

FORGING CONNECTIONS

ALASKA ENGINEERING HORIZONS FOR WOMEN

Bridging Industry, Education, and Community



MARCH 22, 2024 MEETING RECAP

Meeting Summary

Building on the momentum of the successful WiE Initiative Launch held at UAF in Fairbanks on March 3, 2023, the "Forging Connections" meeting continued to drive impactful collaboration. This event successfully brought together key university and industry stakeholders, including many from Anchorage who couldn't attend the 2023 launch.

The focus was clear: to harness the success of the inaugural event and further develop actionable strategies to create meaningful, positive change for Alaska's workforce.

William Schnabel

UAF CEM DEAN

Kenrick Mock

UAA COENG DEAN

Executive Summary

The University of Alaska Anchorage (UAA) College of Engineering (CoEng) and the University of Alaska Fairbanks (UAF) College of Engineering and Mines (CEM), invited leaders from Alaska's industry and K12 education system to build on the foundation of the 2023 Women in Engineering Initiative Launch at UAF, this gathering brought together key engineering stakeholders to strategize on recruiting and retaining women in Alaska's engineering workforce.

The meeting resulted in a list of workable ideas and activities that the universities and their community stakeholders could develop and pursue together. The next steps are:

Pursue a study to make the business case for diversifying the Alaska engineering workforce

Form a taskforce and a strategic plan to develop a collaborative ecosystem including industry, the universities, and the community

Strategic plan for action based on the ideas collected at this meeting and at the UAF Initiative Launch (March 2023), including

1. Building the pipeline through K12 outreach,
2. Networking events that bring together UA alumni and students, with HS students and members of the engineering community, and
3. Advocacy for positive changes to promote retention (e.g. increased flexibility, investment in mentorship, paid volunteer time)
4. Schedule task force sessions to maintain momentum.



College of Engineering and Mines
UNIVERSITY OF ALASKA FAIRBANKS



UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE

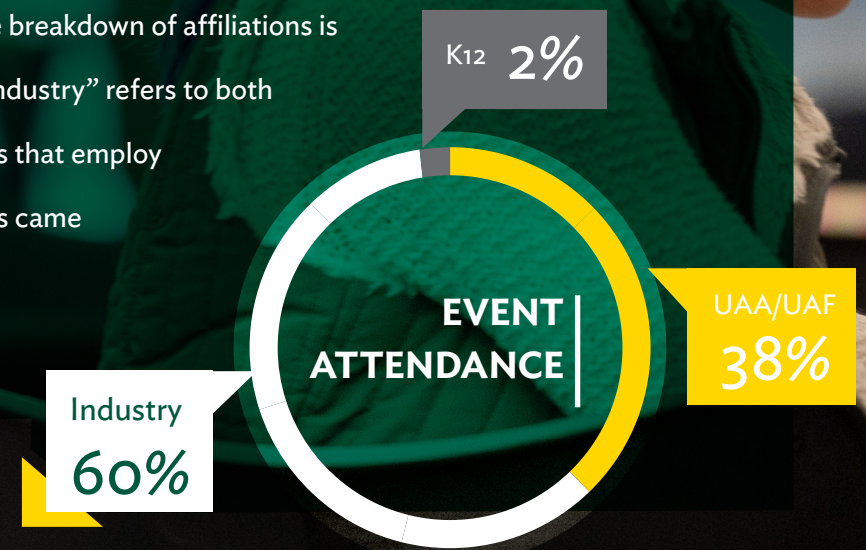
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Alaska Engineering Horizons for Women

Bridging Industry, Education, and Community was held on Friday, March 22, 2024 from 10:00 am to 4:00 pm on UAA campus. The event was attended by 48 people. The breakdown of affiliations is shown in the figure. In this context, “industry” refers to both public and private sector organizations that employ engineers. Around 1/5 of the attendees came from Fairbanks for the day.



Meet Our Event Leaders

Denise Thorsen
Associate Dean for Academics
UAF College of Engineering and Mines
Professor of Electrical and Computer Engineering

Jennifer McFerran Brock
Associate Dean for Academics
UAA College of Engineering
Professor of Mechanical Engineering

Jessica Schnabel, Global Head of Banking on Women, International Finance Corporation (IFC)

William E. Schnabel
Dean, UAF College of Engineering and Mines

Kenrick J. Mock
Dean, UAA College of Engineering
Professor of Computer Science

Photo Left to Right: Denise Thorsen, Jennifer Brock, William Schnabel, Jessica Schnabel, and Kenrick Mock at the event's closing meet and greet.



Welcome

If you missed the presentation, please scan the QR Code or [Click Here](#)



"If we are going to create a future for Alaska, we need engineers. This is not an issue for one university or another, but for all of us: universities, industry, parents, and all of Alaska."

- Dean Bill Schnabel

Alaska and the nation need more engineers, but only a small percentage of people who could potentially become engineers are joining the profession



Meet Our Opening Speakers



UAA College of Engineering (CoEng) Dean Kenrick Mock



UAF College of Engineering and Mines (CEM) Dean Bill Schnabel



U.S. Senator Lisa Murkowski



UAA Chancellor Sean Parnell



UAA Provost Denise Runge



SWE Greatland President and CoEng Advisory Board Chair Stephanie Mormillo

COLLABORATIVE EFFORTS TO STRENGTHEN ALASKA'S ENGINEERING WORKFORCE

UAA College of Engineering (CoEng) Dean Kenrick Mock began the event with a land acknowledgement. UAA is established on the ancestral homelands of the Dena'ina, Ahtna, Alutiiq/Sugpiaq, and Eyak/dAXunhyuu Peoples. He then outlined the purpose and goals of the event: Alaska and the nation need more engineers, but only a small percentage of people who could potentially become engineers are joining the profession. He thanked the participants for taking an entire day out of their schedules to attend the event and work on this problem.

UAF College of Engineering and Mines (CEM) Dean Bill Schnabel welcomed the attendees and reiterated the need to bring everyone to the table for the engineering workforce and the future of Alaska. He emphasized that this is not an issue for one university or another, but for all of us: universities, industry, parents, and all of Alaska. If we are going to create a future for Alaska, we need engineers.



ENCOURAGEMENT FROM LEADERS

[U.S. Senator Lisa Murkowski](#) provided a welcome video. She commended participants for creating opportunities for women entering STEM fields. She stated that while this is not easy work, every hurdle that women in STEM overcome makes them stronger. She emphasized the broad range of challenges in the state for which we need passionate and determined women: water and wastewater infrastructure, roads, ports,

satellites, broadband, bridges, erosion mitigation, power generation, airports, and much more. [UAA Chancellor Sean Parnell](#) provided a welcome video. He stated that UAA is proud to honor brilliant minds and contributions of women in engineering, and that engineers' special skills enhance the quality of life and economic vitality of the state. He emphasized energy, mining, transportation, public works, technology, and

telecommunications. He stated that the theme of the day's event, bridging industry, education and community, is a perfect fit for UAA's mission, and he thanked participants for strengthening connections with each other to build a brighter future for Alaska. [UAA Provost Denise Runge](#) addressed the group. She shared that the Alaska Department of Labor projects job growth of 10-20% over the next 10-15 years, depending on engineering subspecialty, and that this job growth presents an opportunity for us to diversify the workforce. She shared the thoughts of her son, a chemical engineer, on the benefits of a more diverse engineering workforce: it means a bigger talent pool, and broader perspectives leading to more creative solutions. Provost Runge reminded the room that including more females tends to lead to increased retention and enhanced organizational reputation. She called attention to another significant workforce development effort that UAA is proud to be a part of: the Academies of Anchorage, lead by Anchorage

School District. The goal of the Academies is to create excitement in young people by connecting education to workforce goals, which will require industry partners to come into classrooms directly. Finally, [SWE Greatland](#) President and CoEng Advisory Board Chair Stephanie Mormillo addressed the group. She reflected that the best and most productive teams she's been part of have been diverse, not just in terms of gender but in age, experience level, and expertise. Because we all bring something different to the table, different perspectives and the ability to challenge each other is essential. She reminded the room that, while some people really enjoy school, others need to survive school, and industry has a role inspiring and mentoring these people so that we can keep them. She stated that we change and make choices as we move through our careers, and we can change the industry and the world with what we do.

Journey Through the Milestones



1936
Helen Atkinson University of Alaska's first female civil engineering graduate.



1972
Title IX is enacted, prohibiting sex discrimination in educational programs and activities.



1977
A student chapter of the Society of Women Engineers (SWE) established at UAF.



1999
The Society of Women Engineers (SWE) establishes the Greatland Section in Alaska.



2009
The White House Council on Women and Girls launches initiatives to increase the participation of women in STEM fields.



2014
Women in Engineering Day: Started by the Women's Engineering Society to showcase the successes of female engineers.



20-25%

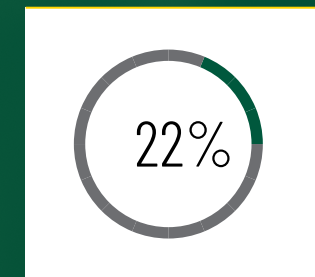
Nationally, women make up about 20-25% of engineering college graduates.

PREVIOUS WORK AND STATE OF THE WORKFORCE

FROM THE UNIVERSITIES

Dean Schnabel recapped last year's meeting in Fairbanks. He reflected that the data that he shared on enrollment, retention, and graduation of women at UAF CEM at the first event look very similar to the data from UAA CoEng that Dean Mock was about to share. This is a reflection that both colleges share similar issues. He stated that last year's participants came up with plans for action, and one of those plans was to have another meeting in Anchorage, and that is happening today. He stated that the group also agreed to form a taskforce, which we are hoping will happen after this meeting. He observed that the broad participation in this meeting reflects the importance of the challenge facing Alaska's workforce. If we want to overcome challenges in Alaska, we need more women and underrepresented minorities in the engineering workforce, which is a top-to-bottom challenge. Dean Mock shared enrollment and graduation statistics from UAA CoEng, disaggregated by gender, similar to the data shared by Dean Schnabel at the event hosted in Fairbanks.

The data showed that, nationally, women represent approximately 20-25% of the graduates from engineering colleges. In the period between 2013-2022, CoEng averaged 22% female graduates, which is in line with national averages. Cumulative graduation rates disaggregated by gender show that female students enrolled in CoEng are retaining and graduating at significantly better rates than their male peers. Disaggregation of degree awards by discipline shows that female graduates are not evenly distributed in CoEng. The Civil Engineering and Project Management programs graduate significantly more women than other disciplines.



In the period between 2013-2022, UAA CoEng averaged 22% female graduates, which is in line with national averages.

