Award Application

1. Candidate:

Name: Treanţă

Surname: Savin

Doctor in Mathematics: 2014

Academic position: Full Professor, Department of Applied Mathematics, National University of Science and Technology Bucharest, Bucharest, Romania

Institution: National University of Science and Technology Bucharest, Bucharest, Romania

Mobile telephone. .

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2. Edition: "Gala Cercetării Româneşti"

3. Award and category for which you apply (individual or research team): Mathematics and Informatics, "Grigore Constantin Moisil" Award; Category: individual

4. Team leader, if applicable: not applicable

5. Composition of the research team, if applicable (names of team members, position held, year of last degree awarded): not applicable

6. A description of the most important scientific achievements of the last 5 years (maximum 4 pages, A4 format, Times New Roman characters, 12 points, 1.5 line spacing and 2 cm margins)

The most five important scientific achievements of the last 5 years are related to the following publications:

[1] **S. Treanţă**, *On well-posed isoperimetric-type constrained variational control problems*, Journal of Differential Equations, Vol. 298, pp. 480-499, 2021; DOI: 10.1016/j.jde.2021.07.013; WOS: 000681321100016; ISSN: 0022-0396.

[2] **S. Treanţă**, *Robust saddle-point criterion in second-order PDE&PDI constrained control problems,* International Journal of Robust and Nonlinear Control, Vol. 31, No. 18, pp. 9282-9293, 2021; DOI: 10.1002/rnc.5767; WOS: 000693301500001; eISSN: 1099-1239.

[3] **S. Treanţă**, *LU-optimality conditions in optimization problems with mechanical work objective functionals,* IEEE Transactions on Neural Networks and Learning Systems, Vol. 33, No. 9, pp. 4971-4978, 2022; DOI: 10.1109/TNNLS.2021.3066196; WOS: 000733293400001; ISSN: 2162-237X.

[4] **S. Treanţă**, *On a minimal criterion of efficiency in vector variational control problems*, Optimization Methods and Software, Vol. 38, No. 4, 804-812, 2023; DOI: 10.1080/10556788.2023.2189712; WOS: 000959137400001; ISSN: 1055-6788.

[5] **S. Treanţă**, Y. Guo, *The study of certain optimization problems via variational inequalities*, Research in the Mathematical Sciences, Vol. 10, No. 1, 7, 2023; DOI: 10.1007/s40687-022-00372-w; WOS: 000919776900001; ISSN: 2522-0144.

More precisely, in the paper [1] entitled *On well-posed isoperimetric-type constrained variational control problems*, published in the prestigious international *Journal of Differential Equations*, the author investigates well-posedness and well-posedness in the generalized sense for a new class of isoperimetric-type constrained variational control problems. For this purpose, in the first part of the paper, we introduce new versions for the concepts of monotonicity, pseudomonotonicity and hemicontinuity associated with the considered curvilinear integral functional. Thereafter, we define the approximating solution set of the considered class of isoperimetric-type constrained variational control problems. By using these completely new elements, we formulate and prove several characterization results on well-posedness and well-posedness in the generalized sense for the problem under study. Also, in order to highlight the theoretical results and tools derived in the paper, some illustrative examples are provided. Analyzing this paper, it can be concluded that the topic is so important that it deserves to be mentioned and presented in synthesis materials that aim to analyze some classic topics left unresolved for a long time. The isoperimetric-type constrained variational control problems are governed by the following basic tools: (a) the functional to be extremized, called the objective functional or the cost functional, depending on the control variable and the state variable, (b) the control variable, arising in the objective functional and isoperimetric constraints, so that any change in the control variable implies a change in the state variable, and (c) the state (in)equation (that is, the isoperimetric-type constraints) provides the dependence between the control variable and the state variable. The main goal is to find an admissible control variable (called optimal control) which generates a satisfactory state variable and which, together, extremize the objective functional. In most previous research papers, the study is conducted in classical finite dimensional spaces (such as Euclidean spaces, Hilbert spaces, or Banach spaces). The current paper has several fundamental merits. We mention the most important: (i) defining, by means of variational/functional derivatives, of the notions of monotonicity, pseudomonotonicity and hemicontinuity for the case of curvilinear integral functionals and (ii) providing a mathematical framework governed by infinite dimensional normed function spaces

and curvilinear integral functionals. These are completely new elements in the field of well-posed optimization problems.

In the second above-mentiond paper [2], motivated and inspired by ongoing research works, and based on a class of constrained robust optimization problems, we introduce and investigate a new class of auxiliary (modified) control problems by using the robust saddle-point criteria. More specifically, by considering multiple integral cost functionals and mixed (equality and inequality) constraints involving second-order partial derivatives and data uncertainty, we introduce the associated concept of convexity and establish some characterization results for the two considered classes of control problems. In comparison with other research papers in this field, the novelty elements contained in the paper are represented by the presence of second-order partial derivatives and also by the presence of uncertain data both in the objective functional and in the restrictions. Moreover, the proofs associated with the main results of the paper are presented in an innovative way. Also, since the mathematics developed here is suitable for various scientific approaches and viewpoints on complex spatial and temporal behaviors, this work could be seen as the definitive work for a large community of researchers in science and engineering. The results of this paper encompass, as special cases, some programming problems considered in the recent literature.

In paper [3], published in a very famous journal *IEEE Transactions on Neural Networks and Learning Systems*, the author introduces interval-valued KT-pseudoinvex optimization problems governed by interval-valued path-independent curvilinear integral objective functionals. Concretely, it is proven that an interval-valued KT-pseudoinvex variational control problem is described such that every Kuhn-Tucker point is an LU-optimal solution. Also, the main results are highlighted by two illustrative applications describing the controlled behavior of an artificial neural system. The original results include: the concepts of invexity and pseudoinvexity associated with an interval-valued curvilinear integral functional, the notion of interval-valued KT-pseudoinvexity for a new class of optimization problems, establishing the equivalence between the class of interval-valued invex functionals and the class of interval-valued pseudoinvex functionals. These outlines are new in the related literature and the main motivation comes from the multidimensional optimization problems arising in various fields, such as neural computation, artificial intelligence, genetic algorithms, fuzzy logic, or learning systems. The most important idea and the superiority of the proposed methods in this paper are to use an interval-valued

curvilinear integral functional. The interval-valued objective functional represents the mechanical work performed by an interval-valued variable force to move its point of application along a piecewise smooth curve joining two fixed points. Since the path-independent curvilinear integrals have physical meaning (mechanical work), the techniques presented in this paper may inspire the readers toward new directions of research and general interest to the applied physics community. Moreover, the present paper can be seen as a fundamental basis for some technical articles that deal with the theory, design, and applications of neural networks and related learning systems.

The interest in formulating the necessary and sufficient conditions so that a local extreme is a global extreme for a real-valued continuous function has been considered, with remarkable results, by several researchers. In [4], we establish a minimal criterion of efficiency for a class of multiobjective variational control problems. Thus, under only continuity hypotheses of the functionals involved in the considered class of variational control problems, some minimal conditions are formulated so that a local efficient solution to be a global efficient solution. These outlines are new in the related literature and the main motivation comes from the multidimensional optimization problems arising in various fields, such as artificial intelligence, genetic algorithms, fuzzy logic, or learning systems. Also, as is shown in the illustrative example, the impact of this paper on the design and/or analysis of algorithms for solving multidimensional multiobjective variational control problems is significant.

Variational inequalities have been introduced to model and study concrete problems in mechanics, physics, natural phenomena, engineering, or traffic analysis. In paper [5], by using some generalized convexity and differentiability (of Frechet type) hypotheses of the involved functionals, we establish several connections amongst the solutions of some new (weak) vector controlled variational-type inequalities and (weak, proper) efficient solutions associated with certain multi-objective controlled variational problems. Also, the notion of invex set with respect to some given functions has an important role for proving the main results derived in the paper. The illustrative application, given in the end of the paper, provides the physical motivation of the problem under study. The main novelty element in our mathematical framework is the presence of the control function and of multiple integrals as functionals in vector inequality and optimization problems.

The scientific visibility (impact on the state of the art of the results in the field), and quality of the above-mentioned research articles are determined by the increasing number of citations from the last time (according to WoS and Google Scholar).

7. Narrative curriculum vitae of the "individual" candidate or of each member of the research team, in the case of the "research team" candidate, showing the results of the research activity of the last 5 years, according to the quantitative indicators in Annex no. 2 to the regulation and qualitative assessment criteria provided in Annex no. 3 to the regulation.

