ANEXA 1

FIŞA DE EVALUARE GENERALĂ A STANDARDELOR UNIVERSITĂŢII

Conf. univ. dr. Moșneagu Ana-Maria
Facultatea de Matematică

Perioada inclusă în evaluare: 2015 - prezent

CRITERII	DESCRIPTORI	PUNCTAJE ACORDATE
I. ACTIVITATEA DE CERCETARE (70%)	**1.** Articole ştiinţifice publicate *in extenso* în reviste cotate *Web of Science* cu factor de impact	**Total: 373.13p**
	Optimal control and stabilization for some Fisher-like models, Numer. Funct. Anal. Optim., 36(5) (2015), 567-589 (în colaborare cu V. Arnăutu) (FI = 1.418)	**(60 x 1.418 + 25)/2 = 55.04p**
	Regional control in optimal harvesting of population dynamics, Nonlinear Analysis: Theory, Methods & Applications 147 (2016), 191–212 (în colaborare cu S. Anița și V. Capasso) (FI = 1.743)	**(60 x 1.743 + 25)/3 = 43.19p**
	Optimal harvesting of a spatially distributed renewable resource with endogenous pricing, Mathematical Modelling of Natural Phenomena 14(1) (2019) (în colaborare cu S. Anița, S. Behringer și T. Upmann) (FI = 3.117)	**(60 x 3.117 + 25)/4 = 53p**
	Global Eradication for Spatially Structured Populations by Regional Control, Discrete & Continuous Dynamical Systems - B, 24(6) (2019), 2511-253 (în colaborare cu S. Anița și V. Capasso) (FI = 1.497)	**(60 x 1.497 +25)/3 = 38.27p**
	Optimal harvesting for age-structured population dynamics with size-dependent control, Mathematical Control and Related Fields, 9(4) (2019), 607-621 (în colaborare cu S. Anița) (FI = 1.141)	**(60 x 1.141 + 25)/2 = 46.73p**
	On some local and nonlocal reaction-diffusion models with Robin boundary conditions, Discrete and Continuous Dynamical Systems - S, doi: 10.3934/dcdss.2022161 (FI = 1.865)	**60 x 1.865 + 25 = 136.9p**

	2. Articole ştiinţifice publicate *in extenso* în reviste indexate fără factor de impact	**Total: 15p**
	Some Regional Control Problems for Population Dynamics, Control Systems and Mathematical Methods in Economics, Lecture Notes in Economics and Mathematical Systems 687 (2018), 419-439 (în colaborare cu L.-I. Anița, S. Anița și V. Capasso)	**20/4 = 5p**
	Optimal Harvesting for Size-Dependent Control, Vietnam Journal of Mathematics, 47(4) (2019), 881-895 (în colaborare cu S. Anița)	**20/2 = 10p**
	3. Articole ştiinţifice publicate *in extenso* în reviste indexate BDI	**Total: 22.5p**
	Optimizing the position of the support of the control for some optimal harvesting problems, Ann. Acad. Rom. Sci., Ser. Math. Appl., 7(1) (2015), 27-40	**15p**
	An artificial neural network approach for the dynamics of enzyme-catalysed reactions, An. Științ. Univ. Al. I. Cuza Iași. Mat. (N.S.), Tomul LXVI, f.2 (2020), 323-346 (în colaborare cu I. Stoleriu)	**15/2 = 7.5p**
	4. Articole ştiinţifice publicate *in extenso* în volumele conferinţelor	-
	5. Cărţi ştiinţifice publicate (doar prima ediţie)	-
	6. Cărţi ştiinţifice traduse şi publicate în edituri din străinătate	-
	7. Coordonarea şi editarea de volume, traduceri şi antologii	-