Overall, the data presented were qualitatively similar to the UAF CEM data presented by Dean Schnabel at the Initiative Launch in 2023. Both colleges have rates of female enrollment, retention, and graduation that are in line with national averages. Both colleges' female students graduate at higher rates than their male peers, and both colleges have programs that attract and graduate women at higher rates, compared to other programs.



Female students at UAA and UAF graduate at higher rates than male peers.

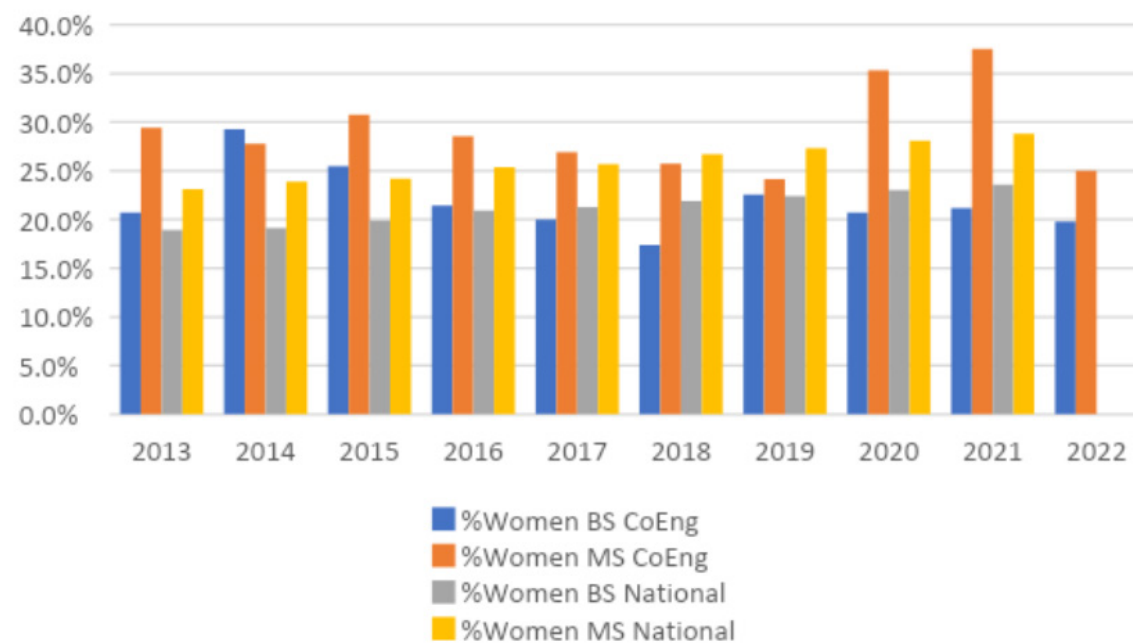


Figure 2: Compares the percentage of female graduates in UAA CoEng to national trends in engineering colleges, 2013-2022. Institutional data from UAA IR Official Awards Degrees, national data from the ASEE report Engineering and Technology by the Numbers.

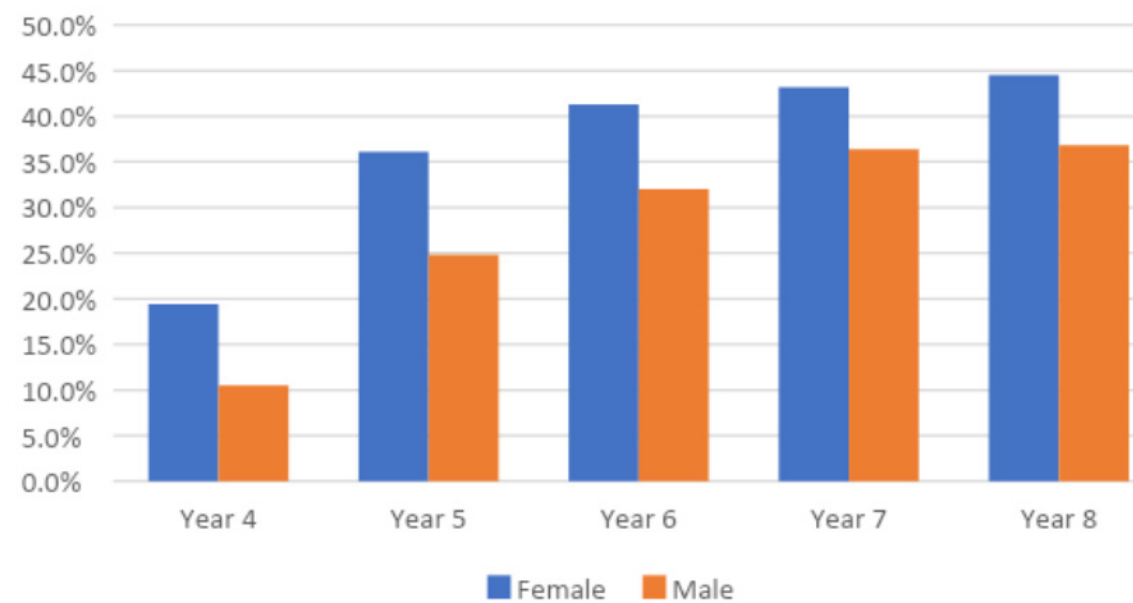


Figure 3: Cumulative graduation rates for first-time freshmen enrolled in CoEng baccalaureate programs, averaged across cohorts from 2013-2019. Later cohorts do not yet have data available for all years. Data from UAA IR Graduation Rate First Time Freshmen.

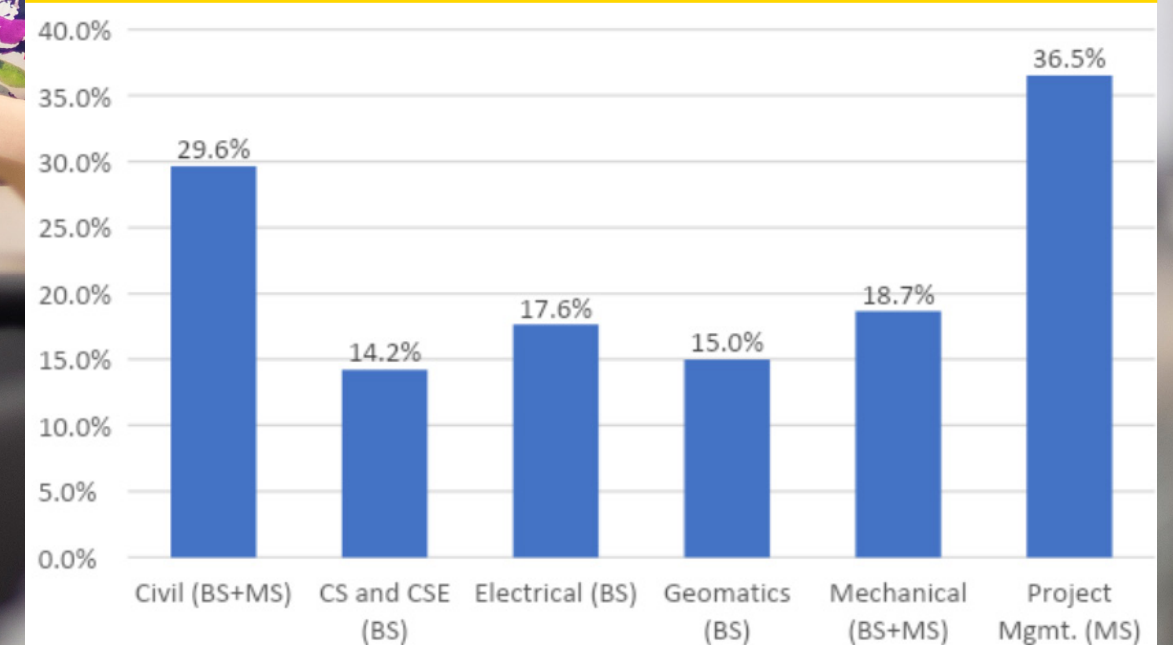


Figure 4: UAA CoEng 10-year average graduation rates of female students by discipline. Data from UAA IR Official Awards Degrees, with additional data compiled by IR, 2013-2022.



THE DATA BEHIND THE LABOR FORCE

Richelle Johnson, Lead Analyst with the [UAA Center for Economic Development](#), shared data on women in engineering in Alaska's labor market. She stated that currently, 54% of women in the U.S. are participating in the workforce. This percentage grew steadily for decades but flattened out in the late 90s (this was largely the result of retirements, a trend that was mirrored in the male population). With respect to Alaska, she discussed two different ways of quantifying female participation in the workforce:

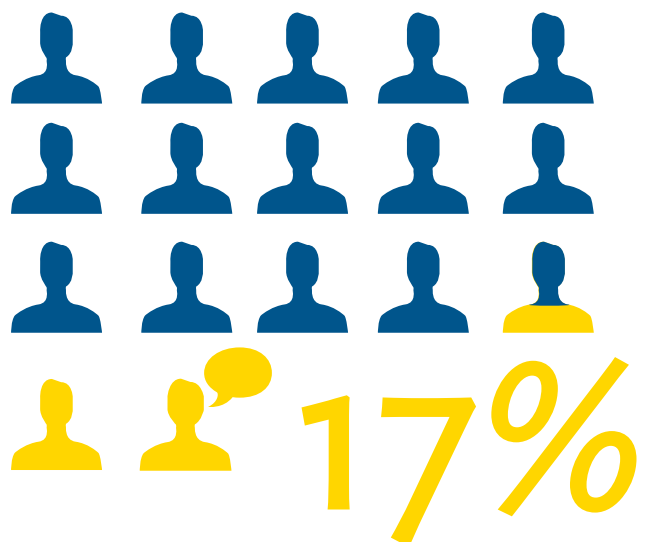
- ▶ The percentage of the female population that are participating in the workforce, and
- ▶ The percentage of women within a particular occupation.



DATA COMPILED BY
[THE SOCIETY OF WOMEN ENGINEERS \(SWE\)](#)

ENGINEERING OCCUPATIONS FILLED BY WOMEN

Alaska ranks the highest across all U.S. states in terms of the percentage of women in engineering occupations, with women making up 17% of engineering-specific occupations.



ALASKAN WOMEN
IN ENGINEERING

In Alaska, 58% of women are participating in the workforce, compared with 54% in the U.S., and 48% of Alaska's total workforce is women. About 60% of Alaskan men are participating in the workforce. Nationwide, female labor force participation ranges from 62% in North Dakota and Minnesota down to 47% in West Virginia (West Virginia has a relatively low labor force participation rate in general, which partly accounts for this).

1980's Despite lagging behind other STEM fields, female participation in engineering has been rising since the 1980s.

