SpotLight

THE PEOPLE WHO DRIVE OUR SCIENCE & TECHNOLOGY

JUNE 2018

LAWRENCE LIVERMORE NATIONAL LABORATORY

KEVIN THOMAS:

HE'S NOT YOUR AVERAGE PLUMBER

LAB WEAPONEER ON A MISSION

LONG-TIME LAB EMPLOYEES: A RICH TAPESTRY OF HISTORY

WELCOME TO SPOTLIGHT

Welcome to the second edition of *Spotlight*, a look at the people who make up Lawrence Livermore National Laboratory. This issue takes a look at the mindset of a weapons scientist, Heather Whitley, whose background in ballet helped shape her career. Our cover story focuses on Kevin Thomas, a plumber by day, fashion photographer/model by night (and weekends). And a collection of longtime employees reminisce about the Lab and their work from days gone by.

We hope you enjoy this edition of *Spotlight*. We'd also like to hear from you. Send us your thoughts and suggestions, whether it's what you like — or even if you don't — about this magazine, or if there is something you would like to see in coming editions. You can reach us at pao@llnl.gov

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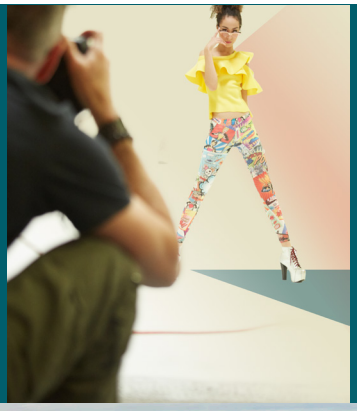

ABOUT THE COVER

When Lab employee Kevin Thomas, left, is away from his day job as a Lab plumber, he often can be found doing professional photo shoots and modeling gigs, such as the one shown here.

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IN THIS ISSUE

Evolution of a weaponeer

She wasn't sure about working on weapons; now the mission is what drives her

By Nolan O'Brien/LLNL

It was 2007 when Heather Whitley interviewed for a postdoc role at Lawrence Livermore National Laboratory. She was wrapping up her Ph.D. thesis at UC Berkeley and was interested in running supercomputer simulations that would help improve the efficiency of solar panels. The science at LLNL drew her, and just 11 days after filing her thesis, she started work with the Quantum Simulations Group. But like many researchers fresh out of school, Whitley wasn't sure about the prospect of working on nuclear weapons.

"I remember the postdoc interview like it was yesterday, and I was excited that the projects that were presented to me were related to renewable energy," Whitley said. "Having grown up in the 1980s, I remember the end of the Cold War, and the relief that the arms race had come to an end. While I was passionate about national security and had even contemplated joining the Air Force rather than going to graduate school, I didn't yet understand the enduring legacy of nuclear weapons as a strategic deterrent. I wasn't sure whether I would want to work directly on weapons."

Little did she know, the Lab's role in ensuring national security would become her driving passion. Her path to leadership at Lawrence Livermore — and in the weapons program in particular — is a story of evolution and self-discovery.

FORMATIVE YEARS

The eldest of seven, Whitley and her family moved across southern New Mexico to Roswell at age 8, in the hopes that her father would be able to get a job at the bus plant there. But the plant soon closed, Whitley's father experienced some health problems, and the family found themselves on hard times.

"We didn't have much in terms of material things growing up, but there was plenty of love in our house, and my parents always put a very high emphasis on the importance of education and doing well in school, and academics always took priority," Whitley said. "I saw education as a way of making sure that I'd be able to ensure a better financial future for myself and my family."

Despite a trying childhood, Whitley excelled at school, eventually earning scholarships that would support her through college. She also had the support of her family for one of her first passions: ballet. She started dancing at age 10 and continued pursuing this lifelong devotion through college and into adulthood.

When Heather Whitley moved to Livermore, she got involved in the Valley Dance Theater, where she has performed many roles in "The Nutcracker" over the years, including "Waltz of the Flowers" and "The Mouse King." A typical week during her first few years at the Lab would include six days of cross-training after work to make sure she maintained the strength and flexibility to perform with grace and power on stage.

