CURRICULUM VITAE

Name: Alexander Prestel
Date of Birth: January 17th, 1941
Place of Birth: Berchtesgaden, Germany
Citizenship: German

EDUCATIONAL QUALIFICATIONS

1947-1952	Elementary School at Berchtesgaden, Germany
1952-1961	High School Münster, Germany
	Abitur (School Leaving Examination) in March 1961
April 1961- July 1966	University of Münster Major Subject: Mathematics Minors: Physics, Mathematical Logic Obtained the doctoral degree (Dr.rer.nat.) in Mathematics at the University of Münster. Title of Dissertation: "Die elliptischen Fixpunkte der Hilbertschen Modulgruppen" Supervising Professor: K.B. Gundlach

TEACHING AND RESEARCH EXPERIENCE

Nov. 1966-May 1972	Research Assistant at the University of Bonn
May 1972	Habilitation at the University of Bonn Title of the Habilitationsschrift: "Untersuchungen über Pasch-freie Geometrie und semigeordneter Körper"
April 1973-July 1973	"Lehrstuhlvertreter" at the University of Münster
July 1973-Sept. 1975	Associate Professor at the University of Bonn
October 1975-now	Full Professor at the University of Konstanz

VISITING PROFESSORSHIPS

University of California, Berkeley (1977,1978,1982,1995)
IMPA, Rio de Janeiro (1974,1978, 1982,1983,1985,1987)
University of São Paulo (1975)
University of Campinas (1980,1984,1986,1994,1997,1998,1999,2000,2001,2002,2003)
University of Paris VII (1985)
University of Tel Aviv (1987)
University Complutense, Madrid (1990)
University of Heidelberg (1991)
Monash University, Melbourne (1991)
Institute for Advanced Studies, Jerusalem (1992)
Louisiana State University, Baton Rouge (1996)
University of Pisa (1996, 2004)
Mathematical Sience Research Institute, Berkeley (1998,1999)
University of Stellenbosch, South Africa (2000,2003)

EDITORIAL EXPERIENCE

1983-1993   Annals of Pure and Applied Logic
1983-1998   Manuscripta Mathematica
1991-   Communications in Algebra

DOCTORAL THESIS ADVISOR

Wilfried Meißner: Untersuchungen unendlichdimensionaler quadratischer Räume in Hinblick auf modelltheoretische Übertragungsprinzipien (1979)

Bernhard Heinemann: Über mehrfach bewertete "Henselsche" Körper (1982)

Margarita Bradley-Delso: Aspectos cuantitativos y cualitativos finitistas en sumas de potencias 2m-esimas de polinomios (1987)

Camilla Grob: Die Entscheidbarkeit der Theorie der maximalen pseudo p-adisch abgeschlossenen Körper (1988)

Joachim Schmid: Existentiell abgeschlossene Integritätsbereiche mit reellen Radikalrelationen (1991)

Cydara Ripoll: Representações de funções racionais sobre corpos p-ádicos (1991)

Jochen Koenigsmann: Half ordered fields (1993)

Maria Pia Solèr: Charakterisierung von Hilberträumen als speziellle orthomodulare Räume (1993)

Mihai Prunescu: A structural approach to Diophantine definability (1998)

Thomas Jacobi: Über die Darstellung positiver Polynome auf semi-algebraischen Kompakta (1999)

Markus Schweighofer: Iterated rings of bounded elements and generalizations of Schmüdgen's Theorem (2002)

PUBLICATIONS

1. Die elliptischen Fixpunkte der Hilbertschen Modulgruppen.
   Math. Ann. 177 (1968), 181-209

2. Die Fixpunkte der symmetrischen Hilbertschen Modulgruppe zu einem
   reell-quadratischen Zahlkörper mit Primzahldiskriminante.
   Math.Ann. 200 (1973), 123-139

3. On a Class of Pasch-free Euclidean Planes (with H.N. Gupta).
   Bull.Acad.Polon.20 (1972), 17-23

4. Triangle and Schwarz Inequality in Pasch-free Euclidean Geometry
   (with H.N. Gupta). Bull.Acad.Polon.20 (1972), 999-1003

