

In memoriam

In Memory of Professor Galen S. Wagner M.D., Ph.D. (1939 - 2016) – our mentor, colleague and friend



Galen S. Wagner, M.D. Clinician-Scientist, Mentor and World Renowned Electrocardiologist

Galen Wagner was a passionate and tireless clinician-scientist and mentor, devoted father, husband, loyal friend, and colleague.

Galen Wagner was born in Connellsville, PA, on December 25, 1939. He started his professional career as an Intern-Resident in Medicine at Duke University Medical Center Durham, NC, (1965-67) and Cardiology Fellow (1967-1970). Duke University served as his place of work throughout his entire professional life where he served in a variety of leadership roles. Being active as the director of the Cardiac Care Unit of the Duke University Medical Center (1968-81), he was instrumental in leading the development of the world renowned Duke Cardiovascular Databank. He was deeply involved in research and mentoring students as the Associate in Medicine, Duke University (1970-72), Assistant Professor of Medicine, Duke University (1972-76) and the Acting Chief, Cardiovascular Division, Duke University Medical Center (1976-77), and the Associate Professor of Medicine, Duke University (1977-2016). He received an honorary Ph.D. from Lund University in Sweden honoring the extensive mentoring Galen volunteered to both students and colleagues alike in international research.

During the years (1977-82) he was Director of the Duke Cardiology Fellowship Program and Assistant Dean of Medical Education. He was a founder and Co-Director of the Duke University Cooperative Cardiovascular Society (DUCCS) (1986-97) and Director (1997-98, and 2003-08). DUCCS is a

consortium of current and former Duke Cardiology Fellows, researchers from many institutions worldwide, and industry sponsors.

His remarkable ability to connect researchers in different countries working on related topics has led to two invitational Research Symposia including: the STAFF Symposia focused on myocardial ischemia and the MALT Symposia focused on cardiac imaging. Both symposia have been held every 1-2 years for the past 2 decades, bringing together physician-scientists, biomedical engineers, and researchers in industry.

Galen leaves a legacy as clinician-scientist, mentor and friend that spans many countries and numerous publications. He was an author on 701 published manuscripts, 8 books, and for the past 11 years, has been the Editor in Chief of the Journal of Electrocardiology. He has also been on the Editorial Boards of Circulation and the American Journal of Cardiology. But the professional activity perhaps most important to him has been the mentoring of young research investigators. He has mentored 36 Ph.D. students in 8 countries (Sweden, Denmark, Spain, the Netherlands, Scotland, Germany, Slovakia, and the United States) as well as hundreds of medical students, residents, and Cardiology Fellows over the past 48 years.

He was instrumental in helping establish the International Research Interdisciplinary School (IRIS) that offers research programs in countries throughout the world that has been ongoing for already eleven years. In the period from 2006 to August 2016, seventeen IRIS courses were organized in ten countries on three continents.

Galen Wagner was present in all courses – either in person or via Skype. As the Editor-in-Chief of the Journal of Electrocardiology he encouraged participants to write and submit manuscripts to scientific journals, explained how to benefit from reviewers comments and involved participants as reviewers for the Journal of Electrocardiology, stressing the review process as a tool to develop further critical thinking, and also to improve one's own writing.

Galen combined passion and intensity with unusual modesty about his own accomplishments, giving credit to others' achievements. He was a world-known scientist in electrocardiology and cardiology who trained directly and indirectly thousands of physicians around the world. Galen's legacy is amazing and expressed in so many ways by his textbooks, excellent research, leadership at the Journal of Electrocardiology, by his inspiration for so many clinicians and researchers. We promise to continue in the IRIS mission and develop further these international courses, to utilize this unique program.

Marilyn Wagner, Laura Wagner, Chris Wagner, Samuel J. Bell, Brit W. Nicholson, David G. Strauss, Stafford Warren, Ole Pahlm

The Research Practicum and International Research Interdisciplinary School (IRIS) initiatives - The tribute to Galen S. Wagner

The idea of the IRIS courses started during my first stay in Durham, NC, when I came to Durham, NC for a 14 days stay in the editorial office, as the newly assigned executive editor of the Journal of Electrocardiology.

In addition to the editorial experience, I had the privilege to participate in Galen's daily mentoring of both Duke and international students. It was very different from the didactic methods I had experienced before, and very effective. I also had an opportunity to attend one of "the Research Practicum" workshops for Duke University students, developed by Galen and Dr. Eric Eisenstein.

