



CASC PROJECT

Computational Aspects of Statistical Confidentiality

**SCIENTIFIC PAPERS ON NEW
MICROAGGREGATIONS METHODS, THEIR
SECURITY AND THEIR COMPARISON WITH
OTHER MASKING METHODS**

(WORKPACKAGE 1.1, DELIVERABLE 1.1-D9)

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31 December 2003/14 June 2004

This deliverable is a collection of scientific papers produced on new microaggregation methods, their security and their comparison with other masking methods. Electronic versions of the following publications are included as attachments to this document. Note that: 1) all the attached publications but one which was previous to CASC bear acknowledgment to CASC funding; 2) the attached materials are copyrighted, so they are attached only for Commission internal use.

1. Josep Domingo-Ferrer, Francesc Sebé and Jordi Castellà, "On the security of noise addition for privacy in statistical databases", *Lecture Notes in Computer Science*, vol. 3050, pp. 149-161, 2004. ISSN 0302-9743. Vol. *Privacy in Statistical Databases*, eds. J. Domingo-Ferrer and V. Torra, Berlin: Springer-Verlag. Acceptance rate: 29/44 (see preface).
2. Josep M. Mateo-Sanz, Francesc Sebé and Josep Domingo-Ferrer, "Outlier protection in continuous microdata masking", *Lecture Notes in Computer Science*, vol. 3050, pp. 201-215, 2004. ISSN 0302-9743. Vol. *Privacy in Statistical Databases*, eds. J. Domingo-Ferrer and V. Torra, Berlin: Springer-Verlag. Acceptance rate: 29/44 (see preface).
3. Josep Domingo-Ferrer and Vicenç Torra, "Disclosure risk assessment in statistical disclosure control of microdata via advanced record linkage", *Statistics and Computing*, vol. 13, no. 4, pp. 343-354, 2003. ISSN 0960-3174
4. Josep Domingo-Ferrer, Josep M. Mateo-Sanz, Anna Oganian and Àngel Torres, "On the security of microaggregation with individual ranking: analytical attacks", *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, vol. 10, no. 5, pp. 477-492, 2002. ISSN 0218-4885
5. Ramesh A. Dandekar, Josep Domingo-Ferrer and Francesc Sebé, "LHS-based hybrid microdata vs rank swapping and microaggregation for numeric microdata protection", *Lecture Notes in Computer Science*, vol. 2316, pp. 175-186, Apr. 2002. ISSN 0302-9743. Vol. *Inference Control in Statistical Databases*, ed. Josep Domingo-Ferrer, Berlin: Springer-Verlag.
6. Francesc Sebé, Josep Domingo-Ferrer, Josep M. Mateo-Sanz and Vicenç Torra, "Post-masking optimization of the tradeoff between information loss and disclosure risk in masked microdata sets", *Lecture Notes in Computer Science*, vol. 2316, pp. 187-196, Apr. 2002. ISSN 0302-9743. Vol. *Inference Control in Statistical Databases*, ed. Josep Domingo-Ferrer, Berlin: Springer-Verlag.
7. Josep Domingo-Ferrer and Josep M. Mateo-Sanz, "Practical data-oriented microaggregation for statistical disclosure control", *IEEE Transactions on Knowledge and Data Engineering*, vol. 14, no. 1, pp. 189-201, Feb. 2002. ISSN 1041-4347. *NOTE: This paper was written before CASC started, but is included because it is the most authoritative reference on microaggregation.*
8. Anna Oganian and Josep Domingo-Ferrer, "On the complexity of optimal microaggregation for statistical disclosure control", *Statistical Journal of the United Nations Economic Commission for Europe*, vol. 18, no. 4, pp. 345-354, Dec. 2001. ISSN 0167-8000
9. Josep Domingo-Ferrer and Vicenç Torra, "A quantitative comparison of disclosure control methods for microdata", in *Confidentiality, Disclosure and Data Access: Theory and Practical Applications for Statistical Agencies*, eds. L. Zayatz, P. Doyle, J. Theeuwes and J. Lane, Amsterdam: North-Holland, 2001, pp. 111-134. ISBN 0-444-50761-2. Book chapter written under contract with the Urban Institute (Washington D.C., USA).
10. Josep Domingo-Ferrer, Josep M. Mateo-Sanz and Vicenç Torra, "Comparing SDC methods for microdata on the basis of information loss and disclosure risk", in *Pre-proceedings of ETK-NTTS'2001 (vol. 2)*, Luxembourg: Eurostat, 2001, pp. 807-826. ISBN 92-894-1176-5