"...if you can get on stage in a giant mouse costume, then what's the big deal with a physics presentation?"

"Ballet is one of the few things that completely took my mind off of everything else," Whitley said. "It forced me to be much more comfortable in my own skin. After all, if you can get on stage in a giant mouse costume, then what's the big deal with a physics presentation?"

While she still maintains her annual tradition of teaching choreography to children, after getting married and taking on more responsibility at work "it got hard burning the candle at both ends." She was faced with a problem common among the ambitious and successful: increasing demands on her time.

"I keep thinking that maybe I'll go back to dancing en pointe," Whitley said. "But that becomes more difficult as our bodies age, so for now I'm enjoying my character roles in 'The Nutcracker,' my evolving roles at the Laboratory and spending more time with my husband on the weekends."

Above: Whitley dances as the Mouse King in the Valley Dance Theater's version of "The Nutcracker" in 2010.

Left: Whitley performing in the "Waltz of the Flowers" in 2015.

Whitley's husband, James Kucera, bidding her congratulations on receiving the Presidential Early Career Award for Scientists and Engineers at the Smithsonian Museum of Natural History.

Emergence of a leader

As Whitley transitioned from postdoc to staff scientist, she got her first tastes of leadership at the Lab. She was part of the group that transformed what was then a fledgling Lawrence Livermore Postdoc Association into the mature organization that it is today, writing its bylaws and serving as the vice president. In the same time frame, she also was responsible for leading an effort in studying electron transport within a Laboratory Directed Research and Development project from 2009 to 2012. Whitley performed quantum calculations and compared various methods for computing transport properties for the project. Her work in this area led to her earning the Presidential Early Career Award for Scientists and Engineers in 2012, the highest honor bestowed by the U.S. government on outstanding early career scientists and engineers.

As her career progressed and she was exposed to more of the work taking place around the Lab, Whitley's interest in weapons science grew. In 2011, she joined what was then AX Division to be mentored by John Castor. Her goal was to become a subject matter expert in plasma science and materials. It wasn't long before she started to make a name for herself in this new role, researching high-energy density physics in support of stockpile stewardship.

Around that time, Whitley also decided to form a meet-up group for women at the Lab. She wasn't trying to change the world. Rather, she found herself the only woman in her group, and she wanted to build a social network with other women in STEM (science, technology, engineering and math) at the Lab. It wasn't long before the Lawrence Livermore Laboratory Women's Association (LLLWA) took notice and invited her to fold the informal group into the association as the Women in Science and Engineering (WISE) committee. Over the next few years, Whitley grew into another leadership role, this time as president of the LLLWA.

By 2015, leadership opportunities came calling again. Reorganization in the weapons program led to the merger of divisions, and Whitley took on a role as group leader in the newly formed Design Physics Division. In 2017, she also took over leadership of JOWOG 32Mat, a joint working group between the United States and United Kingdom that explores material models. Her current research interest is in developing platforms to perform plasma experiments at laser facilities and coupling those experiments with fundamental theory to develop new models.

While Whitley has stepped back from her leadership roles in the LLLWA, she continues to be an advocate for the Office of Strategic Diversity and Inclusion at the Laboratory. She almost never passes the opportunity to give back by participating in STEM outreach and helping to build community within the Laboratory. She recently made a trip back to New Mexico, where she met with students at both the University of New Mexico and New Mexico State University (NMSU), many with backgrounds similar to her own, to discuss career opportunities within the national laboratories.

Driven by mission

While she didn't initially join the Lab to support the weapons program, Whitley will say without a second thought that "the mission" is what drives her today. This evolution is common among researchers at the Lab. But while she is now a vital part of Weapons Physics and Design, she is far from a war hawk. In this, she exemplifies a sentiment that is prevalent at the Lab: She does not want to ever see nuclear weapons used to inflict harm, but she also has dedicated herself to the science that supports weapons due to their role in deterrence. While on the surface it may seem that these two elements of her psychology are contradictory, they are intimately intertwined.

Whitley feels compelled by the work because she believes in the ability of the nuclear stockpile to prevent a catastrophic war among world powers. She has grown to understand how decades of stability have been built on the U.S. nuclear deterrent, and ensuring the viability of this deterrent has become her passion.

