

RENDICONTI
del
SEMINARIO MATEMATICO
della
UNIVERSITÀ DI PADOVA

**Bernard Morris Dwork (New York City
27.5.1928 - Princeton 9.5.1998)**

Rendiconti del Seminario Matematico della Università di Padova,
tome 100 (1998), p. V-X

<http://www.numdam.org/item?id=RSMUP_1998__100__R5_0>

© Rendiconti del Seminario Matematico della Università di Padova, 1998, tous droits réservés.

L'accès aux archives de la revue « Rendiconti del Seminario Matematico della Università di Padova » (<http://rendiconti.math.unipd.it/>) implique l'accord avec les conditions générales d'utilisation (<http://www.numdam.org/conditions>). Toute utilisation commerciale ou impression systématique est constitutive d'une infraction pénale. Toute copie ou impression de ce fichier doit contenir la présente mention de copyright.

Bernard Morris Dwork

(New York City 27.5.1923 - Princeton 9.5.1998)



PhD Columbia University 1954.

Harvard 1954-1959.

Johns Hopkins 1960-1964.

Princeton 1964-1991.

Professore per Chiara Fama a Padova 1992-1998.

Eugene Higgins Professor of Mathematics a Princeton 1978-1991

Sloan Fellow 1961-63

Cole Prize in Number Theory 1962

Guggenheim Fellow 1971-72.

Editor dei *Rendiconti* dal 1992

Publications of Bernard M. Dwork

- [1] BERNARD M. DWORK, Detection of a pulse superimposed on fluctuation noise. *Proc. I. R. E.*, 38:771-774, 1950.
- [2] BERNARD M. DWORK, *On the root number in the functional equation of the Artin-Weil L-series*. PhD thesis, Columbia University, 1954.
- [3] BERNARD M. DWORK, The local structure of the artin root number. *Proceedings of the National Academy of Science*, 41:754-756, 1955.
- [4] BERNARD M. DWORK, On the Artin root number. *American Journal of Mathematics*, 78:444-472, 1956.
- [5] BERNARD M. DWORK, Norm residue symbol in local number fields. *Hamburg Universität Mathematisches Seminar Abhandlungen*, 22:180-190, 1958.
- [6] BERNARD M. DWORK, On the congruence properties of the zeta function of algebraic varieties. *Journal für Reine und Angewandte Mathematik*, 203:130-142, 1960.
- [7] BERNARD M. DWORK, On the rationality of the zeta function of an algebraic variety. *American Journal of Mathematics*, 82:631-648, 1960.
- [8] BERNARD M. DWORK, On the zeta function of a hypersurface. *Publications Mathématiques Institut des Hautes Études Scientifiques*, 12:5-68, 1962.
- [9] BERNARD M. DWORK, A deformation theory for the zeta function of a hypersurface defined over a finite field. In *Proceedings of the International Congress of Mathematics - Stockholm*, 1962.
- [10] BERNARD M. DWORK, On the zeta function of a hypersurface, part II. *Annals of Mathematics*, 80:227-299, 1964.
- [11] BERNARD M. DWORK, Analytic theory of zeta functions of algebraic varieties. In O. F. SCHILLING, editor, *Arithmetical Algebraic Geometry*, pages 18-32, New York, 1965. Harper and Row.
- [12] BERNARD M. DWORK, On the zeta function of a hypersurface, part III. *Annals of Mathematics*, 88:457-519, 1966.
- [13] BERNARD M. DWORK, On the rationality of zeta functions and L-series. In *Proceedings of the Conference on Local Fields*, pages 40-55, Driebergen, 1966.
- [14] BERNARD M. DWORK, On p-adic analysis. In *Proceedings Annual Science Conference Belter Graduate School*, volume 2, pages 129-154. Yeshiva University, 1965-6.
- [15] BERNARD M. DWORK, On zeta functions of hypersurfaces. In *Les tendances géométriques en algèbre et théorie des nombres*, Editions du centre National de la Recherche Scientifique, pages 77-82, Paris, 1966.
- [16] BERNARD M. DWORK, p-adic cycles. *Publications Mathématiques Institut des Hautes Études Scientifiques*, 37:27-115, 1969.
- [17] BERNARD M. DWORK, A deformation theory for singular hypersurfaces. In *Algebraic Geometry Bombay Colloquium 1968*, pages 85-92. Oxford University Press, 1969.

