

Education

IRIS 2020: moving to the virtual space: IRIS Slovakia 2020 digital – the first step to the on-line arrangement.

Ljuba Bacharova^{1,2}, Dominika Komarova², Tomas Hromadka², Allan Bohm²

¹International Laser Center

²Premedix Academy, Bratislava Slovakia

It has been 15 years already since we started the courses on “How to do research” that developed gradually into broader activities of the International Research Interdisciplinary Schools (IRIS) (1). Over the years, the program has been optimized to address the needs of trainees, and to create a motivating and creative training environment.

The goals of IRIS courses focus on developing skills to carry out research projects, based on a practical, problem-based approach, on increasing communication skills, including the skills in argumentation, negotiation and critical appraisal, on developing skills in international research team building and networking, on establishing enjoyable cross-discipline/cross-cultural collaboration, and on encouraging researchers to publish scientific papers. Last but not least, an important effort of IRIS activities is to build an international network of young researchers and mentors in biomedical research, as well as to develop and support national research capacities and activities (1).

One of the major strengths of the IRIS program is the intensive personal communication and interaction between the faculty and participants, as well as between and within the training groups.

However, the year 2020 has been a very special one. On the one hand, we have built on our 15 years of experience, on the other hand, we have had to face all the new conditions and restrictions related the COVID19 pandemics. The solution was to move to the virtual space and to utilize *ad maximum* the possibilities of on-line communication. This paper summarizes our first experience.

The planning and the organization of the IRIS 2020 courses differed substantially from the usual scheme. As usual, the planning and organizing started in the

second half of 2019 when the potential locations of the IRIS 2020 course were selected. This “pre-COVID-19 period” included the end of the year 2019 and the beginning of the year 2020, and covered routine organizational tasks, such as the selection of the locations, fundraising, faculty invitations and recruitment of participants. However, the outbreak of the COVID-19 pandemics at the beginning of the year 2020 changed the preparation of IRIS considerably and it took different direction and speed considering many aspects of professional as well as personal lives (2).

The IRIS 2020 Slovakia was originally planned for the beginning of September 2020. The restrictions after the first wave were freed during the summer, however the COVID restrictions and the transition to the on-line management influenced all aspects of planning, preparation, and of course the program as well. It was decided that the IRIS Slovakia 2020 would be in a great part on-line, a combination of personal and on-line participation – IRIS digital 2020 Slovakia. The personal part of the course was held in Mojmirovce, Slovakia, September 11-16, 2020, with on-line participation of the foreign faculty and foreign participants.

The planning had to consider the limitation in travelling for both the faculty and participants, these restrictions were introduced by national governments but also by individual organizations, e. g. universities or hospitals. The IRIS strength is the international faculty, for the IRIS Slovakia the invited faculty were from the USA, Australia, Ukraine, Poland, Kyrgyzstan and Slovakia, with different national COVID-19 related restrictions. It was decided that only the Slovak faculty would be present in Mojmirovce, while foreign faculty will be connected on-line.

Address for correspondence: Ljuba Bacharova, International Laser Center, Ilkovicova 3, 841 04 Bratislava Slovak Republic. Phone: +421 905 401 634 E-mail: bacharova@ilc.sk

Received: 17.10.2020 **Accepted:** 17.11.2020

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The list of participants included participants from Slovakia, Czech Republic, Egypt, Poland, Ukraine and Russia. It was decided that the Slovak and Czech participants (the total number 12) would be present in Mojmirovce, and the participants from Poland,

Ukraine and Russia would connect on-line as “observers”. The total number of 19 observers was connected, creating a mixed group of previous trainees, new and potential participants, and/or stakeholders of the IRIS initiative.

