

Curriculum vitae

Nume/Prenume	Kása Zoltán
Adresa	Cluj-Napoca, str. Tatra nr. 4. ap. 17
Telefon	0264-438106
E-mail	kasa@ms.sapientia.ro
Data și locul nașterii	12 mai 1948, Bozieș (jud. Sălaj)
Funcția și locul de muncă (universitatea, facultatea, catedra)	profesor universitar emerit, conducător de doctorat (la UBB Cluj, 2005–2015) Universitatea Sapientia, Facultatea de Științe Tehnice și Umaniste Tg. Mureș, Catedra de Matematică și Informatică

Educație și formare

1985 – doctorat în matematică

1966-1971 Universitatea Babeș-Bolyai, Facultatea de Matematică–Mecanică, secția
Mașini de calcul

Experiența profesională

2018– pensionar, profesor emerit, Universitatea Sapientia Cluj-Napoca

2008– 2018 profesor universitar, Facultatea de Științe Tehnice și Umaniste Tg.
Mureș, Catedra de Matematică și Informatică, Universitatea Sapientia Cluj-
Napoca

1998–2008 profesor universitar, Facultatea de Matematică și Informatică,
Universitatea Babeș-Bolyai Cluj

1992–1998 conferențiar, Facultatea de Matematică și Informatică, Universitatea
Babeș-Bolyai Cluj

1990–1992 lector, Facultatea de Matematică și Informatică, Universitatea Babeș-
Bolyai Cluj

1971–1990 asistent universitar Facultatea de Matematică și Informatică,
Universitatea Babeș-Bolyai Cluj

Alte funcții deținute (nedidactice)

2008–2018 președintele IPC – Institutul Programelor de Cercetare (Fundația
Sapientia)

2012– 2016 președintele Senatului Universității Sapientia

2008– 2012 director științific Universitatea Sapientia

2004–2007 prodecan Facultatea de Matematică și Informatică, Universitatea Babeș-
Bolyai Cluj

2000–2004 prorector, Universitatea Babeș-Bolyai Cluj

1998–2000 prodecan, Facultatea de Matematică și Informatică, Universitatea
Babeș-Bolyai Cluj

Limbi străine cunoscute

engleză – vorbit, citit, scris

franceză – citit, scris

Activitatea didactică (cursuri, seminarii, lucrări practice conduse)

- Limbaje formale și automate; C, L – în prezent
- Algoritmi și structuri de date C, L – în prezent
- Programare procedurală C – în prezent
- Analiza și complexitatea algoritmilor; C,S – în prezent
- Aplicații ale combinatoricii în rețele, C, S
- Algoritmica grafurilor C,S,L
- Algoritmica și programare; C,S,L
- Sisteme informatice; C, L
- Bazele informaticii; C,S,L
- Sisteme de texte și hipertexte; C, S, L
- Capitole speciale de combinatorică, C, S

Domeniul de cercetare

informatică teoretică, combinatorică, combinatorica cuvintelor

Membru în organizații științifice și profesionale naționale și internaționale

- Societatea de Științe Matematice din România din 1971
- Asociația Națională de Informatică din România (ANIRO) din 1999
- Societatea de Matematică János Bolyai (Ungaria) din 1990
- Societatea de Știința Calculatoarelor John von Neumann (Ungaria) din 1990

Membru în colective de redacție (de specialitate)

- Redactor la *Műszaki Szemle – Technical Report* (Editat de EMT, Cluj, <http://www.emt.ro>).
- Redactor responsabil la *Historia Scientiarum* (Editat de EMT, Cluj, <http://www.emt.ro>).
- Redactor responsabil la *Acta Universitatis Sapientiae, seria Informatica*.
- Redactor la *Heuristic Algorithms and Distributing Computing* (Samara State University, Rusia), din 2017 *Heuristic Algorithms*

Lista de lucrări în domeniul de studii universitare de licență: informatica

Numele și prenumele Kása Zoltán

A. Teza de doctorat: Metode de alocarea dinamică a calculatoarelor numerice, 1985

B. Cărți publicate

B1. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în străinătate

1999

Bege, A., **Kása, Z.**, Tóth L., *Relációk és alkalmazásaik* (Relații și aplicațiile sale), Budapesti Műszaki Egyetem, 1999. (pentru doctoranzi)

B2. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în țară, la edituri recunoscute CNCSIS

2015

Gaskó Noémi, **Kása Zoltán:** *Gráfalgoritmusok*, Ed. Presa Universitară Clujeană/Kolozsvári Egyetemi Kiadó, 2015. pp. 203. ISBN 978-973-595-735-3

2007

Csörnyei Zoltán, **Kása Zoltán**, *Formális nyelvek és fordítóprogramok*, (Limbaje formale și compilatoare) Ed. Presa Universitară Clujeană, 2007, 197 pg. ISBN 978-973-610-505-0

2006

Bege, A., **Kása, Z.**, *Algoritmikus kombinatorika és számelmélet* (Combinatorica algoritmică și teoria numerelor – in. magh.), Presa Universitară Clujeană, 2006. pp. 215. ISBN (13): 978-973-610-446-6

2003

Kása, Z. *Combinatorică cu aplicații*, Editura Presa Universitară Clujeană, Cluj-Napoca, 2003, 188 pag. ISBN 973-610-152-5

1998

Kása, Z., Pop, H. F., *Comunicare in Internet*, Editura Albastră, Cluj-Napoca, 1998, 130 pp. ISBN 973-9215-61-0.

1996

Vásárhelyi, J., **Kása, Z.**, *Mit si adevăr despre virusii PC*, Ed. Albastra, Cluj-Napoca, 1996, pp. 231, ISBN 973-9215-23-8

Kása, Z., Robu, J., Varga, I., *Barátkozzunk a számítógéppel* (Introducere în lumea calculatoarelor, in magh.), Ed. Studium, Cluj, 1996, 148 pp., ISBN 973-97484-8-1

1994

Kása, Z., *Algoritmusok tervezése* (Proiectarea algoritmilor, in magh.), Editura Studium, Cluj, 1994. 120 pag. ISBN 973-96342-2-2.

B3. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate la alte edituri sau pe plan local

2004

Kása, Z., *Formális nyelvek és automaták* (în lba. magh.), Farkas Gyula Egyesület a Matematikáért és Informatikáért, Kolozsvár, 2004. pp.146..

1995

Boian, F., Cioban, V., Frențiu, M., Groze, Iacob, E., Iurian, S., **Kása, Z.**, Motogna, S., Pârv, B., Pop, H., Prejmerean, V., Robu, J., Toadere, *Programare PASCAL. Probleme ilustrative si probleme propuse pentru elevi si studenti*, Editura Promedia Plus Computers, Cluj-Napoca, 1995, 228 pag. ISBN 973-96862-1-4.

1993

Boian, F., Chiorean, I., Coman, Gh., Frențiu, M., Groze, S., **Kása, Z.**, Toadere, T., Țâmbulea, L., *Informatica pentru elevi*, Editura MicroInformatica, Cluj, 1992 (ed. I and II), 1993 (ed. III), 210 pag. ISBN 973-96096-2-7

1983

Kása, Z., *Ismerkedés az informatikával* (Introducere in informatică, lb.magh.), Editura Dacia, 1983., 166 pag.

B4. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate pe web

Numai cele care au nr. ISBN.

B5. Capitole de cărți publicate în străinătate

2013

Algorithms of Informatics, III. Selected topics (ed. A. Iványi), mondAt Kiadó, Budapest, 2013. (Chapter 25. **Kása Z., M.–C. Anisiu**: Complexity of words, pp.1237–1289. ISBN 978-963-87596-7-2.

Informatikai algoritmusok III. (ed. A. Iványi), mondAt Kiadó, Budapest, 2013. (Chapter 34. **Kása Z., M.–C. Anisiu**: Szavak bonyolultsága, pp.1697–1739. ISBN 978-963-87596-8-9.

2007

Algorithms of Informatics, I. (ed. A. Iványi), mondAt Kiadó, Budapest, 2007 (Chapter 1. **Kása Z.**: Automata and formal languages, pp.13-79), ISBN 978-963-87595-1-0.

Algorithms of Informatics, I. (ed. A. Iványi), mondAt Kiadó, Budapest, 2007 (Chapter 11: **Kása Z.**: Recurrences, pp.478-501), ISBN 978-963-87595-1-0.