- [18] BERNARD M. DWORK, On the zeta function of a hypersurface, part IV: A deformation theory for singular hypersurfaces. *Annals of Mathematics*, 90:335-352, 1969.
- [19] BERNARD M. DWORK, On Hecke polynomials. *Inventiones Mathematicae*, 12:249-256, 1971.
- [20] BERNARD M. DWORK, Normalized period matrices I. *Annals of Mathematics*, 94:337-388, 1971.
- [21] BERNARD M. DWORK, On p -adic differential equations II. *Annals of Mathematics*, 98:366-376, 1973.
- [22] BERNARD M. DWORK, Normalized period matrices II. *Annals of Mathematics*, 98:1-57, 1973.
- [23] BERNARD M. DWORK, On p -adic differential equations III. *Inventiones Mathematicae*, 29:35-45, 1973.
- [24] BERNARD M. DWORK, On p -adic differential equations IV. *Annales Scientifiques de l'École Normale Supérieure*, 6:295-316, 1973.
- [25] BERNARD M. DWORK, On the U_p operator of Atkin modular functions of level 2 with growth conditions. In W. Kuyk and J.P.Serre, editors, *Modular functions of one variable III*, volume 350 of *Lecture Notes in Mathematics*. Springer, 1973.
- [26] BERNARD M. DWORK, Bessel functions as p -adic functions of the argument, *Duke Mathematical Journal*, 41:711-738, 1974.
- [27] BERNARD M. DWORK, On p -adic differential equations I. *Bulletin Société Mathématique de France*, Mem. n. 39-40:27-37, 1974.
- [28] BERNARD M. DWORK, On ordinary linear p -adic differential equations with algebraic function coefficients. *Groupe d'étude d'Analyse Ultramétrique*, pages 10, exp. 18, 1975/76.
- [29] BERNARD M. DWORK and PHILIPPE ROBBA, On ordinary linear p -adic differential equations. *Transactions of the American Mathematical Society*, 231:1-46, 1977.
- [30] BERNARD M. DWORK and PHILIPPE ROBBA, Majorations effectives. *Groupe d'étude d'Analyse Ultramétrique*, pages 2, exp. 18, 1978/79.
- [31] BERNARD M. DWORK and PHILIPPE ROBBA, On natural radii of p -adic convergence. *Transactions of the American Mathematical Society*, 256:199-213, 1979.
- [32] FRANCESCO BALDASSARRI and BERNARD M. DWORK, On second order linear differential equations with algebraic solution. *American Journal of Mathematics*, 101:42-76, 1979.
- [33] BERNARD M. DWORK and PHILIPPE ROBBA, Effective p -adic bounds for solutions of homogeneous linear differential equations. *Transactions of the American Mathematical Society*, 259:559-577, 1980.
- [34] SIEGFRIED BOSCH, BERNARD M. DWORK and PHILIPPE ROBBA, Un théorème de prolongement pour des fonctions analytiques. *Mathematische Annalen*, 252:165-173, 1980.
- [35] BERNARD M. DWORK, Nilpotent second order linear differential equations with Fuchsian singularities. *Groupe d'étude d'Analyse Ultramétrique*, pages 7, exp. 19, 1979/81.