	8. Articole publicate în dicţionare şi enciclopedii	-
	9. Contracte de cercetare ştiinţifică în instituţii academice (universităţi, institute ale Academiei Române, institute naţionale de cercetare, institute de cercetare din străinătate, alte categorii de institute academice)	CNCS - UEFISCDI 68/02.09.2013, PN-II-ID-PCE-2012-4-0270: Optimal Control and Stabilization of Nonlinear Parabolic Systems with State Constraints. Applications in Life Sciences and Economics, director proiect: prof. dr. S. Anița. (667000RON) **Total: 16,67p**
	10. Contracte de cercetare în mediul de afaceri şi sectorul public	Contract 13532/16.07.2019 (CONTINENTAL AG) „Attribute definition and microscopic traffic model validation-predominantly with PTV Vissim and AAI" (28,450 EUR) **Total: 22.58p**
	11. Brevete	
	12. Citări şi recenzii ale lucrărilor ştiinţifice	**Total: 657.29p** *On the numerical approximation of the phase-field system with non-homogeneous Cauchy-Neumann boundary conditions. Case 1D*, ROMAI J. 9(1) (2013), 91-110 (în colaborare cu C. Moroșanu) citata în: MOROSANU, Costica. Stability and errors analysis of two iterative schemes of fractional steps type associated to a nonlinear reacton-diffusion equation. *Discrete Contin. Dyn. Syst. Ser. S*, 13(5): 1567-1587, 2020 (FI = 2.425) **(10 + 20x 1.865)/2 = 23.65** MOROSANU, Costica; PAVAL, Silviu; TRENCHEA, Catalin. Analysis of stability and error estimates for three methods approximating a nonlinear reaction-diffusion equation. *Journal of Applied Analysis and Computation*, 2017, 7.1: 119. (FI = 1.827) **(10 + 20x1.827)/2 = 23.27** PAVĂL, S. Numerical approximation for a nonlocal reaction-diffusion equation supplied with non-homogeneous Neumann boundary conditions. *Case 1D, ROMAI J*, 2019, 15.1: 83-93. **5/2 = 2.5**

GAVRILUT, Alina; MOROSANU, Costica. Well-Posedness for a Nonlinear Reaction-Diffusion Equation Endowed with Nonhomogeneous Cauchy-Neumann Boundary Conditions and Degenerate Mobility. *ROMAI J*, 2018, 14: 129-141.
5/2 = 2.5

CHANG, Chih-Wen, et al. A simple spatial integration scheme for solving Cauchy problems of non-linear evolution equations. *Inverse Problems in Science and Engineering*, 2017, 25.11: 1653-1675. (IF = 1.95)
(10 + 20x1.95)/2 = 24.5

MOROSANU, Costica; PAVAL, Silviu. On the numerical approximation of a nonlinear reaction-diffusion equation with non-homogeneous Neumann boundary conditions. Case 1D. *ROMAI Journal*, 2019, 15.2.
5/2 = 2.5

C. Morosanu, Numerical approximation for a nonlocal Allen-Cahn equation supplied with non-homogeneous Neumann boundary conditions, Proceedings of The Fifth Conference of Mathematical Society of the Republic of Moldova (2019), 115.
5/2 = 2.5

C. Morosanu, On the numerical approximation of the nonlinear phase-field equation supplied with non-homogeneous dynamic boundary conditions. Case 1D, Ann. Acad. Rom. Sci. Ser. Math. Appl. Vol. 7(1), 2015.
5/2 = 2.5

CROITORU, Anca; TĂNASE, Gabriela. On a nonlocal and nonlinear second-order anisotropic reaction-diffusion model with in-homogeneous Neumann boundary conditions. *Discrete and Continuous Dynamical Systems-S*, 2022
(10 + 20x 1.865)/2 = 23.65

CROITORU, Anca; MOROŞANU, Costică; TĂNASE, Gabriela. Well-posedness and numerical simulations of an anisotropic reaction-diffusion model in case 2D. *Journal of Applied Analysis and Computation (JAAC)*, 2021, 11: 2258-2278
(10 + 20x1.827)/2 = 23.27

