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SPRING 2018

WOMEN VISION

MAGAZINE



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ALLEN**

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INSPECTOR IS IN

**MOTHERS
OF INVENTION**

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INSIDE

FEATURES

10 **Leading the Way**
Meet the team of women leading school projects for the Beaverton School District

14 **Mothers of Invention**
The women behind the inventions that changed the face of the built environment

18 **Blueprint for Success**
Increasing the number of women in engineering starts at the front of the classroom



COVER STORY

12 **A Day in the Life**
Construction inspector Nina Allen assembles an airport, one project at a time

Cover photo: Sam Tenney

REGULARS

4 **From the Editor**

8 **Rising Stars**
Lisa Patterson is on a mission to change communities through small-scale, grassroots design

22 **Learning to Lead**
Architect Alison Hoagland's path to leadership began with learning to let go

SEARCHING FOR ALICE



History books are filled with tales of the men who built the country's roads and bridges and buildings, but it's only in recent years that the stories of their female counterparts have started to come to light.

While the stories of those women serve as sources of modern-day inspiration, it was a different case when they were alive. Their efforts, when reported in newspapers and magazines, were presented as rare — even odd — occurrences.

Reporters marveled, for example, over the fact that Emily Roebling took over her husband's role as lead engineer on construction of the Brooklyn Bridge in the late 1800s when he became too ill to continue in that capacity.

They were astounded that Fay Kellogg was able to rise beyond merely designing “pretty rural homes” to become “a real practical architect who has a predilection for large buildings.”

And they crowed over how a woman Alice Durkin, while “retaining the femininity of one given to gentle birth,” managed to emerge as one of the leading contractors in New York City in the early 1900s.

While Fay and Emily in recent years have started to receive the recognition they deserve for their professional achievements, there are far more women like Alice whose accomplishments have been largely forgotten.

As far as I can tell, no one has ever written a book about Alice, even though she was recognized both as a “Master Builder” and the first woman ever invited to join the Building Trades Association of New York. As a result, while there's much I've been able to uncover about Alice — she was a tough competitor when it came to submitting a bid and a straight-shooter when it came to convincing striking workers to return to a job site — there's just as much I haven't been able to learn. The sad — and frustrating — truth is that outside of some newspaper and magazine stories, there's no way to know who Alice Durkin really was or how she really felt about truly being the only woman in an industry of men.

Even as I continue research to flesh out Alice's life, I'm faced with a realization about the women currently working

in the building industry — from tradeswomen on job sites to those in lead management roles on projects. Without taking some kind of proactive steps now, their stories are in danger of being lost in the shuffle of time, just as Alice's has been.

That's why we at the Daily Journal of Commerce decided it was time to create Women of Vision magazine. Named after the awards program the DJC holds each fall, this new quarterly publication will tell the stories of women who are building our city, our state and our region.

We'll explore the day-to-day experiences of women like Nina Allen, a construction inspector for Portland International Airport who graces this issue's cover. We'll introduce rising stars like Lisa Patterson, this year's recipient of the Mark O. Hatfield Architectural Award.

And even as we tell the stories of the women who are shaping the world today, we'll dig into the building industry's history to tell similar stories of women from the past, starting with a list of women whose inventions helped change the built environment.

In order to do all of that, though, we'll need your help. We're looking for experiences of women — you, your employees, your friends and colleagues — working in and with the local building industry. Help us tell those stories now so that in the future, people will be able to point to roads and bridges and buildings in Portland, in Oregon, and beyond, and talk about the women who built them.

Help us fill the history books for future generations.

Stephanie Basalyga
Editor

Send us your story ideas

Do you know a young woman in the building industry who's a rising star? Is there an architect, engineer or tradeswoman who has a great story that would inspire others? Has someone on your team earned a promotion, won an award or received a new certification? If so, we want to share the news with Women of Vision magazine readers.

Submit story ideas, good news and suggestions — or give us a heads up on an emerging industry trend or issue you think we should dig into — by sending an email to wovmagazine@djcoregon.com.

We're looking forward to hearing from you.

RAISING THE ROOF

New group supports, promotes women in Oregon's roofing industry.

From sweeping floors at her family's roofing company in Tualatin as a teenager to her current role as its business development and recruiting manager, Kendall Ekerson has built a solid career for herself. She's also learned along the way that the roofing industry offers great opportunities for women.

With a goal of spreading that message, Ekerson has started an Oregon chapter of National Women in Roofing, an association dedicated to promoting and supporting women who work in the roofing industry.

Ekerson first heard about the national organization while attending a national roofing conference, representing Columbia Roofing and Sheet Metal, the company started by her father, Mark Carpenter. When she learned NWIR leaders were looking for women interested in starting state chapters — which the group calls councils — Ekerson thought she might like to start one in Oregon.

Work and having a baby temporarily delayed the effort, but as Ekerson realized her life as a working mom wasn't going to offer much leisure time, she decided she might as well jump in and start the chapter.

She rallied the support of other women she knew who worked in the industry. Together, they began to



Kendall Ekerson (Sam Tenney)

spread the word. The Oregon council held its first meeting a little less than a year ago with an official roster of 25 members boosted with invites to local industry players such as suppliers and vendors.

Ekerson admits that starting the chapter with an already full plate has been a challenge, but she's glad she decided to take on the task.

"Honestly, I didn't realize how much work it would be, but it's been fun," she said. "I love the people in this industry."

She hopes the chapter and its members will be able to pass that appreciation for the industry on to more women.

"A big issue in roofing right now is the lack of labor; it's a huge issue," Ekerson said. "One of the foundations of the organization is recruiting, in the sense of being out in the community and showing people what women can be in this industry." 🌀

AROUND TOWN

April 26

Celebrating Women in Leadership: Bridging the Generations

What: An evening fundraiser benefiting Oregon Commission for Women

Where: NW Natural, 222 Second Ave., Fourth Floor, Portland

When: 5 to 7 p.m.

Cost: \$30 for general admission; \$20 for students

Info: Oregon Commission for Women, oregon.gov/women/



May 11

Rose City Women's Summit

What: A full-day leadership and professional development conference featuring keynote speaker Tarana Burke, founder of the

#MeToo movement

Where: Hilton Downtown Portland

When: 8:30 a.m. to 5:30 p.m.

Cost: \$150

Info: Junior League of Portland, www.jlpdx.org/rose-city-summit/

May 15

Women in Leadership TED Talk

What: Sheryl Sandberg, COO of Facebook, presents a TED Talk, "Why We Have Too Few Women Leaders"

Where: Portland Water Bureau General Auditorium, 664 N. Tillamook, Portland
When: 3 to 4 p.m.

Info: City of Portland, www.portlandoregon.gov/article/675216

SAFETY MATTERS

When the Occupational Health and Safety Administration announced earlier this year that it would launch a site dedicated to safety hazards it had identified as “unique to female construction workers,” not everyone was pleased.

