

Vasile Brînzanescu

Born:

October 11, 1945; Desa, Dolj, Romania

Present position:

Senior Researcher I & Deputy Director

Address:

Institute of Mathematics of Romanian Academy,
P.O. Box 1-764, RO-70700 Bucharest, Romania

Home address:

Str. Spatar Milescu Nicolae 16,
73354 Bucharest, Romania

Degrees:

- Master, Mathematics, University Bucharest 1968
- Ph.D., Mathematics, University Bucharest 1978

Research interests:

- Algebraic Geometry
- Complex Geometry
- Differential Geometry and Topology (Vector Bundles over Complex Manifolds)

Professional experience:

- Research Fellow, Institute of Mathematics of Romanian Academy, 1968-1975
- Research Fellow, Institute of Automations Bucharest, 1975-1976
- Assistant (Instructor), Technical University Bucharest, 1976-1978
- Assistant Professor, Technical University Bucharest, 1978-1990
- Associate Professor, Technical University Bucharest, 1990-1992
- Senior Researcher II, Institute of Mathematics of Romanian Academy, 1992-1994
- Senior Researcher I & Deputy Director, Institute of Mathematics of Romanian Academy, 1994-present

Awards:

- *Simion Stoilow* prize of the Romanian Academy, 1986
- Prize for *excellence in research* of the Romanian Society of Mathematicians, 1996
- Teaching Award of the Ministerium of Education, 1986

Grants:

- Humboldt stipend, München University (Prof. Dr. O. Forster), September 1990-December 1991
- Max-Planck-Institut für Mathematik, Bonn (Prof. Dr. F. Hirzebruch), February-July 1994.
- Kaiserslautern University (Prof. Dr. G. Trautmann), January-February 1999.

Organizations:

- Romanian Society of Mathematicians
- American Mathematical Society
- International Centre for Theoretical Physics Trieste, Italy (regular associate 1995--2000)

Other professional activities:

- Co-organized an international conference on *Algebraic Geometry and Algebra*, Constantza, September 1996
- Organized the international conference of the Institute of Mathematics, Bucharest, June 1999
- Co-organized a summer school on *Algebraic Geometry*, Pitesti, August 2000
- Courses taught at *SISSA*, Trieste, Italy, 1995, for doctorands in Geometry (Vector Bundles over Surfaces) and Kaiserslautern University, Germany, 1999.
- Courses taught at *Technical University*, Bucharest 1976-1992: *Linear Algebra, Analytic and Differential Geometry, Mathematical Analysis, Differential Equations, Complex Analysis and Operational Calculus, Special Mathematics, Discrete Mathematics and Code Theory, Mathematical Physics Equations, Differential Geometry and Control Systems*
- Courses taught at *University*, Bucharest 1993-2001: *Geometry of Complex Manifolds, Local Algebra, Spectral Riemannian Geometry, Fundaments of Mathematics, Algebra II, Special classes of rings and modules.*
- Courses taught at *University*, Pitesti 2000-2001: *Curves and surfaces in space, Differential Geometry.*

Reviewing & Refereeing activities:

- Frequent refereeing articles for journals
- Reviewing of journal articles for *Mathematical Reviews* and for *Zentralblatt für Mathematik*
- Frequent refereeing of grant proposal: Romanian Academy, Research Ministerium, DAAD stipends, doctoral grants, european grants.

Theses directed and co-directed:

- V. Vuletescu (not formally my PhD student): *Riemannian Submersions and Vector Bundles*, Bucharest University, 1995.
- M. Aprodu: *Vector Bundles over Complex Surfaces*, Institute of Mathematics, 1996.
- N. Rabanca: *Spectrum of Modules*, Institute of Mathematics, 1999.
- M.A. Aprodu (not formally my PhD student): *Harmonic Morphisms*, Bucharest University, 2000.

Visiting Professor:

- Göttingen University, SFB 170 Geometrie und Analysis, October-December 1992
- International Centre for Theoretical Physics, Trieste, March-May 1995
- Max-Planck-Institut für Mathematik Bonn, January-June 1996
- International Centre for Theoretical Physics, Trieste, June-August 1997
- Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette, February-April 1998
- Edinburgh University, March 1999
- International Centre for Theoretical Physics, Trieste, July-September 1999

Talks at Mathematical Colloquia:

12 talks at Mathematical Colloquia abroad and 25 talks at Mathematical Colloquia in Romania.

