S andia's Juan Elizondo-Decanini turned a long-standing problem into an idea he believes could lead to better and less expensive machines, from cell phones to pressure sensors. “This is one of those cases where it appears it’s going to result in substantial savings and it’s going to generate a whole suite of new gadgets,” he says. Juan (2624) leads a project on nonlinear behavior in materials — behavior that’s usually shunned because it’s so unpredictable. Instead of avoiding nonlinearity, he’s embracing it using harmonic waves called solitons and studying, for example, how nonlinearity might be used in capacitors to further improve cell phone reception or lock out computer hackers.

Capacitors are fundamental elements in electronic circuits that store energy by accumulating electrical charge after voltage is applied to them. The stored charge is determined by the capacitance value: the more capacitance, the more charge stored and the more energy at a given “charge” voltage. High-quality capacitors are considered linear because capacitance value doesn’t change as voltage is applied to store a charge. In a nonlinear capacitor, capacitance value changes as voltage is applied, so the energy or stored charge is different from what was expected. In other words, there’s no direct linear relationship between what’s applied as an input and what’s measured as the output in nonlinear behavior. For example, a liter of water remains a liter if it simmers below the boiling point, a behavior that’s usually shunned as too unpredictable.

Got Solitons?

By Sue Major Holmes

Sandia’s Juan Elizondo-Decanini turned a long-standing problem into an idea he believes could lead to better and less expensive machines, from cell phones to pressure sensors. “This is one of those cases where it appears it’s going to result in substantial savings and it’s going to generate a whole suite of new gadgets,” he says. Juan (2624) leads a project on nonlinear behavior in materials — behavior that’s usually shunned because it’s so unpredictable. Instead of avoiding nonlinearity, he’s embracing it using harmonic waves called solitons and studying, for example, how nonlinearity might be used in capacitors to further improve cell phone reception or lock out computer hackers.

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In other words, there’s no direct linear relationship between what’s applied as an input and what’s measured as the output in nonlinear behavior. For example, a liter of water remains a liter if it simmers below the boiling point, a linear behavior. But imagine if water could behave in a non-
That’s that

In a free-ranging discussion the other day with a colleague about what sort of qualities make for good managers and leaders, I thought about an old friend of mine who I had lost contact decades ago. If that sounds like an odd bit of free association, I should probably explain.

A few weeks ago I found myself wondering whatever became of Joe, a friend I’d met in college back in the 1970s. Joe was a master’s student in 18th century English lit in the college’s journalism school. In sharing his interests I discovered an interest in bardsy poetry and local public houses (sometimes called “pubs”). In due course, I gradually got Joe a job as a newspaper reporter, while Joe also left the master’s program to join his family’s very successful marketing firm back East. That was the last I heard of him; in the era before social media, it was very easy — too easy — to lose touch with friends.

Motivated by nothing much more than simple curiosity, really, I typed in his name in Google and got some hits. It became clear to me very quickly that Joe now had become a highly regarded figure nationally in his industry, and a much beloved one. But the tone of the references was a bit odd. It seemed I was reading what amounted to obituaries, with all of the allusions cast in the past tense. Digging deeper, I finally put two and two together and figured out that Joe had not died but had been diagnosed, at the age of 50, with early onset Alzheimer’s. He faced his situation with courage and character, even to the point of starting a blog to chronicle the progression of the illness and his response to it. The blog entries were haunting and beautiful, but increasingly sketchy — and suddenly they stopped. What happened?

Back to Google: I found a brief reference that Joe was admitted into a long-term facility that specializes in providing care for those who can no longer provide for themselves. Among the many tributes that poured in as Joe receded from the industry, the most poignant was by a woman who had been a protégé of his.

