Curriculum Vitae

Marian Aprodu

Current position

Professor at the University of Bucharest &
Senior Researcher 1 at the Institute of Mathematics “Simion Stoilow”
of the Romanian Academy.

Research interests

Algebraic Geometry

Permanent address

Romanian Academy,
Institute of Mathematics "Simion Stoilow"
P.O. Box 1-764, RO 014700,
Bucharest, ROMANIA
Fax: +40 21 222 98 26
Tel.: +40 21 650 05 95
Marian.Aprodu@imar.ro
marian.aprodu@gmail.com
marian .aprodu@fmi.unibuc.ro

Education

2002: Habilitation à Diriger des Recherches, Institut Fourier, Université Grenoble – France (President of the Committee: Jean–Pierre Demailly),
1996: Ph.D. in Mathematics, Institute of Mathematics of the Romanian Academy (Ph.D. Supervisor: Vasile Brînzănescu),
1995: M.Sc. in Mathematics, University of Bucharest,
1994: B.Sc. in Mathematics, University of Bucharest.

Professional experience in Romania:

since 2015: Professor, University of Bucharest, Department of Mathematics,
since 2009: Senior Researcher 1, Institute of Mathematics of the Romanian Academy,
2006–2009: Senior Researcher 2, Institute of Mathematics of the Romanian Academy,
2000–2006: Senior Researcher 3, Institute of Mathematics of the Romanian Academy,
1997–2000: Researcher, Institute of Mathematics of the Romanian Academy,
1995–1997: Research Assistant, Institute of Mathematics of the Romanian Academy.

Professional experience abroad:

France

Institut des Hautes Études Scientifiques, Bures–sur–Yvette (Nov. 2011, Aug. 2011, Nov. – Dec. 2008, Aug. – Oct. 2004), Institut Elie Cartan, Nancy (Apr. – Jun. 2011), Institut Henri Poincaré, Paris (May 2010), Laboratoire Painlevé, Lille (Feb. 2007),

LAREMA, Université Angers (Sept. – Dec. 2006), Institut de Recherche Mathématique Avancée, Strasbourg (Jan. 2006), Institut Fourier, Grenoble (Nov. 2003 – Jun. 2004, Aug. 2001 – Jul. 2003, Jan. 2000 – Feb. 2001).

Germany
Max Planck Institut fuer Mathematik, Bonn (Aug. - Sept. 2016, Aug. - Sept. 2014, Jul. – Sept. 2012, Jul. – Aug. 2010, Aug. – Sept. 2008, Apr. – May 2008), Humboldt Universitaet, Berlin (Jul. - Aug. 2013, Jan. 2011, Nov. – Dec. 2009, Aug. 2009), Universitaet zu Koeln (Jul. – Aug. 2007), Bayreuth Universitaet (Nov. 2004 – Oct. 2005, Jan. 1998 – Aug. 1999).

Italy
C.I.R.M. Trento (Sept. 2013), Università degli Studi di Genova (Feb. 2010), International Centre for Theoretical Physics, Trieste (Jul. – Aug. 2004, Sept. – Nov. 2003, Apr. – Jun. 2001, Sept. - Dec. 1999).

South Korea
KAIST Daejeon (Dec. 2018, Aug. 2015, Dec. 2014, Mar. 2014, Jan. 2010), KIAS Seoul (Dec. 2018).

USA
University of Illinois, Chicago (Sept. 2010).

Prizes, honors:
2016: Ad-Astra prize for excellency in research,
2014 - 2015: KIAS-KAIST CMC Member,
2004: ”Gheorghe Ţiţeica” Prize of the Romanian Academy (for 2002),
2004 – 2005: Humboldt Research Fellow,
2005 – 2006: Humboldt Return Fellow,
2001 – 2003: Marie Curie Intra–European Fellow.

