Curriculum Vitae of Claire Mathieu[1]

Address

Department of Computer Science
Box 1910, Brown University
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Research area

Design and Analysis of Algorithms

Professional experience

Professor of Computer Science at Brown University, since 9/1/2004.
Visiting researcher at Microsoft Research, Fall 2007.
Professor at Ecole Polytechnique, 2002-04.
Professor at Université Paris-Sud, 1997-2002.
CNRS Researcher, LIP, ENS Lyon, 1991-97.
Visiting Fellow at Princeton University (Fall 2003).
Visiting faculty at Cornell, Summer 1997.
Visiting faculty at U.C. Berkeley, Summer 1996, 9/1994-8/95, and Fall 1992.
Visiting researcher at ICSI, Fall 1992.
CNRS Researcher, LIENS, ENS, 1990-1991.
DIMACS Post-Doc, 1989-1990.
INRIA Post-doctoral researcher at Princeton, 1988-89.
Consultant: NEC (1992), AT& T (1997–2001), Microsoft (1998–present).

Awards

"Prix IBM Jeune Chercheur", 1991.
Junior member of "Institut Universitaire de France", 2002-2004.
INFORMS Computing Society 2007 ICS Prize for Research Excellence in the Interface Between Operations Research and Computer Science, for the paper "On the Sum-of-Squares Algorithm for Bin Packing" published in 2006 in JACM.

Diplomas

Habilitation to direct research (Lyon I, 1996).
    Reviewers : Philippe Flajolet, François Jaeger, Bernard Ycart.
    Committee : François Baccelli, Philippe Flajolet, Mark Jerrum, Jacques Mazoyer, Maurice Nivat (President), Brigitte Vallée, Bernard Ycart.
Thesis in Computer Science (Paris XI, 1988).
    Reviewers : Philippe Flajolet, Jeffrey Vitter.

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[1]Also known under the name of Claire Kenyon until 2006.

Committee : Guy Fayolle, Philippe Flajolet, Jean Françon, Dominique Gouyou-Beauchamps,
Claude Puech (Thesis advisor), Jeffrey Vitter, Jean Vuillemin (President).

DEA ($\approx$ Masters) in Computer Science (Paris XI, 1985, with high honors).
Research project advisor : Claude Puech.
Research project topic : Stochastic geometry and Computer Science.

Maîtrise ($\approx$ B.A.) in Mathematics (Paris VII, 1984).

Student at Ecole Normale Supérieure (1983-88).

Past and present research interests

Approximation algorithms for NP-hard optimization problems, randomized algorithms, graph algorithms, algorithms for packing and scheduling, online algorithms, streaming algorithms, probabilistic analysis of algorithms, algorithmic game theory, algorithms for clustering.

Selected publications

1. On the sum-of-squares algorithm for bin packing. Janos Csirik, David S Johnson, Claire Kenyon, James B Orlin, Peter W Shor, and Richard R Weber. Journal of the ACM, Vol 53:1 (2006), 1-65.

2. Approximation Schemes for Clustering Problems, W. Fernandez de la Vega, Marek Karpinski, Claire Kenyon, and Yuval Rabani. Proceedings of the *Thirty-Fifth Annual ACM Symposium on Theory of Computing (STOC)*, 2003, pp 50–58.

3. A near-optimal solution to a two-dimensional cutting stock problem, Claire Kenyon and Eric Rémila, *Mathematics of Operations Research*, 25, 4, November 2000, 645-656. A preliminary version appeared in the proceedings of the 37*th Symposium on Foundations of Computer Science (FOCS)*, pp. 31-36, 1996.

4. A Critical Phenomenon in a Broadcast Process. Will Evans, Claire Kenyon, Yuval Peres, and Leonard Schulmann. *Annals of Applied Probability*, Vol. 10, No. 2, May 2000, pp. 410-433.