She wrote about how excited she had been to be hired by Joe, who had become a business, the kind of guy everyone wants to work for and learn from. About a year after joining the firm, she writes, Joe called her into his office. After a few plesantries, he said to her, “I want to ask you something. Do you think you need a boss?” Taken aback, the woman hesitated for a few moments before Joe added, “… because I don’t think you do.” He had recognized that she was ready for more responsibility and had been working hard at making her presence felt in the firm at the age of 26. As her tribute made clear, Joe was never a “boss.” He was a leader and mentor and champion, identifying the very best in people and helping them realize that in themselves. And that made him, it seems to me, the very best sort of boss to have.

Since reading that tribute, I’ve thought a lot about Joe and I’ve thought a lot about his question. “Do I need a boss?” I don’t know, but I do believe that being able to answer “no” is something to aspire to in the new year.

On the subject of losing track of friends, the cultural scolds out there have been warning us for years that the growing prevalence of social media in our personal interactions is having a debasing effect on society, with long-term implications that are hard to predict but are bound to be bad, bad, bad. In this view, using Facebook and other tools to keep in touch with friends is somehow debasing us in subtle and insidious ways. To all of which I say “hooray.” How I wish I’d had Facebook back in the early 1980s, what a blessing it would have been, to stay connected to Joe and all the other friends of mine who have passed through my life, and many cases literally forgotten now. I think 2016 is going to be a good year to reconnect, once again or at least to try.

See you next time.
— Bill Murphy (MS 1468, 505-845-0845, wtmurph@sandia.gov)
HyStEP device will bring hydrogen refueling stations online quicker

Under old serial testing approach, commissioning could take months

By Patti Koning

Developers are seeing more hydrogen fuel cell electric vehicles (FCEVs) on the road, but refueling stations for those vehicles are still few and far between. This is about to change, and one reason is a new testing device being validated at California refueling stations that will greatly accelerate station commissioning.

HyStEP was conceived to help the deployment of hydrogen fueling infrastructure. In addition to his role as HyStEP lead, Terry says Sandia mechanical engineer Terry Johnson (8366), project leader for the Hydrogen Station Equipment Performance (HyStEP) project.

“Industry stakeholders identified station commissioning as a challenge that the national laboratories have the resources to address,” says Joe Pratt (8366), the Sandia H2FIRST project lead. Sandia and NREL contracted with Powertech Labs to build the HyStEP device.

“HyStEP is going to be very busy in the coming year,” says Terry. “We expect this device to transform commissioning of refueling stations in a way that makes it possible to commission a new station every week or two.”

“HyStEP is essential to ambitious California plans,” says Catherine Dunwoody, chief of the fuel commission in clean energy personal transportation. And California is leading the nation with the most FCEVs on the road of any state and plans to open 35 new retail hydrogen stations by the end of 2016.

“HyStEP acts as a surrogate for vehicles, eliminating the need for each automotive manufacturer to test separately. HyStEP is equipped with modular tanks and all of the instrumentation that automotive manufacturers would use in performing their own tests,” says Sandia mechanical engineer Terry Johnson (8366), project leader for the Hydrogen Station Equipment Performance (HyStEP) project.

HyStEP recently underwent validation testing at NREL’s Energy Systems Integration Facility in Golden, Colorado, and is now undergoing pre-deployment testing at refueling stations at California State University Los Angeles and the South Coast Air Quality Management District headquarters. Early in 2016, the Air Resources Board in collaboration with other state agencies will begin using HyStEP to support the commissioning of new stations. Additional automotive manufacturers, including Daimler AG, BMW, and Honda, are contributing to that effort.

“H2FIRST was conceived to help the deployment of hydrogen fueling infrastructure,” says Chris Ainscough, lead NREL engineer on the project. “HyStEP is an example of DOE and the national laboratories partnering with states to achieve this goal of accelerating clean energy technologies.”

HyStEP will help California meet its ambitious goal of commissioning up to 35 new refueling stations by the end of 2016, which translates to one new station every one to two weeks. The target is a hydrogen-refueling network of more than 50 retail stations in this timeframe, primarily in the Los Angeles metro area, Orange County, and the Bay Area.

