Curriculum Vitae

I. Personal data:

a. Name: Andrei MARCUS.
b. Date and place of birth: June 25, 1963; Baia-Mare.
c. Address: Babes-Bolyai University, Faculty of Mathematics and Computer Science,
        Str. Mihail Kogalniceanu nr. 1, RO-400084 Cluj-Napoca, Romania.
Fax: +40-264-591906
e-mail: marcus at math dot ubbcluj dot ro

II. Academic degrees:

1) (1986) - **B.A.**
- ``Babes-Bolyai" University, Faculty of Mathematics - Cluj-Napoca, Romania
- Title of the diploma work: *n-Abelian Semigroups and Groups*.
   Adviser: Prof. Dr. Ioan Purdea.
2) (1987) - **M.S.**
- University of Bucharest, Faculty of Mathematics. - Bucharest, Romania.
- Title of the dissertation: *Clifford theory for strongly graded rings*.
   Adviser: Prof. Dr. Constantin Nastasescu.
3) (1994, February 9) - **Ph.D.**
- University of Bucharest, Faculty of Mathematics. - Bucharest, Romania.
- Title of the thesis: *Graded rings and applications to group representation theory*.
   Adviser: Prof. Dr. Constantin Nastasescu.

III. University education:

1) September 1982 - July 1986
 - "Babes-Bolyai" University, Faculty of Mathematics - Cluj-Napoca, Romania
2) September 1986 - July 1987 (Graduate courses in Algebra and Geometry)
  - University of Bucharest, Faculty of Mathematics - Bucharest, Romania
3) October 1990 - January 1994 (Doctorate)
- University of Bucharest, Faculty of Mathematics - Bucharest, Romania

IV. Professional background:

1) September 1987 - September 1990
  - teacher of Mathematics - ``Petru Maior" High School Gherla, Cluj County, Romania.
2) October 1990 - September 1994
  - teaching assistant - "Babes-Bolyai" University Cluj-Napoca, Faculty of Mathematics and Computer Science.
3) October 1994 - September 1998
 - assistant professor - "Babes-Bolyai" University Cluj-Napoca, Faculty of Mathematics and Computer Science.
4) October 1998 - March 2001
  - associate professor - "Babes-Bolyai" University Cluj-Napoca, Faculty of Mathematics and Computer Science.
5) April 2001 – present. Professor - "Babes-Bolyai" University Cluj-Napoca, Faculty of Mathematics and Computer Science.

V. Membership:
  - Romanian Mathematical Society.
  - American Mathematical Society.
  - Reviewer for Mathematical Reviews and Zentralblatt für Mathematik, since 1994.

VI. Study and research abroad:

1) September 1992 - December 1992 (3 months)
 - Mathematical Institute of Kossuth Lajos University, Debrecen, Hungary.
 - Postgraduate grant financed by the ``Kemény Zsigmond'' Foundation, Hungary
2) October 1994 - March 1995 (6 months)
 - Ecole Normale Supérieure, Paris.
 - Postdoctoral fellowship, Ministry of Research and Technology, France.
3) October 1996 - November 1996 (2 months)
  - Friedrich-Schiller University Jena, Germany.
  - DAAD Postdoctoral grant
4) January 1997 - February 1997 (2 months) and 23 June - 5 July 1997 (NATO ASI Conference)
  - University of Cambridge, Isaac Newton Institute for Mathematical Sciences, Cambridge, England
  - Participant at the ``Representation Theory of Algebraic Groups and Related Finite Groups'' research programme.
5) July - August 1999 (2 months)
  - Mathematical Institute of the Hungarian Academy, Budapest
  - "Domus Hungarica Scientiarum et Artium" research grant.
6) December 1999 - September 2000 (10 months) and July-August 2001 (3 months)
  - "Friedrich Schiller" University Jena, Germany.
  - Humboldt Research Fellowship
7) March - August 2002 (6 months)
  - University of Chicago, Department of Mathematics
  - Fulbright Research Fellowship
8) August - September 2003 (2 months)
  - University of Chiba, Japan, Department of Mathematics
  - Invitation Fellowship, Japan Society for the Promotion of Science
9) June - July 2004 (2 months)
  - RWTH Aachen, Germany.
  - Humboldt Research Fellowship
10) March 7 - March 18, 2005
  - Universidad de Murcia, Spain.
11) September 2005 - August 2008 (3 years)
  - Renyi Institute, Hungary.
  - Bolyai Fellowship, Hungarian Academy of Sciences.
12) September 25 - October 7, 2005; September 18 - 24, 2006
  - Vrije Universiteit Brussel, Belgium.
  - Flemish-Romanian joint reserch programme on Hopf algebras.

