Palla Laci

70

Péter Horváthy

For most of us, physics started with “KÖMAL”, the high-school students’ journal. This is also how I had known Laci even before ever meeting him: as a first-grade high-school student, I read, enviously, his solutions and have seen his photo published in the yearly selection of the best problem-solvers in “KÖMAL” .

KÖMAL photo
(around 1968)

Physics student at
ELTE University (1970)

I had no difficulty therefore to recognize him, a raising star of Hungarian physics, when we met at one of *Rezső bácsi*’s winter or spring *Ankét*’s.

After my first university year (in mathematics !), I infiltrated the Physics Students’ Summer School in Debrecen. And if I might have long forgotten the lectures however I remember well when we went, together with Laci and others including also a lovely girl, a fellow-physicist, wearing a bright-red swimming dress...

Zalán and Laci at the Schladming Winter School (1976)

Our encounters become more regular in the mid-seventies when I started drifting back to physics and visited, more and more often, Laci and Zalán at their mythical *Puskin utca* building, with its gently ascending staircase (convenient for Eötvös’ horse, as I was told), and Zalán’s discrete laugh, which nearly broke the window glass.

The year 1981 brought a lot of excitations with those amazing non-Abelian multimonopole solutions discovered, independently, by various people including the Budapest group.
The honor to present their outstanding results at the Trieste Monopole Conference fell to Zalán, whose plenary talk just followed that of *C N Yang*; none of us will ever forget Yang erasing the blackboard to give way to Zalán's.

In the evening we went out with *Michael Atiyah*; in the heat of the discussion *Sir Michael* was so carried away that, when the pizza arrived at last, he just pushed it aside and continued his passionate explanations.

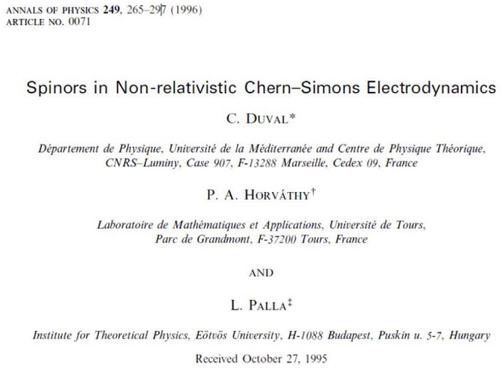
Saumur Castle, 1993

P. Forgács, L. Palla, PAH, János Balog.
Langeais Castle (1999)

Halloween in Tours (1999)

A decade later Zalán, Laci and Péter (and later also János) relayed each other in Tours with the aim of writing a joint monography on monopoles.

We never complete this book; however we published several joint papers on Chern-Simons vortices and their symmetries.



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Spinors in Non-relativistic Chern–Simons Electrodynamics

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Rácz Zoltán

A statisztikus fizika gyakorlatomonlát-talak benneteket először. Ugyanígy egymás mellett ültetek, s ugyanilyen nyugodtsággal és csillogó szemekkel néztetek a táblára, meg az ismeretlen jövőbe.

Azóta eltelt majdnem 30 év, sokat beszélgettünk fizikáról, tanításról, családról és gyerekekről. Fociztunk is, meg koncertekre jártunk, meg úgy általában éltünk és szerettük ezt az életet.

Mi nagyon örülünk, hogy részben együtt
jártuk be ezt az utat, s további minden jót és
Boldog Születésnapot kívánunk
Vicus és Zoli

András Patkós

Two memorable encounters with Laci on our physicist trajectory

1. The evidence for magnetic monopoles (at least for their theoretical existence) was particularly strong in Budapest in the middle of the 1970`s. In 1975 Peter Hasenfratz has spent a year in Utrecht, where he contributed very successfully to the investigations of the non-Abelian monopole configuration, initiated by the papers of G. 't Hooft and A.M. Polyakov. Julius Kuti on his return from the U.S. in 1974 carried along a copy of a few page long paper of G. Parisi outlining in qualitative terms the dual superconducting model of quark confinement. In this model the flux between two oppositely charged Dirac monopoles immersed in a superconducting medium is transmitted via the formation of an Abrikosov-vortex. He encouraged me to work out the detailed classical theory of this configuration. It is probable that Andor Frenkel and Péter Hraskó, two senior members of the Theory Group of KFKI (Central Research Institute for Physics) have received additional motivation beyond the seminars of Hasenfratz from some contemporary rumors pretending the discovery of a Dirac-type monopole in balloon-observations of cosmic rays. They have studied critically the original 1931 paper of Dirac and provided a careful analysis of the relation of non-observability of the Dirac-string and singular gauge transformations.

