

Curriculum Vitae

CONTACT:

Wolmer V. Vasconcelos
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EDUCATION:

B.S. (Electrical Engineering), U. Federal de Pernambuco, Brazil, 1960
Ph.D. (Mathematics), The University of Chicago, 1966

POSITIONS:

Assistant Professor, Rutgers University, 1967/70
Associate Professor, Rutgers University, 1970/75
Professor, Rutgers University, 1975/1980
Professor II, Rutgers University, 1980
Emeritus Professor, 2010

SPECIAL AWARDS:

Postdoctoral Fellowship, ONR, Cornell University, 1966/67
Rutgers Faculty Fellowship (Orsay), 1970/71
Rutgers-New Brunswick Graduate School Award for Excellence in Teaching, 2008

GRANTS:

NSF grants, 1968–to present

RECENT SERVICE TO THE DEPARTMENT:

Member, Graduate Committee, 1998/2000
Member, Committee on Grants Advising, 2000–

SOME SERVICE TO THE PROFESSION:

- 1. Coorganizer of a Special Session in Commutative Algebra, A.M.S. Annual Meeting, San Francisco, January, 1995.
- 2. Coorganizer of a Special Session in Commutative Algebra and Algebraic Coding Theory, Joint A.M.S.–Sociedad Matematica Mexicana Meeting, Guanajuato, Mexico, November, 1995.
- 3. Scientific Committee, Conference in Commutative Algebra and Algebraic Geometry, Messina, Italy, 2000.
- 4. Scientific Committee, Lisbon Conference in Commutative Algebra, Lisbon, Portugal, June 2003.
- 5. Coorganizer of a Special Session in Commutative Algebra, A.M.S. Regional Meeting, Lawrenceville, NJ, April, 2004.
- 6. Scientific Committee, Castelnuovo Regularity, Luminy, France, June, 2006.
- 7. Coorganizer of a Special Session in Commutative Algebra, A.M.S. Regional Meeting, New Brunswick, NJ, October, 2007.
- 8. Referee for funding agencies of several countries
- 9. Referee for over 20 mathematical journals
- 10. Editorial Board, *Communications in Algebra*, 1985–2001
- 11. Editorial Board, *Proceedings American Mathematical Society*, 1992–2002

MEMBERSHIP IN HONOR SOCIETIES:

Academia Brasileira de Ciencias

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

American Mathematical Society
Mathematical Association of America
Sociedade Brasileira de Matemática

MAJOR RESEARCH INTERESTS:

Commutative Algebra, Algebraic Geometry, Computational Algebra, Symbolic Computation

PUBLICATIONS:

BOOKS

- 1. **The Rings of Dimension Two**, Lecture Notes in Math. Series, Vol. **22**, Marcel Dekker, New York, 1976.
- 2. **Divisor Theory in Module Categories**, Studies in Math. Series, Vol. **14**, North-Holland, Amsterdam, 1974.
- 3. **Introducción a la Teoría de Siguas**, VI Escuela Latinoamericana de Matemática, Ed. Instituto Politécnico Nacional, Mexico, 1982.
- 4. **Arithmetic of Blowup Algebras**, London Mathematical Society, Lecture Note Series **195**, Cambridge University Press, 1994.
- 5. **Computational Methods in Commutative Algebra and Algebraic Geometry**, Springer-Verlag, Heidelberg, 1998. Paperback edition, 2004.
- 6. **Integral Closure**, Springer Monographs in Mathematics, Springer, Heidelberg, 2005.

JOURNALS

- 1. On local and stable cancellation, *Anais da Academia Brasileira de Ciências* **37** (1966), 389–393.
- 2. Ideals generated by R-sequences, *J. Algebra* **6** (1967), 309–316.
- 3. R-sequences and the homology of Macaulay rings, *Anais da Academia Brasileira de Ciências* **38** (1966), 249–252.
- 4. Extensions of Macaulay rings, *Anais da Academia Brasileira de Ciências* **39** (1967), 212–214.
- 5. Homological dimensions and Macaulay rings, (with G. Levin), *Pacific J. Math.* **25** (1968), 315–324.
- 6. Ideals and cancellation, *Math. Z.* **102** (1967), 353–355.
- 7. Reflexive modules and Gorenstein rings, *Proc. Amer. Math. Soc.* **15** (1968), 1949–1955.