Talks as Invited Professor abroad:

- Humboldt University Berlin: January 1974, November 1985, July 1991
- Max-Planck-Institut für Mathematik Bonn: November 1991, May 1994, March 1996
- München University: October 1990, May 1991, November 1991
- Konstanz University: November 1991
- Warsaw University: September 1991
- Bologna University: October 1991, June 1997
- Ferrara University: October 1991
- Göttingen University: November 1992
- Köln University: May 1994, June 1994
- Trieste University: April 1995, June 1997, September 1999
- ICTP Trieste: May 1995, August 1997, September 1999
- Ecole Polytechnique Paris: April 1996
- Bochum University: May 1996
- Frankfurt University: May 1996
- Kaiserslautern University: February 1999
- Edinburgh University: March 1999
- Dortmund University: July 2000

Departmental and University Service:

- Member of the Scientific Council of the Institute of Mathematics 1975-1978, 1992-present
- Member of the Professoral Council of the Faculty of Automations and Computer Science, 1980-1991
- Member of the *National Comitee for Mathematical Competitions*, 1978-1990
- Deputy Director, Institute of Mathematics of Romanian Academy 1994-present.

Publications

Scientific Papers and Research Monographies

1. *Caracterizarea imersiilor unei scheme în Proj(S)*, St. Cerc. Mat., tom 22, nr. 8, p. 1155-1158, (1970); MR-5010, vol. 49:3
2. *Sur une lemme de calcul formel*, Rev. Roum. Math. Pures Appl., Tome 16, Nr. 7, p. 1047-1050, (1971); MR-6826, vol. 45:5
3. *Asupra scufundarilor Veronese*, St. Cerc. Mat., tom 26, nr. 5, p. 625-629, (1974); MR-5558, vol. 56
4. *Asupra coomologiei spatiului proiectiv*, St. Cerc. Mat., tom 27, nr. 4, p. 387-392, (1975); (joint with M. Stoia); MR-2969, vol. 53:2
5. *Sur le polynome de Hilbert-Samuel d'un morphisme d'espaces complexes*, C. R. Acad. Sci. Paris, t. 282 A, p. 215-217, (1976); (joint with C. Banica); MR-5929, vol. 53:3
6. *Hilbert-Samuel polynomials of a complex of modules*, Comm. in Alg. 5 (7), p. 733-742, (1977); (joint with C. Banica); MR-10448, vol. 55:10
7. *Hilbert-Samuel polynomials of a proper morphism*, Math. Z., 158, p. 107-124, (1978); (joint with C. Banica); MR-11.497, vol. 58
8. *The Hilbert-Samuel polynomials of a proper morphism*, Proc. Romanian-Finnish Seminar on Complex Analysis, Bucharest 1976, Lect. Notes Math. 743, p. 399-401, Springer 1979; MR. 81f:32014
9. *Fibrat vectoriale pe varietati algebrice-Polinoame Hilbert-Samuel relativ la morfisme proprii*, St. Cerc. Mat., tom 32, nr. 1, p. 3-42, (1980); MR. 81m:14012
10. *Topologically trivial algebraic 2-vector bundles on ruled surfaces I*, Rev. Roum. Math. Pures Appl., 29, 8, p. 661-673, (1984); (joint with M. Stoia); MR. 86g:14007a
11. *Topologically trivial algebraic 2-vector bundles on ruled surfaces II*, Proc. Conf. Alg. Geom. Bucharest 1982, Lect. Notes Math. 1056, p. 34-46, Springer 1984; (joint with M. Stoia); MR. 86g:14007b
12. *Holomorphic 2-vector bundles on nonalgebraic 2-tori*, J. reine angew. Math., 363, p. 47-58, (1985); (joint with P. Flondor); MR. 87h:32055
13. *Quadratic intersection form and 2-vector bundles on nonalgebraic surfaces*, Proc. Conf. Alg. Geom. Berlin 1985, Teubner, Band 92, 1986; (joint with P. Flondor); MR. 89d:32061
14. *Simple filtrable 2-vector bundles on complex surfaces without divisors*, Rev. Roum. Math. Pures Appl., 31, No. 5, p. 507-512, (1986); (joint with P. Flondor); MR. 88b:32065

