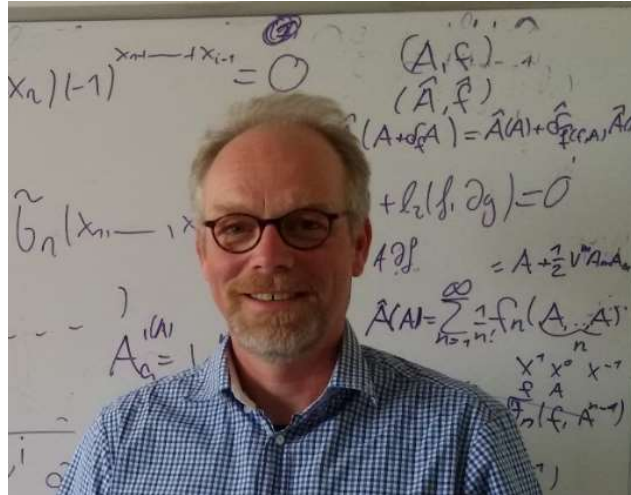


Ralph Blumenhagen
Max-Planck-Institut für Physik

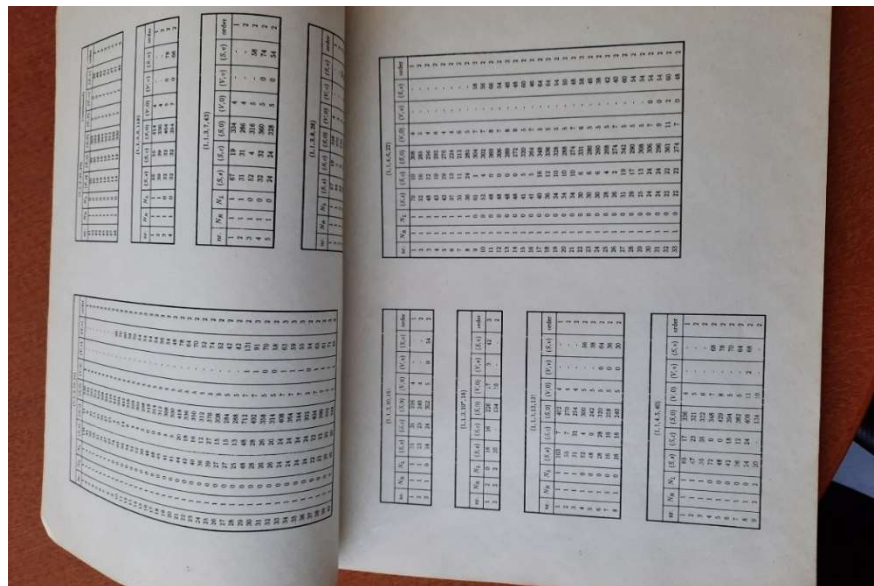
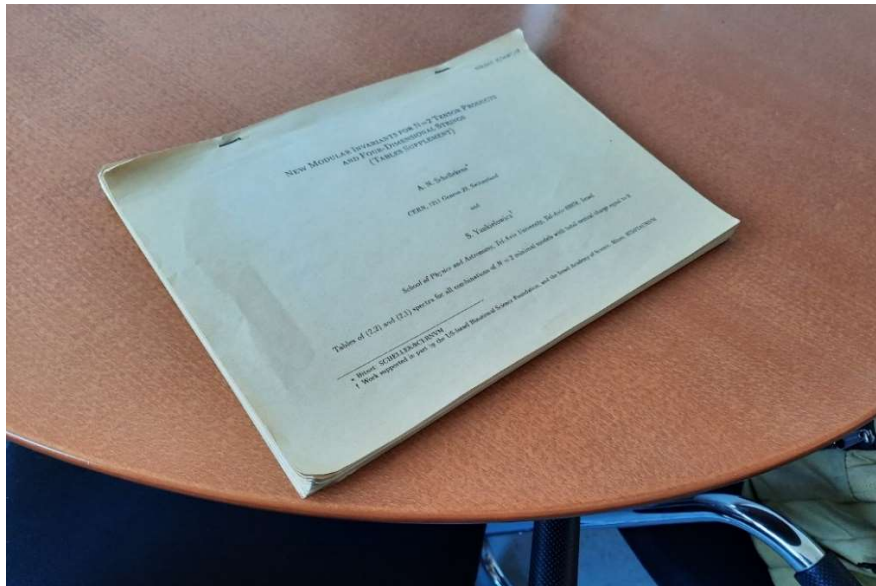


