Summer School of Science 2011, Visnjan

Introduction

I have discovered this Croatian research camp called Summer School of Science in the newsletter of the National Association of Researcher Students. At that time I had been researching for about one and a half years at Paediatrics Clinic 1 of Semmelweis University, Budapest with the help of Gergely Toldi, my teacher-coach, in the research group of Prof. Tivadar Tulassay and Dr. Barna Vásárhelyi. Therefore, it was no question that I would apply and hope to be accepted!

So I mailed my application and waited for the personal interview. Following a Skype session I received an e-mail saying that I could only participate if someone withdrew. So I was not even selected in the first round. (I asked them later about the reasons for rejecting my application and was told that I had an all-year-round opportunity to do research in a laboratory and they prioritised students who had had no opportunity to do such work during the year). Then about a month later one of the Hungarian participants had to cancel and I was able to go. As it was quite short notice, I had to start organising my trip and hunting for sponsors immediately.

I contacted the National Talent Support Council and they made it possible for me to go to the Visnjan camp. In the present study I focus on the Croatian model, comparing the Hungarian system of talent support with the Croatian one.

I.1 About the school

The Summer School of Science is a summer camp where students work in small groups of three or four on a scientific research project for eight to ten days under the supervision of their respective mentors, generally university students, post-doctoral researchers or scientists. The emphasis is on enabling the participants to make their own hypotheses as well as on learning the methodology of data collection and classification and also processing and presentation. Thus participants are given an insight into the operation of the scientific world and they learn about the methods and skills to be mastered to have a successful

career in science. Each year both natural science and technology projects can be chosen. It is important, however, that students become as fluent as possible in their selected subject matter not only in theory, but also in practice.

Individual research projects are complemented by evening lectures and workshops aiming at giving the students a comprehensive picture to take home and at giving them a chance to meet a lot of people from various scientific fields, to have discussions with them and to establish contacts that would greatly help them develop their professional life and career.

The official language of the camp is English. Although the majority of the campers come from Croatia, there are participants from other countries such as the USA, Serbia, Hungary and Israel as well. On the other hand, English is also the official language of science today: most professional journals are published in English, international conferences are held in English and the majority of summer schools also use English as the language of communication. Hence it is of utmost importance that, in addition to a general knowledge of the English language, we familiarise with the English terminology of our chosen field. And this camp is just a perfect opportunity for that!

With regard to the projects announced, it is frequently asked how much previous knowledge, research and study of the given subject matter is required. Some preliminary research is always welcome, but one can perfectly fit in without any prior knowledge. It is the project leaders' responsibility to explain everything and since each specific science covers a wider area and students dive into great depths, it is simply not possible to keep everything in mind. And if we need more information we are allowed to ask as many questions as we like.

The ability to work in a team is key not only for the time of the camp, but also in our future scientific career as it is almost certain that we will be working as part of a research team, with only few exceptions. Consequently, we must be able to present our thoughts, ideas and plans while being able also to listen to others and to pay attention to and respect our teammates and co-workers.

And now a few words about the organisation work: this year the camp received no state subsidy at all (in previous years, a small portion of the budget was state-funded). It is not clear whether this is an advantage or a drawback and even the organisers themselves differ on the issue. They are worried that being dependent on the state would require restructuring the entire camp and that would result in a totally different atmosphere. It is

also very important, however, to have sponsors: such a camp could not be operated without them. For years, one of the Croatian telecom companies, VIP, has been the sponsor of the camp and there are several other firms that try to support it, but no sponsors have been fixed yet this year due, probably, to the economic crisis. The biggest help, of course, is the volunteer work offered by the mentors and the use of the facilities of the school and the dormitory as well as the local restaurant offering discount prices for the participants, says Martina Mijusovic, one of the chief organisers.

They cannot/do not want to advertise the camp widely. The school is quite well-known and prestigious in Croatia, and it has some international contacts through which word can be spread among the students. Mentors are also asked to tell their students about the summer camp, but the most important source of marketing is the students who have already participated in the camp and would spread the word among their friendx. XLab, the famous German camp operating in a similar structure also publicises the Croatian camp on its website every year.

