

**Lista de lucrări în domeniul de știință definit de disciplinele din postul scos
la concurs**

NUMELE ȘI PRENUMELE: MAKÓ ZOLTÁN

I. LISTA PUBLICAȚIILOR RELEVANTE

- I.1) **Makó Zoltán**, Szenkovits Ferenc: Capture in the circular and elliptic restricted three-body problem, *Celestial Mechanics and Dynamical Astronomy* 90 (2004), 51-58. (ISSN: 0008-8714, IF: 2.319)
- I.2) **Makó Zoltán**: Linear programming with quasi-triangular fuzzy-numbers in the objective function, *Publ. Math. Debrecen*, 69 (2006), 17-31. (ISSN: 0033-3883, IF: 0.646)
- I.3) Szenkovits Ferenc, **Makó Zoltán**: About the Hill stability of the extrasolar planets in stellar binary systems, *Celestial Mechanics and Dynamical Astronomy*, 101 (2008), 273-287. (ISSN: 0008-8714, IF: 2.319)
- I.4) **Makó Zoltán**, Szenkovits Ferenc, Salamon Júlia, Oláh-Gál Róbert, Stable and Unstable Orbits around Mercury, *Celestial Mechanics and Dynamical Astronomy*, 108 (2010), 357-370. (ISSN 0923-2958, IF: 2.319)
- I.5) **Makó Zoltán**, Real vector space of LR-fuzzy intervals with respect to the shape-preserving t-norm-based addition, *Fuzzy Sets and Systems*, 200 (2012), 136-149. (ISSN: 0165-0114, IF: 2.138)
- I.6) **Makó Zoltán**, Connection between Hill stability and weak stability in the elliptic restricted three-body problem, *Celestial Mechanics and Dynamical Astronomy*, 120 (2014), 233-248. (ISSN 0923-2958, IF: 2.319)
- I.7) Szenkovits Ferenc, **Makó Zoltán**: Pulsating zero velocity surfaces and capture in the elliptic restricted three-body problem, *Plasma- and Astrophysics: from laboratory to outer space, Publications of the Astronomy Department of the Eötvös University*, Budapest, Edited by I. Ballai, E. Forgács-Dajka, A. Marcu, K. Petrovay, Volume 15, 2005, 221-229. (ISBN: 963 463 557, Smithsonian/NASA Astrophysics Data System)
- I.8) **Makó Zoltán**: *Quasi-triangular fuzzy numbers. Theory and applications*, Ed. Scientia, Cluj-Napoca, 2006. (156 pagini, ISBN 973-7953-60-6, Recenzat de Mathematical Reviews)
- I.9) **Makó Zoltán**, Lázár Ede, Máté Szilárd: *Előrejelző módszerek gazdasági és műszaki alkalmazásai (Aplicarea metodelor de prognoză în economie și în tehnică)*, Ed. Scientia, Cluj-Napoca, 2009. (138 pagini, ISBN 978-973-1970-10-3, în lb. maghiară)
- I.10) **Makó Zoltán**, Salamon Júlia: *Operációkutatási példatár közgazdászoknak (Culegere de probleme din cercetări operaționale pentru economiști)*, Ed. Scientia, Cluj-Napoca, 2011. (209 pagini, ISBN 978-973-1970-45-5, în lb. maghiară)

II. LISTA COMPLETĂ DE PUBLICAȚII, CREAȚII, INVENȚII

A. Teza de doctorat

Titlu: Contribuții la teoria numerelor fuzzy cvasi-triunghiulare cu aplicații în programare liniară fuzzy

Anul susținerii: 2002

Conducătorul științific: prof. dr. Kolumán Iosif

Instituția: Universitatea Babeș Bolyai din Cluj Napoca

Calificativul: foarte bine

Datele de identificare a publicației:

Makó Zoltán: *Quasi-triangular fuzzy numbers. Theory and applications*, Ed. Scientia, Cluj-Napoca, 2006. (156 pagini, ISBN 973-7953-60-6, Recenzat de Mathematical Reviews)

B. Cărți publicate

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

- B.1) Szenkovits Ferenc, **Makó Zoltán**, Csillik Iharka, Bálint Attila: *Mechanikai rendszerek számítógépes modellezése (Modelarea computațională a sistemelor mecanice)*, Ed. Scientia, Cluj-Napoca, 2002. (213 pagini, ISBN 973-85422-6-X, în lb. maghiară, Recenzat de Mathematical Reviews)
- B.2) **Makó Zoltán:** *Quasi-triangular fuzzy numbers. Theory and applications*, Ed. Scientia, Cluj-Napoca, 2006. (156 pagini, ISBN 973-7953-60-6, Recenzat de Mathematical Reviews)
- B.3) Szenkovits Ferenc, **Makó Zoltán:** *Elméleti mechanika feladatok (Probleme de mecanică teoretică)*, Ed. Presa Universitară Clujeană, 2007. (362 pagini, ISBN 978-973-610-600-2, în lb. maghiară,)
- B.4) **Makó Zoltán**, Lázár Ede, Máté Szilárd: *Előrejelző módszerek gazdasági és műszaki alkalmazásai (Aplicarea metodelor de prognoză în economie și în tehnică)*, Ed. Scientia, Cluj-Napoca, 2009. (138 pagini, ISBN 978-973-1970-10-3, în lb. maghiară)
- B.5) **Makó Zoltán**, Salamon Júlia: *Operációkutatási példatár közgazdászoknak (Culegere de probleme din cercetări operaționale pentru economiști)*, Ed. Scientia, Cluj-Napoca, 2011. (209 pagini, ISBN 978-973-1970-45-5, în lb. maghiară)

