

# Things were different in grade school for Gordon Ellison

## Tek boasts 'top thermal scientist'

Gordon Ellison recalls that he "was the kid who had to bring math papers home to have them signed, they were so bad."

Today, Gordon is Tek's newest chief scientist. His colleagues say he's one of the top thermal scientists in the electronics industry. In addition to lecturing internationally, he's regularly asked to review papers and research proposals and chair conference technical sessions.

Gordon cites several factors for his choice of science as a career:

- His father was a "real hard worker, a real tough guy, who set up certain rules, part of which was that you should work hard and be good at what you did, but not for the money, power, or prestige."

- "I had this big fear of math and these papers that constantly needed to be signed, but one semester in junior high I came home with straight A's. I didn't even try for them, and one of those A's was in math. To this day, I don't understand how."

- In a high school freshman placement test, he excelled in math. When a school counselor asked if her assumption was correct that he was going to major in math, he obligingly agreed. "Her question kind of triggered the whole thing, but I was never the type to join the science club or do science puzzles. When the school day ended, I wanted out of there."

A native of Los Angeles, Gordon later entered UCLA and studied physics. Upon entering the job market, he found his first few positions disappointing "because there were few challenges."

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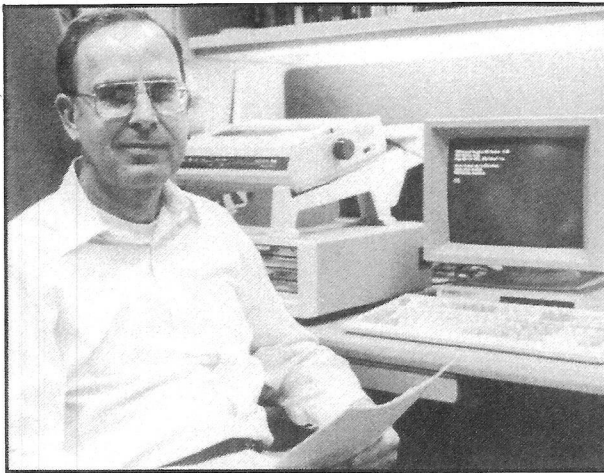
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After finishing a graduate degree in physics at the University of Southern California, he got his chance to "make a unique contribution." "My manager said, 'Gordon, we're having a heat build-up in these computer chips and I wonder if you might try solving it for us.' I will always be grateful that he gave me that chance."

Although Gordon knew nothing about heat transfer, he read available information and eventually solved his employer's problem, deciding at that point that thermal physics was to be his area of contribution: "I was going to stay in it even if I got fired or had to leave the company. That was the

area for me and my sixth sense told me that."

It was then, in 1976, that he was hired by Tek as a thermal engineer. At his employee



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orientation, the speaker said, "Don't be afraid to make mistakes here. We have a job to do and we want to work together to get the job done." Says Gordon, "I still think that if we at Tek would work together to get the job done, no one could touch us."

Gordon is applications-oriented: "I was never interested in paper studies. If what I work on doesn't have an impact on a product, I'm really not interested in it."

Gordon's fans say:

"His thermal analysis software programs are the result of (the ability to apply) an uncommon set of complementary skills: physics, applied mathematics, heat transfer, an understanding of electronic enclosure and component design, and extensive experience in algorithm development and coding."

"The beauty of thermal modeling with Gordon's programs, when used early in the design phase, is that they allow the engineer to quickly assess several designs prior to fabrication . . . on one project, measured data deviated from computed data by only 15% . . . on another project, only 10% . . . The savings in thermal design time along with the ability to evaluate more designs in a given time period makes these programs invaluable."

"He has a rare ability that enables him to break down a problem into solvable blocks, making realistic approximations, and then to implement the relevant mathematical equations in computer code . . ."

"It is rare to find technical literature in which enough information is given so that others can duplicate the results and then go further."

Among his achievements, Ellison is also the author of one of only three books in print on engineering for electronics cool-

ing. His book, *Thermal Computations for Electronic Equipment*, recently translated into Chinese, evolved slowly, starting with notes he had assembled over many years. He was steered by a colleague to a publisher interested in the manuscript mostly because it varied its approach from previously published works.

Gordon sees himself as a communicator, teaching designers how to thermally analyze their own work. "My philosophy is to help engineers help themselves," he says. "They know their product better than we do, and by doing most of it themselves, they are less apt to miss something significant."

Gordon credits Tek with "an early interest in electronics cooling, aimed at improving our products in a way few other electronics companies had conceived of." And where Gordon was once the company's only thermal physicist, he is now a member of a group working with designers of next-generation workstations, test systems, and a host of other on-going projects.

Despite his successes, Gordon finds himself increasingly impatient with age. "When I was young," he adds, "I took my time because I believed I had 40 years to make a contribution. Now I always seem to be in a hurry to get things done."

Gordon does his best thinking in early morning. "At night I'm irritable, very realistic, and my rose-colored glasses have long fallen off," he says. In the evenings, though, he still spends much time at his

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home computer, teaching himself about new software and trying to improve on older versions he has written.

Gordon believes that heat problems in components will only increase: while semiconductors are becoming larger, they are incorporating proportionally more heat generation.

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**In search of Norwegians:** Gordon, who is married to a realtor and has two daughters, considers researching the genealogy of his Norwegian ancestors to be his main hobby. He's gone so far as to learn the language and to have taken two trips to Norway in search of living relations.