I.2 History of the place and the school

The camp is held annually in Visnjan, a small town of the Istrian peninsula, with a population of 625, featuring a post office, a church, some small shops, a restaurant and two cafés. It is just 12 kms from Porec, with a direct bus service. There are always participants coming from Pazin, Pula, Rijeka and Triest: Being a really small town, it is never easy to access Visnjan, but the organisers give every assistance necessary and try to find the easiest and most comfortable itinerary for us. Students are accommodated in 6- to 8-bed rooms in the dormitory by the school building. They prepare their own breakfast in the dormitory kitchen. Common lunch and supper is served for the whole camp in the nearby restaurant offering optional courses for vegetarian and other special diets on demand. Each year there are two camps held in Visnjan: s3 and s3++. Camp s3 is for students having finished their 9th or 10th grade in secondary school while s3++ is for 11th or 12th graders.

In addition, students involved in astronomy are working here on a continuous basis every summer. Actually, their camp can be considered a forerunner of the Summer School of Science. Seeing the talent in his own students Korado Korlevic, a teacher of the local primary school, thought that they would largely benefit from gaining early experience in the world of

scientific research. Thus in 1986 Korado and some of his colleagues established Visnjan School of Astronomy (VSA), an educational programme very similar to the Summer School of Science of today. They worked on a selected topic in small groups of 3 to 4 in a ten-day camp. In the evenings they would listen to the lectures given by well-known experts and present the work they had done. And such work does not end with the camp. Students return from time to time to carry on with the work they started at school.

A large portion of students with VSA experience continue with their studies in astronomy and other natural sciences. VSA and the things they learned, the atmosphere there makes a significant impact on them, so it seems just natural to them that the next young generations should also experience the same, and not only those interested in astronomy, but also the students devoted to biology, chemistry or physics. In 2001, two summer schools were established: the Summer School of Science for secondary school students and the Youth Science Camp for elementary school pupils.

The first Summer School of Science camp was organised by a psychologist from Zagreb with the assistance of Korado. Its programme was exactly the same as that of the VSA: a mixture of project work, lectures by invited experts and presentations by the students. Participants were selected from the finalists of Croatian national scientific competitions. In the first year Ana Bedalov was among the mentors and in the second year she became an organiser, too. She invited participants from Slovenia and Hungary; thus the camp became an international event with English being its official language.

The next step was to maintain the form and quality of the established camp. It has always depended on finding enough enthusiastic university students and post-doctorates volunteering to spend time and educate the participants for ten days. The next pair of organisers, Branimir Lukic and Martina Mijuskovic who were PhD students in Switzerland at the time (2004-2006) put the emphasis on creating a strong core. In order to involve as many students as possible, they expanded the programme by adding a special workshop: Swapshop – as it is called – is a half-day programme where the participants, assisted by university students, can deal with a topic different from their project chosen for the camp. That, in addition to providing a different experience for the children, also serves as a springboard for university students to use the experience for returning to the camp as project leaders the following year. Many of them have been former participants of the Summer School of Science, of course.

By that time the camp had become fully international, offering an opportunity to an increasing number of students to take part in the activities of the summer school: e.g. a co-operation was established with Hungary and the US, allowing those countries to nominate more students each year. The Hungarian organiser and contact person is Adrienn Kocsis, a medical school student who participated in the Summer School of Science in 2005. More and more students were involved as mentors, especially from among Swiss acquaintances. As the results show, the school suffered no shortage of enthusiastic organisers, mentors and participants. Ensuring the necessary equipment and material, however, has remained a problem. As the majority of the required tools were prepared or borrowed by the camp, the school had been largely dependent on the contribution and support of different Croatian and foreign research groups and institutions.

It is a great advantage of the school that it does not focus exclusively on the scientific line, but the scope of some the lectures is expanded to include 'science and society' and hence the participants gain some insight into the forms of scientific communication, its special ethics and the relationship of science and the media, etc.