"I was recently asked by a student at NMSU how one morally reconciles supporting work on nuclear weapons," Whitley said. "The fact is that they've helped stabilize the world. At the end of the day, democracy and freedom are worth defending. The Constitution and our sovereignty are worth defending. I've grown to see the stockpile as one of our greatest tools to defend what I love about this country, and to keep ourselves and our allies safe. And I find a lot of meaning in that."

65 YEARS *Of Making History*

Lawrence Livermore National Laboratory has been making history for more than 65 years. The outstanding efforts by a dedicated workforce have led to many remarkable accomplishments. Creative individuals and interdisciplinary teams at the Laboratory have sought breakthrough advances to strengthen national security and to help meet other enduring national needs.

The Laboratory's rich history includes many interwoven stories from the first nuclear test to advances in laser physics and supercomputing, engineering, biotechnology, materials monitoring, detection, additive manufacturing and much more. Often these stories are best told by the workforce — many of whom have been here since the Lab's earliest days. They reflect on what they enjoyed most about their long and distinguished careers, what they've learned and what makes them reminisce.

LOUISA HANSEN

58 YEARS AT THE LAB

"I got my Ph.D. from UC Berkeley in June 1959, my son was born in July 1959 and I came to the Lab in December 1959. As you see, 1959 was an eventful year for me.

Since I started at the Lab, the most noticeable changes are the gender and ethnic composition. When I came, the Lab had a white male population. The women (white) occupied only secretarial positions. I believe that I must have been one of the first women scientists hired at the Lab. Today, we have around 20 percent of women between science, engineering and computer science, although the ethnic composition is yet predominantly white.

The main thing I miss about the early days is the more academic environment, with less bureaucratic requirements.

My work as a physicist, the dynamism of science in general, is what inspires me. I enjoy continuously learning about new developments, not only in my field, but in fields that are equally interesting, life-sciences, chemistry and astrophysics."

WIGBERT SIEKHAUS

55 YEARS AT THE LAB

"When people ask me what I do for a living, I say I study the gerontology of nuclear weapons. They were conceived, brought to life and are kept alive here at Livermore. I came here for the science supporting the nuclear armament — these are war avoidance tools.

When I came here there was no landscaping and you could faintly see the track of the (Naval Air Station) runway.

Being a scientist is not a job, it's an addiction. You just don't hang it up at the door. What else is more exciting?"

51 YEARS AT THE LAB

LOU PADES

"Around 1967, I found an opportunity for an apprenticeship at the Lab. Two years later, I was hired to work part time in fabrication, assembling electronics, reading schematics and wiring. Things were different then. We used to draw all the schematics by hand, with a pencil, a scale and a slide rule. I worked in O Division (weapons), did fabrication support for the Shiva and later the Nova laser. I worked at the Nevada Test Site and at Site 300 on fiber optics. I've been a fabrication specialist for NIF, making pulse power parts and high voltage cables. I've always been challenged. There always is something different to do while working at the Lab.

I have no intention of retiring anytime soon. What I do here is like my hobby. I like to make things. I'm just having fun with what I'm doing. I still have my strength and my mind is still ticking. I believe if you're not enjoying it anymore then you might as well retire."

65 YEARS AT THE LAB

BERNI ALDER

"I never really 'worked.' My work was an enjoyable hobby, which I still enjoy. It is like a puzzle to find out how nature works and a tremendous high when you make a significant discovery. My area of science involves getting fundamental insights into the behavior of matter through computer simulation.

My present projects, as examples, are the onset of turbulence and the sign problem occurring in the Fermion quantum system. Both these problems have not been solved in the more than the 92 years that I am old. Those are the problems that retired people should work on, I believe, because these retirees know what the deep problems in the field that need to be addressed are, while the active researchers follow the new frontiers.

Since retiring we made major progress in the two fields mentioned above and I hope to still make more progress and get a few more highs."

JUDY HARTE

50 YEARS AT THE LAB

"The big differences are the computers. It's just night and day comparing how far we've come. A colleague of mine instituted the first password that I had ever used — in order to build our code back in 1976 or '77. Another thing, we never had training back in the day. That's what your degree was for.

