



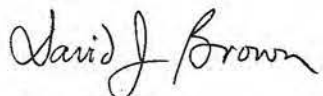
# Artists of Innovation

Innovation is the foundation that enables customer and business success. Each year we recognize and give honor to those that have contributed to the long history of innovation at Tektronix. Through patents, trade secrets and technical excellence, the individuals in the following pages have moved our company, customers and industry forward. With their creativity, passion and skill, they have proven to be true “artists of innovation.”

As you well know, innovation is not an exact science. It requires imagination, inspiration, dedication, resourcefulness and talent. Like artists, the individuals in these pages often start with a blank canvas and seek to generate something that has never existed. From around the globe, they come up with fresh ideas and use the resources at their disposal in new and ingenious ways. They draw upon their acquired skills and talent, but continually seek to hone their abilities and perfect their craft. They problem solve and refine their innovation until it demonstrates success in our products and satisfies our customers. And like an artist who signs each painting, they place their own unique stamp on their creation.

Please join me in congratulating the 2008 Patent, Trade Secret and Technical Excellence Award recipients. From recent college hires to first time patent holders to Tektronix Master Inventors, these are the leaders and role models who are painting the canvas of our future with broad, brilliant, colorful strokes.

Congratulations!



Dave Brown  
Vice President, Central Engineering  
Tektronix, Inc.

## Strategy Award

*The Technical Excellence Award for Strategy recognizes an individual who best demonstrates the ability to link market trends and events to technical initiatives and actions, enabling us to satisfy customer needs in new ways.*



MASTER INVENTOR  
2008

## Kevin Ferguson

**Principal Engineer** • Beaverton, Oregon

Determining video image quality can be very challenging, and the traditional method of using human viewers to create a Differential Mean Opinion Score (DMOS) is subjective, costly, time-consuming and often impractical. Kevin recognized the need for more objective and cost-effective DMOS measurements and developed a number of algorithms based on the human vision model. As a result of four years of investigation, research and algorithm development, he came up with no less than eight patents that enable the PQA500 to perform fast, practical, repeatable, automated and objective measurements of video quality.

Kevin clearly demonstrated technical leadership by recognizing a customer need and working many long hours over the course of several years to address the need. In addition to algorithm creation, he spent time writing papers and giving presentations at video quality conferences. As a result, Kevin's work has helped influence the video quality standards that are currently being developed.

**Most significant achievement since the computer:** ...the internet as virtual connections between computers, internet email as virtual mail delivery, digital oscilloscopes with virtual voltage amplified electron beam deflected vector scanned traces of a phosphor CRT (via capture, computer and LCD), virtual meetings via video phones and conferences, virtual engineering designs and verification via CAD, virtual recording studios, musical instruments, performers and performance halls, virtual readers of scanned images of text (OCR SW), virtual speakers to read the text aloud (text to speech synthesis), virtual doctor's diagnosis, virtual watchers of video to check video quality, virtual currency transactions to purchase these things, virtually everything virtual.

**Favorite art form:** Among my favorites in this category, Leonardo Da Vinci comes to mind as an artist, musician and creator of some of the means for his artistic and musical creations. He created, for example, a horse skull shaped violin type instrument on which he was known to improvise melodies with proficiency. He also creatively referred to making music as "shaping the invisible." As a performer, Nicolo Paganini comes to mind for eye witness accounts are to this day unrivalled.



**28** YEARS WITH  
TEKTRONIX

## People Award

*The award for Technical Excellence for People recognizes significant individual contribution toward fostering and mentoring technical employees. This develops our people and strengthens our ability to achieve our business objectives.*



### Dennis Yuan

**Software Engineering Manager** • Shanghai, China

To add engineering resources to the ongoing enhancement of Tektronix' flagship network management product, GeoProbe, an offshore design team in Shanghai was commissioned in late FY06. Because GeoProbe is a sophisticated solution that is able to support SS7, 2G, 2.5G, VOIP and 3G system monitoring, development efforts require both extensive software engineering skills and an in-depth knowledge of the solution itself.

Dennis took the responsibility for recruiting, training and supervising the new design team in Shanghai. He not only personally mentored the team, but also devised an online training course and established an experience-sharing process to facilitate GeoProbe tutoring and knowledge transfer. Because of Dennis' dedicated efforts to mentor and cultivate offshore engineering resources, the Shanghai design team has grown to more than 20 developers and successfully delivered fourteen projects – many of which have been widely deployed in customer sites and led to new GeoProbe sales.

**Most significant achievement since the computer:** Information storage, search, and interchange.

Most of the time, innovation means hard work. The joy comes after the new solution has been put to work and proved to be beneficial.



**9** YEARS WITH  
TEKTRONIX

## People Award

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### Cui Huwa

**Manufacturing Manager** • Shanghai, China

Over the past four years, Cui has led and developed a strong manufacturing, engineering and technician team in China. What started with just a handful of engineers has grown to a thriving team of 15 engineers, 17 technicians and two managers. Due in part to his leadership and team building skills, manufacturing efforts in China have greatly expanded to include new product introductions and products that were formerly manufactured in the U.S. and Japan.

Cui is a recognized leader among his peers in China and Beaverton. He has a skilled understanding of both Chinese and Western cultures and continually strives to learn more. He is thoughtful and analytical, providing effective leadership across organizations and countries when technical design challenges, supplier quality problems and process issues arise. Cui sets an outstanding example of dedication, hard work, focus on customer satisfaction and attention to quality.



**16** YEARS WITH  
TEKTRONIX

# People Award

*The award for Technical Excellence for People recognizes significant individual contribution toward fostering and mentoring technical employees. This develops our people and strengthens our ability to achieve our business objectives.*



## Steve M. Dodge

**Sr. Software Engineer** • Richardson, Texas

To modernize the GeoProbe network management system and transition from a heavyweight client/server architecture to a thin-client paradigm, a new graphical user interface was needed. It was determined that Java and J2EE technologies would form an ideal foundation for the new graphical user interface. Unfortunately, few in-house resources had experience with these technologies and using external resources was not feasible due to the complexity and ramp-up involved.

Steve stepped up to the challenge and developed an internal Java and J2EE training program. In addition to being intimately familiar with these technologies and the GeoProbe system, he brought several intangible attributes to the table: strong mentoring capabilities, exceptional interpersonal, verbal and written communication skills, proficiency in developing course materials, public speaking aptitude, approachability and a passion for knowledge transfer. The training program has been a tremendous success and Steve has worked tirelessly as he juggles the responsibilities of architect, teacher, mentor, change agent and technology evangelist.

**Most significant achievement since the computer:** Oh, that's a hard question. I'd have to say the most significant computer-related achievement is the internet.

**Favorite art form:** Majoring in civil engineering and being heavily interested in the sciences, I consider the early pioneers of science to be artists practicing a form of art. Robert Boyle who developed the principle relating temperature to pressure in 1662 is my favorite artist.



**2** YEARS WITH  
TEKTRONIX

## Velocity Award

*The Technical Excellence Award for Velocity recognizes an individual who has driven technical breakthroughs or process improvements to enable delivery of key products and services to our customers at faster-than-market speed.*

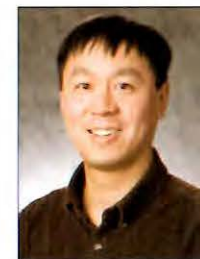


### Edward Gee

**Software Engineer** • Beaverton, Oregon

Extending Digital Phosphor (DPX) technology to spectrum analysis was a critical component of the recent Lancer and Killer Bees programs. Edward was instrumental in these efforts, which included adapting a time-domain technology to the frequency domain, developing a new FPGA design for a new instrument platform and modifying the design to be compatible with an existing platform. With legacy mid-range models facing stiff competition, expediting time-to-market for these new products was paramount.

Edward ran scores of simulations to determine whether DPX would perform adequately on the mid-range platform and ensure the new FPGA and circuit board designs would work correctly when built. He then worked closely with the teams defining the products and developing associated hardware and software, refining his DPX design as requirements evolved and implementation issues arose. These efforts resulted in fewer turns of the firmware and shortened the development schedule by several months.



**18** YEARS WITH  
TEKTRONIX

## Velocity Award

*The Technical Excellence Award for Velocity recognizes an individual who has driven technical breakthroughs or process improvements to enable delivery of key products and services to our customers at faster-than-market speed.*

### Christian Schoenfeld

**Software Engineer** • Berlin, Germany

Through customer site tests, Christian learned that Network and Services Analyzer user requirements are continually changing. After concluding that these diverse and evolving requirements cannot be addressed by application engineers or put into the product as a normal roadmap feature, he developed a new graphical user interface framework. Replacing a graphical user interface framework, which must interface with and provide a superset of all existing product functions, is highly complex and demands close coordination with development teams.

Because of his work, end-users can customize the Network and Services Analyzer's interface and functionality for the first time. Application engineers can implement specialized statistical evaluations on their own, meaning they no longer need to request such enhancements for future product releases. Three key customers have already implemented more than 90 statistics using Christian's framework. In the past, this would have necessitated several release cycles and branching the base product into three customer-specific release lines. Christian's framework has also proven to significantly speed up new feature development.



**11** YEARS WITH  
TEKTRONIX

## Execution Award

*The award for Technical Excellence in Execution recognizes an individual who has demonstrated excellence in evolving engineering ideas into unique solutions that exceed internal and external customer expectations.*



### Ronald A. Acuff

**Principal Engineer** • Beaverton, Oregon

As part of the Borg program, Ron was tasked with the logic design, simulation and verification of the Locutus ASIC for a next-generation logic analyzer acquisition module. The ASIC performs the critical functions of logging in and oversampling user data, determining the presence of valid data through its clocking state machine and sending the valid data to the rest of the acquisition system. Developing the ASIC, which contains roughly 66 million transistors and oversamples user data at a remarkable 50 Gb/s, was technically complex.

In what was essentially a one-man effort, Ron completed the logic design and simulation of the Locutus ASIC. Ron worked closely with the engineering team that executed the ASIC circuit design and layout – all under tight program schedule constraints. Most notably, no significant faults were discovered during the chip debug process, leading to a program decision that no turn of the ASIC would be required.

Ron's contributions helped enable the successful development of a complex ASIC on the first pass which resulted in significant cost savings and shortened the program schedule. This, in part, enabled LAPL to meet several critical customer requirements and fulfill the largest single order in Tektronix history.

**Most significant achievement since the computer:** It would have to be the creation of the Internet.

**Favorite art form:** My favorite art form is music. I like a lot of different types, but tend to prefer rock.  
**Favorite artist?** There are too many to list... I can't narrow it down to just one.

Having fun generates enthusiasm and excitement, and instills a sense of balance and relaxation. All of these help remove barriers to innovation and allow creative thought to flow.



**17** YEARS WITH  
TEKTRONIX



# Execution Award

*The award for Technical Excellence in Execution recognizes an individual who has demonstrated excellence in evolving engineering ideas into unique solutions that exceed internal and external customer expectations.*



## Sean W. McLoughlin

**Sr. Reliability Engineer** • Beaverton, Oregon

Increasing the performance and reducing the size of complex components often comes at the expense of time-to-market and mechanical robustness. In the case of Tektronix high-end probes, which require intricate mechanical assembly, the standard and iterative process of design, build and test was creating supplier issues, delaying program schedules and resulting in unacceptable levels of component reliability.