With the growth of the range of options being offered and their diversity, the reputation and prestige of the camp increased and it has managed to attract more and more students. Unfortunately the number of participants is limited (at 18 to 20 persons).

By 2007, as the original camp grew big enough and its background had become established, the idea of having two summer camps instead of one had been raised. This is how the schools s3 and s3++ came to be launched for younger and 'older' students, respectively. The number of potential participants doubled and, thanks to the previous participants and organisers, the camp started to boom at an amazing speed. In that period the co-operation between France and Serbia was developed and hence French and Serbian students could apply as well. As the camp was gradually gaining recognition; support and sponsoring increased, and thus the equipment of the labs and the quality of the projects have both improved.

Educating and training the next generation of organisers is still a challenge, though. In 2009 the Organising Committee was established to supervise the operation of the school and to develop and improve its summer camps.

For the tenth anniversary (2010) both camps became international (between 2007 and 2009 only the s3++ camp was conducted in English with foreign participants). At

present, the alumni list of the camp includes approximately 150 names. A future objective is to increase that number and to contact more professors, Croatian and foreign research institutions and, obviously, to make more and more secondary school students interested in the world of science and research.

I.3 Objectives of the camp

The school is a unique place and opportunity for people with similar interests, albeit of different ages and with different backgrounds to gather and discuss, to share their knowledge and enthusiasm. The utterly friendly and open atmosphere of the camp makes the situation of both the students and their mentors really easy: the students are not afraid to ask any questions and about anything – and while at their schools their openness is often not appreciated, here such curiosity is always welcome and the mentors are just happy to see how much their students develop during the camp under their mentoring. And their relationship does not end with the camp: there are several examples demonstrating that this is a place where potential future colleagues meet for the first time (e.g. Tibor Pakozdi, who was a mentor this year with Fran Supek was first working on the project of Fran in the s3 camp of 2007). All project leaders emphasised that they would always be there and do everything to help, and that the participants were expected to contact them whenever they needed to. As for the Croatian students, this also means that through the connections developed in the camp it will be much easier for them not only to get into the elite Croatian research institutions and obtain grants and PhD assignments but, as there are several mentors currently working abroad (e.g. in Berlin and in Portugal), these acquaintances would be of great help in choosing foreign grants and PhD assignments as well. Since the project leaders work with a maximum of 4 people, each person enjoys considerable attention and the mentors are able to closely monitor the work of their students and to help them by custom-tailored assignments. That is not a general phenomenon either, and at secondary school level it happens only very rarely and occasionally.

‘Another objective is to establish an international student network that is based on the enthusiasm for and commitment to science and research, in order to pass on this passion and lifestyle to the younger generations. The Croatian model is intended to set an example to other countries as we are certain that the students who have participated in our

camp will be more than eager to check how such a facility works in their home country', says Marko Kosicek who was the chief organiser of the camp this year. And, if there is no such camp yet, they will surely start organising a similar one at least in theory, looking for suitable locations and lecturers.

I.4 The selection process

Prior to announcing the summer school, organisers have to find the right projects. But how is that done? I asked Marko Kosicek who has been an organiser of the Visnjan Summer School of Science for years. First, they approach potential project leaders to assess their personalities and decide whether they are suitable for the task. Professionally, there is never any doubt that well-prepared and committed leaders are appointed. As a first step, the organisers start looking around among their acquaintances. Parallel with their university studies, quite a few of the previous participants would be active in some form of research work (the first ones are just finishing with their PhD exams) so they are an obvious and easy first contact. Becoming a project leader is usually a multistep process: the first, or in many cases the zero, step is participation in this camp. The next step is a demonstration of their talents as evening lecturers or workshop leaders – that means giving an approximately one-and-a-half or two-hour lecture (in certain occasions accompanied by a practical session) on their subject matter or research area, followed by a debate (of unlimited length) with the students. This is the springboard to become a project leader. After that they can register and if they manage to persuade the organisers during the personal interview, they can present the project they wish to work on in the camp. The latter is entirely up to them as the organisers do not interfere with professional matters.