Dear Bert,

Unfortunately I cannot really remember where we met for the first time, likely at some workshop around 2004. However, I remember precisely when and where I was reading for the first time an article of yours. That was on a Saturday in the year 1992 in a coffee bar in Cologne where, as a PhD student working on CFT, I studied your paper “New Modular Invariants for N=2 Tensor Products and Four-dimensional Strings, by A.N. Schellekens and S. Yankielowicz, Nucl. Phys. B 330 (1990) 103-123, which constructed a huge heterotic landscape of simple current extended Gepner models.

In retrospect, it is fair so say that this impressive work triggered something in me and laid the seed for my shift from pure CFT to the much vaster field of string theory. Therefore, your work had more influence on me than you might have thought.

Later, in the year 1995 I was asking you to send me the supplementary material to this paper, which was a phone book full of long lists of all the models that were found in the search. I still have that landscape, stored in a safe place only known to me. Here are two pictures of it



I am sure that these raw data of in general asymmetric, hence non-geometric CFTs contain some deep lessons about string theory that still need to be revealed.

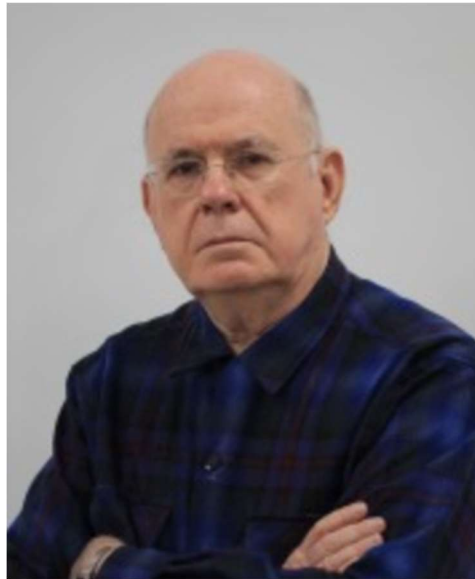
Bert, now that you are retiring, let me thank you for all the nice discussions we had. I remember in particular the KITP workshop in 2010 in Santa Barbara.

Let me wish you and Beatriz, above all, health and a fulfilled new phase of life.

Best regards

Ralph

Eliezer Rabinovici
Emeritus Professor, Hebrew University of Jerusalem
IHES - Louis Michel Professor



Dear all,

First I would like to thank all the organizers and especially Beatriz for arranging this wonderful event and for putting me on the list of friends.

Dear Bert,

I liked your work style from almost the first moment I saw you in action at Cern in the post string revolution 80s. I can only try and guess in a LONG retrospect why this happened. I will ascribe it to the intensity you exuded, the clarity and the honesty with which you approached each problem. It is not that you were inviting new friendships, in fact I got the impression that you felt that every moment you were not thinking about a concrete physics problem was a wasted one.

In that period of innocence, you and the many other young theorists at CERN, several of them your collaborators, were indeed feeling the joy of being handed

a very effective toy with which there was so much to do. I have observed how lines of maturity have been added to your forehead as you also delved into the deeper theoretical structures of CFTs and their Supersymmetric extensions. I also was impressed when reading your full scientific biography how you made a real effort to correlate the highly abstract notions you were drawn to with potential models of the real world.

I also noticed the evolutionary process in which you stopped being delighted by having more and more models to produce and started instead to wonder if indeed the main point was not finding the one and only one but accepting, they are all there. A new Copernicus revolution, motivated not by actual lab experiments but rather by experiments in theory.

In later years I noticed you did not want to take a stand then and there in large public arenas but preferred to relegate your equation free thoughts to general lectures...For me it was a clear outcome of your very strict honesty.