“This test device will help speed up and streamline how we validate retail stations to meet customer demands for high-performance fueling. This is essential to a successful market, as fuel cell vehicles are already being shipped to California and we expect many new customers using hydrogen stations in 2016,” says Catherine Dunwoody, chief of the fuel cell program at the California Air Resources Board.

Sandia and NREL will use the data from the validation tests to further develop codes and standards for hydrogen infrastructure. In addition to his role as HyStEP lead, Terry is also on the CSA Group committee that is developing test methods for the Society of Automotive Engineers’ standard defining refueling protocols.

“HyStEP is going to be very busy in the coming year,” says Terry. “We expect this device to transform commissioning of refueling stations in a way that makes it possible to commission a new station every week or two.”
Solitons

(Continued from page 1)

linear manner, where a liter might expand to 5 liters when
simmering.

"People try to stay away from nonlinear behavior
because they want everything to be very simply predictable," Juan says. "When it's linear, you want to put as much effort
into it as you get out of it. When it's nonlinear, sometimes you
put in a little bit of effort and it just takes off. In a nonlinear
context, as energy is conserved, you may change or
amplify the voltage at the expense of the current or the
other way around, depending on the nonlinear component."

Nonlinear concept receives patent

Sandia received US patent 8,922,973 this year for a deto-
nator comprising a nonlinear transmission line Juan devel-
oped. The patent describes using a nonlinear feature to
obtain very high voltages. Juan and collaborators have since
filed technical advances for other applications. A technical
advance is a very preliminary draft of a patent application
that discloses the technical idea by the inventors to patent
attorneys, who use it to create a patent application.

Nonlinear behavior would seem unsuitable for detona-
tors, where safety is paramount. The main safety feature in
a detonator is a driver circuit and switch that prevent acciden-
tal activation. Detonator drivers use high-quality linear
capacitors to ensure exact current so the detonator works
only when the switch is flipped.

However, high-quality capacitors are expensive due to the
huge research investments needed to explore linear materi-
als and the sophisticated designs those materials require, Juan says. So he turned the problem on its head: "What if we can use the worst characteristic of capacitor material, being nonlinear, to our advantage?"

Juan's team focused on theoretical solitons for a high-resis-
tance detonator made with cheap capacitors. Solitons, used
in laser and fiber optic communication, are harmonic waves
that travel long distances without changing shape. They
would sense very small variations in pressure by using non-
linear capacitor behavior coupled with concepts developed
by the high-resolution filter responses that exhibit very little
signal distortion over a wide frequency range, says Charles
Rineske (1765), who leads the Sandia effort.

Solitons like nonlinear material. The advantage is that if
one manipulates the transmission line timing, the pulse width
is compressed, resulting in amplified voltage," Juan says.
"Instead of putting 300 volts to get out 100 volts, perhaps
you put in 100 and get out 1,000. So far the team has
achieved as much as 75 kilovolts from a 7-kilovolt input pulse." In fact, to test solitons for nonlinear transmission lines, the team used nonlinear capacitors, which are so roundly
hated many companies don’t even make them anymore. Juan obtained cheap, out-of-production capacitors that
behaved so nonlinearly they were used only in devices where
linear behavior isn’t important, such as starter motors.

"If this approach is successful, it is a revolu-
tionary use of nonlinear transmission line circuit topologies with solid-state capacitors based on ultra-wide bandgap for many applications."

— Juan Elizondo-Decanini

Phononic filter

(Continued from page 1)

The hybrid device to temporarily change RF signals propagat-
ing along the optical dimension into phonons (sound), enabling effi-
cient analog manipulation of those moving signals.

