

List of publications

Damien Robert

January 5, 2025

1 Preprints

1. S. Kunzweiler, L. Maino, T. Moriya, C. Petit, G. Pope, D. Robert, M. Stopar, and Y. B. Ti. “Radical 2-isogenies and cryptographic hash functions in dimensions 1, 2 and 3”. Oct. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/articles/thetaCGL.pdf>. eprint: 2024/1732, HAL: hal-04837057.
2. D. Robert. “The module action for isogeny based cryptography”. Oct. 2024. URL: http://www.normalesup.org/~robert/pro/publications/articles/module_action.pdf. eprint: 2024/1556, HAL: hal-04848019.
3. D. Robert and N. Sarkis. “Halving differential additions on Kummer lines”. Oct. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/articles/halfdiffadd.pdf>. eprint: 2024/1582, HAL: hal-04724019.
4. D. Robert. “Fast pairings via biextensions and cubical arithmetic”. Apr. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/articles/biextensions.pdf>. eprint: 2024/517, HAL: hal-04848028.
5. A. Page and D. Robert. “Introducing Clapotis(s): Evaluating the isogeny class group action in polynomial time”. Nov. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/articles/clapotis.pdf>. eprint: 2023/1766, HAL: hal-04327451.
6. D. Robert. “The geometric interpretation of the Tate pairing and its applications”. Feb. 2023. URL: http://www.normalesup.org/~robert/pro/publications/articles/geometric_tate_pairing.pdf. eprint: 2023/177, HAL: hal-04295743v1.
7. D. Robert. “Some applications of higher dimensional isogenies to elliptic curves (overview of results)”. Dec. 2022. URL: http://www.normalesup.org/~robert/pro/publications/articles/isogenies_applications.pdf. eprint: 2022/1704, HAL: hal-03943973.
8. D. Robert. “Evaluating isogenies in polylogarithmic time”. Aug. 2022. URL: http://www.normalesup.org/~robert/pro/publications/articles/polylog_isogenies.pdf. eprint: 2022/1068, HAL: hal-03943970.

9. A. Maiga and D. Robert. “Towards computing canonical lifts of ordinary elliptic curves in medium characteristic”. Mar. 2022. URL: http://www.normalesup.org/~robert/pro/publications/articles/fast_canonical_lift_g1.pdf. HAL: hal-03702658.
10. A. Maiga and D. Robert. “Computing the canonical lift of genus 2 curves in odd characteristic”. Dec. 2020. URL: http://www.normalesup.org/~robert/pro/publications/articles/canonical_lift_g2.pdf. HAL: hal-03738314.
11. D. Lubicz and D. Robert. “Linear representation of endomorphisms of Kummer varieties”. Dec. 2020. URL: <http://www.normalesup.org/~robert/pro/publications/articles/action.pdf>. HAL: hal-03204365.
12. D. Robert. “On the efficient representation of isogenies (a survey)”. Accepted for publication at NuTMIC 2024 (Invited Speaker). June 2024. URL: http://www.normalesup.org/~robert/pro/publications/articles/isogeny_survey.pdf. eprint: 2024/1071, HAL: hal-04848010.

