

Institutul de Calcul "Tiberiu Popoviciu"

Raport de activitate 2020, cu detalii

Obs. resurse umane: M. Nechita: doctor din octombrie 2020 (UCL, Londra), urmează din noiembrie 2020 program de postdoctorat.

Lucrări ISI în jurnale din străinătate

1. C.D. Alecsa, I. Boros, F. Frank, P. Knabner, M. Nechita, A. Prechtel, A. Rupp, N. Suci, *Numerical benchmark study for flow in highly heterogeneous aquifers*, Adv. Water Res., 138 (2020), 103558. <https://doi.org/10.1016/j.advwatres.2020.103558> Impact Factor (IF) 2019: **4.01**
2. C.D. Alecsa, T. Pința, I. Boros, *New optimization algorithms for neural network training using operator splitting techniques*, Neural Networks, 126 (2020), 178-190. <https://doi.org/10.1016/j.neunet.2020.03.018> IF 2019: **5.53**
3. E. Burman, M. Nechita, L. Oksanen, *A stabilized finite element method for inverse problems subject to the convection-diffusion equation. I: diffusion-dominated regime*, Numer. Math. 144 (2020), pp. 451-477, <https://doi.org/10.1007/s00211-019-01087-x> IF 2019: **2.05**
4. M. Crăciun, T. Harko, *Testing Bose-Einstein condensate dark matter models with the SPARC galactic rotation curves data*, The European Physical Journal C, 80 (2020) 8, 735, 1-28, IF 2019: 4.3, <https://doi.org/10.1140/epjc/s10052-020-8272-4> IF 2019: **4.3**
5. C.-D. Alecsa, S.C. László, A. Viorel, *A gradient-type algorithm with backward inertial steps associated to a nonconvex minimization problem*, Numer. Algor. 84 (2020), pp. 485-512. <https://doi.org/10.1007/s11075-019-00765-z>
6. F. Pătrulescu, T. Groșan, I. Pop, *Natural convection from a vertical plate embedded in a non-Darcy bidisperse porous medium*, ASME-Journal of Heat Transfer 142(1): 012504, HT-19-1097 (2020), (11 pages), <https://doi.org/10.1115/1.4045067>
7. V. Ilea, A. Novac, D. Otrocol, R. Precup, *Solutions with a prescribed interval of positivity for differential systems with nonlocal conditions*, Appl. Math. Comput., 375 (2020), <https://doi.org/10.1016/j.amc.2020.125092>
8. V. Ilea, D. Otrocol, *Existence and uniqueness of the solution for an integral equation with supremum, via w-distances*, Symmetry 2020, 12, 1554, <https://doi.org/10.3390/sym12091554>
9. O. Agratini, *Linear positive operators constructed by using Beta-type bases*, Hacettepe Journal of Mathematics & Statistics, 49 (2020) no. 3, pp. 1030-1038, <https://doi.org/10.15672/hujms.549015>
10. V. Moisoiu, A. Stefanu, S.D. Iancu, T. Moisoiu, L. Loga, L. Dican, C.D. Alecsa, I. Boros, A. Jurj, D. Dima, C. Bagacean, R. Tetean, E. Burzo, C. Tomuleasa, F. Elec, N. Leopold, *SERS assessment of the cancer-specific methylation pattern of genomic DNA: towards the detection of acute myeloid leukemia in patients undergoing hematopoietic stem cell transplantation*, Anal Bioanal Chem 411, 7907–7913 (2019). <https://doi.org/10.1007/s00216-019-02213-2> (neraportat 2019)

Lucrări ISI în jurnale din țară

1. O. Agratini, *Modifying an approximation process using non-Newtonian calculus*, Stud. Univ. Babeș-Bolyai Math. 65 (2020) no. 2, 291–301, <https://doi.org/10.24193/subbmath.2020.2.10>
2. V. Ilea, D. Otrocol, *On the Burton method of progressive contractions for Volterra integral equations*, Fixed Point Theory, 21 (2020) no. 2, 585-594.

Lucrări în reviste BDI/preprint publicate 2020

1. T. Căținaș, D. Otrocol, *Iterates of Cheney-Sharma type operators on a triangle with curved side*, J. Comp. Anal. Appl., 28 (2020) no. 4, pp. 737-744.
2. O. Agratini, *A stop over Jain operators and their generalizations*, Annals of West University of Timisoara – Mathematics and Computer Science, 56 (2018) no. 2, pp. 28-42.

2. Cărți/capitole -

3. Premii

- în străinătate

M. Nechita, *Sir George Jessel studentship*, University College London (februarie 2020); premiu pentru activitatea sa de cercetare ca doctorand.

4. Citări în 2018

Total: 85

5. Conferințe

Participări la conferințe internaționale

- C.D. Alecsa, I. Boros, F. Frank, P. Knabner, M. Nechita, A. Prechtel, A. Rupp, N. Suci, *D443: Numerical benchmark study for flow in highly heterogeneous aquifers*, EGU General Assembly 2020 – Sharing Geoscience Online, <https://doi.org/10.5194/egusphere-egu2020-10504>
- O. Agratini, *Using the sequences of linear operators to approximate signals*, The 2nd International Conference on Mathematics and Computers in Science and Engineering, MACISE 2020, Madrid, Spain, January 18-20, 2020. <https://www.macise.org/#Plenary>
- S.C. Laszlo, C.D. Alecsa, T. Pinta, *An extension of the second order dynamical system that models Nesterov's convex gradient method*, Games, Dynamics and Optimization ([GDO2020](#)), Rome, Italy, February 24-26, 2020.

Alte activități/rezultate:

- Grantul internațional SU 415/4-1 (<https://gepris.dfg.de/gepris/projekt/405338726>) obținut de N. Suci de la Fundatia Germana de Cercetare (Deutscher Forschungsgemeinschaft), pentru proiectul "Integrated global random walk model for reactive transport in groundwater adapted to measurement spatio-temporal scales" (01.10.2018-30.09.2021), este în curs de executare la Universitatea Erlangen-Nuernberg.

- Dl. dr. rer. nat. habil. N. Suciu are **H-index 12**, conform ISI/Clarivate (<https://publons.com/researcher/2061433/nicolae-suciu/>) și **H-index 14**, conform Google Scholar (<https://scholar.google.com/citations?user=qzPZXQAAAAJ&hl=ro&oi=ao>)