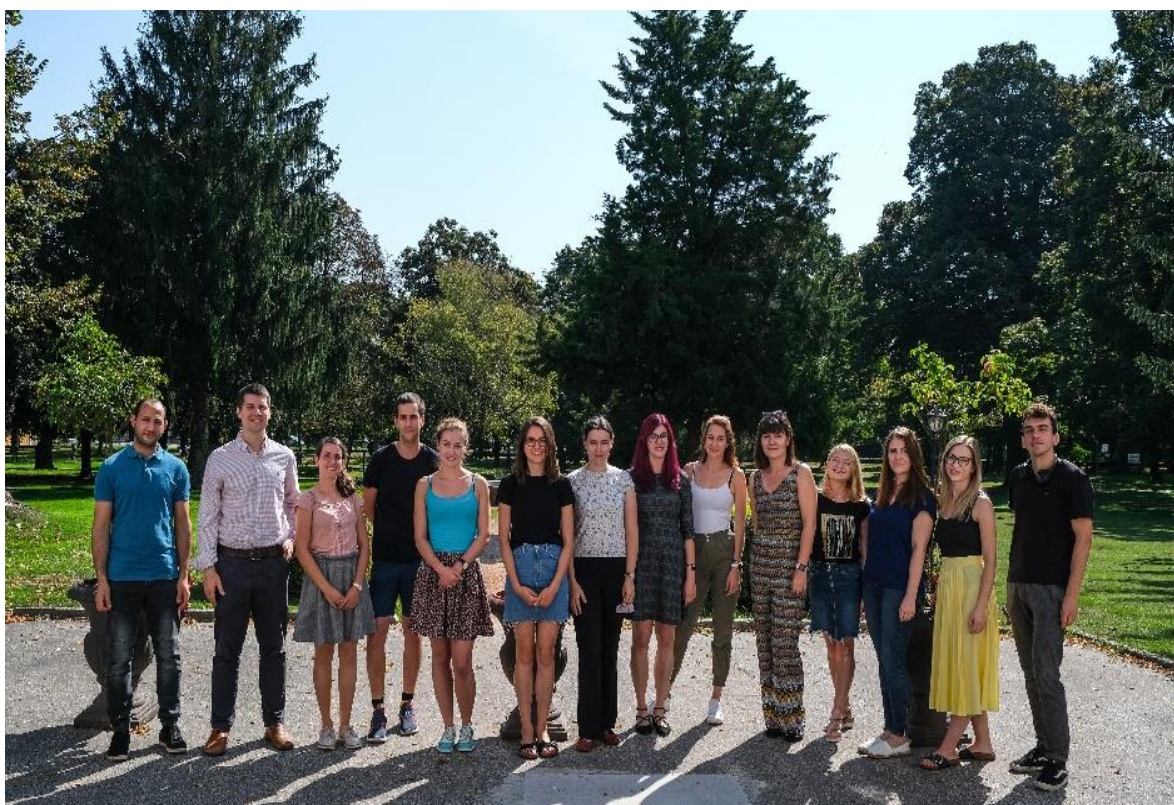


Figure 1. The participants in Mojmirovce park

The changes in the arrangement required corresponding changes in the budget. While a considerable portion of the original budget was allocated to travel costs, especially for the foreign overseas faculty, as well as costs for accommodation and meals for faculty and participants, the re-arrangement required increased costs for the technical and communication support. These budget changes had to be negotiated and agreed with sponsors to fit their funding schemes.

The preparation period also required planning of a robust technical support for the communication. It included selection of a suitable software platform (the decision was on ZOOM), training of personnel, and ensuring an adequate Wi-Fi connection at the place. The IRIS Slovakia 2020 was organized by the non-governmental organization ACADEMY, representing a

group of enthusiastic young researchers, and allowing efficient and flexible management. It needs to be also stressed that for the first time the IRIS course obtained the CME accreditation as an educational event for physicians by the Slovak Medical Association.

As already mentioned, the IRIS program is based on intensive personal interaction between participants and faculty, as well as intensive communication within groups and between groups.

The communication between the participants and the faculty that were present in person went on the standard way. Additionally, it was necessary to enable, encourage, and moderate the communication with on-line participants/ observers and faculty.

