

State of TRVP

By Pete Nelson

Paper Newsletter: In the November issue of the newsletter, we appealed for donations to continue printing of the newsletter. The cost of the November issue was around \$2,000 in printing and postage. The response was not adequate, so all donations were returned to donors. We will continue publishing the newsletter on the Web. Our web site is paid through August 2020, at which time we will request funding from Tektronix to continue newsletter distribution by email /web site. The cost of a website for email distribution is estimated to be less than \$250 per year.

Editor / Reporter: We are in need of a reporter, or an Editor. A reporter would be responsible for creating a single or multiple articles for publication. Your memories of Tektronix while here... Did working at Tek experience help in later life?... How did Tektronix affect your life?...

Yes, we are looking for a replacement for Bill Gellatly. Bill brought his positive-can do attitude to the Editor position for most of three years. He tried to convince Tektronix to fund the paper for one more year. In addition to supporting Tek Retirees, Bill is extremely active with the

Benton county Habitat for Humanity. He is active with Habitat for Humanity from clearing land for new housing to being on the county board. This year, Bills wife asked him to help in the release of a book she was writing. We will miss Bill, but understand his wife and local community come first. Thanks Bill for all your support.

Needs: What we need now is content, which is why we request reporters. Tektronix continues to provide workspace, computers and Printers but that may change. We need to re-establish a connection with Tektronix / Fortive management since Luanne Shiller, our contact, left in the last Fortive downsizing.

Technical Education at Tektronix

John Stoops

Tektronix was supportive of its employees furthering their education. Tek had its own internal set of classes that taught employees everything from soldering to machining, including electronic circuitry & communication theory. Classes taught by Tek employees were the backbone of TEP (Tek Educational Program). Tek also had tuition reimbursement for many of the local schools. Much of the knowledge needed to work as an engineer at Tek was not di-

rectly available from the local universities. So Tek recruited many of its own engineers to share their hard won knowledge by teaching classes specific to their expertise. One such class was AFTR – Amplifier Frequency and Transient Response. This class was created and first taught by Carl Batjes in 1968. Carl recruited many of his colleagues to offer guest lectures. Guest lecturers included Thor Halen, John Addis, Wink Gross, Ian Getreu, Al Hollister, Einer Traa, & Bob Nordstrom.

Some of the TEP instructors included Harry Stewart, Nelson Hibbs, John Shepard, Len Bell, and Bob Beville teaching topics such as circuit analysis, Thevin's theorem, tubes and transistors, Boolean algebra & logic design.

AFTR quickly became a “must take” course for all new engineers at Tek. Many people took it several times – both as a “refresher” and because the course continued to evolve with new material being added. Carl taught it for several years, eventually “passing the torch” to Wayne Kelso, and then to Bruce Hoffer. The material in the course was definitely graduate school level and unavailable anywhere else.

In the digital world, Don Kirkpatrick offered a course on digital design that offered unique tech-

niques on asynchronous design, also unavailable as a class outside of Tektronix.

Fred Weiss taught a class on A/D converters & DACs. Tom Leatherwood taught a class on the Motorola 6800 using the in-house "board bucket" as a hardware platform.

The PC revolution created a demand for programming language classes and these were readily available from the local community colleges. In addition, there were companies that offered to come to your location and teach course on specific topics, e.g. Grounding and Shielding, ISO9000 compliance, etc. These and many offerings by Portland Community College contributed to the eventual demise of TEP.

In July 1985, Pat Quinn initiated SYMPOSIUM on ANALOG IC Design Simulation Tools (SAIDST).

Presenters at SAIDST I included;

Ernie McRenolds - Today's SPICE performance;

Jim Kimball - Why Use TSPICE;

Grace Tsang – SCALX;

Brian Biehl – Verifying the Correctness of an IC Layout;

Wink Gross – 2400 Chip Experience;

John Addis - M377 MegAmp Experience;

Stew Taylor - M300 Double-Layer Metal Experience;

Jack Hurt – Simulating Tomorrow's IC.

There were five SAIDST Symposiums, the final on June 1, 1988.

Tek sold its IC and Hybrids circuits divisions (bldg., equipment, intellectual property and people to MAXIM 1994).