5. How to rank with few errors. Claire Kenyon-Mathieu, Warren Schudy. ACM STOC 2007: 95-103.

Advising

PhD students : David Eisenstat (Brown, 2009-present); Warren Schudy (Brown, 2006-2010); Aparna Das (Brown, 2005-present); J. Barbay (Orsay, 1998-2002); N. Schabanel (ENS-Lyon, 1996-2000); V. Unger (ENS-Lyon, 1993-95).

DEA ($\approx$ Masters) students and summer interns: V. Unger (ENS-Lyon, 1993), S. Roman (ENS-Lyon, 1996), L. Rempe (Paris-Sud, 2002), A. Broutin (Polytechnique, 2003, 50%), J. Correa (summer intern from MIT, 2003).

Undergraduates : D. Heller (Brown, 2006-07); S. Bielher (Polytechnique, 2004); A. Kodsi (Polytechnique, 2003); S. McPeak (Berkeley, 1995); N. Sturtevant (Berkeley, 1995); F. Lehobey (Rennes, 1993); Dan Ricketts (Brown, 2008-09); Ocan Sankur (ENS, 2009); Adrian Vladu (Brown, 2010).

Grants

NSF.
Theoretical Foundations 2007 (TF07). Award No.: CCF-0728816, standard grant. P.I.: Kenyon-Mathieu, C. Proposal number: 5-26667. "Designing Approximation Schemes". Effective September 15, 2007 and until August 31, 2010. Amount: 300,000 dollars.
(Current status: recommended.) AF: Medium: Collaborative Research: Solutions to Planar Optimization

Problems. Co-P.I.: Kenyon-Mathieu, C. Proposal number: 0964037.

International projects.

European project on Approximation and online algorithms (APPOL), participant (2000-2001).

European project on Approximation and online algorithms (APPOL2), local coordinator (2001-2002), participant (2003-2004).

European ESPRIT Working group on Randomized algorithms (RAND2), participant.

Binational projects.

Bilateral French-Belgian cooperative project CNRS-FNRS, French coordinator (1991-93).

France-Berkeley project on phase transitions and complexity, French coordinator (1998-99).

CNRS-NSF cooperation grant between Université Paris-Sud and the Georgia Institute of Technology on randomness, approximation, and new models of computation, French coordinator (1999-2002).

French projects.

Junior member of Institut Universitaire de France (2002-2007).

AS CNRS "Algorithms for larhe graphs", 2003, participant.

"Bonus Qualité-Recherche" project of the Université de Paris-Sud on graphs for the web, participant, 2003.

AS CNRS "Analyse Structurelle et Algorithmique des Rseaux Dynamiques", participant, 2003.

ACI Grid, participant (2001-2003).

CNRS bidisciplinary project physics and computer science, CS coordinator (1997-98).

INRIA cooperative project AlCOPhys (algorithms, combinatorics, and statistical physics), local coordinator (1999-2001).

"Bonus Qualité-Recherche" project of the Université de Paris-Sud on phase transitions, CS coordinator, 1999.

Project of the French Ministry of Education and Research, on approximability and local search, local coordinator (1999-2001).

Teaching

Teaching experience in the US.

Group theory and computer science, graduate course, UC Berkeley, 1992.

Algorithms, junior undergraduate course, UC Berkeley, 1994 (2 sections).

Graph Theory, undergraduate course, summer institute on mathematical sciences, Berkeley, 1996.

Algorithms, junior undergraduate course, Cornell, 1997.

CS 2510, Approximation Algorithms, graduate course, Brown University, 2004, 2005, 2008 and 2010.

CS 295-8, Computer Science, Algorithms and Economics, 2006.

CS 2950-W, Online Algorithms, 2009.

CS 1570, Design and Analysis of Algorithms, undergraduate course, Brown university, 2006, 2007, 2008.

CS 0170, CS: an Integrated Introduction, 2010.

Teaching experience in France.

Graduate courses on: complexity, randomized algorithms, and random graphs.

Upper-level undergraduate courses on: algorithms and data structures, advanced algorithms, automata and formal languages, complexity, programming in C, and programming in Java.

Lower-level undergraduate courses on: introduction to computer science, mathematics for computer science, and programming in CAML.

Service: local

Member of the Brown University Committee on Academic Standing (CAS) (2008-present).

