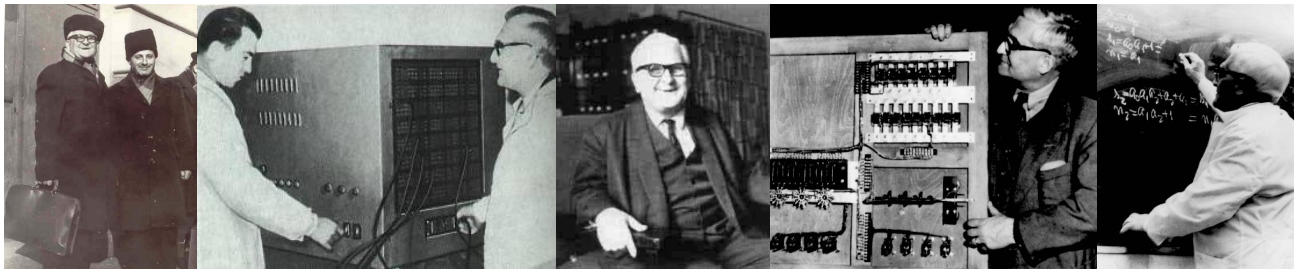

László Kalmár Commemorative Exhibition

László Kalmár
mathematician
1905-1976

Local Centre of the Hungarian Academy of Sciences
02.10.2003, Szeged, Hungary

Introduction

The László Kalmár Commemorative Exhibition is held in the Local Centre of the Hungarian Academy of Sciences, on 2nd October, 2003 in the framework of Kalmár Workshop on Logic and Computer Science. Several of the photographs showing events of the life of this outstanding expert of mathematical logic and computer science are presented first ever for the public.

Displaying some pieces of Kalmár's correspondence provides a good opportunity to draw the attention of the researchers of the national history of mathematics and informatics to the heritage with more then 3000 letters, that serves as an important source for the national histography of science.

The exhibition marks the beginning of a long-run research and collecting activity of materials that could contribute both to the upcoming centenary of Kalmár's birth and to the collection of the Museum of the History of Hungarian Informatics.

I would, hereby, like to thank everybody who has helped me in collecting the material of this exhibition, especially to *Éva Kalmár* and *Zoltán Kalmár* (*László Kalmár*'s daughter and son) for the vast number of precious and interesting photographs; to *Dr János Csirik*, Head of Department (University of Szeged, Department of Computer Algorithms and Artificial Intelligence) for reviewing the collection; and further to *Vilmos Bilicki*, assistant lecturer (University of Szeged, Department of Software Engineering); to *Dr Mihály Bohus*, university lecturer (University of Szeged, Department of Software Engineering); *Dr Béla Csákány*, professor (University of Szeged, Department of Algebra and Number Theory); to *Dr Tibor Csendes*, associate professor (University of Szeged, Department of Applied Informatics), *Tiborné Diamant*, librarian (University of Szeged, Library of Informatics Departments), and to *Gyula Staar*, chief editor (Természet Világa).

Péter Gábor Szabó
assistant lecturer
University of Szeged,
Department of Applied Informatics

Catalogue of the exhibition

Board 1: Among colleagues.

1. Participants of the Mathematician's Meeting held in Szeged, 8th June, 1928. Standing, from left to right: *Frigyes Riesz* (1880-1956), *Béla Kerékjártó* (1898-1946), *Alfréd Haar* (1885-1933), *Dénes Kőnig* (1884-1944), *Rudolf Ortvay* (1885-1945). Sitting in the middle row, from left to right: *József Kürschák* (1864-1933), *George David Birkhoff* (1884-1944), *Oliver Dimon Kellogg* (1878-1932), *Lipót Fejér* (1880-1959). Sitting in the front row, from left to right: *Tibor Radó* (1895-1965), *István Lipka* (1899-1990), *László Kalmár* (1905-1976) and *Pál Szász* (1901-1978). ≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

2. *László Kalmár* is delivering a lecture at the 1st Congress of Hungarian Mathematics (Budapest, 27 August-2 September, 1950). ≅ Source of the photo: gift of Dr Béla Csákány.≅