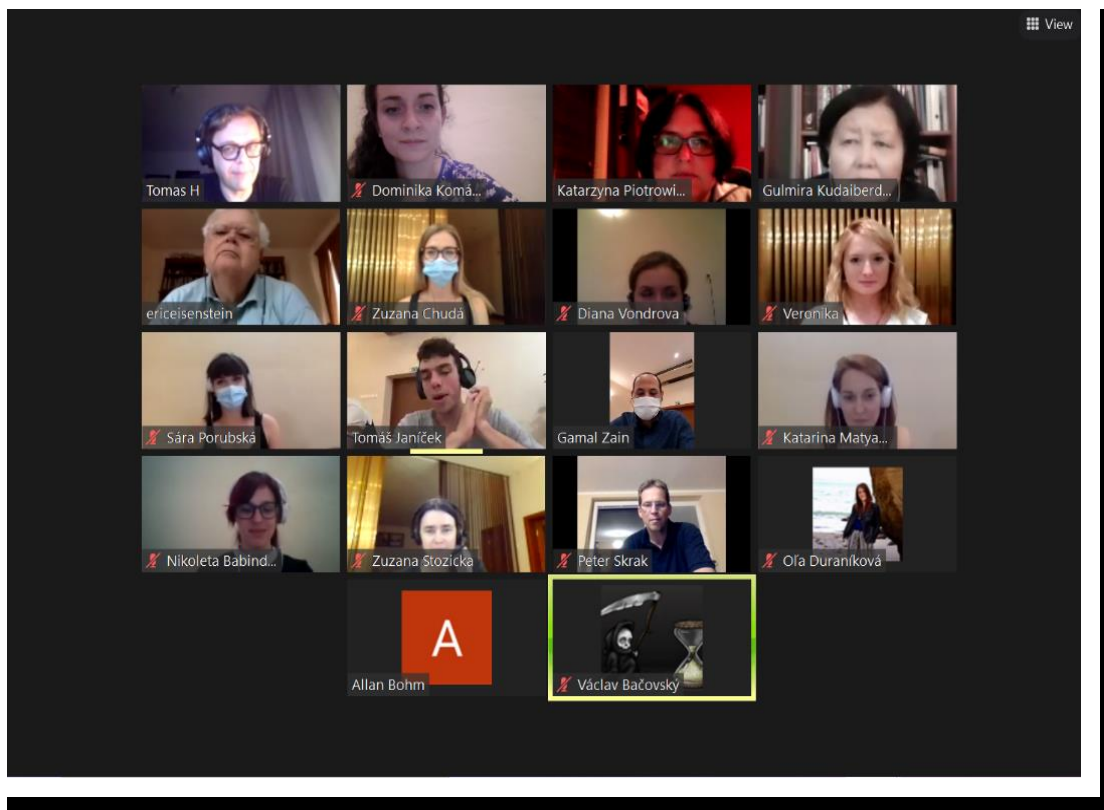


Figure 2. The on-line discussion

The international faculty was from all over the world, and ensured a broad spectrum of views the participants were exposed to. The faculty included Eric Eisenstein (USA), Gulmira Kudaiberdieva (Kyrgyzstan), Katarzyna Piotrowicz (Poland), Jonathan Lipton (Australia), Mykhaylo Sorokivskyy (Ukraine), Allan Bohm, Tomas Hromadka and Peter Skrak (Slovakia). On the other hand, it was necessary to consider and manage the time differences when securing the number of faculty for individual workshops and daily discussions.

The program was introduced by Peter Skrak, who shortly presented the history and goals of IRIS, then Allan Bohm introduced the Academy, a non-governmental organization which organized and managed the course.

At the beginning of each workshop short tutorials were presented:

-Workshop # 1: Jonathan Lipton: Introduction to research proposal;

- Workshop # 2: Gulmira Kudaiberdieva: Research design and methods I: Study population and outcomes;
- Workshop # 3: Katarzyna Piotrowicz and Peter Skrak: Research design and methods II: Data collection and analysis;
- Workshop # 4: Eric Eisenstein: Research administration.

The faculty members were assigned to follow development in the groups and served as consultants when the participants were working in groups.

The participants who were present in Mojmirovce were divided into three groups, and these groups were completed by inclusion of on-line participants. Fortunately, regarding the participants and observers, the maximum time difference was 1 hour (compared to the time differences between the faculty members, e.g. -6 hours for USA and 9 hours for Australia).



Figure 3. Working in groups

The important part of the course was the feedback from the participants, especially if such as a substantial change in the arrangement was introduced. In their evaluation, the general quality score on the 5-point scale was 4.5, and the international faculty score was 4.7.

The participants summarized also the main challenges identified during this pilot semi-on-line arrangement, namely:

- To reconsider the extent of the daily program, such as the earlier beginning of sessions,

- Since the program is very demanding, to extend the duration of the course,
- On the other hand, there was a recommendation to reduce the time for discussion,
- To reduce the technical problems with the communication;
- To attract / involve the on-line participants to the discussion,
- To devote more time to understand statistics,
- To keep the timing for discussions,
- To invite more participants with basic research as well as non-clinical backgrounds.

A special evaluation was related to the international faculty:

- Highly qualified professionals with diversity of nationalities, diversity of professional backgrounds, well trained in mentoring young researchers, showing the way how to proceed from an idea to a formal project,
- Faculty was careful in providing answers and solutions, but rather were leading the participants to solutions, encouraging them to think deeper about the problem, and showing the way to solve the problems,
- A personal contact would be more appreciated, - limitations due to on-line communication

In the overall evaluation, the benefits of the course were dominant:

Eva Dusicka, Slovakia:

"I really enjoyed working in the group with people from different fields. I again learned how important is sometimes to reconstruct our ideas from the very beginning. I would recommend this to scientists that either do research "on some populations" or have interest to do so".

