CURRICULUM VITAE AND PUBLICATION LIST OF D.W. MASSER

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DAVID WILLIAM MASSER:

Born 8th November 1948 in London, England.

EDUCATION:

B.A. (Hons), University of Cambridge (Trinity College), England 1970.
M.A., University of Cambridge, 1974.
Ph.D., University of Cambridge, 1974.

EMPLOYMENT:

University of Nottingham, England
Lecturer, 1973-1975 and 1976-1979
Reader, 1979-1983.

University of Cambridge,
Research Fellow of Trinity College, 1975-1976.

University of Michigan, U.S.A.
Professor, 1983-1992.

Universität Basel, Switzerland,
Professor, 1992-2014.

VISITING APPOINTMENTS:

University of Michigan,
Visiting Professor, Summer 1977 and Summer 1981.

University of Sydney, Australia,
Visiting Professor, Summer 1979.

Institut Henri Poincaré, Paris, France.
C.N.R.S. Fellow, Spring 1980.

Gesamthochschule Wuppertal, Germany,
Visiting Professor, Easter Term 1981.

Université de Paris VI, France,
Visiting Professor, Spring 1982 and May 1986.

Max-Planck-Institut, Bonn, Germany,
Visiting Member, June 1985, June 1986, September 1990, Summer 1991.

Institute for Advanced Study, Princeton, U.S.A.,
Visiting Member, Winter 1986, Winter 1990, and April 2001. Visitor October-November 2017.

Macquarie University, Sydney, Australia,
Visiting Professor, Summer 1987.

ETH Zürich, Switzerland,
Visiting Professor, Summer 1988, Summer 1989, December 1989, Summer 1990.

I.H.E.S. Paris, France,
Visiting Member, September-November 1989 and May-June 1992.

Universität Göttingen, Germany,
Visiting Professor, July 1991.

Universität Erlangen, Germany,
Visiting Professor, August 1991 (no probably 1992).

Universität Konstanz, Germany,
Visiting Professor, October 1990 - March 1991.

M.S.R.I. Berkeley, U.S.A.,
Visiting Member, March 1993 and February-March 2014.

Université de Strasbourg, France,
Visiting Professor, March 1995.

Hong Kong University of Science and Technology,
Visiting Professor, February-March 1996.

University of Pisa,

Visiting Professor, July 1996.

Centre Emile Borel, Paris, France,
Visiting Member, 21st February - 5th March 1999.

University of Crete, Greece,
Visiting Professor "S.K. Pichoridis", August-September 1999.

University of Colorado, Boulder, U.S.A.,
Visiting Professor, March 2001.

I.U.A.V. Venice, Italy,
Visiting Professor, June 2001, October 2003, September 2004.

Université de Bordeaux, France,
Visiting Professor, September 2001.

E.S.I. Vienna, Austria,
Visiting Professor, March 2002, April-May 2010, Senior Research Fellow March-June 2006.

Scuola Normale di Pisa, Italy,
Visiting Professor, July 2005, July 2006, June-July 2010.

Long-Term Visitor, Fields Institute, February 2017.

Shapiro Visitor, Penn State University, April 2018.

Dame Kathleen Ollerenshaw Visiting Professor, University of Manchester, July-August 2018.

FELLOWSHIPS, HONOURS AND PRIZES:

Invited speaker at the International Congess of Mathematicians (Warsaw 1983).

Alexander von Humboldt Research Award for Senior U.S. Scientists (1990-1991).

Invited by National Science Council of Taiwan as part of their International Leadership Programme (22nd February - 5th March 1990).

Fellowship from the Japan Society for the Promotion of Science (25th September - 10th October 1994).

Séminaire Bourbaki on my work with Wüstholz, given by J.-B. Bost in March 1995.

Elected to a Fellowship of the Royal Society of London (26th May 2005).

Séminaire Bourbaki on my work with Bombieri and Zannier, given by A. Chambert-Loir in January 2011.