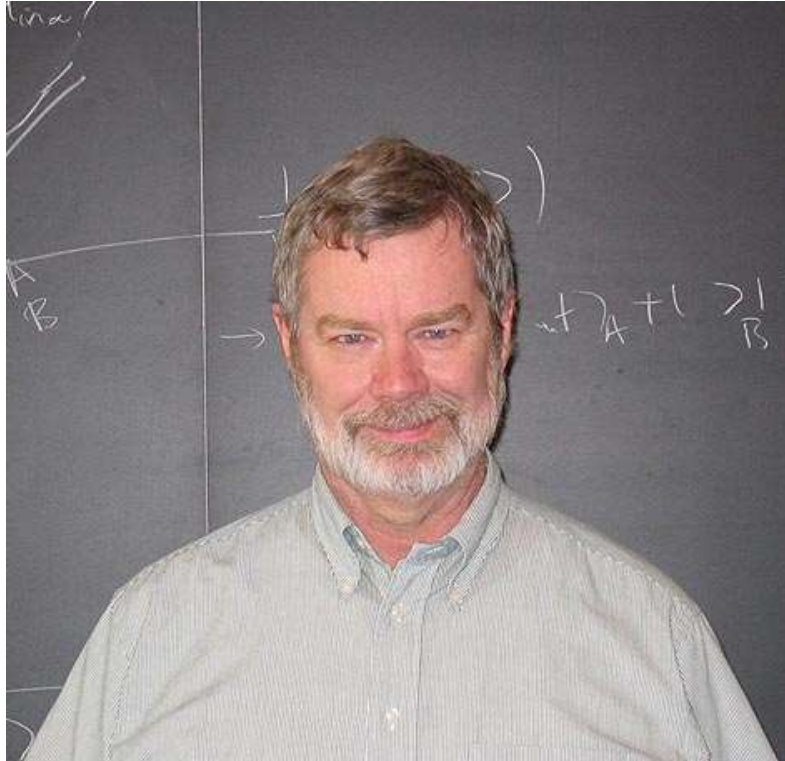
To paint all in white does not allow one to appreciate the full complexity of a painting, so I add some artificial grey. One is on a scientific disagreement we had which the censorship has erased.....the second is that our many discussions produced just one paper which I like for its precision! This taste was not shared by the populi, it is one the two papers you have published which have the distinct property of carrying zero citations and I recall there was at least a period where you derived pleasure and strength from such recognitions...

Finally, back to the shining white, I am proud to be your friend in person and in physics over many decades, and I am also very happy to have shared many moments with you and later with you and Beatriz. Mazal Tov and many more happy and healthy years.

Yours,

Eliezer Rabinovici

Paul Langacker
Emeritus Professor of Physics, University of Pennsylvania



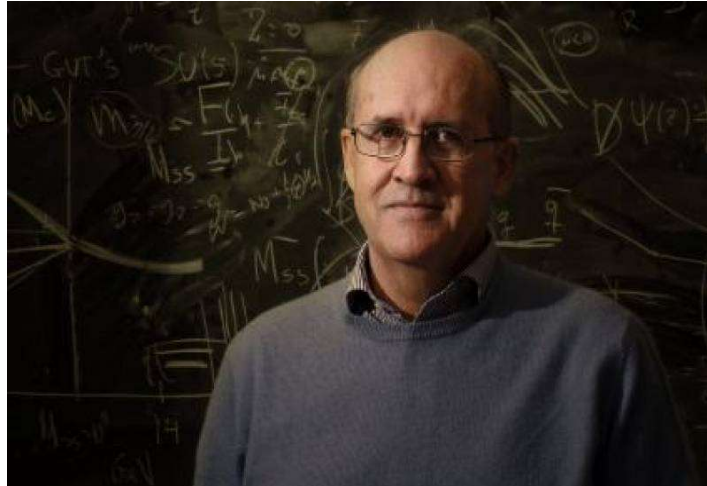
I first got to know Bert well some years ago during a workshop at the ICTP, when we had dinner together at one of the outdoor restaurants on the harbor. It turned out that we had very similar (though not so fashionable) views on such closely-related topics as the string landscape, environmental selection, eternal inflation, and the anthropic principle. I had previously read the English translation of Bert's excellent article "Naar een waardig slot", but thought that a regular review article was lacking. I promptly invited him to write one for the Reviews of Modern Physics, where I was an Associate Editor at the time. The result was what I still think is the definitive review of the field. I have very much enjoyed my interactions with Bert and Beatriz in subsequent meetings.