Tek in-house Tools

As might be inferred from the SAIDST presentations, Tektronix developed its own set of in-house tools,

including its own version of SPICE, an analog simulation tool. This was known as TekSpice, also referred to as TSPICE. Initially TekSpice functioned as a text net list. Each circuit element was manually typed in with the first letter of the element name identifying what type it was. The element name was followed by the nodes it was connected to, and then the component's value; e.g. R35 1 8 1K. This later evolved into a graphical user interface that facilitated schematic capture. This greatly improved troubleshooting failed simulations. The simulations ran on a Cyber mainframe computer. This was before personal computers and users accessed the program from terminals. Len Carter created a program called "SCRIBE" for data entry. This was before the existence of word processors.

A frequently encountered problem was the simulation would not converge. Of course, Tek had an in-house expert for this problem - Ernie McReynolds.

In addition to the circuit simulation program, Tek had a need for modeling of its "in-house" processes. Tek's manuals included schematics with a theory of operation. Ian Getreu was asked to contribute a description of transistor computer models for one of the manuals. The description was so lucid and informative it grew into

a separately published book, which became an industry standard: "Modeling the Bipolar Transistor" (still available from Amazon).

Tek maintained an integrated circuit modeling group that documented its many processes and provided simulation models for each process. The bipolar processes included SH1 (SuperHigh 1), SH2, SH3, SHPI

Chuck Saxe formed a group ADG (Advanced Design Group) to provide state-of-the-art design tools for Tektronix. The group included Dave McKinney, Steve Sullivan, Tim Sauerwine, Paul Gerlach, George Hadadd, & Craig Overhage. Tim Sauerwine developed a digital design tool, AMBER, well before VHDL and Verilog. Bob Bluhm recalled "...LOVED the tool...Amber was light years ahead of its time and a beautiful tool." "...it did some things that the tools even years later couldn't. Recursion, Clocking on both edges." Steve Harris, Kim Overhage and Craig Overhage used AMBER to design the TBC (Time Base Controller) for Eve (TDS640). Bob used AMBER to design the TBC for Elvis (TDS680).

Tek took advantage of available commercial simulation software from companies like Cadence. Tek also needed to make use of semiconductor foundries after selling its IC facilities. For a few years, Tek was able to use Maxim as a supplier, but eventually relied on IBM for high-speed analog capability. For digital designs, TSMC was a frequent choice. Of course, Tek relied on the foundry to provide device models for simulation.

Newberg Air Force Base Support

Newburg Air Force Base was the site of a Semi-Automatic Ground Environment (SAGE) station. I called on the PMEL, Precision Measurement Equipment Laboratory, that supported the calibration and repair of anything of a metrology nature, weights, standards and measures stuff. That extended to all the aeronautical instruments and radios of aircraft. While the sarge and I were discussing scopes and calibration issues, I noticed the activity of a technician at his workbench: he sawed off a length of a broom handle. He drilled a hole in one end, drove a nail in it and sharpened the tip. A hole was drilled in the other end; a BNC cable end was snipped off and mounted into that hole. He wrapped all this with black electrical tape. I am not making this up! I finally had to ask, "Sarge, what is that E4 doing?" Sarge explained: they were trying to order an extra Tek probe from Base Supply. (Remember an episode of M*A*S*H? Season two. Trapper and Hawkeye wanted to treat a patient but getting blood results from Tokyo would take too long. They wanted their own incubator. A supply officer told them they weren't allowed one-it was not on the MASH BEL, Basic Equipment List.)... The BEL of this PME-lab did not allow an extra probe so they decided to fabricate a 'defective' one to turn in for a replacement. That was allowed. Fortunately, I had probes in my brief case, and gave them some. I don't know if they still turned in the 'defective' one.

Another issue the lab was having was about ordering matched amplifier vacuum tubes from Base

Supply. They ordered the Tek part number, expecting a package containing two tubes. No. One part number. Base Supply shipped ONE tube! "OK, let's order two of the part numbers. So what do we get? Two tubes separated, loose, not the matched pair package!" I could not help this right away, but did notify a Beaverton shipping group to emphatically label the packages with something like 'Matched Pair-DO NOT SEPARATE'...

Along about this time the part-number system switched from six digits, XXX-XXX, to nine digits, XXX-XXXX-XX. The change was a boon to this lab. Sarge realized if orders were placed with Base Supply using the new format, it would not match anything Base Supply had. They then had to forward the order out to Tektronix. The lab enjoyed this for quite a while until Base Supply eventually caught on...

TRVP Then and Now

Louis Sowa

A brief history of the TRVP as I see it. A letter sent only to people who were getting retirement benefits in 1996. A second letter also included us classified as Terminated Vested, a more inclusive group. Initially there was a much larger agenda then the newsletter with direct involvement in the community.

