

BIOGRAPHICAL SKETCH  
of  
MATZINGER HEINRICH

School of Mathematics, Georgia Institute of Technology,

**a. Education**

Habilitation, Bielefeld University, 2004

(*Supervisor: Friedrich Götze*)

Ph.D. in Operations Research and Industrial Engineering, Cornell University, 1999

(*Thesis adviser: Harry Kesten*)

Diploma in Mathematics, Swiss Federal Institute of Technology, 1993

(*Diploma-thesis adviser: Corneliu Constantinescu*)

**b. Current position**

Georgia Institute of Technology, Assistant Professor, (since 2003)

**c. Previous appointments**

Bielefeld University, Germany, Assistent, 2002 - 2003 and fall 2004

Eurandom, the Netherlands, Postdoctoral Fellow, 2000 - 2002

Massachusetts Institute of Technology, Lecturer, 1999 - 2000

Eurandom, the Netherlands, Postdoctoral Fellow, 1998 - 1999

**d. Publications**

(i) *Published and accepted publications:*

1. F. Merkl, H. Matzinger and M. Löwe *Reconstructing a Multicolor Random Scenery seen along a Random Walk Path with Bounded Jumps*, Electronic Journal of Probability **15** (2004), pp. 436 - 507.
2. H. Matzinger, S.W.W. Rolles, *Reconstructing a random scenery observed with random errors along a random walk path*, Probab. Theory Related Fields **125** (2003), pp. 539 - 577.
3. H. Matzinger. *Reconstructing a random scenery seen along a simple random walk path*. Ann. Appl. Probab. **1B**(2005), 778-819.
4. H. Matzinger, *Reconstructing a three-color scenery by observing it along a simple random walk path*, Random Structures Algorithms **15** (1999), pp. 196 - 207.
5. M. Löwe, H. Matzinger, *Scenery reconstruction in two dimensions with many colors*, Ann. Appl. Probab. **12** (2002), pp. 1322 - 1347.
6. H. Matzinger, S.W.W. Rolles, *Reconstructing a piece of scenery with polynomially many observations*, Stochastic Processes and their Applications **2** (2003), pp. 289-300.
7. M. Löwe, H. Matzinger, *Reconstruction of sceneries with correlated colors*, Stochastic Processes and their Applications **105** (2003), pp. 175-210.

8. R. Hauser, H. Matzinger, *Compact elements and smallest faithful representation of  $C^*$ -algebras*, Proc. Amer. Math. Soc. **123** (1995), pp. 3379 - 3384.
9. A. N. Avramidis, H. Matzinger, *Convergence of the stochastic mesh estimator for pricing Bermudan options*, Journal of Computational Finance, **7** (2004), pp. 73 - 91.
10. H. Matzinger, S. Rolles, *Finding blocks and other patterns in a random coloring of  $Z$* , Random Structures and Algorithms 28 (2006) 1,37-75.
11. A. Hart, H. Matzinger, *Markers for error corrupted observations*, Stochastic Processes and their Applications, Vol. 116, no. 5 (2006).
12. J. Lember, H. Matzinger, *An overview on scenery reconstruction*, To appear in *Information and Randomness*, A. Maass, S. Martinez, J. San Martin (EDS.) (2006).
13. J. Lember, H. Matzinger, *Finite scenery reconstruction*, To appear in Stochastic Processes and their Applications (2006).
14. F. Bonetto, H. Matzinger, *Fluctuations of the longest common subsequence in the case of 2- and 3-letter alphabets*, To appear in Latin American Journal of Probability and Mathematics (2006).
15. H. Matzinger, S. Rolles, *Retrieving random media*, To appear in Probability Theory Related Fields (2006).
16. R. Hauser, H. Matzinger, S. Martinez, *Large deviation based upper bounds for the LCS-problem*, To appear in Journal of Applied Probability (2006).

(ii) *Submitted publications and preprints:*

17. R. Hauser, H. Matzinger, *Local uniqueness of alignments with a fixed proportion of gaps*, submitted (2005).
18. H. Matzinger, *Longest increasing binary sequence*, preprint (2003).
19. J. Lember, H. Matzinger, *Information recovery from a randomly mixed up message-text*, submitted (2003).
20. J. Lember, H. Matzinger, C. Durringer, *Deviation from the mean in sequence comparison when one sequence is periodic*, submitted (2004).
21. S. Popov, H. Matzinger, *Lower bounds for the probability of macroscopically non-unique alignments*, submitted (2005).
22. S. Popov, H. Matzinger, *Continuous scenery reconstruction*, submitted (2005).
23. J. Lember, H. Matzinger, *Reconstructing 2-color sceneries seen along a random walk with jumps*, submitted (2003).
24. C. Houdre, H. Matzinger, *Fluctuation of the optimal alignment score with an asymmetric scoring function*, submitted (2006).
25. J. Lember, H. Matzinger, *Standard deviation of the LCS when zero and one have different probabilities*, submitted (2006).

**e. Classes Taught**

1. MIT, *Stochastic processes*, graduate level course, Spring 2000.
2. Centro de Investigación, *Processos estocásticos*, Spring 2002.
3. Bielefeld University, *Stochastik B*, SS 2003.
4. Georgia Tech, *Probability and Statistics*, Fall 2003.
5. Georgia Tech, *Information Theory*, Spring 2004.
6. Bielefeld University, *Vorkurs zur Einführung in die angewandte Mathematik*, SS 04.

7. Bielefeld University, *Einführung in die angewandte Mathematik*, WS 04-05.
8. Georgia Tech, *Stochastic Processes*, Spring 2005.
9. Georgia Tech, *Information Theory*, Spring 2005.
10. Georgia Tech, *Information Theory*, Spring 2006.

**f. Collaborators**

- A.N. Avramidis, University of Montreal
- F. Bonetto, Georgia Tech
- C. Durringer, University of Toulouse
- A. Hart, Centro de Modelamiento Matematico, Chile
- R. Hauser, Oxford University, England
- C. Houdre, Georgia Tech
- S. Popov, Universidade de São Paulo, Brasil
- J. Lember, Tartu University, Estonia
- M. Löwe, University Münster, Germany
- F. Merkl, Ludwig-Maximillan University, Germany
- S. Rolles, Bielefeld University
- M. Servet, Centro de Modelamiento Matematico, Chile
- M. Vachkovskaia, University of Campinas, Brazil