C. Lucrări științifice publicate

C1. Lucrări științifice publicate în reviste cotate ISI

- C.1) **Makó Zoltán**, Szenkovits Ferenc: Capture in the circular and elliptic restricted three-body problem, *Celestial Mechanics and Dynamical Astronomy* 90, 51-58, 2004. (ISSN: 0008-8714, IF. 2.319)
- C.2) **Makó Zoltán:** Linear programming with quasi-triangular fuzzy-numbers in the objective function, *Publ. Math. Debrecen*, 69 (2006), 17-31. (ISSN: 0033-3883, IF. 0.646)

- C.3) Szenkovits Ferenc, **Makó Zoltán**: About the Hill stability of the extrasolar planets in stellar binary systems, *Celestial Mechanics and Dynamical Astronomy*, 101, 273-287, 2008. (ISSN: 0008-8714, IF: 2.319)
- C.4) **Makó Zoltán**: Chaotic Variation of the Capture Effect around the Weak Stability Boundary, *Exploring the Solar system and the Universe, American Institute of Physics Conference proceedings*, 1043, 2008, 208-210 (ISSN: 0094-243X, ISBN: 978-0-7354-0571-4, ISI Proceedings)
- C.5) **Makó Zoltán**, Szenkovits Ferenc, Salamon Júlia, Oláh-Gál Róbert, Stable and Unstable Orbits around Mercury, *Celestial Mechanics and Dynamical Astronomy*, 108, 2010, pp. 357-370 (ISSN 0923-2958, IF: 2.319)
- C.6) **Makó Zoltán**, Real vector space of LR-fuzzy intervals with respect to the shape-preserving t-norm-based addition, *Fuzzy Sets and Systems*, 200 (2012), 136-149. (ISSN: 0165-0114, IF: 2.138)
- C.7) **Makó Zoltán**, Connection between Hill stability and weak stability in the elliptic restricted three-body problem, *Celestial Mechanics and Dynamical Astronomy*, 120 (2014), 233-248. (ISSN 0923-2958, IF: 2.319)

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

- C.8) **Makó Zoltán**: Tgp-Sum of Quasi-Triangular Fuzzy Numbers, *Bul. Stiint. Univ. Baia Mare Ser. B., Mat-Inf.*, 14/1 (2000), 65-74. (ISSN: 1222-1201, Mathematical Reviews)
- C.9) **Makó Zoltán**: The Solution of Linear Programming Problems with Quasi-Triangular Fuzzy Numbers in Capacity Vector, *Annales Univ. Sci. Budapest., Sect. Comp.*, Vol 21, 2002, 19-40. (ISSN: 0138-9491, Mathematical Reviews)
- C.10) Szenkovits Ferenc, **Makó Zoltán**, Csillik Iharka, Bálint Attila: Capture Effect in the Restricted Three Body Problem, *Pure Mathematics and Application*, 13/4 (2003), 463-471. (ISSN: 1218-4586, Mathematical Reviews)
- C.11) **Makó Zoltán**, Máté Szilárd: Talajérték meghatározása mesterséges neuronhálózatok módszerével, *Agrókémia és talajtan*, 53/3-4 (2004), 401-412. (revista Academiei din Ungaria, indexat de Current Contents și de CAB International, ISSN: 0002-1873, *Predicția valorii solului cu metoda rețelelor neuronale artificiale*, în lb. maghiară)
- C.12) **Makó Zoltán**, Szenkovits Ferenc, Garda-Mátyás Edit: Solution of Kepler-equation with artificial neural network. *Automation Computers Applied Mathematics*, 13 (2004), 119-127. (ISSN: 1221-437X, Zentralblatt)
- C.13) Szenkovits Ferenc, **Makó Zoltán**, Csillik Iharka, Polynomial representation of the zero velocity surfaces in the spatial elliptic restricted three-body problem, *Pure Mathematics and Application*, 15/2-3 (2004), 313-322. (ISSN: 1218-4586, Mathematical Reviews)
- C.14) **Makó Zoltán**, Szenkovits Ferenc, Garda-Mátyás Edit, Csillik Iharka: Classification of near Earth asteroids with artificial neural network, *Studia Univ. "Babeș-Bolyai", Mathematica*, Volume L, Number 1, 2005, 85-92. (ISSN: 0252-1938, Mathematical Reviews)