Elected to "Academia Europaea" (July 2014).

DOCTORAL STUDENTS:

Michael Anderson (Nottingham 1974-1976).

Paula Cohen (Nottingham 1980-1982).

Dan Kornhauser (Michigan 1986-1988).

Noel Wass (Michigan 1987-1989).

John Rickert (Michigan 1988-1990).

Thomas Loher (Zürich 1993-2001).

Christine Liebendörfer (Basel 1997-2002).

Rainer Dietmann (Basel 1998-2000) - joint with Jörg Brüdern.

Philipp Habegger (Basel 2003-2007).

Martin Widmer (Basel 2003-2007).

Dominik Leitner (Basel 2009-2013).

Harry Schmidt (Basel 2012-2015).

MISCELLANEOUS:

In 1977 I organized with A. Baker a Conference on Transcendence Theory in Cambridge, and I edited with him the Proceedings (see Bibliography).

In 2006 I organized, first with H.P. Schlickewei and later also with W.M. Schmidt, a three-month Workshop "Diophantine approximation and heights" in ESI Vienna.

I was Number Theory Seminar organizer for most of my time in Nottingham,

Michigan and Basle.

I obtained National Science Foundation grants from 1983 to 1991, and also Schweizerischer Nationalfonds grants from 1997 to retirement.

I have been an editor of Michigan Math. J. and Illinois Math. J., both 1986-1991, and also of Crelle's Journal 1994-2004.

I was Chairman of the Basel Mathematics Institute during the years 1996/97, 2002/03 and 2007/08.

I was on the Number Theory Panel for ICM 2010.

I was on the scientific or organising committees for various conferences.

BIBLIOGRAPHY:

The discriminants of special equations, Math. Gazette 372 (1966), 158-160.

On the periods of the exponential and elliptic functions, Math. Proc. Cambridge Phil. Soc. 73 (1973), 339-350.

Transcendence and abelian functions, in: Journées Arithmétiques de Bordeaux, Astérisque 24/25 (1974), 177-182.

Elliptic functions and transcendence, Lecture Notes in Math. 437, Springer 1975 (143 pp).

Linear forms in algebraic points of abelian functions I, Math. Proc. Cambridge Phil. Soc. 77 (1975), 499-513.

On the periods of abelian functions in two variables, Mathematika 22 (1975), 97-107.

Sur les points algébriques d'une variété abélienne, C.R. Acad. Sci. Paris 280 (1975), 11-12.

Linear forms in algebraic points of abelian functions II, Math. Proc. Cambridge Phil. Soc. 79 (1976), 55-70.

Linear forms in algebraic points of abelian functions III, Proc. London Math. Soc. 33 (1976), 549-564 .

A note on a paper of Franklin, Acta Arith. 31 (1976), 143-152.

The transcendence of definite integrals of algebraic functions, in: Journées Arithmétiques de Caen, Astérisque 41/42 (1976), 231-238.

Division fields of elliptic functions, Bull. London Math. Soc. 9 (1977), 49-53.

The transcendence of certain quasi-periods associated with abelian functions in two variables, Compositio Math. 35 (1977), 239-258.

On small values of polynomials, Bull. London Math. Soc. 9 (1977), 257-260.

Some vector spaces associated with two elliptic functions, in: Trancendence Theory: Advances and Applications (eds. A. Baker and D.W. Masser), Academic Press, London 1977 (pp.101-119).

A note on abelian functions, in: Trancendence Theory: Advances and Applications (eds. A. Baker and D.W. Masser), Academic Press, London 1977 (pp.145-147).

Diophantine approximation and lattices with complex multiplication, Invent. Math. 45 (1978), 61-82.

Polynomial interpolation in several variables, J. Approximation Theory 24 (1978), 18-34.

Some recent results in transcendence theory, in: Journées Arithmétiques de Luminy, Astérisque 61/62 (1979), 145-154.