Curriculum Vitae – Savin Treanţă

Personal Info: Date and place of birth: 03 March 1986, Bechet, Dolj, Romania; Phone Number:

Education: 2021: Habilitation in Mathematics, National University of Science and Technology Politehnica Bucharest, Romania [4 Ph.D. students (from 2022), 4 Ph.D. students (from 2023)]

2010-2013: Ph.D. University Politehnica of Bucharest, Faculty of Applied Sciences, Romania

2009-2011: M.Sc. "Simion Stoilow" Institute of Mathematics of the Romanian Academy, Scoala Normala Superioara-Bucharest (SNS-B), Department of Mathematics, Romania

2008-2010: M.Sc. University of Bucharest, Faculty of Mathematics and Informatics, Romania

2005-2008: B.Sc. University of Bucharest, Faculty of Mathematics and Informatics, Romania

Academic Experience: 2023-present: Full Professor, Faculty of Applied Sciences, National University of Science and Technology Politehnica Bucharest

2020-2023: Associate Professor, Faculty of Applied Sciences, University Politehnica of Bucharest

2017-2020: Lecturer, Faculty of Applied Sciences, University Politehnica of Bucharest

2011-2017: Assistant Professor, Faculty of Applied Sciences, University Politehnica of Bucharest

2011-2012: BITDEFENDER fellowship - Junior Research Position (obtained by international competition), "Simion Stoilow" Institute of Mathematics of the Romanian Academy

Research Fields: Differential Equations, Calculus of Variations, Optimization and Control Theory, Variational and Nonlinear Analysis, Geometric PDEs, Convex Analysis

Research Projects, Fellowships, Memberships: see Section 9 of the present document.

International/National Conferences: - The Scientific Session of Young Researchers, AOSR TEAMS 2022-2023 competition (July 18, 2022; December 8, 2022; July 7, 2023; November 27, 2023)

- The 5-Day International Workshop on Optimization Techniques in Industrial and Engineering Applications, January 06-10, online, India, 2023 (invited speaker)
- The Third International Conference on Mathematical Techniques and Applications (eICMTA- 2022), March 23-25, online, India, 2022 (invited speaker)
- The Third Romanian Itinerant Seminar on Mathematical Analysis and its Applications, September 10-12, Alba Iulia, Romania, 2021
- The 13th International Conference on Multiple Objective Programming and Goal Programming, October 28-31, Marrakech, Morocco, 2019
- The 6th World Congress on Global Optimization, July 8-10, Metz, France, 2019
- The I Conference on Minimax Inequalities and Equilibrium Problems, May 6-7, Granada, Spania, 2019
- The 7th Workshop for Young Researchers in Mathematics (WYRM), May 17 - 20, Bucharest, Romania, 2017
- The 5th Workshop for Young Researchers in Mathematics (WYRM), May 21 - 24, Constanta, Romania, 2015
- Real and Complex Differential Geometry, September 8 - 12, Bucharest, Romania, 2014
- The 8th International Conference of Differential Geometry and Dynamical Systems, (DGDS - 2014), September 1 - 4, Mangalia, Romania, 2014
- The 7th International Conference of Differential Geometry and Dynamical Systems, (DGDS - 2013), October 10 - 13, Bucharest, Romania, 2013
- The 17th International Conference on Systems, Control, Signal Processing and Informatics (SCSI'13), July 16 - 19, Rhodes, Greece, 2013
- The 15th International Conference on Automatic Control, Modelling & Simulation (ACMOS'13), June 1 - 3, Brasov, Romania, 2013
- The 6th International Conference of Differential Geometry and Dynamical Systems, (DGDS - 2012), August 29 - September 2, Mangalia, Romania, 2012
- The International Conference "Poisson Geometry - 2012", July 30 - August 3, Utrecht, The Netherlands (Olanda), 2012
- The 5th International Conference of Differential Geometry and Dynamical Systems, (DGDS - 2011), October 6 - 9, Bucharest, Romania, 2011

Additional Information: *Reviewer for*: Zentralblatt MATH; Mathematical Reviews; *International journals (an incomplete list)*: Mathematical Communications; Optimal Control, Applications and Methods; Complexity; International Journal of Control; European Journal of Control; Asia-Pacific Journal of Operational Research; Symmetry-Basel; Axioms; Mathematics; AIMS Mathematics; Acta Mathematica Scientia; Journal of Optimization Theory and Applications; SN Operations Research Forum; *International conferences (an incomplete list)*: The 4th International Conference on Computational Modeling, Simulation and Applied Mathematics (CMSAM2019), 27-29 December 2019, Guangzhou, China; Automation, Robotics & Communications for Industry 4.0 (ARCI): 1st IFSA Winter Conference, 17-19 February 2021, Chamonix-Mount-Blanc, France (International Program Committee Member).

Editorial board member for (an incomplete list): ACE Journal of Mathematical Research; International Journal of Mathematics and Systems Science; Transnational Journal of Mathematical Analysis and Applications; SCIREA Journal of Mathematics; Transnational Journal of Pure and Applied Mathematics; SCIREA Journal of Information Science and Systems Science; International Journal of Mathematical Analysis and Applications;

*Editor for the following **4 (four)** books*: „Recent Advances in Nonlinear Analysis and Optimization with Applications", Cambridge Scholars Publishing, 2020; „Symmetry in Mathematical Analysis and Functional Analysis", Multidisciplinary Digital Publishing Institute, Switzerland, 2023; „Variational Problems and Applications", Multidisciplinary Digital Publishing Institute Switzerland, 2023; „Advances in Optimization and Nonlinear Analysis", Multidisciplinary Digital Publishing Institute Switzerland, 2022.

Guest Editor for the following Special Issues: "Advances in Partial Differential Equations: Theory and Applications" in the AIMS Mathematics journal (ISSN: 2473-6988); "Variational Problems and Applications - Volumes I, II" in the Mathematics journal (ISSN: 2227-7390); "Advances in Optimization and Nonlinear Analysis - Volumes I, II" in the Fractal and Fractional journal (ISSN: 2504-3110); "Symmetry in Mathematical Analysis and Functional Analysis - Volumes I, II, III" in the Symmetry journal (ISSN: 2073-8994); "Calculus of Variations and Nonlinear Partial Differential Equations" in the Axioms journal (ISSN: 2075-1680); "New Developments in Analysis of Variational Inequalities and Related Fields" in the Axioms journal (ISSN: 2075-1680).

*Author (or co-author) of **3 (three)** specialized books in international publishing houses (Springer, Cambridge Scholars Publishing, LAP Lambert Academic Publishing):*

3) A. Jayswal, Preeti, S. Treanţă, *Multi-dimensional Control Problems: Robust Approach*; Series ISSN: 2364-6837; Series E-ISSN: 2364-6845; Springer Singapore, 2022.

2) S. Treanţă, *Variational Analysis with Applications in Optimisation and Control,* ISBN: 978-1-5275-3728-6, Cambridge Scholars Publishing, 2019.

1) O. Olteanu, S. Treanţă, *Convexity, Optimization and Approximation, with some Applications*, ISBN: 978-613-9-87683-9, LAP Lambert Academic Publishing, 2018.

*Author (or co-author) of **8 (eight)** book chapters published in edited books published by Springer, World Scientific, Chapman and Hall/CRC, and Cambridge Scholars Publishing:*

8) S. Treanţă, *On Variational Derivative and Controlled Variational Inequalities,* In: Mishra S.K., Marechal P., Upadhyay B.B. (eds) Recent Trends in Optimization: Theory, Algorithms, and Applications; accepted, Springer Nature, 2023.

7) S. Treanţă, *Results on the Existence of Solutions for Some Controlled Optimization Problems,* In: Debnath P., Srivastava H.M., Chakrabory K., Kumam P. (eds) Advances in Number Theory and Applied Analysis, DOI: 10.1142/13314; ISBN: 978-981-127-252-2; World Scientific, 2023.

6) S. Treanţă, *Controlled nonlinear dynamics for constrained optimization problems involving second-order partial derivatives,* In: Jayswal, A., Antczak, T. (Eds.). (2022). Continuous Optimization and Variational Inequalities (1st ed.). Chapman and Hall/CRC. eBook ISBN: 9781003289883.

5) S. Treanţă, *On well-posed variational problems involving multidimensional integral functionals,* In: Debnath P., Srivastava H.M., Kumam P., Hazarika B. (eds) Fixed Point Theory and Fractional Calculus. Forum for Interdisciplinary Mathematics. pp. 189-212; DOI: 10.1007/978-981-19-0668-8_11; eISBN: 978-981-19-0668-8; ISBN: 978-981-19-0667-1; Springer Singapore, 2022.

4) S. Treanţă, *On a new class of interval-valued variational control problems,* In: Debnath P., Konwar N., Radenovic S. (eds) Metric Fixed Point Theory - Applications in Science, Engineering and Behavioural Sciences, pp. 211-226; DOI: 10.1007/978-981-16-4896-0_10; eISBN: 978-981-16-4896-0; ISBN: 978-981-16-4895-3; Springer, 2021.