The original course began in 2000 when clinical leaders at NorthEast Medical Center, Concord, North Carolina asked Galen to help them learn about outcomes research. Over the next few weeks Galen collaborated with Eric Eisenstein to design a core curriculum. This work was guided by Galen's understanding of Mortimer Adler's Paideia Proposal (1). In this book, Adler proposed that there are three types of learning: knowing what, knowing how, and knowing why, and that each type of learning is associated with a different type of teaching. Galen believed that outcomes research training should be directed to the acquisition of skills in designing and conducting outcomes research studies (*knowing how*) rather than the acquisition of facts about outcomes research (*knowing what*) as frequently occurs in

traditional outcomes research training. Since skills are taught by coaching, the curriculum evolved into a series of four coaching workshops, each based upon a standard question set that was used to help participants develop specific aspects of their research projects. Given the time constraints of busy clinicians, Galen and Eric decided that each workshop should be no more than 2 hours in duration with a maximum of 20-25 participants and 4-5 project teams. The curriculum did not have formal lectures and there were no required reading materials. Rather, Galen and Eric sought to create a highly interactive environment that would tailor the curriculum to the needs of individual project teams (2).

Over the next five years, Galen and Eric gave the course in person to clinicians at several North Carolina health systems, and to faculty, fellows, residents, medical students and undergraduates at Duke University. They also conducted video sessions with faculty and students in Arkansas, Massachusetts, France and Sweden. During this time, they experimented with the curriculum by adding taped lectures, increasing the number of students and projects, and compressing the training into two workshops. Each of these experiments was unsuccessful and further convinced Galen and Eric of the validity of their original curriculum design.

What impressed me strongly, in addition to the teaching and coaching methods, was the focus on the “Significance of the Study” as the first item in developing a research study protocol - i.e. the convincing reasoning why the study has to be performed: what new knowledge is expected and why it is important to obtain this particular knowledge. In other words: what problem will be solved? It covers at least two aspects:

- Identification and understanding the problem and its importance – the student’s identification with the problem and strong motivation to solve the problem
- Verbalization of the problem, critical appraisal of the topic, addressing the problem in a structured way – an excellent basis for writing a manuscript or a project proposal.

During our discussions with Galen Wagner an idea arose – to organize similar training in Central Europe. The original Research Practicum was adapted for a four-day course to provide an interdisciplinary, international environment for training in the skills required to prepare research study protocols, scientific manuscripts and for facilitating international collaboration. The focus of the program is to:

- Develop skills needed to carry out research projects, using a practical, problem-based approach.
- Improve communication skills, including the skills in argumentation, negotiation and critical appraisal.
- Develop skills in international research team building and networking, and establish enjoyable cross discipline/cross cultural collaboration.
- Encourage researchers to publish scientific papers.

The main differences in this international research interdisciplinary school (IRIS) arrangement from the original Research Practicum are that it includes international participants, working in (preferably interdisciplinary) groups, has a duration of four days, and encourages participants to stay onsite (to stimulate intensive interaction and development of training projects during evening discussions). The IRIS

however, still maintains the core principles of the Practicum, with participants developing a hypothesis based and “doable” study protocol during the course. The first IRIS was organized in Slovakia in 2006. We were not sure how this different way of training would work in a very different environment. The results and feedback from the participants exceeded our expectations, so we decided to continue. Thus the second IRIS was organized in Turkey. The faculty of the first Summer School 2006 in Liptovsky Jan, Slovakia, was represented by the editors of two involved journals: the Journal of Electrocardiology (Galen S. Wagner and Ljuba Bacharova), and the Croatian Medical Journal (Aleksandra Misak). During the second Summer School 2007 in Silivri, Turkey, the faculty was completed by the editors of the Anatolian Journal of Cardiology: Bilgin Timuralp and Gulmira Kudaiberdieva, with a generous support of Bulent Gorenek, MD, PhD.

