Curriculum vitae Europass

Informaţii personale

Nume / Prenume	**VOICU Nicoleta**
E-mail	nico.voicu@unitbv.ro
Google Scholar	https://scholar.google.com/citations?user=_zEkdHYAAAAJ&hl=en
ResearchGate	https://www.researchgate.net/profile/Nicoleta-Voicu

Experienţa profesională

2014-prezent	Conferenţiar, Facultatea de Matematică și Informatică, Universitatea *Transilvania* din Brașov. (din 2023 - conducător de doctorat în domeniul Matematică).
2003-2014	Lector universitar, Facultatea de Matematică și Informatică, Universitatea *Transilvania* din Brașov.
2010-2013	Cercetător stagiu post-doctoral, Universitatea *Transilvania* din Brașov.
2000-2003	Asistent universitar, Facultatea de Matematică și Informatică, Universitatea *Transilvania* din Brașov.
1998-2000	Preparator, Facultatea de Matematică și Informatică, Universitatea *Transilvania* din Brașov.

Educaţie şi formare

1997-2003	Doctorat în Matematică, Universitatea Babes-Bolyai, Cluj-Napoca, nivel EQF/CEC 8;
1997-1998	Studii aprofundate, specializarea *Modele matematice și produse software*, Universitatea Transilvania, Brașov, nivel EQF/CEC 7 (media absolvire: 10.00);
1993-1997	Facultatea de Științe a Universității Transilvania, profilul Matematică, specializarea Matematică , nivel EQF/CEC 6 (media absolvire: 10.00).

Aptitudini şi competenţe personale

Limba maternă	**Română**				

Limbi străine cunoscute	Înţelegere		Vorbire		Scriere
	Ascultare	Citire	Participare la conversaţie	Discurs oral	Exprimare scrisă
Engleză	C2	C2	C2	C2	C2
Franceză	C2	C2	C2	C2	C2
Spaniolă	B2	B2	B2	B2	B2
Rusă	B1	B1	B1	B1	B1
Italiană	B1	B2	B1	A2	A2

Germană	A2	B1	A2	A2	A2

(*) Nivelul Cadrului European Comun de Referinţă Pentru Limbi Străine

Competenţe şi abilităţi sociale	Spirit de echipă, uşurinţă în comunicarea cu semenii, abilităţi de mediere, atitudine pozitivă şi activă.
Competenţe şi aptitudini organizatorice	Spirit organizatoric. Experienţă în organizarea de evenimente ştiinţifice. Membru în Comitetele de Management a trei Acţiuni e-COST (CA15117, CA18108, CA 21136).
Competenţe şi aptitudini de utilizare a calculatorului	Soft-uri matematice şi editare de texte ştiinţifice- Maple, Scentific Workplace, LaTex; o bună cunoaştere a instrumentelor Microsoft Office.
Competenţe şi aptitudini artistice	Canto, chitară folk.
Alte competenţe şi aptitudini	Abilităţi sportive: sporturi montane (hiking, schi de tură, mountain bike).
Permis(e) de conducere	Categoria B

Informaţii suplimentare

Publicaţii

- Teza de abilitare: *Mathematical Foundations of Finsler-Based Field Theory,* Univ. *Transilvania* din Braşov, 2023.
- Teza de doctorat**:** *Deviaţii ale geodezicelor în geometria de ordinul al doilea,* Univ. Babeş-Bolyai, Cluj-Napoca, 2003.
- 8 cărţi/capitole de cărţi.
- 53 articole ştiinţifice.
- 1 material editorial.

(Lista completă a publicaţiilor - la sfârşitul acestui document).