- 8. A note on normality and the module of differentials, *Math. Z.* **105** (1968), 291–293.
- 9. On finitely generated flat modules, *Trans. Amer. Math. Soc.* **138** (1969), 505–512.
- 10. On projective modules of finite rank, *Proc. Amer. Math. Soc.* **22** (1969), 430–433.
- 11. Derivations of commutative Noetherian rings, *Math. Z.* **112** (1969), 229–233.
- 12. Quasi-normal rings, *Illinois J. Math.* **14** (1970), 268–273.
- 13. On finitely generated flat modules.II, *Anais da Academia Brasileira de Ciencias* **41** (1969), 503–504.
- 14. Injective endomorphisms of finitely generated modules, *Proc. Amer. Math. Soc.* **25** (1970), 900–901.
- 15. Simple flat extensions, *J. Algebra* **16** (1970), 105–107.
- 16. Flat modules over commutative Noetherian rings, *Trans. Amer. Math. Soc.* **152** (1970), 137–144.
- 17. Remarks on descent of flat modules, *Indian J. Math.* **34** (1970), 25–30.
- 18. Commutative endomorphism rings, *Pacific J. Math.* **35** (1970), 795–798.
- 19. Regular endomorphisms of finitely generated modules, *J. London Math. Soc.* **4** (1971), 27–32.
- 20. Annihilators of modules with a finite free resolution, *Proc. Amer. Math. Soc.* **29** (1971), 440–442.
- 21. Finiteness in projective ideals, *J. Algebra* **25** (1973), 269–278.
- 22. Local rings of global dimension two, *Proc. Amer. Math. Soc.* **25** (1972), 381–386.
- 23. Simple flat extensions.II, *Math. Z.* **129** (1972), 157–161.
- 24. Conductor, projectivity and injectivity, *Pacific J. Math.* **46** (1973), 603–608.

- 25. Stable rings and a problem of Bass, (with J. Sally), Bull. Amer. Math. Soc. **79** (1973), 574–576.
- 26. Coherence of one polynomial ring, Proc. Amer. Math. Soc. **41** (1973), 449–456.
- 27. Stable rings, (with J. Sally), J. Pure & Applied Algebra **4** (1974), 319–336.
- 28. Flat ideals, (with J. Sally), Comm. Algebra **3** (1975), 531–543.
- 29. Coherence of polynomial rings, (with B. Greenberg), Proc. Amer. Math. Soc. **54** (1976), 59–64.
- 30. Super-regularity in local rings, J. Pure & Applied Algebra **7** (1976), 231–233.
- 31. Lüroth’s problem for rings, (with S. Glaz and J. Sally), J. Algebra **43** (1976), 699–708.
- 32. Bounding the number of generators of a module, (with R. Wiegand), Math. Z. **164** (1978), 1–7.
- 33. Flat ideals.II, (with S. Glaz), Manuscripta Math. **22** (1977), 325–341.
- 34. On the homology of I/I^2 , Comm. Algebra **6** (1978), 1801–1809.
- 35. Projective ideals in rings of dimension one, (with J. Carrig), Proc. Amer. Math. Soc. **71** (1978), 169–173.
- 36. Regular sequences and powers of ideals, Proc. Amer. Math. Soc. **77** (1979), 165–166.
- 37. Remarks on the pole-shifting problem over rings,(with R. Bumby, E. Sontag and H. Sussmann), J. Pure Applied Algebra **20** (1981), 113–127.
- 38. Projective summands in generators, (with D. Eisenbud and R. Wiegand), Nagoya Math. J. **86** (1982), 203–209.
- 39. On the dimension and integrality of symmetric algebras, (with A. Simis), Math. Z. **177** (1981), 341–358.
- 40. The syzygies of the conormal module, (with A. Simis), Amer. J. Math. **103** (1981), 203–224.
- 41. Approximation complexes of blowing-up rings, (with J. Herzog and A. Simis), J. Algebra **74** (1982), 466–493.