What I miss the most about the old days is the swimming pool. I still do go out for noontime exercise, but I really enjoyed being able to go swimming every day during lunch.

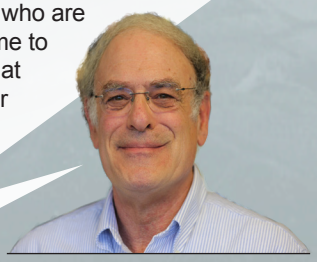
The thing that most inspires me and keeps me motivated are the young scientists we have. They're just so smart and engaged, really on top of things. Another thing that inspires me is the the time and length scales that we deal with — nano and picoseconds. I really can't even imagine how small those are. It's just totally amazing that we can actually measure to that accuracy."

MORDY ROSEN

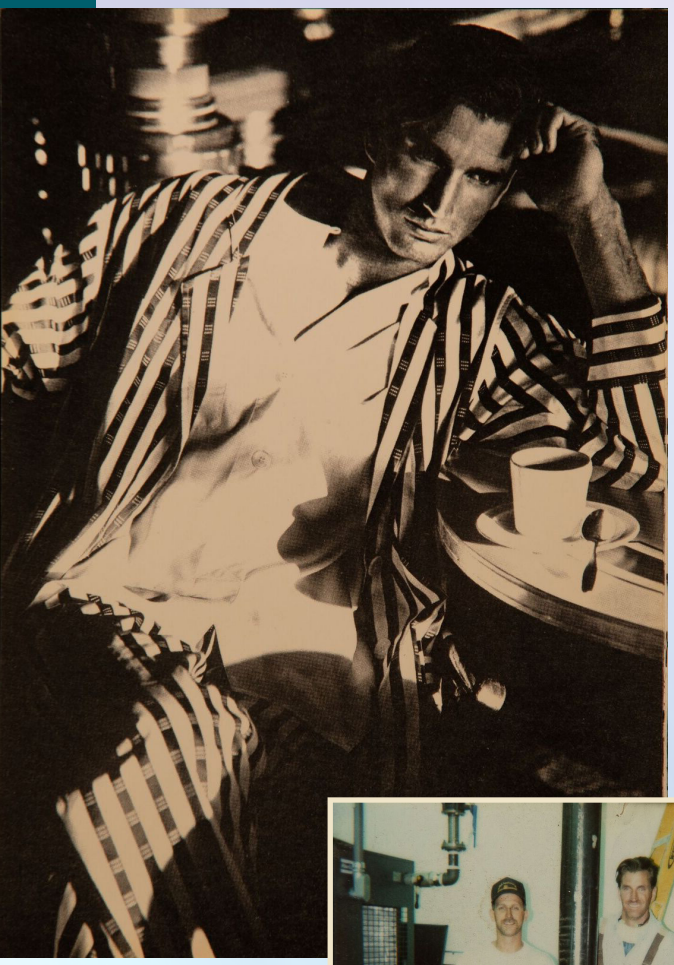
42 YEARS AT THE LAB

"HED/Stewardship has replaced nuclear testing, with, in part, a focus on understanding the underlying physics of nuclear systems. ICF has matured into the challenge of actually achieving ignition on NIF, requiring challenging precision in all aspects of the problem. The interplay of the two, and the valuable HED experiments carried out at the NIF, are a great source of satisfaction to me. These are the best of times, with exciting intellectual and technical challenges in stewardship and in ICF/ignition.

My motivation is to make a better, safer world for my grandchildren. My contemporary colleagues are brilliant and are going strong, and they are my role models and inspiration. The majority of my younger colleagues are extremely talented, which gives me enormous hope for the future. The culture at the Lab, which makes it a living encyclopedia of experts who are happy to be called upon at any time to educate you, is the bedrock of what makes the Lab such a spectacular place to work."



PLUMBING AWAY
at fashion photography



Above left: Kevin Thomas models for *W Magazine.* Inset: Thomas, right, with his former welding instructor Reno Dell'Acqua, who now is currently the Lab Construction Management division leader.

