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Freedom of additional signals on genes: on the combination of DNA mechanics, genetics and translation speed

Zuiddam, M.

Citation
Zuiddam, M. (2022, April 6). *Freedom of additional signals on genes: on the combination of DNA mechanics, genetics and translation speed*. *Casimir PhD Series*. Retrieved from https://hdl.handle.net/1887/3281818

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/1887/3281818

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

Curriculum Vitae

I was born on the 14th of July, 1993, in Leiderdorp, The Netherlands. In 2014, I obtained my BSc degree in physics at Leiden University. After that, I continued my education at Leiden and in 2016 I obtained an MSc degree in Theoretical Physics *cum laude*. Being fascinated by the idea of a secondary, mechanical layer of information on DNA, I worked on my Master's research project at the Theoretical Biophysics group of Helmut Schiessel. The name of the corresponding thesis was *Schemes for evaluating DNA mechanics and nucleosome positioning*. After obtaining my Master's degree, I continued working in the group of Helmut Schiessel. During my PhD project, I continued working on nucleosomes, focussing on understanding nucleosome signals and investigating their viability and occurence in nature. Three times I have been assistent at a Theoretical Physics MSc course: Theoretical Biophysics. In 2018, I have presented my work at a CECAM-Lorentz workshop in Lausanne. In 2019, I visited a summer school in Princeton: PiTP, Great Problems in Biology for Physicists.

List of publications/manuscripts

- M. Zuiddam, R. Everaers, and H. Schiessel. Physics behind the mechanical nucleosome positioning code. *Phys. Rev. E*, 96:052412, 2017.
- M. Zuiddam and H. Schiessel. Shortest paths through synonymous genomes. *Phys. Rev. E*, 99, 012422 2019.
- M. Zuiddam, B. Shakiba and H. Schiessel. Multiplexing mechanical and translational cues on genes. *Manuscript in preparation.*
- M. Zuiddam and H. Schiessel. How mechanical information is multiplexed on the transcribed regions of protein-coding genes. *Manuscript in preparation.*

Acknowledgements

First I would like to thank my supervisor, Helmut Schiessel. The freedom, support, criticism and encouragement to pursue any seemingly-promising avenue during my research are greatly appreciated.

Furthermore I would like to thank everyone who has worked at the Schiessel group in Leiden, especially Marco Tompitak, Lennart de Bruin and Bahareh Shakiba.

Next I would like to acknowledge everyone who supported me throughout the arduous task of tackling manuscripts and self-doubt, in particular Jasper van der Vaart and Mara Smeele.

Finally I want to thank my parents and my brothers for their endless support.