At least one online commenter took OSHA to task, saying the agency’s “thinking (only) serves to further publicize women being viewed as the weaker sex,” and adding that a woman’s safety vest, hardhat, or sanitation needs shouldn’t be viewed any differently than a man’s.

But more than a few industry sources, including women working in construction, have gone on the record in recent news stories to say they think OSHA’s right on target by providing guidelines that can be used by companies to rethink how they address workplace

safety as the makeup of the construction industry starts to shift

Those changes can be as simple — but still as important — as making sure that bathroom facilities are located in well-lit areas on sites where crews may be working during early morning or evening hours when daylight may be low.

Paying attention to safety also means thinking beyond hardhats and safety vests. Gloves made to fit large hands aren’t just an annoyance for women with smaller hands, they can be downright dangerous in some situations, a woman welder with 40 years of experience in the industry has been quoted as saying. Jackets and pants not tailored to a fit a woman can flop and droop, posing potential hazards. Ditto oversized tool belts and safety harnesses.

The folks at OSHA aren’t the only ones realizing that the changing face of construction requires a rethink of traditional approaches to safety.

Although women still make up less than 10 percent of people working in construction, the needle is slowing starting to nudge upward. Manufacturers and retailers are taking note and responding, with large companies like Carhartt to smaller companies like Moxie and Moss offering construction-related apparel and safety gear designed and sized specifically for women — and available, we’re happy to note, in a range of colors other than pink. 🌞



AROUND TOWN

May 17

DJC TopProjects Awards

What: Join the DJC in honoring outstanding construction projects completed last year in Oregon and Southwest Washington.

Where: Oregon Convention Center, 777 N.E. Martin Luther King Jr. Blvd, Portland

Cost: \$110

Info: DJC Oregon Events, djcoregon.com/events/top-projects/

May 17

NAWIC Membership Meeting

What: The Portland #54 Chapter of the National Association of Women in Construction will hold its May monthly meeting. Program to be determined.

Where: Widmer Bros. Brewery & Pub, 929 N. Russell St, Portland

When: 5:30 to 8 p.m.

Cost: \$35 for members; \$40 for nonmembers

Info: NAWIC #54, nawicportland54.org.

May 18

DJC Women of Vision Awards Nominations Open



What: The Daily Journal of Commerce will begin accepting nominations for the 2018 Women of Vision Awards

Where: Downloadable forms available online

Cost to enter: Free

Nomination deadline: August 10

Honorees announced: August 17

Event details: Winners will be honored during the 2018 Women of Vision awards luncheon will be held Oct. 18 at the Marriott Downtown Waterfront Hotel

Info: DJC Oregon Events, djcoregon.com/women-of-vision/

PRESIDENTIAL PREPPING

Sandy Trainor has carved her own career path in construction.

The 66-year-old Sherwood resident is the president of and 100 percent shareholder in Kodiak Pacific Construction, a paving and road construction firm located on Southwest Clutter Road slightly outside Wilsonville city limits. She also claims a special prowess in mathematics and confidence to succeed in a highly competitive field.

“Honestly, I have a saying that the cream always comes to the top, and usually when people come into management skills it’s because of who they are,” Trainor said. “We have people who like to be told what to do, and they feel comfortable with that. And we have other people who don’t like to be told, and who like to be in charge. I’d say I’m one of the second.”

Recently, Trainor was named president-elect of Associated General Contractors’ Oregon-Columbia chapter for 2019. She will be just the second woman to serve as president in the group’s 96 years of existence.

Trainor isn’t just a rarity in the AGC chapter’s leadership. She’s also a relative rarity in the construction industry in general. According to the United States Department of Labor and the Occupational Safety and Health Administration, women make up just



9 percent of the construction workforce. The number of women CEOs is even smaller.

Trainor, however, says she has never encountered any overt discrimination in a career spanning more than 40 years.

“... I’ve always been looked at by my peers as experienced, knowledgeable and having an understanding of the construction industry,” Trainor said. “And I think you can always stand on your own if you’re just there because you know what you doing.”

Still, she admits some implicit biases persist.

“The most interesting thing is people will come to the front office, and I have one of the guys next to me, and they’ll stick their hands out to the guy every time,” she said. “And then he says ‘Hey, I want you to meet Sandy. She’s the company owner.’” 🌟

May 18

DJC Building Diversity Awards Nominations Open



What: DJC Oregon opens nominations for the 2018 Building Diversity Awards

Where: Downloadable forms available online

Cost to enter: Free

Nomination deadline: June 22

Honorees announced: June 29

Event details: Winners will be honored during the 2018 Diversity Awards program, August 2 at the Sentinel Hotel in Portland.

Info: DJC Oregon, djcoregon.com/building-diversity/

May 31

Taking on Taboos at Work

What: A presentation by Swift CEO Liz Valentine on how to open up discussions on unconscious bias and other uncomfortable topics in the workplace

Where: Swift Agency, 1250 N.W. 17th Ave., Portland

When: 6 to 8 p.m.

Cost: \$39

Info: Women’s Center for Leadership, womenscenterforleadership.org/new-events/

June 14

CREW Portland Lunch Program

What: A monthly lunch program organized by the Portland Chapter of Commercial Real Estate Women. Topic to be determined.

Where: Multnomah Athletic Club, 1849 S.W. Salmon St., Portland

When: 11:30 a.m. to 1 p.m.

Cost: \$35 for CREW members; \$50 for nonmembers

Info: CREW Portland, www.crew-portland.org/



RISING STARS

LISA PATTERSON:

Designing for community – and for change

By Josh Kulla

Lisa Patterson decided to become an architect so she could help change the community around her.

“The really harsh answer is that I’m getting really sick of capitalistic, money-driven architecture,” said Patterson, who has worked on grassroots projects across America and in Mexico, despite still being a graduate student at Portland State University. “I see something good in doing smaller scale projects with communities as part of a grassroots approach.

“The combination of design-build, specifically, is very powerful. They’re very simple, and the contrast between the grandiose architecture that you aspire to, that you draw on paper throughout school, is so different than building a planter for the Kenton Women’s Village, for example.”

It was Patterson’s work on projects such as Kenton

Women’s Village that led to her recent selection as the Architecture Foundation of Oregon’s 2018 Mark O. Hatfield Architectural Award Scholar. The award pays tribute to the late Oregon Senator’s own interest in architectural design and his commitment to public service, and is given annually to either an undergraduate or postgraduate architecture student at Portland State University or the University of Oregon.

Community-centered design is what first drew Patterson, a Kentucky native, to the field of architecture. She attended Highlands High School in Fort Thomas, just across the Ohio River from downtown Cincinnati. It was there that she gained her first exposure to architecture and its potential to change lives.

“I did a summer program in high school, so I think that’s kind of what set me on the architecture track,” Patterson said. “I’d always been into the arts and math, but I hadn’t considered architecture until then.”