Already during the first IRIS, the participants were invited and encouraged to moderate plenary discussions, and consequently two trainees from the 2006 IRIS in Slovakia (Nina Hakacova and Jana Kirchnerova) served as moderators / junior faculty at the 2007 IRIS in Turkey. This became the natural way to prepare the faculty for the following IRIS: selected participants were invited to serve first as moderators of discussions during workshops and then to subsequently to serve as faculty. Up to date (July 2016) the total number of faculty members is 47, comprising 9 editors of scientific journals and 24 former participants. This number ensures sufficient flexibility and supply of well-trained faculty for different locations and cultures, considering their experience, scientific background and nationality. During the first IRIS courses, the faculty members were included into the groups. Thus, they not only moderated the plenary discussions but also contributed to the discussions in the group with the aim to stimulate discussion. Paradoxically, the presence of the faculty in the groups was found to be a limitation. The groups’ behavior followed the classical behavior of students – to “please” the faculty, to bring the “right’ / “correct” answers/solutions, and the students’ spontaneity and creativity were to some extent suppressed or blocked.

In the current model, the faculty members are not included into groups. Their role is to carefully observe the interaction and progress in the groups and interfere only when the discussion in a group does not progress or is blocked. If a problem occurs in one group, it is consequently brought forward during the plenary discussion with all groups so that everybody can learn and benefit from the process of solving that problem.

In the period from 2006 to August 2016, seventeen IRIS courses were organized in ten countries on three continents (Austria, Brazil, Croatia, Kyrgyzstan, Macedonia, Poland, Romania, Slovakia, Spain, Turkey). Total number of participants: 289, from 32 countries (Albania, Austria, Bosnia and Herzegovina, Brazil, Colombia, Croatia, Czech Republic, Denmark, Egypt, Estonia, Georgia, Greece, Hong Kong, Hungary, Kazakhstan, Kosovo, Kyrgyzstan, Lithuania, Macedonia, The Netherlands, Poland, Portugal, Romania, Russia, Serbia and Montenegro, Slovakia, Spain, Sweden, Turkey, Ukraine, USA, Venezuela. The

evaluation of the scientific performance of trainees for the period 2007 – 2013 showed that the IRIS training was associated with identifiable increase in scientific publication activity (3).

Galen Wagner was present in all courses – either in person or via Skype. As the Editor-in-Chief of the Journal of Electrocardiology he encouraged participants to write and submit manuscripts to scientific journals, explained how to benefit from reviewers comments and involved participants as reviewers for the Journal of Electrocardiology, stressing the review process as a tool to develop further critical thinking and also to improve one's own writing.

In the year 2016, two more IRIS courses will be held: in Russia, Chernaya Rechka, in September and in Kazakhstan, Taraz, in October. We will do our best to continue in the IRIS mission and to further develop the international courses, as well as to utilize this unique program at national levels and include it into university curricula.

Figures: Photos from the first International Research Interdisciplinary School 2006 in Slovakia, Liptovsky Jan.



Galen Wagner: the focused and careful listener.



The nontraditional locations of workshops outside the classrooms in a forest or in a swimming pool: An effective way - how to stimulate creativity and informal discussions.

Ljuba Bacharova

Journal of Electrocardiology, Durham, NC, USA

International Laser Center, Bratislava, Slovakia

Institute of Pathophysiology, Medical Faculty, Comenius University,

Bratislava, Slovakia

Eric Eisenstein

Duke Clinical Research Institute, Duke University, Durham, NC, USA

Mentorship - About Galen S. Wagner

From June 1999 through July 2000 I had the good fortune to work as a clinical research coordinator in Galen Wagner's ECG Lab at the Duke University Medical Center. Over the next thirteen months, I worked with medical professionals and students from different parts of the world on clinical research projects. Galen's ECG Lab also served as the home to undergraduates during the summers and recent graduates (of which I was one) with an interest in medicine, and more specifically, an interest in learning how to effectively develop outcomes based research projects.

In working with Galen, I learned many life-long and research related skills I continue to apply in my work to this day assisting communities in developing flood emergency response and hazard mitigation plans. Galen served as an important guide for me at a critical time in my life. Near the middle of this experience, I thought I might actually want to pursue a career in public health or even clinical research. Up to this point, Galen had been instrumental in teaching me how to design and successfully lead projects to completion through the myriad of factors a researcher must consider such as how to apply for and receive Institutional Review Board (IRB) approval for a study design to meet all IRB eligibility criteria. While learning how to develop the critical thinking skills needed to conduct research from Galen was valuable, what I will always remember most is that spring day when I went into Galen's office to clarify a few

questions for a draft manuscript we were close to submitting for review. Before I could ask a question, Galen asked me what it was I really wanted to do with my life. No one had ever really asked me that question before, and it provided me with an invaluable opportunity to realize that it is okay to decide for yourself what it is you want to do with your life, and pursue your own path.

