

John C. Huffman

After nearly 50 years of association with the Department of Chemistry on the Bloomington campus, John C. Huffman, senior scientist in chemistry, will “officially” retire this year, although his colleagues know that this will not keep him from continuing to do the research he so thoroughly enjoys. John is one of those unique individuals who completed his academic training at Indiana University and then decided to establish a career within the university. He has spent this time entirely within chemistry with the exception of the past few years, when he accepted a joint appointment with the new School of Informatics to pursue his research interests in crystallographic informatics. John first arrived in Bloomington in the fall of 1959, when he enrolled as a freshman. After completing his B.S. in Chemistry he continued on to obtain an M.S. degree in Physical Chemistry. An elective course in geology introduced him to the beauty of crystallography, a relatively new technique that was just being introduced as a research tool in the department, and he jumped at the opportunity to enter this exciting field. He completed his Ph.D. thesis in inorganic chemistry, determining the structure of a series of highly reactive compounds using X-ray diffraction. After receiving his degree, John was named director of the newly formed Molecular Structure Center, a position he has held to date. He developed the facility into an internationally recognized center of excellence in the area of small molecule crystallography, and in the process has earned the respect of his peers and many collaborators through the years.

John has authored or co-authored nearly 800 papers in the scientific literature and has been involved with nearly 200 presentations at scientific meetings. This high level of productivity has resulted in his current ranking as the fourteenth most significant contributor to the Cambridge Structural Database, an international database that includes all small molecule structures determined using crystallographic techniques. The Institute of Scientific Information (ISI) included John as one of the charter members of its ISI Highly Cited.com database “of the world’s most cited and influential scientific authors,” when it was established in 2001. He was listed as fifth most cited chemist in the world for the period 1981–1997, and was the eleventh most cited for all sciences.

John’s interest and involvement in computing issues on campus date back to those early days when crystallography was one of the primary users of the central computing resources. Throughout his career he has served on many of the university-wide policy and advisory committees that shape and define the academic computing environment, and he has assisted in the preparation of major computing infrastructure proposals for university resources that we all use and take for granted today. His interest and involvement in computing issues on campus led to his being invited to assist in the planning and organization of the new School of Informatics. John was one of the “founding faculty” and for the past few years has served as an adjunct professor of informatics as well as being co-director of the Informatics Research Institute.

Because his field is highly collaborative in nature, John has been a strong proponent of collaboration technologies, and most of his funded research the past decade has dealt with developing systems to share information and provide remote access to instruments and laboratories. He led a team that developed a system which allows crystallography laboratories throughout the world to share freely the molecular structures determined in those laboratories. This new methodology is presently in use in 19 laboratories in four different countries. One of the highlights of the system is that it allows anyone with a Web browser to view and manipulate easily the molecular structures in the collection without any formal training. A popular section describing common molecules was selected by *Scientific American* as one of the top science and engineering sites in 2004. The system is widely used by both researchers and educators and averages more than 15,000 users per month. John is currently working on a project that will allow Web access to complex instruments that have been “grid enabled.” A virtual laboratory environment allows a researcher to monitor and control instruments and to collaborate with colleagues at

another site. This system has already been used in collaborative studies he is pursuing with researchers at the synchrotron light source at Argonne National Laboratory and with collaborators at several colleges in Indiana.

In addition to his academic pursuits in crystallography and informatics, John has always been a strong proponent of informal science education. He is well known for his significant contributions to science fairs at the local and state level over the years, and remains active in this area. Having been raised in a "scouting" family and having two sons, he also became deeply involved in the local scouting program, where he emphasized science and engineering skills as well as the natural sciences. He was chairman of the Youth Activities Committee of the Indiana Academy of Science for many years, during which time he helped organize and direct the state Science and Engineering Fairs.

John's university service activities have not been restricted to computing and information technology. He has willingly accepted assignments that cover nearly all aspects of university life, from participation on the Staff Council in his early career, to his valuable work as director of technical services in chemistry, to his recent service on the Faculty Affairs Committee. In recognition of his many and diverse contributions to the university and community, John was awarded the Distinguished Service Award in 2006, a fitting culmination to his long, productive career at IU.

Jack K. Crandall