“My desire to work within communities just comes from my upbringing and understanding that community and family and close friendships are important. And it’s what I appreciate in my own life.” —Lisa Patterson

She attended the University of Kentucky College of Design, graduating in 2016 with a degree in architecture. It was there that Patterson really found her calling.

During spring break in 2013, she was part of a group of students that traveled to Mississippi to restore and rebuild homes in the city of Biloxi that had been damaged by Hurricane Katrina several years earlier. It was an eye-opening experience, complete with laying flooring, re-painting and other tasks.

Two years later, in spring 2015, Patterson and seven other women traveled to Oaxaca, Mexico, where they helped construct a new pavilion for an ecotourism facility built to take advantage of the region’s natural beauty. Part of a RAW (Real Architectural Workshop) Design-Build spring break program, the week-long project gave Patterson real-world experience outside the realm of the hypothetical.

There was a semester in France, to boot, which only served to broaden her appreciation for new approaches to social problems, most notably the ongoing housing crisis in the United States.

She eventually landed in Portland. Almost immediately after beginning classes at PSU last year, she found herself involved in the effort to build a cluster of tiny homes for houseless women at a site just off Columbia Boulevard in North Portland.

Dubbed the Kenton Women’s Village, the project used PSU architecture students to design a series of sleeping pods, along with kitchen and bath-

room facilities crafted from old shipping containers donated by Northwest Container Sales. The latter part of the project is where Patterson really got a chance to dig in and engage in the type of work she longed to do.

“My desire to work within communities just comes from my upbringing and understanding that community and family and close friendships are important,” she said. “And it’s what I appreciate in my own life. I never had a desire to design a skyscraper in Abu Dhabi, although my peers viewed that as an attainable aspiration. But it’s almost comical how I’ve come to consider that goal.”

The Kenton Women’s Village project was overseen by Catholic Charities, which handles the 14 sleeping pods currently on site, along with their tenants. The year-long pilot project began last year and students worked with residents, the Kenton Neighborhood Association and public agencies to design a communal space that would be conducive to community building and personal recovery from addiction and other health and life issues.

“It was supposed to be temporary, so when they proposed the concept of a village, it had to be temporary but durable,” Patterson said. “So we came up with the idea of a shipping container, because it is easily transported on site and then moved, and also the repurposing angle is great.”

Now serving as a graduate teaching assistant as she works on earning a master’s degree, Patterson looks forward to a professional life that is at least as fulfilling as her university experiences, even as she ponders whether architecture and design can ever really change the world.

“I don’t know. I’m such a pessimist and a realist at heart, but I hope that it can; I really do,” she said. “It has a huge role to play in acknowledging a sense of place for people as we become increasing globalized and intermeshed. There’s a way design and creating your own space can really impact the way people feel about the place they live.” 🌀



LEADING THE WAY

Meet the women taking the lead on Beaverton School District construction projects

By Liz Sias

When voters passed a massive construction bond to build new schools in Beaverton, the facilities development team at the Beaverton School District grew from three to 30 in a few short years. What the district found were scores of highly qualified women applying for project management positions.

Department administrator Sheri Stanley, who has been with the district for 11 years and has a mechanical engineering background, said she didn't set out to hire a bunch of women. They happened to be the most qualified in the hiring pool. Now most of the district's construction projects are led by women in a field that is typically male-dominated — four of the seven project managers are women.

Usually school districts hire contractors to manage construction projects, so being able to hire their own team internally sets Beaverton apart. The staff focuses on team-building, communication and trust.

"We want people who understand qualities of trust, relationships and a collaborative environment," Stanley said. Most of the team has been together for four years, and from the beginning they did some work with personality assessments and trust-building exercises to help with team dynamics and understanding communication styles.

"The team has really grown together," Stanley said. "We've had some pretty stressful years together, and we have almost this foxhole mentality of 'we're in this together.'"

The staff comes from a variety of backgrounds, some



"It's been really amazing to build a building, seeing it in your mind and then watching it grow from the ground up." — Megan Finch, project manager, Beaverton School District (Sam Tenney/DJC)

from architecture and some from the mechanical side. They recognize everyone's area of expertise and learn from each other.

One of those people is 28-year-old Megan Finch, who's leading the work on the construction of Hazeldale Elementary School. With a degree in architectural studies from Washington State University, Finch started her career as an engineer building a supermarket. Being a woman in the construction industry posed its challenges, but she didn't let them faze her.

"I was brought up in a rural community so I'm used to a little bit of roughness," Finch said. She was able to earn respect by getting answers quickly. "Once that happens, no one really cares because you're doing the job well."

She was first hired as project coordinator for the Beaverton School District in 2014. After working on a few

"The people I work with are really helpful and nice and always have constructive criticism. Everyone is very positive." — Jessica Pavelka, project manager

“I don’t think I’m judged (by the fact I’m a woman) in the district. And to me, that’s awesome because we have true equality.”

– Linda Niman, contracts specialist

smaller projects, she was scheduled to be project coordinator for Vose Elementary School. But when two project manager positions opened up, Finch was promoted, so last year she oversaw the teardown and rebuild of that school. The transition into construction management worked well for her.

“It just clicked. It’s a good fit for me,” Finch said. “It’s been really amazing to build a building, seeing it in your mind and then watching it grow from the ground up.”

At the school district, she’s never had a problem as a woman in the field, which she attributes to the overall diversity of the district. Next year Finch will be project manager for William Walker Elementary School, with a female project coordinator working with her.



Jessica Pavelka, project manager (Submitted photo)

Another project manager is **Jessica Pavelka**, who has been with the district for four years. She led the construction of Sato Elementary School, and this year she’s working on the renovation of Five Oaks Middle School. She’s responsible for reviewing drawings and managing the schedule, project costs and contractors.

Her dad is a general contractor and her mom is a civil engineer, so it’s fitting that Pavelka first went into architecture and then construction management. After designing nursing homes for nine years, she needed a change.

At Beaverton, she loves seeing the kids walk into a new building on the first day of school with smiles on their faces. Being a woman in the industry, she said she hasn’t been treated any differently.

“It’s been great,” Pavelka said. “The people I work with are really helpful and nice and always have constructive criticism. Everyone is very positive.”

Linda Niman agrees. She’s been with the district a little over three years and handles contracts for major projects. For the Hazeldale Elementary project, she solicited proposals for a design, then requested a cost proposal before evaluating options and awarding a contract. Once the design team prepared drawings, Niman opened up bidding for a construction crew.



Linda Niman, contracts specialist (Submitted photo)

As a licensed civil engineer with a degree in structural engineering, Niman knows how to navigate the construction world.

Before coming to Beaverton, she reviewed designs from architecture and engineering firms.

After taking a break from work to raise her children, Niman got a job with Beaverton, the district her kids attended. She said her engineering background really informed her work on the contracting side.