I chose to pursue a career outside of medicine thanks to that simple yet profound question Galen asked me in 2000, and feel privileged to have worked with and become dear friends with someone who truly cared about the work not only he was doing, but just as much in what it was you were doing. Since my time working in Galen's ECG Lab, I continued to collaborate with Galen on a variety of projects including most recently the Scientific Summer Schools in Trilj, Croatia in 2009 and Gebze, Turkey in 2010. Both experiences continue to serve as highlights in my professional career having gotten the chance to collaborate and work with interdisciplinary professionals and students from throughout the world. The four-day outcomes based research practicum has since progressed under the leadership Ljuba Bacharova and Galen into the International Research Interdisciplinary School (IRIS). Galen always had an incredible and selfless ability to envision and facilitate the development of effective research based educational programs; and then in finding the leaders who could take the initial vision to new heights into the future, which may be his greatest legacy of all.

Samuel J. Bell

Senior Hazard Mitigation Specialist, GZA GeoEnvironmental, Inc., Boston, USA.

Galen accepted me for a research elective without knowing who I was and what my capabilities were. He personally picked me up from the Durham airport where I arrived in 1999 as a young medical student from the Netherlands with no research experience. On the ride back he started asking me questions "Why did you come here?" "What do you want to do?" "How are you going to do this?". Before I knew it I was coordinating a prehospital ECG transmission project, feeling very much out of my comfort zone and learning more than I ever had during my previous studies. This research elective formed a pivotal point

in my own career. Galen taught me how to approach complex problems/projects and find ways to achieve the goal, while never to losing sight of that goal. I learned how to use these skills to approach goals in research, clinical work, career and personal life.

The initial experience led me to pursue a career in cardiology in Rotterdam, obtain a PhD including spending a year for research in West Virginia and subsequently a clinical fellowship in electrophysiology in Sydney and Melbourne. He was always available in person at conferences or via Skype to discuss career decisions and/or research ideas.

My last interaction was talking about the challenges of setting up a treatment center for arrhythmias in Hobart, Tasmania; and he was asking me the same "Why, What and How" questions, making sure the goal was clear and the steps to achieve it well thought through. Galen's brilliance in mentoring and teaching combined with the vision of a "university without walls" have made lasting impression on all those he has worked with. During my research, I participated in the IRIS program and was fascinated by the methodology and group dynamics. I am honored to have been selected as a faculty member and always

Department of Cardiology, Royal Hobart Hospital and Royal Melbourne Hospital, Australia

I had the pleasure of spending a year at the Duke Clinical Research Institute with Galen back in 2001 while still in Medical School. I had never done research before and he opened the door to the fascinating world of research for me. He became a devoted and inspiring mentor determined to teach and guide me as I developed my thesis over the next many years. With his continued optimism, sincere

Department of Cardiology, Copenhagen University Hospital, Rigshospitalet, Denmark

Galen has been a major milestone in my career and life. I spend 4 months at Galen's DCRI lab in 2001 right after finishing my medical degree in Copenhagen. Before that I was not set for cardiology but Galen opened my eyes to cardiovascular clinical research. The stay at Duke was fantastic and very productive. We ended up writing 4 papers in that period and the things Galen taught me about research and the

Department of Clinical Physiology, Nuclear Medicine and PET, Copenhagen University Hospital, Rigshospitalet, Cluster for Molecular Imaging, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark

look forward to the IRIS, where I feel the transfer of his ideas and methodology for teaching and research is especially strong. He was a great person. Enthusiasm, curiosity and unfathomable intellect are just some of the terms to describe him. I recall him, on more than one occasion, dozing during a research presentation only to wake up and startle the presenter by asking the critical question in a thundering voice. I am sure that if at all possible, he will find a way to continue to do so in the future!

Jonathan Lipton

spirit and ability to ask all the right questions he was the best mentor I could ever wish for. He made me pursue what I didn't think possible and if it hadn't been for Galen I would never have pursued a fellowship in cardiology like I did. I owe what I have become today to him and will miss his guidance and the great man that he was.

Maria Sejersten Ripa

process of writing a manuscript has been an invaluable lesson. Ever since 2001 Galen has been following my research and clinical career with great interest and inspiring comments. Besides being a great mentor Galen was a fantastic person. I will never forget the numerous meetings and dinners with him and Marilyn.