CROITORU, Anca; MOROŞANU, Costică; TĂNASE, Gabriela. Well-posedness and numerical simulations of an anisotropic reaction-diffusion model in case 2D. *Journal of Applied Analysis and Computation (JAAC)*, 2021, 11: 2258-2278
(10 + 20x1.827)/2 = 23.27

MIRANVILLE, Alain; MOROSANU, Costica. Qualitative and Quantitative Analysis for the Mathematical Models of Phase Separation and Transition. Applications. *Differential Equations & Dynamical Systems*, 2020, 7.
(10 + 20x1.2)/2 = 17

		PAVĂL, Silviu Dumitru; VASILICĂ, Alex; ADOCHIEI, Alin. Qualitative and quantitative analysis of a nonlinear second-order anisotropic reaction-diffusion model of an epidemic infection spread. *Discrete and Continuous Dynamical Systems-S*, 2022 **(10 + 20x1.827)/2 = 23.27** STOICESCU, Cătălin. On a nonlocal and nonlinear second-order anisotropic reaction-diffusion system with in-homogeneous Cauchy-Neumann boundary conditions. Applications on epidemic infection spread. *Discrete and Continuous Dynamical Systems-S*, 2022 **(10 + 20x1.827)/2 = 23.27** MOROȘANU, Costică; SATCO, Bianca. Qualitative and quantitative analysis for a nonlocal and nonlinear reaction-diffusion problem with in-homogeneous Neumann boundary conditions. *Discrete and Continuous Dynamical Systems-S*, 2022 **(10 + 20x1.827)/2 = 23.27** MOROȘANU, Costică; STOICESCU, Cătălin. FRACTIONAL STEPS SCHEME TO APPROXIMATE A NONLINEAR REACTION-DIFFUSION PROBLEM SUPPLIED WITH IN-HOMOGENEOUS DYNAMIC BOUNDARY CONDITIONS. *ROMAI Journal*, 2020, 16.2. **5/2 = 2.5**
		DURA, Gina; MOSNEAGU, Ana-Maria. Numerical approximation of Black-Scholes equation. *Annals of the Alexandru Ioan Cuza University-Mathematics*, 2010, 56.1: 39-64. citata in: EDEKI, Sunday O.; UGBEBOR, Olabisi O.; OWOLOKO, Enahoro A. Analytical solutions of the Black–Scholes pricing model for European option valuation via a projected differential transformation method. *Entropy*, 2015, 17.11: 7510-7521. **(10 + 20x2.738)/2 = 32.38** GULEN, Seda; POPESCU, Catalin; SARI, Murat. A new approach for the black–scholes model with linear and nonlinear volatilities. *Mathematics*, 2019, 7.8: 760. **(10 + 20x2.592)/2 = 30.92** ANWAR, Md Nurul; ANDALLAH, Laek Sazzad. A study on numerical solution of Black-Scholes model. *Journal of Mathematical Finance*, 2018, 8.2: 372-381. **10/2 = 5** ORLANDO, Giuseppe; TAGLIALATELA, Giovanni. On the approximation of the Black and Scholes call function. *Journal of Computational and Applied Mathematics*, 2021, 384: 113154. **(10 + 20x2.872)/2 = 33.72**