2005

Informatikai algoritmusok II. (Algoritmi în informatică II. – în magh.) (ed. A. Iványi), ELTE-Eötvös Kiadó, Budapest, 2005. (*capitol 19: Kása Z.*, *Automaták és formális nyelvek* – Automate și limbaje formale, pp. 893–959), ISBN 963-463-775-2

2004

Informatikai algoritmusok I. (Algoritmi în informatică I. – în magh.) (ed. A. Iványi), ELTE-Eötvös Kiadó, Budapest, 2004. (*capitol 1: Kása Z.*, *Rekurzív egyenletek* – Ecuații recursive, pp. 14–37) ISBN 963-463-664-0

B6. Capitole de cărți publicate în țară

C. Lucrări științifice publicate

C1. Lucrări științifice publicate în reviste cotate ISI

2010

Anisiu, M-C., Anisiu, V., **Kása, Z.**, Total palindrome complexity of finite words, *Discrete Mathematics*, **310** (2010) 109–114. Impact factor: **0.502** (2008) 5-Year Impact Factor: **0.663** (2008) [Zentralblatt]

1999

Ferenczi, S., **Kása, Z.**, Complexity for finite factors of infinite sequences, *Theoretical Computer Science*, 218 (1999) 177–195. Impact factor: **0.843** (2006) 5-Year Impact Factor: **0.995** (2008) [MathSciNet, Zentralblatt]

C2. Lucrări științifice publicate în reviste indexate în baze de date internaționale (indicați și baza de date)

2023

Z. Kása; P. A. Kupán; Cs. Gy. Păteaș, Methods for the graph realization problem, *Acta Universitatis Sapientiae, Informatica*, **15**, 2 (2023) 267–293. DOI: 10.2478/ausi-2023-0017 [Web of Science, ESCI]

2021

Z. Kása: Warshall's algorithm—survey and applications, *Annales Mathematicae et Informaticae*, **54** (2021) 17–31 DOI: 10.33039/ami.2021.08.001 [Web of Science, ESCI]

2013

A. Iványi, **Z. Kása**: Prism complexity of matrices, *Annales Univ. Sci. Budapest., Sect. Comp.* **39** (2013) 181–202. [Zentralblatt]

2012

Z. Kása, Z. Kátai, Scattered subwords and composition of naturals, *Acta Univ. Sapientiae, Informatica*, **4**, 2 (2012) 225–236. [Zentralblatt]

2011

Z. Kása, On scattered subword complexity, *Acta Univ. Sapientiae, Informatica*,

3, 1 (2011) 127–136. [Zentralblatt]

Kátai, Z., Kovács, L.I., **Kása, Z.**, Márton, Gy., Fogarasi, K., Fogarasi, F., Cultivating algorithmic thinking: an important issue for both technical and human sciences, *Teaching Mathematics and Computer Science* (Debrecen), **9**, 1 (2011) 107–116. [MathEduc]

2009

Kása Zoltán, Generating and ranking of Dyck words, *Acta Universitatis Sapientiae, Informatica*, 1, 1 (2009) 109–118 [Zentralblatt]

Kása Zoltán, A note on a problem of Țâmbulea, *Studia Universitatis Babes-Bolyai, Informatica*, **54**, 2 (2009) 139–141 [Zentralblatt]

2006

M-C. Anisiu, V. Anisiu, **Z. Kása**, Properties of palindromes in finite words, *Pure Math. Appl.* 17, 3–4 (2006) pp.183–195.
http://www.bke.hu/puma/17_3-4.htm [MathSciNet]

2002

Anisiu, M-C., Blázsik, Z., **Kása, Z.**, Maximal Complexity of Finite Words, *Pure Math. Appl.*, 13, 1–2 (2002) pp. 39–48
[MathSciNet, Zentralblatt für Mathematik,
RePeC– <http://ideas.repec.org/a/cmt/pumath/puma2002v013pp0039-0048.html>]

Kása, Z., Blázsik, Z., Dominating Sets in De Bruijn Graphs, *Pure Math. Appl.*, 13, 1–2 (2002) pp. 79–85 [MathSciNet,
RePeC- <http://ideas.repec.org/a/cmt/pumath/puma2002v013pp0079-0085.html>]

2001

Bege, A., **Kása, Z.**, Coding objects related to Catalan numbers, *Studia Universitatis Babes-Bolyai, Informatica*, 46, 1 (2001), pp. 31–40. [MathSciNet, Zentralblatt für Mathematik]

1998

Kása, Z., On the d -complexity of strings, *Pure Math. Appl.*, 9, 1–2 (1998) pp. 119–128. [MathSciNet, Zentralblatt für Mathematik, RePeC – <http://ideas.repec.org/a/cmt/pumath/puma1998v009pp0119-0128.html>]

1992

Stan, I., Gheorghiu, C. I. , **Kása, Z.**, Effects of surfactants on an undeformable drop intially at rest, *Studia Univ. Babes-Bolyai, Math.* 38, 2 (1992), 113–126 [Zentralblatt für Mathematik]

1990

Kása, Z., Computing the d -complexity of words by Fibonacci-like sequences, *Studia Univ. Babes-Bolyai, Math.* 35, 3 (1990), 49–53 [MathSciNet, Zentralblatt für Mathematik]

1989

Boian, F.M., Frentiu, M., **Kása, Z.**, Parallel executable sequences in serial programs, *Studia Univ. Babes-Bolyai, Mathematica*, 33, 3 (1989), 47–57. [MathSciNet, Zentralblatt für Mathematik]

1987

Kása, Z., Cellular automata in graphs, *Studia Univ. Babes-Bolyai, Mathematica*, 32, 3 (1987) 17–23 [MathSciNet, Zentralblatt für Mathematik]

1986

Kása, Z., Internal fragmentation of memory in paging systems, *Mathematica*, 28 (51), 1 (1986) 43–46 [MathSciNet, Zentralblatt für Mathematik]

Kása, Z., Țâmbulea, L., Binary trees and number of states in buddy systems, *Annales Univ. Sci. Budapestinensis de R. Eötvös Nominatae, Sectio Computatorica*, 7 (1987) 3–10 [MathSciNet, Zentralblatt für Mathematik]

1981

Kása, Z., Asupra implementării algoritmului de analiză sintactică a lui Dömölki, *Studia Univ. Babes-Bolyai, Mathematica*, 26, 1 (1981) 15–23 [MathSciNet, Zentralblatt für Mathematik]

Kása, Z., Locating the buddies in the general buddy systems, *Studia Universitatis Babes-Bolyai, Mathematica*, 26, 4 (1981) 46–50 [MathSciNet, Zentralblatt für Mathematik]

1975

Kása, Z., On k-thin sets and their relation to generalized Ramsey number, *Studia Universitatis Babes-Bolyai, Mathematica*, 20 (1975) 54–59. [MathSciNet, Zentralblatt für Mathematik]

C3. Lucrări științifice publicate în reviste din străinătate (altele decât cele menționate anterior)

2015

A. M. Iványi, **Z. Kása**. Parallel partial ranking, *Applied Discrete Mathematics and Heuristic Algorithms* (Russia), 1, 3 (2015) 57–76

2014

Iványi Antal, **Kása Zoltán**: Fokszorozatok párhuzamos leszámlálása, *Alkalmazott Matematikai Lapok* 31 (2014) 41–98.

1995

Kása, Z., Computer-Aided Teaching of Geometry, *Mathematics and Informatics Quarterly*, 5, 4 (1995), pp. 177–182.

C4. Lucrări științifice publicate în reviste din țară, recunoscute CNCSIS (altele decât cele din baze de date internaționale)

2008

Kása Zoltán, De Bruijn-gráfok mint hálózati modellek (De Bruijn Graphs as Network Model), *Műszaki Szemle/Technical Review*, 43 (2008) 3–6.
http://www.emt.ro/?pg=archivum&id=msz_archiv

1996

Kása, Z., Varga, V., A Graph Model of Distributed Database Systems, *Studia Universitatis Babes-Bolyai, Informatica*, 41, 2 (1996), pp. 1–6

C5. Lucrări științifice publicate în reviste, altele decât cele menționate anterior

C6. Lucrări științifice publicate în volumele conferintelor cotate ISI

1995

Ile Kohr, M, Stan, I, **Kása, Z.**, Numerical analysis for tension gradient flow on the fluid obstacle, Annual Meeting of the Gesellschaft für Angewandte Mathematik und Mechanik (Gamm 94), Apr 04-08, 1994, *Zeitschrift für Angewandte Mathematik und Mechanik – Applied Mathematics and Mechanics*, Vol 75, Supplement 1, 1995–GAMM 94 Annual Meeting Pages: S337-S338, Published: 1995. [Zentralblatt für Mathematik]