- 42. On the grade of some ideals, (with J.F. Andrade and A. Simis), Manuscripta Math. **34** (1981), 241–254.
- 43. Approximation complexes of blowing-up rings.II, (with J. Herzog and A. Simis), J. Algebra **82** (1983), 53–83.
- 44. Flat ideals.III, (with S. Glaz), Comm. Algebra **12** (1984), 199–227.
- 45. On the arithmetic and homology of algebras of linear type, (with J. Herzog and A. Simis), Trans. Amer. Math. Soc. **283** (1984), 661–683.
- 46. On the divisor class group of Rees algebras, (with J. Herzog), J. Algebra **93** (1985), 182–188.
- 47. Ideals with sliding depth, (with J. Herzog and R. Villarreal), Nagoya Math. J. **99** (1985), 159–172.
- 48. On the canonical module of the Rees algebra and the associated graded ring of an ideal, (with J. Herzog and A. Simis), J. Algebra **105** (1987), 285–302.
- 49. The complete intersection locus of certain ideals, J. Pure and Applied Algebra **38** (1985), 367–378.
- 50. On linear complete intersections, J. Algebra **111** (1987), 306–315.
- 51. On Gorenstein ideals of codimension four, (with R. Villarreal), Proc. Amer. Math. Soc. **98** (1986), 205–210.
- 52. Normal Rees algebras, (with P. Brumatti and A. Simis), J. Algebra **112** (1988), 26–48.
- 53. BCS rings, (with C.A. Weibel), J. Pure and Applied Algebra **52** (1988), 173–185.
- 54. Koszul homology and the structure of low codimension Cohen-Macaulay ideals, Trans. Amer. Math. Soc. **301** (1987), 591–613.
- 55. The structure of certain ideal transforms, Math. Z. **198** (1988), 434–448.
- 56. Krull dimension and integrality of symmetric algebras, (with A. Simis), Manuscripta Math. **61** (1988), 63–78.
- 57. The Jacobian module of a Lie algebra, (with J. P. Brennan and M. V. Pinto), Trans. Amer. Math. Soc., **321** (1990), 183–196.

- 58. Modules of differentials of symmetric algebras, Arch. Math. **56** (1990), 436–442.
- 59. Arithmetic of normal Rees algebras, (with J. Herzog and A. Simis), J. Algebra **143** (1991), 269–294.
- 60. On the equations of Rees algebras, J. reine angew. Math. **418** (1991), 189–218.
- 61. Computing the integral closure of an affine domain, Proc. Amer. Math. Soc. **113** (1991), 633–638.
- 62. Jacobian dual fibrations, (with A. Simis and B. Ulrich), American J. Math. **115** (1993), 47–75.
- 63. On the structure of certain normal ideals, (with C. Huneke and B. Ulrich), Compositio Math. **84** (1992), 25–42.
- 64. Direct methods for primary decomposition, (with D. Eisenbud and C. Huneke), Invent. math. **110** (1992), 207–235.
- 65. On the ideal theory of graphs, (with A. Simis and R. Villarreal), J. Algebra **167** (1994), 389–416.
- 66. The S_2 -closure of a Rees algebra, (with S. Noh), Results in Mathematics **23** (1993), 149–162.
- 67. The equations of Rees algebras of ideals with linear presentation, (with B. Ulrich), Math. Z. **214** (1993), 79–92.
- 68. On the structure of Gorenstein ideals of deviation two, (with C. Huneke and B. Ulrich), Results in Mathematics **29** (1996), 90–99.
- 69. The top of a system of equations, Bol. Soc. Mat. Mexicana (issue dedicated to José Adem) **37** (1992), 549–556.
- 70. Effective computation of the integral closure of a morphism, (with J. Brennan), J. Pure & Applied Algebra **86** (1993), 125–134.
- 71. Links of prime ideals, (with Alberto Corso and Claudia Polini), Math. Proc. Camb. Phil. Soc. **115** (1994), 431–436.
- 72. Cohen–Macaulay Rees algebras and degrees of polynomial relations, (with A. Simis and B. Ulrich), Math. Annalen **301** (1995), 421–444.