At the bottom are North Dakota, South Dakota, and Utah, with 8%, 7%, and 9% of engineering occupations filled by women, respectively. The Society of Women Engineers (SWE) was credited with assembling these data. Compared to other STEM fields, engineering is lagging in terms of female participation, although the share of female engineers has been increasing since the 1980s, while some other fields have seen decreased female participation.

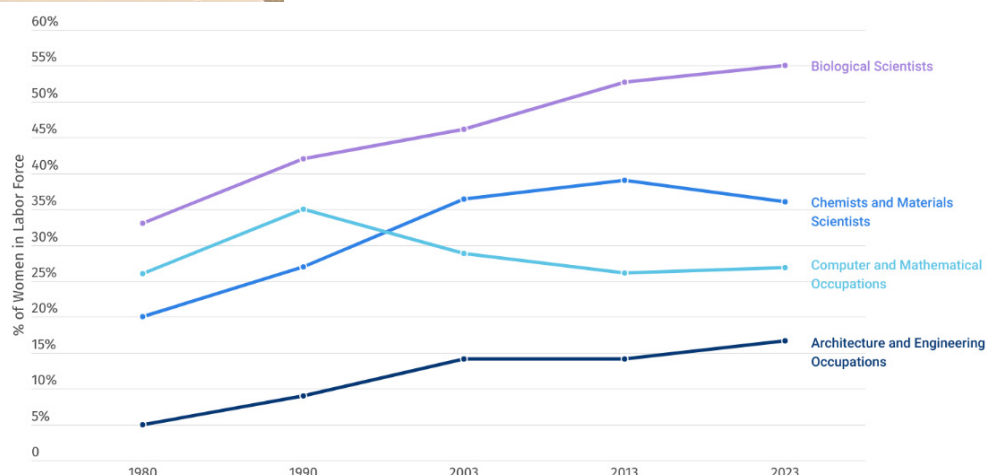


Figure 6: Data Source – U.S. BLS, Community Population Survey. Percentage of Women in Selected STEM Fields, 1980 to 2023.

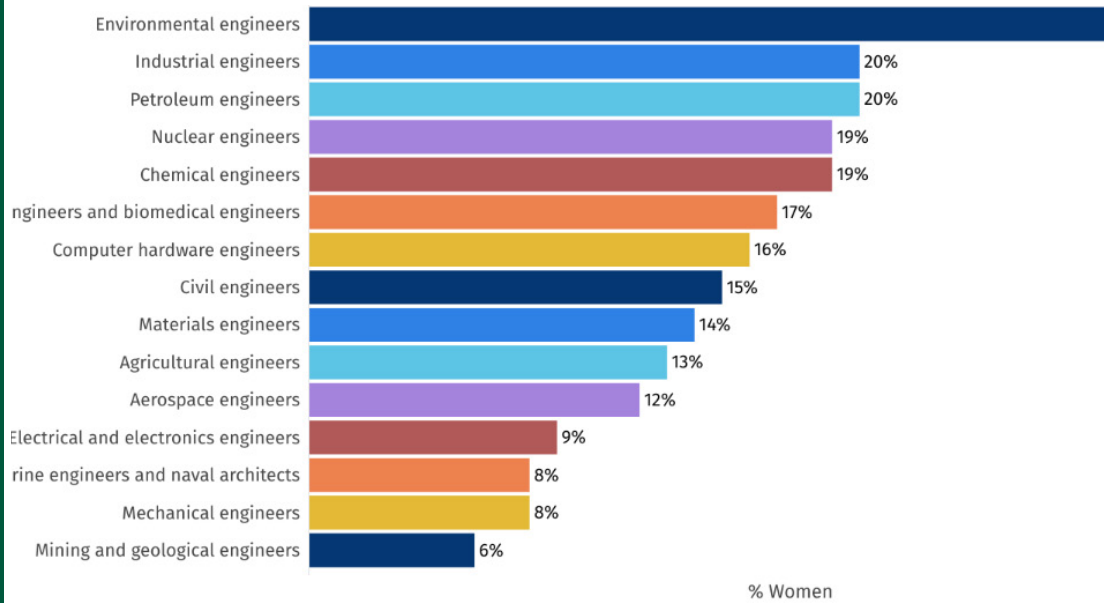


Figure 7: Data Source – U.S. Census Bureau, American Community Survey. Percentage of Full-Time, Year-Round Female Workers in Selected Engineering Occupations, 2019.

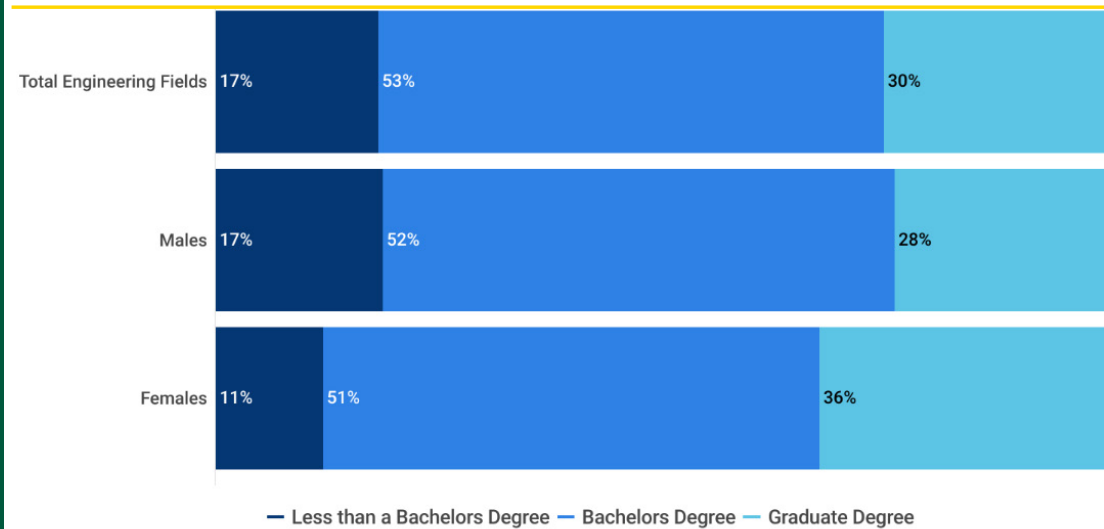


Figure 8: Source – U.S. Census Bureau, American Community Survey. Highest level of educational attainment achieved by sex in engineering occupations, 2019.

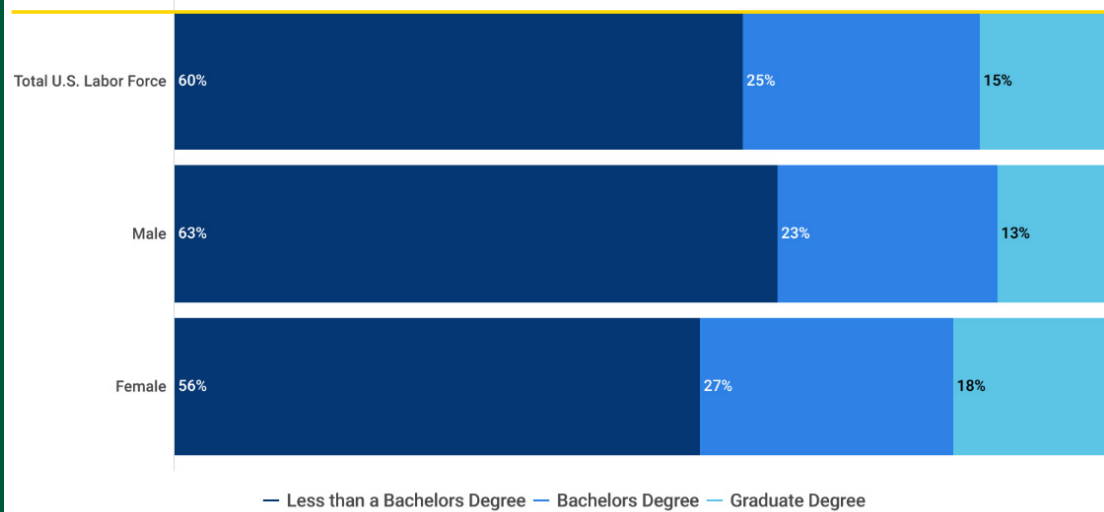


Figure 9: Source – U.S. Census Bureau, American Community Survey. Highest level of educational attainment across the all occupations in the U.S. by gender, 2019.



EDUCATIONAL ATTAINMENT ACROSS THE WORKFORCE BETTER BUT NOT EQUAL

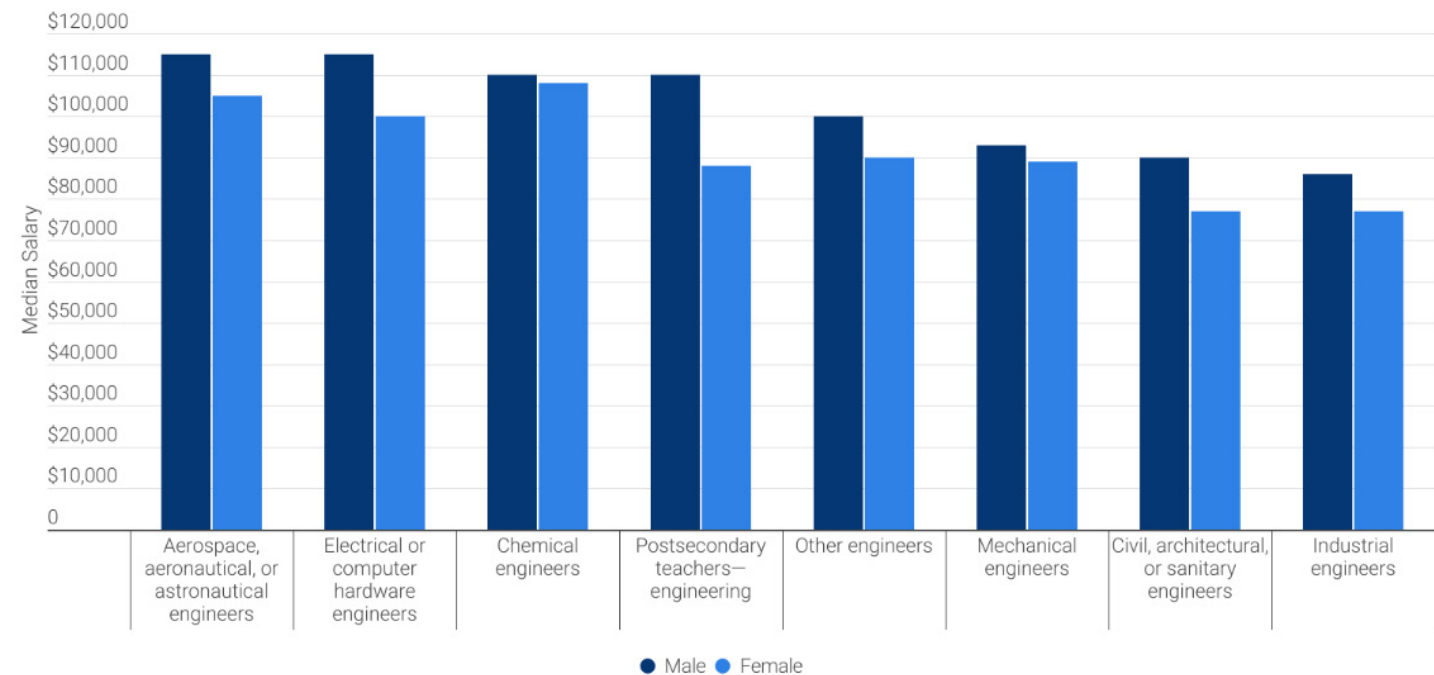


Figure 10: Source – U.S. Census Bureau, American Community Survey. Median wage by sex in select engineering occupations, 2022.