Granturi şi proiecte

- Grant DAAD (German Academic Exchange Service) nr. 91808984, program: Research Stays for University Academics and Scientists, 2021.
- e-COST Action CA21136, *Addressing observational tensions in cosmology with systematics and fundamental physics (CosmoVerse),(*membru fondator al Acţiunii, membru în Comitetul de Management, coordonator naţional), 2022-2026.
- e-COST Action CA18108, *Quantum Gravity in the Multimessenger Approach* (membru în Comitetul de Management, coordonator naţional), 2019-2023.
- e-COST Action CA15117, *Cosmology and Astrophysics Network for Theoretical Advances and Training Actions (CANTATA)*, 2017-2020 membru în Comitetul de Management, coordonator naţional).
- 3 granturi *Bursa Universităţii Transilvania,* în: 2013, 2016, 2018.
- *Post-doctoral fellowships for sustainable development* POSTDOC-DD, contract nr. POSDRU/89/1.5/S/59323, Romania (June 2010 - May 2013) (*cercetător - stagiu post-doctoral).*
- Contract nr. 5/5.02.2008 între Academia Română şi Universitatea Politehnică Bucureşti (*membru în echipa de cercetare).*
- Contract nr. 3/3.06.2009 între Academia Română şi Universitatea Politehnică Bucureşti (*membru în echipa de cercetare).*
- Grant CNCSIS AT 55/2006, 2006-2007 (*membru în echipa de cercetare)*

Lucrări şi prelegeri invitate (2015-2024)

- 01.06.2024, *Metric-affine cosmological models and the inverse problem of the calculus of variations,* workshop "Geometric Conservation Laws in Physics", Univ. Torino, Italia.
- 25.10.2023, *Variational completion of differential equations and its applications to gravity theories*,
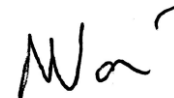
London-Oldenburg Relativity Seminar (online).

- 14.06.2023, *Spatial spherical symmetry and a Birkhoff-type theorem in Berwald spacetimes*, Colloquium on Finsler Geometry and its Applications, 12-16.06.2023, Debrecen, Ungaria.
- 12.01.2023, *The kinetic gas universe,* Star-UBB Seminar Series in Gravitation, Cosmology and Astrophysics (online).
- 24.08.2022, *Cosmological and spherical symmetry in Finsler spacetimes*, lucrare invitata la conferința: New Methods in Finsler Geometry, 24-26.08.2022, Eindhoven Univ. of Technology, Olanda.
- 01.06. 2022*, On the closure property of Lepage equivalents of Lagrangians,* Miniworkshop "Geometric methods in physics", Univ. Torino, Italia.
- 22.04. 2022, *Inequalities from Lorentz-Finsler norms*, Geometry seminar of the Dep. of Mathematics, California State University, Fullerton, USA (online).
- 29.05. 2021, *Cosmological Finsler Spacetimes*, 4th IUCSS Summer School and Workshop on the Lorentz- and CPT-violating Standard-Model Extension, Indiana University, Bloomington, USA (online).
- 25.11.2020, *Variational completion of differential equations and modified theories of gravity,* Center of Applied Space Technology and Microgravity (ZARM), Univ. Bremen, Germania (*online*).
- Mar. 2020, *Mathematical foundations for a Finsler extension of Einstein gravity,* Univ. Murcia, Spania.
- Feb. 2020, *Variational completion of differential equations,* Institute of Physics, Univ. Tartu, Estonia.
- Ian. 2020, *Mathematical foundations for a Finsler extension of Einstein gravity,* 1st Dutch Mathematical Relativity Day, Radboud University, Nijmegen, Olanda.
- Oct. 2019: *The why and how of Finsler field theory,* 4th COST CA15117 CANTATA Meeting, Tuzla, Bosnia-Hertegovina.
- Ian. 2019: *Variational problems in Finsler spacetimes,* Meeting on Lorentz-Finsler Geometry and Applications, Univ. Granada, Spania.
- Aug. 2018: *Finsler and pseudo-Finsler geometry - a fresh look at a century-old problem,* lecture at the 23rd International Summer School on Global Analysis and its Applications, Brasov, Romania.
- Iun. 2018, *A geometric setting for Finslerian field theory,* 3rd IUCSS Summer School on the Lorentz- and CPT-Violating Standard-Model Extension (SME 2018), Indiana University, Bloomington, USA.
- Iun. 2016: *Volume forms in Finsler spacetimes,* invited talk at the *2016 Conference on Riemann-Finsler Geometry,* Nankai University, Tianjin, China.
- Apr. 2016 - *Finslerian spacetime geometry - a brief review,* Univ. Hradec Kralove, Rep. Cehă.
- Ian. 2016 - *An introduction to Finsler-Lagrange geometry and its applications,* Univ. Granada, Spania.
- Aug. 2015: *From Noether currents to Hilbert definition and vice versa - a perspective on energy-momentum tensors,* 20th International Summer School on Global Analysis and its Applications - General Relativity: 100 Years After Hilbert*,* Stara Lesna, Slovacia.