- 73. Symbolic powers, Serre conditions and Cohen–Macaulay Rees algebras, (with S. Morey and S. Noh), *Manuscripta Math.* **86** (1995), 113–124.
- 74. The reduction number of an algebra, *Compositio Math.* **104** (1996), 189–197.
- 75. The content of Gaussian polynomials, (with S. Glaz), *J. Algebra* **202** (1998), 1–9.
- 76. Generic Gaussian ideals, (with A. Corso and R. Villarreal), *J. Pure & Applied Algebra* **125** (1998), 127–137.
- 77. Tangent star cones, (with A. Simis and B. Ulrich), *J. reine angew. Math.* **483** (1997), 23–59.
- 78. Testing flatness and torsionfree morphisms, *J. Pure & Applied Algebra* **122** (1997), 313–321.
- 79. Degree bounds in monomial subrings, (with W. Bruns and R. Villarreal), *Illinois J. Math.* **41** (1997), 341–353.
- 80. The integral closure of subrings associated to graphs, (with A. Simis and R. Villarreal), *J. Algebra* **199** (1998), 281–289.
- 81. The homological degree of a module, *Trans. Amer. Math. Soc.* **350** (1998), 1167–1179.
- 82. Cohomological degrees and Hilbert functions of graded modules, (with L. R. Doering and T. Gunston), *American J. Math.* **120** (1998), 493–504.
- 83. The integral closure of ideals, (with A. Corso and C. Huneke), *Manuscripta Math.* **350** (1998), 1167–1179.
- 84. The structure of closed ideals, (with J. Brennan), *Math. Scand.* **88** (2001), 3–16.
- 85. Reduction numbers of ideals, *J. Algebra* **216** (1999), 652–664.
- 86. Codimension, multiplicity and integral extensions, (with A. Simis and B. Ulrich), *Math. Proc. Camb. Phil. Soc.* **130** (2001), 237–257.
- 87. Divisorial extensions and the computation of integral closures, *J. Symbolic Computation* **30** (2000), 595–604.
- 88. On maximal Hilbert functions, (with M. E. Rossi and G. Valla), *Results in Math.* **39** (2001), 99–114.

- 89. On the Buchsbaum–Rim polynomial of a module, (with J. Brennan and B. Ulrich), *J. Algebra* **241** (2001), 379–392.
- 90. Minors of symmetric and exterior powers, (with W. Bruns), *J. Pure & Applied Algebra* **179** (2003), 235–240.
- 91. Multiplicities and reduction numbers, *Compositio Math.* **139** (2003), 361–379.
- 92. Rees algebras of modules, (with A. Simis and B. Ulrich), *Proceedings London Math. Soc.* **87** (2003), 610–646.
- 93. On the complexity of the integral closure, (with B. Ulrich), *Transactions Amer. Math. Soc.* **357** (2005), 425–442.
- 94. Effective normality criteria for algebras of linear type, (with J. Brennan), *J. Algebra* **273** (2004), 640–656.
- 95. Multiplicity of the special fiber of blowups, (with A. Corso and C. Polini), *Math. Proc. Camb. Phil. Soc.* **140** (2006), 207–219.
- 96. The tracking number of an algebra, (with K. Dalili), *American J. Math.* **127** (2005), 697–708.
- 97. Integrally closed modules and their divisors, (with J. Hong and S.-S. Noh), *Communications in Algebra* **33** (2005), 4719–4733.
- 98. Normalization of ideals and Briançon-Skoda numbers, (with C. Polini and B. Ulrich), *Math. Research Letters* **12** (2005), 827–842.
- 99. Normalization of modules, (with J. Hong and B. Ulrich), *J. Algebra* **303** (2006), 133–145.
- 100. Complexity of the normalization of algebras, (with T. Pham), *Math. Zeit.* **258** (2008), 729–743.
- 101. On the homology of two-dimensional elimination, (with J. Hong and A. Simis), *J. Symbolic Computation* **43** (2008), 275–292.
- 102. The Chern coefficients of local rings, *Michigan Mathematical J.* **57** (2008), 725–744.
- 103. The signature of the Chern coefficients of local rings, (with L. Ghezzi and J. Hong), *Math. Research Letters* **16** (2009), 279–289.