Through Sean's leadership, Tektronix is now implementing new processes and tools to improve the design, verification, assembly, robustness and overall quality of complex mechanical components. As part of the Cheetah program, he established a formal risk assessment process that identifies critical issues earlier in the development schedule and introduced tools and statistics for component-level simulation, testing and verification. He also worked closely with customers to better understand their robustness requirements and suppliers to further integrate them into the quality verification process.

Tektronix and its customers have greatly benefited from Sean's leadership and hard work. His improved verification processes and tools have enhanced the company's ability to execute on program schedules and deliver more robust, higher quality products to customers.

**Most significant achievement since the computer:** I believe the invention of the CT scanner/ MRI scanner is the greatest invention since the computer. These machines use the most elegant mathematics, the highest level of engineering and the properties of physics at their best to solve real problems in human life. Untold lives have been saved, untold suffering has been reduced or eliminated and many medical discoveries have been made with these tools.

**Favorite art form:** My favorite artist varies by art form and art nearly every day. My current favorite is Sam Maloof. He is (in the opinion of many, including myself) the greatest living artist in wood. He has taken the rather mechanical, mundane task of designing and building furniture to a higher level than in all previous history. He has taught the world that furniture does not have to have square angles and four corners, but also does not have to look like it came from another planet. He is the rocking chair builder for The Presidents and one of the most prolific mentors of other artists and workers of wood living today.

The biggest enjoyment in my job comes from showing others a tool, a process or a technique I've created and let them use it to improve it and make it their own.



**7** YEARS WITH  
TEKTRONIX

## Teamwork Award

*The Technical Excellence Award for Teamwork recognizes the team who, in pursuit of a technical solution, demonstrated the ability to overcome significant challenges to achieve uncommon results.*



### Tektronix/IBM 7HP Yield Enhancement Program

Beaverton, Oregon

In early FY07, three consecutive ASIC wafer lots produced roughly half of the typical yield. This low yield resulted in a severe shortage of ASICs to meet the demand of performance and value products, placing Tektronix revenue in jeopardy for the foreseeable future. Resolving this problem would require dedication, creativity, deep knowledge of the ASIC and strong collaboration between Microelectronics, Maxtek, Global Supply Chain and IBM teams.

It was quickly determined that the yield issue was not associated with any assembly or test processes at Maxtek. Because all three wafer lots had passed IBM's wafer acceptance criteria, identifying the root cause of the problem was tantamount to finding a needle in a haystack. After thorough examination and analysis, the IBM process was found to be the source of the low yield, and the team worked swiftly and proactively with IBM to resolve it.

The team demonstrated commitment, creative problem solving, effective communication with stakeholders and suppliers, perseverance and an unwavering focus on yield improvement. Each team member accepted specific roles and responsibilities, working long hours and making personal sacrifices. Because of their efforts, IBM took responsibility for process improvements, product output was not adversely affected and millions in lost revenue was averted.

# Teamwork Award

*The Technical Excellence Award for Teamwork recognizes the team who, in pursuit of a technical solution, demonstrated the ability to overcome significant challenges to achieve uncommon results.*

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## Borg CMOS ASIC Design Team

Beaverton, Oregon

The Borg CMOS ASIC Design Team was tasked with the design, simulation and verification of two ASICs that form the intellectual property core of LAPL's next-generation logic analyzer acquisition module. The highly sophisticated ASICs contain over 100 million transistors and oversample data at 50 Gb/s using a 130 nanometer process.

The complexity and development timeline of the program required dedicated resources from multiple areas: LAPL Hardware and Software Engineering, Central Engineering's Advanced Development and Logic Design Groups, and Maxtek Package Design and Test. A joint development team was formed to design and produce the ASICs and associated firmware. The team worked collaboratively to reconcile tools and development methodologies, partition the work and achieve the required objectives in an acceptable timeframe.

The team succeeded on every level and verified ASIC functionality and performance on the first pass – a rare and remarkable achievement. By shipping first silicon, the Borg ASIC Team was able to meet a number of critical customer requirements, reduce the development schedule by several months and enable the largest sale in Tektronix history.

## Teamwork Award

*The Technical Excellence Award for Teamwork recognizes the team who, in pursuit of a technical solution, demonstrated the ability to overcome significant challenges to achieve uncommon results.*

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### Fusion ASIC/SW Co-Development Team

Beaverton, Oregon & Shanghai, China

Platform development at Tektronix has historically been a serial process. ASIC and hardware design come first, followed by software development. Because software teams are not fully engaged until the ASIC architecture and much of the design has been completed, they generally have minimal time to understand and influence the system design. Consequently the hardware and software do not always work in perfect harmony.

Microelectronics and VSPL engineers and managers recognized an opportunity to change this paradigm and get all three teams involved earlier in the architectural development process. As part of the Fusion program, the team worked collaboratively to develop a new ASIC on an aggressive timeline, while blurring the traditional silos of ASIC hardware and software ownership and deliverables.

The shared effort resulted in the successful development of the Fusion ASIC and shortened the overall product schedule. Moreover, the new ASIC boasts improved performance and increased stability as a result of the closer alignment between hardware and software architecture and design.

## President's Award

*The President's Award recognizes recent college hires who have made significant technical contributions early in their careers, resulting in key improvements to Tektronix' products or processes.*

### Karsten Gänger

Software Design Engineer • Berlin, Germany

After joining Tektronix, Karsten was tasked with researching an emerging mobile technology – UMTS Long-Term Evolution – which will eventually replace our current networks. The radio interface was a virtual unknown when Karsten started his work. He vigorously explored these uncharted waters, creating the first test module based on K1297, building the first prototype for the Network and Services Analyzer monitoring product and establishing a roadmap for future products to support long-term evolution.

Karsten worked closely with product and program management to understand product needs. He participated in several customer visits to collect requirements and understand their various implementation choices. Perhaps most importantly, he championed a “buy instead of build” decision for the air interface module. Without this novel approach, entering the long-term evolution market would have been impractical. Karsten's advanced R&D work ultimately opened the door for Tektronix to enter this next-generation mobile technology market.

**Most significant achievement since the computer:** Of course it is the individual mobile communication at any place at any time. The move with long-term evolution to the next generation of mobile networks will enable the next step in freedom of information exchange in human relationships.

**Favorite art form:** Art is the most important source of gaining manifold aspects of thoughts in various dimensions: vision, sound and feeling. Each art form stimulates another dimension and can get one to become wiser.



## President's Award

*The President's Award recognizes recent college hires who have made significant technical contributions early in their careers, resulting in key improvements to Tektronix' products or processes.*



### C.V. Ramachandra

**Software Engineer • Bangalore, India**

High-performance arbitrary waveform generators such as the AWG7102, were originally designed to address the testing of serial data receivers. Today, there is an emerging need for "direct synthesis waveform generation," a new and highly complex method of signal creation. In collaboration with his peers in India, Japan and Beaverton, Ramachandra explored this uncharted territory and began working on software tools that meet customers' evolving needs.

Ramachandra embraced this new technology space despite a dearth of domain knowledge and measurement requirements. He invented solutions where needed, submitted two patents and plans to submit two more. He has also visited customers in various parts of the world, providing on-demand direct synthesis solutions and refining them in real time.

Ramachandra's work has paved a path into a new field of measurements for Tektronix. It likely represents significant opportunity in an entirely unaddressed test space.



**2** YEARS WITH  
TEKTRONIX



# Honoring Patent and Trade Secret Recipients

Together, Tektronix engineers produce roughly 10 inventions every month of every year, representing a remarkable and enduring achievement. Patents and trade secrets protect these inventions, securing the company's intellectual property, market influence and competitive advantages.

Because innovation is key to enabling customer success and competitive advantage, these patents and trade secrets are vitally important to the success of Tektronix and its customers. And these recipients deserve enthusiastic praise and recognition.

For their extraordinary achievements, we are proud to honor this years patent and trade secret recipients.

*I take the vision, which comes from dreams  
and apply the magic of science and mathematics,  
adding the heritage of my profession  
and knowledge of nature's materials  
to create a design.*

*I organize my efforts and skills with my fellow workers  
employing the capital of the prudent  
and the products of many industries,  
and together we work toward our goal  
undaunted by hazards and obstacles*

*And when we have completed our task  
all can see  
that the dreams and plans have materialized  
for the benefit and welfare of all.*

*I am an Engineer  
I serve mankind  
By making dreams come true.*

*— anonymous author*



# Maria Agoston

Principal Engineer • Beaverton, Oregon

**2nd Patent:** Method of Generating a Variable Persistence Waveform Database

One of the greatest contributions that Maria makes to the Electro-Optical Product Line is her passion for understanding and addressing customer issues. In fact, it was through customer interactions that the breakthrough concepts underlying her latest invention were uncovered. Maria's commitment to addressing customer requirements is matched with strong analytical skills as well as a deep understanding of test and measurement architectures, methods and products. The invention of variable persistence waveform databases, also known as controlled aging color-graded display modes, is a key enabler for customers who want to compute and view statistical representations and measurements of signals in multiple computer and communications applications.

**Most significant achievement since the computer:** I believe that storage and speed of access to information has revolutionized our field, and the world.

**Favorite art form:** Music is my favorite art form. It can accompany me everywhere, all the time. I love classical music, but we have been known to blast Bob Marley and Abba during our summer family vacations. I cannot leave out the movies. Friday nights after work we catch up with the latest arrivals, after checking if Shawn Levy (the Oregonian movie critic) gave it a reasonable thumb up.



I am one of the fortunate ones for whom work is fun, especially when it makes room for new, creative ideas.

I believe Tektronix is good in fostering creative approaches.



**27** YEARS WITH TEKTRONIX

# Yoneo Akita

Software Design Engineer • Tokyo, Japan

**1st Patent:** Simplified Method for Measuring Linearity of Transmission for Digital Modulation Signal

Akita-san is an expert with the signal processing techniques used in wireless communication technologies. The modulation analysis capabilities of Tektronix RTSA products are due in large part to his work, and he regularly serves as a mentor for other engineers working with DSP. This patent provides a distortion measurement for digitally modulated signals. It uses real signal transmissions to identify the actual performance of radio transmitter amplifiers. This functionality can be found in RSA3000 series Real-Time Spectrum Analyzers, as part of the general purpose digital modulation analysis software and WLAN analysis software.

**Most significant achievement since the computer:** There were so many achievements then it is difficult to say one thing.

**Favorite art form:** I like King Crimson.



**25** YEARS WITH TEKTRONIX





## Iwao Akiyama

Hardware Design Engineer • Tokyo, Japan

**2nd Patent:** Triggered DDS Pulse Generator Architecture

**3rd Patent:** DDS Pulse Generator Architecture

Akiyama-san and Fujisawa-san worked together on two patents. The first provides a DDS pulse generation architecture that allows parameters such as rising and falling edge rates, period time and edge placement to be independently varied without reloading a waveform table. The resolution quality is exceptional and the output is uninterrupted, even when the parameters are changed. The second patent is for the trigger of the DDS pulse generation architecture. It accomplishes the difficult task of producing trigger jitter of less than one period of the sampling clock. The capabilities provided by these patents have not existed previously and solve several unmet customer needs.