- C.15) Szenkovits Ferenc, **Makó Zoltán**: Pulsating Hill-Regions in the Spatial Elliptic Restricted Three-Body Problem, *Automation Computers Applied Mathematics (ACAM)* 14 (2005), 99–105. (ISSN: 1221-437X, Zentralblatt)
- C.16) **Makó Zoltán**, Hill's stability of the Moon in the spatial restricted three-body problem, *Plasma- and Astrophysics: from laboratory to outer space, Publications of the Astronomy Department of the Eötvös University*, Budapest, Edited by I. Ballai, E. Forgács-Dajka, A. Marcu, K. Petrovay, Volume 15, 2005, 230-237. (ISBN: 963 463 557, Smithsonian/NASA Astrophysics Data System)
- C.17) Szenkovits Ferenc, **Makó Zoltán**: Pulsating zero velocity surfaces and capture in the elliptic restricted three-body problem, *Plasma- and Astrophysics: from laboratory to outer space, Publications of the Astronomy Department of the Eötvös University*, Budapest, Edited by I. Ballai, E. Forgács-Dajka, A. Marcu, K. Petrovay, Volume 15, 2005, 221-229. (ISBN: 963 463 557, Smithsonian/NASA Astrophysics Data System)
- C.18) **Makó Zoltán**: Chaotic structure of the capture domain, *Publications of the Astronomy Department of the Eötvös University*, Volume 19, 2007, 237-246. (ISBN: 963 463 557, Smithsonian/NASA Astrophysics Data System, Mathematical Reviews)
- C.19) **Makó Zoltán**: Connections between weak stability boundary and the capture effect in the elliptic restricted three body problem, *Automation Computers Applied Mathematics (ACAM)* 17(2), 2008, 255-258. (ISSN: 1221-437X, Mathematical Reviews)
- C.20) **Makó Zoltán**: Real vector space with scalar product of quasi-triangular fuzzy numbers, *Acta Universitatis Sapientiae, Mathematica*, 1, 1 (2009), 51-71. (ISSN 1844-6094, Mathematical Reviews)
- C.21) Pál László, Oláh-Gál Róbert, **Makó Zoltán**: Shepard interpolation with stationary points, *Acta Universitatis Sapientiae, Informatica*, 1, 1 (2009), 5-13. (ISSN 1844-6086, Zentralblatt)
- C.22) **Makó Zoltán**: Extracting Fuzzy If-Then Rule by Using the Information Matrix Technique with Quasi-Triangular Fuzzy Numbers, *Studia Univ. "Babeş-Bolyai", Mathematica*, Volume LIV, Number 3, 2009, 85-98. (ISSN: 0252-1938, Mathematical Reviews)
- C.23) **Makó Zoltán**, Information matrix technique with LR-fuzzy numbers, *Automation, Computers, Applied Mathematics*, 19 (2010), 129-137. (ISSN 1221-437X, Mathematical Reviews)
- C.24) **Garda-Mátyás Edit, Makó Zoltán**, Modified joint optimal strategy concept in zero-sum fuzzy matrix games, *Annales Univ. Sci. Budapest., Sect. Comp.* 36 (2012), 103–116. (ISSN 0138-9491, Mathematical Reviews)

C6. Lucrări științifice publicate în volumele manifestărilor științifice

- C.25) **Makó Zoltán**: Utilizarea noțiunii de centru de greutate din mecanică teoretică la rezolvarea problemelor de geometrie, *Didactica Matematicii*, XV, 2000, 27-34.
- C.26) **Makó Zoltán**: Olyan lineáris programozási feladatok megoldása, amelyben a célfüggvény együtthatói fuzzy számok, *RODOSZ-tanulmányok II.* (Természet- és

műszaki tudományok), Editat de Kovács D. Lehel István és Szabó Csaba, Ed. Kriterion, Cluj-Napoca, 2001, 51-65. (ISBN: 973-26-0628-2, Algoritmul de rezolvare a problemelor de programare liniară cu numere fuzzy cvasi- triumphiulare în vectorul cerere, în lb. maghiară)

