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Dormancy in stochastic interacting systems

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Citation

Nandan, S. (2023, May 11). *Dormancy in stochastic interacting systems*. Retrieved from <https://hdl.handle.net/1887/3608202>

Version: Publisher's Version

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

Acknowledgements

First and foremost, my sincere gratitude goes to my supervisors: Frank den Hollander, Frank Redig, and Cristian Giardinà. Since the very beginning, their joint initiatives in steering our duality project towards a fruitful completion has been truly inspiring.

I am indebted to Frank den Hollander for his constant support and encouragement throughout this journey. From the very beginning, he has always been present to help me with both academic and private matters of life in the Netherlands. His astute observations and natural intuitions helped me overcome many mathematically challenging problems. I will treasure his precious advices on my career, many valuable suggestions on how to write well, present technical topics to a general audience, etc., in my heart. I am also thankful to him for creating plenty of opportunities to present our research works. The mini-workshop in Berlin on “evolutionary consequences of dormancy”, the workshop entitled “geographic spaces for evolution: from lattices to graphs to continuum” in Erlangen, the wonderful gatherings in the workshop entitled “population dynamics and statistical physics in synergy III” at Oberwolfach are just only a few of the many conferences that will remain as colourful to me as the tulips we saw in our visit to Keukenhof.

I am thankful to my collaborators: Frank Redig, Cristian Giardinà, and Simone Floreani. I am grateful to Frank and Cristian for their precious advices, and for welcoming me to their team too. The draft of their monograph provisionally entitled “duality and hidden symmetries of interacting particle systems” helped me a lot at the beginning of my PhD, and I keenly look forward to read the whole book once it is finished. Discussions with Cristian has always been pleasantly inspiring. I fondly cherish our zoom meetings and the many computations we did together on the virtual pages during our collaborations. I greatly admire Frank’s research enthusiasm and his ability to ask critical questions, whose answers, despite difficult to find, can sometimes fully crack through a research problem.

I would also like to thank the members of the promotion committee, Prof.dr. Andreas Greven, Prof.dr. Noemi Kurt and Dr. Elena Pulvirenti, for taking the time to carefully read my thesis.

I acknowledge the funding received from the Netherlands Organisation for Scientific Research (NWO) that enabled me to carry out research at Leiden University. I also acknowledge the kind hospitality of Hausdorff Research Institute for Mathematics in Bonn, where a part of this thesis was written.

I thank all my colleagues and officemates for creating a pleasant, internationally friendly environment at our office and the Mathematical Institute. Thanks both to Vera and Benthén for translating my English summary of the thesis into Dutch. Thanks both to Nandan and Vera too for kindly agreeing to assist me as paranymphs

during the thesis defence. A special thank is owed to Dr. Conrado Costa who helped me a lot when I first arrived in the Netherlands. I would also like to thank Prof.dr. Floske Spieksma for her kind gesture of providing me with a shelter when I was not able to find housing for the first three months of my stay in the Netherlands.

I am indebted to my master thesis supervisors Dr. Rajat Subhra Hazra and Dr. Satyaki Mazumder for introducing the world of stochastics and encouraging me to pursue a PhD. I especially thank Rajat sir and Chinmay sir for being always present and ready to help with career related and other personal matters. Thanks both to Rajat sir and his wife Monalisa for making me feel closer to home in a foreign country, and, of course, for the best bengali dinner I had in the Netherlands.

A special thank is owed to Abhishek Som as well, for all the time he spent listening to my silly gibberish, watching stupid series together, most of it all because of his friendly support throughout this incredible journey.

Last but not the least, I am grateful to my parents for always supporting me in all my decisions that are, to be honest, not very wise sometimes, and for sharing their unconditional love and the warmth of a home.

Curriculum Vitae

Shubhamoy Nandan was born in a village called Mogra located in the West Bengal State in India on 9th of January in 1995. He completed his higher secondary education from Memari Vidyasagar Memorial Institution (Unit 2) in 2013. Afterwards, he enrolled in the 5 years integrated programme of Bachelors and Masters offered by Indian Institute of Science Education and Research at Kolkata to pursue his undergraduate studies, which was supported by the INSPIRE scholarship SHE-2013. In his master's studies, he carried out research on the scaling limits of a probabilistic model for interfaces called the discrete Gaussian free field under the joint supervision of Dr. Rajat Subhra Hazra (Leiden Univ.) and Dr. Satyaki Mazumder (I.I.S.E.R. Kolkata). He obtained his Master of Science degree in Mathematics after the defence of his thesis entitled 'Scaling limit of discrete Gaussian free field' in June, 2018. He moved to the Netherlands in October, 2018 to pursue his PhD research at Leiden University under the supervision of Prof. Frank den Hollander (Leiden Univ.), Prof. Frank Redig (TU Delft) and Prof. Cristian Giardinà (Modena Univ.). His PhD research was supported by the Netherlands Organisation for Scientific Research (NWO) through grant number TOP1.17.019. In his PhD project he investigated the effect of dormancy in probabilistic models arising in the literature of mathematical population genetics and interacting particle systems. During his PhD, he presented his research in conferences, served as teaching assistants in several probability theory courses and participated in a 4-month junior trimester programme entitled "*Stochastic modelling in the life science: from evolution to medicine*" at the Hausdorff research institute for mathematics in Bonn, Germany.

Publications

Published:

1. F. den Hollander and S. Nandan. Spatially inhomogeneous populations with seed-banks: I. Duality, existence and clustering. *J. Theor. Probab.*, 35(3):1795–1841, 2021.
2. S. Floreani, C. Giardinà, F. den Hollander, S. Nandan, and F. Redig. Switching interacting particle systems: Scaling limits, uphill diffusion and boundary layer. *J. Stat. Phys.*, 186(3):1–45, 2022.
3. F. den Hollander and S. Nandan. Spatially inhomogeneous populations with seed-banks: II. Clustering regime. *Stoch. Proc. Appl.*, 150:116–146, 2022.
4. S. Nandan. Spatial populations with seed-banks in random environment: III. Convergence towards mono-type equilibrium. *Electron. J. Probab.*, 28:1–36, 2023.