On the square roots of strictly accretive matrices (with M. Neumann), Linear Algebra Appl. 28 (1979), 135-140.

Multiplicity estimates for analytic functions I (with W.D. Brownawell), J. reine angew. Math. 314 (1980), 200-216.

Multiplicity estimates for analytic functions II (with W.D. Brownawell), Duke Math. J. 47 (1980), 273-295.

Linear forms in elliptic logarithms (with D. Bertrand), Invent. Math. 58 (1980), 283-288.

Lower bounds for heights on elliptic curves (with M. Anderson), Math. Z. 174 (1980), 23-34.

On quasi-periods of abelian functions with complex multiplication, in: Fonctions abéliennes et nombres transcendants (eds. D. Bertrand et M. Waldschmidt), Mém. Soc. Math. France 2 (1980), 55-68.

Formes linéaires d'intégrales abéliennes (with D. Bertrand), C.R. Acad. Sci. Paris 290 (1980), 725-727.

Sur les fonctions entières à valeurs entières, C.R. Acad. Sci. Paris 291 (1980), 1-4.

Small values of the quadratic part of the Néron-Tate height, in: Séminaire de Théorie des Nombres, Paris 1979-80, Progress in Math. 12, Birkhäuser 1981 (pp.213-222).

A note on Baker's Theorem, in: Recent Progress in Analytic Number Theory (eds. H. Halberstam and C. Hooley), Academic Press, London 1981 (pp.153-158).

On polynomials and exponential polynomials, Invent. Math. 63 (1981), 81-95.

Zero estimates on group varieties I (with G. Wüstholz), Invent. Math 64 (1981), 489-516.

Algebraic independence properties of values of elliptic functions (with G. Wüstholz), in: Journées Arithmétiques 1980 (ed. J.V. Armitage), Cambridge University Press 1982 (pp.360-363).

A vanishing theorem for power series, Invent. Math. 67 (1982), 275-296.

Interpolation on group varieties, in: Approximations Diophantiennes et Nombres Transcendants, Luminy 1982 (eds. D. Bertrand et M. Waldschmidt), Progress in Math. 31, Birkhäuser 1983 (pp.151-171).

On certain functional equations in several variables, in: Approximations Diophantiennes et Nombres Transcendants, Luminy 1982 (eds. D. Bertrand et M. Waldschmidt), Progress in Math. 31, Birkhäuser 1983 (pp.173-190).

Fields of large transcendence degree generated by values of elliptic functions (with G. Wüstholz), Invent. Math. 72 (1983), 407-464.

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Small values of the quadratic part of the Néron-Tate height on an abelian variety, Compositio Math. 53 (1984), 153-170.

Zero estimates on group varieties II (with G. Wüstholz), Invent. Math 80 (1985), 233-267.

On sparsely totient numbers (with P. Shiu), Pacific J. Math. 121 (1986), 407-426.

Vanishing sums in function fields (with W.D. Brownawell), Math. Proc. Cambridge

Phil. Soc. 100 (1986), 427-434.

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Another note on Baker's Theorem (with G. Wüstholz), in: Analytic Number Theory and Diophantine Problems, Oklahoma 1984 (eds. A.C. Adolphson, J.B. Conrey, A. Ghosh, R. Yager), Progress in Math. 70, Birkhäuser 1987 (pp. 291-304).

Small values of heights on families of abelian varieties, in: Diophantine approximation and transcendence theory (ed. G. Wüstholz), Lecture Notes in Math. 1290, Springer 1988 (pp.109-148).

Linear relations on algebraic groups, in: New Advances in Transcendence Theory (ed. A. Baker), Cambridge University Press 1988 (pp. 248-262).

Counting points of small height on elliptic curves, Bull. Soc. Math. France 117 (1989), 247-265.

Some effective estimates for elliptic curves (with G. Wüstholz), in: Arithmetic of complex manifolds (eds. W.-P. Barth and H. Lange), Lecture Notes in Math. 1399, Springer 1989 (pp.103-109).