In terms of specific engineering disciplines, environmental engineering has by far the largest percentage of women.

In terms of educational attainment, female engineers tend to be more educated than their male peers, and tend to seek graduate degrees at higher rates. This is consistent with behavior that is seen across the whole labor force.

Across the board, the gender pay gap in Alaska is \$0.72 on the dollar, which is slightly lower than the U.S. average of \$0.78 on the dollar. Alaskan female engineers fare better, with \$0.82 on the dollar.

The gender pay gap does vary by engineering subspecialty. Interestingly, the largest gender pay gap within engineering is for postsecondary teachers, which is unfortunate given that having visible female engineering faculty has been shown to improve female recruitment and retention. Alaska is approximately in the middle of the road in terms of gender pay gap by state in the U.S. (in Nevada, Delaware, and Utah, female engineers on average earn more than their male counterparts, although this might be due to the statistics of small numbers.



58%

In Alaska, 58% of women are participating in the workforce, compared with 54% in the U.S., and 48% of Alaska's total workforce is women. About 60% of Alaskan men are participating in the workforce.

PRE-EVENT SURVEY RESULTS

A Qualtrics survey was sent to participants a month in advance of the event, whose goal was to start participants thinking about challenges faced by female engineers, and ways to address these challenges. Thirty-one responses were collected. Responses to survey questions were placed into broad categories based on similarities and the results presented by UAA CoEng Associate Dean Jennifer Brock. Raw survey data are presented in Appendix A. Responses fit into the categories below, with their frequency shown in the figure. Many responses included ideas from multiple categories, so the total exceeds 31 surveys.

Lack of other women	Discouragement expressed with the lack of female engineering professors, females in management/supervisory positions, and female colleagues
Colleagues' negative assumptions about qualifications	Assumptions that women are less serious about their careers (see family/childrearing), that they are not as good at math, or that they are otherwise lesser engineers; includes being passed over for a promotion/project to a less qualified male or being pigeonholed (e.g. for non-field work) without discussion
Imposter syndrome/lack of confidence	Can lead to not defending one's ideas or not applying for certain opportunities, connected to the fact that many cultural traditions teach girls to be more passive and nonargumentative
Lack of mentorship	Feeling that challenges must be navigated alone, lack of access to support and information
Structural issues within organization	Includes lack of flexibility (see family/childrearing), lack of clear opportunities/paths for advancement, pay disparity (which can increase with time, see lack of clear opportunities for advancement)
Sexism/hostility	Includes sexist jokes, not being included (e.g. in projects, in social events outside of work), and other behavior that actively demonstrates negative assumptions/stereotypes (overlaps with colleagues' negative assumptions)
Family/childrearing	Women tend to have more obligations involving caregiving

35%

Family and childrearing obligations were the most frequently cited challenges for women in engineering in the pre-survey.

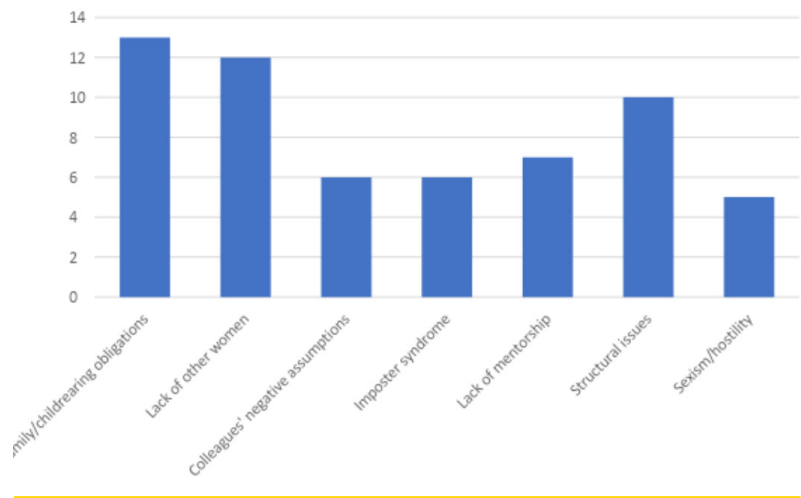


Figure 11: Question 1: What specific challenges have you seen that tend to bar or discourage women from applying for engineering positions and/or advancing their careers in STEM fields?

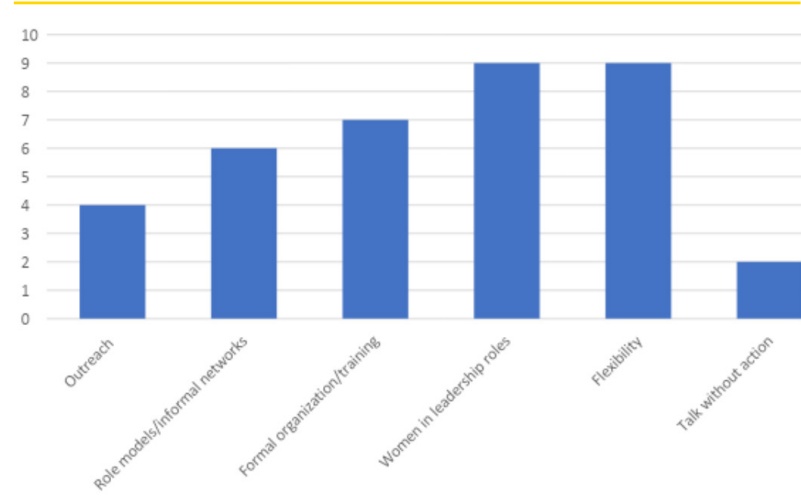


Figure 12: Question 2a: What actions has your organization taken to address one or more of these challenges?

Outreach to students/young people	Includes outreach to young people, and to college students and student organizations (e.g. SWE)
Role models/informal assistance networks	Connecting women to people within the organization who can be resources (e.g. supervisors, women who are more advanced in their careers, specialists who can help with certain projects)
Formal organization and/or training	Includes structured trainings and formal organizations dedicated to advancing women and minorities in STEM, includes formal mentorship programs
Women in leadership roles	Actively hiring qualified women into leadership roles or training women to advance into leadership roles (see role models), includes women who have achieved these roles self-advocating and leading by example
Flexibility/accommodating family needs	Includes formal benefits like paid family leave and informal benefits like flexibility with hours to accommodate caregiving
Mostly talk without action	A dangerous trap

How successful have these actions been?

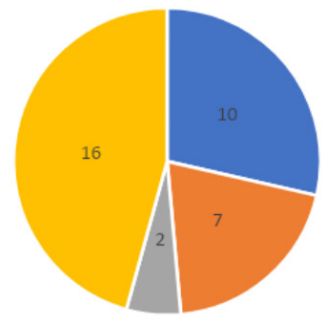


Figure 13: Question 2b: How successful have these actions been?

Successful Actions

- Women in Leadership Roles:** Many women in leadership roles provide mentorship to younger women.
- Career Discussions:** Supervisors frequently discuss career goals and direction.
- Training and Leave Policies:** Regularly required trainings and flexibility in maternity/paternity leave, as long as parties aren't penalized for using them.

Actions with Caveats

- Role Models and Mentorship:** Success depends on individuals acting as role models, mentors, or career guides.
- Formal Groups/Organizations:** Effective only if taken seriously.
- Structural Changes:** One respondent noted successes (effective formal organization and new paid leave policy) took five years of hard work to achieve.

Mixed Results

Most items were not clearly indicated as successful or unsuccessful, suggesting that with complex interventions, it can be challenging to measure significant progress.

Unsuccessful Actions

Talk Without Action: The only item perceived as unambiguously unsuccessful.

Pre-event Survey Highlights

- » Effective actions include mentorship by women leaders and flexible leave policies.
- » Desired improvements: equal treatment, more female hires, and structural changes.

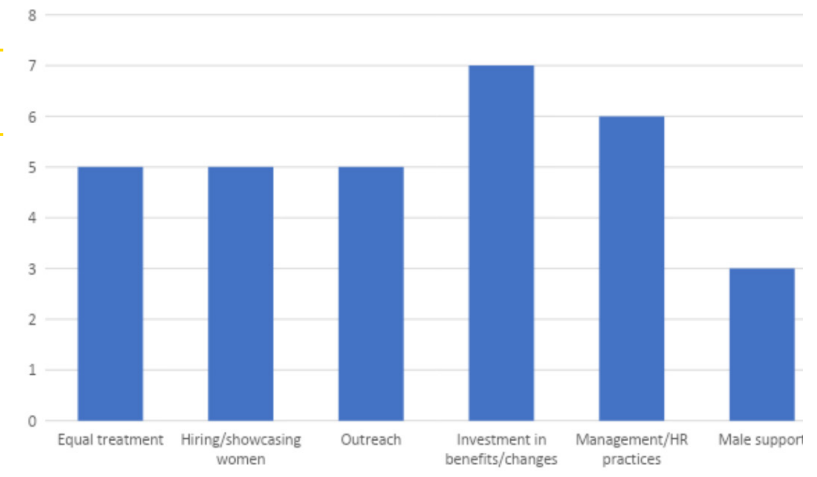


Figure 14: Question 3: What actions would you like to see your organization take to address one or more of these challenges?

