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Mild climate, harsh times for polar marine microbes

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**DANKWOORD
ACKNOWLEDGMENTS
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Finally it's done! Dan eindelijk is het zover: gedrukt en wel... het ei, is gelegd! Niet zonder slag of stoot en met de nodige letterlijke en figuurlijke: "bloed, zweet en tranen".

We're now quite a few years further since the start of this PhD-thesis. I can clearly remember how it all started. At the time (in 2002) I was doing voluntary lab-work (a job commonly known as being a "lab-slave") for Galice, but this kept me in shape with the molecular skills, so I also gained out of it. I was working in Jeanine and Wytze's molecular lab. When, all of a sudden Winfried was standing next to me! He told me that there would soon be a PhD position available at the Ocean Ecosystems group: "You should really give it a go and apply for it". These words were complemented by a "wink" (un clin d'œil complice). !!!... So Winfried, thanks for the tip!!!! It kind of worked out really well!

That's how I started a job, of which I always dreamt as a kid: being a biologist! I know it sounds cheesy, but it's just really how it is. That my job would enable me to go to places, of which most people can only dream of, made it even more special! I was aware of it then. And I am still aware of it now, when I'm lucky enough to go to the frozen places of our planet.

So I began my PhD research under the supervision of Henk and Anita, a position that was shared between two groups: Microbial Ecology and Ocean Ecosystems. It was a "breedtestrategie" broadening strategy PhD position aiming at strengthening the bonds between the two groups... Soon, Anita left to work down under with Clobbs (among others) at the Australian Antarctic Division. This collaboration enabled Anita to organize two fieldwork positions at Davis Station: That's how Paul and I got down to Davis station. Thank-you!

After a lonely start in the C-wing, I was allowed to move to and settle in the Microbial Ecology group. At that time, Henk was leading the group and became my daily supervisor. Thanks Henk!

In those days, the Microbial Ecology group still had a marine core and I got a lot of great help from all my colleagues: Paul vdW, Sander H, Folkert F en Wouter W, who taught me the basics and "ins and outs" of microbial ecology lab skills, in which I was yet inexperienced. Guys thanks again for all your help! Then, only a few people stayed on when the MicEco group switched to the wonderful world of mud. Evelien and Jolanda, thanks for being such nice colleagues! (and still are, but in different groups). To the new MicEco people thanks for the nice moments. I would also really like to thank the Brazilian colleagues: Pablo, Cris and Rodrigo! Thanks guys for the good advices in statistics and new tips and advices with the DGGE.

Within the first year I was already allowed to go on fieldtrip. This was actually really exciting! As it would be for quite a long period, involved a really long boat trip and that I had to do all the logistics for the Groningen delegation: lab-stuff, analysis equipment, packing, and not forgetting anything was really crucial! It turned out well but it did keep me busy for the first 6 months of my PhD. The trip was also exciting, as we would be travelling with a Russian ice breaker: the *Kapitan Khlebnikov* Thanks Sander, for making me believe it would be a dreadful trip with bad food, toilet-paper shortage and so on.... Well it wasn't the case at all: It was unexpected luxury! Four-course dinners, if of course you

were hungry given all the rolling and shaking going on in the the roaring 40ties and 50ties... so those survival energy bars did come in handy after all... thanks to your misleading advices...

A part of the story that might have missed everybody's attention: was that I nearly missed the boat leaving from Cape Town! Yes, having a really nice site seeing tour with Henk-Jan who was staying in Cape Town for his own research. Great that you drove me round "in a fast forward" pace to your favourite beach, coffee place, little villages around Cape Town, nice sceneries, whale spotting, etc etc. It was really great! Thanks! Well that trip in your "single-safety belt" pink-beetle was awesome but it did become quite exciting in the stress tense, when we ended up in traffic jams on our way back to Cape-Town, just 2 hours before departure...!! STRESS!!... Well, when we finally got there the first cables were being untied... At least that's how it felt!! Bedankt voor de geweldige en spannende tocht Henk-Jan!

That's how I finally left Cape Town with many "HowAreYaMates" sounds surrounding me...

After a less comfortable week travelling through the rough Southern Ocean Seas followed by a magic week travelling through the sea ice and encounters with emperor penguins just returning from feeding, we finally arrived at Davis Station (68°35'S, 77°58'E).