**Most significant achievement since the computer:** Nintendo Wii. Sheep Dolly's clone technology.

**Favorite art form:** Y.M.O (Musician), Ichiro Suzuki (Baseball player), Hayao Miyazaki (Animator).



**28** YEARS WITH  
TEKTRONIX



## Evan M. Albright

Software Design Engineer • Beaverton, Oregon

**3rd Patent:** Image Alias Rejection Using Shaped Statistical Filtering

Evan has consistently shown an ability to leverage FPGA technology and DSP techniques in his creative designs. He regularly dabbles with different software tools to explore theories and generate new ideas. These ideas are then discussed with his peers and investigated further with Matlab. This patent smoothes out the traditionally jagged lines in waveform displays, making it easier for customers to view and analyze them.

**Most significant achievement since the computer:** Invention of the Unix Operating System.

**Favorite art form:** Philip Glass (composer).

Having fun is a good  
motivator to be innovative.



**7** YEARS WITH  
TEKTRONIX



## Rolf P. Anderson

**Software Engineer** • Beaverton, Oregon

**2nd Patent:** Method and Apparatus for Providing Bandwidth Extension and Channel Match for Oscilloscopes

Rolf is a fan of outdoor activities, including hiking, downhill skiing and snowshoeing. He says new solutions to technical problems often "spontaneously come to mind" when he is engaged in these activities. Other times, ideas stem from conversations with customers and coworkers. His invention, which enables bandwidth enhanced bandwidth limiting, is currently used in PSPL products.

**Most significant achievement since the computer:** The Apollo 11 moon landing stands out to me as the most significant technical achievement since the invention of the computer. The achievement of thousands of people in many disciplines stands the test of time and served as an inspiration for generations of engineers.

**Favorite art form:** I like all types of music from classical to classic rock to current music and instrumental.



**25** YEARS WITH  
TEKTRONIX



## Robert L. Beasley

**Software Design Engineer** • Beaverton, Oregon

**1st Patent:** Indicating and Manipulating a Zoom Region of a Waveform

A family man who enjoys gardening, Rob is described by his peers as a quick study who is willing to tackle new things. He's not afraid to learn new techniques and tries hard to generalize code so that it can be useful in more than one area. This patent, Rob's first, helps make the zoom feature of Tektronix performance oscilloscopes easier to use. He indicates there was no "Eureka" moment that spawned the invention, simply an everyday desire to make an existing feature easier to use. Only now is the team recognizing the true innovation this enhancement represents.

**Most significant achievement since the computer:** I think the global internet and how it will continue to transform the world is the greatest enabler of change and progress ever invented.

**Favorite art form:** I can't say that I have a favorite. I enjoy experiencing the great things that are produced by people all over the world.



**6** YEARS WITH  
TEKTRONIX

## Stefan Behrens

Software Design Engineer • Berlin, Germany

**1st Patent:** Method and Device for Monitoring a Data Connection

For Stefan, there is beauty in simplicity. He finds that the best design ideas are often the simplest ones and enjoys cleaning up "chaos" or eradicating unnecessary intricacy. For these reasons, his designs are very creative but also pragmatic and sensible. Stefan is stable and composed no matter what the circumstances, and his work is always of high quality. This patent relates to UMTS protocol monitoring devices and led to an immediate \$2 million in add-on sales.



**7** YEARS WITH  
TEKTRONIX

## Kyle L. Bernard

Principal Engineer • Beaverton, Oregon

**7th Patent:** In-Context Creation and Editing of Masks and Waveforms

**8th Patent:** Realtime Power Mask Trigger

**9th Patent:** Time Arbitrary Signal Power Statistics Measurement Device and Method

For Kyle, ideas are often triggered by a confluence of need, direction, focus. Many times the creative juices get flowing when he is on the golf course, ski slopes or basketball court. Not only a source of new ideas, Kyle also manages the detailed planning, execution and follow-up of high quality software releases. He maintains an even and steady hand through both encouraging and difficult circumstances and is a positive influence for the rest of his team.

**Most significant achievement since the computer:** Proliferation of accessible and affordable personal communications (internet, wireless communications) explicitly for developing countries.

**Favorite art form:** Music. Favorite vocalist – my wife. Favorite instrumentalists – my three children.



**28** YEARS WITH  
TEKTRONIX

## Craig D. Bryant

Sr. Software Engineer • Beaverton, Oregon

2nd Patent: In-Context Creation and Editing of Masks and Waveforms

Craig is the software architect for the newest family of performance spectrum analyzers. When faced with a technical problem, he finds that it can be helpful to set the task aside and work on other projects. Oftentimes, working on unrelated items – such as making modifications and mechanical fixes to his sailboat – will trigger an idea or resolution for his latest technical conundrum. Craig's peers describe him as approachable, skilled and experienced, which makes him a "go to" guy for software matters. In fact, Craig was the software architect for the newest family of performance real-time spectrum analyzers.



34 YEARS WITH  
TEKTRONIX

## John C. Calvin

Strategic Technologist • Beaverton, Oregon

3rd Patent: Oscilloscope Having Advanced Triggering Capability

An enthusiast of antiquated British sports cars and steelhead fishing, John's technical prowess and dedication to Tektronix customers are matched by few. He is a consultant and chair on various standards groups and excels at crafting customer solutions – either with existing offerings or by developing new, patented technologies. John's ideas have resulted in the production of leading-edge products such as Direct Synthesis, SerialXpress, Serial Data Link Analysis and Serial Data Network Analysis. The unique talent that he brings to Tektronix has enabled the creation of the IB Technology Solutions Group and business opportunities for the IB product lines. This innovative patent addresses unmet customer needs for triggering on violations in high-speed serial architectures.

**Most significant achievement since the computer:** The progression of technology has always been one of using one stepping stone to reach the next great innovation. The human genome project was a hallmark in the human understanding of genetics and was fundamentally only achievable by leaping from the stepping stone that computer innovations had established.

**Favorite art form:** The band Boston has always been my favorite group of music performers, but the answer to this question runs deeper than contemporary music. Being a gear head by nature, the sound of "great mechanical things" and finding the music in things that are otherwise regarded as noise has always been intriguing and inspirational. Be it the starting of a Messerschmitt BF109 aircraft to an SR-71 the music of great works of human engineering has always stirred emotions and deep thoughts.



13 YEARS WITH  
TEKTRONIX



# Roberto Cappon

Software / Hardware Engineer • Padova, Italy

**1st Patent:** Method and Device for Determining the Speech Latency Across a Network Element of a Communication Network

A wine maker and interior design enthusiast, Roberto started his career in the area of ASIC design. He later focused on the design of digital boards and subsystems, then system software and communication middleware. In recent years, he has become an expert in the measurement of mobile networks and their Key Performance Indicators (KPIs), which requires a deep knowledge of communication protocols and network architectures. This patent, which describes a method and device for determining speech latency in communications networks, was developed quickly and helped demonstrate technical competence, velocity and dedication to a large, strategic customer.

**Most significant achievement since the computer:** Mobile phone, and all the stuff having movement as background.

**Favorite art form:** Painting (impressionism, futurism movement) and decorative arts in general.



**19** YEARS WITH TEKTRONIX

# Paul Gene Chastain Jr.

Hardware Design Engineer • Beaverton, Oregon

**1st Patent:** Wide Bandwidth Attenuator Input Circuit for a Measurement Probe

For Paul, the key to fostering and maintaining creativity is balance. "If you're hungry, tired, stressed or confined to the same space for long hours," he says, "your natural ability to think and reason clearly will be set to mundane tasks and cannot move out of the box." For these reasons, Paul enjoys spending time on the ski slopes of Mt. Bachelor and pushing himself on a physical level, which allows him to meet the mental challenges associated with this line of work. His peers describe him as a strong technical leader who has a good sense of humor and offers creative and pragmatic approaches to complex design problems. This patent, Paul's first, will be realized in future probe designs.

**Most significant achievement since the computer:** This is an easy one for me. The GPS of course, it saves men the painful humiliation of stopping to ask for directions.

**Favorite art form:** My wife Annie is an artist coloring my world with joy. That answer is sure to score big points for me ;) Seriously, I enjoy music in all forms. It relaxes and inspires me at the same time.



**12** YEARS WITH TEKTRONIX



## Dale Robert Daniels

**Mechanical Engineer** • Beaverton, Oregon

**1st Patent:** Differential Termination Attenuator Network for a Measurement Probe Having an Internal Termination Voltage Generator

"When the mind is clear and not under pressure, it tends to create better," Dale suggests. For these reasons, he enjoys oil painting, relaxing in the outdoors and going to the gym. His peers describe him as a leader and go-getter who continually seeks opportunities to learn and add value to the organization. Dale tries to understand how things are used, and then looks at problems from multiple perspectives. This patent enables customers to automatically control termination voltage on an SMA-input probe for minimum DC signal loading, which is critical when measuring differential signals, providing Tektronix a competitive advantage.

**Most significant achievement since the computer:** The mapping of the Human DNA.

**Favorite art form:** Howard Behrens, Oil Painting. I love to Paint in Oils!

I enjoy Oil Painting. It heightens the senses! I enjoy the outdoors and use nature as a means to relax and release my mind.

I work out on a regular basis.

This too enables the mind to have time for background processing.



**16** YEARS WITH TEKTRONIX



## Heidi L. Davis

**Quality/Failure Analysis Engineer** • Beaverton, Oregon

**1st TRADE SECRET**

Heidi says the creative process of coming up with novel ideas, learning new things and being exposed to innovative concepts is the best part of her job. For her, this process usually involves yoga to relax and clear her mind, brainstorming with her colleagues and then conducting experiments to refine ideas based on practical results and feedback. Heidi possesses strong analytical skills, knowledge of material analysis methods and the ability to clearly interpret results. This trade secret defines a new test methodology for the evaluation of flip chip interface strength. It is expected to significantly reduce the cycle time for evaluating design and material set changes in flip chip products.

**Most significant achievement since the computer:** The first satellite in space (Sputnik, 1957), in my view, was the most significant achievement since the invention of the modern computers during the 1940's and early 1950's.

**Favorite art form:** My current favorite music is Bhangra music, which is a type of music that originated in the Punjab region in India. It's very lively and active music that makes even housework fun.



**6** YEARS WITH TEKTRONIX



## Donald Jay Delzer

Sr. Hardware Design Engineer • Beaverton, Oregon

4th Patent: FFT Accelerated Display Mode

Don is extremely versatile. He is willing and able to contribute to areas ranging from measurement methods and algorithms to microwave circuit and system development. His willingness to dive in, help others and go the extra mile has made him the go-to guy for resolving tough system interactions involving members of the design team, Tektronix manufacturing, Maxtek and others. This patented invention is a usability enhancement for a real-time (or other FFT-based) spectrum analyzer. The patent provides a method for delivering useful information on the observed spectrum during long acquisitions as well as an indication of acquisition progress.

**Most significant achievement since the computer:** There have been many computers over the centuries. Supposing that the invention of "the computer" was around 1942, I would say the mass-production of the CMOS transistor is the most significant technical achievement so far. (Super-sonic airplanes or the moon missions are worthy to be called most significant, but I think CMOS touches our daily lives to a greater extent.)

**Favorite art form:** I enjoy so many, and appreciate Tektronix' support of the Portland Art Museum and Symphony. I loved the glass exhibit of Dale Chihuly shown several years ago. One of my favorite musicians is Pat Metheny. But my most-favorite art form is a good fireworks show, one that displays great beauty and power. I enjoy arranging my own, but am limited by local laws and a small budget.