Stagii de cercetare în străinătate (min. 1 lună)
- Univ. Bremen, Germania (01.11-01.12.2021)
- Univ. Tartu, Estonia (01.07- October 31.10.2010)

Organizare de conferințe
- *23rd International Summer School of Global Analysis and Applications, 20-24.08.2018,* Brasov, Romania (co-preşedinte al Comitetului de Organizare)
- 2 ediții ale: *International Conference on Mathematics and Computer Science (MACOS) Braşov*, Romania: 2014, 2016 (membru în Comitetul de Organizare);
- 3 ediții ale: *International Conference Finsler Extensions of Relativity Theory: Brasov*, 2011; Moscova, Rusia, 2012; Debrecen, Ungaria, 2013 (membru în Comitetul de Organizare).

Activitate editorială
- *Membru în Comitetul Editorial* al: International Journal of Geometrical Methods in Modern Physics (IJGMMP), ISSN 0219-8878.
- *Membru în Comitetul Editorial* al: Bulletin of the Transilvania University of Brasov, Series III: Mathematics, Informatics, Physics, ISSN 20652151.
- *Guest Editor* al unui număr special al : International Journal of Geometrical Methods in Modern Physics (IJGMMP), ISSN 0219-8878: Vol. 16(supp02), 2019.

Membru în organizații profesionale
- Lepage Research Institute, Presov, Slovakia, http://www.lepageri.eu/ .

Recenzor	• 2 teze de doctorat: Sjors Heefer (Univ. Tehnica din Eindhoven, cond. st. prof. Luc Florack, 2024), Erico Tanaka (Palacky Univ. Olomouc, Rep. Ceha , cond. st. prof. Demeter Krupka, 2013).

- Journal of Mathematical Physics, ISSN 0022-2488.
- Classical and Quantum Gravity, ISSN 0264-9381.
- General Relativity and Gravitation, ISSN 0001-7701.
- Nonlinear Analysis: Real World Applications, ISSN: 1468-1218.
- International Journal of Geometrical Methods in Modern Physics, ISSN 0219-8878.
- Journal of Mathematical Analysis and Applications, ISSN: 0022-247X.
- Universe, ISSN 2218-1997.
- Symmetry, ISSN: 2073-8994.
- International Journal of Modern Physics A, ISSN: 0217-751X.
- International Journal of Theoretical Physics, 0020-7748..
- Journal of the Physical Society of Japan, 0031-9015.
- Journal of Finsler Geometry and Applications, 2783-0500.
- Journal of Geometry (Springer), ISSN: 1420-8997.
- Bulletin of "Transilvania" University of Brasov, Series III, Mathematics. Informatics. Physics, ISSN 2065-216X.
- Differential Geometry – Dynamical Systems, ISSN 1454-511X.
- Acta Math. Univ. Comenianae, ISSN 0862-9544.
- The Korean Journal of Mathematics, ISSN: 2288-1433.
- Analele ştiinţifice ale Universităţii „Alexandru Ioan Cuza", Iaşi, ISSN 1221-8421.

Data: 03.06.2024.   Conf. dr. Nicoleta VOICU

Nicoleta VOICU (BRÎNZEI)
Lista publicațiilor

I. Cărți și volume de specialitate:

1. **N. Voicu**, C. Pfeifer: Cap. 15, *Finsler Gravity*, in vol. *Modified Gravity and Cosmology*, Springer (2021).

2. **N. Voicu**: Cap. 5, *Source Forms and Their Variational Completions*, in vol. *The Inverse Problem of the Calculus of Variations - Local and Global Theory*, ed. Dmitri Zenkov, Atlantis Press- Springer (2015).

3. Balan V., Rahula M., **Voicu N.**, *Tangent Structures in Geometry and Their Applications*, Editorial URSS Publishers, 2013, ISBN 978-5-396-00588-4.