Stan, I, Chifu, E, **Kása, Z.**, Convective diffusion of a soluble surfactant from a free drop, Annual Meeting of the Gesellschaft für Angewandte Mathematik und Mechanik (Gamm 94), Apr 04-08, 1994. *Zeitschrift für Angewandte Mathematik und Mechanik – Applied Mathematics And Mechanics*, Vol 75, Supplement 1, 1995–GAMM 94 Annual Meeting Pages: S369-S370, Published: 1995 [Zentralblatt für Mathematik]

C7. Lucrări științifice publicate în volumele manifestărilor științifice

2021

Kása Zoltán, A kolozsvári egyetemalapítás körülményei 1872-ben. *XIII. Tudomány- és Technikatörténeti Online Konferencia / XIIIth Conference on the History of Science and Technology / Al XIII-lea Conferință despre istoria științei și tehnologiei*, 2021/06/26 (online), Cluj-Napoca,
<https://ojs.emt.ro/index.php/TTK/article/view/579/553>

2020

Kása Zoltán, Kolozsváron született matematikusok. *XIII. Tudomány- és Technikatörténeti Online Konferencia / XIIIth Conference on the History of Science and Technology / Al XIII-lea Conferință despre istoria științei și tehnologiei*, 2020/06/15 (online) Cluj-Napoca,
<https://ojs.emt.ro/index.php/TTK/article/view/280/216>

2011

Z. Kása, Super- d -complexity of finite words, *8th Joint Conf. on Math. and Computer Science, MACS 2010, July 14–17, 2010., Komárno, Selected Papers*, pp. 257–266. Novadat, 2011.

2009

Kása Zoltán, Kátai Zoltán, Legrövidebb utak alkalmazásai hálózatokban

(Application of shortest path algorithms in networks), 2nd International Economic Conference, 2-3 April 2009, Kaposvár, Hungary.

2001

Kása, Z., Boian, F. M., Ferdean, C. Improving Distance Education in Computer Science at the Babeş-Bolyai University, *Romania Internet Learning Workshop, Internet as a Vehicle for Teaching*, Miercurea-Ciuc, August 11–20, 2001., pp. 125–128.

1998

Kása, Z., New Trends in Computer Science Education at the Babes-Bolyai University, *Second Turkey International Symposium on Distance Education*, Ankara, Turkey, 4-9 May 1998. pp.100–104.

1997

Kása, Z., Behave yourself on Internet, *RILW* (Romanian Internet Learning Workshop), Ilieni, Romania, 9–14 June 1997. pp. 43–46.

1985

Kása, Z., Cyclic cellular automata, *Simpozion "Informatica si aplicatiile sale"*, Univ. Babeş-Bolyai Cluj-Napoca, 1985, pp. 71–73.

1983

Kása, Z., Fragmentarea internă a memoriei in alocarea dinamică, INFO IASI '83, *Lucrările celui de al IV-lea Colocviu de informatică*, 27-29 Oct. 1983, Univ. Iasi, 1983 , pp. 138–146.

D. Traduceri de cărți, capitole de cărți, alte lucrări științifice

2008

D. E. Knuth, *A számítógép-programozás művészete, 4. kötet 2. rész: Permutációk és n-esek előállítása* (The Art of Computer Programming, vol. 4. Fasc. 2. Generating all tuples and permutations), (1 capitol 64. pag) AnTonCom Budapest, 2008 (din engleză in maghiară) ISBN 978-963-8s7947-1-0.

2003

Cormen-Leiserson-Rivest-Stein: *Új algoritmusok* (Introduction to Algorithms – Second edition) (2 capitole), Scolar Könyvkiadó, Budapest, 2003 (din engleză in maghiară), ISBN 963-9293-90-9

2002

Nancy Ann Lynch: *Osztott algoritmusok* (Distributed Algorithms), (1 capitol), Kiskapu kiadó, Budapest, 2002 (din engleză in maghiară), ISBN 963-9301-03-5

2000

Cormen-Leiserson-Rivest: *Introducere in algoritmi* (3 capitole), Editura Computer Libris Agora, Cluj, 2000 (din engleză in română), ISBN 973-97534-3-4

1997

Cormen-Leiserson-Rivest: *Algoritmusok* (Introduction to Algorithms) (2 capitole), Műszaki Könyvkiadó, Budapest, ed. I. 1997, ed. II. 1999, ed. III. 2001 (din engleză în maghiară), ISBN 963-16-3029-3

E. Editare, coordonare de volume

2006

Kassay Gábor, **Kása Zoltán**, Kolumbán Iosif (**eds.**), *Proceedings of the International Conference In Memoriam Gyula Farkas*, Presa Universitara Clujeana, CLUJ-NAPOCA, 2006, P. 155 ISBN 978-973-610-459-6

2003

Szenkovits Ferenc, Andrica Dorin, Blaga Aurel Paul, **Kása Zoltán** (**eds.**), *Proceedings of "BOLYAI 200" International Conference on Geometry and Topology*, Cluj University Press, CLUJ-NAPOCA, 2003, P. 193 ISBN 973-610-205-X

2002

Kása Zoltán (**ed.**), *200 éve született Bolyai János/200 de ani de la nasterea lui János Bolyai/200 years since the birth of János Bolyai*, PRESA UNIVERSITARA CLUJEANA , CLUJ-NAPOCA, 2002, P. 187 ISBN 973-610-151-7

F. Invenții

G. Contracte de cercetare (menționați calitatea de director sau membru)

2006

Matematica discreta. Grafuri De Bruijn si retele,
Grant Academia Română 17, 2006, **director**

2001–2002.

Matematica discreta. Combinatorica cuvintelor.
Grant CNCSIS, TEMA NR. 125, COD CNCSIS 64, 2001–2002 **director**

1975–1989

15 contracte cu MEI in perioada 1975–1989, **membru**

H. Creația artistică

H1 Participări la manifestații artistice internaționale

H2. Participări la manifestații artistice naționale

H3. Expoziții, filme, spectacole, concerte, discuri de autor, opere

internaționale

H4. Expoziții, filme, spectacole, concerte, discuri de autor, opere naționale

2017

Matematika a Bolyain. Adalékok a matematika történetéhez a Bolyai Tudományegyetemen 1945–1959, film documentar,

<https://www.youtube.com/watch?v=Bedc2YUckVg>

<https://youtube-filmek.com/matematika-a-bolyain-2017-teljes-film/>

H5. Produse cu drept de proprietate intelectuală în domeniul artistic

I. Premii, distincții

2021

Arany János-érem, *Medalia Arany János*, Magyar Tudományos Akadémia (Academia Maghiară de Științe)

2020

A Tudományközvetítés és Tudományos Bíráló Díja, *Premiu pentru mediere științifică și evaluare științifică*, Kolozsvári Akadémiai Bizottság (Filiala din Cluj a Academiei Maghiare de Științe)

2006

Medalia John von Neumann, iunie 2006, acordată de Societatea de Informatică John von Neumann (Budapest) pentru aportul adus dezvoltării informaticii.
(<http://www.njszt.hu>).

J. Citări

Menționați citările lucrărilor proprii în reviste de specialitate și cărți de specialitate (fără autocitări).

146 citări (vezi lista anexată).

K. Participări la conferințe naționale și internaționale

Menționați cele la care ați prezentat comunicări

2023

9th International Conference on Mathematics and Informatics, Tg. Mureș, 7–8 Sept. 2023

2019

7th International Conference on Mathematics and Informatics, Tg. Mureș, 2–4 Sept. 2019

2017

6th International Conference on Mathematics and Informatics, Tg. Mureș, 7–9 Sept. 2017

2012

9th Joint Conference on Mathematics and Computer Science, 9–12 February 2012, Siófok, Hungary

2010

8th Joint Conference on Mathematics and Computer Science, 14–17 July 2010, Komárno, Slovakia

2009

2nd International Economic Conference, 2-3 April 2009, Kaposvár, Hungary.

2008

7th Joint Conference on Mathematics and Computer Science, Cluj

2006

6th Joint Conference on Mathematics and Computer Science, Pécs, Hungary

2005

Conferința “Informatika a felsőoktatásban '2005” Debrecen, 2005, Hungary

.

2004

5th Joint Conference on Mathematics and Computer Science, Debrecen, Hungary
CSCS (Conference for PhD Students in Computer Science) Szeged (Ungaria) 1–4 iulie 2004, **invited talk:** Complexity of finite and infinite words

2001

4th Joint Conference on Mathematics and Computer Science, Baile Felix–Oradea

1999

3th Joint Conference on Mathematics and Computer Science, Visegrád, Hungary

1998

Conferința internațională de educație la distanță, Ankara (Turcia), 1998.