21 YEARS WITH TEKTRONIX



## Vivek A. Dixit

Process Engineer • Beaverton, Oregon

1st TRADE SECRET

In addition to his day job at Maxtek, Vivek has been teaching various levels of math at Portland Community College. Teaching, he says, helps him look at familiar subject matter from different viewpoints and reduce large, complex concepts into small, easily understood pieces. For Vivek, the process of breaking things down and going back to the fundamentals often leads to new ideas for innovation. This trade secret defines a new test methodology for the evaluation of flip chip interface strength. It is expected to significantly reduce the cycle time for evaluating design and material set changes in flip chip products.

**Most significant achievement since the computer:** The Internet! With all the advances in computer technology (memory, processing speeds etc.) people have found numerous ways to use the tremendous computing power now available. I think one of the best uses of these advances has been its use in the creation of the World Wide Web. Looking back it is almost impossible to imagine how we ever survived without the Internet.

**Favorite art form:** I like various kinds of music but my favorite genre is pre 1985 Bollywood Film music – especially two sisters – Lata Mangeshkar and Ash Bhosle. These two sisters dominated the Indian film music for almost 50 years in over a dozen languages. Even when you listen to songs they have recorded within the last couple of years, you would be hard pressed to accept the fact that they are well into their seventies!



3 YEARS WITH TEKTRONIX



## Ken Dobyms

**Principal Engineer** • Beaverton, Oregon

**11th Patent:** Architecture for Improved Display Performance in a Signal Acquisition and Display Device

Although Ken says many of his ideas are “spontaneous flashes of inspiration,” his manager says that he thinks deeply and passionately about customer requirements and applies engineering creativity to yield innovative solutions. Ken has been called the “glue and lubricant” between the customer, marketing and engineering. The way he bridges customer needs with innovation, product planning and engineering efforts is noteworthy and rarely equaled. The patent for which Ken is being recognized relates to the way grayscale displays are produced in the DPO/MSO4000 products.

**Most significant achievement since the computer:** Probably the Internet.

**Favorite art form:** Probably photography, Ansel Adams.



**28** YEARS WITH  
TEKTRONIX



## Seshu Dommaraju

**Sr. Manager, Software Engineering** • Richardson, Texas

**1st TRADE SECRET**

Seshu is passionate about his work and always strives to have fun with his projects. He enjoys running because of its ability to relieve stress and refresh the mind, enabling him to approach work with renewed vigor and focus. A great manager, trainer and mentor, Seshu has taken the GeoProbe mobile team to a new level of quality and consistency. His leadership and technical contributions have helped make GeoProbe the leading mobile monitoring product in the market. This trade secret helps separate Tektronix from the competition when it comes to mobile network troubleshooting. It provides the ability to efficiently track and measure mobile subscriber paging, giving operators in-depth visibility into network broadcasting as they locate subscribers and troubleshoot their networks.

**Most significant achievement since the computer:** Web.

**Favorite art form:** Classic Indian Music.



**12** YEARS WITH  
TEKTRONIX





## Laudie Doubrava

**Hardware Engineer** • Beaverton, Oregon

**2nd Patent:** Oscilloscope Based Return Loss Analyzer

According to his manager, "Laudie knows his stuff." He is interested in everything about electronics and is extremely diligent in keeping up with industry developments. As a result, he is an undisputed expert in his field and is frequently referred to as the only person in the company who truly understands return current management. Laudie works closely with the product lines and understands their challenges, which enables him to develop new solutions with real downstream impact. This patent allows Tektronix oscilloscope users to test the compliance of their solutions in accordance with Ethernet specifications.

**Most significant achievement since the computer:** The silicon-germanium transistor.

**Favorite art form:** The Bee Gees.



**29** YEARS WITH  
TEKTRONIX



## Ralph Ebbutt

**Sr. Package Design Engineer** • Beaverton, Oregon

**1st Patent:** Termination for Optic Fiber

"As a kid, I played a lot with LEGO and worked with my father to complete multi-year boatbuilding projects," Ralph reveals. "The act of creating something significant from scratch was invigorating." Ralph's passion for innovation and problem solving has taken root both at home with his family and in his work. He enjoys creating art with his young daughters and making pottery on his kickwheel, and consistently seeks out new ways of applying technology to solve problems. At Maxtek, Ralph's understanding of packaging materials along with his technical depth and creativity have had a significant impact. Ralph continually finds new ways to innovate and deliver value to Tektronix and Maxtek's merchant customers. The patent for which he is being recognized helped exceed a longtime customer's requirements, and enabled Maxtek to win business that will generate significant revenue.

**Most significant achievement since the computer:** Knocking down the Berlin wall. Although destroying a concrete wall doesn't require much technology, this singular event enabled the developing and developed world to envision greater possibilities.

**Favorite art form:** I enjoy film (from any genre or era) and music (except country) most often. But recently I have begun to seek out unrefined forms of sculpture; such as cairns made from plastic, or welded sculptures made of found objects. Art that makes a powerful environmental or social message intrigues me and causes me to think differently. I also enjoy the design aesthetic of Japanese gardens and modern architects. Clean lines with a minimalist approach appeal to my eye.

I often need a laugh to get unstuck. It's very easy for me to reach a point of deep concentration, but I have to remove myself from this mode to refresh.



**5** YEARS WITH  
TEKTRONIX



## Kathryn A. Engholm

Principal Engineer • Beaverton, Oregon

**8th Patent:** Visualization of Active Codes, Their Spreading Factors and Power Levels, in a Code Domain Power Display

**9th Patent:** Status Ribbon for Display for Multiple Channels/Codes

Kathy enjoys real world puzzles. "Home design, woodworking, sewing and fused glass," she says, "all keep my mind busy visualizing things in three dimensions and finding ways to pull together disparate objects." She demonstrates these tendencies at work as well, as exemplified by the consistent, integrated product interface that she recently developed, which improves customer productivity. According to her manager, Kathy thinks beyond today and continuously looks at the big picture. She works closely with engineering and marketing teams to bring together the right features, built in the right way, to meet customers' present and future needs.

**Most significant achievement since the computer:** Getting our mother's and grandmother's on email.

**Favorite art form:** I love looking at classical paintings, scenic photos, studying architecture, listening to various forms of music, but above all these I enjoy staring at a section of coral reef full of little fish and other tiny creatures or watching birds and chipmunks gathering food out in the yard or seeing a blazing sunset over the coast range.

You must be creative to compete well and win — and winning is fun!



**27** YEARS WITH TEKTRONIX



## Kevin Ferguson

Principal Engineer • Beaverton, Oregon

**16th Patent:** Relative Channel Delay Measurement

Kevin is interested in a variety of disciplines related to science and the arts, including theories of creativity. He has been developing a generalized theory of mathematical models that he applies to the natural and social sciences, engineering and the arts. In doing so, he has conceived innovative science and engineering models as well as different forms of music, art, dance and literature. Needless to say, Kevin is a very creative person who knows how to apply theory to practice, which is exemplified by the 16 patents he has received to date. This patent adds to the measurement capabilities of VPL products, giving customers a unique way to measure channel delay in a video system.

**Most significant achievement since the computer:** ...the internet as virtual connections between computers, internet email as virtual mail delivery, digital oscilloscopes with virtual voltage amplified electron beam deflected vector scanning traces of a phosphor CRT (via capture, computer and LCD), virtual meetings via video phones and conferences, virtual engineering designs and verification via CAD, virtual recording studios, musical instruments, performers and performance halls, virtual readers of scanned images of text (OCR SW), virtual speakers to read the text aloud (text to speech synthesis), virtual doctor's diagnosis, virtual watchers of video to check video quality, virtual currency transactions to purchase these things, virtually everything virtual.

**Favorite art form:** Among my favorites in this category, Leonardo Da Vinci comes to mind as an artist, musician and creator of some of the means for his artistic and musical creations. He created, for example, a horse skull shaped violin type instrument on which he was known to improvise melodies with proficiency. He also creatively referred to making music as "shaping the invisible." As a performer, Nicolo Paganini comes to mind as eye witness accounts are to this day unrivalled.



**28** YEARS WITH TEKTRONIX



## Yasumasa Fujisawa

Hardware Design Engineer • Tokyo, Japan

**2nd Patent:** Triggered DDS Pulse Generator Architecture

**3rd Patent:** DDS Pulse Generator Architecture

Akiyama-san and Fujisawa-san worked together on two patents. The first provides a DDS pulse generation architecture that allows parameters such as rising and falling edge rates, period time and edge placement to be independently varied without reloading a waveform table. The resolution quality is exceptional and the output is uninterrupted, even when the parameters are changed. The second patent is for the trigger of the DDS pulse generation architecture. It accomplishes the difficult task of producing trigger jitter of less than one period of the sampling clock. The capabilities provided by these patents have not existed previously and solve several unmet customer needs.

**Most significant achievement since the computer:** Nintendo Wii. Sheep Dolly's clone technology.

**Favorite art form:** Y.M.O (Musician), Ichiro Suzuki (Baseball player), Hayao Miyazaki (Animator).



**19** YEARS WITH  
TEKTRONIX



## Stefano Galetto

Software Design Engineer • Padova, Italy

**2nd Patent:** Method and Device for Determining the Speech Latency Across a Network Element of a Communication Network

Stefano leans heavily on his knowledge of statistics and advanced mathematics to find elegant solutions to technical problems. He also cites music as a good source of relaxation and creativity. This patent, which describes a method and device for determining speech latency in communications networks, was developed quickly and helped demonstrate technical competence, velocity and dedication to a large, strategic customer. Stefano's experience developing software for voice-related digital signal processing (DSP) and quality of service (QoS) was determinant in the development of the patent.

**Most significant achievement since the computer:** Mobile and converged networks.

**Favorite art form:** Music.



**11** YEARS WITH  
TEKTRONIX



## Edward C. Gee

Software Engineer • Beaverton, Oregon

**1st Patent:** Realtime Power Mask Trigger

Edward is the FPGA architect and driving force behind Tektronix' real-time spectrum analyzer product features, including DPX and its various extensions. For Edward, creativity and innovation are often a random and unintended process. "Sometimes kicking a completely unrelated idea around over coffee," he says, "can lead to an answer to something you have been working on." Edward was developing the FPGA architecture for real-time product features before he grew into his current role, and his architecture and designs have stood the test of time. His work has clearly created a mark in the industry for real-time spectral analysis. Edward also readily shares his knowledge and expertise with others; he helped WFT implement DPX in its latest product and worked with SSPL on concepts for future RF products.



**18** YEARS WITH  
TEKTRONIX



## Paul M. Gerlach

Principal Hardware Engineer • Beaverton, Oregon

**10th Patent:** Architecture for Improved Display Performance in a Signal Acquisition and Display Device

**11th Patent:** Inter-Demux Communication Through a Point to Point Interface

A cycling enthusiast, Paul is a prolific generator of Intellectual Property for Tektronix. His balanced mix of technical strength and leadership ability make him a key cog within his team. Paul has a calm but focused leadership style that evokes trust and commitment from his team members. He is also technically strong and communicates effectively with program managers, architects, software designers and hardware engineers to bridge the gaps between cross-functional development teams. These patents, Paul's 10th and 11th, improve the transfer of data and images from an oscilloscope's acquisition system to its display system.

