Acknowledgments
Podziękowania

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Duże dzięki dla Julki, która dbała o to żeby te 4 ostatnie lata spędzone w dwóch miastach, Basel i Groningen, były ciekawe i pełne życia.
Decydując się na przygodę z doktoratem przykład wzięłem ze starszej siostry Ani, która kilka lat wcześniej otrzymała tytuł doktora na uniwersytecie w Wageningen. Później w czasie studiów wiele razy przecinałem pościągiem Holandię podróżując do jej domu w Hadze, gdzie czekały na mnie zawsze bardzo smaczne steki lub lazania. Nawet większe znaczenie dla mojej decyzji miały długie i burzliwe dyskusje przy naszym kuchennym stole w domu w Przylepie. Najczęściej inspiracja były szalone pomysły taty, którym zawsze stawialiśmy opór. Jednak na dłuższą metę przydawały się one mamie w rozwoju rodzinnej firmy a dla Ani, Tomka i mnie ważne były w wyborze studiów i w tym co nas interesowało. Rodzice zawsze wspierały nas w tym co robiliśmy.

When I arrived to Groningen I received a very friendly welcome from members of the MD group. I would like to especially thank for a home like atmosphere to Magda and Aldo and for a lot of joy moments during this period to Santi, Durba, Marlon and Jelger. Due to my flatmates, with whom we shared a not so beautiful house at Schoolholm street, in the very center of Groningen, I had a chance to taste a night live of the city from the very beginning.

The end of 2006 was rather special since together with me also Samuli and Marlon joined the group. Both were very social and I enjoyed their company. Moreover Cesar and Djurre, who were master students at that time, started their
adventure in the MD group by taking part in the MD simulation tutorial; Cesar was my first student that I supposed to tutor; he actually taught me quite a lot during these three intensive weeks. After the tutorial we sited together with Durba, Xavier and Cesar in the “small sofa room” for more than 2 years having many great moments, often thanks to Jelger, who was visiting us with no clear reason at least a few times a day. Since Cesar’s desk was just behind me, there was a lot of possibilities to discuss, also about sugars.

In more or less the same time also Semen joined the group and even spent some time with us in the room, before deciding to leave due to constantly opened doors; recently with a big help of him I managed to buy an Indonesian seahorse extract, which is a very good aphrodisiac . . . Thank you Semen!

Thanks to Jelger and Djurre I tasted a Dutch way of doing sport. These two were always too fast for me. In spite of that they kindly gave me many possibilities to waste myself with them while sightseeing closer and further neighborhoods of Groningen. I still practice every week to get below 30 minutes on the 6.8km round close to the Sportcentrum, last time I was missing about 10 seconds . . .

Thanks to Martti I tasted a Finnish way of doing sport, we played together tennis for a few summer months of a year 2008. He was easy going player and competition was not really part of the game. Martti’s friendly attitude was a trigger for a “lets annoy Martti” daily routine which we practiced with Jelger. However he never got annoyed, while Marc, who was sitting next to him, did always. At some point I managed to involve Martti in the multiscale project and the idea that we explored was one of the few that could have been successfully finished so far. One more thing that I am very grateful to Martti are baby clothes which he kindly gave us, about 30 kilo, and which Michal is still using.

The multiscale project over the years involved about half of the group. Especially Nicu, Herman and Alex where the ones that I interacted the most and thanks to whom I learned a lot. With Nicu we explored and implemented to Gromacs a dozen of algorithms, including AdReSS and numerous “constant lambda schemes”. We also drifted to a world of DPD integrators and worked on a novel scheme proposed by Herman as well as tested many existing approaches. I am very grateful for this longstanding collaboration and hope that it will survive continues rejections of our manuscripts.

Another two that tasted the multiscale world are Durba and Lars. From them I learned how to write scientific publications in a catchy way. Without Lars it would be very difficult to finish the reverse transformation project, he put a lot of effort to it just after he arrived to Groningen. Due to this piece of work I was involved by Lars in the peptide sorting project, results of which were almost ( . . . ) accepted in Nature. With Durba we simulated CG magainin systems for long
time. Finally, after about three years of hard work, you can read about our the
greatest simulations in the Faraday discussion contribution, and this thesis; thank
you Durba!

Polymer physics group at MPI in Mainz is very busy with multiscaling. At some point I thought it will be good to go there and learn a bit from them. Luckily Christine Peter was very positive about this idea and I spent three great months in Mainz working with her and having a chance to familiarize myself with structural coarse-graining techniques. I hope we will be able to continue this collaboration in future.

With Xavier I made one more scientific project, which we nicknamed “Castle”. We focused on buying cozy sofas and good quality carpets, which then we arranged on our two floor storage space. Subsequently, in this optimized environment we performed long series of experiments which involved consumption of large amounts of red wine from Bordeaux, big pieces of bavette from a friendly local butcher and numerous chocolate fondues prepared by Xavier. The project was a big success and Xavier continues it with a new collaborator to obtain additional results, which we could not get together, that will fully validate the idea.

The supervision of this various collaborations was in hands of Siewert. However I always had an impression that he did not really now what exactly I was doing. And this was really great. With the freedom that he gave me I could have focused on problems that I found interesting, and could have worked with anyone I wanted to. Therefore it is very surprising that at the end my thesis are very close to what was written in the original proposal of Siewert. I also would like to mention that there was always a very nice, relaxed, atmosphere in the group, and I think this was mainly due to the easy going attitude of Siewert, I am already missing this spirit!

The almost last thank you goes to Alan, who actually noticed my application and forwarded it to Siewert. I also sent it directly to Siewert some time before, but apparently he was not impressed. So thanks Alan that you opened for me the doors to the Groningen MD group.

Finally I would like to thank Daniela, Monica, Marc, Clement, Tsjerck, Manel, members of the NMR group, Jacek, Hilda (who corrected my introduction), Jolanda and many visitors of the MD group for lots of discussions, fun and the good time that I had in Groningen.