15. *Focal conics in A-type smectic liquid crystals*, Rev. Roum. Physics, 31, No. 5, p. 517-522, (1986); (joint with S. Frunza et al.; 4 authors)
16. *Invariant differential systems and local controlability*, Proc. Intern. Conf. on Automatic Systems, Bucharest 1987; (joint with P. Flondor et al.; 3 authors)
17. *Fibrati vectoriali pe suprafete nealgebrice*, Vol. *Analiza Complexa*, Edit. St. Encicl., Bucuresti 1988; (joint with P. Flondor); 32 p.
18. *Algebraic 2-vector bundles on ruled surfaces*, Ann. Univ. Ferrara - Sez. VII - Sc. Mat., vol. XXXVII, p. 55-64, (1991); MR. 94a:14014
19. *Lagrange polynomials in the Riemann-Roch formalism*, Rev. Roum. Math. Pures Appl., 37, (8), p. 369-370, (1992); MR. 93h:14006
20. *Neron-Severi group for nonalgebraic elliptic surfaces I; Elliptic bundle case*, Manuscripta Math., 79, p. 187-195, (1993); MR. 94g:32036
21. *The Picard group of a primary Kodaira surface*, Math. Ann., 296, p. 725-738, (1993); MR. 94f:32056
22. *A simple proof of a Bogomolov type inequality in the case of nonalgebraic surfaces*, Rev. Roum. Math. Pures Appl., 38, No. 7-8, p. 631-633, (1993); MR. 95a:32052
23. *Neron-Severi group for nonalgebraic surfaces II; nonkählerian case*, Manuscripta Math., 84, p. 415-420, (1994); MR. 95j:32043
24. *Torsion of the Neron-Severi group for primary Kodaira surfaces*, Rev. Roum. Math. Pures Appl., 39, No. 10, p. 927-931, (1994); MR. 97f:14033
25. *Holomorphic vector bundles over compact complex surfaces*, Lect. Notes Math. 1624, Springer 1996; 180 p. (research monography)
26. *Neron-Severi group for torus quasi-bundles over curves*, In: Moduli of Vector Bundles, Proc. Taniguchi Symp., Japan 1994, Lect. Notes pure appl. Math., vol. 179, Marcel Dekker, Inc., 1996, p. 11-32; (joint with K. Ueno); MR. 97f:32039
27. *Fibrés vectoriels de rang 2 sur les surfaces réglées*, C.R. Acad. Sci. Paris, t.323, Série I, p. 627-630, (1996); (joint with M. Aprodu); MR. 97e:14056
28. *Stable rank-2 vector bundles over ruled surfaces*, C. R. Acad. Sci. Paris, t. 325, Série I, p. 295-300, (1997); (joint with M. Aprodu); MR. 98j:14009
29. *Numerical invariants and stability of 2-vector bundles over ruled surfaces*, Ann. St. Univ. Ovidius Constanta, vol. 5 (2), p. 9-16, (1997); (joint with M. Aprodu); MR. 99b:14042
30. *Holomorphic structures in vector bundles over complex surfaces*, Proc. Intern. Conf. Geom. Sibiu 1997, General Mathematics, 5 (1997), 43-52; MR. 2000h:14036
31. *Existence of stable 2-vector bundles over ruled surfaces*, Rev. Roum. Math. Pures Appl., 43, No. 1-2, (1998), 47-56; (joint with M. Aprodu); MR. 99k:14067
32. *Neron-Severi group for nonalgebraic surfaces III*, Rev. Roum. Math. Pures Appl., 43, No. 1-2, (1998), 89-95; MR. 99m:32035
33. *Moduli spaces of vector bundles over ruled surfaces*, Nagoya Math. J., 154 (1999), 111-122; (joint with M. Aprodu); MR. 2000c:14059
34. *A class of harmonic submersions and minimal submanifolds*, Internat. J. Math. 11 (2000), no. 9, 1177-1191 (joint with M. A. Aprodu and M. Aprodu);
35. *Flat 2-vector bundles over complex manifolds*, Math. Rep., 3(53), (2001), no. 2 (2001), 151-157 (joint with M. Marchitan and R. Slobodeanu)

36. *Holomorphic vector bundles on primary Kodaira surfaces*, to appear in Math. Z. (2001); (joint with M. Aprodu and M. Toma)
37. *On the holomorphic rank-2 vector bundles with trivial discriminant over non-kähler elliptic bundles*, Preprint 506 (2000) L'Institut Fourier Grenoble; (joint with M. Aprodu)
38. *Double covers and vector bundles*, Preprint 2001
39. *Pseudo harmonic morphisms; applications and examples*, Preprint 2001
40. *Higher-dimensional Analogues of Kodaira surfaces*, Preprint; (joint with E. Rees)
41. *Coverings of complex surfaces*, in preparation

Books for students

- *Capitole de matematici speciale; teoria grafurilor*, Tipografia I.P.B., 1978, (81 p.)
- *Lumea liniara*, Tipografia I.P.B., 1981, (336 p.); (joint with O. Stanasila et al.; 9 authors)
- *Matematici speciale I*, Tipografia I.P.B., 1984, (451 p.); (joint with O. Stanasila)
- *Matematici speciale II*, Tipografia I.P.B., 1985, (374 p.); (joint with O. Stanasila)
- *Probleme de matematica pentru concursurile studentesti*, Tipografia I.P.B., 1985, (225 p.); (joint with D. Ivascu et al.; 7 authors)
- *Matematici speciale, teorie, exemple, aplicatii*, Edit. All, 1994, (590 p.); (joint with O. Stanasila); second edition 1998