- C.27) **Makó Zoltán**: Upper and Lower Limits of Fuzzy Sets, *Proceedings of the 2nd International Conference of PHD Students* (Natural Science), organizat de Universitatea din Miskolc, Miskolc, 1999, 177-184. (ISBN: 963 661 374 5)
- C.28) Szenkovits Ferenc, **Makó Zoltán**, Csillik Iharka, Bálint Attila: Capture Model in the Restricted Three-Body Problem, *Proceedings of the 3rd International Conference of PHD Students* (Natural Science), organizat de Universitatea din Miskolc, Miskolc, 2001, 71-78. (ISBN: 963 661 480 5)
- C.29) **Makó Zoltán**: The Opposite of Quasi-triangular Fuzzy Number, *Proceedings of the 3rd International Symposium of Hungarian Researchers on Computational Intelligence*, organizat de Universitatea Tehnică din Budapesta și Asociația Fuzzy din Ungaria, Budapest, 2002, 229-238. (ISBN: 963 7154 12 4)
- C.30) Garda-Mátyás Edit, **Makó Zoltán**, Szenkovits Ferenc, Csillik Iharka: The chaotic variation of capture effect in the three body problem, *Proceedings of the 4th International Conference of PHD Students* (Natural Science), organizat de Universitatea din Miskolc, Miskolc, 2003, 31-38. (ISBN: 963 661 580 5)
- C.31) **Makó Zoltán**: Approximation with Diffusion-Neural-Network, *Proceedings of the 6th International Symposium of Hungarian Researchers on Computational Intelligence*, organizat de Universitatea Tehnică din Budapesta și Asociația Fuzzy din Ungaria, Budapest, 2005, 589-600. (ISBN: 963 7154 43 4)
- C.32) **Makó Zoltán**, Máté Szilárd: Evaluation of soil-parameters with diffusion-neural-network, *Proceedings of 3rd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence* (SACI), organizat de Universitatea Tehnică din Budapesta și Universitatea Politehnică din Timișoara, Timișoara, 2006, 322-331. (ISBN: 963 7154 46 9)
- C.33) **Makó Zoltán**, Máthé István, Kicsi István, Láthatóvá tehető-e a víz által hordozott információ? *Apele minerale din regiunea carpatică. A III-a conferință științifică internațională*, Universitatea Sapientia, Mircurea Ciuc, 2006, 123-130. (ISBN: 973-7625-06-4)
- C.34) **Makó Zoltán**, Salamon Júlia: Banded Approximation with diffusion neural network, 7th International Conference on Applied Informatics, Vol. 2, Eger Hungary, 2007, 93-100.
- C.35) Szöcs Attila, Burián Hunor, **Makó Zoltán**, Categorization of Cartels based on Market Factors using Fuzzy Information Matrix, *Proceedings of the International Conference "Marketing – From Information to Decision"*, Edition 8, Cluj-Napoca, 2008, 399-410.
- C.36) Szöcs Attila, Burián Hunor, **Makó Zoltán**, Using Elasticity and Concentration for Cartel Categorization, *Proceedings of the International Innovation Conference for Co-operation development* (InCoDe), Pécs, 2008, 83-91.

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

Director de grant

- GD.1) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapiientia, cu tema: *Frontiera slabă a capturii gravitaționale în modelul problemei restrânse eliptice a celor trei corpuri*. Contract cu o durată de un an, 2008-2009. Volumul finanțării: 10000 RON. Colectivul de cercetare: dr. Makó Zoltán (Univ. Sapiientia, Miercurea-Ciuc), dr. Oláh-Gál Róbert (UBB), dr. Salamon Júlia (Univ. Sapiientia, Miercurea-Ciuc), dr. Szenkovits Ferenc (UBB). Publicații: C.5.
- GD.2) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapiientia, cu tema: *Metode de optimizare în geometria continuă, aplicații în fizică și chimie*. Contract cu o durată de doi ani, 2007–2009. Volumul finanțării: 12825 RON. Colectivul de cercetare: dr. Makó Zoltán (Univ. Sapiientia, Miercurea-Ciuc), dr. Oláh-Gál Róbert (UBB), dr. Salamon Júlia (Univ. Sapiientia, Miercurea-Ciuc). Publicații: C.3, C.18, C.19.
- GD.3) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapiientia, cu tema: *Studierea proceselor complexe cu ajutorul rețelelor neuronale artificiale*. Contract cu o durată de doi ani, 2005–2007. Volumul finanțării: 16795 RON. Colectivul de cercetare: dr. Makó Zoltán (UBB și Univ. Sapiientia), Maté Szilárd (Univ. Sapiientia, Miercurea-Ciuc), Garda-Mátyás Edit (Univ. Sapiientia, Miercurea-Ciuc), Lázár Ede (Univ. Sapiientia, Miercurea-Ciuc), Osváth József (Univ. Sapiientia, Miercurea-Ciuc, student). Publicații: C.2, B.4, C.22, C.23.
- GD.4) Grant de cercetare finanțat din programul Leonardo, cu titlul “Blended & Integrated Lifelong Learning for Actors in Regional Development” (BILLARD). Contract cu o durată de trei ani, 2004–2007. Proiect internațional cu participarea Bluewaters Project Development & Environmental Engineering (Austria, conducătorul proiectului), Universitatea din Veszprém (Ungaria), Universitatea Sapiientia, Phoenix Innovations Ltd (Marea Britanie), Cambridge International Land Institute (Marea Britanie), Mozaik – Association for Social Inclusion (Slovenia), Ireas-Institute for structural policy (Republica Cehă), DNV Certification Institute (Italia), ibu gmbh (Institut für Berufsbildung und UmschulungsmbH-Germania), Regional Innovation Centre (Austria). Volumul finanțării Sapiientia: 11000 EUR. Colectivul local de cercetare: Vofkori László (Univ. Sapiientia, Miercurea-Ciuc), Makó Zoltán (Univ. Babeș-Bolyai și Univ. Sapiientia), Maté Szilárd (Univ. Sapiientia, Miercurea-Ciuc). Coordinator local: dr. Makó Zoltán. (Proiect homepage: <http://www.adam-europe.eu/adam/project/view.htm?prj=1430&page=PRINT#.VKvzE8nTonJ>)
- GD.5) Grant de cercetare finanțat de Institutul Programelor de Cercetare al Fundației Sapiientia, cu tema: *Studiul sistemelor dinamice cu metode perturbative și fuzzy*. Volumul finanțării: 32500 RON. Contract cu o durată de trei ani, 2002–2005. Colectivul de cercetare: dr. Szenkovits Ferenc (UBB), dr. Makó Zoltán (UBB și Univ. Sapiientia), dr. Csillik Iharka (Institutul Astronomic al Academiei Române, Observatorul Astronomic din Cluj-Napoca), Garda-Mátyás Edit (Univ. Sapiientia, Miercurea-Ciuc). Directori: dr. Szenkovits Ferenc între 2002–2004 și dr. Makó Zoltán între 2004–2005. Publicații: C.1, C.10, C.12, C.13, C.14, C.15.