I wish you, Bert, a happy retirement.

Paul

Luis Ibáñez

Professor at IFT, Universidad Autónoma de Madrid



Dear Bert,

It is a pleasure for me to participate at a distance in this fest in your homage. In my view, you are one of the best theoretical physicists of your generation in Europe, and I am sure that your many solid contributions will be highlighted in the different contributions in the fest. I have always enjoyed discussing physics with you from the early days of 4D string constructions when we were both at CERN, or later discussions about anthropics and more recently about D-brane settings. I particularly enjoyed mi coloboration with you and Angel Uranga about discrete gauge symmetries in CFT orientifolds and also about instanton induced neutrino masses. In this collaborations you showed us again that you are a rigorous thinker with a great physical intuition, it was really a pleasure.

Thanks Bert for your many contributions to physics but also for your friendship during all these years!!

Luis Ibáñez

Gianfranco Pradisi,
Professor, University of Rome "Tor Vergata"



Dear Bert,

It's a great pleasure to have the possibility to greet you and to celebrate your wonderful career and the entry in a new, enjoyable and perhaps more relaxing life.

We do not have so many fond memories to share, we didn't collaborate directly. However, let me take the occasion to remember the time of your visit to Rome in 2000-2001, and our dear colleague and friend Yassen Stanev .

At that time, as you know, we were (quite) young and I was sharing the office with Yassen. I remember your endless discussions about RCFT, that were a sort of a competition among you and Yassen, trying to understand who was the fastest to guess the new formula about rational annuli partition function, both in the direct and in the transverse channel.

Unfortunately Yassen cannot be here, but I am sure he would have been delighted to participate in this Fest.



I wish you many more happy moments like this one



Ciao,
Gianfranco

Gabriele Veneziano
Emeritus Professor, CERN and Collège de France



Dear Bert,

So much time has passed since your long stay at CERN, first as a fellow, then a staff member. These were great times, just after the 1984 string revolution. There was a lot of excitement, many new things to discover, and you gave wonderful contributions to that adventure. We have been lucky to live through those years: I often look back at them with much nostalgia.

But let's not worry: retirement is great! I went twice through it in my life: at CERN in 2007, and at College de France in 2013. And in this 2018 picture you see how happily I had survived both! What I found most important is to keep your neurons work! Even some useless, but non-trivial, calculations can do the job. And, although we may be unable to compete with the new generation of theorists, I'm sure we can still give them some useful advice.

Most important, have fun, and enjoy this new chapter in your life!

Gabriele

Ignatios Antoniadis
Director of Research, CNRS and Sorbonne University, Paris



Dear Bert,

I regret I cannot come physically to your Fest in Amsterdam, on the occasion of your retirement in July 2020. In fact, I have also retired in Switzerland at the end of 2020, and I am going to retire again in France in December 2022 (different age limits). Also, in exactly three weeks from now, there will be my Fest in Paris...

Although we have not collaborated directly or interacted much together, I feel as if we did and I always enjoy our physics discussions. I appreciate a lot your work which I find often very inspiring, original and intellectually beautiful. Examples that I remember from you as single author are for instance the quantisation of the electric charge in string compactifications and the physics of simple currents. I am sure that your physics will continue after retirement.

My best wishes for the future with health and happiness.

Ignatios

Augusto Sagnotti
Professor at Scuola Normale Superiore & INFN, Pisa



A great privilege of our profession is the exposure to other colleagues from many Countries, who were often raised and educated in vastly different contexts and yet are brought very close to one another by common endeavors.

In many respects, this is an ideal portion of the Society, capable of interacting constructively on a global scale, overcoming many differences, far better than others ...

Meeting Bert, shortly here and there and then also for an extensive period in Rome, in 2001, where he came with Beatriz for three months, was a remarkable experience. He stands out not only for his high-level education, his politeness, and his uncommon technical skills, but above all as a deep lone thinker capable of pinpointing, with utmost clarity, the very limitations of all our efforts.