**Most significant achievement since the computer:** There are too many to choose from, so many that improve our safety, comfort, length of life. So instead I'll say digital photography. Digital cameras have allowed me to get into a hobby that allows me to be creative that would be too expensive for me in the past.

**Favorite art form:** I like music the best, but a favorite is hard to choose, be it Beethoven's 9th symphony, Diana Krall, Peter Gabriel, Brian Bromberg on acoustic bass.



**15** YEARS WITH  
TEKTRONIX



## Mark L. Guenther

Sr. Hardware/Software Engineer • Beaverton, Oregon

**5th Patent:** Method for Decomposing Timing Jitter on Arbitrary Serial Data Sequences.

Mark enjoys creating mathematical models of physical scenes and rendering images of them using ray-tracing tools. He also takes pleasure in reverse-engineering algorithms and scripts written by others in the MATLAB language. This inquisitiveness can also be seen in Mark's genuine interest in analyzing customer problems and creatively applying his signal processing background to solve them. That, combined with his past experience as a hardware engineer and oscilloscope user, gives him tremendous insight into what makes an effective measurement solution. Mark's most recent patent enables one of the two methods for performing jitter analysis on PSPL's high-performance real-time oscilloscopes. It is the only method that allows analysis of jitter on long or non-repeating data patterns.

**Most significant achievement since the computer:** The invention of the internet, together with the avalanche of shared, instantaneous global communication that it enabled.

**Favorite art form:** I couldn't say exactly... but music (particularly acoustic guitar) and architecture are more important art forms to me than visual or performance arts.

It is usually the challenge of solving a difficult problem, and the anticipation that comes with not knowing whether each new hypothesis will finally work, that makes engineering innovation exciting.



**11** YEARS WITH TEKTRONIX



## Michael S. Hagen

Sr. Manager, Advanced Development • Beaverton, Oregon

**8th Patent:** Three Dimensional Correlated Data Display

A self-professed bookworm, Mike enjoys reading about general science, physics, psychology, astronomy and engineering. He also dabbles in music (writing, playing and recording), amateur astrophotography, metal work, Linux, microcontroller-based toys and amateur radio. Mike believes the creative process must be fun in order to drive exploration and foster a safe environment where preexisting belief systems can be challenged. He has received eight patents while at Tektronix, the most recent of which enables users to relate multiple measurements in different domains with a three-dimensional, correlated data display.

**Most significant achievement since the computer:** Cell phones and the infrastructure that enables them. They show what you can accomplish with the synthesis of several different technologies: RF, computing, networking, chips, mfg technology, etc.

**Favorite art form:** I enjoy all music forms but especially rock because of its energy and ability to drive new styles.

The creative process has to be fun. It drives you to continue on and explore. It provides a safe environment to challenge your belief system.



**33** YEARS WITH TEKTRONIX



MASTER INVENTOR  
Tektronix

## William A. Hagerup

Principal Engineer • Beaverton, Oregon

**7th Patent:** Signal Acquisition Probing System Using a Micro-Cavity Laser

**8th Patent:** Signal Acquisition Probing and Voltage Measurement Systems Using an Electro-Optical Cavity

**9th Patent:** Micro-Cavity Laser Having Increased Sensitivity

**10th Patent:** Wide Bandwidth Attenuator Input Circuit for a Measurement Probe

**11th Patent:** Variable Attenuation Signal Acquisition Probing and Voltage Measurement Systems Using an Electro-Optical Cavity

Although Bill sometimes feels guilty for not owning an oscilloscope or having an electronics lab in his basement, he has a variety of interests that keep him busy when away from work. He enjoys community activism, politics, architecture, fishing, staying fit and spending time with his family. “We can learn a lot from five-year-olds,” he says. Bill has received a number of patents recently, which reflect his passion for high-speed analog design and architecture and will be used in future Tektronix probes.

**Most significant achievement since the computer:** I don't think anything really stands out technically. Worldwide, probably improvements in health care, and, in some areas, the spread of democracy, have been the best things humanity has managed in the last few decades. This sounds bad coming from an engineer, but I think sometimes we overrate the importance of technical solutions. Global warming is a good example; certainly there will be important technical developments to combat the problem. But in the end, whether we solve the problem will depend on behavioral and political changes.

**Favorite art form:** I've always enjoyed music in a variety of forms, from classical to rock. Lately, an interest in architecture has started to evolve into an emerging passion for painting and other fine arts.



19 YEARS WITH  
TEKTRONIX



## Scott L. Halsted

Software Design Engineer • Beaverton, Oregon

**1st Patent:** Method of Generating a Variable Persistence Waveform Database

Scott is an expert in oscilloscope math and measurement algorithms, architecture and design. He is constantly on the lookout for improvements that can be made to these systems. The enhancements he has generated affect both the customer's experience with the system – in areas such as measurement fidelity and liveliness of the display update – as well as the internal efficiency of Tektronix oscilloscopes. This patent allows customers to specify the amount of waveform data that is to be included in the waveform database. It also automatically “ages out” older data, displaying only the most recent data measurements and giving users a “live” representation of the device under test. Scott's contributions in the development of this key product differentiator were critical.

**Most significant achievement since the computer:** Space travel, no matter how limited – and the ability to place satellites in earth orbit.

**Favorite art form:** I am inordinately fond of Irish and Scottish folk music, and while I do not have a favorite performer, I have been listening to Hanneke Cassel quite a bit of late.



23 YEARS WITH  
TEKTRONIX



## Robert John Heath

Software Engineer • Beaverton, Oregon

**2nd Patent:** Logic Analyzer Having a Disassembler Employing Symbol Table Information for Identifying Op-Codes

Bob describes himself as a “closet artist trapped in an engineer’s body.” He enjoys working with glass in a variety of forms – from cold (stained glass) to warm (fused glass) to hot (blown glass) – and is currently the president of the Oregon Glass Guild’s Portland chapter. The idea associated with this patent was born in the Berlin airport when a coworker wondered aloud if there would be a way to simplify the process of using a logic analyzer for microprocessor disassembly. By the time his flight arrived back in Portland, Bob had sketched out the fundamentals of the patent, which automates a logic analyzer’s recognition of a microprocessor instruction fetch. When implemented in instruments, it will reduce the need for customers to manually identify and mark these operations in their acquisition records, greatly improving ease of use and productivity.

**Most significant achievement since the computer:** I guess I’d have to say the Internet.

**Favorite art form:** Art Glass. But I’d have a really hard time picking a favorite artist. Portland is a Mecca for glass artists and I’ve been privileged to meet and work with many very talented leaders in the field. But if I had to pick just one, I guess I’d say Klaus Moje, who pioneered much of the modern art glass movement. There will be a special exhibit of his work at the Portland Art Museum this summer, which is the first such exhibit anywhere in the world.



**33** YEARS WITH  
TEKTRONIX



## David A. Holaday

Hardware Design Engineer • Beaverton, Oregon

**4th Patent:** Channel-to-Channel Compare

**5th Patent:** Reloadable Word Recognizer for Logic Analyzer

When he’s not hiking, bicycling, diving, boating or reading science fiction, Dave can generally be found with a logic analyzer. He possesses a wealth of domain knowledge about logic analyzer acquisition technologies and helps define, design and implement next-generation logic analysis architectures and products. He also serves as a leader and mentor, effectively guiding and leveraging his team to achieve first-time successes in ASIC developments. These two patents enhance a logic analyzer’s pattern recognizer functionality.

**Most significant achievement since the computer:** GPS. Not only is it having an impact on navigation, but it being used for surveying, accurate clock, track & locate missing or stolen items. The list keeps growing.

**Favorite art form:** Depends on my mood at the time.



**30** YEARS WITH  
TEKTRONIX



## Talatker Imanbayev

Process Engineer • Beaverton, Oregon

**1st Patent:** Termination for Optic Fiber

A fan of science fiction literature, Tal believes everything is understandable if you dig deeply enough. He demonstrates creativity in solving problems and applies existing knowledge from one area to find solutions in other domains. His ideas are put through a litany of trials: a conceptual sketch is followed by a "common sense" test, after which it is modeled to gauge performance attributes. A prototype is then developed and tested before repeatability and ergonomics work commences. Tal's patent outlines new techniques for fiber optic communication system design.

**Most significant achievement since the computer:** Mobile telecommunication, such as cell phone/personal notebooks.

**Favorite art form:** Classical Music: Mozart, Rachmaninov, Vivaldi, Tchaikovski.



**5** YEARS WITH  
TEKTRONIX



## Aleksey G. Ivershen

Software Engineer • Richardson, Texas

**1st TRADE SECRET**

A 2007 Technical Excellence Velocity Award recipient, Alex cites the violence of hockey and the stagnation of rush-hour traffic as prime sources of creativity and innovation. The resulting ideas are often drawn on paper napkins and move swiftly into source code development. This patent helps separate Tektronix from the competition when it comes to mobile network troubleshooting. It provides the ability to efficiently track and measure mobile subscriber paging, giving operators in-depth visibility into network broadcasting as they locate subscribers and troubleshoot their networks.

**Most significant achievement since the computer:** The Internet.

**Favorite art form:** I like European trance music, in particular DJ Tiesto.

Nothing refreshes your mind and opens it to new ideas better than getting rammed into the boards hard or cross-checked from behind a couple of times.



**8** YEARS WITH  
TEKTRONIX





## Dennis Keldsen

**Sr. Hardware Design Engineer** • Beaverton, Oregon

**2nd Patent:** Method and Apparatus Providing Single Cable Bi-Directional Triggering Between Instruments

Dennis' creative juices start flowing when he is asked to design something that has never been done before. He believes ideas come from needs and needs become apparent when one encounters a problem. The resulting problem solving process leads to innovation, which can produce a "tremendous surge of satisfaction" when an idea is successfully proven and implemented. This patent is a key enabler for a new feature called TekLink, which will be deployed as part of PSPL's next oscilloscope offering. It provides customers with the capability to connect multiple instruments and synchronize a trigger between them.

**Most significant achievement since the computer:** The realization that the computer is not the solution but a tool to discover the solution.

**Favorite art form:** No form of art created by man can come close to the beauty, order, and majesty of this planet and the life that lives on it. I find great comfort in knowing we are not an accident and in knowing of the great potential in every one of us.



**39** YEARS WITH  
TEKTRONIX



## David L. Kelly

**Software Engineer** • Beaverton, Oregon

**3rd Patent:** Oscilloscope Having Advanced Triggering Capability

A 2006 Technical Excellence Execution Award recipient, David developed the software for the Pinpoint Triggering System. The circuits, systems and software covered by this patent provide the basis for the trigger system in all PSPL oscilloscopes since the introduction of the TDS7000, including the TDS6000C, TDS7000, DPO7000 and DPO70000 product families. The patent has delivered a market leadership position in oscilloscope triggering for Tektronix, contributed greatly to PSPL's bottom line and garnered significant industry attention. The trigger reset feature alone was the subject of a technical article published in a dozen countries. Conceptual diagrams from the patent's text resonate with customers' understanding of oscilloscope triggering and have appeared in Tektronix product descriptions, advertisements and marketing presentations.