VII. Meetings organized
1) (with Markus Linckelmann, CNRS-Paris) Summer School on the Representation Theory of Algebras, Finite and Reductive Groups, Babes-Bolyai University of Cluj-Napoca, September 15-25, 1997.
2) Algebra Symposium, Babes-Bolyai University Cluj-Napoca, November 23-24, 2001.
3) Algebra Symposium, Babes-Bolyai University Cluj-Napoca, May 27-28, 2005.
4) International Conference on "Modules and Representation Theory", Babes-Bolyai University Cluj-Napoca, July 7-12, 2008.
5) Algebra Symposium, Babes-Bolyai University Cluj-Napoca, May 15-16, 2009.

PUBLICATIONS

Books
1. Ciceo, P., Kolumban, I., Marcus, A. and Vasiu, A. (1986, 1988): *Problems in analysis, geometry and algebra for student competitions*. "Babes-Bolyai" University, Cluj-Napoca. 232pp. (in Romanian).
2. Marcus, A. and Szántó, Cs. (1996): *Problems in General Algebra*. "Babes-Bolyai" University, Cluj-Napoca. 105pp. (in Hungarian).

3. Marcus, A. (1998): *Linear Algebra*. Studium Cluj. 137pp. (in Hungarian).
4. Marcus, A. and Török, E. (1999): *Algebra: Groups. Rings and fields (in Hungarian)*. Cluj, 1999.
5. Marcus, A. and Tóth, L. (1999): *Logic and Set Theory (in Hungarian)*. Cluj, 1999.
6. Marcus, A. (1999): *Representation Theory of Group Graded Algebras*. Nova Science Publishers, Inc, Commack N.Y., Hardcover (November 1999) ISBN: 1-56072-750-0, 205 pp.
7. A. Marcus, Szántó Cs. and Tóth, L. (2005): *Logic and Set Theory*. (in Hungarian) (2nd edition), Scientia, Cluj 2005.
8. A. Marcus (2005): *Computational algebra. Aplications to coding theory* (in Hungarian). Cluj University Press, Cluj-Napoca 2005.
9. S. Crivei, A. Marcus, C. Sacarea si Cs. Szanto (2006): *Computational Algebra with Applications to Coding Theory and Cryptography*, EFES, Cluj-Napoca 2006.
10. A. Marcus (2008): *Algebra* (in Hungarian), Cluj University Press, Cluj-Napoca 2008.

Collective volumes
1. M. Linckelmann and A. Marcus eds. (1998): *Proceedings of the Summer School on Representation Theory of Algebras, Finite and Reductive Groups*. Cluj-Napoca, 15-25 Septembrie 1997, "Babes-Bolyai" University Fac. Math. Comput. Sci. Res. Semin. no. 4/1998.
2. S. Crivei and A. Marcus eds. (2002): *Proceedings of the Algebra Symposium*. "Babes-Bolyai" University Cluj-Napoca, November 23-24, 2001, Editura Fundatiei pentru Studii Europene, Cluj-Napoca 2002.
3. S. Breaz, Crivei and A. Marcus eds. (2009): *Proceedings of the international conference on modules and representation theory, Babeş-Bolyai University, Cluj-Napoca, Romania, July 7-12, 2008.* Cluj University Press 2009.