4. Atanasiu, Gh., Balan, V., **Brînzei, N.**, Rahula, *Differential-Geometric Structures - Tangent Fibrations, Connections in Bundles, Exponential Law and Jet Spaces* (in Russian), Editorial URSS Publishers, 2010, ISBN 978-5-397-00254-7.

5. Atanasiu, Gh., Balan, V., **Brînzei, N.**, Rahula, *Second Order Differential Geometry and Applications - Miron-Atanasiu Theory* (in Russian), Editorial URSS Publishers, 2010, ISBN 978-5-397-00800-6.

6. Stoica, E., Purcaru, M., **Brînzei, N,** *Linear Algebra, Analytic Geometry, Differential Geometry*, Ed. Univ. Transilvania, Brasov, 2008, ISBN 978-973-598-441-0.

7. **Brînzei, N**, *Geodesics and Jacobi Fields in Second Order Geometry* (in Romanian), Ed. Univ. „Transilvania", Braşov, 2007, ISBN 978-973-598-027-6.

8. Atanasiu, Gh., Stoica, E., **Brînzei, N**: *Curves and Surfaces* (in Romanian), MatrixRom, Bucureşti, 2005, ISBN 973-685-979-7.

II. Articole de specialitate:

➢ **Preprint-uri, articole în curs de publicare:**

(i) **N. Voicu,** S. Elgendi, *Metrizability of SO(3)-invariant connections: Riemann versus Finsler,* acceptată spre publicare în: *Classical and Quantum Gravity,* arXiv:2404.02980v2 [math.DG], 2024.

(ii) L. Ducobu, **N. Voicu,** *Metric-affine cosmological models and the inverse problem of the calculus of variations. Part II: Variational bootstrapping of the ΛCDM model,* preprint, arXiv:2406.09540v1 [gr-qc], 2024.

➢ **Publicaţii indexate ISI Web of Knowledge:**

1. L. Ducobu, **N. Voicu,** *Metric-affine cosmological models and the inverse problem of the calculus of variations. Part 1: variational bootstrapping - the method,* European Physical Journal C 84, 585 (2024).

2. **N. Voicu,** C. Pfeifer, S. Cheraghchi, *Birkhoff Theorem for Berwald Finsler spacetimes,* Physical Review D 108, 104060 (2023).

3. S. Cheraghchi, C. Pfeifer, **N. Voicu,** *Four-dimensional SO(3)-spherically symmetric Berwald-Finsler spaces,* International Journal of Geometric Methods in Modern Physics Vol. 20 No. 11, 2350190 (2023).

4. **N. Voicu,** A. Friedl-Szasz, E. Popovici-Popescu, C. Pfeifer, *The Finsler Spacetime Condition for (α, β)-Metrics and Their Isometries,* Universe 2023, 9, 198 (2023).

5. M. Hohmann, C. Pfeifer, **N. Voicu,** *Mathematical foundations for field theories on Finsler spacetimes,* Journal of Mathematical Physics 63, 032503 (2022).

6. **N. Voicu**, S. Garoiu, B. Vasian, *On the closure property of Lepage equivalents of Lagrangians,* Differential Geometry and its Applications 81, 101852 (2022).

7. M. Hohmann, C. Pfeifer, **N. Voicu,** *Canonical variational completion and 4D Gauss−Bonnet gravity,* European Physical Journal Plus 136, 180 (2021).

8. N. Minculete, C. Pfeifer, **N. Voicu,** *Inequalities from Lorentz-Finsler norms,* Mathematical Inequalities and Applications 24(2), 373−398 (2021).

9. M. Hohmann, C. Pfeifer, **N. Voicu,** *The kinetic gas universe,* European Physical Journal C 80, 809 (2020).

10. M. Hohmann, C. Pfeifer, **N. Voicu,** *Cosmological Finsler spacetimes,* Universe 6 (5), 65 (2020).

11. A. Fuster, S. Heefer, C. Pfeifer, **N. Voicu,** *On the non metrizability of Berwald Finsler spacetimes,* Universe 6 (5), 64 (2020).

12. M. Hohmann, C. Pfeifer, **N. Voicu,** *Kinetic gases as direct gravity sources,* Physical Review D 101, 024062 (2020).

13. M. Hohmann, C. Pfeifer, **N. Voicu,** *Finsler gravity action from variational completion,* Physical Review D 100, 064035 (2019).

