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Addenda

Acknowledgments

Journal Publications

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Addenda

*What do you see when you turn out the light?
I can't tell you, but I know it's mine.*

Oh, I get by with a little help from my friends

~ The Beatles

Acknowledgments

I moved to Saint Petersburg, Russia in the heart of winter back in December 2015.

I remember having a full-course dinner at a café called *“The Idiot”* to celebrate my birthday, an empty seat in front of me. I remember looking out the window, mesmerized as I see, for the first time, snow, which I fondly call a slow-motion version of rain, lazily piling on the river embankment. I have not gotten used to the lack of sunshine yet, still confused at how swiftly the city gets devoured by darkness.

I’ve come a long way from home to pursue a PhD that, looking back from now, I was not even prepared for.

This is the corner in my thesis where I can fully express my deepest gratitude to the people who have shaped me as a researcher. I’ve come a long way, and I still have a long way to go. Indeed, it’s not always about the destination.

To **Professor Dr. Peter M.A. Sloot** who has been an excellent mentor, who provided me the necessary guidance I needed, and the motivation to keep going and digging deeper into the fascinating realm of the innate immune response, a field that I’ve grown to love over the years. To **Dr. Valeria V. Krzhizhanovskaya**, my daily supervisor in Russia, who always has a smile for everyone, and with whom I exchange ideas with over tea, coffee and chocolates, and that person who always has my back when it comes to battling with bureaucracy. To **Dr. Emiliano Mancini** and **Dr. Rick Quax** who both have given me a concrete lesson on being a researcher, and for giving me valuable feedback that immensely improved my work. To **Dr. Ruud Brands**, the token immunologist in the team, whom I converse with regarding the amazing biology behind the system I am working on. To the **ITMO university personalities** for giving me *“the”* Russian environment I called my second home.

To my **family**, to **Mommy**, **Ariel**, **Ate**, **JJ** and **Kuya**, who constantly reminded

me to continue the struggle each day. To my **barkada**, **Che** and **Miguel**, who are always a click away, and kept me sane throughout my PhD. To **Neen** for the lovely layout of my cover page. To **Vlad** for being my confidante in every aspect. And to **spider**, for making me appreciate the small things in life (pun intended).

Journal Publications

Presbitero, A., Mancini, E., Brands, R., Krzhizhanovskaya, V. V., & Sloot, P. M. A. (2018). Supplemented Alkaline Phosphatase Supports the Immune Response in Patients Undergoing Cardiac Surgery: Clinical and Computational Evidence. *Frontiers in Immunology*, 9, 2342. <https://doi.org/10.3389/fimmu.2018.02342>

All authors have contributed substantially to the conception and design of the work. All authors have drafted and revised the work for intellectual content. All authors have equally provided the approval for plausible publication of the content. All authors have agreed to be accountable for all aspects of the work, which includes ensuring the accuracy and integrity of all parts of the work.

Presbitero, A., Mancini, E., Castiglione, F., Krzhizhanovskaya, V. V., & Quax, R. (2019). Game of Neutrophils: Modeling the Balance Between Apoptosis and Necrosis. *BMC Bioinformatics*. (*manuscript accepted for publication*)

A.P. conceived the idea. All authors contributed to developing the model. A.P. designed the coding work and performed the computational experiments. R.Q. and V.V.K. supervised the findings of this work. All authors have contributed to the writing of the article. All authors have read and approved the final version of the manuscript.

Presbitero, A., & Monterola, C. (2018). Challenging the evolution of social cooperation in a community governed by central control. *Physica A: Statistical Mechanics and Its Applications*. <https://doi.org/10.1016/j.physa.2018.08.008>

A.P. developed the model. A.P. designed the coding work and performed the computational experiments. C.P. supervised the findings of this work. All authors have contributed to the writing of the article.

Conference Proceedings

- Presbitero, Alva, Mancini, E., Castiglione, F., Krzhizhanovskaya, V. V., & Quax, R. (2018). Evolutionary Game Theory Can Explain the Choice Between Apoptotic and Necrotic Pathways in Neutrophils. In 2018 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) (pp. 1401–1405). IEEE. <https://doi.org/10.1109/BIBM.2018.8621127>
- Presbitero, A., Quax, R., Krzhizhanovskaya, V., & Sloot, P. (2017). Anomaly Detection in Clinical Data of Patients Undergoing Heart Surgery. In *Procedia Computer Science* (Vol. 108). <https://doi.org/10.1016/j.procs.2017.05.002>
- Presbitero, A., Krzhizhanovskaya, V., Mancini, E., Brands, R., & Sloot, P. (2016). Immune System Model Calibration by Genetic Algorithm. In *Procedia Computer Science* (Vol. 101). <https://doi.org/10.1016/j.procs.2016.11.020>
- Presbitero, Alva, Krzhizhanovskaya, V., & Sloot, P. (2016). Reproducibility of Three Innate Immune System Models. *Lecture Notes in Computer Science*, in print.

Prepared Manuscript

Presbitero, A., Quax, R., Mancini, E., Brands, R., Krzhizhanovskaya, V. V. & Sloot, P. M. A. Detecting Critical Transitions in the Human Innate Immune System Post-Cardiac Surgery

A.P. designed the coding work and performed the computational experiments. R.B. provided consultation for the biology behind the model assumptions. E.M. provided feedback on the manuscript. P.M.A.S. and V.V.K. supervised the findings of this work. All authors have contributed to the writing of the article.

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