In the location of the famous Wednesday seminars (a room of the former professorial residence of Roland Eötvös) on the first floor of the old Physics building in the Puskin street noisy discussions, loud laughters accompanied the evolution of our ideas. Even a so-called Triangle seminar was organized on the subject where David Olive gave a very elegant presentation. But with the fading empirical evidence and with the advent of more promising approaches to the problem of quark confinement most of us left the field, except Zalán Horváth and László (Laci) Palla. In my view their enduring efforts invested into the theory of monopoles and other topologically stable objects of non-Abelian field theories can be considered as the beginning of the story eventually leading to the emergence of the Budapest School of Integrable Field Theories.

Zalán has visited the IAS in Dublin in 1973 where he wrote a paper with R. Acharya on a specific field theory of monopoles, but his publications from the next two years do not show any particular preference given to this subject. This has suddenly changed in 1976 when with Laci they decided to work on a first joint project, independently from their former mentor, Prof. György Pócsik. They have chosen the construction of topologically stable solutions of non-Abelian theories. I do not know the reasons for their choice (perhaps the study of the Montonen-Olive duality

has played a certain role), just hope that the "Puskin street seminars" of the time had also some positive influence. Their long and very successful cooperation has reached its first culmination point (with the participation of Peter Forgács) in the early 1980's with the application of the Backlund transformation to the construction of exact multi-monopole configurations.

2. Although in our research we followed a rather different path (different subjects, different style), our personal contacts remained (and are still today) very friendly. I feel the personality of Laci very close to myself, although I meet more often his physicist son than himself.

It was therefore the most natural to organize together international workshops and conferences. Among the three conferences we organized jointly (Siófok, 1986; Eger, 1988; Budapest, 1993) it was the Eger Conference which I find the most memorable. At this time my research interest was again not very far from the field of Laci and Zalán: the conformal field theory approach to critical 2D systems gave me an opportunity to play with different (defected) variants of the Ising model. After my return to Hungary from the University of Bonn we have decided to organize a summer school in Tihany in 1987 to which we could arrange the participation of V. Knizhnik and A. Belavin. Not only the statistical physics of two-dimensional systems has benefited form this course, but also the renewed research activity in string theory has started in Hungary with this school. Our guests have exposed Russian-style (almost infinitely) long lectures on the actual developments in 2D conformal field theories. Vadim and Sasha have had beautiful time at the Lake Balaton and Budapest, so I am sure this was one reason that next year half of the staff of the Chernogolovka Institute has attended the Eger conference. Our joint effort resulted in the best small conference I ever attended during my professional life.

Gordon W. Semenoff

I first knew Laszlo Palla by reputation. As a graduate student during the late 1970's trying to puzzle through the plethora of new papers about solitons, monopoles and instantons, I remember the papers by Horvath and Palla as being particularly clear and amongst my favourites of the substantial stack of preprints that I had copied from the preprint library. Then, happily, I met Laszlo in person at the Erice Summer School in August of 1979. We coexisted there for a few weeks, I recall that we listened to Sidney Coleman's lectures on 1/N and other things of which I have much less memory. I was a graduate student in the third year of the PhD program at the University of Alberta. As I remember, Laszlo had already graduated and he was a young researcher at the Eotvos University's Institute for Theoretical Physics. I was very interested in his science, but our conversations rapidly evolved into more personal directions as we became very good friends. The next time that I saw Laszlo was nine years later in the Quarks 88 conference in Tbilisi. I had already moved to the University of British Columbia and I invited Laszlo to visit Vancouver where we had a great time and we also did some scientific work about which we wrote our only co-authored publication. A few years later, a colleague and I passed through Budapest on our way to a conference in the Ukraine. Laszlo helped us with stopover accommodation and he was a great host for there. We have seen each other occasionally since then and we remain good friends. I am very honoured to have this opportunity to pay tribute to Laszlo, his long scientific career and to acknowledge and thank him for his enduring friendship.