2 Publications

1. A. Basso, L. De Feo, P. Dartois, A. Leroux, L. Maino, G. Pope, D. Robert, and B. Wesolowski. “SQIsign2D-West: The Fast, the Small, and the Safer”. Accepted for publication at *Asiacrypt 2024*. Aug. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/articles/sqisign2d.pdf>. eprint: 2024/760, HAL: hal-04603556.
2. P. Dartois, L. Maino, G. Pope, and D. Robert. “An Algorithmic Approach to $(2, 2)$ -isogenies in the Theta Model and Applications to Isogeny-based Cryptography”. Accepted for publication at *Asiacrypt 2024*. Aug. 2024. URL: http://www.normalesup.org/~robert/pro/publications/articles/_2_2_isogenies_in_the_theta_model.pdf. eprint: 2023/1747, HAL: hal-04297088.
3. S. Kunzweiler and D. Robert. “Computing modular polynomials by deformation”. In: *Research in Number Theory (ANTS XVI Conference)* 11 (10 Dec. 2024). DOI: 10.1007/s40993-024-00596-5. arXiv: 2408.06990. URL: http://www.normalesup.org/~robert/pro/publications/articles/modular_deformation.pdf. HAL: hal-04671239.
4. J. Kieffer, A. Page, and D. Robert. “Computing isogenies from modular equations between Jacobians of genus 2 curves”. Accepted for publication at *Journal of Algebra*. June 2024. arXiv: 2001.04137 [math.AG]. URL: http://www.normalesup.org/~robert/pro/publications/articles/modular_isogenies_g2.pdf. HAL: hal-02436133.
5. D. Robert and N. Sarkis. “Computing 2-isogenies between Kummer lines”. In: *IACR Communications in Cryptology* 1 (1 Jan. 2024). DOI: 10.62056/abvua69p1. URL: http://www.normalesup.org/~robert/pro/publications/articles/kummer_isogenies.pdf. eprint: 2024/037, HAL: hal-04382643.
6. P. Dartois, A. Leroux, D. Robert, and B. Wesolowski. “SQISignHD: New Dimensions in Cryptography”. In: *Lecture Notes in Computer Science* 14651 (May 2024). Ed. by M. Joye and G. Leander, pp. 3–32. DOI: 10.1007/978-3-031-58716-0_1. URL: <http://www.normalesup.org/~robert/>

- [pro/publications/articles/SQISignHD.pdf](https://artifacts.iacr.org/tches/2022/all). eprint: 2023/436, HAL: hal-04056062v1, artifact: <https://artifacts.iacr.org/tches/2022/all>.
7. D. Robert. “Breaking SIDH in polynomial time”. In: *Eurocrypt 2023* (Apr. 2023). Ed. by C. Hazay and M. Stam, pp. 472–503. DOI: 10.1007/978-3-031-30589-4_17. URL: http://www.normalesup.org/~robert/pro/publications/articles/breaking_sidh.pdf. eprint: 2022/1038, HAL: hal-03943959, Slides: 2023-04-Eurocrypt.pdf (15 min, Eurocrypt 2023, April 2023, Lyon, France).
 8. D. Lubicz and D. Robert. “Fast change of level and applications to isogenies”. In: *Research in Number Theory (ANTS XV Conference)* 9.1 (Dec. 2022). DOI: 10.1007/s40993-022-00407-9. URL: http://www.normalesup.org/~robert/pro/publications/articles/change_level.pdf. HAL: hal-03738315.
 9. A. Dudeanu, D. Jetchev, D. Robert, and M. Vuille. “Cyclic Isogenies for Abelian Varieties with Real Multiplication”. In: *Moscow Mathematical Journal* 22 (Feb. 2022), pp. 613–655. URL: <http://www.normalesup.org/~robert/pro/publications/articles/cyclic.pdf>. HAL: hal-01629829.
 10. M. Kirschmer, F. Narbonne, C. Ritzenthaler, and D. Robert. “Spanning the isogeny class of a power of an elliptic curve”. In: *Mathematics of Computation* 91.333 (Sept. 2021), pp. 401–449. DOI: 10.1090/mcom/3672. arXiv: 2004.08315. URL: http://www.normalesup.org/~robert/pro/publications/articles/algebraic_obstruction.pdf. HAL: hal-02554714.
 11. A. Maiga and D. Robert. “Computing the 2-adic canonical lift of genus 2 curves”. In: *Proceedings of the Seventh International Conference on Mathematics and Computing – ICMC 2021*. Ed. by D. Giri, K.-K. R. Choo, S. Ponnusamy, W. Meng, S. Akleylek, and S. P. Maity. Vol. 1412. Advances in Intelligent Systems and Computing (ICMC 2021). Singapore: Springer, Mar. 2022, pp. 637–672. DOI: 10.1007/978-981-16-6890-6_48. URL: http://www.normalesup.org/~robert/pro/publications/articles/canonical_lift_g2_p2.pdf. HAL: hal-03119147.
 12. E. Milio and D. Robert. “Modular polynomials on Hilbert surfaces”. In: *Journal of Number Theory* 216 (Nov. 2020), pp. 403–459. DOI: 10.1016/j.jnt.2020.04.014. URL: <https://www.sciencedirect.com/science/article/abs/pii/S0022314X20301402>. HAL: hal-01520262, Reproducible archive: <https://data.mendeley.com/datasets/yy3bty5ktk/1>.
 13. D. Lubicz and D. Robert. “Arithmetic on Abelian and Kummer Varieties”. In: *Finite Fields and Their Applications* 39 (May 2016), pp. 130–158. DOI: 10.1016/j.ffa.2016.01.009. URL: <http://www.normalesup.org/~robert/pro/publications/articles/arithmetic.pdf>. eprint: 2014/493, HAL: hal-01057467.
 14. D. Lubicz and D. Robert. “Computing separable isogenies in quasi-optimal time”. In: *LMS Journal of Computation and Mathematics* 18 (1 Feb. 2015), pp. 198–216. DOI: 10.1112/S146115701400045X. arXiv: 1402.3628. URL: <http://www.normalesup.org/~robert/pro/publications/articles/rational.pdf>. HAL: hal-00954895.
 15. D. Lubicz and D. Robert. “A generalisation of Miller’s algorithm and applications to pairing computations on abelian varieties”. In: *Journal of Symbolic Computation* 67 (Mar. 2015), pp. 68–