Sometimes it also happens that a researcher or a PhD student discovers the website of the camp and applies for the status of project leader. This obviously presents a greater risk than working with a team selected from familiar participants of previous camps or their acquaintances. This year, out of the six project leaders there were: two Summer School of Science participants; two colleagues of previous project leaders; one previous project leader; and one who was chosen from such applicants.

The organisers make efforts to choose project leaders from various research areas thus presenting a wild range of fields to the students. Among the topics there is always biology, biochemistry, chemistry, informatics and often bioinformatics, too, but they also had a project leader who was an architect.

The selection of the participants starts after the project options are announced on the website. Every applicant has to fill in a questionnaire including basic data, scope of interest and they have to write a letter of motivation. It is also possible to attach letters of recommendations from teachers and mentors. Following such preliminary screening the jury (this year the two chief organisers, Marko Kosicek and Luka Opasic) makes its decision about the participation in the camp during a Skype session held with each applicant. Here they mostly inquire about the applicants' motivations and discuss what topics they would like to work on if accepted. All applicants are notified of the decision of the jury via e-mail in a couple of days.

At least half of the participants are Croatian nationals as the camp has only been accepting foreign student since 2002 and in the first two years only Hungarians. The most important factor in selecting an applicant is strong motivation and commitment to get into the camp and work on a project! The next criterion to decide on by the committee is the applicants' ability to work hard since, as I will discuss it in the next chapter, participants are expected to work from morning to evening in the lab, the office and the computer room – and that requires perseverance as well as real physical and mental strength. The aim of the camp is to show the students what it is like to be a researcher, how the scientific world of conferences and publications operates. Thus they primarily look for students who are motivated for such a career, but do not have the opportunity to join in a research team's work. They also pay attention to accepting the application of students with different interests in order to avoid difficulties in selecting and assigning the projects. Another priority that students coming from the same country would be from different schools and be interested in different research areas. Finally, gender balance is also an important factor: in our camp the ratio of boys to girls was exactly 1:1.

As mentioned above, at least half of the participants were Croatian nationals. The rest of the participating countries have a quota of 2. This year foreign countries were represented by two Serbian, one Spanish, one Romanian, one American and two Hungarian students and one who was born in Germany, but later moved to France and now lives in Switzerland. The

number of applicants from Romania and Hungary always largely exceeds the quota (this year there were 4 students from Romania and six from Hungary applying for the 2-2 places allowed) making it even more difficult to get in.

I.5 The programme (2011 S3++)

Me and my Hungarian mate left the eastern railway station of Budapest at 6.30 am. on July 27 on board of Kvarner IC. Following several changes from train to bus and vice versa and a three-hour wait in Zagreb, we finally reached Pazin. There we were met and transported by car to the site of the camp in Visnjan where we arrived at midnight. So the journey was rather exhausting, but, retrospectively, I say it was definitely worth it and I would repeat it any time.

The camp officially opened the next day. Participants and project leaders started to arrive in the morning and the afternoon found us in the middle of a team-building exercise. We were to memorise each other's names – quite a difficult project and our Hungarian names made a real hit, too! But we were eager to pronounce all the unpronounceable Croatian names making the local students laugh a lot at our efforts! When the night fell we were all gathered and the camp was officially opened. The project leaders briefly presented the topics then we were asked to indicate our preferences using a 5-point system. It took the organisers only 30 minutes to sort us into small groups and each topic was dealt with by three or four people. Around 10 PM we had a preliminary discussion with our project leader to clarify the subject matter of our project. Five projects were announced this year: 'Bioluminescence: Can butterflies glow like Fireflies?' (Damir Omerbasic, Max Delbrück Center for Molecular Biology, Berlin, Germany): in this project students implanted various luciferase genes into an E.coli bacterium and observed if it was capable of producing bioluminescence (a chemical reaction resulting in light (photon) emission in a living organism); 'Complex Networks as a Polygon for Spreading Infection' (Alen Rakipović, FER Zagreb, Croatia): in this project a computer programme was to be created to model the spread of viruses in different models (SIR, SIS, SIRS); 'Digital Signal Processing with Application in Sound and Image Analysis' (Ivan Sovic, Rudjer Boskovic Institute, Zagreb, Croatia): in this case the students were given a video depicting a crime and by the end of the camp they had to determine, using the voice and image analysing techniques learnt there, if the perpetrator was among the suspects;

