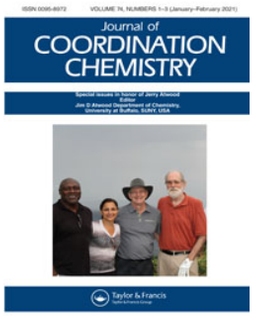

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A Chemistry lecture in November and the virtues of taking a risk

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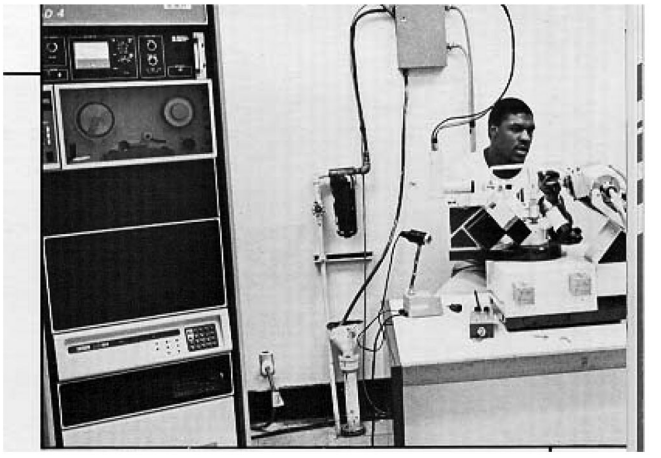
ABSTRACT

On the occasion of this special issue of the Journal of Coordination Chemistry honoring Professor Jerry L. Atwood, I offer a brief summary of his spectacular career in chemistry and the virtues of taking a risk.



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The most consequential friendship of my life inauspiciously began on a cold, late-November evening in 1979, in Jacksonville, Alabama. Of course, I did not see it coming. I was studying chemistry at Jacksonville State University, slated to graduate with my B.S. in April 1980. Having recently fulfilled my four-year Gamecock football obligations, I was enjoying—for the first time—the freedom to fully concentrate on my studies. As the newly elected president of JSU's Student Affiliate Chapter of the American Chemical Society, my prime duty was to introduce our lone guest speaker that Fall semester—Professor Jerry L. Atwood of The University of Alabama (Figure 1).

I met Professor Atwood shortly before I introduced him that evening, he proceeded to give a fantastic lecture. On the occasion of this special issue of the *Journal of*

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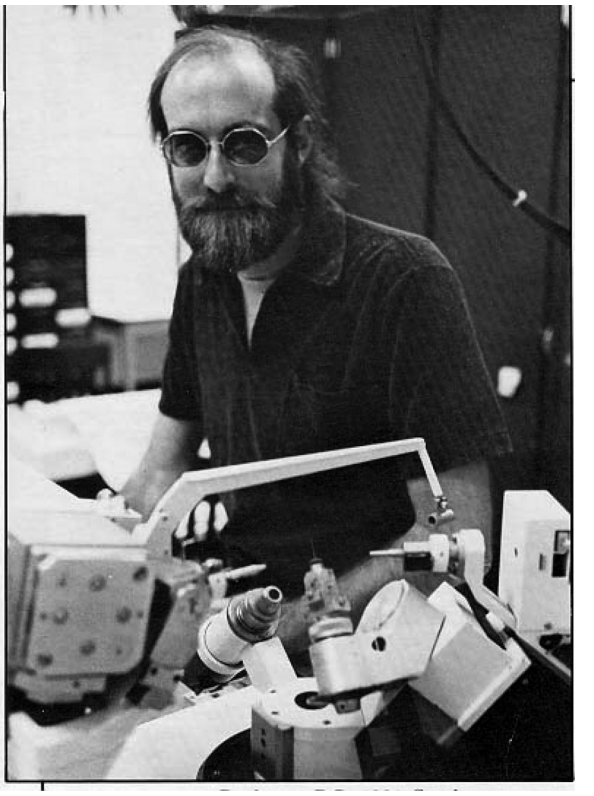

Figure 1. Jerry L. Atwood (1979).

Coordination Chemistry honoring Professor Jerry L. Atwood, I offer a brief summary of his spectacular career in chemistry and the virtues of taking a risk.

Jerry began his academic career in 1968 at The University of Alabama, and his first major scientific breakthrough came shortly thereafter with his discovery of "liquid clathrates"—aluminum alkyl-based molecular lattices (hosts) that could *reversibly* trap—and release—a second set of molecules (guests). These curious compounds provided some of the critical underpinnings for such contemporary fields as ionic liquids and green chemistry. Throughout the 1970s and 1980s Jerry honed his synthetic and crystallographic skills in traditional organometallic and inorganic chemistry.

