

## Publications

### in journals:

- 1) S. De Agostino, "Greedy versus Optimal Analysis of Bounded Size Dictionary Compression and On-the-Fly Distributed Computing", *Discrete Applied Mathematics*, **342** (2024), 200-206.
- 2) S. De Agostino, "Extended Split Graphs and the 3-Sphere Regular Cellulation Conjecture", *Journal of Combinatorial Mathematics and Combinatorial Computing*, **108** (2019), 113-123.
- 3) R. Pizzolante, B. Carpentieri and S. De Agostino, "Adaptive Vector Quantization for Lossless Compression of Image Sequences", *Algorithms*, **10** (2017), 2-51.
- 4) S. De Agostino, B. Carpentieri and R. Pizzolante, "Concurrent vs. Exclusive Reading in Parallel Decoding of LZ-Compressed Files", *Algorithms*, **10** (2017), 1-21.
- 5) S. De Agostino, "The Greedy Approach to Dictionary-Based Text Compression on a Distributed System", *Journal of Discrete Algorithms*, **34** (2015), 54-61.
- 6) S. De Agostino, "Real-Time and Distributed Applications for Dictionary-Based Data Compression", *International Journal on Advances in Software*, **8** (2015), 75-84.
- 7) S. De Agostino, "A Robust Approach to Large Size Files Compression using the MapReduce Web Computing Framework", *International Journal on Advances in Internet Technology*, **7** (2014), 29-38.
- 8) L. Cinque, S. De Agostino and L. Lombardi, "Binary Image Compression via Monochromatic Pattern Substitution: Sequential and Parallel Implementations", *Mathematics in Computer Science*, **7** (2013), 155-166.
- 9) S. De Agostino, "Weakly Split Graphs and Regular Cellulations of the 3-Sphere", *Ars Combinatoria*, **108** (2013), 239-247.
- 10) S. De Agostino, "Lempel-Ziv Data Compression on Parallel and Distributed Systems", *Algorithms*, **4** (2011), 183-199.
- 11) L. Cinque, S. De Agostino and L. Lombardi, "Scalability and Communication in Parallel Low-Complexity Lossless Compression", *Mathematics in Computer Science*, **3** (2010), 391-406
- 12) S. De Agostino, "Bounded Size Dictionary Compression: Relaxing the LRU Deletion Heuristic", *International J. of Foundations of Computer Science*, **17** (2006), 1273-1280.
- 13) S. De Agostino, "A Conjecture on Biconnected Graphs and Regular Cellulations of the 3-Sphere", *International Journal of Pure and Applied Mathematics*, **32** (2006), 197-200.
- 14) L. Cinque, S. De Agostino, F. Liberati and B. Westgeest, "A Simple Lossless Compression Heuristic for Grey Scale Images", *International J. of Foundations of Computer Science*, **16** (2005), 1111-1119.
- 15) S. De Agostino, "Almost Work-Optimal PRAM EREW Decoders of LZ Compressed Text", *Parallel Processing Letters*, **14** (2004), 351-359.

- 16) S. De Agostino, "A Conjecture on Biconnected Graphs and Regular Cell Complexes", *Congressus Numerantium*, **166** (2004), 173-179.
- 17) L. Cinque, S. De Agostino and F. Liberati, "A Work-Optimal Parallel Implementation of Lossless Image Compression by Block Matching", *Nordic Journal of Computing*, **10** (2003), 13-21.
- 18) S. De Agostino and R. Silvestri, "Bounded Size Dictionary Compression: SC<sub>k</sub>-Completeness and NC Algorithms", *Information and Computation*, **180** (2003), 101-112.
- 19) P. Crescenzi, S. De Agostino and R. Silvestri, "A Note on the Spatiality Degree of Graphs", *Ars Combinatoria*, **63** (2002), 185-191.
- 20) S. De Agostino, "Parallelism and Dictionary Based Data Compression", *Information Sciences*, **135** (2001), 43-56.
- 21) A.E. Andreev, A. Clementi, P. Crescenzi, E. Dahlhaus, S. De Agostino and J.D.P. Rolim, "The Parallel Complexity of Approximating the High Degree Subgraph Problem", *Theoretical Computer Science*, **205** (1998), 261-282.
- 22) S. De Agostino and R. Silvestri, "A Worst Case Analysis of the LZ2 Compression Algorithm", *Information and Computation*, **139** (1997), 258-268.
- 23) S. De Agostino, R. Petreschi and A. Sterbini, "An O(n<sup>3</sup>) Recognition Algorithm for Bithreshold Graphs", *Algorithmica* **17** (1997), 416-425.
- 24) S. De Agostino and J. A. Storer, "On-Line versus Off-line Computation for Dynamic Text Compression", *Information Processing Letters* **59** (1996), 169-174.
- 25) S. De Agostino, "A Parallel Decoding Algorithm for LZ2 Data Compression", *Parallel Computing* **21** (1995), 1957-1961.
- 26) G. Bongiovanni, P. Crescenzi and S. De Agostino, "MaxSat and MinSet Cover Approximation Algorithms are P-complete", *Parallel Processing Letters* **5** (1995), 293-298.
- 27) S. De Agostino, "P-complete Problems in Data Compression", *Theoretical Computer Science* **127** (1994), 181-186
- 28) S. De Agostino and R. Petreschi, "On Matrogenic Graphs and PVchunk Operations", *International Journal of Foundations of Computer Science* **1** (1992), 11-20.
- 29) S. De Agostino and R. Petreschi, "Parallel Recognition Algorithms for Graphs with Restricted Neighbourhoods", *International Journal of Foundations of Computer Science* **1** (1990), 123-130.