With this hybrid approach, also known as nano-opto-
mechanical systems, the researchers were able to combine the high bandwidth offered by light — demonstrated at frequ-
cencies up to 20 gigahertz and easily extended to 100 giga-
hertz — with the low loss and high efficiencies provided by
phononic filters. The energy cost of this photon-to-phonon
conversion is offset by the high-resolution filter responses that exhibit very little signal distortion over a wide frequency range, says Charles Rineske (1765), who leads the Sandia effort.

Tin can analogy

A simple analogy for the photo-
phonon information transfer is the tin can telephone: two cans
connected by a string that transmits sound between a speaker
and listener. The speaker’s cup is like the optical input
guide; it converts audible sound to vibration in the tin can.
The cup by the ear is the receiver guide, which converts the vibration back into sound. The string, represent-
ing an engineered material called a phononic crystal, not
only carries the message but changes its tone by filtering out
high-pitch sounds — a kind of signal processing.

Creating a phononic crystal requires taking a thin film of
material, in this case silicon nitride, and modifying it
mechanically by creating patterns on it. The re-

tant crystal exhibits propagation properties not normally
found in nature for mechanical waves like sound. The
properties are dependent on the geometry and pattern
of the film.

For the filtering system, two materials are key: silicon
nitride to form membranes in which the acoustic signals
propagate, and silicon to create waveguides that confine the
optical signals. These waveguides are used to maintain the
optimization of the acoustic and optical properties of the device independent of each other.

"The devices, which are phonon-photonics devices also could be incorpor-
ated with on-chip photodetectors and other electronics." says Juan.

A paper published in March in Nature Communications, "Control of coherent information via on-chip photonic phonon emitter-receivers," describes the work, initiated by Sandia’s Laboratory Directed Research and Development (LDRD) office and currently funded for almost $5 million by the Defense Advanced Research Projects Agency (DARPA). Lead researcher Peter Rakich, now a profes-
sor at Yale University, began the work at Sandia, and the co-

caboration continues to evolve with research partners at the University of Texas at Austin and the industrial firm Rockwell Collins. First author Hedruck Shin, who was a post-
doctoral fellow at Sandia under Rakich’s mentorship, is a professor at Pohang University of Science and Technology in South Korea.

"It’s not a code, it’s not digital, it’s a signal. That makes a difference for security. Even if they [hackers] have your password, as long as they don’t punch it on your phone, it’s useless. From the outside, nobody can hack into it from the phone line, from the Internet, whatever."

— Juan Elizondo-Decanini

Potential uses arise as his team developed nonlinear
applications of the device. Juan says, "All of a sudden we’re creating new devices together."
### Rodeo queen and chemical engineer

**By Mollie Rappe**

Cami Belcher (1853), a graduate student intern, has looked up to the New Mexico State Fair Queen ever since she was little.

“That girl with her hat and crown, riding around the arena; that’s what I always wanted to be,” says Cami.

This September, Cami became that girl. She was crowned in front of more than 6,000 people in a sold-out Tingley Coliseum. Cami was astonished by the overwhelming feeling of support and approval as she walked through the cheering crowds on coronation night.

James McElhanon (1853), manager of Organic Materials Science Dept. 1853, says, “Cami has been great addition to our department as both an undergraduate, and now, graduate student intern. Cami has demonstrated a keen interest in organic materials synthesis, characterization, and development of new materials. We couldn’t be more proud of Cami’s accomplishments both at Sandia and as New Mexico State Fair Queen.”

As a chemical engineering master’s student at the University of New Mexico and as a technical intern at Sandia, Cami doesn’t exactly fit the traditional rodeo queen mold. Her advice for the next generation of little girls looking up to her as the 2016 New Mexico State Fair Queen is to stay true to who they are.

**Cross-pollination**

Cami fell in love with chemistry during her first, required, college chemistry course, and her professional goal now is to become a chemical engineer. In her work in the Organic Materials Science department, Cami is creating and characterizing better capacitor materials. One of her previous projects involved working on capacitors for hybrid cars. These capacitors store the energy lost when braking a hybrid car, and then discharge the energy to accelerate the car again. However, current capacitors can only do this so many times before they’re toast. The team Cami is a part of makes polymer films to go into renewable energy programs and other capacitor programs at Sandia.