3. On the 1st Congress of Hungarian Mathematics in 1950. From left to right: *Frigyes Riesz*, *Edward Marczewski* (1907-1976) Polish mathematician, *György Hajós* (1912-1971) and *László Kalmár*. ≅ Source of the photo: gift of Gyula Staar. Appeared in the Mathematical special issue of Természet Világa (inner cover), 1998.≅

4. *László Kalmár* is congratulating *László Rédei* on having published his book entitled Algebra, in the Bolyai Institue, Szeged, 1954. From left to right: *János Szendrei* (covered), *László Rédei* (1900-1980), *Géza Fodor* (1927-1977), *Ottó Steinfeld*, *István Kállay* (covered), *Lajos Pukánszky*, *Károly Tandori, Gábor Szász*, *Tibor Bakos* (1909-1998), *László Kalmár*, *Lajos Pintér* (covered) and *Béla Szőkefalvi-Nagy* (1913-1998).
≅ Source of the photo: Internet. http://www.kfki.hu/chemonet/TermVil/tv2002/tv2002 wiegandt. html.≅

5. *László Kalmár* and *Frigyes Riesz* in front of the university building, in the 1930s. (The two other people could not be identified so far.)
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

6. *László Kalmár* with *Solomon Marcus*, Romanian mathematician in 1966. ≅ Source of the photo: Staar Gyula, Matematikusok és teremtett világuk, VinceKiadó, Budapest, 2002.≅

7. *László Kalmár*, *László Rédei* and *Béla Szőkefalvi-Nagy* in Szeged, 1955. (Taken by *Béla Liebmann.*) ≅ Source of the photo: gift of Dr Béla Csákány.≅

Board 2: The university professor.

1. Under the spell of continued fractions.
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

2. The always happy professor.
≅ Source of the photo: Internet. http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Kalmar.html.≅

3. During a lecture with the "flag figures".
≅ Source of the photo: Hungarian Scientists XVI (series of István Kardos), Hungarian Television, 1970.≅

4. A professor on bycicle.
≅ Source of the photo: Hungarian Scientists XVI (series of István Kardos), Hungarian Television, 1970.≅

5. *Géza Fodor*'s caricature of *László Kalmár*
≅ Source of the photo: Internet. http://www.bibl.u-szeged.hu/exhib/evfordulo/kalmar/kalmarkep2.html.≅

6. An intimate moment.
≅ Source of the photo: University of Szeged, Library of the Informatics Departments.≅

Board 3: Conferences and study trips.

1. Group photo in Moscow. We can see *László Kalmár* on the left and *Béla Szőkefalvi-Nagy* in the middle. (The photo was taken in the 1960s.)
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

2 . *László Kalmár* and *Imre Lakatos* (1922-1974) mathematician and philosopher in London, in 1968. ≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

3. On a Conference on Mathematical Linguistics next to *Gyula Németh* (1890-1976) linguist and turcologist, 1964. (Taken by *László Kemény.*)
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

4. *László Kalmár* in China among Chinese mathematicians, 1958. On his left: *Wu Yuanzeng*. ≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

5. Group photo with Chinese subtitles: *László Kalmár* and his wife with the colleagues and students of the Mathematical Research Institute of the Fudan University, 4/2/1959. ≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

Board 4: From László Kalmár's thoughts.

About the exactness of mathematics:

"...I've completed the high school of mathematical exactness, and I see that exactness hasn't got any limits. There isn't such a precise definition or theorem that couldn't be found faults in by a more precise point of view; and not because of hair-splitting but with a thorough reason (because refusing a more precise point of view may lead to errors and false results). That's why I cannot comprehend dogmatically the precision of mathematics any more: the ones in this side aren't precise, the ones on the other side are precise. With this, of course, I've rejected the idea of mathematics as an «absolute true science». I don't say that I was forced to reject it, because I am convinced that the beautiful part of mathematics consists in wearing all the uncertainties of the human work. Don't get me wrong: a kind of precision exists for me too, however not in a static sense but in a dynamic one. When I teach mathematics to somebody, he's already standing at a certain degree of precision, maybe at a very low degree. He couldn't get higher by the way that I call him idiot when he's less precise; but I have to convince him that it's worth coming up. Of course it's worth only if he demands it. However, it doesn't matter at all if one doesn't have a demand on it; then we remain where we are…"

≅ Source: Extract from László Kalmár's letter to Miklós Szabó (Szeged, 19/2/1947) In: Kalmár László: Integrállevél. Matematikai írások, Gondolat, Budapest, 1986.]