Member of the Brown University freshman and sophomore advising program (2008-2010).

Member of the Brown University Committee on Diversity in Hiring (2006-2008).

Member of the PhD Admissions Committee (2004-05, 2007-08, 2008-09). Chair of the PhD Admissions Committee (2005-06, 2006-07, 2009-10).

Chair of the Strategic Opportunities Committee (2008-09).
Coordinator of all lower-level undergraduate courses in Computer Science (1998-2002).
Examiner for entrance exams to ENS Lyon (oral and written parts).

Service: Conference program committees

STACS 2011: 28th Symposium on Theoretical Aspects of Computer Science .
APPROX'10: 13th Intl. Workshop on Approximation Algorithms for Combinatorial Optimization Problems.
SODA'09: Annual ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2009, <u>program chair</u>.
APPROX'07: International workshop on Approximation Algorithms for Combinatorial Optimization Problems, 2007.
ANALCO'06: Third Workshop on Analytic Algorithmics and Combinatorics, 2006.
STOC'05: 37th ACM Symposium on Theory of Computing (**STOC**), 2005.
ESA'04: 12th Annual European Symposium on Algorithms, 2004.
WAOA'04: 2nd Workshop on Approximation and Online Algorithms, 2004.
FOCS'02 : IEEE Annual Symposium on Foundations of Computer Science (**FOCS**), 2002.
SODA'98, **SODA'00**, **SODA'03** : Annual ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 1998, 2000 and 2003.
STACS'99 : International Symposium on Theoretical Aspects of Computer Science (**STACS**), 1999.
ICALP'02 :International Colloquium on Automata, Languages and Programming (**ICALP**), 2002.
APPROX'98, **APPROX'01** : International workshop on Approximation Algorithms for Combinatorial Optimization Problems (**APPROX**), 1998 et 2001.
RANDOM'98 : Combinatorial Optimization Problems (**APPROX**), 1998 and International Workshop on Randomization and Approximation Techniques in Computer Science (**RANDOM**), 1998.

Service: Journal editor

SiComp, SIAM Journal on Computing, 2010-present.
Algorithmica, 2004-2010.
Transactions on Algorithms (TALG), SODA'09 special issue guest editor, 2008-09.
SIAM Journal on Discrete Mathematics, 2005-2007.
European Series in Applied and Industrial Mathematics (**ESAIM**), Probabilités et Statistiques, 2001-2004.

Service: Organization of workshops and conferences

Co-organizer of Institut Henri Poincaré special trimester on *Metric geometry, algorithms and groups*, Spring 2011.
Co-organizer of Dagstuhl seminar 11091 on *Packing and Scheduling Algorithms for Information and Communication Services,* March 2011.
Local co-organizer of IEEE FOCS 2007.
Organization of a France-Berkeley workshop on Phase transitions and complexity, Orsay, 1999 (1 week, 15 participants from 5 countries).
Organization of a session on approximation algorithms for scheduling, at the 17th *International Symposium on Mathematical Programming*, Atlanta, 2000.
Organization of a day on approximation and local search algorithms, Orsay, 2000 (1 day, 14 participants, all French).
Organization of a workshop on approximation and on-line algorithms, Orsay, 2001 (3 days, about 55 participants from 10 European countries).
Member of organizing committee for a special semester on "Probability, Algorithms and Statistical Physics", Mathematical Sciences Research Institute (MSRI), Berkeley, California, Spring 2005.

Publication list

The publications below are ordered by topics, and by inverse chronological order within each topic. When the same piece of research led to a conference and a journal publications, it appears only once in the list, at the date of publication of the conference proceedings.

Approximation algorithms

1. Claire Mathieu and Adrian Vladu, Online Ranking for Tournament Graphs, 8th Workshop on Approximation and Online Algorithms, September 2010, to appear.

2. Aparna Das, Claire Mathieu and Shay Mozes, The Train Delivery Problem - Vehicle Routing Meets Bin Packing, 8th Workshop on Approximation and Online Algorithms, September 2010, to appear.