Membru în granturi de cercetare

- GM.1) Grant de cercetare de tip PCE (PN-II-ID-PCE-2012-4-0066) cu tema: Analiza cerinței consumatorului: estimare bazată pe verosimilitate și aplicații. Contract cu o durată de trei ani, 2013–2016. Volumul finanțării: 1 200 000 RON. Colectivul de cercetare: dr. Sándor Zsolt (Univ. Sapientia), dr. Makó Zoltán (Univ. Sapientia), dr. Lázár Ede (Univ. Sapientia), (Univ. Sapientia), dr. Dalamon Júlia (Univ. Sapientia), dr. Szőcs Attila (Univ. Sapientia), Csata Andrea (Univ. Sapientia), Fejér Király Gergely (Univ. Sapientia). Director dr. Sándor Zsolt.
- GM.2) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapientia, cu tema: *Studierea problemelor de echilibru vectorial*. Contract cu o durată de doi ani, 2011–2013. Volumul finanțării: 18000 RON. Colectivul de cercetare: dr. Salamon Júlia (Univ. Sapientia), dr. Makó Zoltán (Univ. Sapientia), Bartó Kinga (student Univ. Sapientia). Director dr. Salamon Júlia. Publicații: C.6, C.24.
- GM.3) Grant de cercetare CNCSIS de tip A, multianual, cu tema: *Cercetări teoretice și observaționale privind dinamica asteroizilor, structura și stabilitatea stelară*. Grantul de cercetare al Catedrei de mecanică și astronomie. Volumul finanțării: 35000 RON. Directori: prof. dr. Pop Vasile (2004, 2005) și Conf. dr. Cristina Blaga (2006). Publicații: C.4.
- GM.4) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapientia, cu tema: *Bonitatea soluțiilor din Bazinul Ciuc prin metode geoinformatică și statistice*. Contract cu o durată de doi ani, 2001–2002. Volumul finanțării: 35000 RON. Colectivul de cercetare: dr. Györfi Jenő (Univ. Sapientia, Miercurea-Ciuc), Makó Zoltán (UBB și Univ. Sapientia), Maté Szilárd (Univ. Sapientia, Miercurea-Ciuc), Pásztohy Zoltán (Centrul de cercetare a solului, Miercurea-Ciuc), Mészáros Sándor (Univ. Sapientia, Miercurea-Ciuc). Director Prof. dr. Györfi Jenő. Publicații: C.11, C.32, C.33.
- GM.5) Grant de cercetare, finanțat de Institutul Programelor de Cercetare al Fundației Sapientia: *Modelarea computațională a sistemelor mecanice*, Contract derulat în perioada aprilie – septembrie 2001. Volumul finanțării: 6200 RON. Colectivul de cercetare: dr. Szenkovits Ferenc (UBB), Makó Zoltán (UBB și Univ. Sapientia), Csillik Iharka (Institutul Astronomic al Academiei Române, Observatorul Astronomic din Cluj-Napoca), Bálint Attila (UBB). Director dr. Szenkovits Ferenc. Publicații: B.1.

Burse de cercetare

- GB.1) Repartiția regiunii de stabilitate în modelul problemei restrânse eliptice a celor trei corpuri. Bursa de cercetare al Academiei de Științe din Ungaria, 01.01.2013 – 30.06.2013. Publicații: C.7.
- GB.2) Stabilitatea gravitațională slabă în modelul problemei restrânse eliptice a celor trei corpuri. Bursa de cercetare al Academiei de Științe din Ungaria, 01.09.2009 - 28.02.2010.
- GB.3) Realizarea unei culegeri de probleme din cercetare operațională și din teoria deciziilor, Bursa Asociației Bölöni Farkas Sándor din Ungaria, 2008-2009. Publicații: B.5.
- GB.4) Structura hiperbolică a efectului de captură gravitațională. Bursa de cercetare al Academiei de Științe din Ungaria, 01.01.2008 - 01.05.2008.
- GB.5) Fenomene de captură gravitațională. Bursa de cercetare al Academiei de Științe din Ungaria, 1998-1999.

