Professor Ivan Damjanov, The Third Recipient of Tomas Kent Award from the Group for Research in Pathology Education

The Group for Research in Pathology Education (GRIPE) was founded in 1971 by Dr Tom Kent of the University of Iowa as an organization devoted to promoting excellence in teaching pathology to medical students. A few years ago, the Executive Board of GRIPE decided to recognize the pioneering work of Dr Kent by giving an award in his name (*http://peir.path.uab.edu/griper*). This prestigious award was established to give a formal recognition to outstanding academic pathologists for their lifetime contributions to the field of pathology education. The first recipient of the Tom Kent Award was Dr Stanley L. Robbins from Boston University, the author of the leading pathology textbook in the United States, which is also widely used throughout the entire world. The second recipient was Dr Emanuel Rubin from Thomas Jefferson University, Philadelphia, the author of the innovative pathology textbook, in which he pioneered the use of conceptual color drawings, diagrams, and algorithms in teaching of pathology. The third recipient of the Tom Kent Award is Dr Ivan Damjanov, professor of pathology from the University of Kansas, Kansas City. Since Ivan Damjanov is a graduate of the University of Zagreb, we are pleased to have the opportunity to briefly outline the contributions of Ivan Damjanov to pathology practice, research, and education, both in the USA and Croatia.

Ivan Damjanov graduated from the Zagreb University Medical School. After completing a residency in pathology, he moved to the USA, where he continued his illustrious scientific and medical career. He has done outstanding research in developmental biology and teratology. In collaboration with Dr Davor Solter, he pioneered the use of teratoma as an experimental model system for the study of early development (1-4). His knowledge of differentiation in neoplasia has been instrumental in shaping the future of stem cell biology and regenerative medicine. He has participated in many impressive scientific projects and shared his knowledge with scientists in the Croatian universities. By means of his vision and leadership skills, he has helped many medical universities outside the USA to attain the highest standards of excellence in science.

Ivan Damjanov began teaching pathology in the United States in 1973. He organized and directed pathology courses at Hahnemann Medical School and Jefferson Medical College in Philadelphia. He is passionate about pathology education, displaying a profound insight into the philosophy and practice of teaching. He has influenced countless students by his lectures, tutorials, scholarly journal articles (5-7), and colorful textbooks (8-11). As the American author Henry Adams wisely noted: "A teacher affects eternity – he can never tell where his influence stops."

Throughout his career, Ivan Damjanov has advocated for change in undergraduate medical ed-

ucation. At Jefferson, he restructured the second-year pathology course to a system based on small-group and student-centered learning. As a result of this curricular reform, student performance on the National Board of Medical Examiners Examination (NBME) improved dramatically, with student scores on the pathology subsection of this test entering the national top 5%. We are still trying to understand the reasons of such an astonishing improvement (12). There are many theories –- ranging from "virtues of small group teaching" to "enhanced student-faculty interaction." Perhaps the real secret to its success is Professor Damjanov's incredible depth of knowledge and his contagious enthusiasm for teaching. Dr Frank Sharkey (University of Texas) writes: "His talent as a teacher is that Ivan Damjanov knows how both to identify the critical areas of knowledge and to stimulate his students to willingly learn them." He raises the bar and then guides students in a caring and compassionate way. Sophocles certainly had it right when he noted: "I would rather be taught by someone who can teach." Whatever it means to be a gifted teacher, Ivan Damjanov has "all the right stuff."

Ivan Damjanov is currently a professor of pathology at the University of Kansas School of Medicine. In addition to his work as a diagnostic pathologist and scientist, he is the author of over a dozen medical textbooks. Pathology for Health Professions (8) is a successful resource for teaching medical students and allied health professionals. Pathology Secrets (11) is another popular book that illustrates the Socratic approach to teaching, based on open-ended questions and answers. Dr Bernie Klionsky (University of Pittsburgh) writes: "Ivan Damjanov has addressed the need for educating, not only pathologists, but also medical students, residents, nurses, and other allied health professionals." Dr Peter Goldblatt (University of Toledo) writes: "Students in every medical school in the USA have valued his numerous texts for their straightforward presentation of the basic concepts. His texts are written from the perspective of the student who is struggling to master the often-bewildering array of facts presented to them in their introductory exposure to concepts of disease." Ivan Damjanov has also written thousands of beautifully-constructed test questions to accompany his textbooks.

Because of his commitment to the success of medical students, Professor Damjanov established remedial pathology courses in Philadelphia and Kansas. He believes, and has clearly demonstrated, that all students can succeed if they are given the right learning environment. Dr Peter Goldblatt writes: "His sympathy for the student... led him to devise a widely accepted remedial course, which has resurrected the careers of many a student who was unable to successfully fulfill the expectations of his/her initial teachers." Professor Damjanov also established honors programs in pathology to meet the needs of our top students. These voluntary enrichment programs for undergraduate medical students are helping to prepare our future leaders in academic medicine (13).

For many years, Professor Damjanov has been welcoming students, residents, and pathologists from Croatian universities into his home (Figure 1). Although many of us stayed in the

Figure 1. Ivan Damjanov used to tell students "we do not teach, we help you learn." Accordingly, he thought that most of his contributions to education were "indirect," ie, achieved by motivating students to learn on their own. The photograph shows Damjanov, with one of his favorite lifetime achievements – his granddaughter Olivia.

USA for only a brief period of time, it was impossible not to notice how American pathologists transfer their knowledge of pathology to residents. Based on these experiences, we have attempted to implement similar methods of teaching in our departments. Professor Damjanov has helped stimulate our interest in the scientific literature by providing us books and journals. Numerous shipments from Kansas have come to the Departments of Pathology in Split and Zagreb, and to the Central Medical Library at Zagreb University. Medical students have benefited as much from these resources as have pathologists and pathology residents. Today, we cannot imagine our training and approach to more demanding biopsies, without the opportunity to consult these wonderful journals and books.