Articles in journals
1. *Invariant extensions of simple modules*. Studii si cercet ari matematice **43**(1991), 37-42.
2. *Retract extensions of completely simple semigroups by nil semigroups*. Mathematica(Cluj) **34(57)**(1992), 37-41.
3. *Indecomposable modules and Clifford extensions*. Mathematica (Cluj) 35(58) (1993), no. 2, 169-173.
4. *Static modules and Clifford theory for strongly graded rings*. Publicationes Math. (Debrecen) **42**(1993), 303-314.
5. *Clifford theory for projective modules over strongly graded rings*. Communications in Algebra **23**(1995), 4393-4404.
6. *Modules graded by G-sets and Clifford theory*. Mathematica(Cluj) **37(60)**(1995), 133-145.
7. *On equivalences between blocks of group algebras: reduction to the simple components*, Journal of Algebra **184**(1996), 372-396.
8. *Tensor products of fully graded algebras and applications*. Mathematica(Cluj) **38(61)**(1996), 133-139.
9. *Group-graded algebras, adjoint functors and the Green correspondence*. Studia Univ. "Babes-Bolyai" ser. Mathematica, **XLI**(1996), 87-94.
10. *Green functors associated to a strongly graded algebra*. Mathematica (Cluj) **39(62)**(1997), 257-263.
11. *Equivalences induced by graded bimodules*. Communications in Algebra **26**(1998), 713-731.
12. *Homology of fully graded algebras, Morita and derived equivalences*. Journal of Pure and Applied Algebra, **133**(1998), no. 1-2, 209-218.
13. *On Picard groups and graded rings*. Communications in Algebra, **26**(1998), 2211-2219.
14. *Projective modules over twisted group algebras of p-solvable groups*. Publicationes Math. Debrecen, **53**(1998), fasc. 3-4, 367-374.
15. *Equivariant Morita equivalences between blocks of group algebras*. Mathematica (Cluj) 40(63) (1998), no. 2, 227-234.
16. *Stable equivalences, crossed products and symmetric algebras*. Mathematica (Cluj) **40(63)**(1998), no. 1, 123-129.
17. *Induction of graded interior algebras*. Studia Univ. "Babes-Bolyai" Mathematica, **XLIII** (1998), 45-56.
18. *Derived equivalences and Dade's Invariant Conjecture*, Journal of Algebra **221**, No.2 (1999), 513-527.
19. *Groups of homomorphism graded by G-sets*. Italian J. Pure Appl. Mathematics **8** (2000), 115-126 (with Ciprian Modoi).
20. *Blocks of normal subgroups and Morita equivalences*. Italian J. Pure Appl. Math. **7**(2000), 77-84.
21. *Clifford theory for bimodules*, Communications in Algebra **28** (2000), no. 4, 2029-2041.
22. *Frobenius functors and transfer*, Publicationes Math. Debrecen, **59**(2001), fasc. 3-4, 407-427 (with Adrian Madar).

23. *Frobenius functors and functor categories*, Studia Univ. "Babes-Bolyai" ser. Mathematica **XLV**(2000), no. 4, 75-85 (with Adrian Madar).

24. *Twisted group algebras, normal subgroups and derived equivalences*, Algebras and Representation Theory **4**(2001), no. 1, 25-54.

25. *Tilting complexes for group graded algebras*, Journal of Group Theory **6** (2003), 175-193.

26. *Graded endomorphism rings and equivalences*, (with Ciprian Modoi), Communications in Algebra **31** (2003), No. 7, 3219-3249.

27. *Broué's conjecture for alternating groups*, Proceedings of the Amer. Math. Soc. **132** (2004), No. 1, 7-14.

28. *Blocks with cyclic defect groups, and Clifford extensions*, J. Algebra 287 (2005), no. 1, 1-14.

29. *Tilting complexes for group graded algebras. II*, Osaka J. Math. 42 (2005), no. 2, 453-462.

30. *Group graded algebras and the relative projectivity of pointed groups*, (with C. Dicu), Quarterly Journal of Mathematics (Oxford) 57 (2006), No. 3, 309-318.

31. *Source modules of blocks with normal defect groups*, (with C. Dicu), Archiv der Mathematik 88 no. 4 (2007), 289–296.

32. *Morita equivalences induced by bimodules over Hopf-Galois extensions*, (with S. Caenepeel, S. Crivei and M. Takeuchi), Journal of Algebra 314, no. 1 (2007), 267-302.

33. *Restriction to subgroups and separability*, Studia Universitatis Babes-Bolyai ser. Mathematica, 52 (2007), 57-63.

34. *Characters and equivalence classes of central simple group graded algebras*, Communications in Algebra 36 (2008) no. 4, 1394-1412.

35. *Indecomposable modules over group graded skew algebras*, Mathematica (Cluj), 50 (73), No.2 (2008), 191-195.

36. *Derived invariance of Clifford classes*, Journal of Group Theory, 12 (2009), 83-94.

37. *Hopf-Galois extensions and an exact sequence for H-Picard groups*, (with S. Caenepeel), J. Algebra 323 (2010), No. 3, 622-657..

Published contributions in academic conferences

1. *Clifford theory and the Loewy length of induced modules*. Proceedings of the 9th National Conference on Algebra, "Babes-Bolyai" University Cluj-Napoca, September 18-20, 1991, 55-60.

2. *Extensions of indecomposable modules*. Proceedings of the 9th National Conference on Algebra, "Babes-Bolyai" University Cluj-Napoca, September 18-20, 1991, 61-72.