3. C. Mathieu, O. Sankur, and W. Schudy. Online correlation clustering. STACS 2010: Proc. 27th Symposium on Theoretical Aspects of Computer Science, 573-584.

4. Correlation Clustering with Noisy Input, Claire Mathieu and Warren Schudy, ACM SIAM SODA 2010.

5. A quasi-polynomial time approximation scheme for Euclidean capacitated vehicle routing, Aparna Das and Claire Mathieu, ACM SIAM SODA 2010.

6. Aparna Das, Claire Kenyon-Mathieu: On Hierarchical Diameter-Clustering and the Supplier Problem. Theory Comput. Syst. 45(3): 497-511 (2009)

7. Sherali-Adams relaxations of the matching polytope, Claire Mathieu and Alistair Sinclair, ACM STOC 2009: 293-30.

8. Improved Approximation Algorithms for Budgeted Allocations. Yossi Azar, Benjamin Birnbaum, Anna R. Karlin, Claire Mathieu and C. Thach Nguyen. Automata, Languages and Programming (ICALP), 35th International Colloquium, Pages 186-197, 2008.

9. Online multicast with egalitarian cost sharing. Moses Charikar, Howard Karloff, Claire Mathieu, Joseph (Seffi) Naor, and Michael Saks. Twentieth annual ACM symposium on Parallelism in algorithms and architectures (SPAA), 2008, pp. 70-76.

10. A polynomial-time approximation scheme for Euclidean Steiner forest. Glencora Borradaile, Philip Klein, and Claire Mathieu. Forty-Ninth Annual IEEE Symposium on Foundations of Computer Science (FOCS), October 2008, Philadelphia, Pennsylvania.

11. Glencora Borradaile, Philip N. Klein, Claire Mathieu: An O(n log n) approximation scheme for Steiner tree in planar graphs. ACM Transactions on Algorithms 5(3): (2009)

12. On-line bipartite matching made simple, Benjamin Birnbaum and Claire Mathieu, ACM SIGACT News, Volume 39 , Issue 1 (March 2008), pp. 80-87.

13. Marek Chrobak, Claire Kenyon, John Noga, Neal E. Young: Incremental Medians via Online Bidding. Algorithmica 50(4): 455-478 (2008)

14. How to rank with few errors. Claire Kenyon-Mathieu, Warren Schudy. ACM STOC 2007: 95-103.

15. Steiner Tree in Planar Graphs: An O (n log n) Approximation Scheme with Singly-Exponential Dependence on Epsilon. Glencora Borradaile, Philip N. Klein, Claire Mathieu. WADS 2007: 275-286.

16. Competitiveness via doubling. Marek Chrobak, Claire Kenyon-Mathieu. ACM SIGACT News, December 2006, in press.

17. A Polynomial-Time Approximation Scheme for Steiner Tree in Planar Graphs. Glencora Borradaile, Claire Kenyon-Mathieu and Philip Klein. ACM-SIAM Symposium on Discrete Algorithms (SODA), January 2007.

18. Linear Programming Relaxations of Maxcut. Wenceslas Fernandez de la Vega and Claire Kenyon-Mathieu. ACM-SIAM Symposium on Discrete Algorithms (SODA), January 2007.

19. On hierarchical diameter-clustering, and the supplier problems. Aparna Das and Claire Kenyon. Proceedings of WAOA'06, Fourth Workshop on Approximation and Online Algorithms, September 2006, Zurich, Switzerland, Lecture Notes in Computer Science, Springer.

20. Bin Packing in Multiple Dimensions: Inapproximability Results and Approximation Schemes, Nikhil Bansal, José R. Correa, Claire Kenyon and Maxim Sviridenko, *Mathematics of Operations Research*, Vol. 31, no. 1, February 2006, pp. 31-49.

21. Online Medians via Online Bribery. Marek Chrobak, Claire Kenyon, John Noga, and Neal E. Young. LATIN'06: Theoretical Informatics, Valdivia, Chile, March 2006, Lecture Notes in Computer Science 3887, pages 311-322.