Thank you, Bert, for all you taught me, with your presence and with your work

Augusto Sagnotti

Shimon Yankielowicz
Emeritus Professor in School of Physics and Astronomy
Tel Aviv University



Dear Bert,

I'm so sorry that I cannot attend the meeting in your honour. It is precisely during the board of governors of the university which I MUST attend.

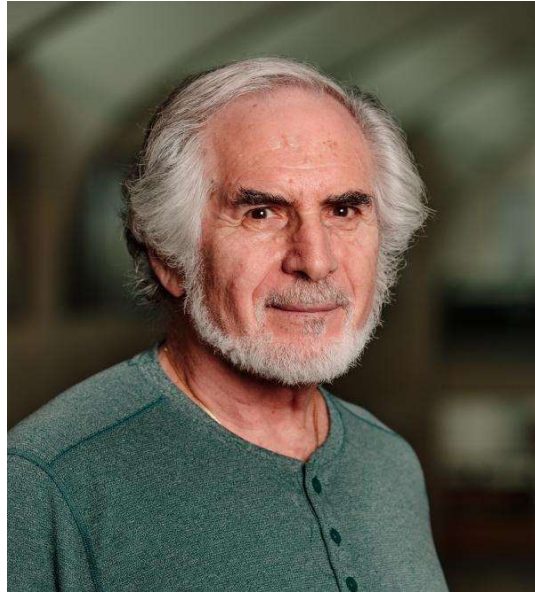
Bert, you are a dear and close friend with whom I enjoyed very much to collaborate. I consider this time at CERN as one of the most enjoyable and rewarding time in my scientific career.

You are a thorough and deep physicist with a vast knowledge. I was privileged to work with you and to get to know you as an excellent physicist and a great person. I cherish the time we did physics together as well as the time we spent talking on different issues or playing tennis. I really hope that soon enough we'll have an opportunity to meet again.

Enjoy the conference. You deserve it! I'll be thinking of you in this day.

With very warm regards,
Your friend,
Shimon

Stuart Raby
Emeritus Professor, Ohio State University



Dear Bert,

I understand that you retired in July 2020, and in fact I retired one year later in July 2021. Life during the pandemic and as a retired person has changed dramatically. I miss the interactions with you and all my physics friends.

It was always great fun to see and interact with you at the many conferences, in many different parts of the world. I wish you all the best in this new stage of life.

Best regards,

Stuart

Luis Álvarez-Gaumé
Simons Center for Geometry and Physics, SUNY at Stony Brook
Senior Physicist (Emeritus) Theory Department, CERN



A FRIENDLY DUTCHMAN

Dear Bert,

I am not aware of your flying, or swimming abilities, so the only analogy I can make with the legendary Flying Dutchman would be the Stringing Dutchman, but I believe the chosen title is a better description of your personality.

The first time we met was in my office and you and Krzysztof Pilch were explaining to me what eventually was known as elliptic genus. That contribution and its implications are remarkably profound. The connection of anomaly cancellation and modular invariance is deep, and it is also related to the subtle relation between UV and IR in string theory. This eventually led to the first avatar of the string landscape in terms of the study of the moduli spaces of self-dual lattices. Like any deep piece of physics, it generated deep mathematics, the theory of elliptic cohomology with all its ramifications. Bravo.

You have made deep and far reaching contributions in string theory “tous azimuts” from the very mathematical to the very phenomenological with lasting value that are part of the stable corpus of knowledge in string theory. More recently you came back to the string landscape, and wrote a very interesting way of understanding the current riddles in particle physics and cosmology.

The potential true meaning of the string landscape, although nowadays we have become a bit fancier and people talk about the swampland as well. Reading many of the related papers often reminds me of Tolkien and his famous poem...

*Three Rings for the Elven-kings under the sky,
Seven for the dwarf-lords in their halls of stone,
Nine for Mortal Men doomed to die,*

If you allow some poetic license, you can replace “ring” for conjecture. Many papers on the subject often sound like a set of linked and concatenated conjectures. You can change the various characters in the poem into your favorite friends and foes at will.

