

**TO THE MEMORY OF PROFESSOR  
NADER LABIB BASSILY**

**Imre Kátai** (Budapest, Hungary)



**Nader Labib Bassily**

26 October 1951 – 29 August 2025

Nader Labib Bassily was born in Meet Ghamr, Dakahlia, Egypt. He studied mathematics at Ain Shams University between 1969 and 1973. After obtaining his diploma, he remained at the university, first as a teaching assistant and later as an assistant professor. He continued his studies in probability theory at the Department of Probability Theory and Mathematical Statistics of Eötvös Loránd University under the supervision of Professor József Mogyoródi (1933–1990), the head of the department.

He began his studies in Budapest in 1976 and, based on his published papers [1–12] and his dissertation entitled On the Use of Young Functions in the Theory of Martingales, defended in 1980, he was awarded the Candidate of Mathematical Sciences degree.

After obtaining this degree, he returned to his alma mater, where he worked until his retirement in 2024.

Following the death of Professor Mogyoródi, his research interests shifted towards probabilistic number theory ([23–27], [33–37]). He visited Budapest on several occasions and collaborated with Marijke Wijsmuller, Jean-Marie De Koninck and Imre Kátai.

We are very grateful to him for his highly effective and valuable service as a member of the Editorial Board of *Annales Univ. Sci. Budapest., Sect. Comp.*

### LIST OF HIS PAPERS

- [1] Some remarks on the  $BMO_{\Phi}$  spaces. In: *The First Pannonian Symposium on Mathematical Statistics* (Bad Tatzmannsdorf/Austria, 1979), Lect. Notes Stat., **8** (1981), Springer, New York, pp. 18–24.  
[https://doi.org/10.1007/978-1-4612-5934-3\\_3](https://doi.org/10.1007/978-1-4612-5934-3_3)
- [2] Some properties of the  $BMO_{\Phi}$ -spaces, *Annales Univ. Sci. Budapest., Sect. Math.*, **25** (1982), 125–135.  
<https://annalesm.elte.hu/annales25-1982/>
- [3] On the  $L_{\Phi}^F$ -spaces with general Young-function, *Annales Univ. Sci. Budapest., Sect. Math.*, **25** (1982), 137–144.  
<https://annalesm.elte.hu/annales25-1982/>
- [4] On the  $K_{\Phi}$ -spaces with general Young-function  $\Phi$ , *Annales Univ. Sci. Budapest., Sect. Math.*, **27** (1984), 205–214. (with J. Mogyoródi)  
<https://annalesm.elte.hu/annales27-1984/>
- [5] On the  $BMO_{\Phi}$ -spaces with general Young function, *Annales Univ. Sci. Budapest., Sect. Math.*, **27** (1984), 215–227. (with J. Mogyoródi)  
<https://annalesm.elte.hu/annales27-1984/>
- [6] A proof of the left-hand side of the Burkholder–Davis–Gundy inequality for a large class of Orlicz spaces, *Annales Univ. Sci. Budapest., Sect. Math.*, **30** (1987), 195–199.  
<https://annalesm.elte.hu/annales30-1987/>
- [7] Maximal inequalities for nonnegative supermartingales, *Annales Univ. Sci. Budapest., Sect. Math.*, **30** (1987), 201–212. (with S. Ishak)  
<https://annalesm.elte.hu/annales30-1987/>
- [8] On the representation of  $L^{\Phi}$ -mean oscillation random variables, *Annales Univ. Sci. Budapest., Sect. Math.*, **30** (1987), 213–222. (with S. Ishak and J. Mogyoródi)  
<https://annalesm.elte.hu/annales30-1987/>
- [9] On  $L_1$ -mean oscillating random variables, *Annales Univ. Sci. Budapest., Sect. Comp.*, **7** (1987), 79–85. (with S. Ishak)  
<https://ac.inf.elte.hu/Vol.007.1987/>
- [10] On Wald-type inequalities, *Annales Univ. Sci. Budapest., Sect. Comp.*, **8** (1987), 5–24. (with S. Ishak and J. Mogyoródi)  
<https://ac.inf.elte.hu/Vol.008.1987/>