3) S. Treanţă, *On a class of interval-valued variational control problems with first-order PDE constraints.* In: Treanţă S. (ed) Recent Advances in Nonlinear Analysis and Optimization with Applications, pp. 17-32; ISBN (10): 1-5275-5954-8; ISBN (13): 978-1-5275-5954-7; Cambridge Scholars Publishing, 2020.

2) S. Treanţă, *On Controlled Variational Inequalities Involving Convex Functionals.* In: Le Thi H., Le H., Pham Dinh T. (eds) Optimization of Complex Systems: Theory, Models, Algorithms and Applications. WCGO 2019. Advances in Intelligent Systems and Computing, vol. 991, pp. 164-174, 2020. Springer, Cham. DOI: 10.1007/978-3-030-21803-4_17; ISBN: 978-3-030-21802-7; eISBN: 978-3-030-21803-4.

1) S. Treanţă, C. Udrişte, *Single-Time and Multi-Time Hamilton–Jacobi Theory Based on Higher Order Lagrangians*. In: Adhikari A., Adhikari M., Chaubey Y. (eds) Mathematical and Statistical Applications in Life Sciences and Engineering, pp. 71-95, 2017. Springer, Singapore. DOI: 10.1007/978-981-10-5370-2_3; ISBN: 978-981-10-5369-6; eISBN: 978-981-10-5370-2.

Total number of citations, according to Web of Science Core Collection: **1055**

Hirsch index, according to Web of Science Core Collection: **17**

Total number of citations, according to Google Scholar: **1110**

The Google Scholar profile: https://scholar.google.ro/citations?user=RjZrdA8AAAAJ&hl=en

131 visible WoS articles *(at the time of writing this document).*

Expert examiner on the panel for several PhD theses from abroad (India, Pakistan).

Rewarding of scientific results - CNCS/UEFISCDI (2014, 2017-present) for publication of articles in prestigious international journals.

December 2023 - Rewarding of scientific results for the special quality of the results obtained within the research project "Well-posedness, existence and characterization results of solutions for certain variational problems", Academy of Romanian Scientists, "AOSR-TEAMS" 2022-2023 https://www.aosr.ro/competitia-aosr-teams-2022-2023/

2023 - Participation in the training program Internal Managerial Control System, 6-8 June 2023.

2023 - Member of The International Society of Global Optimization.

Expert evaluator within the Call "Equipping pre-university education units and related units with furniture, teaching materials and digital equipment", PNRR, 2023.

Expert evaluator within the Call "Scheme of Grants for the Digitization of Universities", financed by the National Plan for Recovery and Resilience (PNRR), Iunie 2022.

"Red" articles according to AIS (see JCR2022 – 28 June 2023), published in the last 5 years (2019-2023):

1) S. Treanţă, *On a minimal criterion of efficiency in vector variational control problems*, Optimization Methods and Software, Vol. 38, No. 4, 804-812, 2023; DOI: 10.1080/10556788.2023.2189712; WOS: 000959137400001; ISSN: 1055-6788.

2) S. Treanţă, *LU-optimality conditions in optimization problems with mechanical work objective functionals,* IEEE Transactions on Neural Networks and Learning Systems, Vol. 33, No. 9, pp. 4971-4978, 2022; DOI: 10.1109/TNNLS.2021.3066196; WOS: 000733293400001; ISSN: 2162-237X.

3) S. Treanţă, *On well-posed isoperimetric-type constrained variational control problems*, Journal of Differential Equations, Vol. 298, pp. 480-499, 2021; DOI: 10.1016/j.jde.2021.07.013; WOS: 000681321100016; ISSN: 0022-0396.

4) S. Treanţă, *Robust saddle-point criterion in second-order PDE&PDI constrained control problems,* International Journal of Robust and Nonlinear Control, Vol. 31, No. 18, pp. 9282-9293, 2021; DOI: 10.1002/rnc.5767; WOS: 000693301500001; eISSN: 1099-1239.

5) S. Treanţă, Y. Guo, *The study of certain optimization problems via variational inequalities*, Research in the Mathematical Sciences, Vol. 10, No. 1, 7, 2023; DOI: 10.1007/s40687-022-00372-w; WOS: 000919776900001; ISSN: 2522-0144.

6) S. Treanţă, M. Arana-Jiménez, T. Antczak, *A necessary and sufficient condition on the equivalence between local and global optimal solutions in variational control problems*, Nonlinear Analysis-Theory Methods & Applications, Vol. 191, UNSP 111640, 2020; DOI: 10.1016/j.na.2019.111640; WOS: 000500478900002; ISSN: 0362-546X; eISSN: 1873-5215.

7) Y. Guo, G. Ye, W. Liu, D. Zhao, **S. Treanţă**, *Solving nonsmooth interval optimization problems based on interval-valued symmetric invexity*, Chaos, Solitons and Fractals, Vol. 174, 113834, 2023; DOI: 10.1016/j.chaos.2023.113834; WOS: 001053527500001; ISSN: 0960-0779.

8) F. Shi, G. Ye, W. Liu, D. Zhao, **S. Treanţă**, *Lagrangian dual theory and stability analysis for fuzzy optimization problems,* Information Sciences, Vol. 657, 119953, 2023; DOI: 10.1016/j.ins.2023.119953; WOS: 001135568400001; ISSN: 0020-0255.

9) Y. Guo, G. Ye, W. Liu, D. Zhao, **S. Treanţă**, *On symmetric gH-derivative applications to dual interval-valued optimization problems*, Chaos, Solitons and Fractals, Vol. 158, 112068, 2022; DOI: 10.1016/j.chaos.2022.112068; WOS: 000830316700008; ISSN: 0960-0779.

"Yellow" articles according to AIS (see JCR2022 – 28 June 2023), published in the last 5 years (2019-2023):

1) S. Treanţă, *Lagrange-Hamilton approach in optimization problems with isoperimetric-type constraints,* Journal of Optimization Theory and Applications, Vol. 194, No. 2, pp. 508-520, 2022; DOI: 10.1007/s10957-022-02036-9; WOS: 000791053800003; ISSN: 0022-3239; eISSN: 1573-2878.

2) S. Treanţă, *On a global efficiency criterion in multiobjective variational control problems with path-independent curvilinear integral cost functionals*, Annals of Operations Research, Vol. 311,

pp. 1249-1257, 2022; DOI: 10.1007/s10479-020-03579-8; WOS: 000522601800002; ISSN: 0254-5330; eISSN: 1572-9338.

3) **S. Treanţă**, *On a class of interval-valued optimization problems*, Continuum Mechanics and Thermodynamics, Vol. 34, No. 2, 617-626, 2022; DOI: 10.1007/s00161-022-01080-0; WOS: 000750352200001; ISSN: 0935-1175; eISSN: 1432-0959.

4) **S. Treanţă**, *Characterization results of solutions in interval-valued optimization problems with mixed constraints*, Journal of Global Optimization, Vol. 82, No. 4, pp. 951-964, 2022; DOI: 10.1007/s10898-021-01049-4; WOS: 000668875400001; ISSN: 0925-5001.

5) **S. Treanţă**, *Robust optimality in constrained optimization problems with application in mechanics*, Journal of Mathematical Analysis and Applications, Vol. 515, No. 2, 126440, 2022; DOI: 10.1016/j.jmaa.2022.126440; WOS: 000833524000012; ISSN: 0022-247X.

6) **S. Treanţă**, *On a class of constrained interval-valued optimization problems governed by mechanical work cost functionals,* Journal of Optimization Theory and Applications, Vol. 188, No. 3, pp. 913-924, 2021; DOI: 10.1007/s10957-021-01815-0; WOS: 000609071400002; ISSN: 0022-3239; eISSN: 1573-2878.

7) **S. Treanţă**, *Efficiency in uncertain variational control problems,* Neural Computing and Applications, Vol. 33, No. 11, pp. 5719-5732, 2021; DOI: 10.1007/s00521-020-05353-0; WOS: 000571688500002; ISSN: 0941-0643; eISSN: 1433-3058.

8) **S. Treanţă**, I. Ahmad, *Controlled nonlinear dynamics generated by isoperimetric constrained optimization problems involving second-order partial derivatives,* Systems and Control Letters, Vol. 179, 105591, 2023; DOI: 10.1016/j.sysconle.2023.105591; WOS: 001047173900001; ISSN: 0167-6911.

9) **S. Treanţă**, Şt. Mititelu, *Efficiency for variational control problems on Riemann manifolds with geodesic quasiinvex curvilinear integral functionals,* Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas, Vol. 114, No. 3, 113, 2020; DOI: 10.1007/s13398-020-00842-2; WOS: 000529292100002; ISSN: 1578-7303; eISSN: 1579-1505.