Humor apart, I found your disquisitions regarding the string landscape very inspiring, following clearly from a deep understanding of theoretical high energy physics in the last sixty years. There are several fascinating aspects of string theory that somehow fulfill Einstein’s dream of unifying gravity and electromagnetism. However, the way it is achieved is astonishing and inexorably linked to quantum mechanics. In fact, in string theory, gravity and electromagnetism (or gauge interactions) are not only unified, they are also inseparable, following from the fact that a one-loop in open string theory generates the closed string. String theory betrays Einstein’s bigger dream once you take the landscape seriously as a way of explaining some (all?) of the parameters of the Standard Model. The question of whether “the Almighty had any choice in creating the world” receives an overwhelming “yes” answer in string theory. We may not yet know how many of those parameters are environmental, and how many are calculable, but you argue convincingly that by accepting a new, gigantic Copernican turn of the screw, and accepting this landscape, we may end up obtaining a more realistic assessment of the laws of Nature and our place in it.

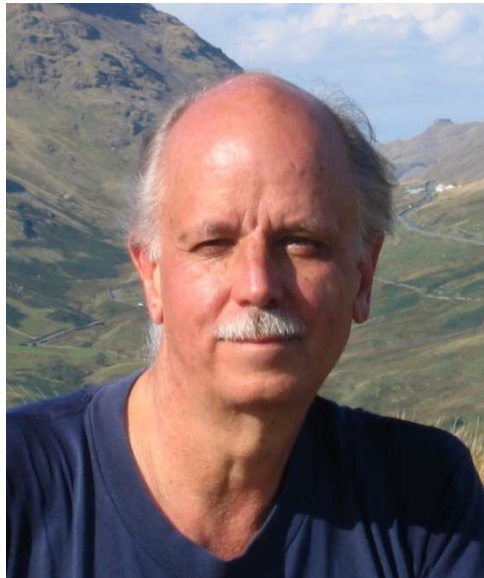
We have had plenty of interactions in the past, but unfortunately, we did not find a project to collaborate and write a paper together. Pity, I regret it, although after you pass the twelve divisors line¹, it is no longer the time of regrets, but the time of acceptance and reflection.

Happy retirement, Bert, and enjoy your vintage youth,

Luis

¹ What is the smallest number with twelve divisors?

Kelly Stelle
Imperial College London



Dear Bert,

I think that I first got to know you at CERN during my sabbatical year there in 1987-88. I have mostly been a supergravity person, but that period was a particularly fertile time in the growing understanding of the deep relations between string theory and supergravity, and in particular I was very much struck by your important paper at that time with Dieter and Wolfgang. To me, you have always been the master explorer of all the ways that string theory can display its myriad properties in reductions down to the four-dimensional world we are mostly aware of. However one relates to this enormous string landscape, your work has shown us that it is in any case there in the theory and we need to deal with it one way or another. I am equally impressed by your impressive contributions in mathematics, intertwined always with your work in string theory, powerfully linking the fields.

On many occasions, I have also enjoyed getting together with you and Beatriz in the various ports of call that we physicists visit. I thank you for your friendship and for your many contributions to physics. I congratulate you on the occasion of your retirement – recognizing all your past achievements but also looking forward to many yet to come.

All the best,

Kelly

Sunil Mukhi
Professor of Physics, IISER Pune



Dear Bert,

It has been great to spend time with you and Beatriz over the decades -- I remember your visit to India, then my visit to Amsterdam when I came over with a bunch of friends to your place for lunch (I remember you jokingly described your house as the highest point in the Netherlands, six feet or so above sea level ...). The three of us also had a pleasant dinner in St Genis on one of my CERN visits, and most recently I recall a nice evening spent with Bert in Amsterdam talking about physics, life and politics.

I am currently working on a paper about the classification of RCFT that is largely based on your classic $c=24$ paper (like many of my previous ones, but even more so). I hope to complete it soon. Like you, I have been delighted to learn of the work of mathematicians (presented by Nils Scheithauer at your Fest) that confirms the results and conjectures in your paper in a very beautiful way. I have read other papers by you, and am continuing to do so, and I'm constantly amazed at the variety and depth of your insights!