‘Mouse Genome: Secrets Revealed by Next-Generation Sequencing’ (Fran Supek, Centre for Genomic Regulation, Barcelona, Spain, Tibor Pakozdi, Jacobs University, Bremen / EMBL Heidelberg, Germany): in this bioinformatics project each student got a random sample of either a mouse heart or a kidney (they did not know which) and by the end of the camp they were to find out with the help of various databases and programmes what sample they were given; ‘Biology of Aging: Is fission yeast immortal?’ (Miguel Coelho, Max Planck Institute for Molecular Cell Biology and Genetics, Dresden, Germany): just as the title indicates the students in this project examined if immortality exists: what is the ageing process, what does it depend on and how can we describe it.

All projects were successful: the students met – and in certain cases even exceeded – the set objectives! Only one smaller accident happened: a tumbler exploded during measuring, but no one was injured. We lost some samples, unfortunately, but the measuring work could continue.

And next day the work started right after daybreak when we were woken up by the tunes of the official anthem of the camp – and at maximum volume. We could not imagine what was going on and what that awful noise was about: it was a song with silly lyrics by a Croatian performer. During the camp it was translated into eight languages (Croatian, English, Germans, Spanish, Portugal, Rumanian, Serbian and Hungarian) and the Hungarian version was even broadcasted by the national television of Croatia. We woke to this number every morning and sang it 25 times a day and, of course, we fell asleep to that as well so that we could produce a CD quality record of the song by the end of the camp.

We started our work at nine in the morning and did not stop till lunch. In the afternoon we worked from two to six, at least in theory, but in practice it was actually 6.58 when we were forced to finish as Marko, the organiser was getting increasingly tense trying to get us sit to dinner. Well, everyone was extremely enthusiastic! After dinner guest lecturers told us about their work, their area of research or about the way to organise a good lecture, to find the right mentors or research institutions. They all gave us reassurance and plenty of useful information that were useful at camp and would be useful also in our future scientific career.

So why is it important to be familiar with the processes associated with publications, conferences and lectures? Right on the second day after finishing our work we held our first presentation on the nature of our task and the progress we had made that far. We had 10 minutes to sum up our work, followed by a three-to-four minute discussion. Three days later

we had to give account again of our progress against the set objectives within similar time limits. On the last day of the camp we were able to give a full summary of our ten days' work taking up twenty minutes with another ten minutes allowed for questions. In addition, we also had to write a so-called web report by the end of the camp. We were given a complete template, one very similar to articles published in scientific journals, and we had to fill in the sum of our professional results achieved during the ten days.

Naturally, we had time for leisure, too. We were taken on a full-day excursion to have a taste of Istria. We went by bus to see the nearby towns where medieval walls are still protecting the castles and the entire settlements – just like in fairy tales! Then we were taken to a nearby beach –it would be a crime to miss a splash in the sea when one is in Croatia! After that we visited a cave. To describe the conditions I will just mention that even its entrance was like a jungle and our guide had to clear it with a knife! It was a perfect adrenaline booster and the paintball fight that followed was just a nice refreshment! It was especially useful for the group that we had to agree on a strategy and join our forces to be able to co-operate and fight the 'enemy' efficiently. By the end of the day we became a real team!

