

## Lista completă de lucrări

Conf. Dr. Gheorghe Țigan

### I) Listă cu 10 lucrări relevante pentru activitatea științifică după obținerea doctoratului

1. **G. Tigan**, Degenerate with respect to parameters fold-Hopf bifurcations, Discrete and Continuous Dynamical Systems-Series A, 37 (4), 2115-2140, **2017**.
2. **G. Tigan**, Using Melnikov functions of any order for studying limit cycles, Journal of Mathematical Analysis and Applications 448, 409-420, **2017**.
3. **G. Tigan**, D. Constantinescu, Bifurcations in a family of Hamiltonian systems and associated nontwist cubic maps, Chaos, Solitons and Fractals 91, 128–135, **2016**.
4. **G. Tigan**, J. Llibre, Heteroclinic, homoclinic and closed orbits in the Chen system, International Journal of Bifurcation and Chaos, 26(4), 1-6, **2016**.
5. **G. Tigan**, Analysis of a two-dimensional nonsmooth Poincaré-like map, Nonlinear Dynamics, 75(4), 643-651, **2014**.
6. **G. Tigan**, D. Turaev, Analytical search for homoclinic bifurcations in the Shimizu-Morioka model, Physica D 240, 985–989, **2011**.
7. **G. Tigan**, D. Constantinescu, Heteroclinic orbits in the T and the Lu systems, Chaos, Solitons and Fractals, 42(1), 20-23, **2009**.
8. **G. Tigan**, On a Method of Finding Homoclinic and Heteroclinic Orbits in Multidimensional Dynamical Systems, AMIS, 4(3), 383-394, **2010**.
9. Z. Zhou, **G. Tigan**, Z. Yu, Hopf bifurcations in an extended Lorenz system, Advances in Difference Equations 28, 1-10, **2017**, DOI: 10.1186/s13662-017-1083-8.
10. **G. Tigan**, A case-study model for impact oscillators, Proceedings of the International Conference on Mathematics and its Applications – ICMA **2012**, Timisoara, 185-190.

II) Teza de doctorat: *Contribuții la studiul unor sisteme dinamice particulare*, Timișoara, 2006

III) Listele cu contribuțiile candidatului, organizate pe structura tipului de activități prevăzute:

#### A. Jurnale ISI

1. G. Tigan, Degenerate with respect to parameters fold-Hopf bifurcations, Discrete and Continuous Dynamical Systems-Series A, 37 (4), 2115-2140, **2017**.
2. G. Tigan, Using Melnikov functions of any order for studying limit cycles, Journal of Mathematical Analysis and Applications 448, 409-420, **2017**.
3. Z. Zhou, G. Tigan, Z. Yu, Hopf bifurcations in an extended Lorenz system, Advances in Difference Equations 28, 1-10, **2017**, DOI: 10.1186/s13662-017-1083-8.
4. G. Tigan, D. Constantinescu, Bifurcations in a family of Hamiltonian systems and associated nontwist cubic maps, Chaos, Solitons and Fractals 91, 128–135, **2016**.
5. G. Tigan, J. Llibre, Heteroclinic, homoclinic and closed orbits in the Chen system, International Journal of Bifurcation and Chaos, 26(4), 1-6, **2016**.
6. G. Tigan, Analysis of a two-dimensional nonsmooth Poincaré-like map, Nonlinear Dynamics, 75(4), 643-651, **2014**.

7. G. Tigan, D. Turaev, Analytical search for homoclinic bifurcations in the Shimizu-Morioka model, *Physica D* 240, 985–989, **2011**.
8. G. Tigan, On a Method of Finding Homoclinic and Heteroclinic Orbits in Multidimensional Dynamical Systems, *AMIS*, 4(3), 383-394, **2010**.
9. G. Tigan, D. Constantinescu, Heteroclinic orbits in the T and the Lu systems, *Chaos, Solitons and Fractals*, 42(1), 20-23, **2009**.
10. G. Tigan, D. Opreș, Analysis of a 3D dynamical system, *Chaos, Solitons and Fractals*, 36, 5, 1315-1319, **2008**.
11. G. Tigan, Thirteen limit cycles for a class of Hamiltonian systems under seven-order perturbed terms, *Chaos, Solitons and Fractals*, 31, 480–488, **2007**.
12. G. Tigan, A. Astolfi, A note on a piecewise-linear Duffing-type system, *International Journal of Bifurcation and Chaos*, 17(12), 4425-4429, **2007**.
13. G. Tigan, On the scenario of reconnection in non-twist cubic maps, *Chaos, Solitons and Fractals* 30, 1260–1264, **2006**.
14. G. Tigan, Controlling chaos of a dynamical system with feedback control, *Carpathian J. Math.*, 22, No. 1 - 2, 153 – 161, **2006**.