		CERVERA, JA González. Solution of the Black-Scholes equation using artificial neural networks. In: *Journal of Physics: Conference Series*. IOP Publishing, 2019. p. 012044. **10/2 = 5** HE, Jiawei. A Study on Analytical and Numerical Solutions of Three Types of Black-Scholes Models. *International Journal of Trade, Economics and Finance*, 2021, 12.4. **10/2 = 5** MININNI, Michele; ORLANDO, Giuseppe; TAGLIALATELA, Giovanni. A generalized derivation of the Black-Scholes implied volatility through hyperbolic tangents. *Argumenta Oeconomica*, 2022, 2: 49. **(10 + 20x0.516)/2 = 10.16** WIJAYANTI, Erny Rahayu, et al. European Call Options Pricing Numerically using Finite Element Method. *IAENG International Journal of Applied Mathematics*, 2022, 52.4: 1-6. **10/2 = 5** IDRISSI, Abdelmjid Qadi El; ACHCHAB, Boujemaa; MALOUM, Abdellahi Cheikh. Numerical simulation of the Black-Scholes equation using the SPH method. *International Journal of Computing Science and Mathematics*, 2020, 12.3: 239-249. **10/2 = 5** HEJAZI, Reza, et al. Stochastic analysis and invariant subspace method for handling option pricing with numerical simulation. *Computational Methods for Differential Equations*, 2022, 10.2: 419-430. **10/2 = 5** DASTRANJ, Elham; SAHEBI FARD, Hossein. Exact solutions and numerical simulation for Bakstein-Howison model. *Computational Methods for Differential Equations*, 2022, 10.2: 461-474. **10/2 = 5** MININNI, Michele; ORLANDO, Giuseppe; TAGLIALATELA, Giovanni. Challenges in approximating the Black and Scholes call formula with hyperbolic tangents. *Decisions in Economics and Finance*, 2021, 44.1: 73-100. **10/2 = 5** *Regional control in optimal harvesting of population dynamics*, Nonlinear Analysis: Theory, Methods & Applications 147 (2016), 191–212 (în colaborare cu S. Anița și V. Capasso) citata in: COCLITE, Giuseppe Maria; GARAVELLO, Mauro. A time-dependent optimal harvesting problem with measure-valued solutions. *SIAM Journal on Control and Optimization*, 2017, 55.2: 913-935. (FI = 2.503) **(10 + 20x2.503)/3 = 20.02**

		ANIȚA, Sebastian; CAPASSO, Vincenzo; DIMITRIU, Gabriel. Controlling an alien predator population by regional controls. *Nonlinear Analysis:Real World Applications*, 2019, 46: 82-97. (FI = 2.763) **(10 + 20x2.763)/3 = 21.75** AUGERAUD-VÉRON, Emmanuelle; BOUCEKKINE, Raouf; VELIOV, Vladimir M. Distributed optimal control models in environmentaleconomics: a review. *Mathematical Modelling of Natural Phenomena*, 2019, 14.1: 106. (FI=4.157) **(10 + 20x4.157)/3 = 31.04** PERVADCHUK, V. P.; VLADIMIROVA, D. B.; DEREVYANKINA, P. O. Numerical Study of Optimal Control Problem for a Distributed System. In: *Proceeding of the International Science and Technology Conference" FarEastCon 2019": October 2019, Vladivostok, Russian Federation, Far Eastern Federal University*. Springer Nature, 2020. p. 117. **10/3 = 3.33** CAPASSO, Vincenzo; ANIȚA, Sebastian. The interplay between models and public health policies: Regional control for a class of spatially structured epidemics (think globally, act locally). *Mathematical Biosciences & Engineering*, 2018, 15.1: 1. (IF = 2.1) **(10 + 20x2.1)/3 = 17.33** COCLITE, Giuseppe Maria; DEVILLANOVA, Giuseppe; SOLIMINI, Sergio. Measure valued solutions for an optimal harvesting problem. *Journal de Mathématiques Pures et Appliquées*, 2020, 142: 204-228. (IF = 2.567) **(10 + 20x2.567)/3 = 20.44** Pervadchuk, V.P., Vladimirova, D.B., Derevyankina, P.O. Numerical study of optimal control problem for a distributed system of savings in the region's population.*Smart Innovation, Systems and Technologies,* 172, pp. 117-123, 2020. **10/3 = 3.33**
		Optimal harvesting of a spatially distributed renewable resource with endogenous pricing, Mathematical Modelling of Natural Phenomena 14(1) (2019) (în colaborare cu S. Anița, S. Behringer și T. Upmann) ciatat in: AUGERAUD-VÉRON, Emmanuelle; BOUCEKKINE, Raouf; VELIOV, Vladimir M. Distributed optimal control models in environmental economics: a review. *Mathematical Modelling of Natural Phenomena*, 2019, 14.1: 106. (IF = 4.157) **(10 + 20x4.157)/4 = 23.28** UPMANN, Thorsten; BEHRINGER, Stefan. Harvesting a remote renewable resource. *Theoretical Ecology*, 2020, 13.4: 459-480. (IF = 1.62) **(10 + 20x1.798)/4 = 11.49** BONDAREV, Anton; UPMANN, Thorsten. Sliding modes in the management of renewable resources. *Automatica*, 2022, 144: 110487. **(10 + 20x6.15)/4 = 33.25**