**8** YEARS WITH  
TEKTRONIX



## Robert D. Kluser

**Mechanical Engineer** • Beaverton, Oregon

**2nd Patent:** Modular Rack-Mounting System

A fan of the outdoors, motorcycles and fishing, Bob is the mechanical representative for the Video Product Line. His years of experience designing new products for this business unit have been invaluable, and he is described as a man of responsibility, integrity and respect. Bob's ideas often undergo an iterative process, where he models the concept and then optimizes it to find the best solution within the given constraints. Other times, he says, innovation "just happens, and it feels good." This patent adds tremendous flexibility to the rack mounting of all WFM style products in the Video Product Line. It increases customer value by allowing them to configure their rack in a way not possible with the earlier system.

**Most significant achievement since the computer:** The CAD systems of today allow 3D modeling and 2D drafting with greatly increased accuracy and speed. It is hard to imagine that this work was done on drafting boards and light tables.



**31** YEARS WITH  
TEKTRONIX



## Dan Knierim

**Tektronix Fellow** • Beaverton, Oregon

**5th TRADE SECRET**

**6th TRADE SECRET**

**25th Patent:** Oscilloscope Having Advanced Triggering Capability

Dan is an absolute master at his trade and his technical expertise in circuits is unrivaled. He is extremely knowledgeable about semiconductor physics and is one of the few Microelectronics engineers with a grasp of how semiconductor parameters affect circuit performance. Dan also has a good feel for manufacturing and understands the importance of manufacturing considerations when designing a chip. Not only is he exceptionally good at what he does, he is also very approachable and always happy to help. This patent provides powerful new triggering capabilities for Tektronix customers, ensuring their oscilloscopes will capture events of interest. The trade secrets provide new, lower cost techniques to implement standard oscilloscope functionality.

**Most significant achievement since the computer:** The most significant technical achievement: the internet. The most significant political achievement: the fall of the iron curtain.

**Favorite art form:** Dance!

I have an interest in curiosity!  
If Necessity is the mother of invention,  
Curiosity is the father.



**26** YEARS WITH  
TEKTRONIX



# Andreas Kolbe

Software Engineering Manager • Berlin, Germany

**3rd Patent:** Method and Device for Monitoring a Data Connection

Andreas' patented invention enables Tektronix to address the market of UMTS base station testing. Its resulting product extension led to an immediate sales impact of \$2 million. Andreas takes his work very seriously and is not deterred by complex technical challenges or program setbacks. He engages his team to find innovative ways of meeting customer requirements and always seeks to improve the precision and reliability of Tektronix offerings. Although much of his work is dedicated to satisfying immediate needs, Andreas continually strives to deliver lasting value to Tektronix and its customers.

**Most significant achievement since the computer:** Wireless Internet.

**Favorite art form:** German romantic painters (Caspar David Friedrich)



**10** YEARS WITH TEKTRONIX

# James S. Lamb

Principal Engineer • Beaverton, Oregon

**2nd TRADE SECRET**

Jim is an expert in analog circuit design and has been at the leading edge of this discipline for decades. He loves the challenge of solving difficult problems and is an exceptional mentor who possesses a unique ability to explain complex concepts in ways that are easily understood. This trade secret provides new, lower cost techniques for implementing standard oscilloscope functionality.



**30** YEARS WITH TEKTRONIX



## Marv LaVoie

**Tektronix Fellow** • Beaverton, Oregon

**10th Patent:** Method and Apparatus for Providing Bandwidth Extension and Channel Match for Oscilloscopes

Marv plays his 1965 Fender Mustang guitar “poorly,” and blames the instrument’s strings for his slow ascension to rock star status. Fortunately for Tektronix customers, his accomplishments as an engineer and inventor far surpass his guitar prowess. Marv is a Tektronix Fellow and has a long history of innovation, including ten patents. The PSPL team regularly looks to him for advice when defining new products and solutions, particularly when it comes to front-end hardware performance. This patent defines techniques that enable the spectrum of flat magnitude and phase to be extended to higher frequencies than is otherwise possible. It has contributed to PSPL’s ability to reach 20 GHz, the world’s widest bandwidth single shot capture.

**Most significant achievement since the computer:** ...So I believe it is not a single achievement but an expectation that assumes continuous innovation that drives progress. The idea that electronic devices can increase in complexity and simultaneously decrease in cost. I believe Moore’s law is the most significant observation.

**Favorite art form:** Music especially that associated with the classical period. For me the piano concerto is the highest art form.



**42** YEARS WITH  
TEKTRONIX



## William Q. Law

**Systems Engineer** • Beaverton, Oregon

**11th Patent:** Signal Acquisition Probing System Using a Micro-Cavity Laser

**12th Patent:** Signal Acquisition Probing and Voltage Measurement Systems Using an Electro-Optical Cavity

**13th Patent:** Micro-Cavity Laser Having Increased Sensitivity

**14th Patent:** Wide Bandwidth Attenuator Input Circuit for a Measurement Probe

**15th Patent:** Variable Attenuation Signal Acquisition Probing and Voltage Measurement Systems Using an Electro-Optical Cavity

Bill has been a technical focal point for meeting customers’ high-performance probing requirements. He enjoys the challenge of solving customer problems, particularly when they believe a solution is “impossible.” With a mechanical inquisitiveness and electrical engineering background, he often broaches technical issues with a focus on the mechanical and electrical implications. Of Bill’s 15 total patents, 14 of them relate to high speed probing. They have helped protect Tektronix’ flagship high-bandwidth active probes, delivering a sustainable competitive advantage in signal fidelity and low loading. His most recent patents may provide additional – and substantial – competitive advantage as an alternative to present probe architectures.

**Most significant achievement since the computer:** The Integrated Circuit, which is an enabler to turning science fiction ideas (and then some) into reality.



**33** YEARS WITH  
TEKTRONIX



## Lawrence M. Lemon

**Mechanical Engineer** • Beaverton, Oregon

**1st Patent:** Security Block for a Communications Connector

A hiking and bicycling enthusiast, Larry is a talented mechanical designer with a broad range of skills. He is passionate about his work and always eager to take on new design challenges. Larry's ideas sprout more quickly when he is relaxed, after which he develops tangible data, gets feedback from his peers and refines the idea into a workable solution. This patent involves a security connector block, which satisfied unmet customer needs and led to additional product sales.

**Most significant achievement since the computer:** Solar power has been around for awhile, so I'd have to say recent gains in the efficiency of solar are encouraging.

**Favorite art form:** Piano, guitar.

Innovation usually begins with a request for a solution. It feels good to be able to provide something of value.



**29** YEARS WITH  
TEKTRONIX



## Tom Lenihan

**Chief Intellectual Property Counsel** • Beaverton, Oregon

**1st Patent:** Multi-Band Amplifier for Test and Measurement Instruments

Tom is Tektronix' Chief Intellectual Property Counsel and is a patent attorney with a background as a working engineer. In pursuing patents, he keeps a keen eye on the technical, as well as legal, implications. According to his peers, "with Tom, you can't beat the engineer out of the patent attorney." He possesses strong analytical skills, demonstrates unwavering dedication to his work and is always available and willing to mentor others. Tom continually ensures that important Tektronix innovations are identified and protected. This patent strategically limits the options of a competitor.

**Most significant achievement since the computer:** The practical electric car.

**Favorite art form:** The three-dimensional art of model railroading.



**11** YEARS WITH  
TEKTRONIX



## Michael J. Mende

Hardware Design Engineer • Beaverton, Oregon

**4th Patent:** Current Probing System

**5th Patent:** Communications Bus Management Circuit

**6th Patent:** Current Sensing Circuit for Use in a Current Measurement Probe

Mike enjoys woodworking, hiking, reading, helping his kids with their various projects and general “tinkering.” In addition to exceptional technical skills, he has in-depth knowledge of the manufacturing process and a keen business sense. For these reasons, he is often called MAPL’s “low cost leader,” deftly balancing performance considerations with cost implications. He believes the best solution to any given problem is often the simplest and most basic one. Mike recently received three patents, which reflect his dedication to Tektronix power measurement applications and will be used in future probe designs.

**Most significant achievement since the computer:** Being that most every high tech electronic gadget has evolved from the computer, this is a hard one. I will go with the ol’ standby, “the internet” .

**Favorite art form:** I find that drawing is a good release, although I am just a doodler. As for music, my all time favorite band has to be Devo (OK, so I live in the 80s for music).



**18** YEARS WITH  
TEKTRONIX



## Daniel R. Murphy

Project Manager • Beaverton, Oregon

**2nd Patent:** Method and Apparatus for Probe Tip Contact

Dan enjoys innovation and the sense of excitement and discovery that it can deliver. For him, this generally includes a series of small insights versus a singular, major revelation. Dan has brought into production some of the highest performance, highest profit products at Maxtek, including the P7380 probe head and the 80EXX series of sampling heads. This invention, “Method and Apparatus for Probe Tip Contact,” was one of the concepts conceived during the P7380 probe development. In high frequency applications, it is critical to maintain contact and signal integrity, which constituted the focus of the design approach.

**Most significant achievement since the computer:** I would say the developments in fiber optic technology, which will impact communications as well as other disciplines.

**Favorite art form:** I like vocal music, primarily popular, blues, and jazz. If I had to select a single performer or artist, I would probably choose Frank Sinatra.

I think it is always fun to engage in a creative activity. The enjoyment comes directly from the sense of excitement and discovery.



**27** YEARS WITH  
TEKTRONIX



## Akira Nara

Engineering Manager • Tokyo, Japan

**10th Patent:** Signal Analyzer and Measurement Method Thereby, and Method for Producing Frequency Domain Data

Nara-san demonstrates sound judgment and leadership in managing the development of hardware and software for Tektronix real-time spectrum analyzers. He is a highly regarded technologist who is able to work on everything from hardware architectures to individual designs, spanning DC to microwave technologies. This breadth of knowledge and skill has enabled him to deliver numerous customer-focused features and breakthroughs. For example, his architectural work on the Spearfish program has delivered breakthroughs in cost and performance. Nara-san is also very inclusive, seeking feedback and suggestions from each member of his team before making a decision. This has helped foster a strong, integrated team that has a common goal and purpose.

**Most significant achievement since the computer:** Chaos Theory.

**Favorite art form:** I like the music of Miles Davis.



**26** YEARS WITH  
TEKTRONIX

MASTER INVENTOR  
TEKTRONIX

## Michael S. Overton

Principal Engineer • Beaverton, Oregon

**8th Patent:** Luminance Qualified Vector Display

A volunteer wrestling coach, Mike enjoys jet skiing and is interested in alternative energy sources. He's also a highly motivated designer who is always wearing the "customer's hat," which enables him to identify real customer value in a unique design idea. In fact, he often finds inspiration and opportunities for innovation by simply watching a customer use Tektronix products. This patent allows users to view a vector display on a video monitor, based on qualified luminance. It delivers a unique viewing capability that helps Tektronix customers track down color problems in their video signals.

**Most significant achievement since the computer:** Reliable Contraception. Until we control the human population of the planet we are on a collision course with a Malthusian disaster for the entire ecosphere.

**Favorite art form:** Sculpture. Rodin is amazing. Blue Man group was cool. For music I am stuck in the 70's from my High-school days. AC/DC, Stones, April Wine, CSNY.