**Giving back**

More than 500 unwrapped gifts, each labeled with a foster child’s name, were delivered to NMCYFD Dec. 15 to be wrapped. The program organized by Sandia’s Community Involvement department helps make Christmas a little brighter for foster children throughout New Mexico.

SANDIA TECHNICAL INTERN Cami Belcher (1853) and an Exceptional Rodeo cowboy share a moment at the New Mexico State Fair Sept. 15. Cami loves the Exceptional Rodeo — a mini rodeo for children with special needs. (Photo courtesy of Cami Belcher)

**Exceptional Rodeo**

New Mexico State Fair Sept. 15, 2015. Cami loves the Exceptional Rodeo — a mini rodeo for children with special needs. (Photo courtesy of Cami Belcher)
Sandra's annual Postdoctoral Technical Showcase offers postdoctoral employees the chance to meet the lab's decision-makers and gives Sandra a close look at the upcoming generation of scientists and engineers. The 9th annual showcase in December drew a dozen posters for the California event and 32 posters for the New Mexico event, from postdocs at Los Alamos National Laboratory, invited to present for the first time. Posters fell under the categories of biology, chemistry, computer science, energy, geosciences, material sciences, robotics, metamaterials, optics, plasma physics, and semiconductor science.

Sandra's Postdoctoral Professional Development Program (PD2P) sponsors the showcase to highlight postdocs' work, give them opportunities to advance professional skills, and help them move into research careers. Sandra has about 180 postdocs divided between California and New Mexico. Judges evaluate each poster's scientific content and quality and the author's oral presentation. Christopher Lino (6631) took first place in New Mexico for "Rapid Selection of Nipah and Hendra Virus Vaccine Candidates from a Complex." Random Peptide Library Displayed on Virus-like Particles of MS2 Bacteriophage." The California winner was Ashish Priye (8621) for "An Automated Smartphone-Based Detection Platform that Enables Real-time Isothermal Amplification (RT-lamp) for Mobile Healthcare."

Event also recognized distinguished mentors

New Mexico runners-up were Diane Oyen, Los Alamos, "Analyzing ChemCam Spectroscopy with Graphical Model Structural Learning," and, Fred, Kirstin Chojnicki (6914), "Understanding Pore-Scale Chemo-Physical Coupling for Carbon Storage Applications" and Alessandro Cattaneo, Los Alamos, "Modeling Turbulent Dynamics for the Development of Survivability Constraints in the Economic Dispatch Problem." California's runner-up was Kan Zha (B162), "Piston Geometry Effects on In-cylinder Swirl Asymmetry in a Light-Duty Optical Diesel Engine."

Postdoc showcased work of next-generation researchers

By Sue Major Holmes

Sandra researcher and University of New Mexico professor Jeff Brinker is among 18 distinguished innovators from around the world announced as 2015 Fellows by the National Academy of Inventors. Election and induction into NAI Fellow Program is considered a high honor for inventors who have demonstrated a highly prolific spirit of innovation in creating ormned advanced inventions that have made a tangible impact on quality of life, economic development, and the welfare of society.

Jeff, a Sandra Fellow, UNM Regents and Distinguished Professor of Chemical and Nuclear Engineering and member of UNM's cancer center, was nominated by the STC/UNM board of directors for this national honor. "Dr. Brinker is an outstanding scientist and inventor who is internationally known for his innovative technologies in advanced materials and who has pioneered the field of sol-gel processing. His nanoparticle technologies, engineering marvels, have a broad range of applications, but none more compelling than in the field of medicine," STC/UNM CEO Lisa Kuuttila says.

