# Building network for enhancement of scientific/research literacy: The Scientific Summer School 2009 in Szczepanow, Poland

## *Bilimsel/araştırma bilginin arttırılmasına yönelik ağın kurulması: Bilimsel Yaz Okulu, 2009, Szczepanow, Polonya*

This year, already the 6th international Scientific Summer School was held in Szczepanow, Poland, from June 29 to July 3, 2009. It related successful series of international Scientific Summer Schools (Slovakia 2006, Turkey 2007, Slovakia 2008, Macedonia 2008, Croatia 2009) dedicated to the development of skills to carry out research projects, based on a practical, problem-based approach (1-3).

The international Summer Schools are a common initiative of the Journal of Electrocardiology, the Anatolian Journal of Cardiology and the Croatian Medical Journal. The Summer School 2009 in Poland was organized in a close collaboration with the University of Wroclaw, and the vice dean Professor Malgorzata Sobieszczanska selected a perfect location in a beautiful environment in the country side close to Wroclaw. During the Summer School, both participants and faculty had a chance to work in a beautiful countryside, and also felt really welcomed and appreciated by the organizers of the event.

The Summer School, organized as a 4-day workshop, provided an interdisciplinary international environment for training skills required for preparing research study protocols, scientific manuscript and international collaboration. During four days, the participants experience a process of elaborating and presenting common research project. This process includes defining a research topic of common interest, selecting an adequate study design, selecting an adequate method of data collection, analysis and interpretation, and developing a feasible study plan and timeline for the project, including the preparation of a research paper.

The program used project-based learning experiences to enable participants to experience a development of a research study protocol in a supportive environment, and consisted of 4 workshops:

**Workshop 1:** Study objectives and significance: why is this particular scientific problem important, what is already known, and what specific hypothesis will be tested.

**Workshop 2 and Workshop 3:** How to design the study to address the specific scientific problem with respect to the study population, what predictive and outcome variables will be the most informative and appropriate, and how the data will be collected and analyzed.

**Workshop 4:** Research administration: how to manage the study to make it doable.

Each day included two different types of activities: working in groups and common discussions. Combining these two activities, the summer school introduced the participants to other aspects of doing research that is the particular scientific field, and to other teaching methods.

After a short introduction to the particular workshops, the participants were working in groups and developing group projects. In the process of selection of the topic, and proceeding through the workshops, they experienced a range of skills such as team building, negotiation, argumentation, motivation, interpersonal communication, solving research dilemmas, the practical application of theory and many others. The general applicability of these skills provided a perfect complement to the specialized scientific topics of the projects. The study protocols of three projects were prepared during the Summer School:

1. The role of `first contact thrombolysis` in improving the endpoints in patients with STEMI;
2. The relation between atrial fibrillation and duration of hemodialysis;
3. The effect of home monitoring on mortality in patients with ICD.

During the common sessions, the groups presented their progress in the study protocol development, and the common discussions promoted active exchanges among the faculty and participants, and a detailed feedback was provided both from the other participants and the faculty. These sessions were particularly interesting, they promoted a learning environment in which participants could reflect on their own process of a research project development and develop skills in international research team building and networking, and establish enjoyable cross discipline/cross cultural collaboration.

**Figure 1. First row: Ljuba Bacharova (Slovakia), Joanna Gawlowska (Poland), Helena Vargova (Slovakia), Daria Kucinska (Poland), Rawa Aziz (Iraq/ Sweden). Second row: Galen Wagner (USA, Ioana Mozos (Romania), Ugur Mert (Turkey), Vitor Hugo (Portugal), Kerem Temel (Turkey), Jozej Rybar (Slovakia). In squatting position at the front: Nina Hakacova (Slovakia)**

**Address for Correspondence/Yazışma Adresi:** Ljuba Bacharova, MD, PhD, MBA, International Laser Center Ilkovicova 3 814 04 Bratislava, Slovak Republic
Phone: +421 2 654 21 575 Fax: +421 2 654 23 244 E-mail: bacharova@ilc.sk

The Scientific Summer School in Poland attended nine participants from five countries-Poland, Portugal, Slovakia, Sweden/ Iraq and Turkey. None of the participants spoke English as the first language, and so there was an opportunity to hear a variety of accents and levels of vocabulary, resulting in a strong motivation of participants to develop further their language skills. Since they came from so many different backgrounds (personal and professional), it was possible to learn much about the scientific world and the life in different countries. A natural plus of such a diverse group was the great opportunity for networking.

The Scientific Summer Schools have common background, they are based on the training module used for Duke University pre-graduate and post-graduate training of students (4). However, each Summer School is modified based on the previous experience, and tailored according to the needs of participants and the local organizers.

The Summer School 2009 in Poland was specific in the providing the opportunity for the junior faculty. Nina Hakacova has been advancing from the role of a participant of the Summer School 2006 in Slovakia, through the facilitator role in the Summer School 2007 in Turkey, the co-organizer of the Summer School 2008 in Slovakia, to the faculty role at Summer School 2009. Thus this Summer School was directed by Nina Hakacova (Slovakia, currently at the Lund University Hospital), and assisted by senior faculty Galen Wagner (Duke University, Durham, NC, USA) and Ljuba Bacharova (International Laser Center, Bratislava, Slovakia). According to her experience, proceeding from the role of participant to the role of the faculty of the Scientific Summer School, the most interesting and demanding development is to move from the didactic way of teaching/ learning and from the tendency to provide answers to participants to the moderation of discussions and facilitation of the process of developing the projects by asking proper questions.

**Figure 2. A bird view of the historical center of Wroclaw**

**Figure 3. During common discussions**

**Figure 4. Working in groups**

The Anatolian Journal of Cardiology has been playing an active role in this initiative from the year 2007, when the Scientific Summer School was held in Silivri, following the XXX International Congress on Electrocardiology in Istanbul. Since then, the Journal works systematically to transfer this innovated way of teaching to Turkey. Professor Bilgin Timuralp and Professor Gulmira Kudaiberdieva joined the faculty of the Scientific Summer School 2008 in Slovakia. Two Turkish physicians from the Eskişehir University Uğur Mert and Kerem Temel participated at the Summer School 2009 in Poland and we are looking forward to seeing them as co-organizers and facilitators at the next year Summer School 2010 in Turkey.

**Ljuba Bacharova, Nina Hakacova**
**International Laser Center, Bratislava, Slovak Republic**

## References

1. Bacharova L. The Scientific Summer School in Slovakia Liptovsky Jan, June 20-25, 2006. J Electrocardiol 2006; 39: 437-9.
2. Bacharova L. The Scientific Summer School in Turkey 2007 Istanbul - Silivri, June 30-July 5, 2007. Anadolu Kardiyol Derg 2007; 7: 360-2.
3. Bacharova L, Kirchnerova J: Continuous international network building to promote scientific publication: Scientific Summer School, Pezinok, Slovakia, May 25-30, 2008. Anadolu Kardiyol Derg 2008; 8: 319-21.
4. Davis TH, Wagner GS, Gleim G, Andolsek KM, Arheden H, Austin R, et al. Problem-based learning of research skills. J Electrocardiol 2006; 39: 120-8.