5. Euklidische Geometrie ohne das Axiom von Pasch.
   Abh. Math. Sem. Hamburg 41 (1974), 224-251

6. Quadratische Semi-Ordnungen und quadratische Formen.
   Math. Z. 133 (1973), 319-342

7. Erblich euklidische Körper (with M. Ziegler).
   J. reine angew. Math. 274/275 (1975), 196-205

8. On some Hasse Principles of Formally Real Fields (with R. Elman and
   T.Y. Lam). Math.Z. 134 (1973), 291-301

9. Non-Axiomatizability of Real General-Affine Geometry (with L.W. Sz-
   czerba). Fund. Math. 104 (1979), 193-202

10. An Introduction to Ultra Products. Atas da 3. Escola de Algebra 1974,
    IMPA, Rio de Janeiro, 111-134

11. A Local Global Principle for Quadratic Forms. Math. Z. 142 (1975),
    91-95

12. Lectures on Formally Real fields. Monografias de Mathematica 22, IM-
    PA, Rio de Janeiro 1975, 187 p. (2.ed.: Lecture Notes in Mathematics
    1093, Springer)

13. Local-Global Principles for Quadratic Forms over Function Fields.
    Conference on Quadratic Forms - 1976. Queen's Paper in Pure and
    Applied Math. 46 (1977), 595-612

14. Model Theoretic Methods in the Theory of Topological Fields (with M. Ziegler). J. reine angew. Math. 299/300 (1978), 318-341

15. Non-Axiomatizable Classes of V-Topological Fields (with M Ziegler). J. reine angew. Math. 316 (1980), 211-214

16. Entscheidbarkeit mathematischer Theorien. Jahresber. DMV 81 (1979), 177-188

17. Remarks on the Pythagoras and Hasse Number of Real Fields. J. reine angew. Math. 303/304 (1978), 284-294

18. Almost Isotropic Quadratic Forms (with R. Ware). J. London Math. Soc. (2)19 (1979), 241-244

19. Sums of Squares over Fields. Atas da 5. Escola de Algebra, IMPA, Rio de Janeiro 1978, 33-44

20. Artin's Conjecture on p-adic Number Fields. Atas da 5. Escola de Algebra, IMPA, Rio de Janeiro, 1978, 79-109

21. Zur Axiomatisierung gewisser affiner Geometrien. L'Enseignement Mathematique II, 27 (1981), 125-136

22. Pseudo Real Closed Fields. In: Set Theory and Model Theory, eds. R.B. Jensen and A. Prestel. Lecture Notes in Math., Springer Nr. 872, 127-156

23. Decidable Theories of Preordered Fields. Math. Ann. 258 (1982), 481-492

24. Reduced Stability of the Witt Ring of a Field and its Pythagorean Closure (with R. Elman). Amer. J. of Math. 106 (1984), 1237-1260

25. Bewertungsfortsetzungen und nicht-injektive Kollineationen (with R. Fritsch). Geometriae Dedicata 13 (1982), 107-111

26. Non-Standard Analysis. Chapter 11 in "Zahlen", Grundwissen Mathematik, Springer, 1983

27. p-Adically Closed Fields. Atas da 7. Escola de Algebra, IMPA, Rio de Janeiro 1983, 1-11

28. Lectures on Formally p-Adic Fields (with P. Roquette). Monografias de Matematica 38, IMPA, Rio de Janeiro 1983, 169 p. (also published as 'Lecture Notes in Mathematics' 1050, Springer)

29. Fields Regularly Closed with Respect to Finitely Many Valuations and Orderings (with B. Heinemann). Canad.Math.Soc.Conf.Proc.4(1984), 297-336

30. On the Axiomatization of PRC-Fields. Proc. of the VI Latin American Symposium on Mathematical Logic, Caracas 1983. Lecture Notes in Math., 1130, Springer

31. Model Theory of Fields: An Application to Positive Semidefinite Polynomials. Proc. of the 'Table Ronde de Logique', Paris 1983, Mem.Soc.Math.France 16 (1984), 53-65