- 104. Length complexity of tensor products, *Communications in Algebra* **38** (2010), 1743–1760.
- 105. Tangent algebras, (with A. Simis and B. Ulrich), *Trans. Amer. Math. Soc.* **364** (2012), 571–594.
- 106. On the computation of the jdeg of blowup algebras, (with T. Pham), *J. Pure & Applied Algebra* **214** (2010), 1800–1807.
- 107. Cohen-Macaulayness versus the vanishing of the first Hilbert coefficient of parameter ideals, (with L. Ghezzi, S. Goto, J. Hong, K. Ozeki and T.T. Phuong), *J. London Math. Soc.* **81** (2010), 679–695.
- 108. Variation of the first Hilbert coefficients of parameters with a common integral closure, (with L. Ghezzi, S. Goto, J. Hong, K. Ozeki and T. T. Phuong), *J. Pure & Applied Algebra*, to appear.
- 109. Variation of Hilbert coefficients (with L. Ghezzi, S. Goto and J. Hong), *Proc. Amer. Math. Soc.*, to appear.

CONFERENCE PROCEEDINGS

- 1. On quasi-local regular algebras, *Proc. Comm. Alg. Conf., Ist. Naz. Alta Mat. Roma* (1971), *Symp. Math.*, **XI** (1973), 11–22.
- 2. Rings of global dimension two, *Lecture Notes in Math.* **311**, Springer–Verlag, Berlin–Heidelberg–New York, 1973, 243–251.
- 3. The λ -dimension of a ring, *Proc. Comm. Alg. Conf., Queen’s Univ., 1975*, *Queen’s Papers in Pure & Applied Math.* **42** (1976), 212–224.
- 4. On the arithmetic of flat ideals, *Atas IV Escola de Algebra, IMPA, Rio de Janeiro*, 1979, 104–122.
- 5. The conormal bundle of an ideal, *Atas V Escola de Algebra, IMPA, Rio de Janeiro*, 1979, 111–166.
- 6. Approximation complexes, (with A. Simis), *Atas VI Escola de Algebra, IMPA, Rio de Janeiro*, 1981, 87–157.
- 7. Koszul homology and blowing-up rings, (with J. Herzog and A. Simis), *Proc. Trento Conf. in Comm. Algebra, Lecture Notes in Pure and Applied Math.*, Vol. **84**, 79–169, Marcel-Dekker, New York, 1983.

- 8. What is a prime ideal?, Atas IX Escola de Algebra, IMPA, Rio de Janeiro, 1986, 141–149.
- 9. Reduced normal cones are domains, (with C. Huneke and A. Simis), A. M. S. Contemporary Mathematics **88** (1989), 95–101.
- 10. Symmetric algebras and factoriality, in *Commutative Algebra* (M. Hochster, C. Huneke and J. D. Sally, Eds.), MSRI Publications **15**, Springer–Verlag, Berlin–Heidelberg–New York, 1989, 467–496 .
- 11. Symmetric Algebras, in *Commutative Algebra*, Proceedings, Salvador 1988 (W. Bruns and A. Simis, Eds.), Lecture Notes in Mathematics **1430**, Springer–Verlag, Berlin–Heidelberg–New York, 1990, 115–160.
- 12. Constructions in commutative algebra, in *Computational Algebraic Geometry and Commutative Algebra*, Proceedings, Cortona 1991 (D. Eisenbud and L. Robbiano, Eds.), Cambridge University Press, 1993, 151–197.
- 13. Canonical modules and the factoriality of symmetric algebras, (with A. Simis and B. Ulrich), *Rings, Extensions, and Cohomology*, Proceedings (Andy R. Magid, Ed.), Lecture Notes in Pure and Applied Math. **159**, Marcel–Dekker, New York, 1994, 213–221.
- 14. Jacobian matrices and constructions in algebra, Proceedings 9th AAEEC, Lecture Notes in Computer Science **539**, Springer–Verlag, Berlin–Heidelberg–New York, 1991, 48–64.
- 15. Hilbert functions, analytic spread and Koszul homology, A. M. S. Contemporary Mathematics **159** (1994), 401–422.
- 16. The integral closure, in *Commutative Algebra*, Proceedings, Trieste 1992 (G. Valla, N. V. Trung and A. Simis, Eds.), World Scientific, Singapore, 1994, 263–290.
- 17. Gaussian polynomials, (with S. Glaz), in *Commutative Ring Theory*, Proceedings, Fès, Morocco, 1995 (P.-J. Cahen, M. Fontana, E. Houston, S.-E. Kabbaz, Eds.), Marcel Dekker, New York, 1996, 325–337.
- 18. Cohomological Degrees of Graded Modules, in *Six Lectures on Commutative Algebra*, Progress in Mathematics **166**, Birkhäuser, Boston, 1998, 345–392.
- 19. Special divisors of blowup algebras, (with S. Morey), Proceedings SAGA V in *Ring Theory and Algebraic Geometry* (A. Granja, J. A. Hermida Alonso and A. Verschoren, Eds.), Lecture Notes in Pure and Applied Mathematics **221**, Marcel Dekker, New York, 2001, 257–288.

