

# Publications

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July 1, 2016

## Preprints

- [1] S. Lindner, L. Imbert, and M. J. Jacobson Jr. “Improved Explicit Formulas of Genus 2 Hyperelliptic Curves in Weierstrass Form”. (submitted). 2016.
- [2] E. Guerrini, L. Imbert, and T. Winterhalter. *Randomizing Scalar Multiplication Using Exact Covering Systems of Congruences*. Cryptology ePrint Archive, Report 2015/475. <http://eprint.iacr.org/>. 2015.

## International journals with editorial board

- [3] G. Perin, L. Imbert, P. Maurine, and L. Torres. “Vertical and Horizontal Correlation Attacks on RNS-Based Exponentiations”. In: *Journal of Cryptographic Engineering* 5.3 (2015), pp. 171–185. DOI: 10.1007/s13389-015-0095-0.
- [4] F. Disanto, L. Imbert, and F. Philippe. “On the maximal weight of  $(p, q)$ -ary chains with bounded parts”. In: *INTEGERS, Electronic Journal of Combinatorial Number Theory* 14 (2014), #A37. URL: <http://www.integers-ejcnt.org/vol14.html>.
- [5] L. Imbert and M. J. Jacobson Jr. “Empirical optimization of divisor arithmetic on hyperelliptic curves over  $\mathbb{F}_{2^m}$ ”. In: *Advances in Mathematics of Communication* 7.4 (2013), pp. 485–502. DOI: doi:10.3934/amc.2013.7.485.
- [6] J. Adikari, V. Dimitrov, and L. Imbert. “Hybrid binary-ternary number system for elliptic curve cryptosystems”. In: *IEEE Transactions on Computers* 60.2 (2011), pp. 254–265. DOI: 10.1109/TC.2010.138.
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- [8] L. Imbert and F. Philippe. “Strictly chained  $(p, q)$ -ary partitions”. In: *Contributions to Discrete Mathematics* 5.2 (2010), pp. 119–136. arXiv: 1212.0048 [Math.NT]. URL: <http://hdl.handle.net/10515/sy5hx1653>.
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- [11] R. Glabb, L. Imbert, G. A. Jullien, A. Tisserand, and N. Veyrat-Charvillon. “Multi-mode Operator for SHA-2 Hash Functions”. In: *Journal of Systems Architecture, Special Issue on Embedded Hardware for Cryptosystems* 53.2-3 (Feb. 2007), pp. 127–138. DOI: 10.1016/j.sysarc.2006.09.006.

- [12] J.-C. Bajard, L. Imbert, and C. Negre. “Arithmetic Operations in Finite Fields of Medium Prime Characteristic using the Lagrange Representation”. In: *IEEE Transactions on Computers* 55.9 (Sept. 2006), pp. 1167–1177. DOI: 10.1109/TC.2006.136.
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- [14] L. Imbert, V. Dimitrov, and G. A. Jullien. “Fault-Tolerant Computations over Replicated Finite Rings”. In: *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications* 50.7 (July 2003), pp. 858–864. DOI: 10.1109/TCSI.2003.814085.
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### Invited Talk in Conferences and Workshops

- [19] L. Imbert. “Randomizing Scalar Multiplication Using Exact Covering Systems of Congruences”. Invited Talk. Kick-Workshop on Explicit Methods for Abelian Varieties. May 2015.
- [20] L. Imbert. “Strictly chained  $(p, q)$ -ary partitions”. Invited Talk. Alberta Number Theory Day, Calgary, Canada. Apr. 2009.
- [21] L. Imbert. “Quelques pistes pour accélérer les calculs sur les courbes elliptiques”. Invited Talk. Journées Codage et Cryptographie, Carcans, France. Mar. 2008.

### Miscellaneous

- [56] C. Bouvier, P. Gaudry, L. Imbert, H. Jeljeli, and E. Thomé. *Discrete logarithms in  $GF(p) - 180$  digits*. NMBRTHRY Archives. <https://listserv.nodak.edu/cgi-bin/wa.exe?A2=ind1406&L=NMBRTHRY&F=&S=&P=3161>. June 2014.

### Proceedings of International Conferences with Program Committees

- [22] G. Perin, L. Imbert, L. Torres, and P. Maurine. “Attacking Randomized Exponentiation using Un-supervised Learning”. In: *Constructive Side-Channel Analysis and Secure Design - 5th International Workshop, COSADE 2014. Revised Selected Papers*. Vol. 8622. Lecture Notes in Computer Science. Springer, 2014, pp. 144–160. DOI: 10.1007/978-3-319-10175-0\_11.
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- [24] P. Giorgi, L. Imbert, and T. Izard. “Parallel modular multiplication on multi-core processors”. In: *Proceedings of the 21st IEEE Symposium on Computer Arithmetic, ARITH21*. IEEE Computer Society, 2013, pp. 135–142.

- [25] G. Perin, L. Imbert, L. Torres, and P. Maurine. “Electromagnetic Analysis on RSA Algorithm Based on RNS”. In: *Proceedings of 16th Euromicro Conference on Digital System Design, DSD 2013*. IEEE, 2013, pp. 345–352.
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### **Books and Book Chapters**

- [55] L. Imbert. “Calcul et arithmétique des ordinateurs”. In: *Traité IC2, série Informatique et Systèmes d’Information*. Hermes science publications, 2004. Chap. 5, Arithmétique multiprécision, pp. 155–179.