

Curriculum vitae

Name	BREAZ SIMION SORIN		
Date of birth	08.07.1971		
Title	PhD		
Address	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica Str. M. Kogalniceanu 1, 400084 Cluj-Napoca, Romania		
E-mail	bodo@math.ubbcluj.ro		
Academic degrees	Date	Institution	
PhD in Mathematics	06.2002	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica	
M.A. in Commutative Algebra	07.1996	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica	
B.A. in Mathematics	07.1995	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica	
Professional background	Period		Intitution
Teacher of Mathematics	01.09.1995— 31.08.1997	Titular	Grup Scolar Tehnofrig, Cluj- Napoca
Teacher of Mathematics	01.09.1997— 30.09-1998	Titular	Liceul teoretic Lucian Blaga, Cluj-Napoca
Assistant professor (candidate)	01.10.1998— 30.09.1999	Titular	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica
Assistant professor	01.10.1999— 28.03.2003	Titular	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica
Lecturer	01.03.2003— 25.02.2006	Titular	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica
Associate professor	26.02.2006— prezent	Titular	Universitatea Babes-Bolyai, Facultatea de Matematica si Informatica
Publications and other results for the scientific activity			Number
Books, monographs			5
Papers in journals indexed in Mathscinet and Web of Science			29
Papers indexed in Mathscinet			17
International conferences			19
Membru în comitete de organizare sau științifice ale unor conferințe			4
National awards			2

Date:

5.01.13

Signature:

1. Scientific interests

Mathematics: General (MSC00);

Algebra: Group Theory (MSC20), Module Theory (MSC16, 17), Categories and applications (MSC18), Logic and Set Theory (MSC03)

2. Academic activities

i) Editorships

- Scientific secretary for the journal *Mathematica (Cluj)*
- Editor for the journal *Studia Universitatis Babes-Bolyai, Seria Mathematica*
- Referee for various journals, e. g. *Journal of Pure and Applied Algebra*, *Central European Journal of Mathematics*, *Bulletin of the London Mathematical Society*, *Revista Mathematica Complutense*, *Mathematical Reports*, *International Electronic Journal of Algebra*, *Analele Universității Ovidius*, *Studia Universitatis Babes-Bolyai*, *Mathematica etc.*

ii) Administrative activities

- Head for Chair of Algebra UBB, 2008—2009.
- Head for Chair of Algebra, Analysis and Geometry, UBB, 2009—March 2012

iii) Membership

- AMS,
- SSMR
- CNACTDU (2011-2012)

iv) International conferences and meetings

- Algebra Symposium, Cluj-Napoca, 2005
- International Conference On *Modules And Representation Theory* Cluj-Napoca, 2008

v) National meetings

- Algebra Symposium, Cluj-Napoca 2001
- Algebra Symposium, Cluj-Napoca 2009

3. Didactical activities

i) Courses and seminars

Basic Algebraic Structures (B.A.); Linear Algebra (B.A.); Algebra (B.A., for Computer Science); Module Theory (M.A.); Abelian Groups (M.A.); Number Theory (B.A.); Number

Theory and Combinatorics (M.A.-didactic); Galois Theory (B.A.); Logic and Set Theory (B.A.); Temporal Logic (M.A., for Computer Science).

ii) Scientific coordinator

Bachelor theses (approx. 2/year), Master theses (1/year), Didactical theses for math teachers.