92. DOI: [10.1016/j.jsc.2014.08.001](https://doi.org/10.1016/j.jsc.2014.08.001). URL: <http://www.normalesup.org/~robert/pro/publications/articles/optimal.pdf>. eprint: 2013/192, HAL: hal-00806923.
16. R. Cosset and D. Robert. “An algorithm for computing (ℓ, ℓ) -isogenies in polynomial time on Jacobians of hyperelliptic curves of genus 2”. In: *Mathematics of Computation* 84.294 (Nov. 2015), pp. 1953–1975. DOI: [10.1090/S0025-5718-2014-02899-8](https://doi.org/10.1090/S0025-5718-2014-02899-8). URL: <http://www.normalesup.org/~robert/pro/publications/articles/niveau.pdf>. eprint: 2011/143, HAL: hal-00578991.
17. K. E. Lauter and D. Robert. “Improved CRT Algorithm for Class Polynomials in Genus 2”. In: *ANTS X — Proceedings of the Tenth Algorithmic Number Theory Symposium*. Ed. by E. W. Howe and K. S. Kedlaya. Vol. 1. The Open Book Series. Berkeley: Mathematical Sciences Publisher, Nov. 2013, pp. 437–461. DOI: [10.2140/obs.2013.1.437](https://doi.org/10.2140/obs.2013.1.437). URL: <http://www.normalesup.org/~robert/pro/publications/articles/classCRT.pdf>. eprint: 2012/443, HAL: hal-00734450, Slides: [2012-07-ANTS-SanDiego.pdf](http://www.normalesup.org/~robert/pro/publications/articles/classCRT-slides.pdf) (30min, International Algorithmic Number Theory Symposium (ANTS-X), July 2012, San Diego, USA).
18. D. Lubicz and D. Robert. “Computing isogenies between abelian varieties”. In: *Compositio Mathematica* 148.5 (Sept. 2012), pp. 1483–1515. DOI: [10.1112/S0010437X12000243](https://doi.org/10.1112/S0010437X12000243). arXiv: [1001.2016](https://arxiv.org/abs/1001.2016) [math.AG]. URL: <http://www.normalesup.org/~robert/pro/publications/articles/isogenies.pdf>. HAL: hal-00446062.
19. J.-C. Faugère, D. Lubicz, and D. Robert. “Computing modular correspondences for abelian varieties”. In: *Journal of Algebra* 343.1 (Oct. 2011), pp. 248–277. DOI: [10.1016/j.jalgebra.2011.06.031](https://doi.org/10.1016/j.jalgebra.2011.06.031). arXiv: [0910.4668](https://arxiv.org/abs/0910.4668) [cs.SC]. URL: <http://www.normalesup.org/~robert/pro/publications/articles/modular.pdf>. HAL: hal-00426338.
20. D. Lubicz and D. Robert. “Efficient pairing computation with theta functions”. In: ed. by G. Hanrot, F. Morain, and E. Thomé. Vol. 6197. Lecture Notes in Computer Science. 9th International Symposium, Nancy, France, ANTS-IX, July 19-23, 2010, Proceedings. Springer-Verlag, July 2010. DOI: [10.1007/978-3-642-14518-6_21](https://doi.org/10.1007/978-3-642-14518-6_21). URL: <http://www.normalesup.org/~robert/pro/publications/articles/pairings.pdf>. HAL: hal-00528944, Slides: [2010-07-ANTS-Nancy.pdf](http://www.normalesup.org/~robert/pro/publications/articles/pairings-slides.pdf) (30min, International Algorithmic Number Theory Symposium (ANTS-IX), July 2010, Nancy).