**24** YEARS WITH  
TEKTRONIX



## Robert W. Parish

Hardware Design Engineer • Beaverton, Oregon

**5th Patent:** Image Alias Rejection Using Shaped Statistical Filtering

Bob enjoys spending time with his family pursuing a variety of outdoor activities, including camping, backpacking, bee keeping, raising baby calves and gardening. He is equally hands-on when designing new solutions, eager to try different ways to solve customer problems. Bob possesses an enviable work ethic and is always willing to help his peers. This patent smoothes out the traditionally jagged lines in waveform displays, making it easier for customers to view and analyze them.

**Favorite art form:** Hymns sung by a good choir.



**36** YEARS WITH  
TEKTRONIX



## John J. Pickerd

Principal Engineer • Beaverton, Oregon

**14th Patent:** Oscilloscope Having an Enhancement Filter

**15th Patent:** Method and Apparatus for Providing Bandwidth Extension and Channel Match for Oscilloscopes

**16th Patent:** Sequential Frequency Band Acquisition Apparatus for Test and Measurement Instruments

**17th Patent:** Oscilloscope Based Return Loss Analyzer

**18th Patent:** Multi-Band Amplifier for Test and Measurement Instruments

John enjoys video editing, music composition and recording, 3D graphics and animation and circuit design using vacuum tubes. Home remodeling projects and the restoration of a 1979 Dodge Maxivan also keep him busy. Part of his motivation for developing new ideas and inventions stemmed from a Tektronix patents awards ceremony. He had no patents at the time and attended the ceremony because he was reviewing patents for renewal. He realized this was something he could participate in and has received 18 patents since then. The most recent of which address oscilloscope bandwidth enhancement filtering, return loss analysis, sequential mixer technology and multi-band amplification.

**Most significant achievement since the computer:** John says with a smile, “de-embed probe” which he pioneered!

**Favorite art form:** Phil Keggy- guitarist.



**20** YEARS WITH  
TEKTRONIX





MASTER INVENTOR  
Tektronix

## Ira G. Pollock

Principal Engineer • Beaverton, Oregon

**9th Patent:** Differential Termination and Attenuator Network for a Measurement Probe Having an Automated Common Mode Termination Voltage Generator

**10th Patent:** Differential Termination Attenuator Network for a Measurement Probe Having an Internal Termination Voltage Generator

**11th Patent:** Differential Termination and Attenuator Network for a Measurement Probe

**12th Patent:** Wide Bandwidth Attenuator Input Circuit for a Measurement Probe

Ira possesses an exceptional understanding of all electrical engineering concepts, particularly high-frequency analog design. He formulates countless ideas, many of which he categorizes as "cute but not really clever." The challenge, Ira says, is figuring out which ideas fit into the clever category. He likes to take his time contemplating new ideas to determine if they have merit and identify all possible obstacles. Once a concept passes these initial tests, he seeks to model and simulate it to further prove its viability. Ira recently received four patents, which will be used in future probe designs and reflect his passion for innovation.

**Most significant achievement since the computer:** For the electronics industry, I'd say the advent of the integrated circuit.

**Favorite art form:** Symphony orchestra / opera: Mozart.



28 YEARS WITH  
TEKTRONIX



## P. E. Ramesh

Software Design Engineer • Beaverton, Oregon

**3rd Patent:** In-Circuit Measurement of Saturation Flux Density Bsat, Coercivity Hc, and Permeability of Magnetic Components Using a Digital Storage Oscilloscope

Ramesh brings multiple strengths to his team: broad knowledge of Tektronix instruments, a deep understanding of the domain, a strong analytical ability and a passion for meeting customer requirements. His ability to reconcile all of these attributes while maintaining a focus on the big picture has enabled Ramesh to solve complex problems and develop innovative solutions. This patent allows customers to characterize and measure the magnetic properties of the components used in the power supply design. It has delivered a competitive advantage and extended the measurement capabilities of Tektronix oscilloscopes.

**Most significant achievement since the computer:** I consider the application of Computers in the field of Diagnostic and therapeutic equipment in today's medical world which is helping the longevity of human beings. The use of computer technology in medical application to enhance the quality of surgery in terms of accuracy and precision and decrease the operating time and risk.

**Favorite art form:** I am interested in listening to traditional Indian Carnatic Music. My favorite performer is Mandolin U. Srinivas, a musician who has adapted Mandolin, a western musical instrument to perform in the Carnatic musical tradition of southern India.

To a large extent I find the whole aspect of involvement in problem solving in itself fun.



15 YEARS WITH  
TEKTRONIX



## Balaji Ratakonda

Software Design Eng. Manager • Richardson, Texas

### 1st TRADE SECRET

Balaji has extensive knowledge of telecommunications technologies and a proven track record of building products that help make Tektronix successful in the mobile communications industry. A 2007 Technical Excellence Award recipient, he possesses a unique ability to solve complicated issues and finds inspiration in customer challenges and technical complexities. This trade secret helps separate Tektronix from the competition when it comes to mobile network troubleshooting. It provides the ability to efficiently track and measure mobile subscriber paging, giving operators in-depth visibility into network broadcasting as they locate subscribers and troubleshoot their networks.

**Most significant achievement since the computer:** World wide web.

**Favorite art form:** Pink Floyd and Snoop Dogg.



**11** YEARS WITH  
TEKTRONIX



## Narongsak Rianprakaisang

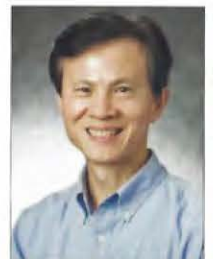
Process Engineer • Beaverton, Oregon

### 1st TRADE SECRET

As a microelectronic process engineer at Maxtek, Sam is always looking for a better and more reliable way to assemble products. "It has become a part of life for me," he says, "and it helps me come up with innovative and creative ideas." His ideas start with a sketch, which is evaluated and refined during lengthy discussions with his colleagues until it can become a reality. Throughout the process, Sam always balances possible solutions with practical considerations. This trade secret defines a new test methodology for the evaluation of flip chip interface strength. It is expected to significantly reduce the cycle time for evaluating design and material set changes in flip chip products.

**Most significant achievement since the computer:** ... the worldwide communication network which includes internet and e-mail. This technology allows us to be in touch with people all over the world instantly. It has made the world a much smaller place for me – I still have a lot of family in Thailand and the internet helps me maintain much better contact with my relative across the world.

**Favorite art form:** I like country pop and soft rock music in general.



**18** YEARS WITH  
TEKTRONIX



## Gary K. Richmond

**Strategic Planning Manager** • Beaverton, Oregon

**3rd Patent:** Reloadable Word Recognizer for Logic Analyzer

Gary enjoys games, puzzles, reading and projects that involve elements of design. He has a deep respect for the engineering community, a love of technology and an undying curiosity for how things work. According to his manager, Gary is tremendously valuable because he can reconcile new ideas, available technologies and customer requirements to quickly assess the implications. And he is always willing to roll up his sleeves to move viable ideas forward. This patent helps customers isolate intermittent problems by triggering on memory/IO readback failures.

**Favorite art form:** Creative a cappella gospel ensemble (i.e. Rescue).



**30** YEARS WITH  
TEKTRONIX



## Kevin A. Robertson

**Sr. Hardware Design Engineer** • Beaverton, Oregon

**1st Patent:** Communications Bus Management Circuit

Kevin has a vision of how things should and could be, and often becomes “obsessed” with resolving issues that stand in the way of this vision. He possesses a diverse skill set and is always willing to help with design problems. In the last few months, Kevin has dealt with yield issues, launch gating concerns and material cost predicaments, all while learning a new digital design methodology and supporting a group of students working on a Capstone senior project. This patent was a key enabler in allowing a TekProbe Level 2 device to work on Tektronix oscilloscopes without bus contentions.

**Most significant achievement since the computer:** The Internet, it has opened up the world to individuals.

Identifying a problem  
with no solution  
is what I find  
triggers innovation.



**34** YEARS WITH  
TEKTRONIX

## Norihiko Sato

Hardware / Software Design Engineer • Tokyo, Japan

2nd TRADE SECRET

3rd TRADE SECRET

Sato-san is an enthusiast of the physical sciences, particularly quantum mechanics, even though the concepts are often difficult to understand. His ideas for innovation come most frequently during moments of downtime and relaxation, such as lying in bed or riding the commuter train. He also finds inspiration from inventions intended for other industries. For example, one of his two recent trade secrets, which outlines a hybrid memory architecture for AWGs, was inspired by the Toyota Prius hybrid car. His other patent delivers a refresh operation for AWGs without interrupting data transfers.

**Most significant achievement since the computer:** Apollo No.11 got to the moon.

**Favorite art form:** I like Simon & Garfunkle, Carpenters, the Beatles and Mariah Carey.



**29** YEARS WITH  
TEKTRONIX

## Patrick A. Smith

Principal Engineer • Beaverton, Oregon

**4th Patent:** Oscilloscope Having Advanced Triggering Capability

Not only is he a master of bad puns, Pat is also HFD's trigger expert. He's patient, helpful and stays diligently focused on the tasks at hand. As an innovator, Pat continuously looks for ways to improve the state of the art in triggering and has a strong record of patents in this area. This patent achieved a significant advancement in triggering, facilitating more than 1400 different combinations of trigger modes. The flexibility of the trigger system has enabled customers to find and isolate events of which they were previously unaware. The full potential of this patent is just being discovered.

**Most significant achievement since the computer:** Pinpoint Triggering, of course! A close second would be the internet.

**Favorite art form:** Music.



**24** YEARS WITH  
TEKTRONIX



## James E. Spinar

**Mechanical Engineer** • Beaverton, Oregon

**1st Patent:** Method and Apparatus for Probe Tip Contact

Jim enjoys solving problems with his peers and believes that most innovations are the result of group efforts. Jim would like it recognized that Geoff Herrick, a longtime Tektronix employee who passed away in 2005, was the originator of the concept contained in this patent. As part of the P7380 team, Jim helped to turn Geoff's concept into a viable mechanical design. This patent applies to an interconnect scheme that allows end-users to easily replace damaged high-performance handheld probe tips.

**Most significant achievement since the computer:** Man on the moon, huge achievement. But if this question refers to the invention of the desktop computer, I would answer quite differently.

**Favorite art form:** Music—without video. Generally, anything other than opera can be good.



**6** YEARS WITH  
TEKTRONIX



## Kerry A. Stevens

**Mechanical Engineer** • Beaverton, Oregon

**1st Patent:** Current Probing System

When he's not building and flying his own airplanes, Kerry is generally working with probes. Over the years, he has developed many innovative solutions for a variety of probing issues. He has a tenacious desire to solve customers' problems, proactively generating creative ideas and always seeking the best possible design. Kerry's innovative ideas generally spawn during brainstorming sessions and he believes in the value of absurdity. "Joking about absurd solutions," he says, "often breaks loose entrenched thought processes and fosters fresh ideas." This patent streamlines the design verification and characterization of software-dependent circuits by allowing current measurements to be made without disturbing the device under test.

**Most significant achievement since the computer:** Internet. .

**Favorite art form:** Mechanical design is my favorite art form, and we toil anonymously.

Joking about absurd solutions often breaks loose entrenched thought processes and allows fresh ideas.