3. *Compounded Clifford correspondences for modules over graded rings*. Proceedings of the 9th National Conference on Algebra, "Babes-Bolyai" University Cluj-Napoca, September 18-20, 1991, 73-92.

4. *Indecomposable modules and Clifford extensions*. Proceedings of the International Conference on Group Theory-Timisoara, 17-20 September 1992, 125-131.

5. *Graded equivalences and Broué's conjecture*. In: Proceedings of the Conference on Representation Theory of Groups, Algebras and Orders, Constanta, September 25 - October 6, 1995, (K.W. Roggenkamp and M. Stefanescu eds.), An. St. Univ. "Ovidius" Constanta vol. **IV**(1996), fasc. 2, 107-126.

6. *Groups, algebras, representations*. In: Proceedings of the Summer School on Representation Theory of Algebras, Finite and Reductive Groups, Cluj-Napoca, 15-25 September 1997, M. Linckelmann and A. Marcus eds., "Babes-Bolyai" University (1998), pp. 1-32.

7. *Recent results on Broué's abelian defect group conjecture*. In: Proceedings of the Algebra Symposium, Cluj-Napoca, 23-24 November 2001, S. Crivei and A. Marcus eds., EFES Cluj-Napoca 2002.

8. *A survey on Broue's abelian defect group conjecture*. In: Proceedings of the 48th Algebra Symposium, Nagoya University, August 4-7, 2003, pp. 146-155.

9. *Equivalences between blocks of alternating groups*. In: Cohomology Theory of Finite Groups and Related Topics, Kyoto, September 2003, RIMS Kokyuroku vol. 1357 (2004), 63-68.

10. *Constructions of group graded tilting complexes*, in: S. Breaz and C. Sacarea eds. Proceedings of the Algebra Symposium, "Babes-Bolyai" University Cluj-Napoca, May 27-28, 2005. EFES, Cluj-Napoca 2006; pp. 61-75.

11. *Hopf-Galois extensions and H-Morita contexts*, in S. Caenepeel and F. Van Oystaeyen (eds.). New techniques in Hopf algebras and graded ring theory, September 19-23, 2006. Royal Flemish Academy of Belgium, Brussels, 2007; pp. 127-140.

12. *Derived equivalences and the abelian defect group conjecture,* in Breaz, Simion (ed.); Crivei, Septimiu (ed.); Marcus, Andrei (ed.) Proceedings of the international conference on modules and representation theory, Babeş-Bolyai University, Cluj-Napoca, Romania, July 7-12, 2008. Cluj University Press. 2009; pp. 111-131.

Talks given at conferences and research seminars

Conferences
· International Conference on Algebraic Geometry Commutative Algebra and Ring Theory, Bucharest, 3-8 July 1989.
· National Conference on Algebra, Cluj-Napoca, 18-20 September 1991.
· National Conference on Algebra, Timisoara, 21-23 September 1992.
· International Conference on Group theory, Timisoara, 17-20 September 1992.
· International Conference on Representation theory of Groups, Algebras and Orders, Constanta, 25 September - 6 October 1995.
· Ring Theory Conference, Miskolc, Hungary, July 21-27, 1996.
· Summer School on Representation Theory of Algebras, finite and reductive groups, Cluj-Napoca, September 15-25, 1997 (a course of 7 lectures).
· Summer School and Workshop on Module Varieties and Cohomology varieties of Finite Groups and Lie Algebras, Willebadessen, Germany, October 5-12, 1997.
· The 2nd Annual Conference of the Romanian Mathematical Society, Cluj-Napoca, May 1998.
· International Congress of Mathematicians, Berlin, August 18-27, 1998, Poster.
· Summer School and Workshop on Springer Correspondence and applications, Picquigny (Picardie), France, September 21-27, 1998.
· International Conference on Algebra, Iasi, October 14-17, 1998.
· Norddeutsches Gruppentheoretische Colloquium, Rostock, June 30 - July 1, 2000.
· 3rd European Congress of Mathematicians, Barcelona, July 10-14, 2000, Poster.
· DMV 2000, Dresden, September 17-22, 2000.
· Meeting on "Representations of Finite Groups", Oberwolfach, March 25-31, 2001.
· 5th Budapest-Chemnitz-Prague-Torun Algebra Symposium, Budapest, June 14-16, 2001.
· Colloque `Catégories dérivées et groupes finis', Luminy (Marseille), October 22-26, 2001.
· 2002 AMS-IMS-SIAM Summer Research Conference on `Groups, Representations and Cohomology', Mount Holyoke College, South Hadley, Massachusets, USA, June 7-13, 2002.
· The 48th Algebra Symposium, Nagoya University, August 4-7, 2003.
· Conference on Cohomology Theory of Finite Groups, RIMS, Kyoto University, September 1-5, 2003.
· Workshop: New techniques in Hopf algebras and graded ring theory Vrije Universiteit Brussel, September 28, 2005.
· Bovdi Conference, University of Debrecen, November 18-22, 2005.
· ICM 2006, Madrid, August 21-30, 2006.
· Noncommutative Algebra, Granada September 1-6, 2006.
· International Conference "New Techniques in Hopf Algebras", Brussels, September 19-23, 2006
· International Conference on Representations of Algebras ICRA XII, Torun, August 20-24, 2007.
·International Conference on Theory and Applications in Mathematics and Informatics, ICTAMI 5, Alba-Iulia, August 30 - September 2, 2007.
· International Conference: Involutions in Modular Representation Theory, Maynooth, Ireland, August 18 - 24, 2008.