By Carrie Martin/LLNL

What do you get when two very different worlds collide? In the case of Kevin Thomas, you get a world-famous model turned fashion photographer that also can fix your toilet.

Thomas, an estimating specialist for the Project Management, Engineering & Construction (PMEC) Department within the Operations and Business Directorate at Lawrence Livermore National Laboratory, also maintains a career as a model and fashion/celebrity photographer.

Not many models can claim to be a plumber, and it's doubtful there are many plumbers who can claim to be a model — one reason why the life and career of Thomas is unique.

Those who learn of Thomas' life outside of the Lab are intrigued and want to know the full story, which usually leads to a lot of questions -- questions he enjoys answering.

Thomas' father was a plumber, who married his mother, a model, and his grandmother loved photography, hence the crazy connection. While it's not unusual for a child to follow in the footsteps of a parent, in Thomas' case, he followed both parents and his grandma, all equally influential in his life.

He was born in Oakland in 1960, the middle child sandwiched between two brothers. His grandmother, who also lived in Oakland, was an early inspiration.

"She loved taking photographs of her grandchildren, but what stuck in my mind were the images she shot of the life evolving around her, of troubled times, at the height of the civil rights movement," Thomas said. "Sometimes she let me shoot as well, developing the film in her little darkroom. Seeing the images come to life was magical. I was hooked."

In 1964, his parents left their hometown of Oakland and purchased their first house (with four bedrooms) in Livermore for $26,000. His parents split up shortly thereafter when he was 8 years old. His mom moved to Orange County in Southern California, where he grew up and went to school. He spent his summers working for his dad, a plumbing contractor based in Livermore, which is how he learned the trade.

"With my parents going their own ways, my mother moving us to Southern California, I signed up for track and high school

Kevin Thomas, left, at a fashion shoot in a Los Angles studio with his K-9 assistant, Rex.

photography, coach and teacher being one in the same," Thomas said. "Don Chadez was a spectacular track coach but also took amazing photos. His images of the 1976 Olympic games still resonate and inspire. He taught me to work hard and think outside the box."

Thomas had plans to carry on his track aspirations in college. However, shortly after graduation, he broke his neck in five places on a water skiing trip in Mexico, taking his life in a new direction. He spent less than a year at Fullerton College before returning to his plumbing roots, joining the plumber's union and working for his dad.

Despite his pursuit of plumbing, Thomas always was in tune with the modeling industry, having been exposed to his mother's career his whole life. He took notice when in 1980, *GQ* magazine was purchased by Condé Nast, taking the magazine in a new direction. The magazine gained in popularity, making male modeling much more visual to the public. This sparked his interest.

His mother was still working in the business as a corporate headhunter, specializing in the fashion industry, and was working in the Los Angeles Apparel Mart complex in Los Angeles.

"I went to some modeling agencies and got some photos taken. I signed with Mary Web Davis modeling agency," Thomas said. "The first casting I went on wasn't for a project or job, but was to see a representative from a modeling agency based in Milan, Italy, and they signed me. A few weeks later, I found myself living in another country. Two days later, I was standing on the beach in the south of France working with five beautiful women like I had never seen working as a plumber. Literally two weeks prior, I was installing sewer lines and digging ditches. I was grateful."

> "I am a plumber trapped in a model's body."

That was the beginning of a nearly 10-year career signing with 16 modeling agencies in as many cities. Thomas has lived in Milan, Paris, New York City, Zurich, Munich and Hamburg and has worked for *Vogue, L'Uomo Vogue, Moda, GQ* and *W Magazine*. He did fashion editorial, advertising print, runway and even a few commercials, working for some of the best in the business — Giorgio Armani, Gianni Versace and Gianfranco Ferré, to name a few.

While he has many interesting stories to tell, Thomas remembers a particularly embarrassing incident. "I was doing a fashion show in Zurich and I was supposed to be wearing classic suit wear on one of the runs, and I accidentally put on the ski-wear outfit," he said. " This was definitely one case where wanting to stand out and be noticed wasn't good."