Wojtek Zakrzewski

I first met a Hungarian physicist when I was a postdoc in Michigan. It was Gábor Domokos who came to Ann Arbor to give a talk. I was very impressed by him; his talk was very interesting and he was very friendly. I then learnt, first hand the meaning of the Polish saying 'Polak Wegier dwa bratanki, do wojenki i do szklanki'. We talked a lot and I saw that Gábor was very concerned about young physicists, and tried to help them in their careers in any way he could. This very 'Hungarian' attitude I saw again in Zolán Horváth, the first Hungarian physicist with whom I collaborated. He was very serious, and did not follow trends or fashions but carried out serious research into hard topics and, like Domokos, was very interested in helping young scientists. When I was at CERN he told me about Laci Palla and in particular, Péter Forgács who was then about to come to CERN too. This led to my collaboration with Péter Forgács, and this collaboration helped me to meet many other Hungarian physicists. They were all world class scientists, very serious and also very friendly. Soon thereafter I met Laci Palla when he came to Durham, and though we have never worked together, we have been in good contact ever since. We visited each other's houses, have enjoyed having meals together and chatted about many topics. I learnt a lot from him. I am very impressed by the 'Hungarian-ness' of many Hungarian scientists. This may seem a tautology, but the seriousness of their research and their concern for others is really great and admirable. Laci, now as you are close to 70 and so are (slowly) approaching retirement, 'Sto lat, sto lat' to you. I hope your work in the next (many) years will continue to be of the same quality as your present work and I am sure that you will preserve your 'Hungarian attitude' towards younger people, as right now the job/opportunities situation is so much more challenging than when we were young. The very very best to you! Wojtek

Fülöp Tamás

Kedves Laci,

meghatározó, szemléletformáló élmény volt számomra melletted (és Zalán mellett) nevelkedni. Még az az apróság sem ment feledésbe, amikor elmesélted a “zöld és barna táblakréta esetét” - a hallgatóimtól évek óta elvárom a színtévesztőbarát színek és megoldások alkalmazását. Köszönöm a sok segítséget, a baráti légkört...

Szeretettel:

Tamás

Zoltán Bajnok

I got to know Laci when I was in the third year (1990) of my university studies at Eötvös University. In that year we had the lecture "Group Theory" by Zalán Horváth and I was extremely fascinated with the subject. The whole idea of getting exact results using purely group theory instead of long and nasty calculations influenced me very deeply and I decided to work on this type of subjects in my life. As a start I prepared very thoroughly for the exam and tried to impress Zalán. Since he was quite satisfied I dared to ask if he could accept to be my supervisor for the Master diploma. Unfortunately, as he explained, some other student, called Gábor Takács, had already asked him the previously day and he could not take two students. But he would ask his colleague, Laci Palla, who was just back from abroad, if he could take me. At that moment, and only at that moment, I felt completely disappointed to get Laci (who I had not known before) and not Zalán, as my supervisor.

When I met Laci I realized that I was actually extremely lucky. He gave me the book of T.D. Lee and other interesting study materials, which I slowly digested. Later I visited his very clear and pedagogical special lectures about Conformal Field Theory and Solitons and Instantons and we started to work together on W-algebras. Eventually Gábor also joined to the project and by the end of my MSc studies we had published the results in NPB.

The most important thing I got in this period from Laci was self-confidence.

At the beginning I did not trust myself, did not believe I could perform a calculation alone. Thus Laci explained what and how I should do and it went well. At one point, however, he decided to leave me alone for a bit, so he just give me the paper of János Balog and his collaborators about the KM implementation of W-transformations and asked me if I could calculate it in our case. It was obvious he trusted me that I could do it. I remember, it seemed impossible (I had to learn the technics from a research paper not from him or from a book) and I would have given years from my life just so that I could do the calculations. Surprisingly, however, the paper was nicely written and I was able to learn the technics and work out the details in our case.