1997

2th Joint Conference on Mathematics and Computer Science, Ilieni –Sf. Gheorghe

1996

Conferința “Informatika a felsőoktatásban '1996” Debrecen, 1996.

1995

1th Joint Conference on Mathematics and Computer Science, Ilieni –Sf. Gheorghe

1993

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Acord între Academia Română și CNSR Franța	coordonator local	2004–2006, 1997–2000
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CEEPUS H-0081 (acum CII-H0019)	coordonator local, UBB Cluj	1998–2007
FKFP 0389-1997 (Univ. Tehnică Budapesta)	coordonator local, UBB Cluj	1997–1999
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8th MathInfo: 7th International Conference on Mathematics and Informatics, Tg. Mureș (ONLINE), 9–10 Sept. 2021

7th MathInfo: 7th International Conference on Mathematics and Informatics, Tg. Mureș, 2–4 Sept. 2019

6th MathInfo: 6th International Conference on Mathematics and Informatics, Tg. Mureș, 7–9 Sept. 2017

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<http://www.inf.u-szeged.hu/~cscs>

Referate științifice

articole:

Á. Balogh and Z. Csörnyei: Subject-oriented operating system development based on system predicate classes, Conferinta SPLST 2007, Ungaria

Káta Zoltán, Nyakóné Juhász Katalin, Zsakó László: Mivel foglalkozik az informatika szakmódszertan? (Cu ce se ocupa didactica informaticii - in magh.)

Krassimir D. Tarkalanov: Prefix-free languages, simple grammars representing a group element, languages of partial order in a group, Studia Universitatis Babes-Bolyai, Informatica, 51,1 (2006) 59-68.

Kilián Imre: Modellvezérelt szofterek készítése és a módszer alkalmazása a természetvédelemben (Create software dirijat de modele si aplicatii) pentru Alkalmazott Matematikai Lapok (Ungaria)

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Citări

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Nr. citări: 157

Ferenczi, S., Kása, Z., Complexity for finite factors of infinite sequences, *Theoretical Computer Science*, 218 (1999) 177–195.

- 1) Anisiu, M-C., Global Complexities for Infinite Sequences, *Analysis, Functional Equations, Approximation and Convexity*, Ed. L. Lupsa, M. Ivan, CarpaCombinatoricatica, Cluj-Napoca, 1999, pp. 7–11.
- 2) A. de Luca, On the combinatorics of finite words, *Theoretical Computer Science*, 218 (1999), 13–39.
- 3) J-P. Allouche, M. Baake, J. Cassaigne, D. Damanik, Wang complexity, *Theoretical Computer Science*, 292 (2003), 9–31.
- 4) D. Lenz, Hierarchical structures in Sturmian dynamical systems, *Theoretical Computer Science*, 303 (2003), 453–490.
- 5) V. Berthé, Systemes dynamiques symboliques sturmiens et substitutifs, *Ecole Jeunes chercheurs en algorithmique et calcul formal*, Lille, 25–29 mars 2002.
- 6) S. Fraenkel, New games related to old and new sequences, *INTEGERS: Electronic Journal of Combinatorial Number Theory*, 4 (2004) #G06. pp.18
- 7) J.-P. Allouche, Algebraic and Analytic Randomness in *Physics and Astronomy*, Lecture Notes in Physics, vol. 550/2000 pp. 345–356, Springer.
- 8) J.-P. Allouche, Nouveaux résultats de transcendance de réels à développement non aléatoire, *Gazette des Mathématiciens* 84 (2000), 19–34.
- 9) A. Aberkane, *Utilisation des graphes de Rauzy dans la caractérisation de certaines familles de suites de faible complexité*, Thèse de Doctorat, Univ. d'Aix Marseille II, 2002.
- 10) Barucci E, Belanger L, Brlek S: On Tribonacci sequences, *Fibonacci Quarterly* 42 (4): 314–319, 2004
- 11) Iványi Antal, *Párhuzamos algoritmusok*, ELTE Eötvös Kiadó, Budapest, 2003.
- 12) M.-C. Anisiu, A. Iványi: Two-dimensional arrays with maximal complexity, *Pure Math. Appl*, 17,3-4 (2006) 197–204.
- 13) M-C. Anisiu, V. Anisiu: Two-dimensional total palindrome complexity, *Annals of the Tiberiu Popoviciu Seminar of Functional Equations, Approximation and Convexity*, 6 (2008) 3–12 ISSN 1584-4536
- 14) C Elzinga, S Rahmann, H Wang , Algorithms for subsequence combinatorics, *Theoretical Computer Science*, 409, 3 (2008) 394–404
- 15) A. Glen, On Sturmian and episturmian words, and related topics, *PhD Thesis*, Adelaide Unniversity, 2006.
- 16) J.L. Davison, Quasi-periodic continued fractions, *J. of. Number Theory*, 127, 2 (2007) 272–282.
- 17) Y. Moshe, On the subword complexity of Thue–Morse polynomial extractions, *Theor. Comput. Science*, 389, 1–2 (2007) 318–329
- 18) I. Goldstein , Asymptotic subword complexity of fixed points of group substitutions, *Theor. Comput. Science*, 410, 21–23 (2009) 2084–2098.
- 19) C. H. Elzinga, Complexity of categorical time series, *Sociological Methods & Research*, 38, 3 (2010), 463–481. <http://home.fsw.vu.nl/ch.elzinga/Complexity%20Preliminary.pdf>

- 20) Recenzia: MathSciNet (<http://www.ams.org>) MR2521934: P. Arnoux, Complexité de suites à valeurs dans un ensemble fini: quelques exemples. (French) *Aspects des systèmes dynamiques*, 53–67, Ed. Éc. Polytech., Palaiseau, 2009.
- 21) A. Iványi, B. Novák, Testing of sequences by simulations, *Acta Univ. Sapientiae, Informatica*, **2**, 2 (2010) 135–153.
- 22) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica*, **3**, 1 (2011) 99–126
- 23) I. Goldstein, Subword complexity of uniform D0L words over finite groups, *Theoretical Computer Science*, **412**, 41 (2011) 5728–5743 doi:10.1016/j.tcs.2011.06.019
- 24) C. S. Mørch, A. Bjerre, M. P. Gøttrup, S. C. Sorenson, J. Schramm: Ammonia/hydrogen mixtures in an SI-engine: Engine performance and analysis of a proposed fuel system, *Fuel*, **90**, 1 (2011) 854–864.
- 25) Feng Guolin, Gong Zhikang, Zhi Rong: Latest advances of climate change detecting technologies, *Acta Meteorologica Sinica*, **66**, 6 (2008) 892–905. (F Guolin, G Zhiqiang, Z Rong : Latest advances in climate change detection techniques - Journal of Meteorological Research, 2010)
- 26) Jean Néraud : Ten Conferences WORDS and their Contribution to the Field of Combinatorics on WORDS, *EATCS*, No 118: February 2016.
<http://www.eatcs.org/beatcs/index.php/beatcs/article/view/388/368>
- 27) K. MAHALINGAM, R. PRAVEEN, R. RAMA: On a Special Variant of Rauzy Graphs, *ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY* Volume 21, Number 3, 2018, 256–266. <http://www.romjst.ro/full-texts/paper598.pdf>
- 28) Luke Schaeffer , K. Wu, Two Infinite Words with Cubic Subword Complexity, *Journal of Integer Sequences*, Vol. 23 (2020) 236147
<https://cs.uwaterloo.ca/journals/JIS/VOL23/Wu/wu3.pdf>
- 29) I. Goldstein: Group Substitution, PhD Thesis 2010,
<http://aranne5.bgu.ac.il/others/GoldsteinIlya3.pdf>
- 30) Allouche, JP., Campbell, J.M., Li, S. *et al.* The Reflection Complexity of Sequences Over Finite Alphabets. *Theory Comput Syst* **69**, 31 (2025). <https://doi.org/10.1007/s00224-025-10234-x>

Kása, Z., On the d-complexity of strings, *Pure Math. Appl.*, **9, 1–2 (1998) pp. 119–128.**

- 1) F. Levé, P. Séébold, Proof of a conjecture on word complexity, *Bull. Belg. Math. Soc. Simon Stevin*, **8**, 2 (2001) pp. 277–291
- 2) S. Janson, S. Lonardi, W. Szpankowski, On average sequence complexity, *Theoretical Computer Science*, **326**, 1-3 (2004) pp. 213–227.
- 3) Janson S, Lonardi S, Szpankowski W, On the average sequence complexity, *Lecture Notes in Computer Science* 3109: 74-88, 2004
- 4) A. Flaxman, A. W. Harrow, G. B. Sorkin, Comment on EJC, volume 11, article r8 (January 5, 2004) "Strings with maximally many distinct subsequences and substrings", *The Elect. J. Comb.*, http://www.combinatorics.org/Volume_11/Comments/v11i1r8comments2.html
- 5) M.-C. Anisiu, A. Iványi: Two-dimensional arrays with maximal complexity, *Pure Math. Appl.*, **17**, 3-4 (2006) 197–204.