About the start of the computer science in Hungary:

"...I represent a nascent discipline. A new something always has to fight his own battle against conservatism, and the ones, who represent a discipline like the mathematical logic, the cybernetic or the computer science has to debate a lot with several people. He himself has to take part in this struggle. My struggle began when I started to deal with mathematical logic. My colleagues didn't like that I neglected such classical disciplines that the analysis, analytic number theory. It continued when I began my cybernetic researches… There was a struggle too when we realized the formation of programmer mathematician in Szeged. I did it finding a back door among the vast number of rules without the permission of the Ministry.

Telling the truth I don't like to participate in the neutral meetings, but when I have to fight for some true and good causes, I must always have time and energy for it."
[Source: Kardos István, Sokszemközt tudósokkal, MRT-Minerva, Budapest, 1974.]

Board 5: The pioneer of the national computational science.

1. The logic machine of Szeged. Designed by *László Kalmár*, created by *Dániel Muszka*. ≅ Source of the photo: Internet. http://www.scitech.mtesz.hu/10/kiraly_22.htm.]

2-3. The logic machine.
≅ Source of the photos: Kovács Győző, Válogatott kalandozásaim Informatikában, Masszi Kiadó, Budapest 2002.]

4. The inner structure of the logic machine.
≅ Source of the photo: Internet. http://www.inlap.jate.u-szeged.hu/tortenet/ELETRAJZ/KALMAR/logikai.htm.]

5. The "Ladybird of Szeged", the first national cyber-animal. Designed and created by *Dániel Muszka*.
≅ Source of the photo: Internet. http://www.inlap.jate.u-szeged.hu/tortenet/ELETRAJZ/KALMAR/katica.html.]

6-7. A machine for examining the finite algebras. Designed and created by *Imre Pávó* and his colleagues on the basis of *László Kalmár*'s ideas.
≅ Source of the photo: Kovács Győző, Válogatott kalandozásaim Informatikában, Maszi Kiadó, Budapest 2002.]

8. The "Ladybird of Szeged".
≅ Source of the photo: Internet. http://www.inlap.jate.u-szeged.hu/tortenet/ELETRAJZ/KALMAR/katica.htm.]

Board 6: Structural plan of a formula controlled computer.

1-11. *F.L. Bauer*, *K. Samuelson*, *W. Kammerer* and *László Kalmár* started to work on the plan of a formula controlled computer independently form one another in Munich, Mainz, Berlin and in Szeged respectively. *A.M. Gluskov* and *W. Pawlak* joined them later in Kiev and in Warsaw.

László Kalmár first outlined his plan in Warsaw in 1958. The plan of execution was finished by 1975, but the actual construction of the machine has stopped after the death of *László Kalmár*. A version of it was built in cooperation with Kiev.
[Source of the drawings: University of Szeged, Department of Informatics, Kalmár Heritage.]

Board 7: In memories of his colleagues.

John von Neumann (1903-1957)

"May 17, 1946

To Whom it may concern:-

I have known Doctor L. Kalmár since about 1930, and I am familiar with his mathematical work, in particular, in formal logics; his work in that field is very close to my own interests. I consider him an absolutely first-rate man and his contribution to logics in particular, important. His work on the subject of "freedom from contradiction" and on the "Entscheidungsproblem" is most interesting and significant. I hope that he will have an oppurtunity to conduct his scientific work under favorable conditions. I also know that he is an enthusiastic and excellent teacher and that he is most eminently qualified to fill a University Chair. I can recommend him most wholeheartedly for any academic position in mathematics.

John von Neumann
Professor of Mathematics"

[Source: University of Szeged, Department of Informatics, Kalmár Heritage. The original letter can be seen in the show case 1.]

Paul Erdős (1913-1996):

"I have learned a lot from Lipót Fejér, but I have learned the most from László Kalmár."

Birth of Paul Erdős' first article of the one and a half thousand.