After I have finished the Master thesis, Laci become my supervisor of the candidate degree of HAS. He left me alone at this point to stand on my own two feet in order to prove that I could find my problems and could eventually solve them. He helped me instead by contacting Peter Goddard, deputy director of the Newton Institute at the time, to arrange a visit, sponsored by the Széchenyi Foundation, to DAMTP in Cambridge. I was really impressed by how well-known Laci was in Cambridge and this helped me be accepted by the colleagues. It was always a good starting point of the discussions that he was my supervisor. Coming back from Cambridge I dug into the representation theory of W-algebras and our paths diverged a bit.

We started collaborating again around 2000 when Gábor came back from London. This was a very active and an exciting period. Every day a new idea came and there was always somebody how could improve the work or connect to something interesting. We analyzed many integrable boundary systems, developed their finite size corrections, which we applied to the Casimir effect in higher dimensions. At this golden age we were also members of the EUCLID European network, whos node leader was Laci. The attached photo is from a meeting in Sozopol, where almost the whole group, except Gabor, participated. This period is one of the happiest periods in my life.

Having worked in two dimensions for 18 years I wanted to do something more realistic, i.e. closer to real life, and joined the very active developments connecting string theory to four dimensional gauge theories. Laci also joined (and everybody on the photo above) a few years later and we collaborated again on this fascinating subject.

I would like to thank you for everything I got in the last 27 years and wish you a very happy 70th birthday and activity and health for the remaining hopefully very long life.

Gábor Takács

Dear Laci,

our acquaintance dates to 1991, when I started to work on my diploma thesis. Although Zalán Horváth was my official supervisor, the work was effectively carried under your supervision, in close collaboration with Zoli Bajnok. Your influence as a mentor had a defining effect on my academic career. It is not restricted to my choice of field although that also owes a lot to you but even more on the conduct of research and on supervising the work of others. In retrospect it's even clearer how much the way I approach coordinating the work in my research group and supervise junior colleagues depends on my experience of your approach, which was characterised by respect for the others' talent, a promotion of their scientific development and independence, their treatment as equals from early on, and encouraging interaction and collaboration among them. I hope that I shall succeed to realise these qualities in my own work.

After my return from London in 2001, we spent five years of close collaboration with you and Zoli, publishing around fifteen research papers together. I remember this as a period of a common effort which I enjoyed very much.

Besides research collaboration, I could always turn to you for valuable advice on all aspects of university and academic life, which meant and indeed helped a lot.

I use this occasion to thank you for all the time we spent together, and wish you good health and many happy years to come.

Wishing you all the best,

Gábor

Gerard Watts

Dear Laci,

I am very sorry not to be able to attend your birthday meeting. I was thinking what to say, and was divided between mentioning one of your papers which I found most inspiring (see on the right) and something to thank you for your hospitality. I am afraid I could not find a picture of one of the very nice dinners (either I was too polite to take one or just incompetent at finding it) but they are firmly in my memory, as well as the difference between Pörkölt and Gulyás, so here is just one of my very happy memories of many enjoyable visits to Budapest.

Wishing you all the very best,

Gerard

A_2 Toda theory in reduced WZNW framework and the representations of the W-algebra

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Using the reduced WZNW formulation we analyse the classical W-orbit content of the space of classical solutions of the A_2 Toda theory. We define the quantized Toda field as a periodic primary field of the W-algebra satifying the quantized equations of motion. We show that this local operator can be constructed consistently only in Hilbert space consisting of the representations corresponding to the minimal models of the W-algebra.

Patrick Dorey

Guess when?

Péter Forgács

Kedves Laci,

Most, hogy a hetedik X-edet fogod lassan írni, és ez alkalomból köszöntünk Téged, első szavam Hozzád a köszönet.

Itt szeretném megköszönni Neked a kisebb - nagyobb megszakításokkal jó húsz éven át tartó közös kutatómunka oly sok szép pillanatát. Kutatói pályámon meghatározóvá vált az kutatási szemlélet, amit Zalántól és Tőled sajátíthattam el, s amelyet legegyszerűbben talán az „igényesség” szóval lehetne jellemezni.