Research and expository papers:

1 Marian Aprodu, Gavril Farkas, Stefan Papadima, Claudiu Raicu, Jerzy Weyman. Topological invariants of groups and Koszul modules. preprint arXiv:180601702.
2 Marian Aprodu, Gavril Farkas, Stefan Papadima, Claudiu Raicu, Jerzy Weyman. Koszul modules and Green's conjecture. to appear in **Inventiones Math.,** DOI: 10.1007/s00222-019-00894-1
3 Marian Aprodu, Yeongrak Kim. On the Borisov-Nuer conjecture and the image of the Enriques-to-K3 map. to appear in **Math. Nachrichten**
4 Marian Aprodu, Gianfranco Casnati, Laura Costa, Rosa Maria Miro-Roig, Monserrat Teixidor i Bigas. Theta divisors and Ulrich bundles on geometrically ruled surfaces. to appear in **Annali di Mat. Pura ed Appl.,** DOI**:**10.1007/s10231-019-00873-6
5 Marian Aprodu, Sukmoon Huh, Francesco Malaspina, Joan Pons-Llopis. Ulrich bundles on smooth projective varieties of minimal degree. to appear in **Proceedings of the American Math. Soc**., DOI:10.1090/proc/14640

6 Marian Aprodu, Andrea Bruno, Edoardo Sernesi. A characterization of bielliptic curves via syzygy schemes. **Journal of Pure and Appl. Algebra** 223 (2019) 4690-4700, DOI: 10.1016/j.jpaa.2019.02.011
7 Marian Aprodu, Laura Costa, Rosa Maria Miro-Roig. Rank two vector bundles on non-minimal ruled surfaces. **Transactions of the American Math. Soc.**, 370 (2018) 3913-3929.
8 Marian Aprodu, Laura Costa, Rosa Maria Miro-Roig. Ulrich bundles on ruled surfaces. **Journal of Pure and Appl. Algebra**, 222:1 (2018) 131-138.
9 Marian Aprodu, Gavril Farkas, Angela Ortega. Minimal resolutions, Chow forms of K3 surfaces and Ulrich bundles. **Journal für die reine und angew. Mathematik**, 730 (2017) 225-250.
10 Marian Aprodu, Yeongrak Kim. Ulrich line bundles on Enriques surfaces with a polarization of degree four. **Ann. U. Ferrara,** volume dedicated to the memory of A. Lascu, 63:1 (2017) 9-23.
11 Marian Aprodu, Edoardo Sernesi. Excess dimension for secant loci in symmetric products of curves. **Collectanea Math**., 68:1 (2017) 1-7.
12 Marian Aprodu, Gavril Farkas, Angela Ortega. Restricted Lazarsfeld-Mukai bundles and canonical curves. **Advanced Studies in Pure Mathematics** (Math. Soc. Japan) 69 (2016) 303-322, Development of Moduli Theory, volume on the occasion of Mukai's 60th birthday.
13 Marian Aprodu, Luigi Lombardi. On the vanishing of Koszul cohomology of abelian varieties. **Bull. London Math. Soc.** 48:2 (2016) 280-290.
14 Marian Aprodu, Marius Marchitan. Prioritary omalous bundles on Hirzebruch surfaces. **Journal of Geom. and Physics** 99 (2016) 1-9.
15 Marian Aprodu, Edoardo Sernesi. Secant spaces and syzygies of special line bundles on curves. **Algebra & Number Theory** 9:3 (2015) 585-600.
16 Monica Alice Aprodu, Marian Aprodu. Holomorphic vector bundles on Kaehler manifolds and totally geodesic foliations on Euclidean open domains. **Diff. Geometry and its Appl.** 39 (2015) 10-19.
17 Marian Aprodu. Polynomial equations and vector bundles. **On Form and Pattern**, Ed. Acad. Române (2015) 77-82.
18 Marian Aprodu. Ulrich bundles on K3 surfaces. **Oberwolfach Reports** 11:3 (2014).
19 Marian Aprodu. Lazarsfeld-Mukai bundles and applications. II. in: **Bridging Algebra, Geometry, and Topology**, Springer Proceedings in Mathematics & Statistics, Vol. 96, Ibadula, Denis, Veys, Willem (Eds.) 2014, 11-20 (Proceedings of the Conference "Experimental and Theoretical Methods in Algebra, Geometry and Topology", Eforie Nord, June 21-24, 2013).
20 Marian Aprodu, Matei Toma. Boundedness for some rationally connected threefolds in $\mathbf{P}^6$. **Comm. in Algebra**, 42:9 (2014) 3876-3882.
21 Marian Aprodu. Lazarsfeld-Mukai bundles and applications. in: Peeva, Irena (ed.), **Commutative algebra**. Expository papers dedicated to David Eisenbud on the occasion of his 65th birthday. New York, NY: Springer. 1-23, 2013.
22 Marian Aprodu, Ruxandra Moraru, Matei Toma. Two-dimensional moduli spaces of vector bundles over Kodaira surfaces. **Advances in Math.** 231 (2012) 1202-1215.

