

## Memories About Mike Alan S. Willsky

I joined the EE (not yet EECS) faculty in September 1973 and sat in ESL and that's when I interacted with Mike Athans for the first time. Mike was quite kind to me, paying my way to my first IEEE Conference on Decision and Control because he thought it was important for me to be there and meet people. Mike succeeded Frank Reintjes as ESL Director and, with great insight successfully fulfilled his vision for the broader agenda of the Lab, including communication and networks, leading to Bob Gallager, Bob Kennedy, and Jeff Shapiro joining the Lab, Dimitri Bertsekas being hired and joining us, and Mike's arranging the change in the Lab's name to the Laboratory for Information and Decision Systems.

Mike very generously invited me to join him (and Nils Sandell) in teaching the summer professional course Mike had developed. At the end of that course, probably in the summer after my second year on the faculty (when we were socializing with the attendees) Mike announced to all that I was the new Assistant Director of LIDS. I think that it would have been nice if Mike had asked me about this beforehand, but if you know Mike, you know Mike.

I didn't engage in much joint research with Mike, but he did have impact in helping further my research on failure detection by helping me gain funding from NASA for what became one of the areas of my early MIT research for which I am probably best known. Mike also got several of us – Nils, David Castanon, and Keh-Ping Dunn – involved in his bold effort to take the formalism of Multiple Model Adaptive Control, first developed in the doctoral work of Mike's student Dieter Willner, and apply it to the adaptive control of the F-8 aircraft, where we were competing with engineers who actually had practical experience in aircraft control, namely a team at Honeywell spearheaded by Gunter Stein. That was a humbling experience (fortunately we didn't fly it except in a ground simulator), but Mike turned this experience into two profoundly important consequences. The first was the luring of Gunter to take a part-time position in LIDS, splitting his time between Minneapolis and Cambridge, and the second was using the F-8 experience and Gunter's guidance to help launch the very important development of methodologies for robust control. While it is fair to say that the major advances in this field were accomplished by others, Mike's role as an intellectual disruptor who used his gut instincts to drive research (as he did in other areas such as large-scale and decentralized systems) into rich new areas is indisputable.

Another interesting point concerns the change in name of the department from EE to EECS. I was on a committee that looked at alternate names for the Department, as well as alternate structures, and as we settled on EECS, there was a question as to where we in LIDS fit. While we ended up being associated with the EE side of the Department, Mike, with a fair amount of insight as to the future of our field and of how computing would evolve, argued that we should really be on the CS side. That's an argument that we can still have, although the new structure in the Department and the new College of Computing does a pretty good job of obliterating what if anything is left in the intellectual boundary as far as LIDS is concerned.

In 1979 Nils Sandell and Mike invited me to join with Sol Gully and Mike's former student, David Kleinman, as a cofounder of ALPHATECH, with Nils as CEO and Mike as Chairman of the Board. That started a 25-year experience for me that not only complemented my academic research but also enriched it considerably (ALPHATECH also served as short- and long-term homes for some of my graduating students including Ahmed Tewfik, who has just stepped down as Department Chairman at the University of Texas and Mark Luetttgen, who rose to the position of Vice-President and is now CEO of the very successful company Systems and Technology Research. The experiences and perspectives I gained in working on programs at ALPHATECH was extraordinarily valuable in broadening my perspective.

Mike was also very important to me personally. As you may know, there are both MIT and Federal rules on how long one can hire a contract employee without he or she being considered employees (hence requiring payroll taxes). One of the contract employees at ESL/LIDS was Susanna Natti. Fortunately for me (and I THINK for Suzi), Mike broke that rule so that Suzi stuck around, while she worked on her portfolio as a budding children's book illustrator, long enough so that we became close, so Mike deserves credit as the "Cupid" who brought my wife and I together, now for 40 years. Thanks, Mike.