A különböző számú X-ek írásának alkalmából természetes módon merül(het) föl bennünk a régi kérdés: Vajon mi minden is történt Velünk, mire is jutottunk az addig eltelt idő alatt? Vajon „mivé is vált” az eltelt idő? Esetedben persze könnyű a már eddigi nagyon komoly életművedre, meg a Palla dinasztiára utalni -- abban (is) föllelhető az eltűnt idő nyoma. Az idő persze telik, de nem hiszem, hogy ne lenne kedved továbbra is intenzíven folytatni a kutatást, még oly számos fontos eredménnyel és az igencsak kiérdemelt elismertséggel a hátad mögött. Úgy gondolom, hogy a LXX-ik évedet elérve, már kellő tapasztalattal fölvértezve folytathatod tovább kutatásaidat. Szívből kívánok ehhez Neked jó egészséget, szeretteid boldogságát és támogatását és persze további alkotóerőt (bár abból Neked biztos van elég)!

Egy kis bibliográfia: ha jól számolom, 23 közösen írt cikkünk jelent meg, a jó-néhány konferencia kiadványt már nem számolom.

Itt most csak egy, az első számomra felejthetetlen közös „Ahá” élményünket idézném föl. Felejthetetlen marad nekem, amikor első közös munkáink során, számos vakvágány után, végre megpillantottuk a szent Grált – a tengelyszimmetrikus két-monopólus megoldást. Majd Te kiderítetted, hogy az energiasűrűség nem a topológikus nullahelyre koncentrálódik – mint azt addig mindenki nyilvánvalónak tartotta – hanem delokalizálódva, egy a szimmetriatengelyt körülvevő „gyűrű”-re emlékeztető struktúrát alkot.

Túlzás nélkül lehet mondani, hogy döntő szereped volt abban, hogy létrejött egy valóságos budapesti monopólus-iskola, melyre igen neves külföldi kutatóhelyek is figyeltek.

Bámulatos gyorsasággal és remek intuícióval éreztél rá izgalmas, de akkor még nem igazán divatba jött témákra. Így pl. emlékszem, hogy Te voltál az aki meggyőztél minket (Zalánt, Balog Jánost és jómagamat), hogy érdemes a dualitással foglalkoznunk, s úgy vélem elég sok érdekes és szép eredményt értünk el ebben a témában is.

Még most is olyan sokoldalú, elhivatott fizikusnak maradtál meg, mint aki mindig is voltál. Kívánom Neked, hogy ez akkor is így legyen, amikor majd az LXXX-ik évet írod! Végül, de nem utolsósorban azt is hangsúlyozni kell, hogy – mint barátaid – sokat tanulhatunk nem csak szaktudásából, hanem széleskörű műveltségedből, bölcsességedből és remek intuícióidból. A mai világban erre mindnyájunknak továbbra is nagy szüksége van.

Isten éltessen kedves Laci!

Forgács Péter

János Balog

Laci & Football

My contribution to this collection is about a minor matter, which was very memorable for me. Those who know him know that Laci is very fond of football. Even when working as assistant professor at Eötvös University he often played football with his colleagues. During the recent Champions League final the commentators reminded us to that legendary 1999 final between Manchaster United and Bayern Munich. It so happened that that evening Laci invited me and my wife and László Fehér for dinner. After dinner we watched the game together and Laci, after having spent several years in England, naturally supported the English side. So he was more than delighted to see that in the injury time MU first equalized and one minute later scored the winning goal.

At that time with Laci and László Fehér we were working on chiral WZW phase space. Laci seemed so deeply impressed by this spectacular match that the next day he signed his basically technical email massage to the two of us: “Hajrá MU!” (Come on MU)

Budapest, 14 June 2018

János Balog

Rafael Nepomechie

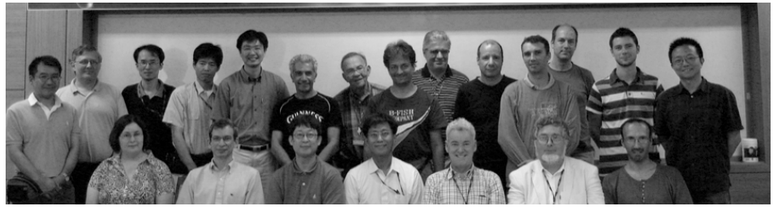
I first became aware of Laci while I was still a graduate student in Chicago during the late 70's/early 80's. At that time, preprints were still being circulated; and I remember encountering the beautiful preprints by Horvath and Palla on monopoles and Kaluza-Klein theory. At that time, Hungary was on the other side of the Iron Curtain; to me, it seemed to be on the other side of the universe. I could not even imagine ever meeting Laci or being in Hungary. So it was a great treat for me to finally meet Laci in Bologna in 1999, at one of Francesco's wonderful conferences. (It was my first time at a Bologna conference; it was particularly significant for me, since I also first met Changrim there, and we soon started working together.)