10) **S. Treanţă**, S. Singh, A. Jayswal, *On a class of variational-type inequalities involving curvilinear integral functionals,* Optimization, Vol. 71, No. 16, pp. 4835-4853, 2022; DOI: 10.1080/02331934.2021.1969394; WOS: 000688320100001; ISSN: 0233-1934.

11) **S. Treanţă**, K. Nonlaopon, M.B. Khan, *On controlled Hamilton and Hamilton-Jacobi differential equations of higher-order*, Scientific Reports, Vol. 12, No. 1, 14633, 2022; DOI: 10.1038/s41598-022-18626-6; WOS: 000846428600001; ISSN: 2045-2322.

12) S. Singh, **S. Treanţă**, *Characterization results of weak sharp solutions for split variational inequalities with application to traffic analysis,* Annals of Operations Research, Vol. 302, No. 1, pp. 265-287, 2021; DOI: 10.1007/s10479-021-03971-y; WOS: 000618124900001; ISSN: 0254-5330; eISSN: 1572-9338.

13) B.B. Upadhyay, **S. Treanţă**, P. Mishra, *On Minty Variational Principle for Nonsmooth Multiobjective Optimization Problems on Hadamard Manifolds,* Optimization, Vol. 72, No. 12, pp. 3081-3100, 2023; DOI: 10.1080/02331934.2022.2088369; WOS: 000812669400001; ISSN: 0233-1934.

14) M.A. Aslam Noor, K.I. Noor, **S. Treanţă**, K. Nonlaopon, *On three-step iterative schemes associated with general quasi-variational inclusions*, Alexandria Engineering Journal, Vol. 61, No. 12, 12051-12059, 2022; DOI: 10.1016/j.aej.2022.05.031; WOS: 000812795100014; ISSN: 1110-0168.

15) B.B. Upadhyay, A. Ghosh, **S. Treanţă**, *Constraint Qualifications and Optimality Criteria for Nonsmooth Multiobjective Programming Problems on Hadamard Manifolds,* Journal of Optimization Theory and Applications, 2023; DOI: 10.1007/s10957-023-02301-5; WOS: 001072826900001; ISSN: 0022-3239; eISSN: 1573-2878.

Highly cited papers *published in the last 5 years (2019-2023), according to Web of Science*: 9 articles, as follows:

1) W. Afzal, W. Nazeer, T. Botmart, S. Treanţă, *Some properties and inequalities for generalized class of harmonical Godunova-Levin functions via center radius order relation*, AIMS Mathematics, Vol. 8, No. 1, 1696-1712, 2023; DOI: 10.3934/math.2023087; WOS: 000915534400007; ISSN: 2473-6988. [**11 citations**]

2) W. Afzal, K. Shabbir, S. Treanţă, K. Nonlaopon, *Jensen and Hermite-Hadamard type inclusions for harmonical h-Godunova-Levin functions*, AIMS Mathematics, Vol. 8, No. 2, 3303-3321, 2023; DOI: 10.3934/math.2023170; WOS: 000892283800004; ISSN: 2473-6988. [**11 citations**]

3) M.B. Khan, G. Santos-Garcia, H. Budak, S. Treanţă, M.S. Soliman, *Some new versions of Jensen, Schur and Hermite-Hadamard type inequalities for (p, J)-convex fuzzy-interval-valued functions*, AIMS Mathematics, Vol. 8, No. 3, 7437-7470, 2023; DOI: 10.3934/math.2023374; WOS: 000923463800010; ISSN: 2473-6988. [**9 citations**]

4) W. Afzal, M. Abbas, J. Macías-Díaz, S. Treanţă, *Some H-Godunova-Levin Function Inequalities Using Center Radius (Cr) Order Relation*, Fractal and Fractional, Vol. 6, No. 9, 518, 2022; DOI: 10.3390/fractalfract6090518; WOS: 000858245000001; ISSN: 2504-3110. [**16 citations**]

5) T. Saeed, M.B. Khan, S. Treanţă, H.H. Alsulami, M.Sh. Alhodaly, *Interval Fejér type Inequalities for Left and Right-λ-Preinvex Functions in Interval-Valued Settings*, Axioms, Vol. 11, No. 8, 368, 2022; DOI: 10.3390/axioms11080368; WOS: 000846269800001; ISSN: 2075-1680. [**17 citations**]

6) M.B. Khan, J.E. Macias-Diaz, S. Treanţă, M.S. Soliman, H.G. Zaini, *Hermite-Hadamard Inequalities in Fractional Calculus for Left and Right Harmonically Convex Functions via Interval-Valued Settings*, Fractal and Fractional, Vol. 6, No. 4, 178, 2022; DOI: 10.3390/fractalfract6040178; WOS: 000785284500001; ISSN: 2504-3110. [**21 citations**]

7) M.B. Khan, S. Treanţă, H. Budak, *Generalized p-Convex Fuzzy-Interval-Valued Functions and Inequalities Based Upon the Fuzzy-Order Relation*, Fractal and Fractional, Vol. 6, No. 2, 63, 2022; DOI: 10.3390/fractalfract6020063; WOS: 000811834600001; ISSN: 2504-3110. [**19 citations**]

8) M.B. Khan, S. Treanţă, M.S. Soliman, K. Nonlaopon, H.G. Zaini, *Some Hadamard-Fejér type Inequalities for LR-Convex Interval-Valued Functions*, Fractal and Fractional, Vol. 6, No. 1, 6, 2022; DOI: 10.3390/fractalfract6010006; WOS: 000747879100001; ISSN: 2504-3110. [**31 citations**]

9) M.B. Khan, H.G. Zaini, S. Treanţă, M.S. Soliman, K. Nonlaopon, *Riemann-Liouville Fractional Integral Inequalities for Generalized Pre-Invex Functions of Interval-Valued Settings Based Upon Pseudo-Order Relation*, Mathematics, Vol. 10, No. 2, 204, 2022; DOI: 10.3390/math10020204; WOS: 000747881800001; eISSN: 2227-7390. [**25 citations**]

Articles published in the last 5 years, with Relative Influence Score greater than or equal to 0.5

Nr.crt.	Article	Published in the last 5 years	s.i.max (2019-2023)	n.i.	s.i.max /n.i.
1	S. Treanţă, *Noether-type first integrals associated with autonomous second-order Lagrangians*, Symmetry, 11(9), 1088, 2019; WOS: 000489177900024, ISSN: 2073-8994.	Yes	0,687 (2022)	1	0,687
2	S. Treanţă, *On locally and globally optimal solutions in scalar variational control problems*, Mathematics, 7, 9, 829, 2019; WOS: 000487953700058, ISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
3	S. Treanţă, M. Arana-Jiménez, T. Antczak, *A necessary and sufficient condition on the equivalence between local and global optimal solutions in variational control problems,* Nonlinear Analysis-Theory Methods & Applications, 191, 111640, 2020; WOS: 000500478900002, ISSN: 0362-546X.	Yes	1,752 (2020)	3	0,584
4	S. Treanţă, *On a modified optimal control problem with first-order PDE constraints and the associated saddle-point optimality criterion*, European Journal of Control, 51, 1-9, 2020; WOS: 000510946100001, ISSN: 0947-3580.	Yes	1,308 (2019)	1	1,308
5	S. Treanţă, *On weak sharp solutions in (\rho, b, d)-variational inequalities*, Journal of Inequalities and Applications, 2020, 1, 54, 2020; WOS: 000519076700002, ISSN: 1029-242X.	Yes	0,634 (2021)	1	0,634
6	S. Treanţă, Şt. Mititelu, *Efficiency for variational control problems on Riemann manifolds with geodesic quasiinvex curvilinear integral functionals*, Revista de la Real Academia de Ciencias Exactas Fisicas y Naturales Serie A-Matematicas, 114(3), 113, 2020; WOS: 000529292100002, ISSN: 1578-7303.	Yes	0,935 (2022)	2	0,4675
7	S. Singh, S. Treanţă, *Characterization results of weak sharp solutions for split variational*				

