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## In Memory of William C. Schieve (1929-2020), IARD Cofounder

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## In Memory of William C. Schieve (1929-2020), IARD Cofounder

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Bill Schieve, cofounder of the International Association of Relativistic Dynamics (IARD), died last September 19 at his home in the Texas Hill Country. He was 91.

Bill was a remarkable man. To him I owe my career in physics. More than anyone else, he taught me how to be a physicist.

To him, and to a few other brilliant people, we owe the existence of the IARD and its early conferences, including the first one in 1998 in Houston, principally organized and motivated by John R. Fanchi.

He had a long, brilliant career as a research scientist, and as a professor at the University of Texas at Austin. Mel Oakes, his longtime colleague at UT, whose career dates from Bill's era in the 1960s and who retired with him in 2012, has written a wonderful summary of Bill's career for *Physics Today* [1]. I refer everyone to it as a review of Bill's work. Last year in my conference talk via Zoom I outlined the work he and I did together, but this was the tiniest slice of his output in both scope and volume. Like many of his students, I participated only in a small shard of the man's research interests.

Bill came to Austin in the mid 1960s. In photographs of that time he has the clean-cut appearance of young academics of that era. Like so many theorists who have done important things in our field in the second half of the Twentieth Century, he had a background in engineering, in this case chemical. Only after years with him would I learn how valuable such a background is in terms of understanding the quantum level of the world in an intuitive fashion. One accepts the existence of certain ladders of validity of theory that explain a vast catalog of phenomena in nature on the atomic and molecular level. This provides tremendous motivation to understand the fundamental theory backing it without the burden of wondering if these bizarre rules have any real world consequence. One knows well that nature just is that way.

By the time I met him in 1989, he had become the lovable nerdy, loose-styled man who might shuffle into the classroom in a Hawaiian shirt, canvas shorts, and sandals. He disguised himself as the stereotype of the professor into his own reality. Woe betide those who believed that he did not keep sharp track of the subject matter and the discussion around him! He was always listening, whether in the classroom or in person. He caught every stray remark. If he didn't understand something you said, he would ask. He wanted people around him to play at his level.



It took getting to know him, and becoming one of his students, to realize the impeccable nature of his recollection of resources—books he once owned or preprints buried in the metal filing cabinets in his office. He used no official textbook in his courses, only an initial one from which he departed freely, directing students toward other references as he saw fit. Is that explained well enough in Coen-Tannoudji? No? Well, look in Sakurai. When in doubt, always consult Dirac. One was expected to become familiar with the great thinkers and expositors upon which he built his own understanding of theory. Sometimes this meant learning the entire history of theory, along with theory itself.

With Bill all questions were on the table. In his office, and on his bookshelves, one saw that he had a lifelong habit of gravitating towards the tough questions. To work with him was to explore the tender unresolved parts between the solid surfaces of known theory: classical-quantum correspondence, saddle points in the phase diagrams of nonlinear oscillators, chaos in neural networks, quantum statistical phenomena, higher order effects in quantum optics, relativistic many-body dynamics. These were just a portion of the many topics his students worked on with him during the decade I knew him. In the previous decade, there would have been a different list, with many overlaps that revealed his lifelong interests (such as Bose-Einstein condensates). The list would keep evolving after one left him as a student, with the arrival of new graduate students who, amidst the many floors of Robert Lee Moore Hall, would find him and his haven for exploring the hard questions of physics.

Like his longtime collaborator Larry Horwitz, who co-organized that Houston conference<sup>1</sup>, he was bold in his exploration and courageous in his defense of solid conclusions advanced by theory under new suppositions, always in search of critical experiments that might extend human knowledge.

It was something most physicists once did, I thought. In this way, Bill was the epitome of the Old School physicist to me, even down to his humorous adoption of post-war Old World academic terminology. He loved being Herr Doktor Schieve.

For me IARD is a continuation and extension of the weekly Friday afternoon meetings we held in his office as his graduate students, each one of us giving white board lectures only a few feet away from each other. We were crammed on his old couch and easy chair below the strange eclectic framed items on his wall, all of which seemed to have been there for many years. Each week was a shift of subject as we rotated giving talks for him and our peers. Our subject matters were often radically different from each other, because of the diversity of our projects. Somehow all of our different projects were alike, because of the slant Bill took on them. There was nowhere else we would rather have been. None of us wondered why the others were students of his.

He was a kind and fair man. He was charitable of spirit in every interaction I had with him. He did everything he could to help me in my career.

He indulged my speculation in fringe systems and mathematical curiosities for years in a patient way until it bore fruit. He guided me as I submitted chapter after chapter to him of my dissertation for approval. I dreaded getting disapproval from him during our meetings. This made me work very hard to nail everything down before I went into his office.

<sup>1</sup> John Fanchi was the Houston-based hometown host of the 1998 Conference. Tepper Gill of Howard University was also a cofounder of IARD at the conference. Martin Land, our current IARD President, came from Israel as one of Larry's graduate students at the conference.

He taught me physics is a contact sport, and has to be. From him I learned the best way to survive it was to strive to be impeccable at each step. Typical of high-achieving physicists of the Old School, when he was not doing physics, he could be curious about anything else under the sun—the humanities, history, music, art. Again, one is reminded of our own IARD conferences, and our universal ability to switch into off-mode with proper food and drink. It is so much the opposite of every current stereotype held by the public of physicists. I pity those who don't understand us. What they miss out on!

My biggest regret is that I did not take him up on his offer to play a round of miniature golf at the course next to the hotel where we held the 1998 conference. What we could have been inspired to talk about, watching the little ball roll on those contoured hills towards the cup!

The retirement banquet in 2012 was the last time I saw Bill. He and his wife Florence were so happy to see so many of his former students on hand to honor him. I could not have imagined missing that event. His scientific spirit lives on with IARD, and with anyone who does physics the way we do it.

## References

- [1] Oakes M, Reichl L, and Swinney H L 2021 *Physics Today*  
URL <https://physicstoday.scitation.org/doi/10.1063/PT.6.4o.20210323a/full>