I have had the great privilege and pleasure of collaborating with Laci on a number of interesting projects, and of meeting him at conferences and workshops all over the world. Working with Laci and Zoli has also given me the opportunity to become acquainted with Hungary. (Laci may still remember my first visit to Budapest, in 2006, since it coincided with the birth of his first grandchild!)

Laci has written many beautiful papers, mentored some remarkable students, and dedicated much effort to administering his beloved Eotvos University. I wish him a very happy 70th birthday, continued good health, and many more birthdays and papers!

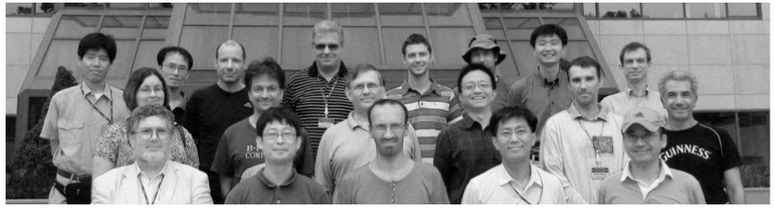
Rafael

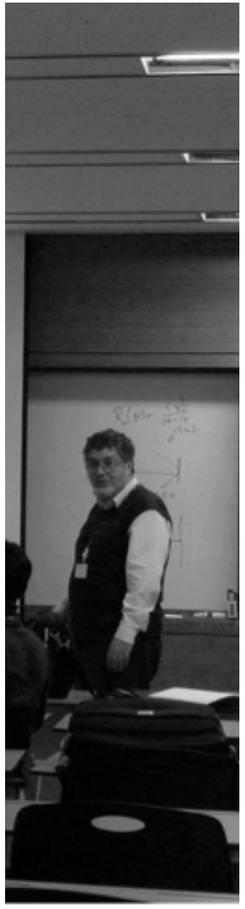
Changrim Ahn



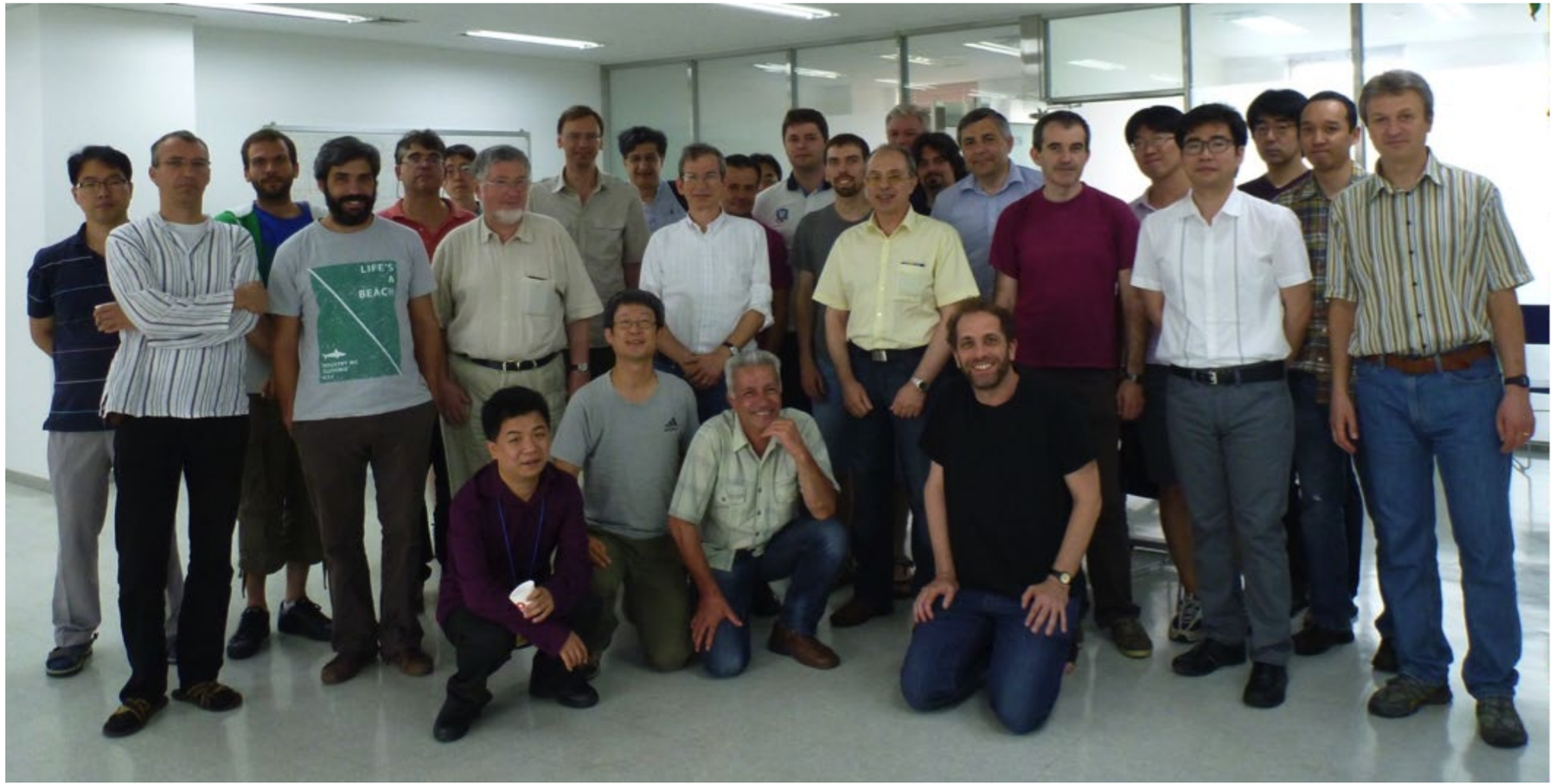
Laci in Korea

Laci has visited Korea to participate at various workshops. The first visit, as far as I remember, was in December, 2005 to attend APCTP Focus program on “Lioiuville, Integrability, and Branes” which I organized in Pohang. Laci gave a talk on boundary NLIE. After that, Laci spent a few days in Seoul and visited a few touristic places such as National Museum. I remember that he started enjoying “Shabu-Shabu”.





Another APCTP program which Laci has regularly attended is APCTP Focus program on “Finite-size Technology in Low Dimensional Quantum System” mainly organized by Paul Pearce and Chaiho Rim. In June, 2008, he attended the fourth program.
“Solving AdS/CFT” was another workshop series organized by Rafael Nepomechie and me in Seoul. Unfortunately this series can be held only twice due to the termination of our grant. Laci gave a talk on algebraic curve for Y=0 branes.
I wish to welcome Laci back in Korea sooner or later.



Márton Kormos

Laci played an important role in my formation and early career in more than one way. First, I learnt really a lot from his well-designed courses at Eötvös Loránd University ranging from Special Relativity through Weak Interactions to Advanced Quantum Field Theory. He shaped my view and approach to physical problems and I have been actively using in my research many things learnt at the Conformal Field Theory or the Solitons and Instantons course.
I remember that he often introduced some abbreviation or a slight abuse of notation by saying that "the audience is sufficiently advanced to not get confused by this." One of my favorite quotes from him is that "the great thing about mathematics is that the symbols don't know what they mean."

Second, Laci was my first supervisor. He gave me a project on the semiclassical treatment of the boundary sine--Gordon model when I was still a university student. This was an optimal project for a student: even though the topic was quite advanced and technical, I had a chance to contribute by working on the semiclassical quantization of standing solitons in the presence of a boundary and by calculating semiclassical time delays of solitons reflected by the boundary. This work led to my first publication (and so far the only one with Laci), and also won me a first prize at the National Student Research Conference.
I have always thought of Laci as my first mentor. I wish him a very happy 70th birthday!