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8	S. Treanţă, *Efficiency in generalised V-KT-pseudoinvex control problems*, International Journal of Control, 93, 3, 611-618, 2020; WOS: 000525971000023; ISSN: 0020-7179.	Yes	1,24 (2020)	1	1,24
9	S. Treanţă, *On Modified Interval-Valued Variational Control Problems with First-Order PDE Constraints*, Symmetry, 12(3), 472, 2020; WOS: 000525824300147, ISSN: 2073-8994.	Yes	0,687 (2022)	1	0,687
10	S. Treanţă, *Saddle-point optimality criteria in modified variational control problems with PDE constraints*, Optimal Control, Applications and Methods, 41, 4, 1160-1175, 2020; WOS: 000544522000009, ISSN: 0143-2087.	Yes	0,737 (2019)	1	0,737
11	S. Treanţă, *On the kernel of a polynomial of scalar derivations*, Mathematics, 8, 4, 515, 2020; WOS: 000531824100055, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
12	S. Treanţă, *Gradient structures associated with a polynomial differential equation*, Mathematics, 8, 4, 535, 2020; WOS: 000531824100075, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
13	S. Treanţă, *Constrained variational problems governed by second-order Lagrangians*, Applicable Analysis, 99, 9, 1467-1484, 2020; WOS: 000544485400002, ISSN: 0003-6811.	Yes	0,765 (2021)	1	0,765
14	S. Treanţă, *On Geodesic Behavior of Some Special Curves*, Symmetry, 12(4), 504, 2020; WOS: 000540222200015, ISSN: 2073-8994.	Yes	0,687 (2022)	1	0,687
15	S. Treanţă, S. Singh, *Weak sharp solutions associated with a multidimensional variational-type inequality*, Positivity, 25, 2, 329-351, 2021; WOS: 000534701900002, ISSN: 1385-1292.	Yes	0,758 (2022)	2	0,379
16	S. Treanţă, *A necessary and sufficient condition of optimality for a class of multidimensional control problems*, Optimal Control, Applications and Methods, 41, 6,	Yes	0,737 (2019)	1	0,737

	2137-2148, 2020; WOS: 000551334900001, ISSN: 0143-2087.				
17	S. Treanţă, *Some results on (\rho, b, d)-variational inequalities*, Journal of Mathematical Inequalities, 14, 3, 805-818, 2020; WOS: 000571491100013, ISSN: 1846-579X.	Yes	0,639 (2022)	1	0,639
18	S. Treanţă, *Efficiency in uncertain variational control problems,* Neural Computing and Applications, 33, 11, 5719-5732, 2021; WOS: 000571688500002, ISSN: 0941-0643.	Yes	1,366 (2020)	1	1,366
19	S. Treanţă, *On a class of constrained interval-valued optimization problems governed by mechanical work cost functionals,* Journal of Optimization Theory and Applications, 188, 3, 913-924, 2021; DOI: WOS: 000609071400002, ISSN: 0022-3239.	Yes	1,447 (2019)	1	1,447
20	S. Treanţă, *On a class of differential variational inequalities in infinite-dimensional spaces,* Mathematics, 9, 3, 266, 2021; WOS: 000615394500001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
21	S. Treanţă, *Duality theorems for (\rho, \psi, d)-quasiinvex multiobjective optimization problems with interval-valued components,* Mathematics, 9, 8, 894, 2021; WOS: 000644527900001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
22	S. Treanţă, *On a dual pair of multiobjective interval-valued variational control problems,* Mathematics, 9, 8, 893, 2021; WOS: 000644514500001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
23	S. Treanţă, *On a class of second-order PDE&PDI constrained robust modified optimization problems,* Mathematics, 9, 13, 1473, 2021; WOS: 000671371400001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
24	S. Treanţă, *Second-order PDE constrained controlled optimization problems with application in mechanics,* Mathematics, 9, 13, 1472, 2021; WOS: 000670909700001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634

25	S. Treanţă, *On well-posed isoperimetric-type constrained variational control problems*, Journal of Differential Equations, 298, 480-499, 2021; WOS: 000681321100016, ISSN: 0022-0396.	Yes	2,425 (2020)	1	2,425
26	S. Treanţă, K. Das, *On robust saddle-point criterion in optimization problems with curvilinear integral functionals*, Mathematics, 9, 15, 1790, 2021; WOS: 000682086000001, eISSN: 2227-7390.	Yes	0,634 (2022)	2	0,317
27	S. Treanţă, *Robust saddle-point criterion in second-order PDE&PDI constrained control problems,* International Journal of Robust and Nonlinear Control, 31, 18, 9282-9293, 2021; WOS: 000693301500001, ISSN: 1049-8923.	Yes	2,647 (2019)	1	2,647
28	S. Treanţă, *Well-posedness of new optimization problems with variational inequality constraints*, Fractal and Fractional, 5, 3, 123, 2021; WOS: 000699746700001, ISSN: 2504-3110.	Yes	0,735 (2021)	1	0,735
29	S. Treanţă, S. Jha, *On well-posedness associated with a class of controlled variational inequalities,* Mathematical Modelling of Natural Phenomena, 16, 52, 2021; WOS: 000696631000002, ISSN: 0973-5348.	Yes	0,908 (2022)	2	0,454
30	S. Treanţă, *On well-posedness of some constrained variational problems*, Mathematics, 9, 19, 2478, 2021; WOS: 000708205200001, eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
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32	T. Saeed, M.B. Khan, S. Treanţă, H.H. Alsulami, M.Sh. Alhodaly, *Interval Fejér type Inequalities for Left and Right-λ-Preinvex Functions in Interval-Valued Settings*, Axioms, 11, 8, 368, 2022; DOI: 10.3390/axioms11080368; WOS: 000846269800001; ISSN: 2075-1680.	Yes	0,602 (2022)	5	0,1204

33	S. Treanţă, *On a class of isoperimetric constrained controlled optimization problems*, Axioms, 10, 2, 112, 2021; DOI: 10.3390/axioms10020112; WOS: 000665136300001; ISSN: 2075-1680.	Yes	0,602 (2022)	1	0,602
34	K. Das, S. Treanţă, *On Constrained Set-Valued Semi-Infinite Programming Problems with rho-Cone Arcwise Connectedness*, Axioms, 10, 4, 302, 2021; DOI: 10.3390/axioms10040302; WOS: 000735838400001; ISSN: 2075-1680.	Yes	0,602 (2022)	2	0,301
35	S. Treanţă, S. Singh, A. Jayswal, *On a class of variational-type inequalities involving curvilinear integral functionals,* Optimization, 71, 16, 4835-4853, 2022; DOI: 10.1080/02331934.2021.1969394; WOS: 000688320100001; ISSN: 0233-1934.	Yes	1,124 (2022)	3	0,3747
36	S. Treanţă, *Characterization results of solutions in interval-valued optimization problems with mixed constraints*, Journal of Global Optimization, 82, 4, 951-964, 2022; DOI: 10.1007/s10898-021-01049-4; WOS: 000668875400001; ISSN: 0925-5001.	Yes	1,33 (2020)	1	1,33
37	S. Treanţă, *On a class of controlled differential variational inequalities,* Applicable Analysis, 101, 17, 6191-6211, 2022; DOI: 10.1080/00036811.2021.1919646; WOS: 000643848800001; ISSN: 0003-6811; eISSN: 1563-504X.	Yes	0,765 (2021)	1	0,765
38	S. Treanţă, *On a class of differential quasi-variational-hemivariational inequalities in infinite-dimensional Banach spaces,* Evolution Equations and Control Theory, 11, 3, 827-836, 2022; DOI: 10.3934/eect.2021027; WOS: 000697778200001; eISSN: 2163-2480.	Yes	1,017 (2020)	1	1,017
39	S. Treanţă, *Saddle-point optimality criteria involving (rho, b, d)-invexity and (rho, b, d)-pseudoinvexity in interval-valued optimization problems,* International Journal of Control, 95, 4, 1042-1050, 2022; DOI: 10.1080/00207179.2020.1837960; WOS: 000582933000001; ISSN: 0020-7179; eISSN: 1366-5820.	Yes	1,24 (2020)	1	1,24