Exploring the inorganic-organic interface in the 1990s, Jerry discovered a facile means of purifying C_{60} and C_{70} fullerenes by selective complexation with calixarenes [1]. This significant breakthrough promised an inexpensive route to high purity fullerenes. In 1997, Jerry prepared a chiral spherical molecular capsule stabilized by 60 hydrogen bonds [2]. This work led to a strategy for the design of much larger molecular capsules based on the long-held geometrical principles of Plato and Archimedes. These molecular capsules have shown promise in drug delivery.

The 2000s found Jerry publishing several studies wherein he delineated a novel view of porosity and the solid-state [3]. In this study the team reported that a well-known organic host compound (*p*-tert-butylcalix[4]arene) demonstrated single-crystal-

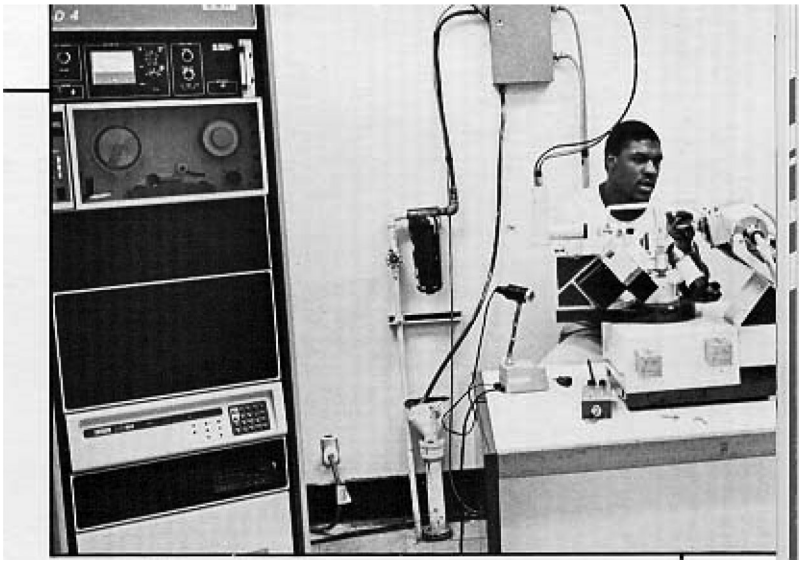

Figure 2. The author at work in Jerry's X-ray lab (1983).

to-single-crystal phase transitions upon guest uptake and release. Shortly thereafter, Jerry described a method of separation of H_2 from CO and CO_2, by two calixarenes forming a dimer and sharing a cavity between them, as an application of 'non-porous' organic solids [4]. This discovery proffered a convenient means to purify hydrogen gas. In 2006, the porosity work was further extended to what is referred to as 'frustrated' organic solids, where Jerry's team demonstrated that calixarenes could, reversibly, absorb gases such as acetylene and carbon dioxide [5].

With peer-reviewed research publications nearing seven hundred, Jerry is one of our most prolific colleagues. In addition to publishing five research articles in *Science* and four in *Nature*, Jerry has published nearly 170 combined articles in the *Journal of the American Chemical Society*, *Chemical Communications*, and *Angewandte Chemie*. Indeed, a citation survey conducted for the Institute for Scientific Information (ISI) ranked Jerry 33rd out of 627,871 chemists that published papers between 1981 and 1997.

Frequently bristling at the traditional divisions of chemistry, Jerry boundlessly pursued the wonders of "chemistry-in-totality" with reckless abandon. Consequently, Jerry successfully applied inorganic principles to disparate areas of chemical science and is now widely recognized as a founder of both host-guest chemistry and supramolecular chemistry—scientific domains prominently associated with the 2016 Nobel Prize in Chemistry. Perhaps the highest compliment one can pay to Jerry is to note that he has inspired a generation of chemists to indulge their imaginations and to take risks in their pursuit of chemistry. In particular, I remain ever grateful that more than four decades ago on a cold November evening, Jerry took a risk on a determined, if ill-prepared, chemistry student (Figure 2) with mediocre grades.

Disclosure statement

No potential conflict of interest was reported by the author.

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References

[1] J.L. Atwood, G.A. Koutsantonis, C.L. Raston. *Nature*, **368**, 229 (1994).
[2] L.R. MacGillivray, J.L. Atwood. *Nature*, **389**, 469 (1997).
[3] J.L. Atwood, L.J. Barbour, A. Jerga, B.L. Schottel. *Science* , **298**, 1000 (2002).
[4] J.L. Atwood, L.J. Barbour, A. Jerga. *Angew. Chem. Int. Ed. Engl.*, **43**, 2948 (2004).
[5] P.K. Thallapally, S.J. Dalgarno, J.L. Atwood. *J. Am. Chem. Soc.*, **128**, 15060(2006).