Tribute to David W. Pratt.

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Tribute to David W. Pratt

Trying to capture the many contributions and accomplishments that David W. Pratt has made to physical chemistry research in the lab and natural science education in the classroom is no small task. Those who know David or have had the privilege of studying under his guidance immediately recognize his excitement for measurement science. Whether it is the first result from a new instrument or data from an "old molecule", his reply would always be "fantastic work"! This excitement would only be surpassed if a simple physical picture could explain the results in a way that touched upon some fundamental principle taught in freshman chemistry. One beautiful example from his most recent work is the description of Stark data in terms of simple vector sums that include dipole−dipole and induced-dipole contributions. Such enthusiasm is also conveyed in his presentations and is a hallmark of David's personality that clearly spills over to his students and colleagues.

Teaching such fundamental concepts has been a life-long dream realized by David. From time-to-time over the past two decades, sometimes during "over lunch" discussions, he would proudly profess "just returned from teaching a spectroscopy course in New England" or "just finished developing a new two-term integrated natural science course for non-science majors that include several over-60 students" (with colleagues J. P. Card in Neuroscience and P. F. Koehler in Physics at the University of Pittsburgh). It is at that moment of wonderment that you realize the full extent of his commitment to teaching and uniqueness of his stature in natural science education. Beyond his many professional achievements in chemistry, including numerous fellowships and awards, the extraordinary impact of his passion for teaching has been recognized on many occasions. For starters, he has received several unsolicited awards by students on the Pitt campus including his election as an honorary member of the Golden Key Honor Society (1994), as a member in the Faculty Honor Roll (1999), and in three separate years as "an individual on campus that has made a significant and positive impact on student's lives". Such recognition and respect have been earned by David, albeit in a modest way, through his unrelenting belief in his student's abilities to overcome lack-of-confidence issues in scientific learning, presentation, and writing.

The 2003 Pittsburgh Award of the American Chemical Society brought with it explicit recognition of the wide impact David has had in education. His vision of a classroom learning environment or "community" that strives to achieve "an absolute hospitality of teacher and classroom that will allow ideas to be born for the first time" (C. R. Christensen et al., Education for Judgement) has, in part, earned him this superior commendation for his distinguished teaching career that dates back to PChem 1 in 1969. Over this time, he has taught thousands of students in a tremendous range of courses from physical chemistry, spectroscopy, and magnetic resonance to large sections of general chemistry where he developed a new "case-method" approach designed to enhance the learning environment. These achievements earned him the 1994 Chancellor's Distinguished Teaching Award given by the faculty for "the breadth and depth of his teaching, for his consistent efforts to incorporate contemporary science into his courses, and for his creative use of laboratory demonstrations to enhance the comprehension of and interest in difficult subjects". (Later, David won the 2001 Chancellor's Distinguished Research Award, becoming the first faculty member in the history of the University to receive both the teaching and research awards.) His educational outreach has even extended beyond the University where David was elected to serve as the principal Departmental liason for the University's Van Program. The program's objective was to bring real-time demonstrations of chemical principles into the classrooms of local elementary, middle, and high schools in the Pittsburgh area. His contributions included lectures for the "Chemistry Olympics" and assistance on institutional training grants for K−12 science teachers. While at Pitt, he has catalyzed the creation of curricular options for chemistry majors in bioscience, business, communication, computer science, education, and polymer science. He also served on the Integrated Curriculum Committee of the School of Engineering where he contributed to changing the way science is taught to freshman and sophomore engineers. Thus, this special issue of the Journal of Physical Chemistry recognizes David for creating a unique learning environment for many generations of colleagues, especially the more than 100 undergraduate students, graduate students, postdoctoral fellows, and visiting scientists that have worked in his laboratory over the past 40 years. Their accomplishments to date in both teaching and research speak volumes about the character of David's leadership in our field.

David F. Plusquellic

Brooks H. Pate

Kenneth D. Jordan

Special Issue: David W. Pratt Festschrift

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