40	S. Treanţă, *On a global efficiency criterion in multiobjective variational control problems with path-independent curvilinear integral cost functionals*, Annals of Operations Research, Vol. 311, pp. 1249-1257, 2022; DOI: 10.1007/s10479-020-03579-8; WOS: 000522601800002; ISSN: 0254-5330; eISSN: 1572-9338.	Yes	1,085 (2022)	1	1,085
41	M.B. Khan, H.G. Zaini, S. Treanţă, G. Santos-Garcia, J.E. Macias-Diaz, M.S. Soliman, *Fractional Calculus for Convex Functions in Interval-Valued Settings and Inequalities*, Symmetry-Basel, 14, 2, 341, 2022; DOI: 10.3390/sym14020341; WOS: 000764327300001; eISSN: 2073-8994.	Yes	0,687 (2022)	6	0,1145
42	M.B. Khan, H.G. Zaini, J.E. Macias-Diaz, S. Treanţă, M.S. Soliman, *Some Fuzzy Riemann-Liouville Fractional Integral Inequalities for Preinvex Fuzzy Interval-Valued Functions*, Symmetry-Basel, 14, 2, 313, 2022; DOI: 10.3390/sym14020313; WOS: 000773037900001; eISSN: 2073-8994.	Yes	0,687 (2022)	5	0,1374
43	M.B. Khan, S. Treanţă, M.S. Soliman, *Generalized Preinvex Interval-Valued Functions and Related Hermite-Hadamard Type Inequalities*, Symmetry-Basel, 14, 9, 1901, 2022; DOI: 10.3390/sym14091901; WOS: 000856722300001; eISSN: 2073-8994.	Yes	0,687 (2022)	3	0,229
44	M.B. Khan, G. Santos-Garcia, S. Treanţă, M.A. Noor, M.S. Soliman, *Perturbed Mixed Variational-Like Inequalities and Auxiliary Principle Pertaining to a Fuzzy Environment*, Symmetry-Basel, 14, 12, 2503, 2022; DOI: doi.org/10.3390/sym14122503; WOS: 000904557800001; eISSN: 2073-8994.	Yes	0,687 (2022)	5	0,1374
45	M.B. Khan, S. Treanţă, M.S. Soliman, K. Nonlaopon, H.G. Zaini, *Some Hadamard-Fejér type Inequalities for LR-Convex Interval-Valued Functions*, Fractal and Fractional, 6, 1, 6, 2022; DOI: 10.3390/fractalfract6010006; WOS: 000747879100001; ISSN: 2504-3110.	Yes	0,735 (2021)	5	0,147
46	M.B. Khan, S. Treanţă, H. Budak, *Generalized p-Convex Fuzzy-Interval-Valued Functions and Inequalities Based Upon the Fuzzy-Order Relation*, Fractal and Fractional, 6, 2, 63,	Yes	0,735 (2021)	3	0,245

	2022; DOI: 10.3390/fractalfract6020063; WOS: 000811834600001; ISSN: 2504-3110.				
47	M.B. Khan, J.E. Macias-Diaz, S. Treanţă, M.S. Soliman, H.G. Zaini, *Hermite-Hadamard Inequalities in Fractional Calculus for Left and Right Harmonically Convex Functions via Interval-Valued Settings*, Fractal and Fractional, 6, 4, 178, 2022; DOI: 10.3390/fractalfract6040178; WOS: 000785284500001; ISSN: 2504-3110.	Yes	0,735 (2021)	5	0,147
48	S. Treanţă, M.B. Khan, T. Saeed, *On Some Variational Inequalities Involving Second-Order Partial Derivatives*, Fractal and Fractional, 6, 5, 236, 2022; DOI: 10.3390/fractalfract6050236; WOS: 000801460100001; ISSN: 2504-3110.	Yes	0,735 (2021)	3	0,245
49	S. Treanţă, *Advances in Optimization and Nonlinear Analysis*, Fractal and Fractional, 6, 7, 364, 2022; DOI: 10.3390/fractalfract1010000; WOS: 000831869000001; ISSN: 2504-3110.	Yes	0,735 (2021)	1	0,735
50	S. Treanţă, *Results on the Existence of Solutions Associated with Some Weak Vector Variational Inequalities*, Fractal and Fractional, 6, 8, 431, 2022; DOI: 10.3390/fractalfract6080431; WOS: 000846192900001; ISSN: 2504-3110.	Yes	0,735 (2021)	1	0,735
51	S.K. Sahoo, M.A. Latif, O.M. Alsalami, S. Treanţă, W. Sudsutad, J. Kongson, *Hermite-Hadamard, Fejér and Pachpatte Type Integral Inequalities for Center-Radius Order Interval-Valued Preinvex Functions*, Fractal and Fractional, 6, 9, 506, 2022; DOI: 10.3390/fractalfract6090506; WOS: 000858232900001; ISSN: 2504-3110.	Yes	0,735 (2021)	6	0,1225
52	W. Afzal, M. Abbas, J. Macías-Díaz, S. Treanţă, *Some H-Godunova-Levin Function Inequalities Using Center Radius (Cr) Order Relation*, Fractal and Fractional, 6, 9, 518, 2022; DOI: 10.3390/fractalfract6090518; WOS: 000858245000001; ISSN: 2504-3110.	Yes	0,735 (2021)	4	0,1838

53	S. Treanţă, *On some vector variational inequalities and optimization problems*, AIMS Mathematics, 7, 8, 14434-14443, 2022; DOI: 10.3934/math.2022795; WOS: 000823103000004; ISSN: 2473-6988.	Yes	0,738 (2022)	1	0,738
54	M.B. Khan, S. Treanţă, H. Alrweili, T. Saeed, M.S. Soliman, *Some New Riemann-Liouville Fractional Integral Inequalities for Interval-Valued Mappings*, AIMS Mathematics, 7, 8, 15659-15679, 2022; DOI: 10.3934/math.2022857; WOS: 000825488600001; ISSN: 2473-6988.	Yes	0,738 (2022)	5	0,1476
55	M.B. Khan, H.G. Zaini, J.E. Macias-Diaz, S. Treanţă, M.S. Soliman, *Some Integral Inequalities in Interval Fractional Calculus for Left and Right Coordinated Interval-Valued Functions*, AIMS Mathematics, 7, 6, 10454-10482, 2022; DOI: 10.3934/math.2022583; WOS: 000782779300005; ISSN: 2473-6988.	Yes	0,738 (2022)	5	0,1476
56	W. Afzal, K. Shabbir, T. Botmart, S. Treanţă, *Some new estimates of well known inequalities for (h1, h2)-Godunova-Levin functions by means of center-radius order relation*, AIMS Mathematics, 8, 2, 3101-3119, 2023; DOI: 10.3934/math.2023160; WOS: 000885968000006; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
57	T. Saeed, W. Afzal, K. Shabbir, S. Treanţă, M. De la Sen, *Some Novel Estimates of Hermite-Hadamard and Jensen Type Inequalities for (h_1, h_2)-Convex Functions Pertaining to Total Order Relation*, Mathematics, 10, 24, 4777, 2022; DOI: 10.3390/math10244777; WOS: 000904438300001; eISSN: 2227-7390.	Yes	0,634 (2022)	5	0,1268
58	T. Saeed, W. Afzal, M. Abbas, S. Treanţă, M. De la Sen, *Some New Generalizations of Integral Inequalities for Harmonical cr-(h_1, h_2)-Godunova-Levin Functions and Applications*, Mathematics, Vol. 10, No. 23, 4540, 2022; DOI: 10.3390/math10234540; WOS: 000896895500001; eISSN: 2227-7390.	Yes	0,634 (2022)	5	0,1268
59	M.B. Khan, J.E. Macias-Diaz, S. Treanţă, M.S. Soliman, *Some Fejér Type Inequalities for Generalized Interval-Valued Convex Functions*, Mathematics, Vol. 10, No. 20,	Yes	0,634 (2022)	4	0,1585

	3851, 2022; DOI: 10.3390/math10203851; WOS: 000875157600001; eISSN: 2227-7390.				
60	S. Treanţă, *Well-Posedness Results of Certain Variational Inequalities,* Mathematics, Vol. 10, No. 20, 3809, 2022; DOI: 10.3390/math10203809; WOS: 000872867800001; eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
61	S. Treanţă, B.B. Upadhyay, A. Ghosh, K. Nonlaopon, *Optimality Conditions for Multiobjective Mathematical Programming Problems with Equilibrium Constraints on Hadamard Manifolds,* Mathematics, Vol. 10, No. 19, 3516, 2022; DOI: 10.3390/math10193516; WOS: 000867010900001; eISSN: 2227-7390.	Yes	0,634 (2022)	4	0,1585
62	S. Treanţă, *Recent Advances of Constrained Variational Problems Involving Second-Order Partial Derivatives - A Review*, Mathematics, Vol. 10, No. 15, 2599, 2022; DOI: 10.3390/math10152599; WOS: 000839850900001; eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
63	K. Das, S. Treanţă, T. Saeed, *Mond-Weir and Wolfe Duality of Set-Valued Fractional Minimax Problems in Terms of Contingent Epi-derivative of Second-Order*, Mathematics, Vol. 10, No. 6, 938, 2022; DOI: 10.3390/math10060938; WOS: 000774066700001; eISSN: 2227-7390.	Yes	0,634 (2022)	3	0,2113
64	S. Treanţă, M.B. Khan, T. Saeed, *Optimality for Control Problem with PDEs of Second-Order as Constraints*, Mathematics, Vol. 10, No. 6, 977, 2022; DOI: 10.3390/math10060977; WOS: 000778263600001; eISSN: 2227-7390.	Yes	0,634 (2022)	3	0,2113
65	S. Treanţă, S. Jha, M.B. Khan, T. Saeed, *On Some Constrained Optimization Problems*, Mathematics, Vol. 10, No. 5, 818, 2022; DOI: 10.3390/math10050818; WOS: 000768136300001; eISSN: 2227-7390.	Yes	0,634 (2022)	4	0,1585
66	M.B. Khan, S. Treanţă, M.S. Soliman, K. Nonlaopon, H.G. Zaini, *Some New Versions of Integral Inequalities for Left and Right Preinvex Functions in the Interval Valued Settings*, Mathematics, Vol. 10, No. 4, 611,	Yes	0,634 (2022)	5	0,1268