III. RECUNOAȘTEREA

J. Citări independente în reviste cotate ISI

J.1) Makó Zoltán: Contribuții la teoria numerelor fuzzy cvasi-triunghiulare cu aplicații în programare liniară fuzzy (teză de doctorat)

J.1.1) Alexandru Mihai Bica: Algebraic structures for fuzzy number from categorial point of view, *Soft Computing - A Fusion of Foundations, Methodologies and Applications*, 11/11, 2007, 1099-1105.

J.2) Makó Zoltán, Szenkovits Ferenc: Capture in the circular and elliptic restricted three-body problem, *Celestial mechanics and Dynamical Astronomy* 90, 51-58, 2004. (ISSN: 0008-8714)

J.2.1) Z E Musielak, B Quarles, The three-body problem, *Reportson Progress in Physics*, 77/ 6, 2014, 065901.

J.2.2) Z.-F. Luo, F. Topputo, F. Bernelli-Zazzera, G.-J. Tang: Constructing ballistic capture orbits in the real Solar System model, *Celestial Mechanics and Dynamical Astronomy*, 120, 2014, 433-450.

J.2.3) Hyeraci N., Topputo F., The role of true anomaly in ballistic capture, *Celestial Mechanics and Dynamical Astronomy*, 116, 2013, 175-193.

J.2.4) N. Moeckel, D. Veras: Exoplanets bouncing between binary stars, *Monthly Notices of the Royal Astronomical Society*, 422/1 (2012), 831-840.

J.2.5) HX. Baoyin, Y. Chen, JF. Li: Capturing near earth objects, *Research in Astronomy and Astrophysics*, 10/6 (2010), 587-598.

J.2.6) A.G. Suarez, D. Hestroffer, D. Farrelly: Formation of the extreme Kuiper-belt binary 2001 QW(322) through adiabatic switching of orbital elements, *Celestial Mechanics and Dynamical Astronomy*, 106/3 (2010), 245-259.

J.2.7) N. Assadian, S.H. Pourtakdoust: Multiobjective genetic optimization of Earth-Moon trajectories in the restricted four-body problem, *Advances in Space Research*, 45/3 (2010), 398-409.

J.2.8) M. Nakamiya, D.J. Scheeres, H. Yamakawa, M. Yoshikawa: Analysis of capture trajectories into periodic orbits about libration points, *Journal of Guidance Control and Dynamics*, 31/5 (2008), 1344-1351.

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J.3) Szenkovits Ferenc, **Makó Zoltán**: About the Hill stability of the extrasolar planets in stellar binary systems, *Celestial mechanics and Dynamical Astronomy*, 101, 273-287, 2008. (ISSN: 0008-8714)

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- J.3.2) JR Donnison, Limits on the Orbits of Possible Eccentric and Inclined Moons of Extrasolar Planets Orbiting Single Stars, *Earth, Moon, and Planets*, 113 (2014), 73-97.
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- J.4) Makó Zoltán:** Approximation with Diffusion-Neural-Network, *Proceedings of the 6nd International Symposium of Hungarian Researchers on Computational Intelligence*, organizat de Universitatea Tehnică din Budapesta și Asociația Fuzzy din Ungaria, Budapest, 2005, 589-600.(ISBN: 963 7154 43 4)
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- J.5) Makó Zoltán, Máté Szilárd:** Evaluation of soil-parameters with diffusion-neural-network, *Proceedings of 3rd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence (SACI)*, organizat de Universitatea Tehnică din Budapesta și Universitatea Politehnică din Timișoara, Timișoara, 2006, 322-331. (ISBN: 963 7154 46 9)
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- J.7.1) Priscilla A. Sousa Silva and Maisa O. Terra: Diversity and validity of stable-unstable transitions in the algorithmic weak stability boundary, *Celestial Mechanics and Dynamical Astronomy*, 113/4 (2012) 453-478.
- J.7.2) Priscilla A. Sousa Silva and Maisa O. Terra: Applicability and dynamical characterization of the associated sets of the algorithmic weak stability boundary in the lunar sphere of influence, *Celestial Mechanics and Dynamical Astronomy*, 113/2 (2012) 141-168.
- J.7.3) M. Vetrivano, W. Van der Weg and M. Vasile: Navigating to the Moon along low-energy transfers, *Celestial Mechanics and Dynamical Astronomy*, 114, 2012, 25-53.
- J.7.4) Xue Ma and Junfeng Li: Distant quasi-periodic orbits around Mercury, *Astrophysics and Space Science*, 343, 2013, 83-93.
- J.7.5) M.F. Mestre, P. M. Cincotta, C. M. Giordano: Analytical relation between two chaos indicators: FLI and MEGNO, *Monthly Notices of the Royal Astronomical Society Letters*, nr. 414, 2011, 100-103.