3 Reports

1. A. Enge and D. Robert. “Computing class polynomials in genus 2”. Apr. 2013. URL: http://www.normalesup.org/~robert/pro/publications/reports/2013-04-class_poly_g2.pdf

4 Books

1. D. Robert. *General theory of abelian varieties and their moduli spaces*. Mar. 2021. URL: <http://www.normalesup.org/~robert/pro/publications/books/avtheory.pdf>. Draft version.
2. D. Robert. *Guide to Pairing-Based Cryptography*. 2017. URL: <https://www.worldcat.org/title/guide-to-pairing-based-cryptography/oclc/971264380>. Chapter 3 on « Pairings » with

5 HDR

1. D. Robert. “Efficient algorithms for abelian varieties and their moduli spaces”. HDR thesis. Université Bordeaux, June 2021. URL: <http://www.normalesup.org/~robert/pro/publications/academic/hdr.pdf>. Slides: [2021-06-HDR-Bordeaux.pdf](#) (1h, Bordeaux).

6 PhD Thesis

1. D. Robert. “Theta functions and cryptographic applications”. PhD thesis. Université Henri-Poincaré, Nancy 1, France, July 2010. URL: <http://www.normalesup.org/~robert/pro/publications/academic/phd.pdf>. Slides: [2010-07-Phd-Nancy.pdf](#) (1h, Nancy), TEL: tel-00528942.

7 Invited Speaker

1. D. Robert. “From ideals to modules for isogeny based cryptography”. *Leuven isogeny days 5*, Leuven. Sept. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-09-Leuven.pdf>
2. D. Robert. “Quand l’ajout de structure casse un cryptosystème : quelques exemples de cryptanalyse”. *JSI 2024*, Grenoble. Aug. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-08-InriaJSI.pdf>
3. D. Robert. “On the efficient representation of isogenies”. *NuTMiC 2024*, Szczecin. June 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-06-Nutmic.pdf>
4. D. Robert. “Arithmetic and pairings on Kummer lines”. *Leuven isogeny days 4*, Leuven. Oct. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-10-Leuven.pdf>
5. D. Robert. “Efficient representation of isogenies”. *EWHA-KMS International Workshop on Cryptography*. July 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-07-Korea-EwhaKMS.pdf>
6. D. Robert. “Applications of isogenies between abelian varieties to elliptic curves”. *Arithmétique en Plat Pays*. Mar. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-03-Leuven.pdf>
7. D. Robert. “Applications of isogenies between abelian varieties to elliptic curves cryptosystems”. *Vantage Seminar*. Dec. 2022. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2022-12-VantageSeminar.pdf>

8. D. Robert. "Isogenies between abelian varieties – an algorithmic survey". *Leuven isogeny days 3*, Leuven. Sept. 2022. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2022-09-Leuven-Isogenies.pdf>
9. D. Robert. "Isogenies, Polarisation and Real Multiplication". *Journées C2 Codage et Cryptographie*, La Londe-Les-Maures. Oct. 2015. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2015-10-C2-LaLondeLesMaures.pdf>
10. D. Robert. "Isogenies, Polarisation and Real Multiplication". *Modular Forms and Curves of Low Genus: Computational Aspects*, ICERM, Providence, USA. Sept. 2015. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2015-09-Providence-ICERM.pdf>
11. D. Robert. "Optimal pairings on abelian varieties". *Elliptic Curves Cryptography (ECC 2014)*, Chennai, India. Oct. 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-10-ECC-Chennai.pdf>
12. D. Robert. "Isogenies between abelian varieties". *ANR Peace conference Effective moduli spaces and applications to cryptography*, Rennes. June 2014. URL: <http://www.normalesup.org/~robert/pro/publications/notes/2014-06-Rennes-Moduli.pdf>
13. D. Robert. "Pairings on abelian varieties and the Discrete Logarithm Problem". *Discrete Logarithm Problem Conference DLP 2014*, Ascona, Suisse. May 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-05-Ascona.pdf>
14. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". *Geometry and Cryptography (Geocrypt 2011)*, Bastia. June 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-06-Geocrypt-Bastia.pdf>
15. D. Robert. "Generalizing Vélu's formulas and some applications". *Elliptic Curves Cryptography (ECC 2010)*, 25 year anniversary of elliptic curves computation, Redmond, USA. Oct. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-10-ECC-Redmond.pdf>
16. D. Robert. "A Vélu's like formula for computing isogenies on Abelian Varieties". *Conférence Algorithmique et Arithmétique avec applications à la cryptographie*, Moscow, Russia. May 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-05-Moscou.pdf>

