

Dagstuhl Seminar 13351 – Coding Theory

August 25–30, 2013

Organizers: Hans-Andrea Loeliger, Emina Soljanin, Judy Walker

Schedule (updated Aug. 29, 15:10)

See <http://www.dagstuhl.de/schedules/13351.pdf> for updates.

Monday

Session Chairs: Emina Soljanin (9-10:30)
Judy Walker (10:45-12 and 2-3:15)
Hans-Andrea Loeliger (4:15-5:45)

9–9:40am *Index coding: fundamentals, applications, and recent progress*
Alex Sprintson, Texas A&M University

9:50–10:30am *Codes for secure distributed data storage*
Salim El Rouayheb, Illinois Institute of Technology

10:45am–12:00pm *Five-minute presentations by participants (non-speakers)*

12:15pm Lunch

2–3:15pm *Five-minute presentations by participants (non-speakers)*

3:30pm Coffee

4:15–4:35pm *On the second largest eigenvalue of an n -regular graph*
Tom Høholdt, Technical University of Denmark – Lyngby

4:45–5:05pm *Graph codes on projective and Euclidean plane graphs with Reed-Solomon component codes*
Jørn Justesen, Technical University of Denmark – Lyngby

5:15–5:45pm *One-minute presentations (Tuesday-to-Friday speakers)*

6pm Dinner

Tuesday

Session Chairs: Margreta Kuijper (9-11:20)
Roxana Smarandache (2:30-3:20)
Eimear Byrne (4:30-5:20)

9–9:40am *Some recent topics in coding for secrecy*
Muriel Médard, Massachusetts Institute of Technology

10–10:40am *On skew complexity of sequences with applications to algebraic decoding*
Vladimir Sidorenko, Universität Ulm

11–11:20am *On linear codes from oval polynomials*
Sihem Mesnager, Université de Paris VIII

12:15pm Lunch

2:30–2:50pm *On network codes and partial spreads*
Wolfgang Willems, Universität Magdeburg

3:00–3:20pm *Partial spread codes*
Elisa Gorla, Université de Neuchâtel

3:30pm Coffee

4:30–4:50pm *Semantic value of information: coding and decoding schemes tailor made for image transmission*
Marcelo Firer, University of Campinas

5:00–5:20pm *Binary multiplicative codes*
Iwan Duursma, University of Illinois at Urbana Champaign

6pm Dinner

Wednesday

Session Chairs: Tor Helleseeth (9-10:40)
Gerard Cohen (11-11:50)

9–9:40am *Polar codes: finite-length analysis and universality*
Hamed Hassani, École Polytechnique Fédéral de Lausanne

10–10:40am *Some problems of coding theory motivated by coding for memories*
Sasha Barg, University of Maryland

11–11:20am *Neuroscience-inspired network decoder*
Katherine Morrison, University of Northern Colorado

11:30–11:50am *A characterization of all invariant weight functions on a principal ideal ring with the property that all code isometries allow for monomial extension*
Marcus Greferath, University College – Dublin

12:15pm Lunch

Afternoon *Excursion*

6pm Dinner

Thursday

Session Chairs: Joachim Rosenthal (9-11:20)
Pascal Vontobel (2:30-3:20)
Tracy Ho (4:30-5:20)

9–9:40am *Coding for combined block-symbol error correction*
Pascal Vontobel, Palo Alto, CA

10–10:40am *Efficient projection onto the parity polytope and its application to LP decoding*
Stark Draper, University of Wisconsin

11–11:20am *On the MacWilliams extension theorem for poset codes*
Heide Gluesing Luerssen, University of Kentucky

12:15pm Lunch

2:30–2:50pm *Trapping set structure of minimum weight codewords in regular LDPC codes*
Bane Vasić, University of Arizona

3:00–3:20pm *List decoding of subspace codes*
Anna-Lena Trautmann, Universität Zürich

3:30pm Coffee

4:30–4:50pm *On the interior points of the storage-bandwidth tradeoff*
P. Vijay Kumar, IISC – Bangalore

5–5:20pm *On multiply constant weight codes*
Patrick Solé, Télécom ParisTech

6pm Dinner

Friday

Session Chair: Alex Sprintson

9–9:40am *Gene prioritization and rank aggregation*

Olgica Milenkovic, University of Illinois at Urbana Champaign

10–10:20am *Optimal index codes with near-extreme rates*

Vitaly Skachek, University of Tartu, Estonia

10:30–10:50am *Gabidulin codes in characteristic zero*

Daniel Augot, Ecole Polytechnique – Palaiseau

11:30am Lunch

Thereafter: Goodbye!