Specializations of finitely generated subgroups of abelian varieties, Trans. Amer. Math. Soc. 311 (1989), 413-424.

Estimating isogenies on elliptic curves (with G. Wüstholz), Invent. Math. 100 (1990), 1-24.

Note on a conjecture of Szpiro, in: Séminaire sur les pinceaux de courbes elliptiques (ed. L. Szpiro), Astérisque 183 (1990), 19-23.

Periods and minimal abelian subvarieties (with G. Wüstholz), Annals of Math. 137 (1993), 407-458.

Isogeny estimates for abelian varieties, and finiteness theorems (with G. Wüstholz), Annals of Math. 137 (1993), 459-472.

On products of polynomials (with J. Wolbert), Proc. Amer. Math. Soc. 117 (1993), 593-599.

Galois properties of division fields of elliptic curves (with G. Wüstholz), Bull. London Math. Soc. 25 (1993), 247-254.

Large period matrices and a conjecture of Lang, in: Séminaire de Théorie des Nombres, Paris 1991-92 (ed. S. David), Progress in Math. 116, Birkhäuser 1994 (pp.153-177).

Endomorphism estimates for abelian varieties (with G. Wüstholz), Math. Z. 215 (1994), 641-653.

Refinements of the Tate conjecture for abelian varieties (with G. Wüstholz), in: Abelian varieties (eds. W. Barth, K. Hulek, H. Lange), Walter de Gruyter, Berlin New York 1995 (pp. 211-223).

Factorization estimates for abelian varieties (with G. Wüstholz), Publ. Math. IHES 81 (1995), 5-24.

Specializations of endomorphism rings of abelian varieties, Bull. Soc. Math. France 124 (1996), 457-476.

Simultaneous Pell equations (with J. Rickert), J. Number Theory 61 (1996), 52-66.

A note on Siegel's lemma, Rocky Mountain J. of Math. 26 (1996), 1057-1068 (Schmidt Birthday Volume).

How to solve a quadratic equation in rationals, Bull. London Math. Soc. 30 (1998), 24-28.

Multiplicative isogeny estimates, J. Australian Math. Soc. 64 (1998), 178-194.

Specializations of some hyperelliptic Jacobians, in: Number Theory in Progress (eds. K. György, H. Iwaniec, J. Urbanowicz), Walter de Gruyter, Berlin New York 1999 (pp.293-307).

Algebraic independence properties of the Hecke-Mahler series, Quarterly J. Math. 50 (1999), 207-230.

Intersecting a curve with algebraic subgroups of multiplicative groups (with E. Bombieri and U. Zannier), Int. Math. Research Notices 20 (1999), 1119-1140.

Search bounds for diophantine equations, in: A Panorama of Number Theory, or The View from Baker's Garden (ed. G. Wüstholz), Cambridge University Press 2002 (pp.247-259).

On *abc* and discriminants, Proc. Amer. Math. Soc. 130 (2002), 3141-3150.

Heights, transcendence, and linear independence on commutative group varieties, in:

Diophantine Approximation (eds. F. Amoroso and U. Zannier), Cetraro Italy 2000, Lecture Notes in Math. 1819, Springer 2003 (pp.1-51).

Sharp estimates for Weierstrass elliptic functions, J. d'Analyse Math. 90 (2003), 257-302.

Finiteness results for multiplicatively dependent points on complex curves (with E. Bombieri and U. Zannier), Michigan Math. J. 51 (2003), 451-466.

Uniformly counting points of bounded height (with T. Loher), Acta Arith. 111 (2004), 277-297.

Mixing and linear equations over groups in positive characteristic, Israel J. Math. 142 (2004), 189-204.

Intersecting curves and algebraic subgroups: conjectures and more results (with E. Bombieri and U. Zannier), Trans. Amer. Math. Soc. 358 (2006), 2247-2257.

Heights and degrees: a note on a paper of C. Liebendörfer and G. Rémond (with D. Bertrand), Monatshefte Math. 148 (2006), 19-27.