22. The Reverse Greedy Algorithm for the Metric K-Median Problem, Marek Chrobak, Claire Kenyon and Neal Young. Conference version: COCOON 2005: 654-660. Journal version: *Information Processing Letters*, Volume 97, Issue 2, (31 January 2006) Pages 68-72.

23. On Profit-Maximizing Envy-Free Pricing Venkatesan Guruswami, Jason Hartline, Anna Karlin, David Kempe, Claire Kenyon and Frank McSherry, Proceedings of the *Sixteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2005, Pages 1164 - 1173.

24. Asymptotic Approximation Schemes for Two-Dimensional Packing, J. Correa and Claire Kenyon, Proceedings of the *Fifteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2004, Pages: 186 - 195.

25. Approximation Schemes for Metric Bisection and Partitioning, W. Fernandez de la Vega, Marek Karpinski, and Claire Kenyon, Proceedings of the *Fifteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2004, Pages: 506 - 515.

26. OPT versus LOAD in Dynamic Storage Allocation, Adam L. Buchsbaum, Howard Karloff, Claire Kenyon, Nick Reingold, and Mikkel Thorup. Thirty-Fifth Annual ACM Symposium on Theory of Computing (STOC) 2003, 556–564. SIAM J. on Computing, Volume 33, Issue 3, Pages: 632 - 646.

27. Approximation Schemes for Clustering Problems, W. Fernandez de la Vega, Marek Karpinski, Claire Kenyon, and Yuval Rabani. Thirty-Fifth Annual ACM Symposium on Theory of Computing (STOC), 2003, 50–58.

28. Huffman Coding with Unequal Letter Costs, Mordecai J. Golin, Claire Kenyon and Neal E. Young, Proceedings of the *Thirty-Fourth Annual ACM Symposium on Theory of Computing (STOC)*, 2002, 785–791.

29. Dynamic TCP acknowledgement and other stories about $e/(e-1)$. Anna R. Karlin, Claire Kenyon and Dana Randall, Algorithmica, 36, 3, 209–224, 2003. A preliminary version appeared in the proceedings of the *Thirty-Third Annual ACM Symposium on Theory of Computing (STOC)*, Crete, May 21-23, 502–509, 2001.

30. Better Approximation Algorithms for Bin Covering, Janos Csirik, David Johnson and Claire Kenyon, Proceedings of the *Twelth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 557–566, 2001.

31. Scheduling to minimize the average completion time of dedicated tasks, Foto Afrati, Evripidis Bampis, Aleksei V. Fishkin, Klaus Jansen, and Claire Kenyon, Proceedings of the *FSTTCS 2000* conference, Delhi, LNCS 1974, pp. 454-464, 2000.

32. Polynomial-time approximation scheme for data broadcast, Claire Kenyon, Nicolas Schabanel, and Neal Young, Proceedings of the *Thirty-Second Annual ACM Symposium on Theory of Computing (STOC)*, Portland, Oregon, May 21-23, pp. 659–666, 2000.

33. A PTAS for the average weighted completion time problem on unrelated machines, Foto Afrati, Evripidis Bampis, Claire Kenyon and Ioannis Milis, *Journal of Scheduling*, Special Issue on Approximation Algorithms, 3(6), 323-332, 2000. A preliminary version appeared in: Approximation Schemes for Scheduling to Minimize Average Weighted Completion Time with Release Dates, F. Afrati, E. Bampis, C. Chekuri, D. Karger, C. Kenyon, S. Khanna, I. Milis, M. Queyranne, M. Skutella, C. Stein and M. Sviridenko, Proceedings of the 1999 *Symposium on Foundations of Computer Science (FOCS)* (plenary session), New York City, NY, October 17-19, pp. 32–44, 1999.

34. A self-organizing bin packing heuristic. Janos Csirik, David S. Johnson, Claire Kenyon, Peter W. Shor, and Richard Weber, Proceedings of the *Workshop on Algorithm Engineering and Experimentation (ALENEX 99)*, pp. 246–265, 1999.