4. Foreign languages

English: good level

5. Awards

- „Gheorghe Lazăr“ prize (for research), Romanian Academy, 2012 (for 2010).
- „In Hoc Signo Vinces“ (for research), CNCSIS in 2006
- Merit Diploma, UBB 2006
- Award for Scientific monograph, UBB 2005

6. Scientific activity

i) Editor for volumes published at Romanian publishing houses:

- Editor for *Proceedings of the Algebra Symposium, Cluj-Napoca, 2005* (with C. Săcărea), Ed. EFES, 2006.
- Editor for *Proceedings of the International Conference on Modules and Representation Theory*, Ed. Presa Universitara Clujeană, 2009. (with S. Crivei, A. Mărcus)

ii) Grants

I was Principal Investigator in 5 projects financed by UEFISCDI, CNCSIS, CNCS:

1. *Equivalences of categories and applications*, 5000 lei, CNCSIS, 2004.
2. *Equivalences of categories and applications in formal languages and cognitive systems*, 10000 lei, CNCSIS, 2005.
3. *Equivalences and dualities between module categories*, 144000 lei, CEEX-ET, 2005-2007.
4. *Torsion and cotorsion classes*, 596700 lei, CNCSIS - PNCDI II, 2007-2010.
5. *Functors on module categories*, UEFISCDI-CNCS, TE, 750000 lei, 2011-2014.

iii) Conferences and research seminars:

- Universal Algebra and Lattice Theory, Szeged, Hungary, June 21–25, 2012 (talk: Direct products and homomorphisms): <http://www.math.u-szeged.hu/algebra2012/>
- Workshop, ICRA2012.

- Some Trends in Algebra, Prague, September 2011 (invited talk: Commuting properties of Hom and Ext functors)
- ICTAMI 2011, Alba-Iulia, 2011 (plenary talk: Commuting properties of Hom and Ext functors)
- Seminario Padova - Verona MALGA, 2010 (invited talk: Dualities and self-small groups of finite torsion-free rank)
- Some Trends in Algebra, Prague, September 2009 (invited talk: Modules determined by their annihilator classes)
- ICTAMI 2009, Alba-Iulia, 2009 (invited talk: Commutativity conditions using subgroup lattices)
- Institutul Renyi, Academia Ungara, conferinta: Comutativity conditions using normal subgroup lattices (2008).
- Catedra de Algebra, Charles University, Prague, Octombrie 2007 Conferinta Abelian groups with the same orthogonal classes.
- International Conference on Abelian Groups and Modules over Commutative Rings, Department of Mathematics, University of Connecticut June 11-15, 2007 (talk: From tffr groups to mixed groups)
- Catedra de Algebra, Charles University, Prague, April 2005 (Self-small groups of finite torsion free rank).
- Some Trends in Algebra, Prague, September 2007 (talk: Warfield dualities for mixed groups)
- 6-th Congress of Romanian Mathematicians Bucuresti, 28 iunie - 4 iulie 2007(talk: From tosion-free groups to mixed groups).
- 5-th International Conference on Theory and Applications of Mathematics and Informatics - ICTAMI 2007 Alba Iulia, 30 August 2 September 2007 (talk: Every Abelian group is determined by a subgroup lattice).
- Conference on Lattice Theory, In honour of the 70th birthday of George Gratzer and E. Tamas Schmidt, Budapest, Hungary, June 6-9, 2006 (talk: Every Abelian group is determined by a subgroup lattice)
- Some Trends in Algebra, Prague, September 2005 (talk: Finitistic n-costar modules)
- ICTAMI 2005, Albac, Alba, Septembrie 2005 (talk: Finitistic n-costar modules)
- "Algebra Symposium", Cluj-Napoca, May 2005 (talk: Self-small groups of finite torsion free rank).
- International Conference on Representation theory of Groups, Algebras and Orders, Constanta, 25 September - 6 October 1995.
- 5th Budapest-Chemnitz-Prague-Torun Algebra Symposium, Budapest, June 14 -16, 2001 (talk: Self-small abelian groups with semi-local Walk-endomorphism ring)
- „Algebra Symposium”, Cluj-Napoca, 23-24 November 2001 (talk: Classes of self-small groups)
- Summer School on "Representation Theory of Algebras, finite and reductive groups", Cluj-Napoca, 15-25 September 1997

iv) International research programs

1. Self-c-injective groups, Kuwait University, 2005 (coordinator Gr. Călugăreanu)
2. CEEPUS RO-147/2004-2005 (coordinator A. Marcus)

v) Reviewer

Mathematical Reviews (approx. 4 reviews/year) and Zentralblatt für Mathematik (approx 10 reviews/year)