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- J.7.9) Z.-F. Luo, F. Topputo, F. Bernelli-Zazzera, G.-J. Tang: Constructing ballistic capture orbits in the real Solar System model, *Celestial Mechanics and Dynamical Astronomy*, 120, 2014, 433-450.
- J.8) Makó Zoltán**, Real vector space of LR-fuzzy intervals with respect to the shape-preserving t-norm-based addition, *Fuzzy Sets and Systems*, 200 (2012), 136-149. (ISSN: 0165-0114, IF: 1.759)
- J.8.1) Dong Qiu, Weiquan Zhang, Symmetric fuzzy numbers and additive equivalence of fuzzy numbers, *Soft Computing*, 17, 2013, 1471-1477.
- J.8.2) D Qiu, W Zhang, Y. Lan, Algebraic properties and topological properties of the quotient space of fuzzy numbers based on Mareš equivalence relation, *Fuzzy Sets and Systems*, 245 (2014) 63-82.
- J.9) Makó Zoltán**, Connection between Hill stability and weak stability in the elliptic restricted three-body problem, *Celestial Mechanics and Dynamical Astronomy*, 120 (2014), 233-248. (ISSN 0923-2958, IF: 2.084)
- J.9.1) Z.-F. Luo, F. Topputo, F. Bernelli-Zazzera, G.-J. Tang: Constructing ballistic capture orbits in the real Solar System model, *Celestial Mechanics and Dynamical Astronomy*, 120, 2014, 433-450.

K. Participări la conferințe naționale și internaționale

- K.1) 11 – 16 aug. 1999, 2nd International Conference of PHD Students , University of Miskolc, Miskolc (Ungaria), titlul expunerii: Uper and Lower Limits of Fuzzy Sets.
- K.2) 14 – 18 oct. 2000, Second International Conference on Applied Mathematics, Universitatea din Baia Mare, Baia Mare, titlul expunerii: Tgp-Sum of Quasi-triangular Fuzzy Numbers;
- K.3) 10 – 12 mai 2001, Year of Great Astronomical Anniversaries, Astronomical Institute of the Romanian Academy, Bucharest, titlul expunerii: Model de captură în problema restrânsă a celor trei corpuri;
- K.4) 12 – 15 iunie 2001, 4th Joint Conference on Mathematics and Computer Science, Universitatea Babeș-Bolyai, Oradea, titlul expunerii: Capture Effect in the Restricted Three Body Problem;
- K.5) 26 – 28 noi. 2002. 3rd International Symposium of Hungarian Researchers on Computational Intelligence, Tehnical University of Budapest, Budapest, titlul expunerii: The opposite of quasi-triangular fuzzy number;
- K.6) 22 – 28 iunie 2003, 5th Congress of Romanian Mathematicians, Academia Română, Pitești, titlul expunerii: Possible Capture of Near Earth Objects;
- K.7) 25 – 30 aug. 2003, JENAM –2003 Joint European and National Astronomical Meeting for 2003, New Deal in European Astronomy: Trends and Perspectives, Budapest, Hungary, titlul expunerii: Capture zones in the Solar system;

- K.8) 5 – 26 sept. 2003, Chaotic Worlds: From Order to Disorder in Gravitational N-Body Dynamical Systems, NATO Advanced Study Institute, Cortina d'Ampezzo (Italia), titlul expunerii: The Chaotic Variation of Capture Effect in the N-Body Problem;
- K.9) 3 – 6 iunie 2004, Theodor Angheluță 2004 - Cluj-Napoca, The 9th International Conference on Applied Mathematics and Computer Science, Universitatea Tehnică din Cluj-Napoca, Baisoara, titlul expunerii: Pulsating Hill-regions in the spatial elliptic restricted three-body problem;
- K.10) 9 – 12 iunie 2004, 5th Joint Conference on Mathematics and Computer Science, Universitatea din Debrecen, Debrecen (Ungaria), titlul expunerii: Properties of the Hill – zones in the ERTBP;
- K.11) 31 aug. – 4 sept. 2004, IAU Colloquium No. 197, Dynamics of Populations of Planetary Systems, Belgrade, Serbia and Montenegro, titlul expunerii: Classification of NEAs with Artificial Neural Network;
- K.12) 17 – 19 ian. 2005, British-Romanian-Hungarian Workshop for Young Researchers on Plasma- and Astrophysics: from laboratory to outer space, Cluj-Napoca, titlul expunerii: The Hill's stability of Moon in the spatial three-body problem;
- K.13) 4 – 5 martie 2005, Chaos in Dynamical Systems, Sapientia University, Miercurea-Ciuc, titlul expunerii: Káosz a ballisztikus befogás jelenségében (Haos în procesul de captură balistică, în lb. maghiară);
- K.14) 11 – 16 sept. 2005, Fourth International Meeting on Celestial Mechanics, Italian Society of Celestial Mechanics and Astrodynamics, San Martino al Cimino (Italia), titlul expunerii: The hyperbolic network in capture domain;
- K.15) 16 – 18 noi. 2005, 5th International Symposium of Hungarian Researchers on Computational Intelligence, Technical University of Budapest, Budapest, titlul expunerii: Approximation with Diffusion-Neural-Network;
- K.16) 25 – 27 mai 2006, Actual Problems in Celestial Mechanics and Dynamical Astronomy, International Workshop on Celestial Mechanics, Universitatea Babeș-Bolyai și Universitatea Sapientia, Cluj-Napoca, titlul expunerii: The chaotic structure of capture domain;
- K.17) 28 – 31 ianuarie 2007, 7th International Conference on Applied Informatics, Eger, Debreceni Egyetem, Eszterházy Károly Főiskola, titlul expunerii: Banded approximation with diffusion-neural-network;
- K.18) 28 mai – 8 iunie 2007, Extra-Solar Planets: Scottish Universities Summer Schools in Physics No. 62, Sabhal Mor Ostaig, Isle of Skye, United Kingdom, titlul expunerii: Transient chaos in the capture domain;
- K.19) 8 – 12 aprilie 2008, Exploring the Solar System and the Universe, Astronomical Institute of the Romanian Academy, Bucharest, titlul expunerii: Chaotic variation of the capture effect;
- K.20) 3 – 6 iulie 2008, 7th Joint Conference on Mathematics and Computer Science, Universitatea Babeș-Bolyai, Cluj-Napoca, titlul expunerii: Information matrix technique with quasi-triangular fuzzy numbers;
- K.21) 10 – 13 septembrie 2008, The 12th International Conference on Applied Mathematics and Computer Science, Universitatea Tehnică din Cluj-Napoca, Baisoara, titlul expunerii: Capture effect of the resonant orbits.
- K.22) 7-12 septembrie 2009, CELMEC V (International Conference on Celestial Mechanics), Italian Society of Celestial Mechanics and Astrodynamics, San Martino al Cimino (Italia), titlul expunerii: Weak Stability Boundary in Sun-Mercury System.