- [11] A new proof of the right-hand side of the Burkholder–Davis–Gundy inequality. In: Grossmann, W; Mogyoródi, J; Vincze, I; Wertz, W (eds), *Probability Theory and Mathematical Statistics with Applications : Proceedings of the 5th Pannonian Symposium on Mathematical Statistics*, Visegrád, Hungary, 20–24 May, 1985. Bp, Hungary, Dordrecht, Netherlands : Akadémiai Kiadó, Reidel (1988) pp. 7–21. , 15 p.
- [12] A note on Wald’s identity, *Annales Univ. Sci. Budapest., Sect. Math.*, **31** (1988), 103–106. (with S. Ishak)  
<https://annalesm.elte.hu/annales31-1988/>
- [13] A supplement to the generalized martingale Fefferman inequality, *Studia Sci. Math. Hungar.*, **25(3)** (1990), 235–240. (with S. Ishak)
- [14] Duality of the Burkholder–Davis–Gundy inequality and the generalized Fefferman–Garsia inequality. I., in: *Approximation theory, Proc. Conf., Kecskemét/Hung. 1990*, Colloq. Math. Soc. János Bolyai 58, 85–96 (1991).
- [15] Applications of Wald’s identity with some famous stopping times, *Annales Univ. Sci. Budapest., Sect. Math.*, **34** (1991), 93–113. (with S. Ishak)  
<https://annalesm.elte.hu/annales34-1991/>
- [16] A short note on uniform integrability and Orlicz spaces, *Annales Univ. Sci. Budapest., Sect. Math.*, **34** (1991), 115–120.  
<https://annalesm.elte.hu/annales34-1991/>
- [17] On stable and mixing sequences of  $\sigma$ -fields, *Annales Univ. Sci. Budapest., Sect. Comp.*, **11** (1991), 11–22. (with S. Ishak and J. Mogyoródi)  
<https://ac.inf.elte.hu/Vol.011.1991/>
- [18] On an inequality of M. J. Klass, *Annales Univ. Sci. Budapest., Sect. Comp.*, **11** (1991), 53–62.  
<https://ac.inf.elte.hu/Vol.011.1991/>
- [19] On two-sided inequalities for stopped random walks in Orlicz-spaces, *Annales Univ. Sci. Budapest., Sect. Comp.*, **11** (1991), 63–73.  
<https://ac.inf.elte.hu/Vol.011.1991/>
- [20] Wald’s identity, Blackwell’s theorem, and Gut and Janson’s theorem using martingale techniques, *Annales Univ. Sci. Budapest., Sect. Comp.*, **11** (1991), 75–95. (with S. Ishak)  
<https://ac.inf.elte.hu/Vol.011.1991/>
- [21] Duality of the Burkholder–Davis–Gundy inequality and the generalized Fefferman–Garsia inequality II, *Probability theory and applications, Essays to the Mem. of J. Mogyoródi*, Math. Appl. 80, 33–45 (1992).  
[https://doi.org/10.1007/978-94-011-2817-9\\_2](https://doi.org/10.1007/978-94-011-2817-9_2)
- [22] On the duality of some martingale spaces, *Bull. Aust. Math. Soc.*, **45(1)** (1992), 43–52. (with A.M. Abdel-Fattah)  
<https://doi.org/10.1017/S0004972700036996>
- [23] Distribution of  $q$ -ary digits in some sequences of integers, *Annales Univ. Sci. Budapest., Sect. Comp.*, **14** (1994), 13–22.  
<https://ac.inf.elte.hu/Vol.014.1994/>

- [24] Distribution of the values of  $q$ -additive functions on polynomial sequences, *Acta Math. Hung.*, **68**(4) (1995), 353–361. (with I. Kátai)  
<https://doi.org/10.1007/BF01874349>
- [25] Inequalities for stopped random walks, *Annales Univ. Sci. Budapest., Sect. Comp.*, **16** (1996), 31–44.  
<https://ac.inf.elte.hu/Vol.016.1996/>
- [26] Distribution of consecutive digits in the  $q$ -ary expansions of some subsequences of integers, *J. Math. Sci.*, **78** (1996), 11–17. (with I. Kátai)  
<https://doi.org/10.1007/BF02367950>
- [27] Number of prime divisors of  $\varphi_k(n)$ , where  $\varphi_k$  is the  $k$ -fold iterative of  $\varphi$ , *J. Number Theory*, **65**(2) (1997), 226–239. (with I. Kátai and M. Wijsmuller)  
<https://doi.org/10.1006/jnth.1997.2164>
- [28] On the pairs of multiplicative functions satisfying some relations, *Aequationes Math.*, **55**(1-2) (1998), 1–14. (with I. Kátai)  
<https://doi.org/10.1007/PL00000074>
- [29] On the prime power divisors of the iterates of the Euler  $\varphi$ -function, *Publ. Math. Debrecen*, **55**(1-2) (1999), 17–32. (with I. Kátai and M. Wijsmuller)  
<https://doi.org/10.5486/PMD.1999.1858>
- [30] On additive functions with respect to the expansion of real numbers into generalized number systems, *Annales Univ. Sci. Budapest., Sec. Comp.*, **18** (1999), 25–33. (with S. Ishak and I. Kátai)  
<https://ac.inf.elte.hu/Vol.018.1999/>
- [31] On a theorem of Daboussi related to the set of Gaussian integers, *Mathematica Pannonica*, **14**(2) (2003), 267–272. (with J.-M. De Koninck and I. Kátai)  
<https://mathematica-pannonica.ttk.pte.hu>
- [32] An efficient approach for treating a stochastic fuzzy multicriterion programming problem, *J. Egypt. Math. Soc.*, **16**(1) (2008), 109–118. (with B.I. Bayoumi, A.A. El-Sawy, I.K. Yousef and A.M. Widyan)
- [33] A note on  $q$ -multiplicative functions, *Lith. Math. J.*, **49** (2009), 1–4. (with I. Kátai)  
<https://doi.org/10.1007/s10986-009-9036-x>
- [34] Some further remarks on a paper of K. Ramachandra, *Annales Univ. Sci. Budapest., Sec. Comp.*, **34** (2011), 33–44. (with I. Kátai)  
<https://doi.org/10.71352/ac.34.033>
- [35] On the theorem of H. Daboussi over the Gaussian integers, *Annales Univ. Sci. Budapest., Sec. Comp.*, **35** (2011), 25–33. (with I. Kátai)  
<https://doi.org/10.71352/ac.35.025>
- [36] Erratum to: On the pairs of multiplicative functions satisfying some relations, *Aequationes Math.*, **82**(3) (2011), 319–320. (with I. Kátai)  
<https://doi.org/10.1007/s00010-011-0085-y>

- [37] On the sum of divisors function, *Annales Univ. Sci. Budapest., Sect. Comp.*, **40** (2013), 129–134.  
<https://doi.org/10.71352/ac.40.129>

**Imre Kátai**

Department of Computer Algebra

Faculty of Informatics

Eötvös Loránd University

Hungary

`katai@inf.elte.hu`