Date:

05.01.2013

Signature:

Papers

(A) Papers published in journals indexed MathSciNet and Web of Science

1. **Simion Breaz** : Modules M such that $\text{Ext}^1(M, -)$ commutes with direct limits, *Algebras and Representation Theory*, 10.1007/s10468-012-9382-y
2. **Simion Breaz, Phill Schultz**: When Ext Commutes With Direct Sums, *J. Algebra Appl.*, 11, 1250153 (2012) [4 pages]
3. **Breaz, Simion**: Direct products and the hom-contravariant functor, *Bull. London Math. Soc.* 44 (2012), 136-138
4. **Ulrich Albrecht, Simion Breaz, Phill Schultz**, The Ext functor and self-sums, *Forum Math.*, DOI: 10.1515/forum-2011-0141
5. **Breaz, Simion, Schultz, Phill** : Dualities for self-small groups, *Proc. Amer. Math. Soc.* 140 (2012), no. 1, 69--82. MR2833518
6. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : S^* -groups. *J. Algebra Appl.* 10 (2011), no. 2, 357--363. MR2795743 (2012d:20116)
7. **Breaz, Simion** : Warfield dualities induced by self-small mixed groups. *J. Group Theory* 13 (2010), no. 3, 391--409. MR2653527 (2011f:20125)
8. **Breaz, Simion, Trlifaj, Jan** : Modules determined by their annihilator classes. *J. Lond. Math. Soc. (2)* 81 (2010), no. 1, 225--240. MR2580462 (2011f:16013)
9. **Albrecht, Ulrich, Breaz, Simion** : A note on mixed A-reflexive groups. *J. Algebra* 323 (2010), no. 2, 509--516. MR2564852 (2010k:20095)
10. **Breaz, Simion** : Commutativity criterions using normal subgroup lattices. *Rend. Semin. Mat. Univ. Padova* 122 (2009), 161--169. MR2582835 (2011b:20081)
11. **Albrecht, Ulrich, Breaz, Simion** : Quasi-isomorphisms and groups of quasi-homomorphisms. *J. Algebra Appl.* 8 (2009), no. 5, 617--627. MR2581988 (2011a:20136)
12. **Breaz, Simion** : Finitistic n-self-cotilting modules. *Comm. Algebra* 37 (2009), no. 9, 3152--3170. MR2554194 (2011c:16019)
13. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : Self-small abelian groups. *Bull. Aust. Math. Soc.* 80 (2009), no. 2, 205--216. MR2540354 (2010m:20083)
14. **Breaz, S., Pelea, C., Purdea, I.** : Products of hypergroupoids associated to binary relations. *Carpathian J. Math.* 25 (2009), no. 1, 23--36. MR2523036 (2010h:20164)
15. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : A-solvability and mixed abelian groups. *Comm. Algebra* 37 (2009), no. 2, 439--452. MR2493712 (2010i:20070)

16. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : Finitely A-cogenerated abelian groups. *Houston J. Math.* 34 (2008), no. 2, 409--421. MR2417401 (2009e:20123)
17. **Breaz, Simion, Călugăreanu, Grigore** : Every abelian group is determined by a subgroup lattice. *Studia Sci. Math. Hungar.* 45 (2008), no. 1, 135--137. MR2401171 (2009b:20102)
18. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : Purity and self-small groups. *Comm. Algebra* 35 (2007), no. 11, 3789--3807. MR2362684 (2008j:20171)
19. **Albrecht, Ulrich, Breaz, Simion, Vinsonhaler, Charles, Wickless, William** : Cancellation properties for quotient divisible groups. *J. Algebra* 317 (2007), no. 1, 424--434. MR2360157 (2008j:20170)
20. **Breaz, Simion, Žemlička, Jan** : When every self-small module is finitely generated. *J. Algebra* 315 (2007), no. 2, 885--893. MR2351899 (2008g:16002)
21. **Breaz, Simion, Călugăreanu, Grigore** : Self-c-injective abelian groups. *Rend. Sem. Mat. Univ. Padova* 116 (2006), 193--203. MR2287346 (2007i:20082)
22. **Albrecht, Ulrich, Breaz, Simion, Wickless, William** : The finite quasi-Baer property. *J. Algebra* 293 (2005), no. 1, 1--16. MR2173963 (2006g:20097)
23. **Breaz, Simion, Călugăreanu, Grigore** : Abelian groups whose subgroup lattice is the union of two intervals. *J. Aust. Math. Soc.* 78 (2005), no. 1, 27--36. MR2129487 (2005m:20131)
24. **Breaz, Simion** : A Morita type theorem for a sort of quotient categories. *Czechoslovak Math. J.* 55(130) (2005), no. 1, 133--144. MR2121661 (2005m:16008)
25. **Breaz, Simion** : Quasi-decompositions for self-small abelian groups. *Comm. Algebra* 32 (2004), no. 4, 1373--1384. MR2100362 (2005k:20131)
26. **Breaz, Simion** : The quasi-Baer-splitting property for mixed abelian groups. *J. Pure Appl. Algebra* 191 (2004), no. 1-2, 75--87. MR2048307 (2005c:20096)
27. **Breaz, Simion** : Self-small abelian groups as modules over their endomorphism rings. *Comm. Algebra* 31 (2003), no. 10, 4911--4924. MR1998035 (2004f:20095)
28. **Breaz, Simion** : Almost-flat modules. *Czechoslovak Math. J.* 53(128) (2003), no. 2, 479--489. MR1983467 (2004d:16007)
29. **Breaz, Simion** : On a class of mixed groups with semi-local WALK-endomorphism ring. *Comm. Algebra* 30 (2002), no. 9, 4473--4485. MR1936485 (2003m:20073)

