

Farzad Parvaresh

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- CURRENT EMPLOYMENT** **California Institute of Technology**
CENTER FOR MATHEMATICS OF INFORMATION (CMI)
POSTDOCTORAL SCHOLAR 2007–2008
- EDUCATION** **University of California**, San Diego, U.S.A.
• Ph.D. in Electrical Engineering. 2003–2007
Dissertation: ***Algebraic list-decoding of error-correcting codes***
Advisor: Professor Alexander Vardy.
• M.S. in Electrical Engineering 2001–2003
Advisor: Professor Alexander Vardy.
- Sharif Institute of Technology**, Tehran, Iran.
• B.S. in Electrical Engineering 1997–2001
Thesis: ***3D Backscattering for small Dielectrics.***
Advisor: Professor Kasra Barkeshli.
- PROFESSIONAL EXPERIENCE** **University of California San Diego**
RESEARCH ASSISTANT 2002–2007
- California Institute of Technology**
RESEARCH VISITOR November 2005-May 2006
During my visit of Professor McEliece’s group at Caltech I had a chance to be exposed to many interesting research problems such as low density parity check codes, iterative algorithms, and algebraic codes.
- Bell Laboratories**
RESEARCH CONSULTANT June-July 2005
My research at Bell-labs with Dr. Ashikhmin was basically on finding quantum maximum distance separable codes (QMDS codes) and decoding algorithms for them. Any quantum computer needs error-correcting codes to tolerate the noise. In addition, the code length cannot be long in practice for quantum computers because qbits are very expensive and also maintaining the coherence in long chain of qbits is a challenging problem.
- Sharif Institute of Technology**
TEACHING ASSISTANT FOR ELECTRONICS LAB. Fall 2000
Supervised the Electronic I laboratory. Helped the students to do the experiments. Constructed the final exam and decided the final grades.
- TEACHING ASSISTANT FOR ELECTROMAGNETIC COURSE. Fall 1999-2000
Helped with constructing the problem sets for the midterm and final exams and worked on homework sets with the students in discussion sessions.
- Scientific Committee of Iranian National Physics Olympiad**
This committee is responsible for designing problems and organizing national competitions and training camps. 1998–2001

HONORS AND AWARD

- ◇ Received the **best paper Award** of the IEEE Symposium on Foundations of Computer Science (FOCS). 2005
- ◇ Received the **Award** for the Excellence in use of literature from the UCSD Science and Engineering Library at ResearchExpo poster session. 2005
- ◇ Awarded **Fellowship** from department of Electrical and Computer engineering, University of California San Diego. 2001
- ◇ Received the **Presidential Award** as a member of the Physics Olympiad team. 1997
- ◇ Awarded **Silver medal** in the International Physics Olympiad (Canada). 1997
- ◇ Awarded **Gold medal** in the National Physics Olympiad. 1996

PUBLICATIONS

- ◇ F. PARVARESH and A. VARDY, Correcting Errors beyond the Guruswami-Sudan Radius, *invited to JACM*.
- ◇ F. PARVARESH and A. VARDY, Multivariate Interpolation Decoding Beyond the Guruswami–Sudan Radius, *in preparation for submission to IEEE transaction on Information Theory*.
- ◇ H. VIKALO, F. PARVARESH, S. MISRA and B. HASSIBI, Recovering sparse signals using sparse measurements matrices in compressed DNA microarrays, *submitted*.
- ◇ F. PARVARESH and B. HASSIBI, Compressed sensing with almost optimal thresholds, *preprint 2007*.
- ◇ M. STOJNIC, F. PARVARESH and B. HASSIBI, On the reconstruction of block-sparse signals with an optimal number of measurements, *submitted to STOC'08*.
- ◇ M. STOJNIC, F. PARVARESH and B. HASSIBI, Compressed sampling of block-sparse signals, *submitted to ISIT'08*.
- ◇ H. VIKALO, F. PARVARESH and B. HASSIBI, On recovery of sparse signals in compressed DNA microarrays, *41st Asilomar Conference on Signals, Systems and Computers*.
- ◇ F. PARVARESH and B. HASSIBI, Explicit measurements with almost optimal thresholds for compressed sensing, *to appear in ICASSP'08*.
- ◇ H. VIKALO, F. PARVARESH, S. MISRA and B. HASSIBI, Sparse measurements, compressed sampling, and DNA microarrays, *to appear in ICASSP'08*.
- ◇ F. PARVARESH, M. EL-KHAMY, M. STEPANOV, D. AUGOT, R. J. MCELIECE and A. VARDY, Algebraic List-Decoding of Reed-Solomon Product Codes, *Proceeding of the Tenth International Workshop on Algebraic and Combinatorial Coding Theory, Zvenigorod, Russia, September 2006*.
- ◇ F. PARVARESH, M. H. TAGHAVI and A. VARDY, On the performance of Multivariate Decoding of Reed-Solomon Codes, *Proceeding of IEEE Symposium on Information Theory (ISIT), Seattle, WA, July 2006*.
- ◇ F. PARVARESH and A. VARDY, Correcting Errors beyond the Guruswami-Sudan Radius, *IEEE symposium on Fundamentals of Computer Science (FOCS) (Received the Best Paper Award), 2005*.
- ◇ F. PARVARESH and A. VARDY, Multivariate Interpolation Decoding Beyond the Guruswami–Sudan Radius, *42nd annual Allerton Conference on Communications, Control and Computing, (Invited Paper), 2004*.

- ◇ F. PARVARESH and A. VARDY, Polynomial Matrix-Chain Interpolation in Sudan-type Reed-Solomon Decoders, *Proceeding of IEEE Symposium on Information Theory (ISIT)*, Chicago, IL, July 2004.
- ◇ F. PARVARESH and A. VARDY, Multiplicity Assignmet for Algebraic Decoding of Reed-Solomon Codes, *Proceeding of IEEE Symposium on Information Theory (ISIT)*, Yokohama, Japan, July 2003.
- ◇ F. PARVARESH and A. ABDI, 2D Capacitor Transducers, *Proceeding of Iranian Students Conference on Electrical Engineering*, Tehran, Iran, 1999.

SERVED AS A
REFEREE

IEEE Transactions on Information Theory (IT). IEEE Transactions on Communications. IEEE International Symposium on Information Theory (ISIT). Symposium on Foundations of Computer Science (FOCS). ACM Symposium on Theory of Computing (STOC). Information Theory Workshop (ITW). International Conference on Communications (ICC).

REFERENCES

Available upon request.