		HRITONENKO, Natali; KATO, Nobuyuki; YATSENKO, Yuri. Impulse controls in optimal harvesting of age-structured populations. *International Journal of Biomathematics*, 2022, 2250128. **(10 + 20x2.129)/4 = 13.14**
		Global Eradication for Spatially Structured Populations by Regional Control, Discrete & Continuous Dynamical Systems - B, 24(6) (2019), 2511-253 (în colaborare cu S. Anița și V. Capasso) citata in: ANIŢA, Sebastian; CAPASSO, Vincenzo; DIMITRIU, Gabriel. Controlling an alien predator population by regional controls. *Nonlinear Analysis: Real World Applications*, 2019, 46: 82-97. (FI = 2.763) **(10 + 20x2.763)/3 = 21.75**
		On some local and nonlocal reaction-diffusion models with Robin boundary conditions, Discrete and Continuous Dynamical Systems - S, doi: 10.3934/dcdss.2022161 citata in: STOICESCU, Cătălin. On a nonlocal and nonlinear second-order anisotropic reaction-diffusion system with in-homogeneous Cauchy-Neumann boundary conditions. Applications on epidemic infection spread. *Discrete and Continuous Dynamical Systems-S*, 2022 **10 + 20x1.827 = 46.54**
	13. Lucrări susţinute în calitate de invitat la manifestări ştiinţifice (conferinţe, congrese, simpozioane, seminarii şi ateliere de lucru)	*Optimal control problems for some diffusive processes. Geometric properties of the support of the optimal control*, 13thViennese Workshop on Optimal Control and Dynamic Games, Viena, Austria, mai 2015 **25p** *Regional control in optimal harvesting for a spatially structured population with diffusion*, Workshop on Mathematical Models and Optimal Control for Population Dynamics, Iași, România, noiembrie 2018 **10p**
	14. Profesor / cercetător invitat la universităţi / institute de cercetare	
	15. Editor/Membru în *Editorial Board* & *Advisory Board*	
	16. Premii internaţionale obţinute printr-un proces de selecţie	
	17. Premii ale Academiei Române	
	18. Alte premii naţionale ale instituţiilor culturale	
	19. Participări la manifestări ştiinţifice	

	TOTAL CRITERIUL I	**1142.17p**
CRITERII	**DESCRIPTORI**	**PUNCTAJE ACORDATE**
II. ACTIVITATEA DIDACTICĂ (30%)	**1.** Tratate şi manuale universitare	
	2. Proiecte didactice (înfiinţare/dotare laboratoare licenţă, master, săli workshop, biblioteci proprii facultăţilor, departamentelor, laboratoarelor şi grupurilor de cercetare)	
	3. Materiale suport curs, seminar, lucrări practice şi programe analitice detaliate	Materiale suport pentru curs și laborator: Algoritmi și complexitate, Structuri de date, Soft matematic, Algoritmi și structuri de date, Calcul științific **100p** Materiale suport pentru laborator și seminar: Calcul numeric, Statistică matematică, Statistică aplicată **60p** Programe analitice detaliate: Algoritmi și complexitate, Structuri de date, Soft matematic, Algoritmi și structuri de date, Calcul științific **50p**
	4. Organizare de aplicaţii şi practică de specialitate	Îndrumare practică pedagogică **20p** Îndrumare practică de specialitate **5p** Activități de tutoriat **20p**
	TOTAL CRITERIUL II	**255p**

Total: 0.7x1142.17 + 0.3x255= 876.01

Data **Conf. dr. Moșneagu Ana-Maria**