23 Marian Aprodu, Gavril Farkas. Green's Conjecture for general covers. **Contemporary Math.**, AMS, Vol. 564 (2012) 211-226.
24 Marian Aprodu, Vasile Brinzanescu, Marius Marchitan. Rank-two vector bundles on Hirzebruch surfaces. **Central European J. Math.** 10 No. 4 (2012) 1321-1330.
25 Marian Aprodu, Marius Marchitan. A note on vector bundles on Hirzebruch surfaces. **C. R. Acad. Sci. Paris** Ser. I Math. 349, no 11-12 (2011) 687-690.
26 Marian Aprodu, Gavril Farkas. Green's Conjecture for curves on arbitrary K3 surfaces. **Compositio Math.** 147 (2011) 839-851.
27 Marian Aprodu, Gavril Farkas. Koszul cohomology and applications to moduli. in: Grassmannians, vector bundles and moduli spaces, **Clay Mathematics Proccedings**, AMS, Vol. 14 (2011) 25-50.
28 Marian Aprodu, Daniel Naie. Enriques diagrams and log-canonical thresholds of curves on smooth surfaces. **Geometriae Dedic.** 146 (2010) 43-66.
29 Marian Aprodu, Vasile Brinzanescu. Beilinson type spectral sequences on scrolls, Moduli spaces and vector bundles. 426-436, **London Math. Soc. Lecture Note Ser.** 359, Cambridge Univ. Press, Cambridge, 2009.
30 Marian Aprodu, Gianluca Pacienza. The Green Conjecture for Exceptional Curves on a K3 Surface. **Internat. Math. Res. Notices** (IMRN) (2008) nr. 14 Vol. 2008, article ID rnn043, 25 pages - Corrigendum and Addendum, **Internat. Math. Res. Notices** (2012) nr. 5, 1195-1197.
31 Marian Aprodu, Stefan Kebekus, Thomas Peternell. Galois coverings and endomorphisms of projective varieties. **Math. Zeitschrift** 260 (2008) no.2, 431-449.
32 Marian Aprodu. Brill-Noether theory for curves on K3 surfaces. **Contemporary geometry and topology and related topics**, 1-12, Cluj Univ. Press, Cluj-Napoca, 2008.
33 Marian Aprodu, Jan Nagel. Non-vanishing for Koszul cohomology of curves. **Commentarii Math. Helvetici** 82 No. 3 (2007) 617-628.
34 Marian Aprodu. Geometry of curves and Koszul cohomology. **Modern trends in geometry and topology**, 37-45, Cluj Univ. Press, Cluj-Napoca, 2006.
35 Marian Aprodu. Remarks on syzygies of d-gonal curves. **Mathematical Res. Letters** 12 No. 3 (2005) 387-400.
36 Marian Aprodu. On Green and Green-Lazarsfeld conjectures for generic d-gonal curves. **Oberwolfach Reports** No. 7 (2005) 427-430.
37 Marian Aprodu. Green-Lazarsfeld gonality conjecture for a generic curve of odd genus. **Internat. Math. Res. Notices** (IMRN) 63 (2004) 3409-3414.
38 Marian Aprodu, Jan Nagel. A Lefschetz type result for Koszul cohomology. **Manuscripta Math.** 114 (2004) 423-430.
39 Marian Aprodu, Matei Toma. Une note sur les fibrés holomorphes non-filtrables. **C. R. Acad. Sci. Paris** 336 No. 7 (2003) 581-584.
40 Marian Aprodu, Claire Voisin. Green-Lazarsfeld's conjecture for generic curves of large gonality. **C. R. Acad. Sci. Paris** 336 No. 4 (2003) 335-339.
41 Marian Aprodu. On the vanishing of higher syzygies of curves. II. **Math. Zeitschrift** 243 No. 4 (2003) 775-778.
42 Marian Aprodu, Vasile Brinzanescu. On the holomorphic rank-2 vector