'In March, 1931 I found my proof for the known theorem of Tshebishew saying that in case of every n>1, there must be a prime between any n and 2n. My proof was hard to understand because of my inaccurate drafting. My badly and inexactly drawn manuscript was given to Kalmár who spared no pains to make my proof clear and to formulate the unpronounced lemmas…At that time, between 1931 and 1934, I used to deal a lot with the theorem of primes and with the primes found in an arithmetic progression. My dissertation, that otherwise was drawn and written down in an understandable way by Kalmár, also deals with these." [Source: Paul Erdős, *Some private and mathematical mementos about László Kalmár (In Hungarian), Matematikai Lapok 25:253-255, 1974.]*

Rózsa Péter (1905-1977):

"László Kalmár has been my real master from the beginnings till now. We were classmates, but he was well informed in all the mathematical fields even at that time, he was a creative mathematician, the professional leader of all the inquiring students. After having graduated he got to Szeged, and from there he used to write letters of 40-50 pages to inform us about the new mathematical events; and to inform me about the researches in connection with the basis of mathematics… "
"As I reached my first achievement in the research of the so called "number theory", with studying the features of natural numbers, he called my attention to the field of number theory, hardly studied at that time, which could have got an important role in the researches of the basis of mathematics, and to the recursive function theory within it. This is my main field of researches up to the present day."
[Source: Kardos István, Sokszemközt tudósokkal, MRT-Minerva, Budapest, 1974.]

Board 8: Mates.

1. As an inmate of the labour camp in Algyő, 1944. *László Kalmár* is on the left, in military cap. ≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

2. Group photo of the inmates of the labour camp in Algyő, 1944. *László Kalmár* is in the middle, with a moustache and military cap.
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

3. *László Kalmár*'s wife, *Erzsébet Árvay*.
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

4 . *László Kalmár*, *Mihail Gavrilov* (both in hats). On the right: *Dániel Muszka* and *György Pollák* (1929-2001).
≅ Source of the photo: gift of Éva Kalmár and Zoltán Kalmár.≅

5. The work of *Márton Kalmár*, sculptor, to be seen at the Cathedral Square (Panteon) in Szeged. Size and material of the table: 120x70 cm, white marble with 3 bronze portraits edpicting *László Rédei* 1900-1980, *László Kalmár* 1905-1976, and *Béla Szőkefalvi-Nagy* 1913-1998.
≅ Source of the photo: Csákány Béla, A második triumvirátus, Szeged 12(11):21-33, 2000.]

Show-case 1: Selection from László Kalmár's correspondence.

1. A letter from *Alonzo Church.*
2. A letter from *Stephan Cole Kleene.*
3. A letter from *Alfred Tarski.*
4. A letter from *Albert Thoralf Skolem.*
5. A letter from *John von Neumann.*
6. A letter from *Paul Erdős.*
7. A letter from *Pál Turán.*
8. A letter from *Tibor Szele.*
9. A letter from *Dénes Kőnig.*
10. A letter from *György Hajós.*

Show-case 2: Selection of Kalmár Heritage.

1. The first issue of the first, and so far single internationally acknowledged Hungarian periodical on computer science, *Acta Cybernetica* (1969). Founder and chief editor: *László Kalmár.*

2. *László Kalmár*'s books and notes.

3. Acknowledgements, commemorative medals and prizes.

a) Gyula Kőnig Reward (1936)
b) Kossuth Prize (1950)
c) Manó Beke Commemorative Prize (1954)
d) Tibor Szele Commemorative Medal (1970)
e) Hungarian State Award (1975)
f) Attila József Commemorative Medal (1975)
g) John von Neumann Commemorative Medal (1976)

4. László Kalmár Prize.

5. Badges from different conferences.

6. A Chinese commemorative album.

Biographical data

27th March, 1905 **László Kalmár** was born in Alsó-Bogát, belonging to Edde, Somogy County. His father, Zsigmond Kalmár is an estate clerk on the Inkey's large estate. His mother, Rózsa Krausz came from a merchant family.

In the autumn of 1906 The family moves to Sárszentágota in Fejér County, where his father a job at the Leopold's large estate as an estate clerk.

1910.1914 László Kalmár attends the public school of Sárszentágota.

1914 His father dies of stroke, the family moves to Pest.

1914-1922 He continues his studies in the secondary school of the 1st district of Budapest. Lajos Dávid, the famous historian of mathematics, is among his mathematics teachers. He finishes secondary school with excellent results.

1922-1926 He attends the Faculty of Arts at the University of Budapest studying to be teacher of mathematics and physics. From his second semester he's a member of József Eötvös College.