- [36] BERNARD M. DWORK, On Apéry's differential operator. *Groupe d'étude d'Analyse Ultramétrique*, pages 6, exp. 25, 1979/81.
- [37] MAURIZIO BOYARSKY (alias BERNARD M. DWORK), p -adic gamma functions and dwork cohomology. *Trans. Amer. Math. Soc.*, 257:359–367, 1980.
- [38] BERNARD M. DWORK, Arithmetic theory of differential equations. In *Symposia Math. Istituto Nazionale di alta Matematica*, volume 24, pages 225–243, 1981.
- [39] BERNARD M. DWORK, Majoration effective et application. *Groupe d'étude d'Analyse Ultramétrique*, pages 5, exp. 1, 1981/82.
- [40] BERNARD M. DWORK, A note on the p -adic gamma function. *Groupe d'étude d'Analyse Ultramétrique*, pages 10, exp. 15, 1981/82.
- [41] ALAN ADOLPHSON, BERNARD M. DWORK and STEVEN SPERBER, Growth of solutions of linear differential equations at a logarithmic singularity. *Transactions of the American Mathematical Society*, 271:245–252, 1982.
- [42] BERNARD M. DWORK, *Lectures on p -adic differential equations*. Number 253 in Grundlehren der Mathematischen Wissenschaften. Springer Verlag, 1982.
- [43] BERNARD M. DWORK, Puiseux expansions. *Groupe d'étude d'Analyse Ultramétrique*, pages 6, exp. 14, 1982/83.
- [44] BERNARD M. DWORK, Differential equations which come from geometry. *Groupe d'étude d'Analyse Ultramétrique*, pages 6, exp. 9, 1982/83.
- [45] BERNARD M. DWORK, Singular residue classes which are ordinary for $F(a, b, c, d)$. *Groupe d'étude d'Analyse Ultramétrique*, pages 11, exp. 23, 1982/83.
- [46] BERNARD M. DWORK, On the Boyarsky principle. *American Journal of Mathematics*, 105:115–156, 1983.
- [47] BERNARD M. DWORK, On the Tate constant. *Groupe d'étude d'Analyse Ultramétrique*, 11:14, exp. 11, 1983/84.
- [48] BERNARD M. DWORK, On Kummer's twenty four solutions of the hypergeometric equation. *Transactions of the American Mathematical Society*, 285:497–521, 1984.
- [49] MAURIZIO BOYARSKY (alias BERNARD M. DWORK), The Reich trace formula. *Astérisque*, 119–120:129–139, 1984.
- [50] BERNARD M. DWORK and ARTHUR OGUS, Canonical liftings of Jacobians. *Compositiones Mathematicae*, 58:111–131, 1986.
- [51] S. CHOWLA, BERNARD M. DWORK and RONALD EVANS, On the mod p^2 determination of $\binom{p-1}{p-1}/2$. *Journal of Number Theory*, 24:188–196, 1986.
- [52] BERNARD M. DWORK, On the Tate constant. *Compositiones Mathematicae*, 61:43–59, 1987.
- [53] BERNARD M. DWORK, On the uniqueness of the Frobenius operator on differential equations. *Advanced Studies in Pure Mathematics*, 17:89–96, 1989.
- [54] FRANCESCO BALDASSARRI, BERNARD M. DWORK and FRANCESCA TOVENA, On singular projective structures on Riemann surfaces. *Journal of Differential Equations*, 80:364–376, 1989.
- [55] BERNARD M. DWORK, Differential operators with nilpotent p -curvature. *American Journal of Mathematics*, 112:749–786, 1990.

- [56] BERNARD M. DWORK, *Generalized hypergeometric functions*. Oxford University Press, 1990.
- [57] BERNARD M. DWORK, Work of Philippe Robba, In *p-adic Analysis Proceedings, Trento 1989*, number 1454 in Lecture Notes in Mathematics, pages 1-10. Springer Verlag, 1990.
- [58] GILLES CHRISTOL and BERNARD M. DWORK, Effective p -adic bounds at regular singular points. *Duke Mathematical Journal*, 62:689-720, 1991.
- [59] BERNARD M. DWORK AND STEVEN SPERBER, Logarithmic decay and overconvergence of the unit root and associated zeta functions. *Ann. Sci. École Normale Supérieure*, 24:575-604, 1991.
- [60] GILLES CHRISTOL and BERNARD M. DWORK, Differential modules of bounded spectral norm. *Contemporary Mathematics*, 133:39-58, 1992.
- [61] BERNARD M. DWORK and ALFRED VAN DER POORTEN, The Eisenstein constant. *Duke Mathematical Journal*, 65:23-43, 1992.
- [62] BERNARD M. DWORK and FRANÇOIS LOESER, Hypergeometric series. *Japanese Journal of Mathematics*, 19:81-129, 1993.
- [63] BERNARD M. DWORK, Cohomological interpretation of hypergeometric series. *Rendiconti Seminario Matematico Univ. Padova*, 90:239-263, 1993.
- [64] BERNARD M. DWORK, GIOVANNI GEROTTO and FRANCIS J. SULLIVAN, *An Introduction to G-functions*. Princeton University Press, 1994.
- [65] BERNARD M. DWORK and FRANÇOIS LOESER, Hypergeometric series and functions as periods of exponential modules. In *Barsotti Symposium in Algebraic Geometry (Abano Terme 1991)*, Perspectives in Mathematics, pages 153-174. Academic Press, 1994.
- [66] GILLES CHRISTOL and BERNARD M. DWORK, Modules différentiels sur des couronnes. *Ann. Inst. Fourier (Grenoble)*, 44:663-701, 1994.
- [67] BERNARD M. DWORK and ALFRED J. VAN DER POORTEN, Corrections to «the Eisenstein constant». *Duke Math. J.*, 65:669-672, 1994.
- [68] ALAN ADOLPHSON and BERNARD M. DWORK, Contiguity relations for generalized hypergeometric functions. *Trans. Amer. Math. Soc.*, 347(2):615-625, 1995.
- [69] BERNARD M. DWORK, On exponents of p -adic differential modules. *J. Reine Angew. Math.*, 484:85-126, 1997.
- [70] BERNARD M. DWORK, On the size of differential modules. *Duke Journal of Mathematics*, To appear.
- [71] BERNARD M. DWORK, Cohomology of singular hypersurfaces. *Submitted to Pacific Journal of Mathematics*.