Rasmus Sejersten Ripa

Galen's network reached out to the Netherlands as well. In the nineties the Thoraxcenter of the Erasmus Medical Center in Rotterdam and Duke University were participating in large clinical trials where dynamic ECG changes were studied. Mitch Krucoff and Galen soon collaborated with Arthur Maas and Rolf Veldkamp while working towards a PhD supervised by Maarten Simoons. Faculty and staff were also involved (Peter Klootwijk and Simon Meij). Galen continued to work with Maarten Simoons and Simon Meij to study reduced ECG lead systems in the context of acute cardiology. They supervised my PhD, starting in 2000 and finishing with my PhD-defense in 2005.

Galen was an enormous supporter during my doctoral work. We would have many conference calls and face to face meetings together with other students. As a mentor, Galen asked the right questions to help you in the right direction. Where possible he would let you take new steps and responsibilities. I was privileged to act as peer reviewer, assist with and write editorials

for the Journal of Electrocardiology. More importantly, Galen was the initiator of 3 "Glider" conferences. Glider initially was set up as a special symposium after my PhD-defense in November 2005 and was named after the cities from which the international participants were coming (Glasgow, Lund, Durham and Rotterdam). Galen associated Glider with the WWII-museum near Arnhem where a number of gliders landed during the allied operation Market Garden.

The legacy of Galen for me is that Galen truly implemented the vision of a university without walls, originally started by Galen's mentor Dr. Eugene Stead. But Galen improved this by realizing it is about people collaborating. He generously shared ideas, data and contacts in order to have people work together. This had a reciprocal effect. Because of his presence and personality he was able to have people communicate ideas and work on hypothesis together in early stages. It is not something that can be copied easily, but I will definitely will try.

Stefan Nelwan

Head of the Department of Medical Technology, Erasmus Medical Center, Rotterdam, The Netherlands

I clearly remember my first contact with Galen Wagner. It was in July 1995 and I had just finished the first half of medical school in Sweden. I'd been offered an American Heart Association scholarship for a year at Duke University to collect data for a study, got permission for a one year leave from medical school and had this initial telephone call with a man that would come to make a significant difference in my life.

That telephone call was the start of a long and fruitful learning experience for me in many ways, not only in cardiology research. I immediately noticed his very unique personality in general and as a research mentor in particular. His enthusiasm in mentoring a young, inexperienced medical student in the research field of cardiology was striking. His never-ending energy to come up with new ideas, new ways to look at things, new suggestions of collaborations, new possibilities of collecting data, using other, already existing databases etc was impressive. His office was always open for any medical student who was interested and curious about learning cardiology research. In a conversation with Galen Wagner you never knew where it would lead. Our countless discussions over the years always opened my mind and boosted it with energy and several new inputs

that I later could digest and use to form new directions in solving specific problems, push forward ongoing as well as planning new projects.

During my year in the US we collected a database (STAFF III) that has later come to play an important role both to me and numerous younger as well as more experienced medical and engineering researchers, as Galen built an invitational Symposium initially based on it. This "STAFF Symposium" has since then been held every to every other year in several different countries for two decades.

Galen had an outstanding sense of networking. Not only for himself, since one of his signum was to be unusually modest in focusing on his own success and accomplishments. Rather, he played a role as a facilitator, using his great network connecting other people. In his very informal way, he thereby easily introduced me as well as all other students he mentored to a vast variety of experienced researches around the world. In every sort of discussion he always took the opportunity to include you to get you involved, being just a telephone conference, informal chat in the corridor or a larger discussion at a meeting.

By this manner I early became introduced to his concept of "university without walls", through which he has contributed to so many fruitful and successful collaborations in the field of cardiology research. In the several "STAFF Symposia" he always kept a central role in both the planning, invitations and he highly enriched so many discussions during the sessions. In every situation, he became a natural, informal leader challenging our mind and gently pushing his open-minded concept forward. He not only opened the barriers between our "walled (physical) universities", but also facilitated the very important collaboration between biomedical engineers and clinicians in the field of cardiology research. Although I after graduation from medical school pursued a career as a clinical cardiologist with modest research activities, we still kept regular

contact. This was tuned up again later when I decided to do my PhD. During the years, Galen became a very valuable and loyal friend of mine. He was always there as a support whenever you needed him, with full respect of the decisions you made in life, even though he could give some challenging questions now and then to test your future goals. During the 21 years, I had the privilege of knowing Galen Wagner he has been a role model in several aspects. I feel confident being only one of so many medical students he has supported during these years and many years before me. The world has lost a great man and the scientific community has lost an extraordinary mentor. In his memory though there are so many he has inspired through his work, and let us hope that we all can try to continue in his spirit.