Invited lectures
- "Clifford correspondence for indecomposable modules", Mathematical Institute of the Hungarian Academy, Seminar of Algebra, November 1992 and September 1993.
- University of Miskolc, Hungary, Seminar of Algebra, December 1992
- "Modules Graded by G-sets", Mathematical Institute of the Hungarian Academy, Seminar of Algebra, September 1993.
- "Strongly Graded Rings", Mathematical Institute of the "Kossuth Lajos" University Debrecen, September 1993.
- "A Clifford Theory for Tilting Complexes", Séminaire Chevalley, Inst. Poincaré, Paris, February 1995.
- "Graded Equivalences and their Invariants", Mathematical Institute of the "Friedrich Schiller" University Jena, Germany, Seminar of Algebra, October 1996
- "Broué's Conjecture and normal subgroups", Stuttgart University, Mathematical Institute B, 5 November 1996.
- "Equivalences for group-graded algebras", Seminar Darstellungstheorie von Algebren/Quantengruppen, Universität Bielefeld, Fakultät für Mathematik, October 15, 1997.

- "Graded Rickard Equivalences and Dade's conjectures", Mathematical Institute of the "Friedrich Schiller" University Jena, Germany, Seminar of Algebra, January 4, 2000.
- "Twisted group algebras, derived equivalences and normal subgroups", Séminaire Chevalley, Inst. Henri Poincaré, Paris, March 16, 2000.
- "Block theory and graded equivalences", Univ. "Girard Desargues" Lyon 1, France, March 23, 2000.
- "Derived equivalences and Dade's conjectures", Universität Magdeburg, Mathematisches Institut, April 26, 2000.
- "Open problems in modular representation theory", University of Szeged, Hungary, Seminar of Algebra, June 10, 2001.
- "Rickard equivalences and Dade's conjectures", University of Chicago, Group Theory Seminar, April 25, 2002.
- Rényi Institute Budapest, Hungary, National Seminar of Algebra, November 8, 2004.
- Technical University Budapest, Hungary, Seminar of Algebra, November 10, 2004.
- University of Murcia, Spain, Seminar of Algebra, March 15, 2005.
- Rényi Institute Budapest, Hungary, Seminar of Algebra, February 8, 2006.
- Rényi Institute Budapest, Hungary, National Seminar of Algebra, February 12, 2007.
- Charles University Prague, Seminar of Algebra, April 23, 2007.
- Charles University Prague, Seminar of Algebra, April 25, 2007.
- Rényi Institute Budapest, Hungary, Seminar of Algebra, September 17, 2007.
- Vrije Universiteit Brussel, Seminar of Algebra, October 19, 2007.
- Leibniz Universität Hannover, Seminar of Algebra, November 13, 2007.
- Beijing Normal University, September 14-27, 2008. 3 talks given at the research seminar of Representation Theory, with the titles: Equivalences of categories in modular representation theory, Morita equivalences induced by bimodules over Hopf-Galois extensions, Characters and equivalence classes of central simple group graded algebras.
- Rényi Institute Budapest, Hungary, Seminar of Algebra, October 6, 2008.
- Oxford University, Mathematical Institute, Algebra Seminar, April 27, 2010.
- London Algebra Colloquium, held at Imperial College London, April 29, 2010.
- The University of Manchester, Algebra Seminar, May 4, 2010.
- University of Aberdeen, Algebra Seminar, May 6, 2010.