A quick proof of Sprindzhuk's decomposition theorem (with Y. Bilu), in: More Sets, Graphs and Numbers - A Salute to Vera Sòs and András Hajnal (eds E. Györi, G. Katona, L. Lovász), Bolyai Society Mathematical Studies **15**, Springer 2006 (pp. 25-32).

Counting algebraic numbers with large height II (with J. Vaaler), Trans. Amer. Math. Soc. 359 (2007), 427-445.

Counting points with multiplicatively dependent coordinates on a curve, Diophantine Geometry (ed. U. Zannier), Edizioni della Normale 2007 (pp. 221-236).

Anomalous subvarieties - structure theorems and applications (with E. Bombieri and U. Zannier), Int. Math. Research Notices 2007, Article ID rnm057 (33 pages), doi: 10.1093/imrn/rnm057.

Torsion anomalous points and families of elliptic curves (with U. Zannier), C.R. Acad. Sci. Paris Ser. I 346 (2008), 491-494.

Intersecting a plane with algebraic subgroups of multiplicative groups (with E. Bombieri and U. Zannier), Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5) VII (2008), 51-80.

Counting algebraic numbers with large height I (with J. Vaaler), Diophantine Approximation - Festschrift for Wolfgang Schmidt (eds. H.P. Schlickewei, K. Schmidt,

R.F. Tichy), Developments in Mathematics 16, Springer 2008 (pp.237-243).

On unlikely intersections of complex varieties with tori (with E. Bombieri and U. Zannier), Acta Arithmetica 133 (2008), 309-323.

Multiplicative dependence of values of algebraic functions, Analytic Number Theory - Essays in Honour of Klaus Roth (eds. W.W.L. Chen, W.T. Gowers, H. Halberstam, W.M. Schmidt, R.C. Vaughan), Cambridge 2009 (pp. 324-333).

A note on Maurin's Theorem (with E. Bombieri, P. Habegger, U. Zannier), Rend. Lincei Mat. Appl. 21 (2010), 251-260.

Torsion anomalous points and families of elliptic curves (with U. Zannier), Amer. J. Math.132 (2010), 1677-1691.

Rational values of the Riemann zeta function, J. Number Theory 131 (2011), 2037-2046.

Torsion points on families of squares of elliptic curves (with U. Zannier), Math. Annalen 352 (2012), 453-484.

Appendices B,C,D,E,F,G in Some Problems of Unlikely Intersections in Arithmetic and Geometry, by Umberto Zannier, Annals of Math. Studies 181 (2012), pp.136-148.

Linear equations over multiplicative groups, recurrences, and mixing I (with H. Derksen), Proc. London Math. Soc. 104 (2012), 1045-1083.

An effective "Theorem of André" for CM-points on a plane curve (with Y. Bilu and U. Zannier), Math. Proc. Cambridge Phil. Soc. 154 (2013), 145-152.

Unlikely intersections for curves in multiplicative groups over positive characteristic, in Quarterly J. Math. 65 (2014), 505-515.

Unlikely, likely and impossible intersections without algebraic groups (with Z. Chatzidakis, D. Ghioca and G. Maurin), Rendiconti Lincei Mat. Appl. 24 (2013), 485-501.

Bicyclotomic polynomials and impossible intersections (with U. Zannier), J. Number Th. Bordeaux 25 (2013), 635-659.

Torsion points on families of products of elliptic curves (with U. Zannier), Advances in Math. 259 (2014), 116-133.

Sharpening 'Manin-Mumford' for certain algebraic groups of dimension 2 (with P.

Corvaja and U. Zannier), L'Enseignement Math. 59 (2013), 225-269.

Polarization estimates for abelian varieties (with G. Wüstholz), Algebra and Number Theory 8-5 (2014), 1045-1070.