(B) Lucrări apărute și indexate MathSciNet

30. **U. Albrecht, S. Breaz, P. Schultz**: Functorial properties of Hom and Ext, in *Groups and Model Theory*, L. Strungmann (ed.) et al., Contemporary Mathematics, vol . 576 (2012), 1—15.
31. **Breaz, Simion, Călugăreanu, Grigore, Schultz, Phill** : Modules with Dedekind finite endomorphism rings. *Mathematica* 53(76) (2011), no. 1, 15--28. MR2840625
32. **Breaz, Simion, Pop, Flaviu** : Dualities induced by right adjoint contravariant functors. *Stud. Univ. Babeş-Bolyai Math.* 55 (2010), no. 1, 75--83. MR2645961 (2011e:18006)
33. **Breaz, Simion, Modoi, George Ciprian** : A reformulation of Brown representability theorem. *Mathematica* 51(74) (2009), no. 2, 129--133. MR2682252 (2011d:18017)
34. **Breaz, Simion, Modoi, George Ciprian, Pop, Flaviu** : Natural equivalences and dualities. *Proceedings of the International Conference on Modules and Representation Theory*, 25--40, Presa Univ. Clujeană, Cluj-Napoca, 2009. MR2603201 (2011c:16018)
35. **Breaz, Simion** : The number of Remak decompositions of a finite abelian group. *Mathematica* 50(73) (2008), no. 2, 159--168. MR2543442 (2010h:20123)
36. **Breaz, Simion, Pelea, Cosmin** : Professor Grigore Călugăreanu at his 60th anniversary. *Stud. Univ. Babeş-Bolyai Math.* 52 (2007), no. 2, 3--8. MR2365158
37. **Breaz, Simion** : Self-small abelian groups of finite torsion free rank. *Proceedings of the Algebra Symposium*, 17--30, Editura EFES, Cluj-Napoca, 2006. MR2338591 (2009c:20100)
38. **Albrecht, U., Breaz, S., Wickless, W.** : Generalized endoprimal abelian groups. *J. Algebra Appl.* 5 (2006), no. 1, 1--17. MR2211407 (2007b:20114)
39. **Khazal, R. R., Breaz, S., Călugăreanu, G.** On torsion-free periodic rings. *Int. J. Math. Math. Sci.* 2005, no. 14, 2321--2327. MR2177825 (2006h:16051)
40. **Breaz, Simion, Modoi, Ciprian** : On a quotient category. *Studia Univ. Babeş-Bolyai Math.* 47 (2002), no. 2, 17--29. MR1989587 (2004e:18017)
41. **Breaz, Simion, Călugăreanu, Grigore** : Abelian groups have/are near Frattini subgroups. *Comment. Math. Univ. Carolin.* 43 (2002), no. 3, 395--405. MR1920516 (2003d:20075)
42. **Pelea, Cosmin, Breaz, Simion** : Multialgebras and term functions over the algebra of their nonvoid subsets. *Mathematica* 43(66) (2001), no. 2, 143--149 (2003). MR2002645 (2004g:08002)
43. **Breaz, Simion, Modoi, Ciprian** : Abelian groups such that the class of adstatic modules is closed under submodules. *Mathematica* 43(66) (2001), no. 2, 137--141 (2003). MR2002644
44. **Breaz, Simion** : Self-small torsion free abelian groups. *Mathematica* 42(65) (2000), no. 1, 3--7 (2001). MR2002450

45. **Breaz, Simion, Modoi, Ciprian** : Colimits in the category of A-solvable modules. *Mathematica* 42(65) (2000), no. 2, 121--128 (2001). MR1988617 (2004c:16009)

(C) Lucrări în curs de apariție

46. **Simion Breaz** : When Ext^1 commutes with direct unions, preprint

(D) Cărți, tratate, monografii

47. **Simion Breaz, Grigore Călugăreanu, Ciprian Modoi, Cosmin Pelea, Valcan Dumitru**, *Exercises in Abelian Group Theory*, Kulwer Academic Publishers, 2003, P. 395
48. **Simion Breaz, Grigore Călugăreanu**, *Fundamentele teoriei grupurilor abeliene*, EDITURA ACADEMIEI ROMANE , BUCURESTI, 2005, P. 349
49. **Simion Breaz**, *Module peste inele de endomorfisme*, Editura Fundatiei pentru Studii Europene , Cluj-Napoca , 2006, P. 129
50. **Covaci Rodica, Breaz Simion**: *Elemente de logica, teoria multimilor si aritmetica*, Editura Fundatiei pentru Studii Europene , Cluj-Napoca , 2006, P. 284
51. **Simion Breaz, Tiberiu Coconet, Carolina Contiu**, *Lectii de Algebra*, Editura Eikon, Cluj-Napoca, 2010.

Lucrări care citează (cf. Google Scholar):

- i) P. Schultz, Commuting Properties of Ext, *Journal of the Australian Mathematical Society*, va apărea; citează: [1], [2], [3], [11], [43]—[45].
- ii) B. Goldsmith, O. Kolman: On cosmall abelian groups, *Journal of Algebra* 317 (2009), 510–518; citează: [11]