8 Teaching Talks

1. D. Robert. "The group structure of rational points of elliptic curves over a finite field". *Elliptic Curves Cryptography (ECC 2015) Summer School*, Bordeaux. Sept. 2015. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2015-09-Bordeaux-ECCSummerSchool.pdf>
2. D. Robert. "Isogenies and endomorphism rings of elliptic curves". *ECC 2011 Summer School*, Nancy. Sept. 2011. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2011-09-Nancy-ECCSummerSchool.pdf>

9 Talks

1. D. Robert. “The module action on abelian varieties”. **Canari Seminar**, Bordeaux. Oct. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-10-Bordeaux.pdf>
2. D. Robert. “Post-Quantum Cryptography: a survey of isogeny based cryptography”. Inria-Simula Workshop, Paris. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-10-Simula.pdf>
3. D. Robert. “Attacks on SIDH and applications”. PQC Summer School, Chengdu, China. July 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-07-Chengdu.pdf>
4. D. Robert. “Isogeny++: from ideals to modules”. Quantum Safe Workshop, IBM Zurich. May 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-05-SQISignWorkshop.pdf>
5. D. Robert. “Isogeny based cryptography: from the fall of SIKE to the rise of higher dimensional isogenies”. Workshop Inria, University of Waterloo, Université de Bordeaux, Inria, Bordeaux. Feb. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-02-waterloo.pdf>
6. D. Robert. “Number theory for post-quantum cryptography”. Conseil Scientifique,, IMB, Bordeaux. Feb. 2024. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2024-02-imb.pdf>
7. D. Robert. “Infinitesimal pairings and CSIDH”. PEPR Isogeny meeting,, Cybercampus, Paris. Jan. 2024. URL: http://www.normalesup.org/~robert/pro/publications/slides/2024-01-PQTLs-infinitesimal_pairings.pdf
8. D. Robert. “Recent advances in isogeny based cryptography”. 8th Franco-Japanese Cybersecurity Workshop, ENSC, Bordeaux. Nov. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-11-Bordeaux.pdf>
9. D. Robert. “New applications of higher dimensional isogenies”. Loria, Nancy. Sept. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-09-Nancy.pdf>
10. D. Robert. “Breaking SIDH in polynomial time”. Institut Fourier, Grenoble. Apr. 2023. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2023-04-Grenoble.pdf>
11. D. Robert. “Applications of isogenies between abelian varieties to elliptic curves”. **LFANT Seminar**, Bordeaux. Mar. 2023. On blackboard
12. D. Robert. “The geometric interpretation of the Tate pairing”. ANR Ciao Workshop, Bordeaux. Dec. 2022. On blackboard
13. D. Robert. “Evaluating isogenies in polylogarithmic time”. **LFANT Seminar**, Bordeaux. Oct. 2022. On blackboard