Like the other women on the team, Niman said she hasn’t had any issues being a woman in the field — and to her, that’s telling.

“I don’t think I’m judged that way in the district,” she said. “And to me, that’s awesome because we have true equality.”



Leslie Imes, project manager (Submitted photo)

Leslie Imes, project manager for the new high school, was with the facilities development department long before the recent bond passed — she started 17 years ago and has been through three bond cycles now. She’s worked on hundreds of projects over the years, from small ones like painting a room to large projects like building the high school.

Imes has a degree in architecture and spent the first 13 years of her career as project manager for a county in Colorado. When she first started 30 years ago, things were very different.

“There were very few women in the industry,” she said. “It was difficult at first. I had to work to earn the respect of my peers. ... Women weren’t a part of this, but we’re seeing more and more.”

“There were very few women in the industry (when I started). It was difficult at first. I had to work to earn the respect of my peers. ... Women weren’t a part of this, but we’re seeing more and more.” – Leslie Imes, project manager

While many of the facilities development staff happen to be women, department head Stanley highlighted that it’s the sum of everyone working on the construction projects that makes the team work so well together.

“There’s room for failure, there’s room for making mistakes and learning from those mistakes,” Stanley said. “We just really enjoy our time together, we enjoy working together, we enjoy solving problems together. Every day someone comes through with a win.” 🌱



A DAY IN THE LIFE

Assembling an Airport: Construction Inspector Nina Allen

by Liz Sias

Just outside a concourse at the Portland International Airport, Nina Allen stops to talk to the members of a construction crew about the project they're working on.

She observes one of them welding two large pipes together, and then moves along to another area to watch as a crane carefully deposits massive steel panels into the ground.

As construction inspector for the Port of Portland, walking construction sites is a large part of Allen's job. But that's where the similarities from one day to the next end.

"Every day is different because every day we're doing a different activity," she said. "The novelty and uniqueness of each day appeal to me."

Allen started working at the Port of Portland 30 years ago, first answering phones, then delivering mail. When she got a job in the engineering department as an administrative assistant, she started thinking about what she wanted to do next.

"I needed to figure out who I wanted to be when I grew up," she said. "I saw the work the inspectors were doing and I thought that was very fascinating, something I could be enthusiastic about."

She began her training with night-school classes at Portland Community College. When her managers saw she was serious about becoming an inspector, they hired someone to cover her position for a summer to allow her to take an internship. Once they decided it was a good fit, they hired Allen as an inspector trainee to work under inspectors with more experience until she was ready to go out on her own.

Years later, she now has building inspector and mechanical inspector certificates under her belt. She even went to Chemeketa Community College in Salem for a plumbers' inspection program.

"I've never looked back," she said. She's currently taking a construction contracting class at Portland State University, with the hope that it will help her get a promotion to construction manager.

Allen grew up in Cottage Grove, Oregon, south of Eugene. Her parents had an 80-acre farm where they grew vegetables and raised cows, sheep and chickens. As the youngest of nine girls, her parents named her Nina, pronounced "Nine-ah." Growing up on a farm, she said, she ran wild and liked being outside.

"I've always been mechanically-inclined," Allen said. "When you live on a farm, you have to learn how to build things."

"At the end of the day, you've built something; it's there and you can see it. I feel proud that I've been a part of something big. To me, that's very satisfying." – Nina Allen

That experience led to her interest in construction and a career now that allows her to spend most of her time in the outdoors being a part of building projects. When she's not working, she continues to connect with the outdoors through her hobby of gardening, which she balances with an interest in travel and serving as a volunteer at the Humane Society.



ALL IN A DAY'S WORK

Allen's current big project is an 850-foot extension of concourse E and the construction of six

new gates. The work is part of PDXNext, the official name of the largest capital projects program Portland International Airport has ever tackled.

On a typical day, Allen said, she checks her email first thing in the morning. She'll call contractors and ask what's going on for the day, find out who's on site and what they're working on, and determine what kind of impact the day's work will have on airlines, concession stands and travelers.

Then she goes out and walks the sites, talking to contractors about what they're doing and noting any concerns they might have. She confirms they're using the right materials and checks to make sure they're adhering to safety plans and guidelines. She also evaluates how well work is progressing when compared against project schedules, making any adjustments that might be needed to keep work on track.

After site visits, Allen fills out her diary, recording details of each project location: who was working, what kind of equipment they were using, the hours they worked, and any conversations she had with them. She also uploads construction photos into a database. Finally, she'll look at what's coming up for the next day and talk to the contractors to confirm their plans.

While she's become adept over the years at juggling tasks and making adjustments on the fly, she admits there are some aspects of the job that can still be challenging.

"To me ... the hardest part of the job is when I'm not getting along with the contractor," Allen said. "It's part of the job, but it's a rarity. We can't take it personally; it's business."

"Also jobs where I have to stand out in the cold rain all day," she added, noting that she's managed

to find some really good rain gear to help keep her dry.

Still, when asked what she enjoys most about her job, Allen didn't hesitate.

"The people," she said. "I do a lot of relationship building. I'll meet new people every day here."

One of the most satisfying projects she's worked on at the airport was during a terminal expansion, when the communications center had to be relocated. In addition to learning a lot about the technology used in the center, the project also required a high degree of coordination. Everything had to be in place, tested and running and backed up, before moving everyone.

Since then, Allen said, she's remodeled the center twice. But even after 30 years, she continues to enjoy the process.

"At the end of the day, you've built something; it's there and you can see it," she said. "I feel proud that I've been a part of something big. To me, that's very satisfying." ☀️



For Nina Allen, the uniqueness of each day is one of the biggest perks of working as a construction inspector for the Port of Portland. (Sam Tenney/DJC)

MOTHERS OF INVENTION

Patent-wielding women who changed the face of the built environment

By Stephanie Basalyga

For more years than most of us have realized, the world has benefited from a continent of women who have given us inventions — from paper bags to coffee filters to windshield wipers — that we use to make our daily lives easier.

The built environment hasn't been immune to the ideas, influence and impact of women looking to solve a problem or find a better way of doing things. From a hydro-powered circular saw to a fire escape structure, women have pursued patents to turn their ideas into reality, usually with the goal of trying to improve the lives of others.

While their efforts spurred talk and headlines when they were first shared with the public, most of the women's names faded from the public eye and were largely lost in the shuffle of time. In recent years, though, as a result of efforts to increase the number of women in nontraditional jobs, from the trades to engineering and architecture, those patent-wielding women are emerging from forgotten corners to claim their place in history, starting with an Oregon woman named Frances Gabe.

THE HOOEY OF HOUSEWORK

If 21st-century women who have better things to do with their waking hours than devote them to

housework are in search of a heroine, they might do well to look to Frances Gabe.

During her lifetime, which lasted 101 years, Gabe obtained nearly 70 patents for inventions that she incorporated into the world's first — and quite possibly only — self-cleaning house.