I wish you, Bert, all the best in your post-retirement life. I am retiring this year as well, and will be travelling more as a result -- so I do hope we can catch up somewhere soon.

Cheers,

Sunil

Nuno Sousa
Former PhD Student of Bert
Assistant Professor, Universidade Aberta (Open University of Portugal)



I came to meet Bert from a mutual friend, Eef van Beveren, who was my teacher at the University of Coimbra back in my undergraduate days. I was born with a curiosity about the universe and its laws and when the time came to start a Ph.D. Eef suggested Bert as supervisor, precisely in the field I was then passionate about, string theory. Going for it did not come for free, as I had to renounce a tenure track in the process.

Working with Bert pushed the boundaries of my knowledge and, most of all, gave me a tool which proved decisive to my carrier: the ability to make models of reality, a skill I now exercise on a daily basis in my research, which moved from Physics to more applied fields of Engineering.

As Bert helped me, I now help my Ph.D. students, some of which will one day take my place. Such is the circle of life. I am proud of have been a student of Bert and will forever honor him and his legacy.

Best regards,

Nuno

Melissa van Beekveld
Former Master Student at Radboud University, Nijmegen
Postdoc at University of Oxford



I love Bert as a teacher. I got the joy of attending two of his master courses that he taught for the Radboud University. He always wants his pupils to get the most out of his lectures, lets people choose which topics he should cover, and happily engages in discussions. However, Bert does have one flaw: he always thinks that most of the stuff he explains is 'trivial' and 'easy'. I quickly found out about this during his String Theory course. Not knowing Bert at all at the time, it took me around 15-30 minutes to gather the courage, raise my hand and say 'Sir, I really cannot understand what you are saying, could you please elaborate'. My heart was pounding, as, to be honest, I was slightly afraid and intimidated by him and the pace at which he was going. However, Bert reacted very surprised and replied, 'but, I thought that the thing I was explaining is very easy?'. Then he entered a very open discussion on what was precisely unclear about the stuff he had been explaining. I was relieved by his reaction, as contrary to what I had thought, Bert was actually happy about such a feedback.

One year, and many questions on String Theory, later, I was happily attending his other course: Beyond the Standard Model. Aware of the importance of going over some prerequisite knowledge, Bert chose to offer a very welcome overview of 'known stuff' during this first lecture. However, there was a particular student in this class who did not immediately recognise the material. Other students tried to comfort this person by saying that the material had indeed been covered by other classes, so they might take a look there and

remember the necessary information. However, instead of making the person feel better, the comments of their fellow classmates actually made him feel worse. It even got to the point that this person could not take it anymore, screamed and cried and ran out of the room.

At this point Bert was completely flabbergasted. He tried so hard to make his lectures more accessible, what had he done wrong?! Even after the lecture Bert came to me, asking whether really it was this un-understandable and whether he really did not make a mistake. I tried to convince him that it was absolutely not his fault. What he did not know is that this student is notoriously known for having strong emotions during lectures and tutorials...

Everyone who has been taught by Bert knows that indeed, his classes are very difficult, but he will always do his best to get everyone on board. I am happy and grateful that I got to experience Bert as a teacher, and learned a great deal from him. And I promise to never again forget that he taught me on axioms...

Melissa

Dear Bert,

it has been great sailing through string theory with you, never on the same but on nearby boats. I have enjoyed your papers over the years, and came to appreciate your calm composure and your sharp insights.

I wish you and Beatriz a happy continuation of the trip, and if possible the real vacuum at last within sight !

Costas

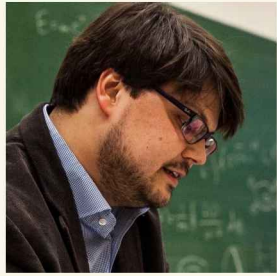


bosonic

sea-scape



fermionic



Nikolas Åkerblom (professor, math)
Heilbronn U. of Applied Sciences
Postdoc @ Nikhef 2008 - 2010



Dear Bert,

I wish you all the best for your retirement.
I will always remember fondly the time spent
2008-2010 as your postdoc at Nikhef and
the leeway you gave me to pursue my
changing scientific interests - which ultimately
led me to where I am now.

Thank You!

Best regards,

Nikolas