Treat everyone equally regardless of gender	Judge according to competence and knowledge; includes encouraging everyone to take advantage of opportunities (e.g. mentorship programs, work flexibility) so that women will not be stigmatized
Hiring/showcasing more women	Actively attempting to find and hire more qualified women, including minority women
More outreach	Includes outreach to young girls and students, and more visibility for women engineers in the community
Monetary investment in structural changes and benefits	Includes paid maternity/paternity leave, facilities improvements like pumping rooms for lactating mothers
Management/HR practices	Includes ways to report instances of discrimination, and more structured mentorship and career advancement tracks, better training/practice for supervisors
Male support	Cultural change on a more informal level, such as calling out bad behavior by other men



STUDENT PANEL

UAA COENG STUDENTS MYA SCHROEDER AND ELEONORA STADTMÜLLER CABALLERO SHARED THEIR INSIGHTS THROUGH A STUDENT PANEL.

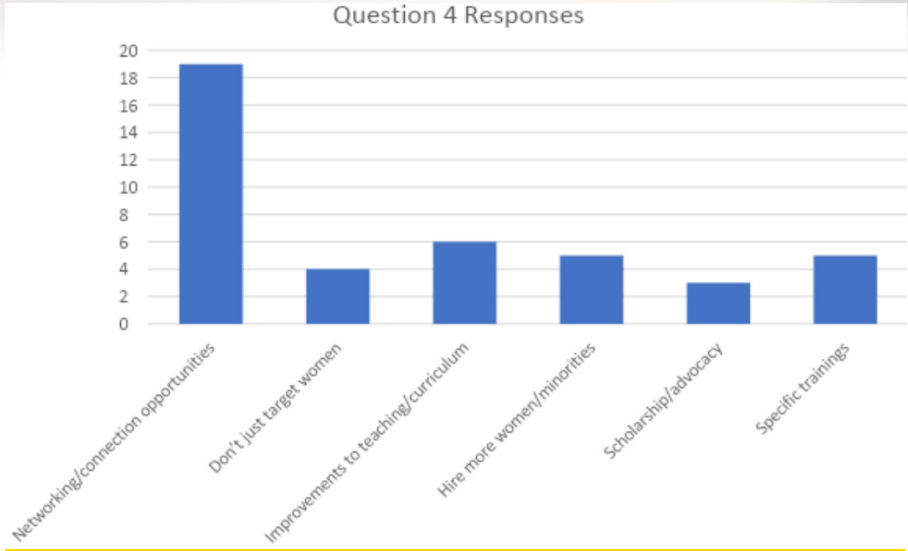


Figure 15: Question 4: What specific actions can UAA, UAF, and your organization take to help you recruit, retain, and progress women engineers?

We aim to create more networking opportunities, promote inclusive recognition and behavioral education, enhance teaching and curriculum, increase hiring and recruitment of women and minorities, advocate through research, and offer specific training programs for students and graduates.

More opportunities for networking/connection	Includes events like this one, youth outreach, and opportunities for students to interact with professionals (e.g. SWE, career fairs, career mentoring, bringing in speakers)
Don't just target women, don't foster negative narratives	Women-only awards and events can be perceived as exclusive, all students need to learn appropriate behavior; focus on female success, not obstacles
Improvements in teaching/curriculum	Includes encouraging better teaching practices and promoting high-impact learning practices (e.g. hands-on experiences), improving recruitment and graduation
Hire and recruit more women/minorities	Includes putting policies in place to retain them, and graduate them if they are students
Scholarship and advocacy	Research what works and what doesn't, keep the issues visible
Specific trainings	Ideas for specific trainings and skills that the university can offer to students and grads

ELEONORA STADTMÜLLER CABALLERO BIOGRAPHY

Eleonora Stadtmüller Caballero is an international student at the UAA College of Engineering, studying Computer Science and Computer Systems Engineering. Originally from Switzerland, Spain, and Germany, she came to Anchorage for school. Growing up, becoming an engineer was never really on her radar as a career path, but that changed when she took a programming 101 course in her freshman year at UAA.

For Eleonora, being an international student has come with its own number of challenges such as Visa restrictions, higher cost of tuition, reduced eligibility for scholarships, and many additional requirements when applying for internships or jobs, not to mention living over 5000 miles away from her family. Fortunately, throughout her college journey she found many opportunities to grow professionally and as a person, which allowed her to find ways to overcome these obstacles.

Eleonora joined the Robotics Club in her first year at UAA, then took over as president of the Society of Women Engineers during her second year. She has done an automation internship on the North Slope, worked as a data science research assistant with UAA's geochemistry department, and is currently working as an electrical engineering intern. Eleonora believes that doing internships and joining clubs relevant to your field will help you network and find your niche, and set you up for a successful career as an engineer.

MYA SCHRODER BIOGRAPHY

Mya Schroder considers herself relatively new to the world of engineering and computer science, having discovered her passion for these fields just before entering college. This newfound joy continues to fuel her drive to make the most of every experience. Mya's enthusiasm led her to become President of both the Society of Women Engineers (SWE) and the UAA Robotics team, where she worked alongside amazing fellow students every day.

However, the more time Mya spent in engineering, the more she noticed the significant gender disparity. To help address this issue, Mya has been actively engaging with the Anchorage community to expose more students to STEM. Through outreach events and workshops organized by SWE and UAA Robotics, she aims to spread a love of STEM throughout the community.



WORKSHOP DISCUSSIONS



Jessica Schnabel, [Global Head of Banking on Women, International Finance Corporation \(IFC\)](#), facilitated small-group discussions on three questions. Participant responses are summarized below.

The full responses of participants were recorded and appear in Appendix B.

Question 1 What engineering challenges are facing Alaska (immediate and medium-term challenges)?

Labor shortages	<ul style="list-style-type: none"> - Not enough engineers for available work - Brain drain and limited success getting people to relocate to Alaska - Retention of engineers in the profession and in Alaska
Demographics	<ul style="list-style-type: none"> - Alaska Native success (21% of the population) - Graying of workforce and changing demographics
Infrastructure	Aging infrastructure
Environmental Concerns	<ul style="list-style-type: none"> - Effects of climate change Permafrost Coastal erosion Changing landscape
Energy and Economic Needs	<ul style="list-style-type: none"> - Energy production and electrical grid - Development of renewable energy sources - Need for economic diversification

Question 2 How can we encourage women to join the engineering workforce, and once they've entered, how can industries retain top engineering talent? What strategies and initiatives are already working?

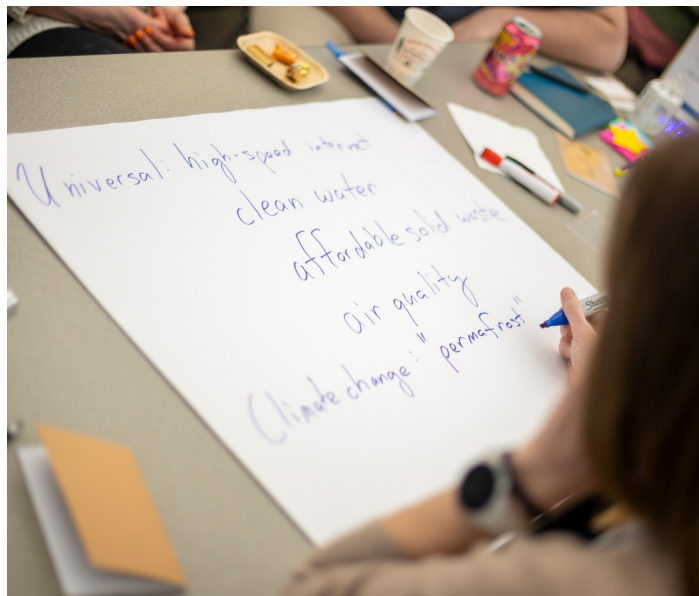
Recruitment	<ul style="list-style-type: none"> - Communicate to K12 students about engineering work and community impact in Alaska - Provide career insights by sending practitioners into classrooms - Introduce engineering to parents and students (market engineering as a team sport for grownups) - Offer more life and career planning events for students
Retention	<ul style="list-style-type: none"> - Flexibility – allow part-time and remote work <ul style="list-style-type: none"> Also important for hunting in rural areas - Accommodations for new parents <ul style="list-style-type: none"> Paid parental leave for both parents Nursing mothers' room Make accommodations positive – if women are stigmatized for taking them, they don't help Make accommodations clear – all employees should know how they work - Mentoring and training <ul style="list-style-type: none"> Foster organic mentor/mentee relationships Pairing senior engineers with recent grads Peer networks Training and education – investing in people Clear paths for career progression and leadership - Investment in personnel/good HR practices <ul style="list-style-type: none"> Pay equity Sufficient paid time off (~4 weeks) Retirement match and financial planning Opportunities for personal and anonymous feedback on a regular schedule Administer policies and benefits transparently; write down policies to encourage equity

Question 3 What can the University do with stakeholders from organizations like yours to implement these ideas?

Engagement	<ul style="list-style-type: none"> - More opportunities to bring practitioners into classrooms - Paid volunteer hours to go into the community - Events that bring together UA alumni and students, with HS students and members of the engineering community (networking) <ul style="list-style-type: none"> Industry tours Mock interviews Workshops on professional skills Job shadowing - Expand post-secondary programs for K12 students - Develop a collaborative ecosystem including industry, the universities, and the community - “Bridge the gap” programming to bring engineering clubs/activities into K12 more systematically - Make internships available to students earlier, lower barriers to internships - Advertise benefits and opportunities of the engineering profession (and the engineering programs available within UA)
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CONCLUSIONS AND NEXT STEPS

Workshop participants were asked to vote on a single item from the list generated for Question 3. The suggestion which received the most votes was that employers should provide employees with paid volunteer hours to go into the community and participate in outreach. The item with the next highest number of votes was to offer more opportunities for students to hone the professional skills that industry values. At the end of the workshop, Associate Dean Denise Thorsen of UAF CEM summarized the discussion in terms of three broad categories:



1. **Structural issues that industry needs to solve (e.g. maternity leave),**
2. **The need for the university/industry community to capture the minds of young people and get them excited about engineering, and**
3. **The need for the universities to stay current and relevant to the particular needs of industry.**

Deans Mock and Schnabel ended the meeting with a summary of next steps:

1. **Pursue a study to make the business case for diversifying the Alaska engineering workforce**
2. **Form a taskforce and a strategic plan for a way forward**
3. **Develop a strategic plan based on ideas from this meeting and the UAF Launch (2023).**

4. **Schedule task force sessions to maintain momentum.**

In addition, the universities committed to continuing to provide opportunities for networking between practitioners and students, and skill-building workshops. It was agreed that the report that summarizes the workshop (i.e. this document) would include an opportunity for people to volunteer to be part of the taskforce.

Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.