Some of the evening lectures were 'Meet your project leader' type events. Perhaps those were the most interesting ones of all. During the ten days of the camp we were working with the same leader and inquired about his/her current assignment and the progress he/she made in his/her scientific work. And, of course, we tried to develop our relationship with other participants and leaders during the common lunches and dinners. But when we saw our own leaders standing up and talking with such enthusiasm and commitment about their current research or their lives, about how they became a researcher, why they picked their actual field, what their plans for the future were or how they evaluated their work so far gave us enormous strength. We heard a lot of good advice and learned to really appreciate them both professionally and as private individuals and thus we grew much closer as well.

After all the project leaders held their presentation, we sat down for a round table discussion. Marko, the chief organiser, led the discussion and we could ask questions and raise problems and the project leaders answered them both individually and jointly, trying to help us.

Every evening, as I mentioned before, we had guest lecturers talking about all kind of topics from chemistry (using the material produced during the decaying processes of plants for medical purposes) to medicine (the way medicines are entered into clinical practice), physics

(coilguns) or astronomy. And one evening we had a very interesting Skype session with Aubrey de Grey who told us about the process of aging, its definition and philosophy and we also learnt a lot about him as a professional and as a private individual as well. And I must say it meant a lot more to me than a professional lecture in itself. Without seeing the human side it just cannot be fully authentic.

We could participate in more than one workshop. One was entitled “The Wonderful World of Magnets”: unfortunately I had to miss it because I have medical metal in my body and thus the 1.3 tesla magnet my mates worked with was too dangerous to my health. But I had contacted the leaders of the workshop (Neva Margetic, Petra Milasin) and they promised to send me the videos and the questionnaire related to the experiments they had performed. At another workshop the brave ones could try a lie-detector – with quite surprising results (someone was a vampire, a criminal and Hello Kitty at the same time), then we were shown how fingerprints were identified even from tiny fragments in the forensic institutes. The latter workshop was held by two camp organisers: Nino Antulov Fantulin and Luka Opasic. In the evening three young people (Dunja Potocnik, Dejan Vinkovic and Igor Miklousic) conducted the ‘Science and Society’ workshop investigating issues such as how the scary image of professors full of prejudices was developed (e.g. Dr Jekyll and Mr Hyde, Frankenstein, Dr Evil, etc.). Fortunately the situation is improving thanks to the widely available television and internet programmes. The reality behind typical misbeliefs and superstitions and telepathic tricks like those by Uri Geller, and their relationship to science, their impact on how the scientific world is viewed by the public were also discussed. It is not surprising that the lecture was followed by many questions and disputes and many of us tried out in practice the spoon tricks that had seemed so inimitable before. Due to the subject matter of the lecture, attendance was restricted to those over 18 or, in case of minors, parental consent was required.

After many lectures, workshops and plenty of work the last evening arrived when we could all give account to our mates, project leaders and, not least, to ourselves of the progress we made during the ten days. Every team achieved fantastic results and held quality presentation. In the meantime, web reports were prepared and they will be published on the official website of the camp (http://s3.sci.hr/). And what is a must after such a tough week full of hard work: the farewell party. Dancing, chatting, karaoke, pancakes and all the good things imaginable. And although this time it was not mandatory, we volunteered to

sing the official anthem of the camp as a farewell song over and over. Our farewell went from crying to laughing and the other way round when we finally had to leave the camp at four o'clock in the morning as our train was departing early from Rijeka. There were plenty of hugs and promises to return next year and to visit each other until then, anyway. We did not even want to come home – especially being aware of the long journey ahead of us. On our way home we did not have any problems, and although there were fewer changes and waits it was still evening when we finally arrived. Soon after the 'Summer School of Science s3++ 2011' Facebook group was created and has been increasing ever since. Everyone checked in and reported having arrived home safely and missing each other very much. Next meetings are organised and there is definitely no shortage of potential countries: Croatia, Rumania, Spain, Serbia, the USA or Hungary. This is going to be another memorable year if we manage to maintain these contacts.