Tek had gone through a series of layoffs damaging the Tek image in the community. I believe the main drive for Tek to support The TRVP was to improve that image. Sharon Beatty was hired for a year and I think half pay a second year to pull the organization together. Her in-

volvement concluded there has been a long slow decline in participation. Most of us involved were not great promoters, however very dedicated. There has been dwindling participation due to death and family issues that has diminished our ACTIVE numbers. Tek has continued to decrease support for the TRVP.

We expect Tek will continue to support the website, office space, and use of office equipment. If the TRVP is to continue, long term there will need to be more involvement from retirees.

We will also be modifying the formatting.

The Original Staff:

Editor/Publisher: Newt Espe

Editorial Staff:

Dick Braniff

Peggy Jo Berg, Eve

Fitzgerald

Louis Sowa

Jennie Lou Werlein

TRVP Development Team:

Warren Collier

Jess Gard

Evelyn Marsh

Dick Duggan

Harry Tanielian

Ed & Roz Srebniac

Death Notices

Avery, Donald –

d12/24/20-19 @Tek
8.91 years

Bernhardt, Leonard –

d12/23/2019

Chinell, Gloria Ann

d7/30/2018 @Tek~18
years

Day, Sheila Elaine –

d9/5/2017

Dixon, Warren E. –

d11/17/2019 @Te,~25
years

Frisch, Arnold M. –

d12/12/2019

Gilbert, Barrie –

1/30/2020

Griffiths, Stanley A –

d1/19/2020

Hanchrow, James J. –

d212/4/2019 @Tek 15.16
years

Hall, Dennis Robert –

4/6/2018

Horine Jr, Kelvin

Philip —d1/16/2020

Latham, Mark A. –

d4/1/2012

Nedrow, Florence –

d10/15/2007

Njust, Bruce M. –

d12/3/2019 @Tek 25 years

Nordling, Kenneth Emil

—d12/26/2019 @Tek 24.16
years

Overhage, Craig T. –

d12/10/019

Reekie, Scott F. –

d1/28/2019 @Tek 24.31

years.

Todd, Robert Wheeler –

d2/18/2019

Williams, Frances

Christacakos –12/15/2019

@Tek 39 years



VintageTEK Hours

Friday - 10am to 6pm

Saturday - 10am to 4pm

Other times by request

Tek Retiree News ^B

Editor: Open

Publisher: Louis Sowa interim

TRVP Staff

John Addis • Pete Nelson •

Randy Winkel •

John Stoops • Bob Beville

Tek Retiree Newsletter is published quarterly by the Tektronix Retiree Volunteer Program. Send all correspondence to Tek Retiree News, M/S 13-400, PO Box 500, Beaverton, OR 97077

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TRVP Web Page:

www.tekretirees.com

TRVP Office Hours

Thursdays 10-3

CALENDAR

Engineering Breakfast

Wednesday 8AM Beaverton/
Hillsboro area. Lively discussion all
subjects. For details contact Steven E.
Rice pacemakerpete@hotmail.com

Previous Tek-Employees Luncheon

11:30 a.m. 2nd Monday monthly
Peppermill Restaurant
17455 SW Farmington Road #26B
(Corner of Farmington
& Kinnaman Rd)
Aloha, OR 97007
Details: Annetta Spickelmier
503-312-8825

Redmond Breakfasts

8:00 a.m. 1st Monday monthly
Shari's Restaurant; Redmond, OR
1565 SW Odem Medo Way
Spouses welcome
Details: Nick Hughes 541-548-1201

Ex-Tek Radio Amateurs

Weekly on Friday
Time: 5:30 PM
Place: Round Table Pizza
10070 SW Barbur Blvd
Portland, OR 97219
Phone 503-245-2211

Your Updated Phone Numbers

Retiree Medical and/or Life Insurance

Anyone who is a past employee with Retiree Medical and/or Life Insurance will need to request information or make changes in writing to A & I. You must include your signature and Social Security number.

Tektronix Post Employment Services
Trust Fund: BeneSys
5331 SW McCadam
Portland OR 97239
Toll Free: 1-800-778-7956

Cash Balance Plan

The Cash Balance Plan has been transferred to Danaher Pension Plan Processing Center with Hewitt. Questions or changes should be directed to: 1-800-580-7526

401k Benefit

Anyone who has a 401k benefit must contact Fidelity for information or to change their address directly with them at: 1-800-835-5092