	2022; DOI: 10.3390/math10040611; WOS: 000870320000001; eISSN: 2227-7390.				
67	M.B. Khan, G. Santos-Garcia, H.G. Zaini, S. Treanţă, M.S. Soliman, *Some New Concepts Related to Integral Operators and Inequalities on Coordinates in Fuzzy Fractional Calculus*, Mathematics, Vol. 10, No. 4, 534, 2022; DOI: 10.3390/math10040534; WOS: 000773641500001; eISSN: 2227-7390.	Yes	0,634 (2022)	5	0,1258
68	S. Treanţă, P. Mishra, B.B. Upadhyay, *Minty Variational Principle for Nonsmooth Interval-Valued Vector Optimization Problems on Hadamard Manifolds*, Mathematics, Vol. 10, No. 3, 523, 2022; DOI: 10.3390/math10030523; WOS: 000757967100001; eISSN: 2227-7390.	Yes	0,634 (2022)	3	0,2113
69	M.B. Khan, H.G. Zaini, S. Treanţă, M.S. Soliman, K. Nonlaopon, *Riemann-Liouville Fractional Integral Inequalities for Generalized Pre-Invex Functions of Interval-Valued Settings Based Upon Pseudo-Order Relation*, Mathematics, Vol. 10, No. 2, 204, 2022; DOI: 10.3390/math10020204; WOS: 000747881800001; eISSN: 2227-7390.	Yes	0,634 (2022)	5	0,1258
70	S. Treanţă, T. Antczak, T. Saeed, *On some variational inequality constrained control problems*, Journal of Inequalities and Applications, Vol. 2022, No. 1, 156, 2022; DOI: 10.1186/s13660-022-02895-w; WOS: 000898778100002; ISSN: 1029-242X.	Yes	0,634 (2021)	3	0,2113
71	S. Treanţă, *Robust optimality in constrained optimization problems with application in mechanics*, Journal of Mathematical Analysis and Applications, Vol. 515, No. 2, 126440, 2022; DOI: 10.1016/j.jmaa.2022.126440; WOS: 000833524000012; ISSN: 0022-247X.	Yes	1,136 (2020)	1	1,136
72	S. Treanţă, K. Nonlaopon, M.B. Khan, *On controlled Hamilton and Hamilton-Jacobi differential equations of higher-order*, Scientific Reports, Vol. 12, No. 1, 14633, 2022; DOI: 10.1038/s41598-022-18626-6; WOS: 000846428600001; ISSN: 2045-2322.	Yes	2,35 (2019)	3	0,783

73	M.A. Aslam Noor, K.I. Noor, S. Treanţă, K. Nonlaopon, *On three-step iterative schemes associated with general quasi-variational inclusions*, Alexandria Engineering Journal, Vol. 61, No. 12, 12051-12059, 2022; DOI: 10.1016/j.aej.2022.05.031; WOS: 000812795100014; ISSN: 1110-0168.	Yes	1,553 (2022)	4	0,3882
74	S. Treanţă, *Lagrange-Hamilton approach in optimization problems with isoperimetric-type constraints,* Journal of Optimization Theory and Applications, Vol. 194, No. 2, pp. 508-520, 2022; DOI: 10.1007/s10957-022-02036-9; WOS: 000791053800003; ISSN: 0022-3239; eISSN: 1573-2878.	Yes	1,447 (2019)	1	1,447
75	Y. Guo, G. Ye, W. Liu, D. Zhao, S. Treanţă, *On symmetric gH-derivative applications to dual interval-valued optimization problems*, Chaos, Solitons and Fractals, Vol. 158, 112068, 2022; DOI: 10.1016/j.chaos.2022.112068; WOS: 000830316700008; ISSN: 0960-0779.	Yes	2,135 (2022)	5	0,427
76	S. Treanţă, *On a class of interval-valued optimization problems*, Continuum Mechanics and Thermodynamics, Vol. 34, No. 2, 617-626, 2022; DOI: 10.1007/s00161-022-01080-0; WOS: 000750352200001; ISSN: 0935-1175; eISSN: 0935-1175.	Yes	1,572 (2021)	1	1,572
77	S. Jha, P. Das, S. Bandhyopadhyay, S. Treanţă, *Well-posedness for multi-time variational inequality problems via generalized monotonicity and for variational problems with multi-time variational inequality constraints*, Journal of Computational and Applied Mathematics, Vol. 407, 114033, 2022; DOI: 10.1016/j.cam.2021.114033; WOS: 000789647800018; ISSN: 0377-0427.	Yes	1,026 (2019)	4	0,2565
78	S. Treanţă, *LU-optimality conditions in optimization problems with mechanical work objective functionals,* IEEE Transactions on Neural Networks and Learning Systems, Vol. 33, No. 9, pp. 4971-4978, 2022; DOI: 10.1109/TNNLS.2021.3066196; WOS: 000733293400001; ISSN: 2162-237X.	Yes	6,108 (2022)	1	6,108

79	F. Shi, G. Ye, W. Liu, D. Zhao, S. Treanţă, *Lagrangian dual theory and stability analysis for fuzzy optimization problems,* Information Sciences, Vol. 657, 119953, 2023; DOI: 10.1016/j.ins.2023.119953; WOS: 001135568400001; ISSN: 0020-0255.	Yes	2,575 (2020)	5	0,515
80	B.B. Upadhyay, A. Ghosh, S. Treanţă, *Constraint Qualifications and Optimality Criteria for Nonsmooth Multiobjective Programming Problems on Hadamard Manifolds,* Journal of Optimization Theory and Applications, 2023; DOI: 10.1007/s10957-023-02301-5; WOS: 001072826900001; ISSN: 0022-3239; eISSN: 1573-2878.	Yes	1,447 (2019)	3	0,482
81	T. Antczak, S. Treanţă, *Solving invex multitime control problems with first-order PDE constraints via the absolute value exact penalty method,* Optimal Control, Applications & Methods, Vol. 44, No. 6, pp. 3379-3395, 2023; DOI: 10.1002/oca.3043; WOS: 001047339200001; ISSN: 0143-2087; eISSN: 1099-1514.	Yes	1,308 (2019)	2	0,654
82	Y. Guo, G. Ye, W. Liu, D. Zhao, S. Treanţă, *Solving nonsmooth interval optimization problems based on interval-valued symmetric invexity,* Chaos, Solitons and Fractals, Vol. 174, 113834, 2023; DOI: 10.1016/j.chaos.2023.113834; WOS: 001053527500001; ISSN: 0960-0779.	Yes	2,135 (2022)	5	0,427
83	S. Treanţă, I. Ahmad, *Controlled nonlinear dynamics generated by isoperimetric constrained optimization problems involving second-order partial derivatives,* Systems and Control Letters, Vol. 179, 105591, 2023; DOI: 10.1016/j.sysconle.2023.105591; WOS: 001047173900001; ISSN: 0167-6911.	Yes	2.276 (2019)	2	1,138
84	T. Saeed, S. Treanţă, *On Sufficiency Conditions for Some Robust Variational Control Problems,* Axioms, Vol. 12, No. 7, 705, 2023; DOI: 10.3390/axioms12070705; WOS: 001034970000001; ISSN: 2075-1680.	Yes	0,602 (2022)	2	0,301
85	S. Treanţă, T. Saeed, *Characterization Results of Solution Sets Associated with Multiple-Objective Fractional Optimal Control Problems,* Mathematics, Vol. 11, No. 14, 3191, 2023; DOI: 10.3390/math11143191; WOS: 001071425400001; eISSN: 2227-7390.	Yes	0,634 (2022)	2	0,317