Relative Manin-Mumford for abelian varieties, in "O-Minimality and Diophantine Geometry" (eds G.O. Jones and A.J. Wilkie), LMS Lecture Notes 421, Cambridge 2015, pp.193-203.

Linear equations over multiplicative groups, recurrences, and mixing II (with H. Derksen), Indagationes Math. 26 (2015), 113-136.

Torsion points on families of abelian surfaces and Pell's equation over polynomial rings (with U. Zannier and Appendix by V. Flynn), J. European Math. Soc. 17 (2015), 2379-2416.

Bounded height conjecture for function fields (with D. Ghioca, U. Zannier), New York J. Math. 21 (2015), 837-846.

Rational points on Grassmannians and unlikely intersections in tori (with L. Capuano, J. Pila, U. Zannier), Bull. London Math. Soc. 48 (2016) 141-154.

Auxiliary Polynomials in Number Theory, Tracts In Mathematics **207**, Cambridge 2016, xviii+348pp.

Relative Manin-Mumford for semi-abelian surfaces (with D. Bertrand, A. Pillay, U. Zannier), J. Edinburgh Math. Soc. 59 (2016), 837-875.

Lower bounds for the height in Galois extensions (with F. Amoroso), Bull. London Math. Soc. 48 (2016), 1008-1012.

Unlikely intersections for curves in additive groups over positive characteristic (with W.D. Brownawell), Proc. Amer. Math. Soc. 145 (2017), 4617-4627.

Collinear CM-points (with Y. Bilu and F. Luca), Algebra and Number Theory 11 (2017), 1047-1087.

Six unlikely intersection problems in search of effectivity (with P. Habegger and G.O. Jones), Math. Proc. Cambridge Phil. Soc. 162 (2017), 447-477.

Zero estimates with moving targets (with W.D. Brownawell), J. London Math. Soc. 95 (2017), 441-455.

Bounded height in pencils of finitely generated subgroups (with F. Amoroso and

U. Zannier), Duke Math. J. 166 (2017), 2599-2642.

Integration in elementary terms, Newsletter London Math. Soc. 473 (2017), 30-36.

Linear equations over multiplicative groups, recurrences, and mixing III (with H. Derksen), Ergodic Th. and Dynamical Systems 38 (2018), 2625-2643.

Torsion curves on abelian schemes and Betti coordinates (with P. Corvaja and U. Zannier), Math. Annalen 371 (2018), 1013-1045.

To appear

Abcological Anecdotes, Roth Volume, 1p.

Submitted

Torsion points, Pell's equation, and integration in elementary terms (with U. Zannier), 52pp.

Preprints

A note on multiplicities of polynomials, Publ. Math. Univ. Paris VI (1981), 11pp.

Doubly transitive Galois groups, and a problem of Moser, ETH Zürich (1990), 8pp.

In preparation

Torsion points on families of products of elliptic curves (with U. Zannier), long version 33pp.

On abelian subvarieties, 12pp.

Notes on normal equations (with V. Mantova), 34pp.

Notes on non-Jacobian abelian varieties (with U. Zannier), 24pp.

Notes on improving Roth over function fields (with U. Zannier), 9pp.

Notes on Siegel's Lemma (with R. Baker), 20pp.

Notes on zero estimates with monodromy.

Notes on specializing hyperelliptic Jacobians.

Notes on universal Hilbert sets.

Notes on counting intersections of planes with multiplicative subgroups.

Notes on intersections of arbitrary varieties with semiabelian subgroups.

Notes on estimates for zeros of quadratic forms with congruence conditions.

Notes on estimates for rational equivalence of quadratic forms.

Notes on Pell's equation over number fields.

Notes on effective Bilu Theorem (and $x + y = 1$).

Notes on pre-images of rational functions.

Notes on UI for Drinfeld modules, Carlitz modules (with D. Brownawell).

Notes on singular points on cubic curves.

Notes on AOMM (effective Pila-André).

Notes on shortest polynomials.

Notes on CM splitting (octupling and quadrupling).