35. Scheduling on a Constant Number of Machines. Foto N. Afrati, Evripidis Bampis, Claire Kenyon and Ioannis Milis, Proceedings of *RANDOM-APPROX* 1999, Lecture Notes in Computer Science 1671, pp. 281–287, 1999.

36. The Data Broadcast Problem with Non-Uniform Transmission Times. Claire Kenyon and Nicolas Schabanel. Algorithmica, 35, 2, 146–175, 2003. A preliminary version appeared in the Proceedings of the *Tenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 547-556, 1999.

37. A Randomized Approximation Scheme for Metric MAX-CUT. W. Fernandez de la Vega and Claire Kenyon. *Journal of Computer and System Sciences (JCSS)*, 63(4): 531-541 (2001). A preliminary version appeared in the proceedings of the *Thirty-Ninth Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, pp.468-471, 1998.

38. Scheduling Multiprocessor Tasks on Dedicated Processors. A.K. Amoura, E. Bampis, C. Kenyon, and Y. Manoussakis. *Algorithmica*, 32(2) 247-261, 2002. A preliminary version appeared in the proceedings of the the *5th Annual European Symposium (ESA'97)*, LNCS 1284, pp. 1–12, 1997.

39. A near-optimal solution to a two-dimensional cutting stock problem, Claire Kenyon et Eric Rémila, *Mathematics of Operations Research*, 25, 4, November 2000, 645-656. A preliminary version appeared in the proceedings of the 37*th Symposium on Foundations of Computer Science (FOCS)*, 31-36, 1996.

40. How to take short cuts. Claire Kenyon et Richard Kenyon. *Discrete et Computational Geometry* 8 (1992):251-264.. A preliminary version appeared in the proceedings of the 7th *Annual ACM Symposium on Computational Geometry*, New Hampshire, pp. 250-255, ACM Press, 1991.

Probabilistic analysis of algorithms

41. Frédéric Magniez, Claire Mathieu, Ashwin Nayak: Recognizing well-parenthesized expressions in the streaming model. STOC 2010: 261-270.

42. Irit Katriel, Claire Kenyon-Mathieu, Eli Upfal: Commitment under uncertainty: Two-stage stochastic matching problems. Theor. Comput. Sci. 408(2-3): 213-223 (2008).

43. Commitment Under Uncertainty: Two-Stage Stochastic Matching Problems. Irit Katriel, Claire Kenyon-Mathieu, Eli Upfal. ICALP 2007: 171-182.

44. Yet another algorithm for dense max-cut: go greedy. Claire Mathieu and Warren Schudy. ACM-SIAM SODA, January 2008, to appear.

45. Greedy bidding strategies for keyword auctions. Matthew Cary, Aparna Das, Benjamin Edelman, Ioannis Giotis, Kurtis Heimerl, Anna R. Karlin, Claire Mathieu, Michael Schwarz. ACM Conference on Electronic Commerce 2007: 262-271.

46. A gambling game, and analysis of adaptive randomized rounding. Richard M. Karp and Claire Kenyon, Proceedings of the 7th International Workshop on Randomization and Approximation Techniques in Computer Science, RANDOM 2003, Princeton, NY, USA, August 24-26,2003. Lecture Notes in Computer Science , Vol. 2764 Arora, S.; Jansen, K.; Rolim, J.D.P.; Sahai, A. (Eds.).

47. Glauber Dynamics on Trees and Hyperbolic Graphs, Claire Kenyon, Elchanan Mossel and Yuval Peres, Forty-Second Annual Symposium on Foundations of Computer Science (FOCS), 568-578, 2001. Probab. Theory Relat. Fields, Vol. 131, no.3, 311–340. (2005).

48. On the discrete Bak-Sneppen model of self-organized criticality, Jérémy Barbay and Claire Kenyon, Proceedings of the *Twelth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 928-933, 2001.

49. Linear Waste of Best-Fit Bin Packing on Skewed Distributions, Claire Kenyon and Michael Mitzenmacher, Random Structures and Algorithms, 20(3), 2002, 441-464. Preliminary version in: Proceedings of the *41st Annual Symposium on Foundations of Computer Science (FOCS)*, Redondo Beach, CA, November 12-14, pp. 582-589, 2000.