14. D. Robert. “Breaking SIDH in polynomial time”. **LFANT Seminar**, Bordeaux. Sept. 2022. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2022-09-Bordeaux-SIDH.pdf>
15. D. Robert. “Towards computing the canonical lift of an ordinary elliptic curve in medium characteristic”. **LFANT Seminar**, Bordeaux. Apr. 2022. On blackboard
16. D. Robert. “Revisiter l’algorithme de Satoh de comptage de points en petite caractéristique par relèvement canonique”. **LFANT Seminar**, Bordeaux. Oct. 2021. On blackboard
17. D. Robert. “Calcul d’isogénies sur des variétés abéliennes”. **CIAO Kickoff Meeting**, Bordeaux. Feb. 2020. On blackboard
18. D. Robert. “Extending Elkies’ isogeny algorithm to genus 2”. **GAATI team**, Tahiti. Jan. 2020. On blackboard
19. D. Robert. “An overview of isogenies computations”. **LFANT Seminar**, Bordeaux. Sept. 2019. On blackboard
20. D. Robert. “Modular Polynomials”. **LIRIMA Team FAST kick-off conference**, Bordeaux. Sept. 2017. On blackboard
21. D. Robert. “Arithmetic on Abelian and Kummer varieties”. **INRIA Team LFANT seminar**, Bordeaux. May 2015. On blackboard, [notes](#).
22. D. Robert. “Arithmetic on Elliptic Curves, Abelian varieties and Kummer varieties”. École Mathématique Africaine, Université de Masuku, Franceville, Gabon. Mar. 2015. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2015-03-Franceville-Arithmetic.pdf>
23. D. Robert. “Arithmetic on Abelian and Kummer varieties”. Number Theory Seminar, Caen. Dec. 2014. URL: http://www.normalesup.org/~robert/pro/publications/slides/2014-12-Caen-Arithmetic_slides.pdf. On blackboard, [notes](#).
24. D. Robert. “Isogeny graphs in dimension 2”. Cryptography Seminar, Caen. Dec. 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-12-Caen-Isogenies.pdf>
25. D. Robert. “Arithmetic on Abelian and Kummer varieties”. Number Theory Seminar, Institut Fourier, Grenoble. Apr. 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-04-Grenoble.pdf>. On blackboard, [notes](#).
26. D. Robert. “Arithmetic on abelian varieties and related topics”. Seminar in Coding Theory and Cryptography of the University of Zurich and the University of Neuchâtel, Neuchâtel, Suisse. Mar. 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-03-Neuchatel.pdf>
27. D. Robert. “Computing optimal pairings on abelian varieties with theta functions”. **Industrial ANR Simpatic meeting**, Caen. Jan. 2014. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2014-01-Caen.pdf>

28. D. Robert. "Arithmetic on Abelian and Kummer varieties". ANR Peace meeting, Rennes. Dec. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-12-Rennes-Peace.pdf>
29. D. Robert. "On isogenies and polarisations". LFANT Seminar, Bordeaux. Nov. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-11-Lfant.pdf>
30. D. Robert. "On isogenies and polarisations". Geometry and Cryptography (Geocrypt 2013), Tahiti. Oct. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-10-Geocrypt-Tahiti.pdf>
31. D. Robert. "On isogenies between abelian varieties". Microsoft Research, Redmond, USA. Aug. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-08-Microsoft-Isogeny.pdf>
32. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". Microsoft Research, Redmond, USA. Aug. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-08-Microsoft-Pairing.pdf>
33. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". Arithmetic Geometry Cryptography and Coding Theory (AGCT 14), Luminy, Marseille. June 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-06-AGCT-Marseille.pdf>
34. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". Lacaal, Lausanne. May 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-05-Lausanne.pdf>
35. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". CCIS seminar, Grenoble. Apr. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2013-04-Grenoble.pdf>
36. D. Robert. "Computing cyclic isogenies using real multiplication". (Notes). ANR Peace meeting, Paris. Apr. 2013. URL: <http://www.normalesup.org/~robert/pro/publications/notes/2013-04-Peace-Paris-Cyclic-Isogenies.pdf>
37. D. Robert. "Computing rational isogenies from the equations of the kernel". ANR Peace meeting, Paris. Nov. 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-11-Peace-Paris.pdf>
38. D. Robert. "Improved CRT Algorithm for class polynomials in genus 2". Microsoft Research, Redmond, USA. Aug. 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-08-Microsoft.pdf>
39. D. Robert. "About the CRT method to compute class polynomials in dimension 2". INRIA Team LFANT seminar, Bordeaux. May 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-05-Bordeaux.pdf>