- 6) M-C. Anisiu, V. Anisiu: Two-dimensional total palindrome complexity, *Annals of the Tiberiu Popoviciu Seminar of Functional Equations, Approximation and Convexity*, **6** (2008) 3–12 ISSN 1584-4536
- 7) C Elzinga, S Rahmann, H Wang , Algorithms for subsequence combinatorics, *Theoretical Computer Science*, **409**, 3 (2008) 394–404.
- 8) C. H. Elzinga, Complexity of categorical time series, *Sociological Methods & Research*, **38**, 3 (2010), 463–481. <http://home.fsw.vu.nl/ch.elzinga/Complexity%20Preliminary.pdf>
- 9) A. Iványi, B. Novák, Testing of sequences by simulations, *Acta Univ. Sapientiae, Informatica*, **2**, 2 (2010) 135–153
- 10) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica*, **3**, 1 (2011) 99–126
- 11) Sofya Raskhodnikova, Dana Ron, Ronitt Rubinfeld and Adam Smith, Sublinear Algorithms for Approximating String Compressibility, *Approximation, Randomization, and Combinatorial Optimization Algorithms and Techniques Lecture Notes in Computer Science*, 2007, Volume 4627/2007, pp. 609-623, DOI: 10.1007/978-3-540-74208-1_44
<http://www.eng.tau.ac.il/~danar/Public-pdf/comp.pdf>
Raskhodnikova, Sofya; Ron, Dana; Rubinfeld, Ronitt; Smith, Adam: Sublinear algorithms for approximating string compressibility. *Algorithmica* **65**. 3 (2013) 685–709.
- 12) B Kozarzewski, Similarity of symbolic sequences, *arXiv:1108.1979*, 2011 - arxiv.org
- 13) Fabio Cunial: Analysis of the subsequence composition of biosequences, PhD Thesis, School of Computational Science and Engineering Georgia Institute of Technology August 2012, <http://www.cc.gatech.edu/grads/f/cunial3/thesis.pdf>
- 14) B Kozarzewski, A Method for Nucleotide Sequence Analysis, *COMPUTATIONAL METHODS IN SCIENCE AND TECHNOLOGY* **18(1)** (2012)
- 15) M. Rajavel Praveen, R. Rama, Ujjwal Kumar Mishra: The ℓ -Rauzy Graphs for Scattered and Non-scattered Subwords of Generalized Rainbow Words, *Proceedings of International Conference on Theoretical and Applied Computing*, Febr. 2025. DOI: 10.1007/978-981-97-6957-5_2

Kása, Z. *Combinatorică cu aplicații*, Editura Presa Universitară Clujeană, Cluj-Napoca, 2003, 188 Pag. ISBN 973-610-152-5

- 1) D, VĂCĂREȚU, *UNIMODALITATE ȘI ALGEBRE LIE*, TEZĂ DE DOCTORAT, UBB, 2007.
- 2) Bege Antal, *Rekurzív sorozatokkal kapcsolatos feladatok*, Presa Universitară Clujeană, 2007, ISBN 978-973-610-560-9
- 3) Bege Antal, *Skatulyaelvvel kapcsolatos feladatok*, Presa Universitară Clujeană, 2007, ISBN 978-973-610-562-3
- 4) Iványi, A. Density of safe matrices, *Acta Univ. Sapientiae, Math.*, **1**, 2 (2009) 121–142.
- 5) Mircea D. Farcas, Aproximarea funcțiilor de una sau mai multe variabile prin siruri de operatori liniari, Teza de doctorat. 2008
http://vberinde.ubm.ro/multimedia/doctorate/doctoranzi/teze/rezumat_farcas_ro.pdf
- 6) Vasile Mircea Popa, *Aspecte de combinatorică cu aplicații în electrotehnică*, Editura Universității "Lucian Blaga" din Sibiu, Sibiu, 2009.
- 7) Grigori Moldovan, *Limbaje formale și teoria automatelor*, Editura EduSoft, Bacău, 2005.

8) Szendrei Rudolf: Párhuzamos folyamatok ütemezése (TDK dolgozat) ELTE Informatikai Kar Budapest, 2006 http://swap.web.elte.hu/publications/tdk_dolgozat_2006.pdf

Bege, A., Kása, Z., Coding objects related to Catalan numbers, *Studia Universitatis Babes-Bolyai, Informatica*, 46, 1 (2001), pp. 31–40.

1) Wüst, J., Prediction of Yield-line Geometries for Arbitrary Simply Supported Slabs, *PAMM – Proc. Appl. Math. Mech.* 4 (2004) 384–385.

2) Wüst, J., Formfindung der Fließliniengeometrie für polygonale Platten im Traglastzustand, *DOKTOR-INGENIEURS DISSERTATION*, Karlsruhe 2006

3) Wüst, J., Wagner, W, Ein Algorithmus zur Bestimmung und Optimierung von Fließlinienfiguren für beliebige Polygonplatten, *BAUTECHNIK*, 85,3 (2008) 161–174.

4) Wüst, J., Wagner, W, Systematic prediction of yield-line configurations for arbitrary polygonal plates, *Engineering Structure*, Volume 30, Issue 7, July 2008, Pages 2081–2093/

5) Iványi, A. Density of safe matrices, *Acta Univ. Sapientiae, Math.*, 1, 2 (2009) 121–142.

6) Method and apparatus for signaling user equipment capabilities, D Zhang, A Gholmieh, SD Sambhwani... - US Patent 9,001,750, 2015. <https://www.google.com/patents/US9001750#npl-citations>

7) Korvyakov V.P.: ALGORITM KODIROVANIYA BINARNOGO DEREVA S MINIMAL'NOY IZBYTOCHNOST'YU (An Algorithm of Binary Tree Encoding with Minimum Redundancy), VESTNIK MOSKOVSKOGO GOSUDARSTVENNOGO TEKHNIЧЕСКОГО UNIVERSITETA IM. N.E. BAUMANA. SERIYA: PRIBOROSTROYENIYE (Herald of the Bauman Moscow State Technical University. Series Instrument Engineering), 3 (114) (2017) 33-46 <https://cyberleninka.ru/article/v/algoritm-kodirovaniya-binarnogo-dereva-s-minimalnoy-izbytochnostyu>

8) Szendrei Rudolf: Párhuzamos folyamatok ütemezése (TDK dolgozat) ELTE Informatikai Kar Budapest, 2006 http://swap.web.elte.hu/publications/tdk_dolgozat_2006.pdf

Kása, Z., *Algoritmusok tervezése (Proiectarea algoritmilor, în magh.)*, Editura Studium, Cluj, 1994. 120 Pag. Isbn 973-96342-2-2.

1) IVÁNYI ANTAL, *PÁRHUZAMOS ALGORITMUSOK*, ELTE EÖTVÖS KIADÓ, BUDAPEST, 2003.

2) Oláh-Gál Róbert: *Az informatika alapjai közgazdász és mérnök hallgatóknak.*, Ed. Scientia, Cluj, 2007

3) Ionescu Klára: *Bevezetés az algoritmikába*, Presa Universitara Clujeana, 2007. ISBN 978-973-610-604-0

Anisiu, M-C., Blázsik, Z., Kása, Z., Maximal complexity of finite words, *Pure Math. Appl.*, 3, 1–2 (2002) pp. 39–48.

1) A. Flaxman, A. W. Harrow, G. B. Sorkin, Comment on EJC, volume 11, article r8 (January 5, 2004) "Strings with maximally many distinct subsequences and substrings", *The Elect. J. Comb.*, http://www.combinatorics.org/volume_11/comments/v11i1r8comments2.html

2) C Elzinga, S Rahmann, H Wang , Algorithms for subsequence combinatorics, *Theoretical Computer Science*, 409, 3 (2008) 394–404.

3) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica*, 3, 1 (2011) 99–126 <http://acta.sapientia.ro/acta-info/C3-1/INFO31-5.PDF>

- 4) H Vogel: On the shape of subword complexity sequences of finite words, arXiv:1309.3441, 2013 <https://arxiv.org/abs/1309.3441>
- 5) D. Gabric, S. Holub, J. Shallit: Generalized de Bruijn words and the state complexity of conjugate sets, arXiv, March 13, 2019 <https://arxiv.org/abs/1903.05442>
https://www.researchgate.net/publication/331729439_Generalized_de_Bruijn_words_and_the_state_complexity_of_conjugate_sets, *Descriptive complexity of formal systems*, 137–146, *Lecture Notes in Comput. Sci.*, 11612, Springer, Cham, 2019.
- 6) D, Gabric, S. Holub, J. Shallit: Maximal State Complexity and Generalized de Bruijn Words, *Information and Computation*, January 2021
<https://www.sciencedirect.com/science/article/abs/pii/S0890540121000043>
- 7) Online Encyclopedia of Integer Sequences, <http://oeis.org>, A306688

Kása Z., On arc-disjoint Hamiltonian cycles in De Bruijn graphs, arXiv 103.1520 <http://www.arxiv.org>

- 1) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica* 3, 1 (2011) 99–126
- 2) Yaw-Ling Lin, Charles Ward, Bharat Jain and Steven Skiena, Constructing Orthogonal de Bruijn Sequences, in *Algorithms and Data Structures*, Lecture Notes in Computer Science, 2011, Volume 6844/2011, pp. 595-606.
- 3) J. Baker, *De Bruijn Graphs And Their Applications To Fault Tolerant Networks*, <http://www.math.oregonstate.edu/~swisherh/JoelBaker.pdf> Scholar Archiv at Oregon State University <http://ir.library.oregonstate.edu/xmlui/handle/1957/26215>
- 4) Megan E. Lytle : Edge-Disjoint Hamiltonian Cycles in De Bruijn Graphs, Thesis Honors Baccalaureate of Science in Mathematics (Honors Scholar), 2013, Oregon State University, <https://pdfs.semanticscholar.org/18a4/a33f75c748e7e027423fc46d12907b4acf82.pdf>
- 5) Mochamad Suyudi, Roslan Bin Hasni, Sudrajat Supian, Asep Kuswandi Supriatna: Applications De Bruijn Graphs of Hamiltonian and Eulerian Cycles to Fault Tolerant Networks, *Proceedings - International Conference on Industrial Engineering and Operations Management*, Kuala Lumpur, Malaysia, March 8-10, 2016. pp. 3112–3143.
- 6) Abbas Alhakim: DESIGNING PREFERENCE FUNCTIONS FOR DE BRUIJN SEQUENCES WITH FORBIDDEN WORDS. January 2020, DOI: 10.13140/RG.2.2.21181.61925
Alhakim, A. Designing preference functions for de Bruijn sequences with forbidden words. *Des. Codes Cryptogr.* (2022). <https://doi.org/10.1007/s10623-022-01077-5>
- 7) An AI created a podcast of the paper: On arc-disjoint Hamiltonian cycles in De Bruijn graphs, https://www.academia.edu/ai_podcast/66164201

Kása, Z., Varga, V., A Graph Model of Distributed Database Systems, *Studia Universitatis Babes-Bolyai, Informatica*, 1, 2 (1996), pp. 1–6

- 1) H. A. Grebla, Game theory in data allocation for distributed databases, *Acta Universitatis Apulensis*, 11 (2006) 325–331
- 2) H Grebla, G Moldovan, S.A Darabant, A, Câmpan, Data Allocation In Distributed Database Systems Performed By Mobile Intelligent Agents, *Proceedings of the International Conference on*

Anisiu, M-C., Anisiu, V., Kása, Z., Total palindrome complexity of finite words, *Discrete Mathematics*, 310 (2010) 109–114.

- 1) Tomohiro I, S. Inenaga, H. Bannai, M. Takeda. Counting and verifying maximal palindromes. In: E.Chavez, S. Lonardo (Eds.), *Proceeding of 17th Internatioonal Symposium on String Processing and Information Retrieval* (Los Cabos, Mexico, October 11–79, 2010), LNCS 6393, pp. 135–146 Springer-Verlag.
- 2) Tomohiro I, S. Inenaga, M. Takeda, Palindrome pattern matching, *Proceeding CPM'11 Proceedings of the 22nd annual conference on Combinatorial pattern matching*, LNCS 6661, 2011, Springer-Verlag Berlin, Heidelberg, pp. 232-245. also in: *Theor. Comput. Science* 2012, volume 483, issue , year 2013, pp. 162–170.
- 3) Luciano P. Silva, Elibio L. Rech, Unravelling the biodiversity of nanoscale signatures of spider silk fibres, *Nature Communications* 4/2013, Article number: 3014
doi:10.1038/ncomms4014
- 4) Hwee Kim, Yo-Sub Han: Online Multiple Palindrome Pattern Matching, *String Processing and Information Retrieval*, Lecture Notes in Computer Science Volume 8799, 2014, pp. 173-178
- 5) Gupta, Shivika ; Prasad, Rajesh ; Yadav, Sunita : Searching Gapped Palindromes Using Inverted Suffix Array, *Proceedings 2015 IEEE International Conference on Computational Intelligence and Communication Technology, CICT 2015*, pp. 186–191
- 6) Toussaint, Godfried T. ; Onea, Noris S.; Vuong, Quan H.: Measuring the complexity of two-dimensional binary patterns — Sub-symmetries versus Papentin complexity, 14th IAPR International Conference on Machine Vision Applications (MVA) May 18-22, 2015. Miraikan, Tokyo, Japan, pp. 480–483
- 7-8). Paweł Gawrychowski, Tomasz Kociumaka, Wojciech Rytter and Tomasz Waleń: Tight Bound or the Number of Distinct Palindromes in a Tree, *String Processing and Information Retrieval* Vol. 9309 of the series Lecture Notes in Computer Science pp 270–276, 2015
preliminary version
The Electronic Journal of Combinatorics [Volume 30, Issue 2 \(2023\)](#) final version
- 9) M. Rubinchik, A. M. Shur: The Number of Distinct Subpalindromes in Random Words, *Fundamenta Informaticae*, **145**, 3 (2016) 371–384.
- 10) Luigia Berardi, Mario Gionfriddo, Rosaria Rota: Perfect octagon quadrangle systems-II
Discrete Mathematics 310, 3 (2010.) 1979–1985
- 10) Kalpana Mahalingam, Palak Pandoh: On the Maximum Number of Distinct Palindromic Sub-arrays: 13th International Conference, LATA 2019, St. Petersburg, Russia, March 26-29, 2019, *Proceedings. Lecture Notes in Computer Science* 11417, Springer 2019, ISBN 978-3-030-13434-1 (ed. Carlos Martín-Vide, Alexander Okhotin, Dana Shapira)
- 11) KALPANA MAHALINGAM, PALAK PANDOH: PALINDROMES IN TWO-DIMENSIONAL WORDS, arXiv:1904.11334v1 [cs.DM] 25 Apr 2019 *Theor. Comput. Sci.* July 2019.
- 12) Ghorban Khalilzadeh Ranjbar, Mohammad Esmael Samei: On the characterization of tripled partial metrics and tripled quasi-metrics, *Trans. Natl. Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci. Mathematics*, 40(1), 126-134 (2020)
- 13) Tomasz Andrzej Waleń: Autoreferat (PhD):
https://www.mimuw.edu.pl/system/files/habilitacje/3_autoreferat_pl_tomasz_andrzej_walen.pdf

- 14) Mahalingam, Kalpana; Pandoh, Palak; Krithivasan, Kamala, On the least number of palindromes in two-dimensional words, THEORETICAL COMPUTER SCIENCE Volume: 807 Pages: 245–256 Published: FEB 6 2020
- 15) Mahalingam, Kalpana; Pandoh, Palak: Enumeration of two dimensional palindromes, *Information and Computation*, Volume 286, July 2022, 104781
- 16) Shinya Nagashita, Tomohiro : PalFM-index: FM-index for Palindrome Pattern Matching, arXiv 2022: arXiv:2206.12600
- 17) Kalpana Mahalingam and Palak Pandoh: HV-Palindromes in Two-Dimensional Words, *International Journal of Foundations of Computer Science* Vol. 33, No. 05, pp. 389-409 (2022)
- 18) Qisheng Wang, Ming Yang, Xinrui Zhu: Double-Ended Palindromic Trees: A Linear-Time Data Structure and Its Applications. October 2022 <https://arxiv.org/pdf/2210.02292.pdf>
- 19) Kalpana Mahalingam, Anuran Maity, Palak Pandoh: Rich words in the block reversal of a word, *Discrete Applied Mathematics* 334 (1) :127-138, 2023 DOI: [10.1016/j.dam.2023.03.013](https://doi.org/10.1016/j.dam.2023.03.013)
- 20) Paweł Gawrychowski et al.: Tight Bound for the Number of Distinct Palindromes in a Tree, *The electronic journal of combinatorics*, 30(2) (2023), #P2.10 <https://doi.org/10.37236/10842>
- 21) Fitousi, D., & Algom, D. (2024). The quest for psychological symmetry throughfigural goodness, randomness, and complexity: A selective review. *i-Perception*, 15 (1), 1–24. <https://doi.org/10.1177/20416695241226545>
- 22) Qisheng Wang, Ming Yang , Xinrui Zhu: Double-Ended Palindromic Trees in Linear Time, *Information and Computation*, Available online 11 November 2025, 105379. <https://doi.org/10.1016/j.ic.2025.105379>