- 20. Monomial ideals and the computation of multiplicities, (with D. Delfino, A. Taylor, R. Villarreal and N. Weininger), in *Commutative Ring Theory and Applications* (M. Fontana, S.-E. Kabbaj and S. Wiegand, Eds.), Lecture Notes in Pure and Applied Mathematics **231**, Marcel Dekker, New York, 2002, 87–107.
- 21. Multiplicities and the number of generators of Cohen-Macaulay ideals, *Contemporary Math.* **331** (2003), 343–352.
- 22. Integral closure of ideals and annihilators of homology, (with A. Corso, C. Huneke and D. Katz), *Lecture Notes in Pure and Applied Math.* **244** (A. Corso, P. Gimenez, M. Vaz Pinto, S. Zarzuela Eds.), Chapman & Hall/CRC, 2006, 33-48.
- 23. Cohomological degrees and the HomAB conjecture, (with K. Dalili), in *Algebra, Geometry and Their Interactions* (A. Corso, J. Migliore and C. Polini Eds.), *Contemp. Math.* **448** (2007), 43-61.

PREPRINTS

- 1. Indices of normalization of ideals, (with C. Polini, B. Ulrich and R. Villarreal), arXiv:06.4560.
- 2. The equations of almost complete intersections, (with J. Hong and A. Simis), Preprint, 2009, 27 pgs.
- 3. Complexity Degrees of Algebraic Structures, Monograph, 264 pgs, in preparation, 2011.
- 4. The vanishing and the boundedness of the Chern coefficients of modules (with L. Ghezzi, S. Goto, J. Hong, K. Ozeki and T. T. Phuong), 2011, 24 pgs.
- 5. The homology of parameter ideals (with S. Goto and J. Hong), 2011, 34 pgs.
- 6. On the radical of endomorphism rings of local modules, arXiv:1109.0203.

RECENT DOCTORAL DISSERTATIONS SUPERVISED:

Alberto Corso, May 1995 [Associate Professor, U. Kentucky],

Susan Morey, May 1995 [Associate Professor, U. Texas San Marcos]

Claudia Polini, May 1995 [Professor, Notre Dame]

Maria Vaz Pinto, May 1995 [Associate Professor, Inst. Sup. Tecnico, Lisbon, Portugal]

Luisa R. Doering, May 1997 [Associate Professor, U. Federal Rio Grande do Sul, Porto Alegre, Brasil]
Tor Gunston, October 1998 [Software Engineer]
Jooyoun Hong, May 2003 [Assistant Professor, Southern Connecticut State U.]
Kia Dalili, May 2005 [Postdoc, U. Missouri, Columbia]
Thuy Pham, May 2006 [Postdoc, U. Toronto]

CONFERENCES

NOTEWORTHY TALKS:

From 1991. Excludes seminars and colloquia.