Jeff also received the 2015 Innovation Mentor Award as a top innovator at UNM. Sandra's Tribal Energy Program Lead, who serves as STC board chair, Sandra Begay-Campbell (6124) says Jeff was recognized as a result of his achievements in developing new technologies and receiving a large number of patents that generated significant commercialization activities from licenses and the formation of new companies.

"Internationally known for his work in advanced materials, Jeff has pioneered sol-gel processing, a method for making inorganic materials molecule-by-molecule. Over the past two decades his research team has developed self-assembly (wherein molecules spontaneously organize into nanostructures), as a robust and efficient means to create porous and composite thin film and particulate nanostructures with optimized properties and/or complex functionalities.

Jeff is also internationally known for his innovative technologies and receiving a large number of patents that generated significant commercialization activities from licenses and the formation of new companies. Internationally known for his work in advanced materials, Jeff has pioneered sol-gel processing, a method for making inorganic materials molecule-by-molecule. Over the past two decades his research team has developed self-assembly (wherein mole- cules spontaneously organize into nanostructures), as a robust and efficient means to create porous and composite thin film and particulate nanostructures with optimized properties and/or complex functionalities.

Jeff will be inducted as an NAI Fellow on April 15 as part of the NAI Fifth Annual Conference at the US Patent and Trademark Office (USPTO) in Alexandria, Virginia.

Jeff has won six R&D 100 awards and was presented with the UMN Presidential Award of Distinction by university president Robert Frank at the Dec. 11 commencement ceremony.

Recent Patents

David Ingemson (2505), Travis Mark Anderson (2546), Chad Stadler (6626) and Harry Pratt (2546): Synthesis of Electroractive Ionic Liquids for Flow Battery Applications. Patent No. 9,123,943.


Travis W. Ecks (5345) and Hyoung Loui (5345): Metal-Free Magnetic Conductive Substrate for Placement-Immune Antenna Assemblies. Patent No. 9,147,931.


Jason Hamlet (5627) and Jackson Mavo (8953): Approximate Circuits For Increased Reliability. Patent No. 9,112,890.


Dennis P. Roach (8620), Randy L. Duvall (6266) and Stephen Eades (6266): Ultrasonic Testing Device Having an Adjustable Water Column. Patent No. 9,121,817.


MISCELLANEOUS

DOG HOUSE, insulated for small dog, $50. Kimberly, 983-6381.

DRIPING SET, medium size, pub-high, $100/bouquet. broth, 505-480-0030.

BROOKSHIRE, wood, screen door, $37; 50 OBO, adjustable flat screen TV wall mount, $30 OBO photos available. North, 31-7874.

ELECTRIC GUITAR, by Turner (1713), semi-hollow body, set neck, w/HSIC, $300 OBO. Gonzales, 505-238-8662.

BACKUP GENERATOR, Predator, 4-cycle, gasoline engine, 3200/4000-W output, essentially new, w/wheels kit, $300. Hardin, 505-977-0897.

FUTON COUCH, full size, wood frame, $250; $200 OBO. Nunez, 515-9084.

TREADMILL, Vision Fitness T9250, $30 5555 Anthony Wagner.

DINING SET, medium size, pub-high, $30 5555 Anthony Wagner.

MISCELLANEOUS

TRANSPORTATION

'04 HONDA CRV, AWD, red, sunroof, 1 owner, 215K miles, good condition, $2,800 OBO. Leon, 286-8217.

'10 LANCER EVOLUTION MR AWD, turbocharged, ~51K miles, $27,500 OBO Van Loan, 505-440-7075.

'08 KIA RONDO EX, AT, 54K miles, great condition, $4,000. Baca, 270-462, ask for Jeremy.

'06 HONDA ACCORD EX, V6, 4-dr., navigation, black leather, moonroof, 96K miles, good condition, $7,500. Maxâ¡ 607-821-9177.

'08 VOLKSWAGEN GTI, 6-speed manual, gray, new tires, heated seats, 125K miles, $9,800. VanGenet, 505-620-7745.