40. D. Robert. "Algorithms on abelian varieties for cryptography". *Caen's Cryptographic Seminar*, Caen. Mar. 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-03-Caen.pdf>
41. D. Robert. "Algorithms on abelian varieties for cryptography". *INRIA Team Grace Seminar*, LIX, École Polytechnique, Paris. Jan. 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-01-LIX-Paris.pdf>
42. D. Robert. "Algorithms on abelian varieties for cryptography". *Boutte aux cailles Seminar*, Télécom ParisTech, Paris. Jan. 2012. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2012-01-Telecom-Paris.pdf>
43. D. Robert. "Public key cryptography with abelian varieties: results and challenges". *ARITH Seminar*, Montpellier. Nov. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-11-Montpellier.pdf>
44. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". *Séminaire de théorie des nombres*, Bordeaux. Sept. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-09-Bordeaux.pdf>
45. D. Robert. "About the CRT method to compute class polynomials in dimension 2". *Journées C2 Codage et Cryptographie*, Oléron. Apr. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-04-C2-Oleron.pdf>
46. D. Robert. "Cryptology, elliptic curves and number theory". *Number Theory PhD Students' seminar*, Bordeaux. Mar. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-03-Bordeaux.pdf>
47. D. Robert. "Computing optimal pairings on abelian varieties with theta functions". *Séminaire Arithmétique et Théorie de l'Information*, Université Méditerranée, Marseille. Feb. 2011. URL: http://www.normalesup.org/~robert/pro/publications/slides/2011-02-Marseille_pairings.pdf
48. D. Robert. "Abelian varieties, theta functions and cryptography". *PhD Students' seminar*, Université Méditerranée, Marseille. Feb. 2011. URL: http://www.normalesup.org/~robert/pro/publications/slides/2011-02-Marseille_theta.pdf
49. D. Robert. "Computing isogenies and applications in cryptography". *Cryptology seminar*, Université Versailles Saint-Quentin, Versailles. Jan. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-01-Versailles.pdf>
50. D. Robert. "Computing isogenies and applications in cryptography". *Minalogic cryptology seminar*, Grenoble. Jan. 2011. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2011-01-Grenoble.pdf>
51. D. Robert. "Abelian varieties, theta functions and cryptography". *Algorithmics of L-functions workshop*, Bordeaux. Dec. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-12-Bordeaux.pdf>. Part 1 on blackboard.

52. D. Robert. "On the CRT method to compute class polynomials in genus 2". *ANR Chic*, Paris. Dec. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-12-Chic-Paris.pdf>
53. D. Robert. "Generalizing Vélú's formulas and some applications". *TANC Seminar*, LIX, École Polytechnique, Paris. Nov. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-11-LIX-Paris.pdf>
54. D. Robert. "Speeding up the CRT method to compute class polynomials in genus 2". *Microsoft Research*, Redmond, USA. Sept. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-09-Microsoft.pdf>
55. D. Robert. "Abelian varieties, Theta functions and cryptography". *Microsoft Research*, Redmond, USA. July 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-07-Microsoft.pdf>
56. D. Robert. "Arithmétique rapide avec les fonctions thêta". *ANR Chic*, Paris. June 2010
57. D. Robert. "A Vélú's like formula for computing isogenies on abelian varieties". *Séminaire de théorie des nombres*, Bordeaux. Feb. 2010. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2010-02-Bordeaux.pdf>
58. D. Robert. "Calcul de pairing avec les fonctions thêta". *LFANT Cryptographic Seminar*, Bordeaux. Feb. 2010
59. D. Robert. "A Vélú's like formula for computing isogenies on abelian varieties". *Séminaire Arithmétique et Théorie de l'Information*, Marseille. Nov. 2009. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2009-11-Marseille.pdf>
60. D. Robert. "An efficient computation of the commutator pairing". *ANR Chic*, Paris. Oct. 2009. URL: http://www.normalesup.org/~robert/pro/publications/slides/2009-10-Chic-Paris_pairings.pdf
61. D. Robert. "A Vélú's like formula for computing isogenies on abelian varieties". *ANR Chic*, Paris. Oct. 2009. URL: http://www.normalesup.org/~robert/pro/publications/slides/2009-10-Chic-Paris_isogenies.pdf
62. D. Robert. "Computing isogenies of small degrees on abelian varieties". *Journées d'arithmétiques 2009*, Saint-Etienne. July 2009. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2009-07-JourneesArithmetiques-SaintEtienne.pdf>
63. D. Robert. "Computing isogenies of small degrees on abelian varieties". *Séminaire de cryptographie*, Rennes. Apr. 2009. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2009-04-Rennes.pdf>
64. D. Robert. "Abelian varieties and isogenies". *Tsukuba Cryptographic Seminar*, Tsukuba, Japan. Nov. 2008. URL: <http://www.normalesup.org/~robert/pro/publications/slides/2008-11-Tsukuba.pdf>