Gama Zain, Egypt

"For me it is good chance to learn the basic steps for writing and management a project proposal. Yes. I will recommend young scientist to attend it as it is really a good chance for learning. I think no other chance I have been attended for practical learning and creating of such cooperation like IRIS".

Zuzana Stozicka, Slovakia

"I think IRIS school was a good experience. I appreciate the possibility to see what is important for senior researchers and journal editors in the process of project creation. My particular weakness is communication and teamwork – which can be improved only by practice. Working with participants from various backgrounds was demanding as well as enriching for me. I thank organizers for the chance to join IRIS and would recommend the program to everyone who wants to get a flavour of research".

Tomas Janicek, Czech Republic

"At IRIS I gained the unbreakable spirit and some new friends. For primary researchers out of field of medicine is hard to recommend this course since its really far from what I personally do. However, to anybody more in medical field and applied science I would recommend this course. I think it is good to push yourself sometimes and this definitely did so".

Natalia, Russia

"First of all I would like to thank you for inspiration. After this school, I think that I can ask right questions to create research more clear. Thanks for sharing materials. I hope I'll can participate in the IRIS program next year. I will advise this program for my work colleagues, because I saw that during several days you have opportunity to involve in group of dedicated science people and receive real practical advices for further researches".

Vaclav Bacovsky, Czech Republic

"I would appreciate to inform also the participants before arrival, what the course is specifically about. This is simply because IRIS, as I saw, was focused more on clinical practice and clinical tests. The primary/hard science is quite different from the applicative science and the project proposals have different form. Therefore, it would be more beneficial to have people with similar education and job. Otherwise, the IRIS was great and for the people from clinical trial was more than beneficial. For me, the greatest outcome was the experience of such intensive school and to see, how scientists and doctors think in the clinical trials. This, I believe could be helpful in the future".

Diana Vondrova, Slovakia

"I have learned new approaches of how to think critically and more deeply about science, how to design scientific research and how to join ideas from the different fields of science. I would recommend this school to young scientists, who are in the beginning of their scientific research, but also to the older scientists to improve their skills".

Katarina Kulihova, Slovakia

"I would recommend program, participants gain skills for scientific work and for me it was also about teaching skills, because in Slovak schools we are used just to passive listening and in hospitals usually it is about self-studying, so I think this is the way and I hope for more programs like this, I have big plans myself".

Peter Snopek, Slovakia

"I attended IRIS school in 2019. Great experience" We worked in a small group of 5 people. We discussed about problem, tried to find a best solution. Our faculties helped us how to do things. We could also improve our English. We presented our work before an audience".

Iana Andreieva, Ukraine

"I got a lot of practical recommendations for me about publishing the results of the study, collaborations with international specialists. I'm going to recommend this school to my colleagues, especially those who just start their scientific careers".

We appreciated the comments of **Professor Lubica Lacinova** from the Slovak Academy of Sciences, who participated as an observer: *"I did like the approach and I think it should be offered to our PhD students on a wider basis - which means, we need more trainers also outside of the field of medical sciences."*

Summarizing, in this "semi-on-line" arrangement, the main characteristics of the IRIS courses were maintained, namely:

- internationality – faculty as well as participants;
- interdisciplinarity – basic as well as clinical research;
- interaction – although partially limited as compared to personal interaction.

It can be concluded that current technology provides robust tools for on-line communication and is already

widely available. It extends the possibility for inviting participants and faculty from very different and distant countries without requiring travel costs and administrative barriers. Naturally, it requires good quality technical support. Important organizational aspects are a well-organized time management to harmonize time differences, and effective moderation and facilitation of interaction and discussions,

Two main question arise in relation to the current (and probably future) epidemiological situation: What aspects of the IRIS program are suitable to conduct on-line? How to maintain the main benefit of IRIS courses – the intensive interpersonal interaction? The technical communication possibilities are fascinating, and we are sure that we will find the answers with the aim to support the personal development of young researchers and to continue in building effective national and international networks.

Conflict of interest: None to declare

Peer-review: Internal

Authorship: L.B., D.K., T.H. and A.B. equally contributed to preparation of manuscript and fulfilled authorship criteria

Acknowledgement and funding:

We thank the main sponsors for providing funding for the IRIS 2020 Slovakia: Pfizer and the Visegrad Fund. We appreciate not only their financial support, but also their understanding and continuous interest in supporting the education and training of young researchers.

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Ala-Archa gorge, Kyrgyzstan. Aliya Kadyrova, Bishkek, Kyrgyzstan