—Margaret Mead



UAF and UAA pledge to keep the networking and skill-building workshops rolling. [This report doubles as a sign-up sheet for the new taskforce—volunteers welcome!](#)



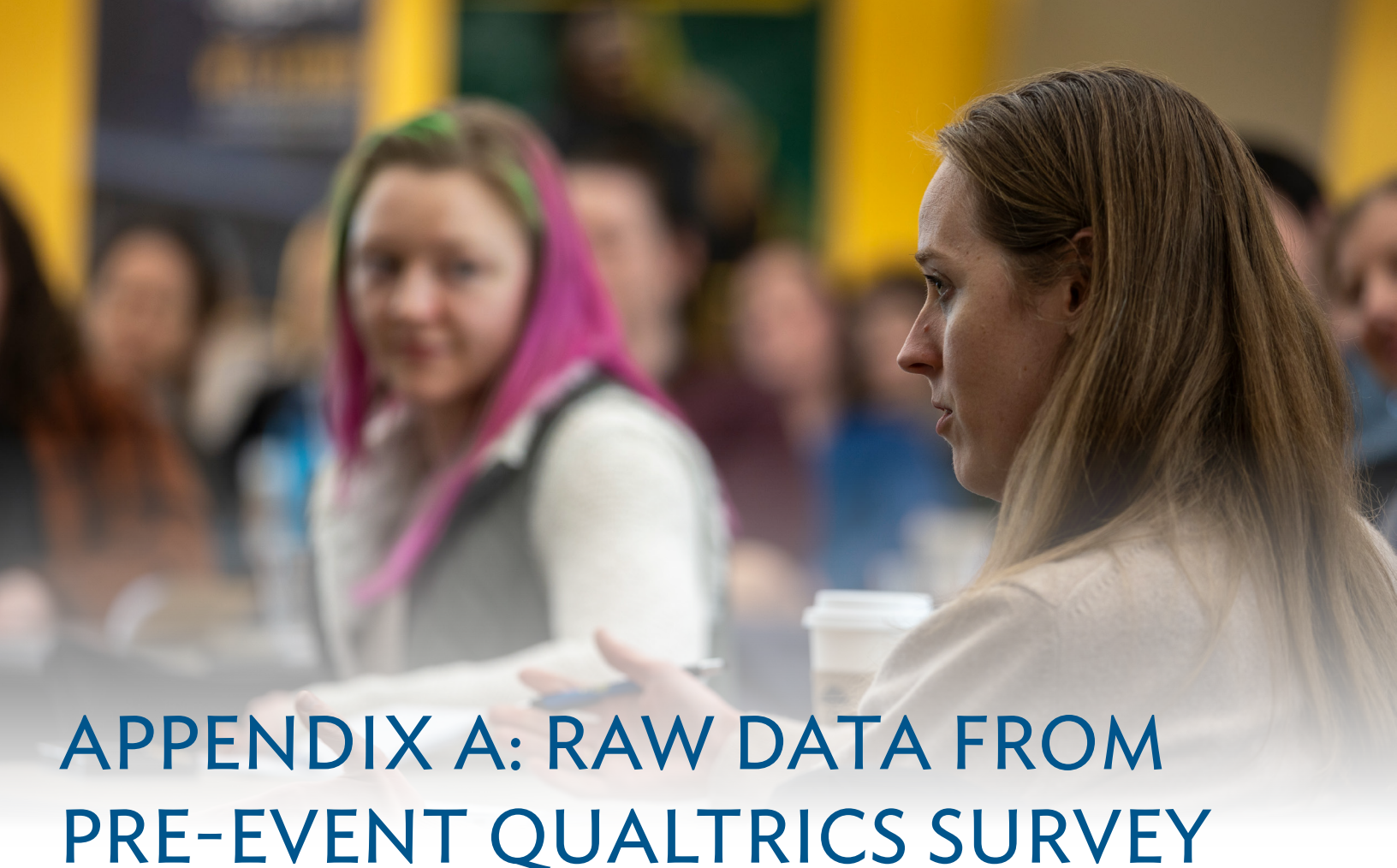
APPENDIX A: RAW DATA FROM PRE-EVENT QUALTRICS SURVEY

QUESTION 1: What specific challenges have you seen that tend to bar or discourage women from applying for engineering positions and/or advancing their careers in STEM fields?

Category	Description
Family/Childrearing (F)	Women tend to have more obligations involving caregiving.
Lack of Other Women (W)	Discouragement due to the lack of female engineering professors, females in management/supervisory positions, and female colleagues.
Colleagues' Negative Assumptions (Q)	Assumptions that women are less serious about their careers (see family/childrearing), not as good at math, or otherwise lesser engineers. Includes being passed over for a promotion/project in favor of a less qualified male or being pigeonholed (e.g., for non-field work) without discussion.
Imposter Syndrome/Lack of Confidence (I)	Can lead to not defending one's ideas or not applying for certain opportunities, connected to cultural traditions that teach girls to be more passive and nonargumentative.
Lack of Mentorship (M)	Feeling that challenges must be navigated alone, lack of access to support and information.
Structural Issues within Organization (S)	Includes lack of flexibility (see family/childrearing), lack of clear opportunities/paths for advancement, pay disparity (which can increase with time, see lack of clear opportunities for advancement).
Sexism/Hostility (H)	Includes sexist jokes, not being included (e.g., in projects, in social events outside of work), and other behavior that actively demonstrates negative assumptions/stereotypes (overlaps with colleagues' negative assumptions).

Category	Description
Family/Childrearing (F)	They get occupied with family life. No systemic support for women to raise children. Difficulty finding childcare. Lack of childcare availability that covers the full expected workday. Women still tend to be the primary caregivers of children and are unable to spend as much time at work. Balancing family and work is challenging. Outdated mindsets (mothers as primary/default parent, not allowing fathers to take time off/not encouraging it). Opportunities were revoked, I was treated suspiciously - like I was going to leave at any time because I had a child (which came true). I was the first employee to negotiate working part-time. It was really difficult to blaze that trail. Unequal share of other responsibilities (related to children, pets, aging relatives, etc.). Lack of dependable childcare. Another consideration women take into account is whether that organization offers maternity leave. This can discourage women from advancing their careers in STEM fields.
Lack of Other Women (W)	They don't see many people who look like them. When an office is filled with only male workers. No female professors in my engineering program. In a job, intimidating to work with all men who take themselves very seriously. Visibility/presence of other women in their departments. Number of males outnumber females. As a guy, it's hard to say. I suspect that STEM fields still being perceived as sort of male-dominated may play a part in discouraging females from going down a STEM track. I was the only female in the company when I joined them 17 years ago. Few other non-men in leadership. Flexible schedules for having kids, overwhelming amount of men in the field. Not seeing women in upper-level positions to see what is possible. Sometimes when that information isn't available beforehand it can make it daunting to enter that workforce.

Category	Description
Colleagues' Negative Assumptions (Q)	The trend I tend to see is that we are looked at as women first vs if I have the ability to do the job or project. Not getting taken seriously, or feeling dismissed. Traditional values held by a work culture that might not value women as equals. Assumptions that we aren't planning to stick around - we'll just have children and leave. Patronizing behavior from older men, who see us as unserious or inexperienced or too delicate. Professionals, professors, and other students immediately think I'm not qualified or belong in engineering. I have seen women discouraged from applying & advancing in their careers due to these personal and/or perceived reasons: lack of experience, lack of agency (sometimes never granted any). I hit the glass ceiling. I started out with equal pay but the gap widened over time. I helped train the guy who they promoted over me. They groomed him the whole way, never discussing the opportunity with me. I had a boss who would email me when I was two doors down instead of talking directly to me, but the moment I was at home, I couldn't possibly be working. The level of scrutiny increased. I was once followed to the bathroom when I was in the office. Intimidating people in said positions (both men and women) - coworkers doubting your opinion / questioning your choices not in a way that promotes growth. At times I have been passed up for projects which were passed on to a male counterpart with less experience. I have also found that I am organized and as such was given less of the design projects and more of the planning projects that required a large amount of organization. These projects were great learning experiences however, once it was determined that I was good at this sort of task I was pigeon-holed into that arena and found it very challenging to work into other areas of interest. From my personal experiences - fieldwork tends to go to the male counterparts, and I am often given tasks to work behind a computer.
Imposter Syndrome/Lack of Confidence (I)	I have also seen that we tend to hurt each other vs helping each other grow and develop in our career and community. Ourselves! Our own perceptions of how women should act can hold us back. We are often taught from a young age to stay quiet, however, there are times when you are the most competent person in the room, and you need to stand up and be seen. My biggest hurdle has been not giving myself credit for all the work I've put in and having confidence in my knowledge. Engineering is a slow process. It takes time to learn each and every task, method, process in a design project. We are all human. I have to give myself the freedom to take the time to learn in the most efficient way possible. I try to identify the questions that need answered prior to diving into the learning so as to make sure to get my questions answered in learning vs learning completely everything and getting lost in the details. Lack of experience. Lack of confidence. I think one of the largest challenges women face that may discourage them from applying for engineering positions is confidence. Regardless of gender, entering the workforce after college is a challenge for many; you find yourself questioning the knowledge you have taken from completing school and wonder if you will succeed in the workforce.
Lack of Mentorship (M)	Professors too busy with PhD students and research to give students the time of day. Lack of mentorship. Engineering as a career is one of those fields that is introduced to kids later in their education as compared to other career fields. It may be a general lack of awareness of engineering as a possible career field until being introduced to it later in life because people are "good at math." Intimidating people in said positions. Access to mentors is crucial for career advancement. However, one of the biggest challenges I see is that women in STEM fields often encounter difficulty in locating female role models and mentors to guide them in their professional development. Also, building connections with supportive colleagues is paramount. Being the sole woman on a team can pose challenges, particularly in the early stages of one's career. The absence of encouragement, respect, and appreciation from colleagues, supervisors, and discipline leads can profoundly impact a woman's approach to her career in STEM/Engineering and impact the realization of her true value. Lack of support in career development.
Structural Issues within Organization (S)	Inadequate time off/unable to attend necessary medical appointments. Lack of flexibility. Lack of clear opportunities/paths for advancement. Small/flat organizational structures that lead to career stagnation unless you are willing to switch firms to advance leading to career instability. Pay disparity (increases over time). Lack of work schedule flexibility in terms of hours and schedule. Women take jobs with the greatest flexibility and work/life balance. If advancement doesn't offer similar flexibility, then women stay in the same role so that they can balance non-work interests and activities. Lack of flexibility (S), outdated mindsets (mothers as primary/default parent, not allowing fathers to take time off/not encouraging it). Lack of support in career development. The absence of encouragement, respect, and appreciation from colleagues, supervisors, and discipline leads can profoundly impact a woman's approach to her career in STEM/Engineering and impact the realization of her true value.
Sexism/Hostility (H)	Micro-aggressions/uncomfortable situations at work. Blatant sexism - jokes about sitting on someone's lap, being called a bitch, being assumed to be incompetent. Subtle sexism - not being invited to meetings, being invited but responsible for ordering lunch or taking notes, not being included in after-work events, not having toilet access. Preaching diversity and inclusion, but not creating an environment to actually accomplish either. Unconscious bias (putting secretarial duties like note-taking and party planning on women), making decisions for women/mothers without consulting them (like not telling them about promotion opportunities, deciding they can't travel for work because they are moms).