10 Vulgarization Talks

1. D. Robert. “Les enjeux de la blockchain écologique”. Plenary session, FrenchTech, Bordeaux. Nov. 2022. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2022-11-FrenchTech.pdf>
2. E. Jeannot and D. Robert. “Les Cryptomonnaies et les NFT”. Unithé ou Café, Inria Bordeaux. Sept. 2022. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2022-09-Unithe.pdf>
3. D. Robert. “Algorithmic number theory and cryptography”. Team presentation for the director of Inria Bordeaux, Inria Bordeaux. Apr. 2014. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2014-04-Monique.pdf>
4. D. Robert. “Algorithmic number theory and cryptography”. Presentation of my research themes to the Inria Bordeaux Scientific committee, Inria Bordeaux. Dec. 2013. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2013-12-Inria-Bordeaux-CP.pdf>
5. D. Robert. “Petit panorama des mathématiques de la cryptologie”. Presentation for the students in Mines de Nancy, Labri, Bordeaux. Apr. 2013. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2013-04-Labri-MinesNancy-Bordeaux.pdf>
6. D. Robert. “Panorama de la cryptographie sur les courbes elliptiques”. Lorraine Phd prize ceremony, Conseil général de Lorraine, Metz. Feb. 2012. URL: <http://www.normalesup.org/~robert/pro/teaching/slides/2012-02-PrixTheseLorraine-Metz.pdf>

11 Rump Sessions

1. D. Robert. “Finding a supersingular isogeny path with only one isogeny computation”. Eurocrypt 2023, Lyon, France. Apr. 2023. URL: http://www.normalesup.org/~robert/pro/publications/rump/2023-04-Eurocrypt_rump.pdf
2. D. Robert. “Sleeping in the volcano”. ECC 2011 conference, Nancy. Sept. 2011. URL: http://www.normalesup.org/~robert/pro/publications/rump/2011-09-ecc_rump.pdf
3. D. Robert. “AVIsogenies, a library for computing isogenies between abelian varieties”. ECC 2010, Redmond, USA. Oct. 2010. URL: http://www.normalesup.org/~robert/pro/publications/rump/2010-10-ecc_rump.pdf

12 Softwares

1. G. Bisson, R. Cosset, and D. Robert. *AVIsogenies*. Magma package devoted to the computation of isogenies between abelian varieties. 2010. URL: <https://www.math.u-bordeaux.fr/~damienrobert/avisogenies/>. Free software (LGPLv2+), registered to APP (reference IDDN.FR.001.440011.000.R.P.2010.000.10000). Latest version 0.7, released on 2021-03-13.

2. M. Kirschmer, F. Narbonne, C. Ritzenthaler, and D. Robert. *FromLatticesToModularForms*. Computation of modular forms in the isogeny class spanned by products of elliptic curves. Apr. 2020. URL: <https://gitlab.inria.fr/roberdam/fromlatticestomodularforms>
3. P. Dartois, L. Maino, G. Pope, and D. Robert. *ThetaIsogenies*. Fast computations of isogenies in dimension two. Nov. 2023. URL: <https://github.com/ThetaIsogenies/two-isogenies>
4. D. Robert. “Kummer Line”. Toolbox for computing on Kummer lines. Oct. 2023. URL: <https://gitlab.inria.fr/roberdam/kummer-line>

13 Patents

1. K. E. Lauter and D. Robert. *Computing genus 2 curves using general isogenies*. May 2014. URL: <http://www.google.com.ar/patents/US20140105386>