Born in 1915, Gabe grew up with a father who was an architect and builder. A graduate of the Girls Polytechnic High School in Portland, she married and eventually moved to Newberg, where she and her husband started a family. Even in those early days, Gabe was no fan of housework.

By the time the 1970s rolled around, Gabe was trying to fit washing dishes and mopping floors in between raising two children and (according to at least one account) running her husband's roofing business. She reportedly reached the breaking point one day when she noticed a spot of fig jam on the wall. According to the story that Gabe told to a writer with the New York Times, instead of grabbing a washcloth or sponge, she reached for a garden hose. As the water sloshed away the sticky mess away, Gabe began to dream of using a similar approach to clean not just a wall, or even a room, but an entire house.

Over the course of the next 10 years or so, she fiddled and fixed and invented. She pursued — and obtained — patents for systems for cabinets that would double as dishwashers and floors that would drain after water from the ceiling rained down

“(Frances) Gabe was ridiculed for even attempting the impossible, but architects and builders now admit that her house is functional and attractive.” — Judy Wajcman, professor of sociology at London School of Economics, 1991

to clean them. Then she set about installing those same systems in her own house, a 1,000-square-foot cinderblock structure on seven acres in Newberg that The Daily Mail called a “giant dishwasher.”

Gabe wasn't the only woman who tried come up with a way to reduce the amount of time that had to be spent — usually by women — on household chores like washing dishes and cooking meals. In the early 1900s, for example, an architect named Alice Constance Austin was hired to design a cooperative kitchen for Llano del Rio, a commune being developed in Southern California. With an eye toward reducing the amount of time that would have to be spent on domestic chores, Austin designed kitchen-less living quarters for commune residents that also featured built-in furniture, rollaway beds and heated tile floors. Underground tunnels allowed hot meals to be quickly carried from the communal kitchen to individual units.

A lack of easily accessible water and capital led to the abandonment of Llano del Rio before Austin's ideas and designs could fully be put into place. Although the architect would go on to write and promote ideas about how design could be used to reduce the amount of time that women had to devote to housework, her designs never gained widespread adoption in real-world projects.

Gabe also envisioned a world of communities that would feature her ideas, entire cities and towns where the houses, hospitals and schools were all self-cleaning. She promoted the idea in newspaper and magazine interviews and in lectures she gave at universities and women's clubs around the country.

But also like Austin, Gabe's dream never made it into the mainstream world of how houses are designed and built. With limited money, Gabe wasn't able to renew patents for her inventions. And although she reportedly charged admission for people to tour her self-cleaning house, she found it tough financially to keep up with the maintenance the house required.

Even after her celebrity status had faded, Gabe continued to live in her house — although many of the self-cleaning features had ceased to function — until family members forced her to move to a nursing home. The house eventually was sold, reportedly with none of the self-cleaning features in working order. The world's first — and probably only self-cleaning house — disappeared from the public's eye.

Still, shortly after Gabe died in 2016 at the age of 101, the New York Times and other newspapers turned a spotlight on the inventor and her self-cleaning house once again. Included in one of the news stories was a tribute that Judy Wajcman, a profes-

sor of sociology at London School of Economics, penned to Gabe in 1991.

“(Frances) Gabe was ridiculed for even attempting the impossible,” Wajcman wrote, “but architects and builders now admit that her house is functional and attractive.”

WHAT GOES AROUND

Like Frances Gabe, Tabitha Babbitt was driven to try to improve the world around her. Unlike Gabe, though, Babbitt never pursued a single patent.

A weaver who came up with a double spinning head that allowed users to double the amount of wool they could spin, Babbitt was watching two men use a long saw to cut down trees and saw lumber one day when it struck her that the two-person saw — which could only cut in one direction and required huge amount of energy — was inefficient.

She began fiddling with a small blade that was on her spinning wheel, and soon realized that it could be used efficiently to cut thin materials such as roof shingles. She eventually developed a larger circular saw that was powered with water, allowing her



community to begin cutting wood with the first water-powered circular saw ever used in a saw mill.

For Babbitt, knowing that she had made life better for others in the Massachusetts Shaker community where she was a member was all the reward she needed. Her mindset left the door open for others who were more than willing to lay claim to her ideas.

Three years after people started using Babbitt's hydro-powered circular saw, two Frenchmen read about it in a newspaper. They immediately obtained a patent for it.

Unfazed, Babbitt continued to invent, eventually receiving recognition for a better way to make false teeth and sharing credit with Eli Whitney for the invention of cut nails.

A GREAT ESCAPE

Unlike Tabitha Babbitt, Anna Connelly had no qualms about laying claim to her invention. In the late 1800s, fires in New York City's tenement buildings and factories in urban manufacturing districts took a toll on human lives. After a major fire in 1860, the city of New York passed a law that required all multi-floor buildings to have exterior stairs running up the height of the structures.

Landlords balked, saying the cost would be too high. The outcry was enough to send inventors scurrying to find affordable ways to help evacuate people from buildings during emergencies. The patents issued at the time ranged from reasonable inventions (roll-out ladders) to the outlandish (a head-mounted parachute that would allow the wearer to float to the ground). Among the patents issued was one to Anna Connelly.

Connelly knew that moving to the top of a building was often the only option for people caught in a structure where fire was consuming the lower floors. So she designed an iron-railed bridge that connected the rooftop of one building to the rooftop of a neighboring building. People who were able to make it to the roof of a burning building equipped with one of Connelly's bridges would then be able to make an escape to safety.

Connelly and her patented invention were in good company. From 1877 to 1895, 32 other women also obtained patents for their inventions to try to help people safely escape fires in the city's tenement buildings.

THE SUN QUEEN COMETH

When it came to making hay while the sun shines, Maria Telkes took the saying to heart. Her role as one of the founders of solar thermal storage systems earned her a nickname as "the Sun Queen."

Born in Budapest, Telkes received a doctorate in physical chemistry before coming to the United

States in 1925 to visit her cousin. She decided to stay in the country after the Cleveland Clinic Foundation offered her a position as a biophysicist.



Maria Telkes
(Wikimedia Commons)

She eventually became involved in solar research at Massachusetts Institute of Technology from 1939 to 1953. While at MIT, she is credited with creating the first thermo-electric power generator and the first thermoelectric refrigerator.

In the 1940s, Telkes joined with architect Eleanor Raymond to build the first solar-heated house. The five-room structure in Dover, Massachusetts, used a chemical that crystalized and retained heat, and then released it.

ALL WORK AND NO PLAY

Last, but not least, a nod needs to be given to Elizabeth "Lizzie" Magie. While Magie's invention is linked to the built environment in theme only, it's worthy of mention if just for the reason that all work and no play makes architects, engineers, builders and developers dull girls and boys.

Magie was a fan of a system of taxation advocated by Henry George. In order to promote George's single-tax movement, Magie created The Landlord's Game. The goal of the board game, according to a description provided to players, was "not only to afford amusement to players, but to illustrate to them how, under the present prevailing system of land tenure, the landlord has an advantage over other enterprisers and also how the single tax would discourage speculation."

