



Universiteit
Leiden
The Netherlands

Wireless random-access networks and spectra of random graphs

Sfragara, M.

Citation

Sfragara, M. (2020, October 28). *Wireless random-access networks and spectra of random graphs*. Retrieved from <https://hdl.handle.net/1887/137987>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/137987>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/137987> holds various files of this Leiden University dissertation.

Author: Sfragara, M.

Title: Wireless random-access networks and spectra of random-graphs

Issue Date: 2020-10-28

Acknowledgements

This thesis is the outcome of four years of PhD research. It could not have been completed without the help and support of many people to whom I would like to express my gratitude.

To begin with, I would like to thank my supervisors Frank, Sem and Francesca. They have guided me through my research, allowing me to grow as a mathematician and a scientist. Frank has been of incredible support with his positivity in every situation, his excitement for new ideas and his brilliant mind. I enjoyed very much working with him and sharing experiences together, also outside the work environment. Sem has been a source of many fruitful discussions and stimulating questions. I admire his critical thinking and his ability to detect the key issue where no one could see it. Francesca has always been available, even if based in another country. I enjoyed a lot the various weeks spent in Florence working with her and learning about academic life in Italy. I really appreciated the scientific freedom they all gave me, as well as the precious advices on pursuing my career.

I would also like to thank Rajat and Arijit, with whom I collaborated during my internship at the Indian Statistical Institute in Kolkata, and whom I visited three times in India. Together with them and Frank, we carried on a very interesting research project, which materialized into the second part of this thesis. I am very glad I had the opportunity to meet such great people and mathematicians, who helped me a lot integrating into the Indian culture and learning about new topics in mathematics.

I would like to thank the NETWORKS program, which funded my research, for giving me the possibility to travel to many places in the Netherlands and abroad. I really enjoyed the open-minded atmosphere, the multicultural collaborative environment of the training weeks and the many other meetings. A sincere thanks goes to all the current and former members of the Probability Theory group at the Mathematical Institute of Leiden University for the nice atmosphere they created and for all the interesting discussions we had in these years.

Besides mathematics, in the past four years I have been practising many different activities and hobbies. I would like to thank all the wonderful people I met through playing football, music, events and trips. Unfortunately, I cannot name them all, but I would like to mention some of them. A huge thanks goes to my "Italian family" in the Netherlands, among which Alessandro, Davide, Francesco, Gianluca, Giovanni, Matteo, Niccolò, Nicolò and Pierfrancesco. Their friendship and support made me miss our country less and continuously feel like home. I would also like to thank Miguel, Laura and Pedro, for all the beautiful moments shared together. A sincere thanks goes in general to all my friends who have always been there for me during these years. Their constant presence in my life is what gives me the strength to pursue

my goals and follow my passion.

The last two years have been in particular characterized by the indispensable affection of Fabiana. I would like to thank her for always being such an inspiration to me through her determination, ambition, honesty and ethics. She helped me discovering my true self and finding stability in life. I am glad to share this adventure with her and I hope many more will follow.

Last but not least, I want to deeply thank my brother Lorenzo and my parents Ignazio and Patrizia. They are my family and they will always be by my side. I thank them for always helping me taking the right decisions, for always pushing me to be a better person and for their never-ending support.

Curriculum Vitae

Matteo Sfragara was born on February 20th 1991 in Pescara, Italy. He grew up in Verona, where he attended the Scientific High School Galileo Galilei and obtained the final diploma in 2010.

He then moved to Padova to study at the University of Padova. There he obtained a Bachelor of Science in Mathematics in 2013 and a Master of Science in Mathematics in 2015. During the first year of his master studies he joined the Erasmus Program and lived in Stockholm (Sweden), where he attended various courses both at Stockholm University and at KTH Royal Institute of Technology. During the last semester of his master studies he lived in Sydney (Australia), where he joined the Practicum Program at the University of New South Wales. There he wrote his master thesis entitled “The switch Markov chain for sampling irregular directed graphs”, under the supervision of prof. dr. Catherine Greenhill. This research experience motivated him to pursue a PhD in Mathematics.

In September 2016 he moved to Leiden to start his PhD as a member of the probability group at the Mathematical Institute of Leiden University. His research was part of the Gravitation Program NETWORKS funded by the Dutch Ministry of Education, Culture and Science. He worked under the supervision of prof. dr. W.T.F. den Hollander (Leiden University), prof. dr. S.C. Borst (Eindhoven University of Technology) and dr. F.R. Nardi (University of Florence). As part of his PhD, he did an internship at the Indian Statistical Institute in Kolkata (India), where he collaborated with dr. R.S. Hazra and dr. A. Chakrabarty. He visited India three times.

During his PhD, he cultivated his passion for Mathematics in different ways. He supervised two pairs of high-school students attending Leiden University’s Pre-University College. The first pair was awarded the Jan Kijne-onderzoeksprijs for best research. He also supervised a bachelor thesis project at the Mathematical Institute. He served as teaching assistant for various courses in Leiden and The Hague. He attended workshops, conferences and summer schools, and presented his research on several occasions in France, India, Italy, the Netherlands and Sweden.