

## Teds Beginnings By Ted Mahler

### Beginning of Engineering

An early remembrance of a toy is a plastic crystal radio kit I received for Christmas from my parents in 1962 while I was in the 2nd grade. My Dad and I must have assembled it correctly because I remember feeling amazed when it received a radio broadcast without needing a battery. My other gift was a chemistry set that had a plastic toy rocket propelled by baking soda and vinegar. I became enthralled by it and the real rockets used in the ongoing space race and I wanted to be part of it. On TV I saw white shirted, black tie wearing men who also wore badges with their picture on it. They seemed to know about everything going on. Having bad eyesight, even then, I knew I could never be an astronaut but it did not matter, I wanted to be one of those guys that had a badge with their picture on it.

### Beginnings of my fascination with model rockets

As an adolescent I heard from a friend at Sunday School, that a person could buy, assemble, and even fly their own rockets. Next Sunday he brought me an ad. I sent my quarter to Penrose, Colorado the model Rocket Capital of the world and received an introductory brochure and offer about model rockery. Thus began a lifelong obsession with model rockets.

### Beginnings of my engineering education

With the end of high school came the realization that more education was needed if I was to be one of those engineers I saw on TV. Living in same town as a top engineering school, Texas A&M, I figured that was the way to go. But not knowing anything about engineering or the types available, my first step to a career would have to be made in the blind. Aerospace Engineering had Space in the title so it must be the right choice. I plucked down my grocery store wages and enrolled. One of the freshman courses was a survey course that covered all the different types of engineering and what they all did. I had no idea of the wide range of careers that were available in the world of engineering. Two years went by and I realized structures and their aerodynamics were not what I wanted to study. But I

also read about a tiny but important part of the Saturn-V moon rocket. They were called transistors and the moon rocket used them and even had some simple devices called Integrated Circuits where transistors and resistors were packed into the same tiny space. Was there a way to study these? Yes there was and so I switched to that. I met Carolyn, my future wife, and got an on-campus student job at the A&M Data Processing Center where I worked my way up to computer operator of our Campus Mainframe computer, an Amdahl 470. I even found some computer classes I could take. Also I heard that using these new tiny integrated circuits a computer could be made that would fit on a table top and cost only \$1000 or less. Within the reach of anyone! I knew I had made the right choice.

### Beginnings of a my career at Texas Instruments

When I graduated Texas A&M I started interviewing for a job. Many companies were hiring in 1979. One of these companies was TI (Texas Instruments). I interviewed at several TI locations but their site in Sherman, Texas was especially interesting. They made unusual IC's (Integrated Circuits) that were for special purposes like watches, controlling RC cars, making sounds and music, controlling TV's, and other interesting functions, It was during that interview that I met Steve. He came across as very smart, somewhat quiet, and very electronics oriented. He also came across as a nerds nerd. I liked him immediately. Even though I finished my other interviews I knew these people were the folks I wanted to work with and I ended up having a 32 year career in Sherman.

### Beginnings of my Scout Leadership Involvement.

In 1989 my oldest son, now in the first grade came to me after school one day with a flyer in his hand. He said some Boy Scouts leaders came to his school telling all the boys about scouting. He wanted to be a Scout. I told him great, let's do it. I also told him that if we are going to do this we are going to commit to it and we are going to do it right. Thus began a 13 year stretch in which I occupied every leadership position in Cub Scouting and later Boy Scouting. Both my boys went through the entire Scouting program and both earned the rank of Eagle scout. I had tremendous fun as a Scout leader and I'm so proud of my sons and all their friends.

## Beginnings of Rocket Club.

In 1992 I overextended myself into another project. I was on my youngest son's elementary school parent committee deciding what the school should do with some newly acquired funds dedicated to technology. I suggested not spending it all on the usual computers and smart boards. but Instead they should put part of the money toward buying some other technical items such as model airplanes, balsa bridge kits, radios, and maybe even some model rockets. All these activities had set me on the road to an engineering career and it might work for these kids. However it all fell on deaf ears. But after the meeting the elementary school principle pulled me aside. She ask if I thought I could put together some kind of after school model rocket program. Not having any experience doing that, not being an educator, and having never ever written a single line of curriculum, I told her, "No problem." Rocket Club was born. It has been active for 25 years and counting.

## Beginnings of BEST

I lived in Howe, Texas just outside of Sherman, almost directly across the highway from TI. It was a rural cattle and farming town. In the area were many other rural farm towns. There was no space race at the time and the kids had few activities outside of FFA and sports. Engineering was virtually unknown as a career choice. I wondered if the kids knew that right across the street at the TI plant we lived in a high tech world and we were using high tech tools and they could be part of it. My boys were in the school system and it was very good school system but I felt it did not make the students fully aware of the high tech career choices that were available to them. I did what I could through parent committees and presentations to classes but I felt there needed to be something else. Something that substituted for a space race. Something that was fun, exciting, educational, and maybe even inspirational.

In the early 1990's Texas Instruments must have also felt there was a shortage of people studying technology and they were participating in nationwide events that promoted engineering. One of these activities was Engineering Week, culminating in Engineering Day. On that day TI Sherman opened it doors to school groups so they could see what happens at the site. They needed tour guides and Steve and I volunteered

to help. We guided school groups on tours of the plant. As we went from exhibit to exhibit it became evident the students were bored, and I agreed. What we did not see was the thought, the creativity, the fun that went into the projects they were seeing. There must be another way.

A highlight of the day was a mass meeting for all the groups in a large conference room. Us guides sat together and Steve and I found seats next to each other. Steve obviously felt the same. We saw that these tours were not exciting the kids. They were not seeing the joy of engineering. As part of the conference room presentation was a live TV broadcast from the M.I.T. campus. During the broadcast they showed an activity from Dr. Woody Flowers freshman engineering class. It was a contest between student teams. Each team received a shoebox filled with miscellaneous supplies like wooden sticks, electric motors, switches, and wire. They showed a M.I.T. auditorium full of freshman watching a contest of the small student designed and student built machines playing a game. That year the game was knocking down the most cardboard trees in a cardboard forest and was called "Hurricane Force". Steve and I looked around at the students in the conference room and we saw they were going wild with excitement. We looked at each other and said "We can do this." BEST was born.

### Beginnings of Science Club.

Here in Maine the Thomaston Public Library has a 40 Days Of Summer program. This program is intended to give bored summer vacation kids a free meal and a fun activity. I help out by supplying an air rocket launcher and some cleaned Dr. Pepper plastic bottles to launch. We color paper fins and attach them to a paper wrap which we tape around the bottles. Then we launch the "DP Rockets" with an air powered launcher pumped up by a foot powered air pump. It's great fun and the kids look forward to Rocket Day. But the library had a problem. Most of the kids that participate in the program are very young, 1st thru 3rd grade. In the mix are a few older kids that get bored with the activities intended for the young children. To entertain them the head librarian ask if I could do something to keep their attention. What I have come up with is a program using old Commodore computers I had in the basement. I have a lot of documentation and lots of electrical supplies that make fun projects that are controlled by the computers. With Covid, in-person activities have been delayed. Let's hope it proves to be interesting and this turns out to be the beginning of Science Club.