Time to start working with the minicosm crew "Clobbs and the Clobettes": Clobbs, Thomo, Tess, Nina and Paul. Thanks for the great times we spent together in the lab, preparing the experiments (cleaning-filling the tanks), running the experiments and times spent out of working hours. The entire experience was overwhelming!

Thanks to all the ozzy friends that made the parties, walk-about and social events, so nice! Thanks to the AAD and my supervisors for enabling me to leave early when life at home turned upside down during my absence. Sorry guys for leaving you behind with less hands but more work to do. Thanks Paul, Marjolein and Tamara for filtering my samples during the last two experiments.

Once back home, everything really turned upside down. Family life would unfortunately never be the same again and the welcome-back 'poke in the eye' took me out of the running for quite some time (2 years all together). Both matters kept hovering on the background of my entire PhD... with six operations spread over 5 years and many hours wasted waiting at the hospital! Thanks for the good work done by the cornea-specialists, trying to mend an eye that was "falling apart".

Thankfully, every now and then, I did manage to have a few months break from eye-troubles and could go back to work. The work wasn't standing quite still thanks to several masters students working with my samples. And thanks Henk for taking over the supervision during my absence!

During one of those quiet periods, Anita managed to organize collaboration with the AWI to do additional fieldwork on Spitsbergen. Thank-you Anita for being such a good group-manager and always organizing great cooperation's! This was my chance to also see and work in the Arctic!

This project involved minicosm experiments, to study the effects of UV-R on Arctic microbial communities. I would be going on my own, which meant doing the logistics alone too, but I was allowed to take a master student along. This is when I got to know Niek, who joined along as a master student and was appointed to do the field survey. Working together was really fun! Thanks again for all your help during the field work but also afterwards with the great analysis work you did on the environmental samples! You also taught me how to use CANOCO I'm still grateful for that!

I also still remember the great trip we did walking up the mountain to have a look over to Prins Karls Forland, well it took us many hours... and many... "just after that till" but we did it! We also had some frightening moments when we found those bloody bones in a kind of canyon. We were really convinced that at any time a polar bear would pop its head over the edge! Well the rifle was loaded, but after some exciting minutes it turned out that we didn't need it... what a relief! Thanks for the exciting walk and the nice evening in the hut!

The data set we collected in the Kongs-Krossfjorden wouldn't have been possible without the great help of Max Schwanitz. Thanks again Max! The Krossfjorden is really far from Ny-Ålesund and as Arctic weather can change really rapidly, we needed two motorized boats (for safety issues) and special authorization from the AWI station leader (Anne Hormes). Thanks again! These scientific trips also became cover-ups for fun-trips with a few German friends joining the trip. Thank-you to Jana and Max for making the time in Ny-Ålesund so much fun and filled with so much laughter!

Once back home, time to really get to work on the samples: I spent several months working in the Microbial Ecology lab in order to finish all the molecular analyses for my PhD. Thanks for tolerating the presence of a "marine" person among the group. By then, Henk had left Groningen and gone to the NIOO in Zeeland. This is when Anita suggested I moved back to where I once started: to the C-wing of the building, since I'd reached the writing point for my thesis. Anita thank-you for the great writing supervision, you do a great job! Thanks for having me over at your home and doing some dedicated hours of re-writing and discussing the data.

Bringing me back to the C-wing also brought me back to the Oceans Ecosystems group. Something as trivial as a working spot can have a direct impact on your social life at work; this move made me feel part of the Ocean Ecosystem group again. Thanks to all the PhD and post-docs at Ocean ecosystems for being such nice colleagues: Peter, Karin, Steven, Han, Willem, Gemma, Henk-Jan, Paul, Ika, Maria, Jacqueline and many more... Thanks to the secretaries for always being so helpful: thanks Gezien en Joukje! Thank-you Loes for trying to analyse our terrible Spitsbergen phytoplankton samples by microscopy.... And thanks to all the others for being nice colleagues.

Thanks also to all the colleagues from MARBEE, I particularly would like to thank Jim for all the good advices on molecular stuff when it didn't seem to work any more. Thanks for the Buddha, it does help! Thanks Jan and Stella for helping out with sequencing and many other molecular bits and pieces. Deniz thank-you for being yourself, a friend and a great colleague. Galice for the French chit-chats. Klemens for the statistics advices... thanks guys.