50. Broadcasting on trees and the Ising model. Will Evans, Claire Kenyon, Yuval Peres et Leonard Schulmanm. *Annals of Applied Probability*, Vol. 10, No. 2, May, pp. 410-433, 2000.

51. On the sum-of-squares algorithm for bin packing. Janos Csirik, David S Johnson, Claire Kenyon, James B Orlin, Peter W Shor, and Richard R Weber. Proceedings of the *Thirty-Second Annual ACM Symposium on Theory of Computing (STOC)*, Portland, OR, May 21-23, pp. 208-217, 2000. Journal version: Journal of the ACM, Vol 53:1 (2006), 1-65.

52. Biased Random Walks, Lyapunov Functions, et Stochastic Analysis of Best Fit Bin Packing. Claire Kenyon, Yuval Rabani et Alistair Sinclair. *Journal of Algorithms*, Vol. 27, No. 2, 1998, pp. 218–235. A preliminary version appeared in the proceedings of the 7th *Annual ACM-SIAM Symp. On Discrete Algorithms (SODA)*, 351-358, 1996.

53. Best-Fit Bin-Packing with Random Order. Claire Kenyon. Proceedings of the 7th *Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 359-364, 1996.

54. Approximating the number of monomer-dimer coverings of a lattice, Claire Kenyon, Dana Randall et Alistair Sinclair. *Journal of Statistical Physics* 83, 1996, 637-659. A preliminary version appeared in the proceedings of the *Twenty-Fifth Ann. ACM Symp. on the Theory Of Comp. (STOC)*, San Diego, 738-746, 1993.

55. Data structures maxima. Guy Louchard, Claire Kenyon et René Schott. *SIAM Journal on Computing*, 26(4):1006-1042, Août 1997. A preliminary version appeared in the proceedings of the 8th *International Conference, Fundamentals of Computation Theory (FCT)*, Germany, LNCS 529, pp. 339-349, 1991.

56. General methods for the analysis of the maximum size of dynamic data structures. Claire Kenyon-Mathieu et J.S. Vitter. *SIAM Journal on Computing*, 20, 5 (1991), 807-823. A preliminary version appeared in the proceedings of the 16th *International Colloquium on Automata, Languages and Programming (ICALP)*, volume 372 of Lecture Notes in Computer Science, pages 473-487, Stresa, Italy, Springer-Verlag, 1989.

57. Maximum queue size and hashing with lazy deletion, Claire Kenyon-Mathieu et Jeffrey Scott Vitter, *Algorithmica* 6, 4 (1991), 597-619. A preliminary version appeared in the 20th *Symposium on the Interface : Computing Science et Statistics*, Virginia, 1988.

58. Comparaison de modèles combinatoires et probabilistes: deux exemples en analyse d'algorithmes. Claire Mathieu, *Thèse de Doctorat*, Université d'Orsay, 1988. (Directeur de thèse : Claude Puech.)

59. Average efficiency of data structures for binary image processing. Claire Mathieu, Claude Puech et Hussein Yahia. *Information Processing Letters*, 26, 2, 89-94, 1987.

Design of other algorithms

60. Distortion Lower Bounds for Line Embeddings, Claire Mathieu and Charalampos Papamanthou. Information Processing Letters (IPL), 108, pages 175-178, 2008.

61. Uncertainty/Time Trade-Offs for Linear and Integer Programming. Kenyon, C., and Sellmann, M. In Proceedings of the Third International Conference on Integration of AI and OR Techniques (CP-AI-OR) (2006), Springer Verlag, pp. 126-138.

62. Low distortion maps between point sets, Claire Kenyon, Yuval Rabani and Alistair Sinclair, Proceedings of the thirty-sixth annual ACM symposium on Theory of computing (STOC), Pages: 272 - 280, Chicago, May 2004. Journal version: SIAM J. Comput. 39(4): 1617-1636 (2009).

