

Or Ordentlich

CONTACT INFORMATION

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RESEARCH INTERESTS

- Information Theory, and in particular the role of structured codes in Network Information Theory.
- Communication Theory
- Signal Processing

EDUCATION

Tel Aviv University, Tel Aviv, Israel

Ph.D. Candidate at the Dept. of Electrical Engineering - Systems (since July 2011)

- Advisor: Uri Erez

M.Sc. from the department of Electrical Engineering - Systems. Graduated June, 2011, *summa cum laude*.

- Advisor: Uri Erez
- Thesis title: "Structured Codes: Matching the Code to the Channel".

B.Sc. from the department of Electrical Engineering. Graduated October, 2010, *cum laude*.

HONORS AND AWARDS

2014 - Feder family award for outstanding research work in the field of communication technologies, second place.

2014 - Recipient of the Thalheimer Scholarship for graduate students, awarded by the Wolf Foundation.

2013 - A fellowship from the Yitzhak and Chaya Weinstein research institute for Signal Processing at Tel Aviv University.

2012- Recipient of the Adams Fellowship of the Israel Academy of Sciences and Humanities.

2011 - Feder family award for outstanding research work in the field of communication technologies, second place.

2011 - A fellowship from the Yitzhak and Chaya Weinstein research institute for Signal Processing at Tel Aviv University.

2011 - Intel Award for excellent M.Sc. research work.

2011 - Scholarship for excellent M.Sc. students from the faculty of engineering, Tel Aviv University.

2008-2011 - Cited on Dean's list, faculty of engineering, Tel Aviv University.

2008-2009 - Independence day memorial scholarship of the faculty of engineering, Tel Aviv University.

2008 - Intel Award for excellent B.Sc. students.

JOURNAL PUBLICATIONS AND PREPRINTS

O. Ordentlich and U. Erez, "Cyclic Coded Integer-Forcing Equalization", IEEE Trans. On Information Theory, vol. 58, no. 9, pp. 5804-5815, Sep. 2012.

O. Ordentlich and U. Erez, “On the Robustness of Lattice Interference Alignment”, *IEEE Trans. On Information Theory*, vol. 59, no. 5, pp. 2735-2759, May 2013.

O. Ordentlich, U. Erez and B. Nazer, “The Approximate Sum Capacity of the Symmetric Gaussian K -User Interference Channel”, *IEEE Trans. On Information Theory*, vol. 60, no. 6, pp. 3450-3482, June 2014.

O. Ordentlich and U. Erez, “Precoded Integer-Forcing Universally Achieves the MIMO Capacity to Within a Constant Gap”, submitted to *IEEE Trans. On Information Theory*, Apr. 2013.

O. Ordentlich and U. Erez, “Integer-Forcing Source Coding”, submitted to *IEEE Trans. On Information Theory*, Apr. 2013.

O. Ordentlich and O. Shayevitz, “Mutual Information Bounds via Adjacency Events”, in preparation.

CONFERENCE
PAPERS

O. Ordentlich and O. Shayevitz, “Bounding Techniques for the Intrinsic Uncertainty of Channels”, *Proceedings of the International Symposium on Information Theory (ISIT 2014)*, Honolulu, HI, USA, July 2014.

O. Ordentlich and U. Erez, “Integer-Forcing Source Coding”, *Proceedings of the International Symposium on Information Theory (ISIT 2014)*, Honolulu, HI, USA, July 2014.

O. Ordentlich, U. Erez and Bobak Nazer “Successive Integer-Forcing and its Sum-Rate Optimality”, *Proc. of the 51st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, Oct. 2013

O. Ordentlich and U. Erez, “Precoded Integer-Forcing Universally Achieves the MIMO Capacity to Within a Constant Gap”, *Proceedings of the Information Theory Workshop*, pp. 442–446, Seville, Spain, Sep. 2011.

O. Ordentlich and U. Erez, “A Simple Proof for the Existence of “Good” Pairs of Nested Lattices”, *Proc. of the 27th Annual Convention of Electrical and Electronic Engineers in Israel*, Eilat, pp. 1–12 Israel, Nov. 2012.

A. Khina, O. Ordentlich, U. Erez, Y. Kochman and G. W. Wornell, “Decode-and-Forward for the Gaussian Relay Channel via Standard AWGN Coding and Decoding”, *Proceedings of the Information Theory Workshop*, Lausanne, Switzerland, Sep. 2012.

O. Ordentlich, U. Erez and B. Nazer, “The Approximate Sum Capacity of the Symmetric Gaussian K -User Interference Channel”, *Proceedings of the International Symposium on Information Theory (ISIT 2012)*, pp. 2072–2076, Cambridge, MA, USA, July 2012.

O. Ordentlich, U. Erez and B. Nazer, “The Compute-and-Forward Transform”, *Proceedings of the International Symposium on Information Theory (ISIT 2012)*, pp. 3008–3012, Cambridge, MA, USA, July 2012.

O. Ordentlich and U. Erez, “Interference Alignment at Finite SNR for Time-Invariant Channels”, *Proceedings of the Information Theory Workshop*, pp. 442–446, Paraty, Brazil, Oct. 2011.

O. Ordentlich, J. Zhan, U. Erez, M. Gastpar and B. Nazer, “Practical Code Design for Compute-and-Forward”, *Proceedings of the International Symposium on Information Theory (ISIT 2011)*, pp. 1876–1880, St. Petersburg, Russia, Aug. 2011.

O. Ordentlich and U. Erez, “Achieving The Gains Promised by Integer-Forcing Equalization with

Binary Codes”, Proc. of the 26th Annual Convention of Electrical and Electronic Engineers in Israel, pp. 703–707, Eilat, Israel, Nov. 2010.

J. Zhan, B. Nazer, O. Ordentlich, U. Erez and M. Gastpar, “Integer-Forcing Architectures for MIMO: Distributed Implementation and SIC”, Proceedings of the 44th Asilomar conference on Signals, Systems and Computers, pp. 322–326, Pacific Grove, CA, Nov. 2010.

O. Ordentlich and U. Erez, “Cyclic Coded Integer-Forcing Equalization”, Proc. of the 48th Annual Allerton Conference on Communication, Control, and Computing, pp. 474–478, Monticello, Illinois, Sep. 2010

TEACHING

Teaching Assistant at Tel Aviv University.

Duties include frontal teaching, grading homework exercises and exams, authoring exam questions and other administrative responsibilities.

- 0512.3532 Introduction to Signal Analysis, Spring 2012, Spring 2013, Spring 2014.
- 0512.3632 Random Signals and Noise, Spring 2010, Winter 2011, Winter 2012, Winter 2013, Winter 2014.
- 0512.4100 Communication Systems, Spring 2010.

PROFESSIONAL EXPERIENCE

Anobit Technologies

May 2008 - Oct. 2009

Algorithm team (undergrad position)

Worked on MATLAB-based simulations and analysis of coded flash memory systems.
Developed algorithms for coding and modulation for flash memories.