

## PUBLICATIONS

ALEXANDRU BUIUM

### 1. RESEARCH MONOGRAPHS

- [1] Differential Function Fields and Moduli of Algebraic Varieties, Lecture Notes in Math. 1226, Springer 1986.
- [2] Differential Algebraic Groups of Finite Dimension, Lecture Notes in Math. 1506, Springer 1992.
- [3] Differential Algebra and Diophantine Geometry, Hermann, Paris, 1994.
- [4] Arithmetic Differential Equations, Mathematical Surveys and Monographs 118, AMS, 2005.
- [5] Foundations of Arithmetic Differential Geometry, Mathematical Surveys and Monographs 222, AMS, 2017.

### 2. TEXTBOOKS

- [1] Mathematics: a Minimal Introduction, CRC Press, 2013.

### 3. PAPERS PUBLISHED

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- [3] Ritt schemes and torsion theory. Pacific J. Math. 98 (1982), no. 2, 281-293.
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- [5] Sur le nombre de Picard des revêtements doubles des surfaces algébriques, C. R. Acad. Sci. Paris Sér. I Math. 296 (1983), no. 8, 361-364.
- [6] Sur le discriminant des sections d'une variété projective singulière par des hypersurfaces de degré élevé, C. R. Acad. Sci. Paris Sér. I Math. 298 (1984), no. 4, 67-70.
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- [12] A note on the class group of surfaces in 3-space. J. Pure Appl. Algebra 37 (1985), no. 3, 229-235.

- [13] Movable singularities and differential Galois theory. Proceedings of the conference on algebraic geometry (Berlin, 1985), 74-80, Teubner-Texte Math., 92, Teubner, Leipzig, 1986.
- [14] Fields of definition of algebraic varieties in characteristic zero. *Compositio Math.* 61 (1987), no. 3, 339-352.
- [15] (with Takeuchi, M.) Rigidity of maps from Hopf algebras to group algebras. *J. Algebra* 118 (1988), no. 1, 14-19.
- [16] Birational moduli and nonabelian cohomology. *Compositio Math.* 68 (1988), no. 2, 175-202.
- [17] Birational moduli and nonabelian cohomology. II. *Compositio Math.* 71 (1989), no. 3, 247-263.
- [18] Dérivations sur les groupes algébriques, *C. R. Acad. Sci. Paris Sér. I Math.* 309 (1989), no. 9, 605-607.
- [19] Splitting differential algebraic groups. *J. Algebra* 130 (1990), no. 1, 97-105.
- [20] Intersections in jet spaces and a conjecture of S.Lang, *Annals of Math.* 136 (1992), 583-593.
- [21] Geometry of differential polynomial functions I: algebraic groups, *Amer J. Math.* 115, 6 (1993), 1385-1444.
- [22] Effective bound for the geometric Lang conjecture, *Duke Math. J.*, 71, 2 (1993), 475-499.
- [23] A finiteness theorem for isogeny correspondences, in: *Journées de Geometrie Algebrique d'Orsay 1992*, Asterisque 218, 1993.
- [24] (with F.Voloch) Integral points on abelian varieties over function fields of characteristic zero, *Math. Ann.* 297 (1993), 303-307.
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#### 4. OTHER PUBLICATIONS

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#### 5. PAPERS ACCEPTED FOR PUBLICATION

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#### 6. PAPERS SUBMITTED FOR PUBLICATION

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#### 7. IN PREPARATION

[93] (with A. Vasiu), The  $\delta$ -invariant theory of Hecke correspondences on  $\mathcal{A}_g$ , 235 pages.

[94] (with L.E.Miller), *Arithmetic differential geometry in the arithmetic PDE setting, I: connections.*

[95] (with L.E.Miller), *Arithmetic differential geometry in the arithmetic PDE setting, II: curvature.*

[96] *Arithmetic Levi-Civita connection and correspondences on  $\mathbb{P}^1$ .*