Informatikai algoritmusok I. (Algoritmi în informatică I. – în magh.) (ed. A. Iványi), ELTE-Eötvös Kiadó, Budapest, 2004. (capitol 1: Kása Z., Rekurzív egyenletek – Ecuații recursive, pp. 14–37) ISBN 963-463-664-0

- 1) BEGE ANTAL, *REKURZÍV SOROZATOKKAL KAPCSOLATOS FELADATOK*, PRESA UNIVERSITARĂ CLUJEANĂ, 2007, ISBN 978-973-610-560-9
- 2) Iványi, A. Density of safe matrices, *Acta Univ. Sapientiae, Math.*, **1**, 2 (2009) 121–142.
- 3) Szendrei Rudolf: Párhuzamos folyamatok ütemezése (TDK dolgozat) ELTE Informatikai Kar Budapest, 2006 http://swap.web.elte.hu/publications/tdk_dolgozat_2006.pdf

Bege, A., Kása, Z., *Algoritmikus kombinatorika és számelmélet*, Ed. Presa Universitara Clujeana, 2006.

- 1) Iványi, A., Reconstruction of complete interval tournaments. II. *Acta Universitatis Sapientiae, Mathematica*, **2**, 1 (2010) 47–71
- 2) Csató L., Egri E., *A logikai és funkcionális programozás alapjai*, Presa Universitara Clujeana, 2010

Kása Z., Computing the d -complexity of words by Fibonacci-like sequences, *Studia Univ. Babes-Bolyai, Math.*, **35, 3 (1990) 49–53**

- 1) A. Iványi, B. Novák, Testing of sequences by simulations, *Acta Univ. Sapientiae, Informatica*, **2**, 2 (2010) 135–153.

- 2) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica*, 3, 1 (2011) 99–126

Kása, Z., On k-thin sets and their relation to generalized Ramsey number, *Studia Universitatis Babes-Bolyai, Mathematica*, 20 (1975) 54–59.

- 1) A. Seress, k-sum-free decompositions, *Mat. Lapok* (Ungaria), 31 (1983) pp. 191–194.

Bege, A., Kása, Z., Tóth L., *Relációk és alkalmazásai* (Relatii si aplicatiile sale), Budapesti Műszaki Egyetem, 1999. (For Phd Students)

- 1) Detrekői Ákos, Szabó György, *Térinformatika*, Nemzeti Tankönyvkiadó, Budapest, 2002. (pag. 282)

Kása, Z., Two conjectures on complexity of words, *Second Joint Conference on Modern Applied Mathematics*, Ilieni/Ilyefalva, Romania, 2-8 June 1997.

- 1) F. Levé, P. Séébold, Proof of a conjecture on word complexity, *Bull. Belg. Math. Soc. Simon Stevin*, 8, 2 (2001) pp. 277–291.

**M-C. Anisiu, V. Anisiu, Z. Kása, Properties of palindromes in finite words, *Pure Math. Appl.* 17, 3–4 (2006) pp. 183–195.
http://www.bke.hu/puma/17_3-4.htm [MathSciNet]**

- 1) M-C. Anisiu, V. Anisiu: Two-dimensional total palindrome complexity, *Annals of the Tiberiu Popoviciu Seminar of Functional Equations, Approximation and Convexity*, 6 (2008) 3–12 ISSN 1584-4536
- 2) 4) C Morfonios, P Schmelcher, PA Kalozoumis, F.K. Diakonou, Local symmetry dynamics in one-dimensional aperiodic lattices: a numerical study, *Nonlinear Dynamics*, 78 (2014) 71–91.

Kása, Z., Bege, A., *Matematică discretă*, CFCID, Univ. Babeş-Bolyai, Cluj-Napoca, 2002, pp. 102, 2003, pp. 102.

- 1) Mircea CHINDRIS, Bogdan TOMOIAGA, Algorithme Pour La Détermination Des Équipements Critiques D'un Réseau Électrique, Univ. of Oradea, Fac. of Energy Engineering, Annual Conference of Energy Engineering, 2004. <http://www.energy-cie.ro/content/view/21/45/>

Blaga P., Kása, Z., Tâmbulea L., *Culegere de algoritmi*, Litografia Univ. Babes-Bolyai, Cluj-Napoca, 1977.

- 1) Dan Tătaru, Tehnica simulării. Aplicații în biologie (disertație), Univ. Bacău, 88 p. 2003. <http://www.tesionline.it/default/tesi.asp?id=16212>

Kása Z., Generating and ranking of Dyck words, *Acta Universitatis Sapientiae, Informatica*, 1, 1 (2009) 109-118 [Zentralblatt]

- 1) Iványi, A. Density of safe matrices, *Acta Univ. Sapientiae, Math.*, 1, 2 (2009) 121–142.
- 2) Gennady Eremin: Dynamics of Balanced Parentheses, I. Dyck Squares
http://eremin.magekit.com/dd1-Dyck_squares-2017.pdf

- 3) Gregor Kälin: Cyclic Mario Worlds -- Color-Decomposition for One-Loop QCD, *J. High Energ. Phys.* (2018) 2018: 141. [https://doi.org/10.1007/JHEP04\(2018\)141](https://doi.org/10.1007/JHEP04(2018)141)
<http://arxiv.org/pdf/1712.03539.pdf>
- 4) Gennady Eremin: Dynamics of balanced parentheses, lexicographic series and Dyck polynomials, <https://arxiv.org/ftp/arxiv/papers/1909/1909.07675.pdf>, Sept. 19, 2019
- 5) F. Richter, B. Haegeman, R.S. Etienne, E.C. Wit, Introducing a general class of species diversification models for phylogenetic trees, *Statistica Neerlandica*, 01 March 2020, <https://doi.org/10.1111/stan.12205>
- 6) S. Marsh, J. B. Wang : Combinatorial optimisation via highly efficient quantum walks, arXiv, 23 April 2020. <https://arxiv.org/abs/1912.07353>, Phys. Rev. Research 2, 023302 – Published 8 June 2020.
<https://journals.aps.org/prresearch/abstract/10.1103/PhysRevResearch.2.023302>
- 7) Francisco Richter; Bart Haegeman; Rampal S. Etienne; Ernst C. Wit, Introducing a general class of species diversification models for phylogenetic trees, *Statistica Neerlandica*, 2020;74: 261–274. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/stan.12205>
- 8) Francisco Richter Mendoza, Inferring the drivers of species diversification: using statistical network science. PhD Thesis, University of Groningen, <https://research.rug.nl/en/publications/inferring-the-drivers-of-species-diversification-using-statistica>
- 9) Hongbin Zhu, Shun Liu, Weichao Xu, Changrun Chen, Hua Tan: Fast and unbiased estimation of volume under the ordered multi-class ROC hyper-surface with continuous measurements, *Digital Signal Processing*, 2022, 103500 <https://doi.org/10.1016/j.dsp.2022.103500>
- 10) Feng, K., Leemis, L.M. & Sasinowska, H.: RMSE-minimizing confidence intervals for the binomial parameter. *Comput Stat* (2022). <https://doi.org/10.1007/s00180-021-01183-3>
- 11) Gennady Eremin: Dyck Numbers, I. Successor Function, arXiv:2210.00744 Oct. 2022
- 12) Feng, Kexin; Leemis, Lawrence M.; Sasinowska, Heather: RMSE-minimizing confidence intervals for the binomial parameter. *Comput. Stat.* 37, No. 4, 1855–1885 (2022).
- 13) RKW Hui: AdaptTo Protocol, <https://rohandrape.net/tmp/phd/review/Spl-Guide.pdf>

Kása Z., Super-*d*-complexity of finite words, *Proc. 8th Joint Conf. on Math. and Comput. Sci.*, Komárno, Slovakia, July 14–17, 2010.