Michael Ringborn

**Specialist in Internal Medicine and Cardiology, Consultant in Cardiology,
Thoracic Center, Karlskrona, Sweden**

I had the opportunity to meet Galen in Poland, at the Scientific Summer School in Szczepanow, 2009, the starting point of a large network of friends, collaborations with the Journal of Electrocardiology and participation as a faculty in next summer schools. And finally, in 2011 and 2013, the IRIS was successful in Romania. I will always remember Galen as a valuable and special friend, with his passion for electrocardiography and mentoring of young researchers.

What have I learned from him? Much more than writing a hypothesis, how to be a good reviewer or to

"never put obstacles to your research". Research is not just performing some investigations or experiments, use of statistics and automatic conclusions. It is important to plan and organize a research paper before starting the research, and also to take a step back and "think" again critically about the conclusions after finishing the manuscript. Research is a language connecting us, regardless of the country we are coming from, and Galen will always be at the heart of the network.

Ioana Mozos

Department of Functional Sciences, "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania

Galen S. Wagner and Research education

Galen's involvement in the research education in Turkey and Kyrgyzstan has been especially valuable.

It is very painful but also a chance to write about a mentor and colleague we lost recently, and acknowledge his significant influence on education of young researchers and me personally. I met Prof. Galen Wagner in 2008 during the IRIS at Pezinok, Slovakia. During those 5 days in a beautiful forest in Slovakia my education on the method of workshop training (as described previously) started (2, 3). It was a wonderful time fully filled with various activities for faculty and participants from different countries. It was remarkable to learn from observing Galen's interaction with students, mentoring them, teaching how to work in a team, how to compete and to carry out scientific debate, and encouraging those who were less fluent in English or simply shy, to participate in discussions, to speak out. Later, we met in Gebze, Turkey, when we organized a second research school in Turkey. We were actually in constant contact via email and conference calls, something that would become our routine during the organization of each IRIS, and again we learned from Galen how to organize a research school, step by step. As with the other IRIS with Galen, our school was characterized by diversity of participants and faculty, being a true "university without walls"(4). This time, faculty from Turkey had a chance to meet Galen and learn through personal interactions, faculty meetings and workshops, now all of them remember Galen as their outstanding mentor. As our participants were mostly residents in cardiology, cardiovascular surgery and internal medicine, it was a question at that time, whether the research education was necessary for them (as now the scholarly activity requirements are included in the residency training programs elsewhere) and what the best way was to provide such a training (5).

Galen explained why it is important and advantageous to include such a 5-day workshop in the training of residents in cardiology, who are usually fully involved and overloaded in their clinical work (cathlab, echo and nightshifts duties) and simply do not have time for any scholarly activity. Taking them out of their routine and immersing them in intense workshop research training is the most realistic and efficient way of training that provides them also armamentarium and directions for self-learning after school. I was then surprised how Galen was right, because indeed almost all participants

acknowledged that. The Pezinok 2008 and Gebze 2010 schools participants' research performance outweighed all our expectations as they had the highest number of publications and citations received after summer school (6), due to the team of participants, faculty and all training activities were led by Galen.

The most important thing about the research schools that we are proud is, under Galen's guidance, bringing the IRIS to Kyrgyzstan, after years of efforts. Galen's leading role at each level of planning and organization of Cholpon-Ata Issyk-Kul school should be emphasized. His presence via Skype faculty meetings and a live connection during the IRIS from Issyk-Kul to Galen in Durham, NC provided a unique opportunity for young researchers of Central Asia, thirsty for such education and information they needed. We should refer for their published reflections and opinions on what they have gained during training (7). Galen was interested in and kept an eye on research activity of Cholpon-Ata participants after school as well and promoting their activities, sharing satisfaction with their achievements in gaining international projects, grants, becoming reviewers in international journals, presentation of their research work at different meetings and submitting publications.

Now, we are in preparation of the IRIS in Kazakhstan, and Galen as always was in close contact on progress of organization, continuing to guide us even during his illness. The team trained by Galen now successfully moves forward.

