

Tihiro Ohkawa was one of the most creative people I've ever known. I joined GA in October 1971 and began working on Doublet II, with Torkil Jensen as my boss. At first only Torkil and I were the physicists who ran the experiments on Doublet II. Tihiro, as head of the fusion group, would work in his office all day and then come down to Doublet II at about 5 p.m. every day to discuss physics and the Doublet II results for the day. I mostly listened because much of what they discussed was over my head, since my PhD was in a different area of plasma physics. Tihiro always had useful suggestions for what to try the next day.

The GA fusion group grew very quickly beginning in the early 1970's. A Thomson scattering team from Culham confirmed that the Russian tokamak T-3 had achieved breakthrough plasma temperatures. Since Doublet II and then Doublet IIA were the closest US experiments to the Russian tokamaks, our government funding and the size of the Doublet physics group grew very quickly. The 1973-1974 Arab oil embargo was a major catalyst for a large growth in US fusion funding.

Tihiro valued creativity. To encourage new thinking, Tihiro had an unusual management technique. He felt that scientists would become "stale" if they worked on the same project or idea for more than a few years. So he would reorganize the fusion group frequently. And if there were reasons not to reorganize, he would simply ask that all our offices be switched as an alternative, to try to prevent us from all getting stale. Hence during my early days, we could always count on reassignment to a new area, job assignment, or at least a new office every one to two years. Later in my career, I remember that we were encouraged to try to come up with one new idea each day and write it down in a personal new ideas log book no matter how good or bad we thought the idea was.

Tihiro took advantage of our lead in the tokamak studies and proposed a much larger device, Doublet III, under the lead of John Gilleland. I'll always remember when John called me into his office and asked me to head the Doublet IIA-Doublet III diagnostics group. Part of John's "sales pitch" was something John said Tihiro had told him on asking him to head Doublet III. Tihiro's pitch was essentially that John and I were getting to the age when physicists are too old to be creative, so it was best for us to become managers. I was surprised and a little shocked, since this was only five to seven years after I had completed my PhD, and I felt I was just getting started in my physics career. John said he felt the same way. I still wonder if Tihiro really believed this sales pitch. It certainly made me think. One thing I do know is that it didn't apply to Tihiro himself. Although a generation older than most of the fusion group, Tihiro remained highly creative throughout his career. He came up with so many ideas, he had to form a separate group of young physicists whose job was to pursue, test, and follow through on the ideas Tihiro felt were the most worthwhile.