APPENDIX A: RAW DATA FROM PRE-EVENT QUALTRICS SURVEY

QUESTION 2: What actions has your organization taken to address one or more of these challenges? How successful have these actions been? Describe here.

Category	Description	Category	Description
Outreach to Students/Young People (O)	Includes outreach to young people, and to college students and student organizations (e.g., SWE).	Successful (S)	The action is perceived to be successful.
Role Models/Informal Assistance Networks (R)	Connecting women to people within the organization who can be resources (e.g., supervisors, women who are more advanced in their careers, specialists who can help with certain projects).	Not Successful (NS)	The action is perceived to be not successful.
Formal Organization and/or Training (F)	Includes structured trainings and formal organizations dedicated to advancing women and minorities in STEM, includes formal mentorship programs.	Caveat Expressed (C)	Usually a reminder that these things take much time and effort, or a note that success depends on individuals (and therefore might not be scalable).
Women in Leadership Roles (W)	Actively hiring qualified women into leadership roles or training women to advance into leadership roles (see role models), includes women who have achieved these roles self-advocating and leading by example.	No Indication (NI)	No indication of the perceived success of the action.
Flexibility/Accommodating Family Needs (A)	Includes formal benefits like paid family leave and informal benefits like flexibility with hours to accommodate caregiving.		
Mostly Talk Without Action (T)	A dangerous trap where organizations discuss diversity and inclusion without implementing meaningful changes.		

Action	Category	Perceived Success
Outreach to young people	O	NI
More women in middle/higher management	W	C
Annual employee training	F	NI
Open to all applicants for positions, job shadowing, career fairs	O	NI
Female administration and sheet metal workers, attending events for exposure	W	NI
Accommodating family needs (e.g., nursing station)	A	NI
Mostly talk about mentorships and family values, little action	T, R, F	NS
Female engineers in leadership roles, mentoring younger engineers, women's network, DEI group	W, R, F	S, S, NI
Support for growth with team support and designer networks	R	S
Working groups for DEI initiatives, training women for leadership, paid family leave	F, A	S, S, C
Representation and empowerment, employee practice metrics	R	NI
Supervisor advocacy in conflicts, female employee advocacy group effectiveness	R, F	C, C
Hiring based on qualifications and experience	W	S
Flexibility for childcare but seen as lack of performance	A	C
Support for programs like WIE/SWE	O	NI
Flexibility with work hours and location	A	NI
Engineering career awareness late in education	O	NI
Hiring strong female engineers and retaining them	W	NI
Independent efforts for work-life balance, client awareness	W	S
Creating a maternity policy, support for employees with children	A	S
Mixed promotion of women, no specific organizational action	T	NS
Significant flexibility and work-life balance, remote work, leave policies	A	S
Flexible work-from-home policies	A	NI
Increased hiring rates of women	W	NI
Flexible work schedules, varied success	A	C
Monthly 1:1 meetings for career goals, mentorship programs, women in leadership	W, F	S, S
Promoting networking events, leadership training, professional society participation	R, F	S, S
Flexible work and work-from-home for childcare	A	NI
Career development support through continuing education and job assignments	F	NI
Women in upper-level positions	W	NI
Self-advocacy for career goals, changing companies for opportunities	R	S
Continual self-advocacy for desired projects and tasks	W	C





QUESTION 3: What actions would you like to see your organization take to address one or more of these challenges? Describe here.

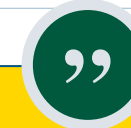
Initiative	Description
E	Treat everyone equally regardless of gender – judge according to competence and knowledge; includes encouraging everyone to take advantage of opportunities (e.g., mentorship programs, work flexibility) so that women will not be stigmatized.
W	Hiring/showcasing more women – actively attempting to find and hire more qualified women, includes minority women.
O	More outreach – includes outreach to young girls and students, and more visibility for women engineers in the community.
M	Monetary investment in structural changes and benefits – includes paid maternity/paternity leave, facilities improvements like pumping rooms for lactating mothers.
H	Management/HR practices – includes ways to report instances of discrimination, and more structured mentorship and career advancement tracks, better training/practice for supervisors.
S	Male support – cultural change on a more informal level, such as calling out bad behavior by other men.

Category	Description
Equality and Equal Opportunity (E)	To stop looking at gender and to start looking at abilities and grow our leaders within the group or company. Ask why there is a lack of women in leadership and encourage people to grow and provide equal opportunity for everyone. Create policies that empower all employees to have rewarding workplace experiences, benefiting everyone. Ensuring equal opportunity and addressing organizational challenges through good coworker support. Sharing design leads and tasks more equally among personnel for learning and growth opportunities.
Women and Underrepresented Groups (W)	Showcasing more minority women. More parity in hiring, particularly more senior programmers or embedded electronics engineers who are women. Hiring more women and underrepresented minorities. More hiring from underrepresented groups and ensuring their retention.
Outreach and Community Engagement (O)	I would like to see us do more outreach opportunities like this event, which we are now doing. Female engineers getting more involved in community events, including UAA and high school events. Raising awareness of engineering as a career field to children earlier in their education. Providing internship and mentorship opportunities for high school and university students. Encouraging staff to engage with schools and universities to promote engineering careers and partnerships.
Maternity, Paternity, and Family-Friendly Policies (M)	Paid maternity and paternity leave, financial assistance with childcare. If only the internet could be faster, we could get more done, faster. Option to accrue additional PTO hours instead of an annual salary increase to help manage family responsibilities and appointments. Better pumping rooms/areas designed with input from lactating mothers. Addressing the challenge of balancing family and work due to demanding hours and travel. Formalizing a maternity leave policy that aligns with national standards. Offering maternity and potentially paternity leave. Implementing and maintaining family-friendly policies like flexible work arrangements, parental leave, and childcare.
Human Resources and Workplace Culture (H)	More structured mentorships. We currently don't have good systems in place for reporting incidents of discrimination, and I would like to see some kind of system for that. Embracing remote work and modern leadership that expands definitions of "work." Fostering an inclusive workplace culture with zero tolerance for discrimination or harassment. Creating defined career tracks based on skills and value, not just job titles, to enable all employees to succeed. Brainstorming on effective actions and implementation during the workshop.
Support and Advocacy (S)	Men should be more comfortable calling out bad behavior from peers without needing to be asked. Promoting diversity and inclusion by advocating for both women and men to balance work and family responsibilities.

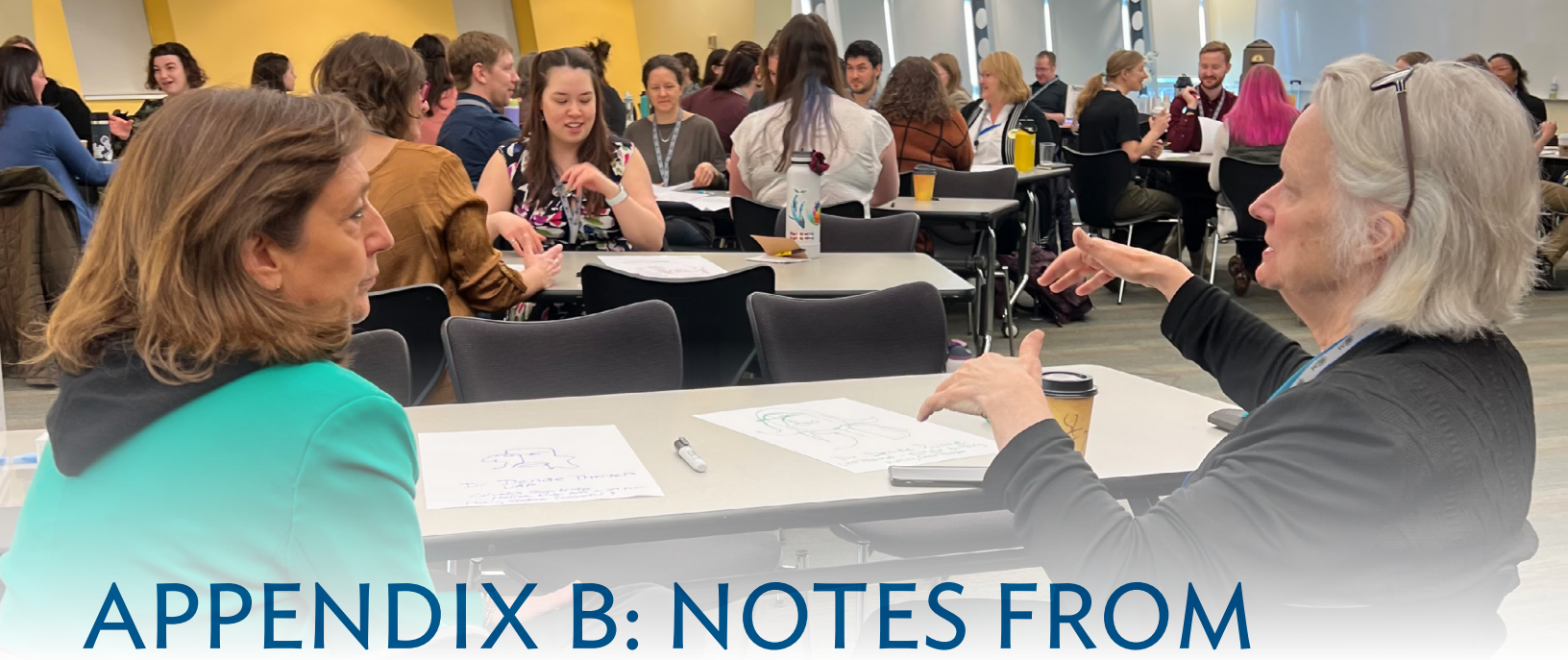
QUESTION 4: What specific actions can UAA, UAF, and your organization take to help you recruit, retain, and progress women engineers?