Galen Wagner is an example of an Editor-in-Chief who implements unbiased peer-review process, works together with authors on proper revision and improvement of the content of the manuscript, educating both authors and reviewers. That I actually learned from Galen and have carried out through my 10-year career as an editor of a cardiology journal. The education of participants and faculty by Galen continued after research schools, as he involved them in reviewing articles and inspired editors of other journals (8, 9).

We can weigh and analyze the outcomes of research training by the number of publications, citations and international projects participants have gained after their participation. However more than that Galen's legacy, his mentorship and dedication to education of young researchers in every aspect of their life's will always live in hearts and minds of hundreds of participants and faculty members.

Faculty of International Research Interdisciplinary School

Alina Altymysheva, Kyrgyzstan
Oben Baysan, Turkey
Berik Bolatbekov, Kazakhstan
Joao-Batista Destro-Filho, Brazil
Nina Hakacova, Sweden
Cigdem Koca, Turkey
Taalaipek Kudaiberdiev, Kyrgyzstan
Rodrigo Penha Almeida, Brazil
Katarzina Piotrowicz, Poland
Ruslan Sadabaev, Kyrgyzstan
Alexei Savelev, Russia
Peter Skrak, Slovakia
Adam Stanczyk, Poland

Editors of International Research Interdisciplinary School journals and supporting journals

Beverly Perkins – Journal of Electrocardiology (USA)
Sasa Misak – for Croatian Journal of Medicine (Croatia)
Marian Bernadic and Peter Kristufek, Slovak Monitor of Medicine (Slovakia)
Leonas Valius – Family physician (Lithuania)
Aynagul Dzhumagulova – Central Asian Medical Journal (Kyrgyzstan)
Mykhaylo Sorokivskyy- for Ukrainian Journal of Cardiology (Ukraine)
Bulent Gorenek for JECG editorial board , Turkey
Egle Kaleniuskaite, for JECG editorial board Lithuania
Seitkhan Djoshibayev – Journal of Cardiovascular Research (Kazakhstan)
Nurlan Brimkulov – Bulletin of Kyrgyz Medical Academy (Kyrgyzstan)

References

1. Adler MJ, on behalf of the members of the Paideia Group. The Paideia Proposal: An Educational Manifesto. New York: Simon & Schuster 1982.
2. Davis TH 3rd, Wagner GS, Gleim G, Andolsek KM, Arheden H, Austin R, Courtney-Eighmy A, Gradison M, Leist JC, Maynard C, Noga EM Jr., Ostbye T, Eisenstein EL. Problem-based learning of research skills. *J Electrocardiol.* 2006; 39: 120-8.
3. Bacharova L, Kudaiberdieva G, Misak A, Hakacova N, Timuralp B, Wagner GS. The effect of international scientific summer school research training on scientific productivity of trainees. *Int J Cardiol* 2014; 176: 1142-6.
4. 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.
5. Hakacova N, Baysan O, Bell S. Problem-oriented education and cross-cultural collaboration: Experiences and comments on the Scientific summer school in Turkey. *Anatol J Cardiol* 2010; 10: 387-88.
6. Kudaiberdieva G, Wagner G, Bacharova L, Timuralp B, Inan M. Progress of international scientific summer school in Turkey from 2007 to 2010: on the eve of 2014 event. *BalkanMed J* 2014; 31: 1-2.
7. Lipton J, Altymysheva A, Bacharova L, Dzhumagulova A, Koca C, Kudaiberdiev T, et al. International Research Interdisciplinary School, 8-12 June 2015, Bosteri, Cholpon-Ata, Issyk-Kul, Kyrgyzstan. *Anatol J Cardiol* 2015; 15: 694-700.
8. Wagner G, Kudaiberdieva G, Bacharova L. International Research Interdisciplinary School (IRIS) initiative sponsorship of journals in training of participants in peer-review. *J Electrocardiol* 2016; 49: 263-4.
9. Wagner G, Bacharova L, Timuralp B, Kudaiberdieva G, Uzun C, Inan M, et al. Statement from the International Scientific Summer School Collaboration Group. *J Electrocardiol* 2014; 47: 126-7.

Republished in part from the *J Electrocardiol.* 2017 Jan - Feb; 50(1): 3-4 and *J Electrocardiol.* 2017 Jan - Feb; 50(1): 5-10