32. On Places of Algebraic Function Fields (with F.-V. Kuhlmann). J. reine angew. Math. 353 (1984), 181-195

33. On the Size of Zeros of Quadratic Forms over Rational Function Fields. J. reine angew. Math. 378 (1987), 101-112

34. On Trace Forms of Algebraic Function Fields. Rocky Mountain J. of Math. 19 (1989), 897-911

35. Model Theory Applied to some Questions about Polynomials. In: Contributions to General Algebra 5, Proc. Salzburg Conf. 1986, 31-43, Teubner 1987

36. Sums of 2m-th Powers of Rational Functions. Atas do 15 coloquio brasileiro de mathematica 1985. IMPA, Rio de Janeiro 1987, 27-30

37. Representations of a Real Polynomial f(X) as a Sum of 2m-th Powers of Rational Functions (with M. Bradley). In: Martinez, Jorge (ed.). Ordered Algebraic Structures. Kluwer Acad.Pub. 1989, 197-207

38. Existentially Closed Domains with Radical Relations: An Axiomatization of the Ring of Algebraic Integers (with J. Schmid). J. reine angew. Math.407 (1990), 178-201

39. Decidability of the Ring of Real Algebraic and p-Adic Algebraic Integers (with J. Schmid). J. reine angew. Math. 414 (1991), 141-148

40. Algebraic Number Fields Elementarily Determined by their Absolute Galois Group. Israel J. of Math. 73 (1991), 199-205

41. Unique Realizability of Finite Abelian 2-Groups as Galois Groups (with Ch.U.Jensen). J. of Number Theory 40 (1992), 12-31

42. Realization of Finitely Generated Profinite Groups by Maximal Abelian Extensions of Fields (with Ch.U.Jensen). J. reine angew. Math 447 (1994), 201-218

43. Integer-Valued Rational Functions on Valued Fields (with C.C.Ripoll). manuscripta mathematica 73 (1991), 437-452

44. On a Variation of Hilbert's 17-th Problem. Proceedings: Algebra and Number Theory. De Gruyter 1994

45. Sums of 2m-th Powers of Rational Functions inOne Variable over Real Closed Fields (with M.D.Choi, T.Y.Lam, and B. Reznick). Math.Z. 221 (1996), 93-112

46. On Soler's Characterization of Hilbert Spaces. manuscripta mathematica 86 (1995), 225-238

47. Finitely Generated Pro-p-Groups as Galois Groups of Maximal p-Extensions of Function Fields over $\mathbb{Q}_q$ (with Ch.U.Jensen). manuscripta mathematica 90 (1996), 225-238

48. How often can a finite group be realized as Galois group over a field (with Ch.U. Jensen), manuscripta mathematica 99 (1999), 223-247

49. Tame Galois p-extensions of p-henselian fields (with A.J. Engler), manuscripta mathematica 99 (1999), 249-254

50. Model theory of real closed rings (with N. Schwartz), Valuation Theory and its Applications, eds. F.-V. Kuhlmann, S. Kuhlmann, and M. Marshall, Fields Institute Communications 32 (2002), 261-290

51. Distinguished representations of strictly positive polynomials (with Th. Jacobi), J. reine angew. Math. 532 (2001), 223-235

52. Bounds for Representations of Polynomials Positive on Compact Semi-algebraic Sets. Valuation Theory and its Applications, eds. F.-V. Kuhlmann and M. Marshall, Fields Institute Communications 32 (2002), 253-260

53. Representation of Real Commutative Rings, (submitted to Expositiones Math.)

BOOKS

(i) Mengenlehre für den Mathematiker. Vieweg Studium, Grundkurs Mathematik, 1985 (with U. Friedrichsdorf)

(ii) Einführung in die Mathematische Logik und Modelltheorie. Vieweg Studium, Aufbaukurs Mathematik, 1986

(iii) Model Theory for the Real Algebraic Geometer. Universita di Pisa, 1998

(iv) Positive Polynomials: From Hilbert's 17th Problem to Real Algebra (with Ch. Delzell). Mathematics-Monograph, Springer, 2001

(v) Valued Fields, (with A.J. Engler) (to appear end of 2004)