After taking a break from modeling, Thomas went back to work for his father as a plumber and began a two-year welding program at Las Positas College in Livermore. Three of his instructors at Las Positas worked at Lawrence Livermore, which led him to working at the Lab.

He joined the Lab as a contract worker in 1998 as a plumber/pipefitter working for Plant Engineering. He later took a position for the Labor Only group, managed under GSE construction as a plumber fitter, which led to him becoming the general foreman.

Kevin Thomas says it is the attention to details that makes for good fashion photography. This photo session featured model Charlotte Delamor.

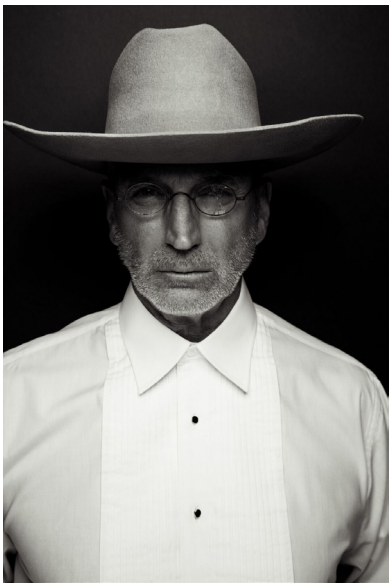
While it took him five years to complete the welding program, in that first year, his entrepreneurial spirit led him to start a weld shop in Livermore called Kevin Thomas Designs. He had clients ranging from The Gap, Banana Republic, Onyx Pharmaceuticals and TAO LTD. He worked for the Lab while also running his own business. However, with the shop rent rising and photography taking more of his time, he closed the business after about 10 years.

His specialty in nuclear-grade pipe welding provided him the opportunity to work on high-security projects. In March 2016, Thomas retired from the plumber's union and was hired into his present position as an estimating specialist.

Thomas always has been one to stay busy. While keeping his day job at LLNL, after modeling, he pursued his passion of photography on nights and weekends. Thomas' connections and experience from his modeling days, a decade of working with and paying attention to the details of some of the best fashion photographers of the time, made the transition to fashion photography relatively easy.

"The marriage of my life experiences, starting with the early days in the darkroom with my grandmother and on to having my own camera in my hands, has always given me a great appreciation of my surroundings. I love the unique styles of photography I've been exposed to in my life and try and convey those authentic styles of lighting and feeling in my imagery."

Thomas' images have been featured in *FSHN, Playboy, Tatler, Town & Country, Remark, Ouch, Viva* and more. He has photographed actors, models and celebrities such as Zendaya Coleman, Byron Mann, Tim Matheson, Angelique Rivera, Justin Hires, Tia Mowry, Tatiana Sorokko, Hayley Orrantia, Adam Irrigoyen and others.



Kevin Thomas is comfortable on both sides of the camera — here he's modeling for Nosotros Hat Company.

"Every time I pick up my camera, my goal is to be better, with career-changing quality. It seems that it has paid off. I always establish a special connection with the subject and crew. I usually hear, 'This is the most fun I've ever had on a shoot.' "

While most of Thomas' shoots are unique, he says that producing and shooting Zendaya in the Mojave Desert with WWII planes, jeeps and wardrobe was an amazing experience — and the most memorable.

"I am still connected with Zendaya and I still work with her father on a regular basis developing talent for his Los Angeles-based talent agency," he said.

In managing two different and distinct careers, there are certain things that Thomas has had to be cognizant of over the years.

"After a photo shoot for a Russian magazine with famous Russian super model Tatiana Sorokko, I was completing the invoice when I realized that receiving a check from Russia, while holding a security clearance, might be an issue."

To further complicate matters, Sorokko also was the daughter of Russian nuclear physicists. Needless to say, he quickly made an appointment with the Lab's Security Organization to explain.

Despite his popularity in the industry and living a sometimes-glamorous lifestyle,

Thomas says work with actress Zendaya Coleman, right, and actor Kenton Duty was 'amazing.'

Thomas is very down to earth and enjoys his job at the Lab.

"PMEC has outstanding management and always is looking for ways to improve the process, which is both rewarding and challenging. I work with amazing people that have both mentored me and have a great appreciation for my boots-on-the-ground experience. They also are very understanding and complementary of my photography work and the time away from the Lab that requires. It feels like family."