May, 1927 He receives his BA degree as a teacher of mathematics and physics.

June, 1927 He receives his Ph.D. in mathematics as a main subject, and on theoretical and experimental physics as a secondary subject. He gets a job at the Vatea factory of electron tubes as a research laboratory physicist.

1st September 1927	He becomes assistant lecturer at the University of Szeged, Department of Theoretical Physics under the guidance of Rudolf Ortvay.
End of summer, 1927	He attends the International Mathematical Congress in Bologna, where he is strongly influenced by the lecture of Hilbert about the unsolved problems of mathematical logic.
1929	He travels to Gottingen where he meets Hilbert.
November, 1930	He becomes an associate professor of Frigyes Riesz and Alfréd Haar.
1931	From the foundation of Loránd Eötvös College of Szeged he gives lectures on mathematics at the college till 1944.
June, 1932	He qualifies as a private lecturer of Arithmetics and Analysis.
In the autumn of 1932	He gives a lecture at the International Mathematical Congress in Zurich.
1933	He marries one of his students, Erzsébet Árvay. Their four children are: Éva, Ágota, Zsuzsa and Zoltán.
1936	He recieves the Gyula Kőnig Prize of the Loránd Eötvös Company of Mathematics and Physics.
August, 1943	He is called in for forced labour at Hódmező-vásárhely. From there he is commanded to Szeged. During the three months of forced labour he is mainly working in the fishery of Szeged-Fehértó.

April, 1944	He is called in again for forced labour at Hódmező-vásárhely. From there he is again commanded to Szeged to work as a railway builder and a tiler.
October, 1944	He is commanded to the Transdaubian region, but he escapes form his troop and then goes into hiding in Baja. He returns to Szeged on 26th of October.
March, 1947	He is appointed to be university professor in the Department of Mathematics at the University of Szeged.
August, 1948	He gives a lecture at the International Conference of Philosophy in Amsterdam where he proves that the Church's theorem can be deduced from the Gödel's theorem.
31th Oct. 1949	The reorganized Hungarian Academy of Sciences appoints him to be a corresponding member. Due to this appointment, he receives the title "Doctor of Mathematical Sciences".
15th March, 1950	He is awarded the Kossuth Prize.
Academic year 1950/51	László Kalmár is rector of the University of Szeged.
1953	He delivers a lecture at the Congress on Mathematics in Warsaw about his results on finite number theoretical functions with infinite variables.
1954	In the framework of the German-Hungarian Cultural Exchange Agreement, he gives lectures in Berlin, Greifswald, Jena, Liptshe, Dresda. In Hungary he's awarded the Manó Beke Commemorative Medal of the János Bolyai Mathematical Society.

10th April, 1956	He organizes a cybernetics seminar for engineers and mathematicians to popularise the technological and other applications of mathematical logic.
In the autumn of 1957	For the first time in Hungary, the Faculty of Applied Mathematics begins its functioning with three students.
May, 1958	The Kalmár logic machine is presented.
In winter, 1958/59	In the framework of the Hungarian-Chinese Cultural Exchange Agreement and answering the invitation of the Futan University, he gives lectures in Shanghai, Peking, Vuhan and in Hanshou.
Academic year 1960/61	He gives lectures on mathematical logic to the students of Philosophy at the Eötvös Loránd University, Budapest as a temporary lecturer.
1961	He is appointed to be a full member of the Hungarian Academy of Sciences.
1963	He succeeds in starting the Faculty of Programming Mathematician as an independent faculty at the University of Szeged.
July, 1970	Under his leadership the Department of the Foundations of Mathematics and Computer Science, which later, from Oct. 1971, becames the Department of Computer Science.
10th December, 1970	He is awarded the Tibor Szele Commemorative Medal.

1975	As Guest professor sent by the Hungarian Academy of Sciences, he travels to Canada and to the USA to give lectures. In the same year he is awarded the Hungarian State Award and the Attila József Commemorative Medal.
October, 1976	He retires.
1976	He is awarded the John von Neumann Commemorative Medal.
2th August, 1976	He dies in Mátraháza, in the holiday resort of the Academy.
1997	The world's largest organization of computer technology, the American IEEE Computer Society awards him posthumously the Computer Pioneer Award.