Although textbooks provide solutions to most diagnostic challenges, there are many cases in which it is extremely difficult to relate images and text to the slides under the microscope. Fortunately for us, Professor Damjanov visits the Croatian pathologists on a regular basis, and helps us solve rare cases that are typically encountered only once or twice in a career. Thanks to Professor Damjanov, the United States and Canadian Academy of Pathology (USCAP) now donates abundance of printed materials, transparencies, histology slides, and CDs. These resources help us keep up with emerging technologies, learn new approaches to diagnostic pathology, and establish high scientific standards in medical practice. Through his contacts and recommendations, Croatian pathologists are permitted to join the "Histopathology Club," a small association of world-renowned pathologists (and their departments) from the United States and Europe. This elite group exchanges histopathology slides on a monthly basis, to share experiences and help refine our working knowledge of pathology.

Professor Damjanov certainly deserves honors and accolades for everything he has done for Croatian medicine. However, we believe that Professor Damjanov's major contribution lies in educational reform. We have heard our colleagues say on many occasions that "a specific style of lecturing does not really matter that much, because students are either self-taught or not taught at all." Indeed, some faculties have reluctantly accepted the fact that many students will remain unmoved, despite heroic efforts in teaching. However, this may not be true for the most of our students. Moreover, we can now show that specific changes in teaching style and course design can improve students' academic success and encourage further work in pathology (14).

Before Professor Damjanov offered to help, our traditional pathology course at Zagreb University was based on lectures and microscopy sessions, and to a lesser extent, on small group seminars. We had the privilege to spend time at the University of Kansas School of Medicine as guests, and to learn the art of teaching. Professor Damjanov showed us how to transform our way of teaching, encourage students to become more involved in the learning process, and make our methods of student-assessment more reliable and clinically oriented. Professor Damjanov helped us convert our old-fashioned pathology curriculum to an integrated, dynamic, and clinically-oriented course. This turned our students from passive bystanders to active participants in their own medical training. This was not an easy job, particularly for teachers, but Professor Damjanov was there to guide us all the way. Six years ago, the pathology course was changed. The emphasis was shifted from lectures and passive learning to computer-based discussion groups and seminars that promoted problem-based (active) learning. Thanks to him, we successfully transferred a computer-based pathology teaching program developed at the University of Kansas School of Medicine to the University School of Medicine in Zagreb. This computer program represents a slightly modified version of the teaching material he originally assembled at the Jefferson Medical College, Philadelphia.

These digital resources would be of limited value without personal computers. Once more we have Professor Damjanov to thank for assistance. As a result of his intervention, the University of Zagreb received substantial funds from the Open Society, bringing 18 new computers to our Pathology Department. At the beginning, 20% of the class of 225 students was enrolled in the new curriculum. The remaining 80% of the same class was enrolled in the traditional curriculum at Zagreb University School of Medicine. The students' response to the new curriculum was overwhelmingly positive, and preliminary data showed no evidence of adverse effects for the students enrolled in the computer-based teaching program. As a result, the Department of Pathology decided to offer the computer-based teaching program to all medical students in the fall of 1999. Pass rates on the first term final examination of students enrolled in the new curriculum (class of 1999 and 2000) were significantly higher than the pass rates of students (class 1995-1998) enrolled in the traditional curriculum (14,15).

Implementation of this new curriculum at University of Split Medical School yielded equally impressive results. More than 70% of the students passed their pathology examination in the first term. Student surveys show that the Pathology Course and the pathology teaching faculty achieve outstanding marks for excellence. As a result of our curricular reform, pathology (as a discipline) has become more popular in our country, and many excellent students have expressed the interest in participating in scientific projects and pursuing pathology residency training.

We must mention Professor Damjanov's important contributions to the Editorial Board of the *Croatian Medical Journal*. He has greatly improved the quality of our scientific publications by instructing authors on how to pursue their research publications, as well as through his insightful reviews. We especially want to emphasize his help in preparing the special "Pathology" issue (Figure 2), which led to an increase in the number and quality of the published articles. We would also like to mention his assistance in showing us how to prepare books and reviews for students and residents. He is the senior editor of several pathology textbooks that we use at our University, in which many of us are included as coauthors and coeditors. He provides tips on how to prepare useful books for medical students. He has included Croatian pathologists as coeditors and coauthors in publishing of his books in English. This has provided immense help in our country and improved our professional reputations abroad. Professor Damjanov shares his passion for scholarship and publishing with his friends and colleagues, prompting all of us to push a little harder and reach a little higher. He wants us to succeed. Whatever contributions we have made to the field of pathology education, we owe in part to him. He has shown us how to be innovative in medical education.

Figure 2. Thematic issue of the *Croatian Medical Journal* on pathology.

In summary, Ivan Damjanov is an acclaimed scientist and pathologist. He is a gifted teacher and advocate for students. Through his teaching, research, and scholarship, Ivan Damjanov has

helped students in the USA and Croatia in their critical, formative years, and made substantial contributions to the science and practice of medicine. In nominating Professor Damjanov for the Tom Kent Award, Dr Emanuel Rubin writes: "Ivan Damjanov's activities in medical education are as prestigious internationally as they are in the USA. I can think of no one more deserving of the Tom Kent Award." Dr Robert E. Lee (University of Pittsburgh) writes: "Ivan Damjanov represents the spirit that Tom Kent showed when he organized GRIPE – that is the spirit of creativity." We are fortunate to have rare individuals such as Professor Damjanov among us – enthusiastic and tireless souls, capable of touching the lives of people around them just a little bit more profoundly than others, leaving a mark behind that is a little bit deeper than most.

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