I eventually also gained two nice office mates: Steven and Han. I was used to sitting in a quite office, but this changed and it became a really lively office. Thanks guys for being so nice office-mates: the silly but hilarious stories, our coffee/tea corner, discussing data and daily matters. We eventually even also had the privilege to set-up our (Han and Me) own molecular lab! Thank-you Anita for supporting the development of a molecular lab within the Ocean Ecosystems department! Well it became really fun being part of the OE group again: enjoying lunch together, going out for drinks on Fridays and our yearly sailing trip: thank-you Hein and Pieterneel for hosting the sailing day!

I should also say that all of this wouldn't have been possible without Anita believing in my capacities and offering me a follow-up job that I have been doing (next to writing my thesis) for the last two years. Thank-you so much for this extended opportunity; I'm really grateful for it! Adding research time, fieldwork time and soon more publications...

Finally there are some people that need some special attention: first of all SÉVERINE! You also suffered of those very difficult family years that we had to live-through. Together we stood strong. We became the parents to our own parents. You made so many trips over to the Netherlands to help me with mom and support me when I had to undergo other operations. Séverine, ma sœur préférée merci, milles merci pour tout !

MARGRIET, bedankt dat je in mijn leven kwam. Mij eeuwig steunend in die moeilijke jaren. Operaties... ouderlijke drama's en je bleef mij ondersteunen. Jij sprak me moed toe. Ik weet niet of ik het had kunnen volhouden zonder jou steun... ook duizend dankjes voor jou! Wat betreft het werk, wist je mij te motiveren maar ook af te remmen. Soms is genoeg genoeg! Jij "krekeltje" leerde mij "het miertje" dat je soms ook moet relaxen... moeilijk voor een bezige miertje... Dank-je wel Margriet!

GUY and TRUDI, thank-you for giving me the full support when I decided that I really wanted to leave France, move to Groningen and study there. This decision really changed my life! Thanks to this I had many happy years as a student. It also enabled me to develop an academic career that I probably wouldn't have managed in France. Throughout all those years even in your own difficult moments you kept supporting me. Thank-you!

Mom thanks for being so joyful and helping out wherever, whenever and however you can, always positive en encouraging me, telling me "if you do your best, then that's all you can do". Thank-you for being a great mum!

Dad thanks for all the good advices, the great support you gave me! Dad you're great! I really enjoy being able to spend time together again and thank-you for re-bonding. Anouk « adore être » ensemble dans le Luberon, faire les vins, les cueillettes, promenades ! Super !

Anton, merci d'avoir bien voulu t'amuser (et plancher un peu) sur ma couverture ! Merci pour tous les bons moments passés ensemble, à Paris, au ski, chez nous, chez vous... Quelle chance d'avoir un beau-frère si chouette! Je suis aussi contente de pouvoir faire un peu partie du clan Jouravleff !

Guy et Marie merci d'avoir corrigé mon résumé français ! Après 15 ans d'expatriation la plume franco-scripte n'est plus aussi souple. Ces accents, graves et circonflexes sont vraiment durs à appliquer sur un QWERTY !!

Astrid bedankt dat je eventjes een "surrogaat"-moeder wilde zijn toen onze eigen er bijna niet meer was...Astrid bedankt! Bedankt Claire and Han W dat jullie zo vaak op bezoek gingen, dat haalde heel wat gewicht van mijn schouders! Ook bedankt aan alle anderen die dat ook hebben gedaan!

Daarnaast wil ik Han vM ook bedanken dat je mij onderdak bood toen ik even zonder eigen of ouderlijk huis zat. Echt te gek! Rob bedankt voor de alle adviezen! Brigitte bedankt dat je naar het ziekenhuis kwam en dat je een onderdeel was van onze super vrouwenklusteam!

Lieve vrienden bedankt voor alle leuke ontspannende tijden die we samen hebben gebracht: Deniz en Henk-Jan, bedankt voor de gezellige avonden en uitjes! Loes en Durk te gek dat jullie weer in de buurt wonen, het is echt super om jullie zo dicht bij te hebben. Ik denk nog terug met een enorm glimlach aan onze schaatstochten van januari 2009! Genieten!

P.S. If I forgot your name.... so sorry, thanks to you too!