- Jacobian Matrices and Constructions in Algebra, 9th International AAEECC meeting (invited hour speaker), New Orleans, October, 1991.
- Basic Constructions of Commutative Algebra, Computational Algebraic Geometry and Commutative Algebra Conference, Cortona, Italy, June, 1991.
- Homotopies and Radicals, Midwest Commutative Algebra Workshop (1 of 3 featured speakers), Columbia, Missouri, June, 1991.
- Hilbert Functions, Analytic Spread and Koszul Homology, AMS Summer Research Conference in *Commutative Algebra*, Mt. Holyoke College, July, 1992.
- Computational Methods in Commutative Algebra (5 lectures), Workshop on Commutative Algebra, International Centre for Theoretical Physics, Trieste, Italy, September, 1992.
- On the Integral Closure, Conference on Commutative Algebra and its Interaction with Computer Algebra and Combinatorics, Institute for Experimental Mathematics, Essen University, Germany, June, 1993.
- Cohen–Macaulay Blowup Algebras and their Equations (4 lectures), Workshop on Commutative Algebra and its Relation to Combinatorics and Computer Algebra, International Centre for Theoretical Physics, Trieste, Italy, May, 1994.
- The Degrees of Modules (5 lectures), Summer School in Commutative Algebra, Centre de Recerca Matemàtica, Universitat Autònoma de Barcelona, Bellaterra, Spain, July, 1996.
- Computational Algebra (2 lectures), National Security Agency R&E, Baltimore, April, 1997.
- Multiplicity inequalities in local algebra, the Buchsbaum Conference, Genova, Italy, May, 1998.
- Numerical Signatures of Algebraic Varieties (4 lectures), Universidad de Valladolid, Spain, June, 1998.

- Finiteness of ideals and algebras, XV Escola de Algebra, Canela, Rio Grande do Sul, Brazil, July, 1998.
- Finiteness of Hilbert functions, Universidade Federal de Pernambuco, Recife, Brazil, August, 1998.
- Intertwining Algebras, Invited hour speaker, V SAGA, International Conference in Algebra and Algebraic Geometry, Leon, Spain, June, 1999
- Numerical Invariants of Ideals and the Intertwining Algebra, ALGA99, Invited hour speaker, Campinas, Brazil, July, 1999
- Bounds in the Computation of the Integral Closure, EACA-99, Invited hour speaker, Tenerife, Spain, September, 1999
- Integral Closure, Hilbert Functions and Cohomology of Blowups, (4 talks), Workshop in Computational Commutative Algebra and Algebraic Geometry, Valladolid, Spain, May, 2000
- Cohomological Degree Functions and Applications, *Current Trends in Commutative Algebra*, Trento, Leviso Terme, Italy, July, 2002
- Integral Closure of Ideals, *Brazilian School of Algebra*, Cabo Frio, Rio de Janeiro, Brazil, August 2002
- Cohomological Degrees; Answers & Questions, *Workshop in Commutative Algebra*, MSRI, Berkeley, December 2002
- Integral Closure, *Bluegrass Algebra Conference*, U. Kentucky, Lexington, April, 2003
- Big Degr, *Lisboa Conference in Commutative Algebra*, Lisbon, Portugal, June, 2003
- Integral Closure of Algebraic Structures, *XV Latinamerican Algebra Colloquium*, Cocoyoc, Mexico, July, 2003
- The Tracking Number of an Algebra, *J. Lipman Fest*, Purdue University, May, 2004
- Homological Aspects of the Normalization of Algebraic Structures (4 talks), *Summer School on Commutative Algebra*, ICTP, Trieste, Italy, June, 2004
- Complexity of the Normalization of Algebras, *Magic05*, Notre Dame University, October, 2005
- Topics on the Complexity of the Normalization of Algebras, Conference on Valuation Theory and Integral Closures in Commutative Algebra, Ottawa University, July, 2006
- Complexity of the Normalization of Algebras, *Conference on Commutative Rings and Abelian Groups*, Connecticut University, Storrs, June, 2007
- Complexity of the Normalization of Algebras, *J. Herzog's Fest*, Cortona, Italy, September, 2007
- The Chern Coefficients of Local Rings, *Yokohama Conference on Commutative Algebra*, Yokohama, Japan, March, 2008
- The Equations of Almost Complete Intersections, *AMS Regional Meeting*, University Station, PA, October, 2009