bundles with trivial discriminant over non-Kaehler elliptic bundles. **J. Math. Kyoto Univ.** (JKYAMZ) 42 No. 4 (2002) 617-623.

43 Marian Aprodu, Vasile Brinzanescu, Matei Toma. Holomorphic vector bundles over primary Kodaira surfaces. **Math. Zeitschrift** 242 No. 1 (2002) 63-73.

44 Marian Aprodu. On the vanishing of higher syzygies of curves. **Math. Zeitschrift** 241 No. 1 (2002) 1-15.

45 Monica Alice Aprodu, Marian Aprodu, Vasile Brinzanescu. A class of harmonic maps and minimal submanifolds. **International J. Math.** 11 No. 9 (2000) 1177-1191.

46 Monica Alice Aprodu, Marian Aprodu. Implicitly defined harmonic PHH submersions. **Manuscripta Math.** 100 (1999) 103-121.

47 Marian Aprodu, Vasile Brinzanescu. Moduli spaces of vector bundles over ruled surfaces. **Nagoya Math. J.** 154 (1999) 111-122.

48 Marian Aprodu. An Appell-Humbert theorem for hyperelliptic surfaces. **J. Math. Kyoto Univ.** (JKYAMZ) 38 No. 1 (1998) 101-121.

49 Marian Aprodu, Vasile Brinzanescu. Existence of stable rank-2 vector bundles over ruled surfaces. Collection of papers in memory of Martin Jurchescu. **Rev. Roumaine Math. Pures Appl.** 43 No. 1-2 (1998) 47-56.

50 Marian Aprodu, Vasile Brinzanescu. Stable rank-2 vector bundles over ruled surfaces. **C. R. Acad. Sci. Paris** 325 (1997) 295-300.

51 Marian Aprodu, Vasile Brinzanescu. Numerical invariants and stability of 2-vector bundles over ruled surfaces. **An. St. Univ. Ovidius Constanta** 5 No. 2 (1997) 9-16.

52 Marian Aprodu, Vasile Brinzanescu. Fibrés vectoriels de rang deux sur les surfaces réglées. **C. R. Acad. Sci. Paris** 323 (1996) 627-630.

Research monographs:

1 Marian Aprodu, Jan Nagel. Koszul Cohomology and Algebraic Geometry. **University Lecture Series**, vol. 52, 2010, AMS, 125 pp, ISBN-10: 0-8218-4964-6, ISBN-13: 978-0-8218-4964-4.

Textbooks:

1 Marian Aprodu. Noțiuni de Geometrie Algebrică. Ed. Fundației Univ. "Dunărea de Jos" Galați, 2008, ISBN: 978-973-627-425-1.

2 Marian Aprodu. Geometria Varietăților Torice. Ed. Acad. Române, 2008, ISBN: 978-973-27-1697-7.

Theses:

1 Marian Aprodu. Sur quelques problèmes de géométrie complexe (french). Habilitation thesis, Institut Fourier, Grenoble 2002.

2 Marian Aprodu. Fibrate vectoriale pe varietăţi complexe (romanian). PhD thesis, Institutul de Matematicã al Academiei Române, Bucureşti 1996 (advisor Vasile Brinzanescu).