'01 FORD FOCUS SE, 1 owner, AC needs work but otherwise runs great, new tires, $2,000 OBO. Rodgers, 573-356-8914.

'06 HONDA CIVIC EX, 4-dr., manual, galaxy gray, EPA 30/40-mpg, sunroof, 99K miles, runs great, $7,100. Emercy, 505-407-0830.

'12 NISSAN ALTIMA, white, black interior, push button start, 67K miles, great condition, moved to mountain, need AWD vehicle. Pohl, 917-3188.


'11 JEEP WRANGLER SAHARA, tan, excellent condition, $24,999. Ramos, 972-951-0290.

How to submit classified ads

DEADLINE: Friday noon before week of publication unless changed by holiday. Submit by one of these methods:

• EMAIL: Michelle Fleming
  m.fleming@sandia.gov

• PHONE: 844-0645

• MAIL: MS 1468 (Dept. 3651)
  SANDIA NATIONAL LABOS

• FAX: 844-0645

DIRECT INQUIRIES TO MELISSA BAHN

FAX: 844-0645

INTERMEDIATE WIR: On internal web homepage, click on Home Center, then on Lab Links, then on the very top of Lab Links homepage “submit a Classified AD.” If you have questions, call Michelle at 505-844-0645.

Because of space constraints, ads will be printed on a first-come basis.

Ad rates

1. Limit 18 words, including last name and home phone (if you include a web or email address, it will count as two or three words, depending on length of the address).

2. Include organization and full name with the ad submission.

3. Submit ad writing no Preview pages.

4. Type or print ad legibly: use accepted abbreviations.

5. One per issue.

6. We will not run the same ad more than twice.

7. No “ Torrent” ads except for employers and employer appointments.

8. No commercial ads.

9. For active Sandia members of the workforce, informal sandians, and DOE employees.

10. Housing listed for sale is available without regard to race, creed, color, or national origin.

11. Work Wanted limited to skeleton aged children of employees.

12. No renters the right not to publish any ad that may be considered offensive or in bad taste.

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When I was a child growing up in the 1970s, most homes in my predominantly black neighborhood in High Point, North Carolina, had three pictures on their walls: Jesus, Martin Luther King Jr., and John F. Kennedy. These three pictures were generally grouped together either vertically or horizontally and were velvet hangings or framed art. Most of the cities near me had a Martin Luther King Drive in the black community. Every year during Black History Month there were oratorical and essay writing contests that gave tribute to Dr. King and I proudly participated along with my schoolmates. Additionally, we had programs, pageants, and parades to honor Dr. King on his birthday. Dr. King was lauded in our homes, our churches, and in civic organizations such as the Girl Scouts, Boy Scouts, 4-H club, and the Elks.

My parents marched with Dr. King in the 1960s in Greensboro, North Carolina, and a friend’s dad, Franklin McCain, was a member of the now infamous Greensboro Four. I was taught at an early age that I needed to be better, smarter, and faster than my white peers to compete at the same level. Leveling the playing field literally meant striving to be better than your contemporaries. We were constantly reminded of Dr. King’s “I Have a Dream” speech, which described his dream of a nation of freedom and equality, one where the evils of slavery and hatred were banished to the past. His vision became our quest.

Dr. King has impacted my life since my earliest years. As a child I dreamed of extending my borders beyond my neighborhood and my hometown. I believed that with hard work and commitment to education I could actually achieve my dreams. I have benefited from the affirmative action programs that were put in place thanks to the efforts of Dr. King and his followers. Dr. King’s leadership shaped the environment that made possible the passage of the landmark Civil Rights Act and the Voting Rights Act in the mid-1960s. I also grew up to have sensitivity toward others outside my circle of family, friends, and peers. It’s easy to miss circumstances that affect others, to not understand perspectives different than your own when your consciousness is not awakened. Dr. King’s inspiration helped awaken mine. In his August 1967 speech, “Where do we go from here?” he said, “True compassion is more than flinging a coin to a beggar; it is not haphazard and superficial. It comes to see that an edifice which produced beggars needs restructuring.” Dr. King had a vision that race would not be a factor in how people were treated or how they were allowed to live their lives.