Category	Description
Networking/Connection (N)	Includes events like this one, youth outreach, and opportunities for students to interact with professionals (e.g., SWE, career fairs, career mentoring, bringing in speakers).
Inclusive Targeting (W)	Don't just target women, don't foster negative narratives – women-only awards and events can be perceived as exclusive. All students need to learn appropriate behavior; focus on female success, not obstacles.
Teaching/Curriculum Improvements (I)	Includes encouraging better teaching practices and promoting high-impact learning practices (e.g., hands-on experiences), improving recruitment and graduation.
Diverse Hiring and Recruitment (H)	Includes putting policies in place to retain women/minorities, and graduate them if they are students.
Scholarship and Advocacy (S)	Research what works and what doesn't, keep the issues visible.
Specific Trainings (T)	Ideas for specific trainings and skills that the university can offer to students and graduates.

Category	Description
Networking/Connection (N)	- Plan more events like this. - Mentorship with senior-level women engineers. - Continue career fairs and meetups like this, reaching out to younger women in schools, and showing more women in STEM on social media. - Establish partnerships with engineering companies for networking events, job fairs, and recruitment drives. - Outreach to local schools and STEM education programs, organizing events, workshops, or STEM camps targeting girls at middle and high school levels. - Get into high schools frequently to involve students in engineering early on.
Inclusive Targeting (W)	- Stop having women-only awards and events. Include everyone who is interested to avoid separation and resentment. - Generally, make the university a better institution by improving class offerings and marketing the value of STEM careers to everyone. - Focus on highlighting the success of women in the industry, rather than how they may be "held back" or the challenges they face.
Teaching/Curriculum Improvements (I)	- UAA and UAF need to graduate more civil engineers, men and women, to stay in Alaska. - Continue to provide quality classes giving students a rounded early experience with engineering. - Recommend that instructors have a better understanding and clarity in English to ensure effective communication with students. - More hands-on experience is essential; mechanical engineers should know power tools, electrical engineers should know how to solder, and programmers should be able to write quick scripts. - Explain to women that math requires effort and preparation to thrive. - Keep offering hybrid courses for flexibility to non-traditional students.
Diverse Hiring and Recruitment (H)	- Offer better benefits for maternity and childcare. - Work to hire more women and minorities in the College of Engineering. - Continue providing educational opportunities that attract women students and ensure they get the support needed to complete the engineering program. - Promote gender diversity in leadership positions by actively seeking and promoting qualified women engineers and professionals into management roles.
Scholarship and Advocacy (S)	- Data research on various policies and their retention and economic impact over time. - Be a positive influence and encourage ways to continue a career as an engineer. - Amplify voices on issues that remain and need more attention, lending credence and weight to get more attention and value.
Specific Trainings (T)	- Training on how to negotiate salary and benefits for all graduates. - Continuing education opportunities of good value, focusing on skills engineers need as they advance in their careers, such as business, project management, financial statements, hiring, and firing. - Bring back the Engineering Science Management Master's degree. - Provide leadership training, workshops on negotiation skills, and career development resources to empower women engineers to advance in their careers. - Specific tools for recruiting women and underrepresented students, such as a hiring manager dedicated to this task, funding, and resources to help women engineers advance in their careers. - Help students understand the value of teamwork and the importance of advocating for themselves while respecting others.



Provide leadership training, workshops on negotiation skills, and career development resources to empower women engineers to advance in their careers.



APPENDIX B: NOTES FROM WORKSHOP PARTICIPANTS

During the afternoon sessions, in which attendees worked in small groups to brainstorm responses to questions, participants wrote their ideas on large pads of paper. These were collected, and are transcribed here. Note that the groups were fluid during the three sessions captured.

Group	Immediate and Medium-Term Challenges
Group 1	- Lack of qualified staff- Insufficient available work - Limited local degree programs and workforce skillsets- Aging infrastructure limits future growth- No present-day investment- AK salary rates not competitive with other states- Limited relocation to Alaska
Group 2	- Labor brain drain and attraction- Alaska Native success (21% of population)- State funding- Economic diversification, dependency on oil (TAP – minimum flow)- Climate change/melting permafrost- Roads- Water tanks- Foundations- Gas shortage, increased import costs – renewables- Electrical grid
Group 3	- Energy retention - Inexpensive energy - Competing priorities - Economic diversity - Infrastructure and permafrost - Recruitment and worker retention - Making Alaska livable - Changing landscapes (water and sewer)
Group 4	- Adaptable (resilient) infrastructure - Sudden quantity of funding with no surge capacity - Labor shortages - Retaining human capital - Graying workforce - Changing demographics - Lack of diversity in engineering (gender, race) - O&M funding short for infrastructure
Group 5	- Universal high-speed internet - Clean water - Affordable solid waste - Energy - Air quality - Climate change (permafrost) - Recruiting and retention - Supply chain - Institutional knowledge indigenous
Group 6	- Carbon-neutral energy production in rural Alaska - More engineers needed - More people doing engineering work in Alaska - Need to incorporate climate change into engineering design/standards - Incorporate indigenous/cultural knowledge into design life
Group 7	- Connectivity - Infrastructure - Aging infrastructure and maintenance - Life cycle management - Loss of institutional knowledge - Documentation - Loss of workforce - Accessibility
Group 8	- Perception of engineers - Public awareness of engineering roles - Insufficient number of engineers for infrastructure funding - Insufficient student graduation rates in engineering - Not enough students pursuing engineering

QUESTION 2: How can we encourage women to join the engineering workforce, and once they've entered, how can industries retain top engineering talent? What strategies and initiatives are already working?

Group	Responses from groups who worked on recruitment:
Group 1	- Entice students with making a community impact with the work in AK - Communicate the available work in AK - Break the idea that there are specific gender "jobs" early (K-6, middle school, HS) - Encourage at an early age that conquering math is possible - Financial incentives
Group 2	- Internships at the front-end of programs - Make math teaching more approachable - Teach uses and applications of math - Identify which math branches are most applicable - Better understanding of careers at younger ages - Practitioners in schools - Hands-on applications at younger ages
Group 3	- University and industry engineering representatives to increase visibility at events - Targeted marketing campaign to introduce engineering to parents and students - Market engineering to kids/parents as a team sport for grownups - Life and career planning events for students about to enter college and early career professionals
Group 4	- Student and professional elementary school activities/job days - Job shadow opportunities for secondary students - Expand post-secondary "head-start" opportunities to secondary students - Offer credits, scholarships, tours, and enrollment assistance - Get post-secondary program representatives in 9th-grade classrooms and offer optional visits to keep students in state schools (successful in my experience)

Group	Responses from tables who worked on retention:
Group 1	- Company allows part-time and remote work - Flexibility of schedule - Parental leave (paid), including adoptions - Short-term disability - Sufficient PTO (paid time off) ~4 weeks - Allow employees to be valued for their contributions - Having advocates/mentors
Group 2	- Accommodations for new parents - Nursing mothers room - Support for engineers who leave to explore other states - Foster organic mentorship - Parental leave for both parents - Pseudo-mentoring/buddy system - Senior engineers mentor recent grads - Competitive pay/salary
Group 3	- Support for women post-maternity leave - Re-integration for women - Advocate for paid maternity leave - Involve partners and create a balance plan - Have allies in the workplace and advocate for oneself - Find someone to advocate for you (mentor, coworker, etc.)
Group 4	- Peer networks - Allyship - Flexibility in workplace, home, etc., including for disabilities - Opportunities for growth, leadership, and learning - Emphasize the human connection
Group 5	- Recognition - Flexible schedules for family, hunting, bereavement - Training and education (investing in people) - Mentorship and specific support - Pay equity - Balanced service
Group 6	- Flexibility for family - Provide options for scheduling to improve work-life balance - Address tough work locations inherent to Alaska - Ensure clear policies for benefits/leave - Provide additional or relocated holidays when workload/season allows - Feedback on company activities and social events/indirect benefits - Opportunity for personal and anonymous feedback regularly - Retirement match with financial planning/advising available - Lower threshold for benefits (hours)
Group 7	- Prioritize immediate easy changes - Manage and administer policies and benefits transparently - Write down policies to encourage equity - Create opportunities for feedback to address difficult or awkward issues



APPENDIX B: NOTES FROM WORKSHOP PARTICIPANTS

QUESTION 3: What can the University do with stakeholders from organizations like yours to implement these ideas?

Group	Note that participants were asked to focus on where to start – actions that could be launched within the next year.
Group 1	- Interaction with Title I schools/students - Being present in classrooms – how to go to them vs. them come to us - Visibility - Paid volunteer hours to go into the community
Group 2	- Mentorship and cross-training - Flexibility not weaponized - Career tracks vs. toxic metrics (utilization hours, profitability) - Pay parity - Benefits: Training budgets, PE prep and bonus, Use of time
Group 3	- UA alumni and HS senior in the fall dinner event meet/greet and business communication - Establish UA and business community communication and collaboration as a start?
Group 4	- Industry tours to normalize areas of practice - Mock interviews - Teach skills industry values: Coding, Drafting/software, ESM/PM (project), Estimating/logistics/scheduling, Soft skills training
Group 5	- Go to the people (vs. expecting them to come to you) - Paid volunteer hours to go into the community
Group 6	- Develop collaborative ecosystem: Industry provides real-world problems to university, University provides future employees to industry, University explains to the community what an engineer is, Community lets university know what engineering interests are, Industry outreaches to the community to show engineering is cool - Virginia Groeschel: Bridge the gap K-6, Bridge the gap 6-12, Engineering clubs bring projects into venue, Low/mid-level career etc.
Group 7	- Paid Maternity/Paternity policy - ISER UAA policy state legislation - Networking/mentorship facilitation (external to company) - Sell to company by recruitment opportunity and pay employees to participate - Train on how to be a mentor - Include men to network/mentor women
Group 8	- Industry – invest in recruitment: Camps, Summer CoEng, Summer arts & sciences, ANSEP acceleration/middle school academy, Advertise, No loss of accreditation, Alumni stories, Work with companies directly, Improve image, Networking - Networking with industry: University - Industry, Building engineering problems/challenges solutions, Recruitment/career sessions at UAA, Alumni recognition at organizations
Group 9	- Leave options: Women leaving, retention, Delegate duties, Paternity/maternity leave, Leave for care of family, Leaders - set example, Build capacity by cross-training, Redundancy – temp, Allow in office/flexibility - Mentorship program in office: Partner program senior engineer/recent grad - Bridge the gap event STEM fair (how to get kids to engineering): K6 – mid-high school – engineer college – younger member – mid-career – senior career
Group 10	- Lowering barriers to internships - Redefining an “engineering” internship - Starting earlier with internship opportunities - Expanding programs currently existing: Upstart interns and Students2Startups



Thank you to everyone who attended and contributed to the workshop.

Your participation and insights are invaluable as we work together to address key challenges and advance the engineering community in Alaska. Your dedication and engagement make a significant difference, and we look forward to continuing this important work with your support.