Playing the game apparently was about as enjoyable as reading the instructions. Magie obtained a patent for the first version of the game, which failed to catch on with the public. So she went on to improve the design, obtaining additional patents. But those versions didn't fare much better.

It wasn't until Charles B. Darrow, an engineer from Philadelphia, stumbled across Magie's patent and proceeded to make even more improvements — including changing the name to Monopoly — that the game gained ground

While Magie's version of the game never passed the "go" stage, she did better than collecting \$200, but only slightly. After Darrow sold Monopoly to Parker Bros., the company tracked down Magie and paid her \$500 for her part in creating the now-popular board game. ⚙️

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A BLUEPRINT FOR SUCCESS



Erica Fischer, at right, assistant professor of structural engineering at Oregon State University, meets with undergraduate student Annabel Shephard. (Photo courtesy of Oregon State University, College of Engineering, Johanna Carson)

At Oregon State University, boosting the number of women in engineering starts at the front of the classroom.

By Liz Sias

When it comes to the number of women working in construction and engineering, as a whole, the industry has a ways to go.

In architecture and engineering occupations, 14 percent of full-time wage and salary workers were women in 2016, according to the Bureau of Labor Statistics. For civil engineering, 10 percent were women. In academics, women received 19 percent of all engineering degrees in 2013, according to the National Girls Collaborative Project, which aims to encourage girls to pursue careers in science, technology, engineering and mathematics (STEM).

One Oregon school is leading the way in working toward changing those numbers. The School of Civil and Construction Engineering (CCE) in Oregon State University's College of Engineering is working

to bridge the gap and create more opportunities for women.

Part of the strategic plan is to ensure the school has an inclusive and diverse faculty and body of students, said Jason Weiss, head of CCE. The school has received support from the College of Engineering and OSU ADVANCE — a program aimed at increasing the participation and advancement of women in science and engineering — and the school has been able to hire new faculty as the program has grown over the last decade, Weiss said.

An outcome of this growth can be seen in a three-fold increase in the female faculty in CCE as compared to four years ago.

Between 2013 and 2017, the female population in the CCE graduate student body increased by about 6.5 percent, spurred in large part by support from the University Graduate Laurels Block Grant program. The program provides scholarships to assist a diverse population of qualified students.

“We’ve seen a pretty substantial shift in our faculty and now we’ve seen that carry over to our student body,” Weiss said. “As you change the makeup of the people at the front of the classroom, that also changes the people coming to campus.”

He hopes that will lead to a more diverse population entering the job market and be beneficial to contractors and engineers.

Recognizing that effort, BUILD Magazine announced

“The culture is changing. We have more female students graduating from the civil engineering program and construction program.” – Yelda Turkan, assistant professor of construction engineering management, Oregon State University

CCE as a winner of the 2017 Women in BUILD Awards. The magazine described the building industry as traditionally male-dominated, but in recent years women have come to the forefront. This is the second year BUILD Magazine coordinated the awards.

“We feel very fortunate to be recognized,” Weiss said. “What we’re really trying to do is create the culture and community to really serve the civil and construction engineering companies as best as we can.”

Recent faculty hires include Erica Fischer, assistant professor of structural engineering, and Yelda Turkan, assistant professor of construction engineering management.

Turkan’s interests are centered on the areas of sensing, automation and information technology for construction engineering and management, infrastructure asset management, and transportation.

She started teaching at CCE in fall 2016, and she said it’s an inclusive environment.

“OSU really encourages and implements diversity,” she said. “Including me, we have many recent female faculty hires.”

Last year, she taught a construction contracts class where about five percent of her students were women. This year, she’s teaching a senior-level course that’s mandatory for all civil engineering students, and about 15 percent of the students are female. In total, about 1,200 students attend the school, 200 of which are graduate students.

“The culture is changing,” Turkan said. “We have more female students graduating from the civil engineering program and construction program.”

Recently she’s been busy planning an architectural engineering class for OSU. With a goal of starting this



Yelda Turkan, assistant professor of construction engineering management (Photo courtesy of Oregon State University)



Erica Fischer, assistant professor of structural engineering (Photo courtesy of Oregon State University)

fall, Turkan hopes the class will attract more female students.

Fischer’s research revolves around innovative approaches to improving the resilience of structures affected by hazards such as earthquakes and fires.

One of the newest faculty members, she started teaching at OSU in the fall. Before this, she worked in Seattle designing a number of seismic retrofits for buildings. Coming from the industry, she said it’s fun being the one to introduce students to design.

At OSU, the faculty is collaborative, immediately reaching out to Fischer and bringing her into their research. There’s been a lot of support for younger women entering engineering fields, she said.

“It’s something I really appreciate about the college,” Fischer said. “There are issues with women and minorities being underrepresented. OSU is one of the universities that recognizes it, acknowledges it and is trying to do something about it. It’s refreshing to be a part of that community.”

One of Fischer’s students, Annabel Shephard, is a senior undergraduate studying civil engineering. She’s currently doing

research with Fischer and works at the O.H. Hinsdale Wave Research Laboratory.

Shepherd’s research with Fischer involves analyzing the life cycle of a 10-story office building when impacted by fires. And during her time at OSU, she had a six-month long internship at the Oregon Department of Transportation in Salem, where she worked in the agency’s construction department in pavement design — now one of her road designs is about to

See **BLUEPRINT** page 23

“There are issues with women and minorities being underrepresented. OSU is one of the universities that recognizes it, acknowledges it and is trying to do something about it. It’s refreshing to be a part of that community.” – Erica Fischer, assistant professor of structural engineering, Oregon State University

WOMEN WORK



**KELLY
GILLARD**
ARCHITECTURAL
RESOURCES
GROUP

Architectural Resources Group has named Kelly Gillard to senior associate. She has 20 years of design experience, which includes an emphasis on building envelope design and detailing, coordination of cross-disciplinary systems, services during construction, and LEED administration. In her new position, she will continue to lead the firm's preservation design projects and contribute to business development initiatives.



**HEIDI
BERTMAN**
HENNEBERY EDDY
ARCHITECTS

Hennebery Eddy Architects has promoted Heidi Bertman to associate. She joined the firm in 2016, bringing more than 15 years of experience to its aviation and transportation team. She served as project architect and construction coordinator for the firm's work on the Portland International Airport Terminal Balancing and Concourse E Expansion, and is leading the interior architecture for the project. She also is a Leadership in Energy and Environmental Design Accredited Professional.



**TANYA
WEURTZ**
CODE
UNLIMITED

Code Unlimited LLC has promoted Tanya Wuertz to senior code analyst. She had over 18 years of experience in the field of architecture and design

before joining Code Unlimited as a code analyst III in 2017. She will be responsible for managing large-scale projects in multiple market sectors to ensure building codes are utilized in the most effective manner.