14. **N. Voicu,** *Conformal maps between pseudo-Finsler spaces,* International Journal of Geometric Methods in Modern Physics 15(01), 1850003 (2018).

15. **N. Voicu,** *Volume forms for time orientable Finsler spacetimes,* Journal of Geometry and Physics 112, 85−94 (2017).

16. **N. Voicu,** *Energy-momentum tensors in classical field theories − a modern perspective,* International Journal of Geometric Methods in Modern Physics, 13, 1640001 (2016).

17. V. Balan, M. Rahula, **N. Voicu,** *Iterative calculus on tangent floors,* Analele Şt. Univ. "Ovidius" Constanţa − Seria Matematică, vol 24 (1), 121−152 (2016).

18. **N. Voicu,** D. Krupka, *Canonical variational completion of differential equations,* Journal of Mathematical Physics 56, 043507 (2015).

19. **N. Voicu,** *Biharmonic curves in Finsler spaces,* Journal of Korean Mathematical Society 51 (6), 1105−1122 (2014).

20. **N. Voicu,** *Biharmonic maps from Finsler spaces,* Publicationes Mathematicae Debrecen, 84 / 3-4 (4) (2014).

21. **N. Voicu,** *Tidal tensors in the description of gravity and electromagnetism,* Journal of Nonlinear Mathematical Physics 19, 1250018 (2012).

22. M. Rahula, Petr Vasik, **N. Voicu,** *Tangent structures: sector-forms, jets and connections,* Journal of Physics: Conference Series (JPCS) 346 (ed. Viktor Abramov), 012023 (2012).

23. **N. Voicu**, *On the fundamental equations of electromagnetism in Finslerian spacetimes*, Progress In Electromagnetics Research, Vol. 113, 83-102 (2011).

24. **N. Voicu,** *New considerations on Einstein equations in pseudo-Finsler spaces,* AIP Conf. Proceedings 1283 (ed. Manuel de León, D. M. de Diego, R. M. Ros), 249-257 (2010).

25. **N. Voicu**, S.V. Siparov, *A new approach to electromagnetism in anisotropic spaces*, BSG Proceedinds 17, 235-245 (Proc. of International Conference on Differencial Geometry and Dynamical Systems (DGDS), Bucharest, 2009, eds. Udriste C; Balan V) (2010) .

26. **N. Voicu–Brinzei**, S. Siparov, *Mathematical formalism for an experimental test of the space-time anisotropy,* AIP Conf. Proceedings 1206 (ed.: Sandip K. Chakrabarti , Al.I. Zhuk, Gennady S. Bisnovatyi-Kogan), 152-162 (2009).

27. Balan, V., **Brinzei, N**.: *Einstein equations for (h,v) - Berwald-Moor relativistic models,* Balkan Journal of Geometry and Its Applications, vol. 11 (2), 20-26 (2006).

28. Balan, V., **Voicu N.***, Distinguished geodesics and Jacobi fields on first order jet spaces,* Central European Journal of Mathematics, 2(4) (2004), pp. 1-10.

➢ *Articole indexate BDI (Zentralblatt, Mathematical Reviews):*

1. V. Balan, G. Yu. Bogoslovsky, S. S. Kokarev, D. G. Pavlov, S. V. Siparov, **N. Voicu**, *Geometrical Models of the Locally Anisotropic Space-Time*, Journal of Modern Physics 3(9A) (2012).

2. **N. Voicu,** *On a new unified geometric description of gravity and electromagnetism,* BSG Proceedings 19, 163-176, (2012).

3. **N. Voicu**, *Connections on tangent bundles, gravito-electromagnetic analogies and a unified description of gravity and electromagnetism*, Bulletin of Transilvania University of Brasov, Series III: Mathematics, Informatics, Physics 4(53), 113–122 (2011).

4. **N. Brinzei**, *On cubic Berwald spaces,* Rev. Bull. Calcutta Math. Society 17(1-2), 75-84 (2009).

5. **N. Brinzei**, *Projective relations for m-th root metric spaces,* Journal of the Calcutta Mathematical Society 5(1-2), 21-35 (2009).