- iii) E. Mermut, C. Santa-Clara, P. F. Smith, Injectivity relative to closed submodules, *Journal of Algebra*, 321 (2009), 548–557; citează: [19]
- iv) A. Fomin, Quotient divisible and almost completely decomposable groups, Göbel, Rüdiger (ed.) et al., *Models, modules and Abelian groups*. In memory of A. L. S. Corner. Berlin: Walter de Gruyter, 2008, 147-167; citează: [17]
- v) J. Zemlicka, When Products of Self-Small Modules are Self-Small, *Communications in Algebra*, 36 (2008), 2570-2576; citează: [18]
- vi) C. Pelea, I. Purdea, Multialgebras, universal algebras and identities, *J. Aust. Math. Soc.* 81 (2006), 121-139; citează: [39]
- vii) M. T. Kosan, J. Zemlicka: Mod-retractable rings, preprint 2010; citează: [6], [18].
- viii) G.C. Modoi, A representability theorem for some huge abelian categories, arXiv:1003.5937, va apărea în *Homology, Homotopy and Applications*; citează: [30]
- ix) P. A. Krylov and A. A. Tuganbaev, Modules over discrete valuation domains. I, *Journal of Mathematical Sciences*, 145 (2007), 4997-5117; citează: [27]
- x) P. A. Krylov and A. A. Tuganbaev, Modules over discrete valuation domains. II, *Journal of Mathematical Sciences*, 151 (2008), 3255-3371; citează: [27]
- xi) P. A. Krylov and A. A. Tuganbaev, Modules over discrete valuation domains. *de Gruyter Expositions in Mathematics*, 43, 2008; citează: [27]
- xii) F. Pop, Natural dualities between abelian categories, *Central European Journal of Mathematics*, 9 (2011), 1088-1099; citează: [10], [22], [26], [29], [31], [37].
- xiii) M. K. Azarian, Near Frattini subgroups of certain generalized free products of groups, *International Journal of Pure and Applied Mathematics*, 28 (2006), 377-385; citează: [38]
- xiv) M. K. Azarian, Conjectures and Questions Regarding Near Frattini Subgroups of Generalized Free Products of Groups, *International Journal of Algebra*, 5 (2011), 1-15; citează: [38]
- xv) S. Crivei, S. Szöllosi-Suteu, Subgroup lattice algorithms related to extending and lifting Abelian groups. *Int. Electron. J. Algebra* 2, 54-70; citează [47]
- xvi) Gr. Calugareanu, R. R. Khazal, Distributivity and IM-lattices, *Italian Journal of Pure and Applied Mathematics*, 15 (2004), 175-184; citează: [38]
- xvii) Jeremy F. Alm and Aaron VanWinkle "0-1 embeddings of M_1 in abelian subgroup lattices", *International Electronic Journal of Algebra*, va apărea; citează [15]
- xviii) Wang Li, Small and I-modules, *Journal of Jiamusi University: Natural Science* 2, 2010; citează: [18]
- xix) M. Barry, P. C. Diop, On Commutative FDF-Rings, *International Mathematical Forum*, 6 (2011), 2637 - 2644; citează: [29]
- xx) C. Pelea, I. Purdea, A characterization theorem for complete multialgebras, *Mathematica*, Tome 46 (69), No 2, 2004, pp. 205–211; citează: [39]
- xxi) R. Ameri, T. Nozari, Term Functions and Fundamental Relation of Fuzzy Hyperalgebras, *Ratio Mathematica*, 20 (2010), 43-65; citează: [39]
- xxii) R. Ameri, T. Nozari, A connection between categories of (fuzzy) multialgebras and (fuzzy) algebras, *Italian Journal of Pure and Applied Mathematics*, 27 (2010), 201-208; citează: [39]
- xxiii) M. Taheri, Equalities in a Variety of Multiple Algebras, *World Academy of Science, Engineering and Technology* 70 (2010), 781-783; citează: [39]
- xxiv) M. Taheri, Assessing the Relation between Theory of Multiple Algebras and Universal Algebras, *World Academy of Science, Engineering and Technology* 69 (2010), 776-780; citează: [39]
- xxv) M. Bodea, The Nature of Mathematical Elements, *Logos Architekton, Journal of Logic and Philosophy of Science*, vol. 4 (2010); citează [50]