Recently, a childhood friend who happens to be white wrote that when we were in the 5th grade, she was put in charge of a Thanksgiving mural in our classroom, which was a big deal at that time and place. She recalled that when a boy named Earl took his turn to add his contribution to the mural, he painted in a brown-skinned pilgrim. The teacher, whom my friend loved, adored, and would have done anything for, was irate, and told her to “fix it.” So my friend cut out a blue-eyed, blond-haired face on “flesh-colored” construction paper and covered Earl’s handiwork, obliterating his painting completely. And she was praised for it. In a poignant reflection, she wrote that she felt guilty about that for 40 years, adding that the injustice and her role in it have haunted her all this time. Based on that experience of so long ago, she said she learned that “classrooms are not a pass-through. They shape us.”

Is Dr. King’s vision still relevant in my life today? I say unequivocally yes, it most definitely is! As it should be relevant for all of us. His words are still words to live by, his dream still our hope. This is our hope. This is the faith that I will go back to the South with. With this faith we will be able to hew out of the mountain of despair a stone of hope. With this faith we will be able to transform the jangling discords of our nation into a beautiful symphony of brotherhood.

When this faith we will be able to work together, to pray together, to struggle together, to go to jail together, to stand up for freedom together, knowing that we will be free one day. This will be the day when all of God’s children will be able to sing with new meaning, “My country ‘tis of thee, sweet land of liberty, of thee I sing. Land where my fathers died, land of the Pilgrims’ pride, from every mountainside, let freedom ring.” And if America is to be a great nation, this must become true. So let freedom ring from the predators’ hillsides of New Hampshire. Let freedom ring from the mighty mountains of New York. Let freedom ring from the heightening Alleghenies of Pennsylvania.

Let freedom ring from the snow-capped Rockies of Colorado. Let freedom ring from the curvaceous slopes of California. But not only that; let freedom ring from the Stone Mountain of Georgia. Let freedom ring from Lookout Mountain of Tennessee. Let freedom ring from every hill and mould of Mississippi. From every mountainside, let freedom ring.

And when this happens, when we allow freedom to ring, when we let it ring from every village and every hamlet, from every state and every city, we will be able to speed up that day when all of God’s children, black men and white men, Jews and gentiles, Protestants and Catholics, will be able to join hands and sing in the words of the old Negro spiritual, “Free at last! Free at last! Thank God Almighty, we are free at last!”

Dr. King’s dream continues to motivate and inspire

By Melonie Parker, VP, HR and Communications Div. 3000

Excerpt from the speech made by the Rev. Martin Luther King Jr. at the Lincoln Memorial in Washington D.C., on Aug. 28, 1963. More than a quarter of a million Americans of all races and creeds were on hand to hear his words, words of such truth and power that they forever changed a nation.

I have a dream that one day this nation will rise up and live out the true meaning of its creed: “We hold these truths to be self-evident; that all men are created equal.”

I have a dream that one day on the red hills of Georgia the sons of former slaves and the sons of former slave owners will be able to sit down together at the table of brotherhood.

I have a dream that one day even the state of Mississippi, a state swarming with the heat of oppression, will be transformed into an oasis of freedom and justice.

I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin but by the content of their character.

I have a dream today.

I have a dream that one day down in Alabama, with its vicious racism, with its governor having his lips dripping with the words of interposition and nullification, that one day right down in Alabama little black boys and black girls will be able to join hands with little white boys and white girls as sisters and brothers.

I have a dream today.

I have a dream that one day every valley shall be exalted, every hill and mountain shall be made low, the rough places will be made plain, and the crooked places will be made straight, and the glory of the Lord shall be revealed, and all flesh shall see it together.