**WENDY
SCHMIDT**
OBEC CONSULTING
ENGINEERS

OBEC Consulting Engineers has hired Wendy Schmidt as a project manager. She has 13 years of experience in planning, design, project management, and construction management of transportation and utility infrastructure projects. An active member of the American Public Works Association, she focuses on multi-disciplinary public agency projects as well as public-private partnerships.



**HEATHER
FOSSITY**
BARRAN
LIEBMAN

Barran Liebman has hired attorney Heather Fossity to join its employment litigation team. Her background includes experience representing a wide range of industries in legal matters, including clients in the manufacturing and construction industries.



**SARAH
POZZI**
BODYFELT
MOUNT

Bodyfelt Mount LLP has hired attorney Sarah Pozzi. She received a bachelor's degree in political science from Western Washington University and a law degree from University of Oregon School of Law. Prior to joining

Bodyfelt Mount, she was a clerk for Lane County Circuit Court Presiding Judge Karsten H. Rasmussen, working mostly on complex civil litigation cases. She will focus her practice on general civil litigation.



**VICKI M.
SMITH**
BODYFELT
MOUNT

Bodyfelt Mount LLP attorney Vicki M. Smith has become the president of the board of directors for the Oregon Association of Defense Counsel (OADC). She volunteered on OADC's board of directors for five years, serving as OADC's president-elect in 2017 and as secretary/treasurer in 2016. She has held additional leadership roles in the organization, including co-chairing its 2015 Annual Convention and chairing its New Lawyers Practice Group.



**JODI
HANSON**
JONES
ARCHITECTURE

Jodi Hanson has joined the staff at Jones Architecture. A native of Minnesota, she received a bachelor's degree in design and architectural studies from the Tempe campus of Arizona State University before moving to Portland and receiving her master's degree in architecture from the University of Oregon. Her professional experience began with a position as an architectural intern for Pope Architecture in St. Paul. While attending UO, she served as a student intern with SERA Architects in Portland and was hired as a professional after graduating. Her project portfolio includes a role as collaborator on the design of the Urb Memorial Student Union at UO. In addition to serving as job captain for a tech company office in the San Francisco area, she was part

of a three-person team that earned first-place honors in the 2013 Imagine Downtown Lafayette Competition. She also participated in the 2014 Stitch Competition coordinated by the Portland chapter of the American Institute of Architects.



ALYSIA J. HARRIS
MILLER NASH
GRAHAM & DUNN

Alysia J. Harris has joined Miller Nash Graham & Dunn LLP as a member of the firm's employment law team, serving public and private entities. Her practice includes counseling employers on a variety of issues, including allegations of harassment and discrimination, retaliation, protected leave and discipline. She holds a bachelor's degree from Dartmouth College and a law degree from Vanderbilt University Law School. She currently serves as president of the Oregon Chapter of the National Bar Association.



ASHLEY HILL
CBRE

Ashley Hill has joined CBRE as senior analyst for its Portland research team. In this role she will focus on growing best practices and thought leadership for the Pacific Northwest team. Hill previously served for over four years as a senior analyst in Southern California.



ELISE BRICKNER-SCHULZ
MILLER NASH
GRAHAM & DUNN

Elise Brickner-Schulz, director of Oregon litigation and legal staff manager at Miller Nash Graham & Dunn LLP, has been elected to serve as president of the Oregon chapter of the Association of Legal Administrators

(ALA). Her one-year term began in April. She also has served as ALA's president-elect, and as the chapter's resource services director since 2015.



KIMBERLEE STAFFORD
TONKON
TORP

Tonkon Torp partner Kimberlee Stafford has been elected to the board of directors of The Street Trust, a non-profit organization that promotes community partnerships to improve public transit, walking and bicycling conditions in Oregon. Her legal practice focuses on commercial real estate transactions with a special emphasis on the forest products, energy, agricultural, and seniors housing industries.



NATALIE AVERILL
CBRE

CBRE has hired Natalie Averill as a senior capital markets operation coordinator. Prior to joining CBRE, she worked as an assistant transaction manager for the Institutional Team at ARA Newmark. She completed her undergraduate degree at Oregon State University in English literature and is currently pursuing a master's in business administration at University of Portland.



LAUREN PENG
CBRE

Lauren Peng has joined the Portland office CBRE as associate director of asset services. With more than 18 years of experience in real estate management, her past projects include the EpiCentre, a mixed-use/entertainment complex, and the NASCAR Plaza, a LEED-certified office tower and media recording studio connected to the NASCAR Hall

of Fame. She has been with CBRE for more than nine years and most recently worked in the firm's office in Charlotte, North Carolina. She is an active member of BOMA, including serving as president of the organization's Carolinas/West Virginia chapter. She also is a member of the U.S Green Building Council and is LEED certified.



EMILY DAWSON
PATH
ARCHITECTURE

Emily Dawson has joined the team at PATH Architecture as a project manager. Born and raised in Alaska, she pursued a career in architecture in order to fulfill her desire to improve the way communities impact the natural environment. After graduating from Cornell University with a degree in architecture in 2003, she received a travel research fellowship in 2015 that allowed her to study mass-timber applications in Europe. She put what she learned to good use while working for a previous employer when she designed a structure for the Oregon Zoo that was the first cross-laminated timber structure built in Oregon. She is a sought after speaker and has presented at industry conference on mass-wood topics. She was named a Woman of Vision award winner in 2016 by the Daily Journal of Commerce. In her new role with Path Architecture, she is expanding upon her industry reputation as a leader with a proven ability to connect team members in ways that produce strong, inspiring projects.

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Have you experienced a milestone in your professional life? Received a promotion? Won an award or earned a certification? Share your achievements with other Women of Vision magazine readers. Send a press release or short description of your accomplishment – along with a color head shot (jpeg or tif format) if available – to wovmagazine@djcoregon.com. A confirmation of receipt will be sent once your submission reaches us.

ALISON HOAGLAND'S COMPASS FOR SUCCESS

By Leo MacLeod



For Alison Hoagland, the secret to becoming a leader meant first learning how to delegate and trust her team. (Photo courtesy of Mackenzie)

Strong willed. Driven. A natural leader. That's the way Alison Hoagland, a Daily Journal of Commerce 2017 Phenom winner, describes both her son and daughter.

The same words can describe Hoagland who has risen quickly through the ranks at Mackenzie to become assistant department head of architecture and a leader in the firm's retail sector.

"I just hope my children learn from my journey that the secret to being a strong leader isn't being someone else, but being true to who you are and believing in yourself," Hoagland says.

DRIVEN TO LEARN

Hoagland's career started with a strong curiosity about the world around her. As a high school student, she drew pictures of downtown buildings in Portland. Her father, seeing her aptitude for both math and art, suggested architecture. Hoagland enrolled in the architecture department at University of Oregon and jumped in with both feet.