86	S. Treanţă, T. Saeed, *On Weak Variational Control Inequalities via Interval Analysis,* Mathematics, Vol. 11, No. 9, 2177, 2023; DOI: 10.3390/math11092177; WOS: 000987591300001; eISSN: 2227-7390.	Yes	0,634 (2022)	2	0,317
87	T. Saeed, M.B. Khan, S. Treanţă, H.H. Alsulami, M.S. Alhodaly, *Study of Log Convex Mappings in Fuzzy Aunnam Calculus via Fuzzy Inclusion Relation over Fuzzy-Number Space,* Mathematics, Vol. 11, No. 9, 2043, 2023; DOI: 10.3390/math11092043; WOS: 000987584000001; eISSN: 2227-7390.	Yes	0,634 (2022)	5	0,127
88	F. Jarad, S.K. Sahoo, K.S. Nisar, S. Treanţă, H. Emadifar, T. Botmart, *New stochastic fractional integral and related inequalities of Jensen-Mercer and Hermite-Hadamard-Mercer type for convex stochastic processes*, Journal of Inequalities and Applications, Vol. 2023, No. 1, 51, 2023; DOI: 10.1186/s13660-023-02944-y; WOS: 000964904300001; ISSN: 1029-242X.	Yes	0,634 (2021)	6	0,106
89	M.B. Khan, A.U. Rahman, A.A. Maash, S. Treanţă, M.S. Soliman, *Some New Estimates of Fuzzy Integral Inequalities for Harmonically Convex Fuzzy-Number-Valued Mappings via up and down Fuzzy Relation*, Axioms, Vol. 12, No. 4, 365, 2023; DOI: 10.3390/axioms12040365; WOS: 000980883100001; ISSN: 2075-1680.	Yes	0,602 (2022)	5	0,12
90	S. Treanţă, *On a minimal criterion of efficiency in vector variational control problems*, Optimization Methods and Software, Vol. 38, No. 4, 804-812, 2023; DOI: 10.1080/10556788.2023.2189712; WOS: 000959137400001; ISSN: 1055-6788.	Yes	1,822 (2021)	1	1,822
91	S. Treanţă, T. Antczak, T. Saeed, *Connections between non-linear optimization problems and associated variational inequalities,* Mathematics, Vol. 11, No. 6, 1314, 2023; DOI: 10.3390/math11061314; WOS: 000960275600001; eISSN: 2227-7390.	Yes	0,634 (2022)	3	0,211
92	S. Treanţă, Y. Guo, *The study of certain optimization problems via variational inequalities*, Research in the Mathematical Sciences, Vol. 10, No. 1, 7, 2023; DOI: 10.1007/s40687-022-00372-w; WOS: 000919776900001; ISSN: 2522-0144.	Yes	2,121 (2022)	2	1,06
93	N. Ullah, M.B. Khan, N. Aloraini, S. Treanţă, *Some New Estimates Of Fixed Point Results Under Multi-Valued Mappings in G-Metric Spaces with Application*, Symmetry-Basel, Vol. 15, No. 2, 517,	Yes	0,687 (2022)	4	0,172

	2023; DOI: 10.3390/sym15020517; WOS: 000942396700001; eISSN: 2073-8994.				
94	W. Afzal, W. Nazeer, T. Botmart, S. Treanţă, *Some properties and inequalities for generalized class of harmonical Godunova-Levin functions via center radius order relation*, AIMS Mathematics, Vol. 8, No. 1, 1696-1712, 2023; DOI: 10.3934/math.2023087; WOS: 000915534400007; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
95	W. Afzal, K. Shabbir, S. Treanţă, K. Nonlaopon, *Jensen and Hermite-Hadamard type inclusions for harmonical h-Godunova-Levin functions*, AIMS Mathematics, Vol. 8, No. 2, 3303-3321, 2023; DOI: 10.3934/math.2023170; WOS: 000892283800004; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
96	W. Afzal, K. Shabbir, T. Botmart, S. Treanţă, *Some new estimates of well known inequalities for (h1, h2)-Godunova-Levin functions by means of center-radius order relation*, AIMS Mathematics, Vol. 8, No. 2, 3101-3119, 2023; DOI: 10.3934/math.2023160; WOS: 000885968000006; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
97	K. Das, S. Treanţă, T. Botmart, *Set-Valued Minimax Programming Problems under \sigma-Arcwisely Connectivity*, AIMS Mathematics, Vol. 8, No. 5, 11238-11258, 2023; DOI: 10.3934/math.2023569; WOS: 000949757600001; ISSN: 2473-6988.	Yes	0,738 (2022)	3	0,246
98	M.B. Khan, G. Santos-Garcia, H. Budak, S. Treanţă, M.S. Soliman, *Some new versions of Jensen, Schur and Hermite-Hadamard type inequalities for (p, J)-convex fuzzy-interval-valued functions*, AIMS Mathematics, Vol. 8, No. 3, 7437-7470, 2023; DOI: 10.3934/math.2023374; WOS: 000923463800010; ISSN: 2473-6988.	Yes	0,738 (2022)	5	0,1476
99	Preeti, P. Agarwal, S. Treanţă, K. Nonlaopon, *Penalty approach for KT-pseudoinvex multidimensional variational control problems*, AIMS Mathematics, Vol. 8, No. 3, 5687-5702, 2023; DOI: 10.3934/math.2023286; WOS: 000905180600002; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
100	Ritu, S. Treanţă, D. Agarwal, G. Sachdev, *Robust Efficiency Conditions in Multiple-Objective Fractional Variational Control Problems*, Fractal and Fractional, Vol. 7, No. 1, 18, 2023; DOI: 10.3390/fractalfract7010018; WOS: 000915134100001; ISSN: 2504-3110.	Yes	0,735 (2021)	4	0,1837

101	S.K. Sahoo, H. Alrweili, S. Treanţă, Z.A. Khan, *New Fractional Integral Inequalities pertaining to Center-Radius (cr)-Ordered Convex Functions*, Fractal and Fractional, Vol. 7, No. 1, 81, 2023; DOI: 10.3390/fractalfract7010081; WOS: 000919932800001; ISSN: 2504-3110.	Yes	0,735 (2021)	4	0,1837
102	S. Treanţă, M.B. Khan, S.K. Sahoo, T. Botmart, *Evolutionary problems driven by variational inequalities with multiple integral functionals*, AIMS Mathematics, Vol. 8, No. 1, 1488-1508, 2023; DOI: 10.3934/math.2023075; WOS: 000877225000003; ISSN: 2473-6988.	Yes	0,738 (2022)	4	0,1845
103	S. Treanţă, T. Saeed, *Duality Results for a Class of Constrained Robust Nonlinear Optimization Problems*, Mathematics, Vol. 11, No. 1, 192, 2023; DOI: 10.3390/math11010192; WOS: 000910150300001; eISSN: 2227-7390.	Yes	0,634 (2022)	2	0,317
104	S. Treanţă, *Variational Problems and Applications*, Mathematics, Vol. 11, No. 1, 205, 2023; DOI: 10.3390/math11010205; WOS: 000911040400001; eISSN: 2227-7390.	Yes	0,634 (2022)	1	0,634
Total		**S = 62,2911**			**(S_min = 5)**

8. List of publications of the "individual" candidate or of each member of the research team, in the case of the "research team" candidate, highlighting the relevant publications of the candidate in the last 5 years and the joint publications of the members of a research team, in the case of the candidate "research team". A link to the web page where the candidate's publications can be found is also mentioned.

The most relevant publications (articles, books, edited books, book chapters) of the candidate in the last 5 years have been mentioned in the previous section (see Section 7). However, for a complete list of publications, the reader can consult the following links:

Google Scholar: https://scholar.google.ro/citations?user=RjZrdA8AAAAJ&hl=en

Research Gate: https://www.researchgate.net/profile/Savin-Treanta-2

Web of Science:

https://0d10tfb8q-y-https-www-webofscience-com.z.e-nformation.ro/wos/woscc/summary/f80801e1-43c6-43a2-9f10-531686d65b15-c9c624cc/relevance/1

9. List of research projects won by the candidate and their value.

In the following, I will mention the research fellowships and membership in research teams (as a member or director):

2022 - 2023: project leader/director of the research project "Well-posedness, existence and characterization results of solutions for certain variational problems", Academy of Romanian Scientists, "AOSR-TEAMS" 2022-2023 National Competition (Budget: 10.000 euro)

2022 - Present: founder member of "Fundamental Sciences Applied in Engineering" Research Center, National University of Science and Technology Politehnica Bucharest, 060042 Bucharest, Romania

2021 - 2026: Degree of Merit from the University "Politehnica" of Bucharest

2019 - 2024: member of research team for the project "AG 148 / SGU / NC / II / 10.09.2019 - Opportunities for professional development within the educational process of the Faculty of Applied Chemistry and Materials Science", project leader Cristina Orbeci

2018 - 2019: project leader/director of the research grant "Nonlinear Analysis with Applications in Optimization and Control", National University of Science and Technology Bucharest, National Competition (Budget: 10.000 euro)

2016 - 2017: member of research team for the project "Applied Mathematics in Urbanism", project leader Corina Cipu

2011 - 2014: member of research team for the project "Qualitative study of delay differential equations with applications to modeling and simulation of leukemia therapy", project leader Andrei Halanay

2011 - 2012: BITDEFENDER fellowship (Junior Research Position) at "Simion Stoilow" Institute of Mathematics of the Romanian Academy

10. List of patents filed and accepted, if applicable: not applicable