- 1) A. Iványi, B. Novák, Testing of sequences by simulations, *Acta Univ. Sapientiae, Informatica*, 2, 2 (2010) 135–153.

Kása Z., On scattered subword complexity, *Acta Univ. Sapientiae, Informatica*, 3, 1 (2011) 127–136

- 1) A. Iványi, I. Kátai, Testing of random matrices, *Acta Univ. Sapientiae, Informatica* 3, 1 (2011) 99–126
- 2) C. H. Elzinga, H. Wang: Kernels for acyclic digraphs, *Pattern Recognition Letters*, 33, 16 (2012) 2239–2244
- 3) C. H. Elzinga, H. Wang: Versatile string kernels, *THEORETICAL COMPUTER SCIENCE* Volume: 495 Pages: 50–65
- 4) Yu-Jie FAN, Li-fei CHEN, Gong-de GUO: Graph similarity measure by matching global structure, *J. of Chinese Computer System*, 37, 7 (2016) 1488–1492.
http://scholar.google.com/scholar_url?url=http://xwxt.sict.ac.cn/CN/article/downloadArticleFile.do%3FattachType%3DPDF%26id%3D3494&hl=en&sa=X&scisig=AAGBfm1Of3gg7_hpk_s3bb-3Wa1cx2xxWqQ&nossl=1&oi=scholaralt
- 5) Xu Wang, Jihong Ouyang, Guifen Chen: Simplifying Calculation of Graph Similarity Through Matrices, *Computer and Computing Technologies in Agriculture IX*, Volume 479 of the series IFIP Advances in Information and Communication Technology pp 417–428, 2016
http://link.springer.com/chapter/10.1007/978-3-319-48354-2_41

- 6) Irma Mooi-Reci, Anna Manzoni, Cees Elzinga: THE CAREER DISADVANTAGE OF UNEMPLOYMENT: CUMULATING, PERSISTING OR ACCELERATING? 107th Annual Meeting ASA, Aug.20-23, 2011, Las Vegas
<http://www.harryganzeboom.nl/isol/ISOL2011d2-MooiReci-Manzoni-Elzinga.pdf>
- 7) Online Encyclopedia of Integer Sequences, <http://oeis.org>, A050228
- 8) Online Encyclopedia of Integer Sequences, <http://oeis.org>, A023435
- 9) Sethukkarasi, A., Vidyanandini, S. , Arulprakasam, R.: Quantifying topological indices in bipartite and tripartite graphs using Lyndon words and Python algorithms. *Int. j. inf. tecnol.* (2024). <https://doi.org/10.1007/s41870-024-02303-0>
- 10) M. Rajavel Praveen, R. Rama, Ujjwal Kumar Mishra: The ℓ -Rauzy Graphs for Scattered and Non-scattered Subwords of Generalized Rainbow Words, *Proceedings of International Conference on Theoretical and Applied Computing*, Febr. 2025. DOI: 10.1007/978-981-97-6957-5_2

Kása Z., Hamiltonian Cycles in De Bruijn Graphs, 7th Joint Conference in Mathematics and Computer Science, Cluj-Napoca, 2008.

- 1) Krisztian Antal Buza, *Fusion methods for time-series classification models*, PhD Thesis, Univ. Hildeshime, 2011, http://www.ismll.uni-hildesheim.de/pub/pdfs/Buza_thesis.pdf

Csörnyei Zoltán, Kása Zoltán: Formális nyelvek és fordítóprogramok, Presa Universitara Clujeana, 2007.

- 1) Bodó Zalán: *Fordítóprogramok szerkesztése Flex és Bison segítségével*, EME Kolozsvár, 2014
- 2) Király Roland: Első lépések weboldalak programozásához (Jegyzet) <http://aries.ektf.hu/~serial/kiralyroland/download/BevezetesAWebprogramozashozKiralyRoland2011.pdf>
- 3) Király Roland: *Dinamikus weboldalak fejlesztése*, Eger 2010
http://aries.ektf.hu/~serial/kiralyroland/download/dinweb_magyar.pdf

Kátai, Z., Kovács, L.I., Kása, Z., Márton, Gy., Fogarasi, K., Fogarasi, F., Cultivating algorithmic thinking: an important issue for both technical and human sciences, *Teaching Mathematics and Computer Science* (Debrecen), 9, 1 (2011) 107–116. [MathEduc]

1. Törley, Gábor (2013) *Algoritmus vizualizáció a tanítási gyakorlatban*. In: *INFODIDACT 2013*. Webdidaktika Alapítvány, Budapest, TG. ISBN 978-963-08-8387-0
http://real.mtak.hu/31528/1/TG_alg_viz_tan_gyak.pdf
2. G. Törley : Algorithm visualization in teaching practice, *Acta Didactica Napocensia*, 2014.
<http://search.proquest.com/openview/ba5f19c1ad6481c1e5ac9a9410c4155b/1?pq-origsite=gscholar>
3. P Szlávi, L Zsakó : Key Concepts in Informatics: Algorithm, *Acta Didactica Napocensia*, 2014.
<http://search.proquest.com/openview/c07ba6da4a9f428b95a38db1f4b7e399/1?pq-origsite=gscholar>

F. Boian, M. Frentiu, A. Kása: Parallel execution in loop-exit schemes, *Preprint Univ. Babes-Bolyai, Fac. Math.* 1988

- 1) I. S. Pop: On parallel execution in loop-exit schemes, *Bul. St.al Univ. Baia Mare, seria B, Mat-Inf.* vol. VIII (1992) 77–87.

Z. Kása: A graph-theoretical approach to automata, Research Gate, 2018. DOI: [10.13140/RG.2.2.28157.05602](https://doi.org/10.13140/RG.2.2.28157.05602)

1) D. DAISYJOSE, A. ANURADHA, R. ARULPRAKASAM¹, AND V. R. DARE: CHARACTERIZATION OF PARTIAL WORDS USING GRAPH PARAMETERS, *Advances in Mathematics: Scientific Journal* 9 (2020), no.10, 8891–8896 <https://doi.org/10.37418/amsj.9.10.112>

Kása, Z., Blázsik, Z., Dominating Sets in De Bruijn Graphs, *Pure Math. Appl.*, 13, 1–2 (2002) pp. 79–85

- 1) J. Ratsaby, On system complexity, stability and performance: application to prediction. *Math. Mech. Complex Syst.* 12, No. 4, 411–470 (2024).
- 2) Tiziana Calamoneri, Angelo Monti, Blerina Sinimeri: On the domination number of t -constrained de Bruijn graphs, *Discrete Mathematics & Theoretical Computer Science*, August 22, 2022, vol. 24, no 2 - <https://doi.org/10.46298/dmtcs.8879>

Z. Kása, Z. Kátai, Scattered subwords and composition of naturals, *Acta Univ. Sapientiae, Informatica*, 4, 2 (2012) 225–236.

- 1) Online Encyclopedia of Integer Sequences, <http://oeis.org> A007526

Z. Kása, Warshall’s algorithm—survey and applications, *Annales Mathematicae et Informaticae*, 54 (2021) 17–31 DOI: 10.33039/ami.2021.08.001

- 1) Laifa Tao et al., Associated Fault Diagnosis of Power Supply Systems Based on Graph Matching: A Knowledge and Data Fusion Approach, *MDPI Mathematics* 2022, 10 (22), 4306; <https://doi.org/10.3390/math10224306>
- 2) Meigen Huang, Bi Gong, Xin Zhou, ...: HIC: A high-reliable in-band control network for perception layer of software-defined IoT, June, 2023, DOI: [10.1002/ett.4802](https://doi.org/10.1002/ett.4802)

Z. Kása, The Cult of János Bolyai in Transylvania, Conference Paper, February 2018

- 1) László Jenkovszky, Matthew J. Lake, Vladimir Soloviev: János Bolyai, Carl Friedrich Gauss, Nikolai Lobachevsky and the New Geometry: Foreword, *Symmetry* 15(3):707, 2023, DOI: [10.3390/sym15030707](https://doi.org/10.3390/sym15030707)

Z. Kása, How G. B. Halsted contributed to the international recognition of János Bolyai and Nikolai Lobachevsky, *ResearchGate*, February 2023, DOI: [10.13140/RG.2.2.27482.41927](https://doi.org/10.13140/RG.2.2.27482.41927)

- 1) Albert C. Lewis: George Bruce Halsted’s Non- Euclidean Pilgrimage to Hungary in 1896. June 2025 *The American Mathematical Monthly* 132(6):554–563 DOI:10.1080/00029890.2025.2475790



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