Thomas starts work at the Lab at 6 a.m. every day, two hours earlier than most of his group, so he can leave in time to pick up his oldest grandson from school and take him to his sporting activities.

"What I love about working at the Lab is the campus environment and the people. I've been told by coworkers who travel around the site with me, 'Who don't you know,' 'It's like driving in a parade, everyone's waving,' or, 'Dude, you're like the mayor.' " Thomas doesn't mind it when his coworkers tease him and call him Fabio or Kev-i-o, and even likes to joke back, "I am a plumber trapped in a model's body."

People often ask Thomas why he stays at the Lab when he could be doing his photography full time.

"Honestly, it is good to have the steady paycheck coming in and benefits that I didn't have while modeling and as a photographer. While I do enjoy the Lab, it also was a practical decision I made to raise my family to get more grounded with less travel and solid income."

During the height of his modeling days, Thomas started his family. He met and married a fellow model and had two children, a girl and a boy, Whitney and Coleton. Although they divorced after 23 years, they still have a good relationship and often collaborate on projects. As a makeup artist, she often works with his clients, too.

Thomas' daughter is 30, married, with two kids of her own, a toddler and a newborn. As a young girl, she knew her parents had unique careers, but she didn't think much about it.

"I will say in some ways their careers were intimidating. They didn't put pressure on me to fit into any stereotype, but as a typical adolescent girl the pressure to look a certain way was only magnified by having exceptionally beautiful parents," she said.

'Everytime I pick up my camera, my goal is to get better,' says Thomas. This photo shoot features actor and singer Chaz Langley and model Charlotte Delamor.

Kevin Thomas at his LLNL office. For more on Kevin Thomas and to view his portfolio, visit his website: kevinthomasphotography.com/

"But to me it felt normal to be the guinea pig for my dad's testing light (for photography) and my mom doing my makeup for every dance and special occasion. Where most girls would go to a salon or the mall, I had the pros living with me."

It seemed normal, until her friends at school started making a big deal about it.

"I would hear things like, 'Wow, your parents are models?' Or just the typical hot mom/dad jokes that teens like to make. It didn't help that my dad went to our town's community aquatic center in a Speedo to lay out when I was in high school," she said.

Despite the occasional embarrassment she faced due to her dad's career, which often found him shirtless, he was the real deal as a father.

"My dad's influence is woven into the very fiber of my being, he's my moral compass, my rock, one of my best friends and my ultimate role 'model' (pun intended)," she said. "While I'm so proud of all he has accomplished in his many careers — at the Laboratory, as an international model and as a fashion photographer — I most admire him simply for the man and father he is. I hope I can be at least a fraction of the parent to my children that he's been to me. I think anyone who truly knows him would agree his talents are second only to his incredible heart."

In addition to spending a lot of time with his kids and grandkids, Thomas maintains a long-distance relationship with a model/singer/songwriter who lives in Portugal. They communicate via FaceTime and meet when they can. Recently, they spent time together in New York City while there on business.

Despite his success, Thomas feels his career is just beginning. He is working always, despite telling people who ask, "I am really a closet lazy person and would truly rather just surf every day."

This couldn't be further from the truth. His evenings during the work week, after his day job at LLNL, consist of about an hour and a half of photography time (photo editing, planning his next shoot, contracts, location permitting and model releases) and he still manages to go to the gym at the end of the day. With no manager, he is a one-man show who schedules, plans, produces and directs his own shoots, in addition to all the post production work.

"If I'm not shooting, I'm planning my next shoot, working on marketing or studying lighting and Photoshop techniques," Thomas said.

His future goals are to shoot bigger, more produced projects with bigger budgets, and even continue to do some modeling. Although now he is considered a senior model, he embraces the evolution.

When asked what he loves most about fashion and celebrity photography, Thomas jokes,"The pretty people." However, he loves much more than that. "To be honest it's not just one thing. I love the connection with the subject, learning and growing as an artist and showing a final product I can be proud of."

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Lawrence Livermore National Laboratory

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