**15** YEARS WITH  
TEKTRONIX



## Michael D. Stevens

Principal Engineer • Beaverton, Oregon

**2nd Patent:** Differential Termination Attenuator Network for a Measurement Probe Having an Internal Termination Voltage Generator

On many nights, Mike can be found teaching adult classes focused on computer science and computers-in-business at the University of Phoenix. Because this ancillary job forces him to be creative, look at computer science concepts in different ways and keep up with current trends and technologies, he believes it has enhanced his contributions to Tektronix. Mike is a strong proponent of teamwork, and regularly tests his ideas against the knowledge and experience of his peers before putting them into practice. This patent, Mike's second, reflects his innovation and creative spirit and will be used in future probe designs.

**Most significant achievement since the computer:** Satellite communication for the masses. This has enabled the World Wide Web (Internet), as well as cell phone communication. It's hard to imagine how developed countries would survive without this technology and access.

**Favorite art form:** One of my favorite CD's is Innovators by Sam Cardon and Kurt Bestor. I've listen to it thousands of times, and it never seems to get old like much of the other music I listen to.

When having fun, we generate many more ideas and test cases for determining if those ideas are moving us where we need to go.



**33** YEARS WITH TEKTRONIX



MASTER INVENTOR  
tektronix

## Steve Sullivan

Tektronix Fellow • Beaverton, Oregon

**16th Patent:** Triggered DDS Pulse Generator Architecture

**17th Patent:** DDS Pulse Generator Architecture

Steve has been a key cog in the successful development of Tektronix products for the past 35 years. According to his manager, "Steve has easily contributed more to, and has had a larger impact on, Tektronix product development than anyone else in our company." He has the willingness and skill to tackle any problem, and possesses a unique ability to reduce complex challenges down to more manageable components. These two patents represent enhancements to the AFG3000. Steve was instrumental in working closely with Tektronix Japan to understand the requirements and develop a custom ASIC for the AFG3000 that delivers a faster sample rate at a lower cost.



**35** YEARS WITH TEKTRONIX



## Toru Takai

Principal Engineer • Tokyo, Japan

**2nd Patent:** Waveform Editing Method

**3rd Patent:** Waveform Editing Method

When his colleagues are faced with difficult technical questions or issues, they frequently say, "Let's ask Takai-san." He never fails to produce answers or ideas, which stem from his broad technical knowledge and experience developing cutting edge products. Takai-san has helped create the software architecture and basic design of Tektronix signal source products. This patent renders the AWG500/600 series more flexible, enabling customers to quickly and easily conduct fine timing validation under various conditions.

**Most significant achievement since the computer:** Internet & world wide web.

**Favorite art form:** I love music.



24 YEARS WITH  
TEKTRONIX



## Kan Tan

Software Design Engineer • Beaverton, Oregon

**4th Patent:** Oscilloscope Having an Enhancement Filter

Kan seems to thrive on challenging analytical problems, such as filter design, new algorithm development and analysis of anomalous waveform issues. He is very effective with simulations, has a good understanding of relevant DSP technology and is proactive in seeking intellectual property protection for new ideas. Kan has also been a valuable mentor for engineers that are unfamiliar with new products and emerging technical areas. This invention significantly improves upon a previous bandwidth enhancement calibration procedure.

**Most significant achievement since the computer:** Gene decoding.

**Favorite art form:** Enjoy good songs and music. No all time favorite artist.



8 YEARS WITH  
TEKTRONIX



## Ingo Thiele

**Software Design Engineer** • Berlin, Germany

**1st Patent:** Monitoring System for at Least One Telecommunication Connection

**2nd Patent:** Method for Dynamical Control of Loading of a Transmission Channel and Load Generator for Transmitting a Test Sequence

Ingo deftly combines programming speed with quality. He is highly accountable, stays focused even in difficult project phases and consistently delivers exceptional solutions in a timely fashion. Ingo possesses broad domain knowledge and is always willing to share his insight with his peers, which has contributed to the team's efficiency and productivity. These patents have enhanced the capabilities of Tektronix monitoring products, enabling the simulation of different traffic profiles across real telecommunication networks.



**10** YEARS WITH  
TEKTRONIX



## Kazutomo Tohyama

**Japan Business Development Mgr, Video** • Tokyo, Japan

**1st Patent:** Signal Measuring Apparatus

Tohyama-san doesn't just want to be an expert in video test and measurement. He has a drive and desire to be THE expert, period. He has decades of experience, in-depth knowledge of video technologies and standards and a deep understanding of customers' applications and problems. He also has a wealth of contacts in the Japanese video industry, helping provide insight into the priorities of key video customers, such as Sony and NHK. This capability has helped Tektronix secure a strong position in the video reference generator market, including more than 80 percent market share in Japan.



**28** YEARS WITH  
TEKTRONIX





## Que Thuy Tran

Principal Engineer • Beaverton, Oregon

**4th Patent:** Oscilloscope Having Advanced Triggering Capability

**5th Patent:** Method and Apparatus Providing Single Cable Bi-Directional Triggering Between Instruments

Que is an extremely strong problem solver. He can effectively dissect a complex problem with minimal data and generate not only an understanding of the problem, but also a way to fix it, in a short amount of time. The PSPL team has great respect for Que's technical abilities, but most appreciates his willingness to help others and his team-oriented approach to innovation. Que recently received two patents. One is for TekLink, a new oscilloscope feature that enables users to connect multiple instruments and synchronize a trigger between them. The other patent relates to new capabilities in PSPL's trigger system.

**Most significant achievement since the computer:** I would think the IC technology is the most significant because it has enabled a lot of other areas to advance (i.e. internet, cell phone, medical, etc.).



**26** YEARS WITH  
TEKTRONIX



## Robert D. Twete

Principal Engineer • Beaverton, Oregon

**1st Patent:** Indicating and Manipulating a Zoom Region of a Waveform

As the system engineer for PSPL and EOPL, Bob has taken a leadership position in architecture advancement. He brings a unique combination of technical leadership and customer knowledge, and has driven the practice of systems engineering across business units and product lines. Bob enjoys solving tough customer problems, and indicates that he is most innovative when things are stripped down to "the bare essence." True, lasting solutions to complex problems, he says, should ultimately seem simple and obvious. Not surprisingly, this patent provides a very simple means of manipulating the zoom region of a waveform. The method is easy and intuitive, making PSPL products more valuable.

**Most significant achievement since the computer:** From a technology point of view I would say it is the internet. It connects all of these computers together typically for the greater good. It has helped people share information much more readily.

**Favorite art form:** I am a huge U2 fan. I am also a huge fan of acoustic guitar music.

I find that I am the most innovative when things are stripped down to the essence. Get as far away as possible to existing solutions and get as close as possible to the real problems.



**18** YEARS WITH  
TEKTRONIX



## Richard A. Van Epps

**Hardware Design Engineer** • Beaverton, Oregon

**1st Patent:** Differential Termination and Attenuator Network for a Measurement Probe Having an Automated Common Mode Termination Voltage Generator

**2nd Patent:** Differential Termination Attenuator Network for a Measurement Probe Having an Internal Termination Voltage Generator

**3rd Patent:** Differential Termination and Attenuator Network for a Measurement Probe

Richard enjoys hiking and gardening, which help rest his mind and spawn new ideas. These ideas never arrive fully formed, he says, and generally need to “percolate, evolve and have the rough edges worn off.” His peers describe him as a consummate professional who performs detailed and complex design tasks with ease and without hesitation. He also provides strong electrical engineering leadership concurrently across multiple programs. Richard recently received his first three Tektronix patents, which reflect his dedication to creating exceptional designs and will be realized in future probing solutions.

**Most significant achievement since the computer:** The laser, with its variety of applications, from communication, to manufacturing, to medicine, and more.

**Favorite art form:** I enjoy a good singing voice, like Linda Ronstadt, Eva Cassidy, and Josh Groban.



**31** YEARS WITH  
TEKTRONIX



## Raymond L. Veith

**Principal Engineer** • Beaverton, Oregon

**2nd Patent:** Triggered DDS Pulse Generator Architecture

**3rd Patent:** DDS Pulse Generator Architecture

According to his manager, Ray has a “raw will to succeed” and pushes hard for progress. These attributes enable him to solve the most difficult design problems. In addition to being a talented and accomplished engineer, Ray is also a superb leader. His projects deliver world-class performance on time and within budget. This patent protects the AFG300 from competitive threats.

**Favorite art form:** Total Annihilation [Futuristic, 3D, real-time strategy computer game.]



**20** YEARS WITH  
TEKTRONIX



## Michael J. Wadzita

Product Marketing Manager • Beaverton, Oregon

**1st Patent:** Indicating and Manipulating a Zoom Region of a Waveform

Mike has a strong interest in mechanical systems and machinery. He likes to understand how things work and appreciates intricate mechanisms that have a clear purpose. This balance of complexity and clarity can also be seen in Mike's unique ability to paint a picture of how customers work and the problems they are trying to solve. He regularly uses case scenarios, diagrams and analogies to help the engineering team visualize and address customers' unique requirements. This patent improves the ability to examine and compare detailed sections of waveforms captured in long records.

**Most significant achievement since the computer:** The ability to share knowledge across a global fabric of users, i.e. networking and the browsing tools that link it to humans. Nowadays, in seconds you can locate knowledge that took a lifetime to create.

**Favorite art form:** I like comics because they can be like graphical poetry – communicate a broad spectrum of thought and feelings very compactly. And I like heavy metal music because I just haven't outgrown it yet.



**29** YEARS WITH  
TEKTRONIX



## Kei-Wean Yang

Tektronix Fellow • Beaverton, Oregon

**18th Patent:** Differential Measurement Probe Having Retractable Double Cushioned Variable Spacing Probing Tips With EOS/ESD Protection Capabilities

**19th Patent:** Signal Acquisition Probe Having a Retractable Double Cushioned Probing Tip With EOS/ESD Protection Capabilities

Outside of the office, Kei-Wean enjoys woodworking, car repair and home improvement projects. When at work, he likes the challenge of solving some of Tektronix customers' most perplexing problems. Kei-Wean is a multi-disciplinary expert in device physics, solid state electronics, semiconductor processing and device characterization. He has an extensive background and exceptional analytic skills, often asking simple questions that deliver incredible insight into complex problems. He recently received two patents, which will be utilized in next-generation probe designs.

**Most significant achievement since the computer:** Atomic Force Microscope that allowed people to "see" the atomic structure of a material surface instead of just theoretical conjectures.

**Favorite art form:** Music.

It is always fun to see that one's clever thinking can solve a problem ... there is no fun if the alternative solution is just as efficient.



**25** YEARS WITH  
TEKTRONIX

MASTER INVENTOR  
TEKTRONIX



# Scott E. Zink

**Hardware / Software Design Engineer** • Beaverton, Oregon

**7th Patent:** Image Alias Rejection Using Shaped Statistical Filtering

Although Scott has seven patents and 30 years of design experience, his most innovative ideas come when he is doing things outside of work and thinking about a problem subconsciously. For example, one of his best ideas sprouted when he was picking grain heads in a field on a warm summer evening. Scott cites philosophy and physics as other sources of inspiration and creativity. "It is amazing to me," he says, "how often I get a good idea for work when I am reading or thinking about these two subjects." This patent smoothes out the traditionally jagged lines in waveform displays, making it easier for customers to view and analyze them.



**30** YEARS WITH  
TEKTRONIX