"I'm just driven to learn about everything," she says. "Architecture is always changing because people are always changing. It's the art form of humanity."

A professor shared a valuable insight that's driven Hoagland's professional journey: Don't be satisfied with accomplishments but always seek the next thing to learn about.

"Learning drives who I am," Hoagland says. "I want to learn from people and I want to pass that knowledge on. Learning is the compass that drives my ship."

FINDING A MENTOR

When she joined Mackenzie 14 years ago, she had plenty of opportunity to learn. At the multi-disciplinary firm, Hoagland got experience in projects in industrial, public, office, tenant improvement, and retail. She learned not just to draw a pretty picture but how to design a building so it was safe, durable, healthy and practical for people. She was lucky, too, to find strong mentors who believed in her and helped guide her path. Her first mentor was a strong female architect.

"That was a great way to start my career because it

made me believe in myself and (see) that there's a great career path ahead of me as a woman in architecture," Hoagland says.

After this mentor left the industry, Hoagland was quick to find new mentors to help continue her growth. Two senior leaders at Mackenzie, Peter Alto and Terry Krause, recognized her value to the firm and her need for greater work life balance.

GIVING EVERYONE 120 PERCENT

Early in her career, Hoagland thought being a leader meant doing it all by herself. A very competitive person by nature, she found she often compared herself to others. To be successful, she believed at the time, was all about shouldering responsibilities and not asking for help. She felt like she had something to prove and working harder was the only path.

"I was giving everyone 120 percent — everyone, that is, except myself," she says.

A PATH TO FAILURE

The building industry is extremely challenging: tight deadlines, difficult personalities, high risk and pressure to perform all the time. The challenges were taking a toll on Hoagland.

"I felt like I was not only letting myself down but everyone who expected so much from me," she recalls.

One day her husband, Dan, who had been by her side from the beginning to help her find balance, forced her to go to the gym. She reluctantly agreed, thinking she would sit down and try to watch an entire movie, something she hadn't been able to do in years. Instead, she jumped on a treadmill.

"That literally saved my life. I was on a path to failure and I wasn't being successful at work or at home. I had let everything get the better of me," she says.

ASKING FOR HELP

Her village of support had always been there for her: Her mother and mother-in-law provided childcare and her husband adjusted his schedule and worked cooperatively to find the right balance at home.

But Hoagland had to be okay with asking for more help and accepting it. Her mentor Krause knew firsthand how difficult it was to not let work drag you down and dominate your life.

"What I hadn't realized is that they had been waiting to be asked," Hoagland says. "That was the turning point. It only

"... the secret to being a strong leader isn't being someone else, but being true to who you are and believing in yourself," – Alison Hoagland

made me stronger to accept the help of others.”

In addition, leaders at Mackenzie provided Hoagland with an outside coach.

“You don’t just wake up one day and say, ‘I’m going to make this decision and work on myself and my career.’ You need help along the way,” Hoagland says. “Working with a coach who continuously asked about my personal life — and getting the ongoing support from my husband and manager — was what I needed.”

A COLLECTIVE JOURNEY

Hoagland realized that trying to control every situation was a barrier not only for her growth, but for the growth of people on her team. When Hoagland began to let go of control and learned to lean on her team, her leadership path changed from a solo to a collective journey.

Instead of doing it herself, she found opportunities to let go of responsibility so other people could shine. As a consequence, it took the stress off of Hoagland and, in turn, made her team members feel good about what they were doing.

Her days now start by identifying what tasks she can delegate and to whom. But delegation doesn’t mean just off-loading tasks. It means identifying people’s strengths and matching them with the right tasks. Hoagland had to learn to be a better listener, to take the time to understand her team, and to be available to coach them when they flounder.

LEARNING TO BE FIRM

In order to let go of control, Hoagland also realized she needed to much better at letting people on her team know when they had let her down. Conflict adverse by nature, Hoagland was more likely to let mistakes go unnoticed or not address them at all. Difficult conversations just didn’t happen.

Through coaching, though, she realized a direct conversation didn’t have to be a big deal. She would role play the night before with her husband to take the emotion out of her message and get right to the point. She even practiced in front of a mirror to see what her body language would convey.

THE WHOLE PICTURE

In Hoagland’s new view, a strong leader is someone who is successful at home and work. “We’re fooling ourselves if we show the world that it’s all about careers,” she says. “The main reason we have a career is to bring joy and life in other areas of our lives. I now find joy and pride in both my career and what I do outside of work.”

When she mentors young people, many of them women, she is open about what she’s learned, both the successes and hard lessons: You don’t need to sacrifice a personal life to be successful; don’t do it alone; and learn to let others shine.

She also reminds them that success requires balanced commitment and hard work.

“Young people need to hear that it’s often a struggle to be successful,” Hoagland says. “But working through the struggle is where you see the most success and where you really learn about yourself.” 🌀

Leo MacLeod, contributing writer and leadership coach, runs the Emerging Leader Program.

BLUEPRINT *continued from page 19*

come to life as it undergoes construction.

As a woman in civil engineering, Shephard said it can be pretty intimidating.

“I’m one of very few women in the program. Sometimes you become very aware of it,” she said.

When she studied abroad in Singapore in her sophomore year, that disparity was even more apparent when she was the only woman in some of her classes.

“Sometimes I feel very isolated, but when I have the opportunity to work with other women in my program, there are so many intelligent and passionate and well-spoken people,” Shephard said.

It wasn’t until her junior year that she had female professors in civil engineering classes. That helped inspire her to feel like she had a place in the field.

“It’s so nice to go from not having any women to look up to, to having very prominent women in their field teaching my classes,” she said.

After she graduates, she’ll be working for engineering consulting firm OBEC before returning to OSU for her master’s degree in wood science and structural engineering.

Dominga Sanchez is a PhD student focusing her graduate work on engineering education and equity and engagement in the undergraduate experience.

After getting her bachelor’s degree in structural engineering, Sanchez started working at the University of California in San Diego as an outreach coordinator. That’s when she knew she wanted to get involved in the work to bring more women and minorities into engineering professions.

“I started having a bigger view of who was coming into the STEM field,” she said. “I think there’s a lot of work to be done.”

Growing up in Santa Monica, Sanchez didn’t know about engineering as a career path. She’s the first person in her family to attend college, and she wants to go back to her community and tell her story.

“It’s been very interesting. I’m not just a woman in engineering, I’m a Latina woman. And I’m a single parent, older than the average student,” she said. “Sharing my experience, I hope that I can encourage them that it’s possible.”

Although it’s uncommon for an engineer to focus on education and diversity issues, Sanchez said she’s found a strong support network of faculty, staff and students at CCE.

“We do see a lot of underrepresented minorities, whether it’s people of color, female, first generation or people of low income,” she said. “Those are the students that drop out, and those are the students that we need because they bring a different point of view to engineering design.” 🌀



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