

Editorial

A tribute to Jeffrey A. Kant, MD, PhD

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Jeffrey A. Kant, MD, PhD was a pioneer and a giant in the field of molecular pathology. In the world of pathology informatics, he was relatively unknown except by those of us who either had the pleasure of working with him or the honor of training under him. Upon closer examination of his life and the fellows whom he trained, a trend emerges. Among all the individuals who have careers that combine both pathology informatics and molecular genetic pathology (so-called MGP-Informatics “hybrids”), a very large portion trained with Dr. Kant at the University of Pittsburgh Medical Center.

For readers familiar with recent advances in molecular pathology, it might be assumed that it was always obvious that computational bioinformatics techniques would be necessary to analyze and interpret the increasingly complex data produced – now exemplified by massively parallel sequencing data. However, this necessity for bioinformatics was not obvious to most individuals in the field until recently. Yet, due to Dr. Kant’s influence, almost half of the molecular genetic pathology fellows who trained with him in the last decade were, or later became, MGP-informatics hybrids well before fellowships and scientific meetings began to focus on genomic technologies. Those of us trained by Dr. Kant during the infancy of molecular pathology in the mid-1980s remember his enthusiasm for early personal computers and their use for tasks such as linkage analysis in families for prenatal diagnosis. Those of us who trained in the early 2000s arrived at a laboratory that was already attempting to overcome the limited handling of molecular data by anatomic and clinical pathology laboratory information systems by use of an ancillary

custom database. Readers familiar with the reputation of the University of Pittsburgh Medical Center being at the forefront for training in both molecular genetic pathology and pathology informatics might assume that it was the co-localization of these two subspecialties that was responsible for such an enrichment of hybrids. While this has some degree of truth, it is only a minor part of the story. Many who practice pathology informatics or molecular genetic pathology can recount stories in which a mentor, attending or colleague expressed concern or dismay over the desire to practice such non-traditional fields of medicine (e.g., “You are wasting your brain cells.”, “Well, when you get done with that nonsense, come talk to me about practicing surgical pathology.”, “Why don’t you do a real fellowship? You’re never going to get a job.”). Dr. Kant could easily have taken this approach toward pathology informatics. Instead, despite the fact that pathology informatics was not Dr. Kant’s area of expertise, he unwaveringly supported and strongly encouraged his fellows’ varied interests in informatics. This was in part due to Dr. Kant’s nature as a mentor. He wanted people to be passionate about their work, but he also knew that pathology informatics was critical

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to the success of molecular and genomic technologies. This forward thinking, which for some pathologists was uncomfortably novel, likely also led Dr. Kant to join others in founding the Association of Molecular Pathology, to serve as its first president and to receive the first lifetime achievement award from that organization some years later.

While the practice of pathology informatics encompasses many areas of medicine outside of genomic pathology, Dr. Kant believed that the practice of genomic pathology could not occur without robust information management tools to achieve the highest quality patient care he always expected of himself and others. He knew that his amazing ability to detect sequence variants that base-calling software missed would never scale to scanning through gigabytes of data generated by high-throughput technologies. Dr. Kant was, first and foremost, a pragmatist. He understood the potential of disruptive genomics technologies such as next-generation sequencing to catalyze a paradigm shift in Western medicine, moving us from the current reactive model of clinical medicine to a predictive and therefore proactive model in the future. He also saw a need for genomic technologies to be accurate, ethical and financially viable in clinical practice. He encouraged awareness of the many biochemical, bioinformatics, analytical, interpretive, ethical and regulatory hurdles between today's nascent genomic pathology and the promises of genomic medicine. He was a leading authority on Current Procedural Terminology (CPT) billing codes for clinical molecular pathology. Every year, he gave

standing-room-only lectures on issues of reimbursement in molecular diagnostics at the annual meeting of the Association of Molecular Pathology. Finally, Dr. Kant loved to teach. He felt that the advancement of a field is primarily driven by young people with innovative and dynamic ideas. He was always welcoming new ideas to improve an assay, a new methodology or a new technology, irrespective of the source from where it originated. He had the unique ability to make even the rawest recruit feel special and important when it came to the field of molecular pathology due to his humble nature. Dr. Kant led by example and instilled in all his trainees the importance of informatics, compliance, ethics, fiduciary responsibility and teaching in the practice of molecular diagnostics. His hybrids, several of whom are now leading the charge in genomic pathology, are well trained to carry these elements forward to help ensure that genomic testing is done safely, ethically and accurately.

Dr. Kant was genuine and straightforward. He supported his trainees and his colleagues with a fatherly smile, a warm heart and a great sense of humor. The loss of Dr. Kant due to a rapidly progressive illness in September 2012 has left a void in the fields of molecular pathology and informatics, in the general world of academic and private pathology, in his laboratory and in the hearts of the many who loved him. He left a legacy of dual molecular and informatics hybrids who now have the challenge to fulfill the dream of safe and effective genomic medicine for patients and their families built on a strong foundation of high-quality informatics.