Camp organisers pay attention to providing forums where contacts can be maintained in the future. That is why S3Net, an Internet portal available only in Croatian at the moment, was created. It contains the latest scientific and educational news as well as interviews with and blogs of students, scientists and researchers. Any applicant, regardless of acceptance, automatically becomes an active member of S3Net. Thus the organisers are able to provide everyone interested with something useful. Anyone can share articles and register to projects or ask questions about scientific and other matters.

On the other hand, the Summer School of Science also has an English language Facebook page featuring pictures, videos and the latest news of the school. During the camp this site was updated daily with actual programmes, events and some funny stories. Here the participants can also keep in touch with each other.

In addition, there is an event organised every year in Zagreb, Croatia, around Christmas called the 'Annual S3 Reunion' where participant of the previous camps can meet with the mentors and organisers and share their new plans and forecasted projects and have fun together, of course!

I.6 Talent management in Croatia and in Hungary

So, year after year, 18 to 20 students can spend an unforgettable ten days (or two times 18 to 20 students to be exact as there is not only camp s3 but camp s3++ as well) with their mentors and organisers here in Visnjan, a town with an Italian atmosphere. The camp's operation is based entirely on volunteering by both the mentors and the organisers. The students have to pay the registration fee on their own or find some grants to allow them participate. The organisers assist the Croatian students obtain the necessary funding upon request, while foreign students may ask them to write a certificate or a request to make it easier for them to participate. So far, the obligation to pay a registration fee has not stopped any student from getting to the camp.

Although there are more summer schools like this one in Croatia, there is no state-controlled talent support in the country. Smaller organisations exist that make all possible efforts to manage young talents and support them but, as I mentioned before, there is no state subsidy to be taken for granted. So talent management is mainly carried out by summer schools and camps in Croatia. In Hungary, on the other hand, science-oriented students may select the leader and topic of their choice from a list of almost 1000 mentors thanks to the National Association of Researcher Students, the National Talent Support Council and the Hungarian Genius Programme and can work on various projects at their secondary schools, prestigious universities or research institutions. A camp like this, however, does not exist in Hungary. Every year a camp very similar to the Summer School of Science, called 'KutDiák' is held in Káptalanfüred with several invited lecturers, but there is no specific project designated to work on for a week or ten days. I have asked the organisers if they plan to set a system similar to the one operating in Hungary (mentoring, National Association of Researcher Students, National Talent Support Council): the enthusiasm is given and there are numerous tiny organisations trying to recruit volunteers and create the basis of talent support, but in order to achieve such a goal the state must realise its significance and ensure the necessary time, place and money. So it is not achieved yet but there are efforts made in the direction.

As I mentioned before, there are no camps like this in Hungary. Naturally, as soon as I got home I started to think about how such a concept could be adopted in Hungary. There are plenty of locations in the country where it could be easily realised. We have several well-known professors who would be more than happy to support such young people voluntarily as they have done before. I am assured that they would carry on supporting such an idea!

There is a secondary school in the capital city of Hungary that operates as a talent management centre, with a dormitory and an equipped laboratory located in the proximity of reputable technical and medical schools. And there are country towns as well, such as Debrecen, Szeged, Pécs, Eger capable of providing similar quality conditions for education and research purposes. I believe it is worth giving a try to this concept in Hungary and see how it would work here. As a first step we could start it at a smaller scale: e.g. we are planning to launch a regional "research centre" in the Budapest ELTE Apáczai Csere János Gyakorlógimnázium for both arts and sciences oriented students. Once a month or bimonthly we would invite lecturers to discuss predetermined topics and perhaps organise labour practice for natural science oriented students. And it would be great to close the school year by announcing a camp similar to the Croatian Summer School of Science for the interested students where they could work on the topic of their choice for a week or maybe ten days. And if we receive positive feedback we could develop it into an international camp. The contact network allowing me to get in touch with mentors who are amazing both as professionals and as private individuals is already formulating. As a zero step, of course, I would like to return to Visnjan as a workshop or project leader, or perhaps an organiser to see the 'other side' of the camp as well.

I.5 Acknowledgements

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