- K.23) 21-26 iulie 2010, "Alexandru Myller" Mathematical Seminar Centennial Conference, Facultatea de Matematică din Universitatea Alexandru Ioan Cuza și Institutul "Octav Mayer" al Academiei Române, Iași, titlul expunerii: Extracting fuzzy if-then rule by using the information matrix technique with quasi-triangular fuzzy numbers.
- K.24) 26-28 august 2010, The 13th International Conference on Applied Mathematics and Computer Science, Universitatea Tehnică din Cluj-Napoca, titlul expunerii: Function approximation with additive fuzzy system.
- K.25) 9-12 februarie 2012, 9th Joint Conference on Mathematics and Computer Science, Siófok, titlul expunerii: The modified joint optimal strategy concept in zero-sum fuzzy matrix games.
- K.26) 25-26 mai 2013, Conferința Matinfo, Târgu-Mureș, titlul expunerii: A gyenge gravitációs befogási tartomány szerkezet.
- K.27) 10-14 iunie 2013, 8th Conference on Applied Mathematics and Scientific Computing, Šibenik, Croația, titlul expunerii: Correlated equilibrium in bimatrix games with fuzzy payoffs.
- K.28) 1-7 septembrie 2013, The Sixth International Meeting on Celestial Mechanics, titlul expunerii: Some statistical properties of Weak Stability Boundary.
- K.29) 7 martie 2014, International Conference Natura Econ 4: Environmental Dynamics under the Impact of Economic Trends, titlul expunerii: Correlated equilibrium in fuzzy bimatrix games.

L. Alte realizări semnificative

Membru colectivului de redacție al revistei de specialitate: Acta Universitatis Sapientiae, Mathematica.

Referent la revistele de specialitate cotate ISI: Celestial Mechanics and Dynamical Astronomy, Advances in Space Research, Neural Computing and Applications.

Organizarea unor conferințe și simpozioane:

- Coordonatorul colectivului de organizare a Simpozionului științific cu participare internațională: Haos în sisteme dinamice, Universitatea Sapientia, Miercurea-Ciuc, 3–5 martie, 2005;
- Coorganizator al conferinței internațională: Probleme actuale în mecanică cerească și astronomie dinamică ("Actual Problems in Celestial Mechanics and Dynamical Astronomy"), Cluj-Napoca, 25-27 mai 2006.
- Coordonatorul colectivului de organizare a conferinței cu participare internațională: Bolyai Farkas Emlékkonferencia (Conferința Omagială Bolyai Farkas), Universitatea Sapientia, Miercurea Ciuc, 25-26 noiembrie 2006.
- Coordonatorul colectivului de organizare a conferinței cu participare internațională: EME 150 Éves Emlékkonferencia (Conferința Omagială EME 150), Universitatea Sapientia, Miercurea Ciuc, 6-7 noiembrie 2009.
- Membru în colectivul de organizare a concursului „Szűt tehetségnap”, Miercurea Ciuc, 2011, 2012, 2013, 2014..
- Membru al colectivului de organizare a concursului „Pénzidomár”, Miercurea Ciuc, 2012, 2013, 2014.
- Copreședintele colectivului de organizare al Olimpiadei de Matematică pentru liceele maghiare din Europa: România (etapa internațională), Miercurea Ciuc 12-16.03.2014.
- Președintele comisiei centrale a sesiunii de comunicări științifice în limba maghiară ale elevilor de liceu "TUDEK" numită prin adresa MEN nr.68704/27.11.2013.

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Semnătura,