#### **B. Journale internationale (indexate BDI)**

15. G. Tigan, Detection function method and its application to a perturbed Hamiltonian system, *Mat. Bilten*, Tome 33 (LIX), pages 81-90, **2009**.
16. M. Craioveanu, G. Tigan, Hopf bifurcations analysis of a three-dimensional nonlinear system, *Scientific Bulletin of the Science Academy of Moldavia*, Nr. 3(58), 57-66, **2008**.
17. D. Constantinescu, G. Tigan, Exact solutions to a family of Fitzhugh-Nagumo-type equations, *Matematicki Bilten*, Tome 31 (LVII), **2007**, 61-68.
18. G. Tigan, Existence and distribution of limit cycles in a Hamiltonian system, *Applied Mathematics E-Notes*, Taiwan, 6, **2006**, 176-185.
19. G. Tigan, On a family of Hamiltonian cubic planar differential systems, *Scientific Bulletin of the Science Academy of Moldavia*, Nr. 2(51), 75-86, **2006**.
20. G. Tigan, On a three-dimensional diff. system, *Mat. Bilten*, 30 (LVI), 9-16, **2006**.
21. G. Tigan, Analysis of a perturbed Hamiltonian system, *Mat. Bilten*, 29(LV), **2005**, 47-60.
22. G. Tigan, Subcritical Hopf bifurcation in George system, *Mat. Bilten*, 28 (LIV), **2004**, 81-90.
23. G. Tigan, Transition to chaos of the Duffing oscillator modified, *Mat. Bilten*, 27 (LIII), **2003**, 95-98.

#### **C. Journale Nationale (indexate BDI)**

24. G. Tigan, A. Kovacs, C. Petrisor, On homoclinic and closed orbits in the T system, *Sc. Bulletin of the Politehnica University of Timisoara, Mathematics and Physics*, 58(72), 28-35, **2013**.
25. G. Tigan, Stochastic Stability of a Perturbed Lorenz System, *Scientific Bulletin of the UPT, Transactions on Mathematics and Physics*, 53(67), 2, **2008**, 1-11.
26. G. Tigan, Stabilizing the chaotic dynamics of the Lu system, *Applied Sciences*, 9, **2007**, 174-180.
27. G. Tigan, Eleven limit cycles in a Hamiltonian system under five-order perturbed terms, *Differential Geometry- Dynamical Systems*, 8, **2006**, 268-277.
28. G. Tigan, Analysis of the reconnection process in nontwist cubic maps, *Scientific Bulletin of the UPT, Transactions on Mathematics and Physics*, 51(65), 1, **2006**, 45-54.
29. G. Tigan, Analysis of a dynamical system derived from the Lorenz system, *Scientific Bulletin of the UPT, Transactions on Mathematics and Physics*, 50(64), 1, 61-72, **2005**.
30. G. Tigan, A note on chaos synchronization between two differential three-dimensional systems, *Differential Geometry - Dynamical Systems*, 5, **2005**, 105-110.

#### D. Lucrări publicate în proceedings

31. G. Tigan, Bautin bifurcations in the T system, Proceedings of the 14th International Conference on Mathematics and its Applications – ICMA **2015**, Timisoara, Nov. 5-7, 139-144.
32. G. Tigan, A case-study model for impact oscillators, Proceedings of ICMA **2012**, pages 185-190.
33. G. Tigan, Investigations of the T system with time delay, Proceedings of The 4-th International Colloquium Mathematics in Engineering and Numerical Physics, October 6-8, **2006**, Bucharest, Romania, 179-185.
34. G. Tigan, Bifurcation and stability in a system derived from the Lorenz system, Proceedings of The 3-rd International Colloquium Mathematics in Engineering and Numerical Physics October 7-9, **2004**, Bucharest, Romania, 265-272.

#### E. Cărți publicate in edituri recunoscute CNCSIS

1. **G. Tigan**, Differential and Integral Calculus, UPT Press, **2016**, 240 pages, ISBN 978-606-554-651-6 (in english).
2. **G. Tigan**, Introduction to Differential Equations and Dynamical Systems, Editura UPT, **2013**, 251 pages, ISBN 978-606-554-614-1 (in english).
3. **G. Tigan**, Algebră și Analiză Matematică superioară, Culegere de probleme, Editura UPT, **2012**, 226 pagini, ISBN 978-606-554-436-9.
4. A. Kovacs, L. Kovacs, **G. Tigan**, C. Milici, Matematici asistate de calculator, Editura UPT, **2012**, 586 pagini, ISBN 978-606-554-288-4.
5. A. Kovacs, D. Mihailov, **G. Tigan**, Analiza Matematică, Calcul integral, ecuații diferențiale și ecuații cu derivate parțiale, Culegere de probleme, Editura UPT, **2009**, 335 pagini, ISBN 978-973-625-810-7.
6. A. Kovacs, D. Mihailov, **G. Tigan**, Capitole de matematici superioare din Algebră și Analiză Matematică, Culegere de probleme, Editura UPT, **2008**, 296 pagini, ISBN (13) 978-973-625-572-4.
7. **G. Tigan**, Limit cycles in dynamical systems theory (monografie), Editura UPT, **2008**, 113 pagini, ISBN 978-973-625-621-9.
8. A. Kovacs, D. Mihailov, **G. Tigan**, Matematici special în inginerie, Culegere de probleme, Editura UPT, **2007**, 243 pagini, ISBN 978-973-625-420-8.
9. A. Kovacs, D. Mihailov, **G. Tigan**, Analiza Matematică, Calcul diferential și integral, Culegere de probleme, Editura UPT, **2006**, 262 pagini, ISBN 978-973-625-359-1.
10. A. Kovacs, D. Mihailov, **G. Tigan**, Analiza Matematică, Calcul diferential, Culegere de probleme, Editura UPT, **2003**, 214 pagini, ISBN 973-625-044-X.
11. A. Kovacs, R. Angheliescu, **G. Tigan**, Capitole de Matematici special, Culegere de probleme, Editura UPT, **2003**, 304 pagini, ISBN 973-625-082-2.