6. **N. Brinzei**, *A Special nonlinear connection in second order geometry*, Acta Mathematica Academiae Paedagogicae Nyíregyháziensis 24(1), 33-49 (2008).

7. Atanasiu, Gh., **Brînzei, N.,** *Maxwell equations on the 2-tangent bundle,* Mathematica, Cluj-Napoca, Tome 49 (2), 107-115 (2007).

8. Atanasiu, Gh., **Voicu, N.**: *Einstein equations in the geometry of second order,* Studia Univ. Babes-Bolyai, Math., Cluj-Napoca 50(3), 21-29 (2005).

9. **Brînzei–Voicu N.**, *The exponential map on the second order tangent bundle,* Studia Univ. Babes-Bolyai, Math. 50(4), 83-96 (2005).

10. Atanasiu, Gh., **Voicu N.**, *Lifts of the Almost Complex Structures to T(Osc²M),* Novi Sad J. Math. 29(3), 35-53 (1999).

➢ *Articole în jurnale de specialitate (neindexate):*

1. **N. Voicu**, *Equations of electromagnetism in some special anisotropic spaces. Part 2,* Hypercomplex Numbers in Geometry and Physics 2 (14), Vol 7, 61-72 (2010).

7

2. **N. Brinzei,** S.V. Siparov, *Equations of electromagnetism in some special anisotropic spaces,* Hypercomplex Numbers in Geometry and Physics, no. 2(10), Vol. 5, 44-55 (2008).

3. **N. Brinzei,** S.V. Siparov, *On the possibility of the OMPR effect in the space with Finsler geometry (Part II),* Hypercomplex Numbers in Geometry and Physics 2 (10), Vol 5, 56-63 (2008).

4. Gh. Atanasiu, **N. Brinzei,** *Einstein equations for the homogeneous prolongation of a Finsler metric to the tangent bundle,* Hypercomplex Numbers in Geometry and Physics 2(8), vol. 4, 53-64 (2007).

5. **N. Brinzei,** S.V. Siparov, *On the possibility of the OMPR effect in the space with Finsler geometry,* Hypercomplex Numbers in Geometry and Physics 2(8), vol. 4, 41-52 (2007).

6. Balan, V., **Brînzei, N.,** Lebedev, S., *Geodesics, connections and Jacobi fields for Berwald-Moor quartic metrics,* Hypercomplex Numbers in Geometry and Physics 2 (6), Vol 3, 113-122 (2006).

7. Atanasiu, Gh., **Brinzei, N.:** *The Berwald-Moor metric in the tangent bundle of second order,* Hypercomplex Numbers in Geometry and Physics, 2(4), 114-122 (2005).

8. Balan, V., **Brinzei, N.:** *Berwald-Moor-type (h,v)-relativistic models,* Hypercomplex Numbers in Geometry and Physics, 2(4), 107-113 (2005).

➢ *Articole în volumele conferințelor internaționale:*

1. **N. Voicu,** *Biharmonic maps between Finsler spaces,* Proc. of the 47-th Symposium on Finsler Geometry Nov. 23 - Nov. 25, 2012, Kagoshima, Japan.

2. **N. Voicu,** *Finslerian connections and the equations of spinning charged particles in General Relativity,* Proc. of 11th Int. Conf. of Applied Mathematics, Bratislava, Feb. 7th − 9th , 2012.

3. **N. Voicu,** *Tangent bundle geometry and a unified description of gravity and electromagnetism,* Proc. of the Int. Conf. "Riemannian Geometry and Its Applications", București, 2011.

4. **N. Voicu–Brinzei,** *Anisotropy and analogies between gravity and electromagnetism,* Proc. of Int. Conf. "Physical Interpretations of Relativity Theory", Moscova, 2009, pp. 124-132.

5. Atanasiu, Gh., **Brinzei, N.,** *Einstein equations in the higher order differential geometry,* Proc. of int. Meeting "Physical Interpretations of Relativity Theory", 4.07-7.07.2005, Bauman Moscow St. Tech. Univ., pp. 255-262.

➢ *Material editorial:*

1. *N. Voicu, Preface,* International Journal of Geometrical Methods in Modern Physics (IJGMMP), ISSN 0219-8878: Vol. 16(supp02), 2019.