63. Deterministic Algorithm for the *t*-Threshold Set Problem, Jérémy Barbay and Claire Kenyon, 14th Annual International Symposium on Algorithms And Computation (ISAAC), 2003, Springer-Verlag.

64. Adaptive Intersection and *t*-Threshold Problems, Jeremy Barbay and Claire Kenyon, Thirteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), January 2002, 390–399. Journal version: Alternation and Redundancy analysis of the Intersection Problem, Jeremy Barbay and Claire Kenyon, ACM Transactions on Algorithms (TALG), Volume 4 , Issue 1 (March 2008), 2008.

65. *d*-Dimensional Range Search on Multicomputers. Afonso Ferreira, Claire Kenyon, Andrew Rau-Chaplin et Stéphane Ubéda. *Algorithmica* 24(3-4): 195-208 (1999). A preliminary version appeared in the proc. of the 11th *Int. Parall. Process. Symp. (IPPS),* IEEE Comp. Soc. Press, pp. 616-620, 1997.

66. Error Resilient DNA Computation. Richard Karp, Claire Kenyon et Orli Waarts. *Random Structures and Algorithms*, Volume 15, Issue 3-4, 1999, pp. 450-466. A preliminary version appeared in the proceedings of the 7th *Annual ACM-SIAM Symposium On Discrete Algorithms (SODA)*, 458-467, 1996.

67. Algorithmes de Pavages et de Mise en Boîte, et Algorithmes avec Données Bruitées. Claire Kenyon, *Habilitation à diriger des recherches*, Université Claude Bernard, 1996.

68. Perfect matchings on the triangular lattice. Claire Kenyon et Eric Rémila. *Discrete Mathematics*, 152, 191-210, 1996.

69. Scalable et Architecture Independent Parallel Geometric Algorithms with High Probability Optimal Time, Frank Dehne, A. Fabri et Claire Kenyon. *IEEE Symposium on Parallel et Distributed Processing*, Dallas, TX, 586-593, 1994.

70. Selection in the presence of noise: the design of playoff systems. Micah Adler, Peter Gemmel, Mor Harchol, Richard Karp et Claire Kenyon. Proceedings of the *Fifth Ann. ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 564 - 572, 1994.

71. Optimal randomized algorithms for local sorting et set maxima. Wayne Goddard, Claire Kenyon, Valerie King et Leonard Schulman. *SIAM J. on Computing*, 22, 2, 272-283, 1993.

72. On boolean decision trees with faulty nodes. Claire Kenyon et Valerie King. *Random Structures et Algorithms*, 5, 3, 453-464, 1994. A preliminary version appeared in the proceedings of the *Israel Symposium on the Theory of Computing et Systems*, LNCS 601, pp. 24-31, 1992.

73. Comment paver des polygones avec des barres (Tiling polygons with bars). Claire Kenyon et Richard Kenyon. *C.R. Acad. Sci.*, Paris, Ser. I 316, No. 12, 1319-1322 (1993). An extended version in English appeared in: Tiling a polygon with rectangles. Claire Kenyon et Richard Kenyon. Proceedings of the 33rd *Annual Symposium on Foundations of Computer Science (FOCS)*, Pittsburgh, PA, 610-619, 1992.

74. Verifying Partial Orders. Claire Kenyon et Valerie King. Proceedings of the 21st *Annual ACM Symposium on Theory of Computing (STOC)*, Seattle, Washington, 367-374, 1989.

75. On evaluating boolean functions with unreliable tests. Claire Kenyon et Andrew C. Yao. *International Journal of Foundations of Computer Science*, 1, 1 (1990), 1-10. A preliminary version appeared in the *French-Israeli Conference on Combinatorics et Algorithms*, 1988.

Miscellaneous

76. Indecomposable permutations with a given number of cycles, Robert Cori and Claire Mathieu, poster at FPSAC Linz, july 21 2009.

77. Sensitivity, block sensitivity, and l-block sensitivity of boolean functions, Claire Kenyon and Samuel Kutin, Information and Computation Volume 189 , Issue 1 (February 2004), Pages: 43 - 53.

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