

Curriculum Vitae

Thomas J. Britz

Personal data

Born: April 3rd, 1974, Aachen, Tyskland

Nationality: Danish

Marital Status: Married, 1 child

Education

University of Aarhus, Denmark.
M.Sc. in Mathematics, 2000.

University of Aarhus, Denmark.
Ph.d. in Mathematics, 2003.

Academic appointments

Massachusetts Institute of Technology, Cambridge, MA, USA (September 1998 - July 1999)
Visiting Scholar, Department of Mathematics.
Host/supervisor: Prof. Gian-Carlo Rota.

Queen Mary and Westfield College, University of London, UK (September 1999)
Host/supervisor: Prof. Peter J. Cameron, School of Mathematical Sciences.

Queen Mary and Westfield College, University of London, UK (September 2000 - January 2001)
Visiting Postgraduate Student, School of Mathematical Sciences.
Host/supervisor: Prof. Peter J. Cameron.

Queen Mary, University of London, UK (September 2001 - December 2001)
Visiting Postgraduate Student, School of Mathematical Sciences.
Host/supervisor: Prof. Peter J. Cameron.

University of Oxford, UK (December 2002)
Host: Prof. Jotun Hein, Department of Statistics.

University of Victoria, BC, Canada (January 2003 – June 2003)
Postdoctoral Fellow, Department of Mathematics and Statistics
Employers/supervisors: Prof. Dale Olesky og Prof. Pauline van den Driessche

University of Victoria, BC, Canada (July 2003 – June 2004)
PIMS Postdoctoral Fellow, Department of Mathematics and Statistics
Hosts/supervisors: Prof. Dale Olesky og Prof. Pauline van den Driessche

Technical University of Denmark (September 2004 –)
Assistant professor, Department of Mathematics
Financed by a Villum Kann Rasmussen postdoc grant.

Industrial appointments

Aasted-Mikroverk (December 2004 –)
Consultant.

Teaching experience

University of Aarhus (January 1998 – May 2002)
Teaching assistant in Linear Algebra (Mat 10, 2 terms) and
Probability and Statistics 1 (SS1, 6 terms).

University of Victoria, BC, Canada (September 2003 – December 2003)
Sessional lecturer (Lectured and designed course content, lectures, and midterm exams)
in Finite Mathematics (MATH 151).

Technical University of Denmark (February 2005 –)
Supervisor for Masters thesis, Department of Mathematics.

Publications

- T. Britz, M. Mainetti, and L. Pezzoli, Some operations on the family of equivalence relations, in *Algebraic Combinatorics and Computer Science. A Tribute to Gian-Carlo Rota* (eds. H. Crapo and D. Senato), pp. 445–460, Springer-Verlag, Milano, 2001.
- T. Britz and S. Fomin, Finite posets and Ferrers shapes, *Advances in Mathematics* **158** (2001), 86–127.
- T. Britz, The inverse of a non-singular free matrix, *Linear Algebra and its Applications* **338** (2001), 245–249.
- T. Britz, MacWilliams identities and matroid polynomials, *The Electronic Journal of Combinatorics* **9** (2002), Research paper R19, 17 pp.
- T. J. Britz and D. Britz, Mathematical proof of the consistency of Feldberg’s simple BDF start in electrochemical digital simulation, *Journal of Electroanalytical Chemistry* **546** (2003), 123–125.
- T. Britz, D. D. Olesky, and P. van den Driessche, Matrix inversion and digraphs: the one factor case, *Electronic Journal of Linear Algebra* **11** (2004), 115–131.
- T. Britz, D. D. Olesky, and P. van den Driessche, The Moore-Penrose inverse and graphs, *Linear Algebra and its Applications* **390** (2004), 47–60.
- T. Britz, J. J. McDonald, D. D. Olesky, and P. van den Driessche, Minimal spectrally arbitrary sign patterns, *SIAM Journal on Matrix Analysis and Applications* **26** (2004), 257–271.
- T. Britz, D. D. Olesky, and P. van den Driessche, Schur complements of matrices with acyclic bipartite graphs, *Electronic Journal of Linear Algebra* **14** (2005), 2–11.
- T. Britz and C. G. Rutherford, Covering radii are not matroid invariants, *Discrete Mathematics* **296** (2005), 117–120.
- T. Britz, Extensions of the Critical Theorem, submitted.
- T. Britz and K. Shiromoto, A MacWilliams type identity for matroids, submitted.
- T. Britz, Higher support matroids, submitted.
- T. Britz, On P -weight and P -distance inequalities, submitted.
- T. Britz, *Matroids, Codes and Relations*, ph.d. thesis, Aarhus Universitet, 2002.

Refereeing and reviewing

Referee for Electronic Journal of Combinatorics;
 Referee for Transactions of the American Mathematical Society;
 Referee for Linear Algebra and Applications;
 Referee for Discrete Mathematics;
 Referee for Proceedings of the London Mathematical Society;
 Reviewer for Mathematical Reviews.

Selected talks

Delvist ordnede mængder (Danish), Eulers Venner Gult Foredrag, University of Aarhus, April 2001.

More on posets, Queen Mary Combinatorics Study Group, Queen Mary and Westfield College, London, UK, Oktober 2001.

Inverting a generic matrix, The Tenth International Linear Algebra Society Conference, Challenges in Matrix Theory, Auburn, AL, USA, June 2002.

Extending the Critical Theorem, Graph Theory of Brian Alspach, Simon Fraser University, Burnaby, BC, Canada, May 2003.

From codes to matroids, Combinatorial Potlatch and 5th Coast Combinatorics Conference, University of Victoria, Victoria, BC, Canada, November 8–10, 2003.

Matrix inversion and digraphs: The one factor case, Directions in Combinatorial Matrix Theory, Banff International Research Station, Canada, May 6–8, 2004.

Digressions on posets and shapes, Department of Mathematics, Technical University of Denmark, Oktober 2004.

From codes to matroids, 8th Nordic Combinatorial Conference, Aalborg University, Denmark, October 20–22, 2004.

Weight enumerators and matroid polynomials, Queen Mary Combinatorics Study Group, Queen Mary, University of London, UK, November 2004.

Research interests

General interests: combinatorics, graph theory, discrete mathematics.

Specific interests: matroid theory, coding theory, graph colourings, combinatorial optimization, flows in networks, matching theory, combinatorial matrix theory, Ramsey theory, partially ordered sets, partitions, q -analogues, equivalence relations, enumerative combinatorics, Latinske squares, binary relations.

Other interests: philosophy of mathematics, history of mathematics.