- 30) D. P. Bovet, S. De Agostino and R. Petreschi, "Parallelism and the Feedback Vertex Set Problem", *Information Processing Letters* **28** (1988), 81-85.

**in monographies and encyclopedias:**

- 31) L. Cinque, S. De Agostino and L. Lombardi, "Lossless Image Compression by Block Matching on Practical Parallel Architectures", *Texts in Algorithmics*, **11** (2009), King's College Publications, 136-151.
- 32) S. De Agostino and R. Greenlaw, "Automata Theory", *Encyclopedia of Information Systems* **1** (2003), Academic Press, 47-63.

**in conferences (not published in a journal):**

- 33) S. De Agostino, "A Worst Case Analysis of the LZ2 Compression Algorithm with Bounded Size Dictionaries", *Proc. Prague Stringology Conference* (2023), 107-113.
- 34) S. De Agostino, "Approximating Dictionary-Based Optimal Compression on a Distributed System", *Proc. Acm International Conference on Computing Frontiers* (2015), 44:1-2.
- 35) S. De Agostino, "The Uncompress Application on Distributed Communications Systems", *Proc. International Conference on Networking and Services* (2015), 55-60.
- 36) S. De Agostino, "Compressing Large Size Files on the Web in MapReduce", *Proc. International Conference on Internet and Web Applications and Services* (2013), 135-140.
- 37) S. De Agostino, "Low-Complexity Lossless Compression on High Speed Networks", *Proc. International Conference on Systems and Network Communications* (2012), 130-135.
- 38) S. De Agostino, "LZW Data Compression on Large Scale and Extreme Distributed Systems", *Proc. Prague Stringology Conference* (2012), 18-27.
- 39) S. De Agostino, "Bounded Memory LZW Compression and Distributed Computing", *Festschrift for Borivoj Melichar* (2012), Eds. J. Holub, B. Watson and J. Zdarek, 1-9.
- 40) S. De Agostino, "LZW versus Sliding Window Compression on a Distributed System: Robustness and Communication", *Proc. INFOCOMP* (2011), 125-130.
- 41) L. Cinque, S. De Agostino and L. Lombardi, "Binary Image Compression via Monochromatic Pattern Substitution: A Sequential Speed-Up", *Proc. Prague Stringology Conference* (2011), 220-225.
- 42) L. Cinque, S. De Agostino and L. Lombardi, "Binary Image Compression via Monochromatic Pattern Substitution: Effectiveness and Scalability", *Proc. Prague Stringology Conference* (2010), 103-115.
- 43) S. De Agostino, "Compressing Bi-Level Images by Block Matching on a Tree Architecture", *Proc. Prague Stringology Conference* (2009), 137-145.

- 44) L. Cinque e S. De Agostino, "Lossless Image Compression by Block Matching on Practical Massively Parallel Architectures", *Proc. Prague Stringology Conference* (2008), 26-34.
- 45) L. Cinque, S. De Agostino and L. Lombardi, "Speeding up Lossless Image Compression: Experimental Results on a Parallel Machine", *Proc. Prague Stringology Conf.*(2008), 35-45.
- 46) Luigi Cinque and S. De Agostino, "A Parallel Decoder for Lossless Image Compression by Block Matching", *Proc. IEEE Data Compression Conference* (2007), 183-192.
- 47) R. Hashemi, M. Bahar and S. De Agostino, "An Extended Self Organizing Map (ESOM) for Hierarchical Clustering", *Proc. IEEE Conference on Systems, Man and Cybernetics*, 2005, 2856-2860.
- 48) R. Hashemi, S. De Agostino, Bart Westgeest and J. Talburt, "Data Granulation and Formal Concept Analysis", *IEEE Proc. NAFIPS*, 2004, 79-83.
- 49) S. De Agostino, "Speeding up Parallel Decoding of LZ Compressed Text on the PRAM EREW", *Proc. SPIRE'2000*, 2-7.
- 50) S. De Agostino, "Work-Optimal Parallel Decoders for LZ2 Data Compression", *Proc. IEEE Data Compression Conference* (2000), 393-399.
- 51) P. Barcaccia, A. Cresti and S. De Agostino, "Pattern Matching in Text Compressed with the ID Heuristic", *Proc. IEEE Data Compression Conference* (1998), 113-118.
- 52) S. De Agostino, "A Parallel Decoder for LZ2 Compression using the ID Update Heuristic", *IEEE Proc. Sequences* (1997) 368-373.
- 53) S. De Agostino, R. Petreschi and Andrea Sterbini, "Parallel Maximum Matching for Graphs with Restricted Neighbourhoods", *Proc. Fifth Italian Conference On Theoretical Computer Science* (1995) 94-101.
- 54) D. Belinskaya, S. De Agostino and J.A. Storer, "Near Optimal Compression with Respect to a Static Dictionary on a Practical Massively Parallel Architecture", *Proc. IEEE Data Compression Conference* (1995) 172-181.
- 55) S. De Agostino and J. A. Storer , "Parallel Algorithms for Optimal Compression using Dictionaries with the Prefix Property", *Proc. IEEE Data Compression Conference* (1992) 52-61.