“Let us choose for ourselves our path in life, and let us try to strew that path with flowers.”

— Emilie du Châtelet
mathematician, physicist, author
Dear colleagues,

Our December newsletter is dedicated to women in Radiology. On behalf of the Department, I want to thank our female physicians, researchers, staff and trainees for their dedication, inspiring ideas and hard work. And I sincerely thank our contributors for sharing their stories. We will learn about unique talents and accomplishments of our female colleagues in Radiology. We will also learn about obstacles and roadblocks that women in Radiology still face today. And we will learn how a little support can make a big difference.

For many women in academic medicine, work experiences are like a roller coaster ride – more extremes than in most other professions. Every one of us has encountered obstacles, setbacks and hurtful disappointments, sometimes from a direction we least expected. No matter how we feel: We get up, dress up, show up and do not give up. And we are grateful for our supporters, both male and female, who are helping us along the way. It is an honor and pleasure to celebrate our successes with you!

I believe we can be optimistic that the underrepresentation of female faculty in Radiology will improve soon, and that the current gender imbalance at higher ranks will vanish in one generation. But this will not just happen. We need your help to initiate change. At Stanford Radiology, we are determined to actively support both male and female colleagues to realize their full potential.

Thank you for supporting our diversity initiative! I wish you health, happiness and success for the New Year 2019!

Heike E. Daldrup-Link  
Associate Chair for Diversity  
Department of Radiology


https://www.youtube.com/watch?v=5Kyl9zhYA10

https://www.youtube.com/watch?v=mNbSgMEZ_Tw
Reflections on how to succeed as a woman in radiology, that is my task. “How to succeed” is the difficult part as the word success can have so many different meanings. My definition of a successful career is one where I can do meaningful work that I enjoy, make a difference for my patients, and still be present for my family and friends. Success in your career is not a contest that is either won or lost as there are many wins and losses along the way.

I was very fortunate as a medical student and resident to have the late Dr. Helen Redman, past RSNA president and SIR Gold Medal recipient, as my mentor and sponsor. Even long before those words were really used, she took interest in me and helped push me into the field of interventional radiology. As the first medical student allowed to rotate in IR, she really opened my eyes to the possibility of a career that was almost surgery - but better (my husband was a surgery resident, so I knew that for sure). In a national interview, she called out women who decide against a career in IR after having children as a serious loss to the field of radiology. Needless to say, I forged on in IR, as I was not going to let her down, having three children along the way.

Women still do not choose my field, with less than 10% of practicing IR physicians being female. Reasons for that are unclear however, women are reported to gravitate towards “patient facing” careers. We are definitely patient facing and are known for doing innovative “cool” cases, however, in pediatric IR, the “cool” case may be on a one week old or a 13-year-old, which changes the entire dynamic. We are both patient and parent facing, and the ability to be empathetic and compassionate for our patients and family, yet still innovative in treatments, is one factor that drove me to switch from the adult to pediatric world. This mid-career change was influenced both by the need to feel in control of my time as well as the search for the feeling of being appreciated.

Yes, I definitely met the definition of physician burnout. Radiology is such an amazing field that one can actually completely redirect their career along the way, as long as the drive for discovery and learning is present.

My keys for success, be passionate about what you do, seek meaning in what you do, stay empathetic – there is a patient behind that X-ray. Do not forget, no one will remember you for how fast you can get through the stacks or how fast you can do a TIPS, but they will remember you for how you treated the people you work with and your patients. Your family will only remember how you treated them, and that is where I define success.

Shellie Josephs, MD
Professor of Radiology
Stanford Medicine | Radiology
As a PhD candidate in engineering, I had five tenured professors on my dissertation committee. They all positively contributed to my development into the strong scientist I am today. They taught me the value of logic, rigor, integrity, innovation and perseverance. They taught me to work hard and to play hard, to love my work and to live my life. They taught me to fight for the principles I believe in and to believe that change is possible, no matter what.

All five of my dissertation committee members were male. There were no female mentors available to me in my academic bubble at the time, and consequently it never occurred to me to proactively search for any during those deeply formative years. The lack of options back then indicates that gender diversity and awareness were indeed missing – but even as a minority female engineering student, I didn't see how this might affect me in the future. Nevertheless, my committee instilled within me the confidence to become a leader and independent thinker, and I sailed off into the post-graduate horizon with only the belief that I would succeed.

As I establish my own career path and see the disheartening statistics facing women and minorities moving up the academic ladder, I realize that diverse mentorship is needed today more than ever. I now think about the pivotal concepts I want my students to remember. Naturally, I want to pass on the fundamentals of good science that I've learned from all of my teachers thus far. Additionally, I want to share equally important lessons that I've learned from postdocs, staff and faculty at Stanford – women and men who have come from different parts of the world, who have found ways to triumph against the odds, and who have unknowingly become non-traditional mentors in sharing with me their personal stories about trial and error, success and failure. To move toward a more inclusive and collaborative system of science, we must seek out and serve as mentors who implement human fundamentals of empathy and equality into our everyday interactions. Otherwise the scaffolds of our cherished academic world would surely fall apart.

The impact we make on future generations depends on the principles we choose to cultivate and our availability as mentors to our peers and colleagues of any age, race, or gender. We should all remain students and teachers for as long as we can, both in research and cultural settings. We should openly propagate awareness about our academic values and challenges, and actively listen to the voices of our neighbors. Importantly, these actions will ensure that strong scientific leadership is sustainable, for women and men alike, and this will encourage all scholars to become mentors who can make a meaningful difference too.

Sharon Hori, PhD
Instructor
Molecular Imaging Program at Stanford
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Stanford Medicine | Radiology
As I’m writing these sentences, we are celebrating the “International Day of Radiology,” and I can’t help pondering at how my status as a minority research scientist has influenced my contribution to the field of radiology. My “humble” background – raised in eastern Europe, in a blue-collar family, as a first generation high-school graduate – has taught me many valuable lessons, including that hard work and perseverance are necessary but not sufficient to succeed.

A fearless attitude and willingness to step outside my comfort zone are the most important factors that shaped my contribution to science. They influenced many of my personal career decisions: choosing a computer science high-school training without ever seeing a computer in person; getting an engineering degree in a country that was 1500 miles away from my home town; changing fields between my PhD and postdoctoral training; transitioning from academia to industry and back to academia. Scientifically, these experiences reinforced my simultaneous interest in multiple fields, placing my research at the boundary of multiple biomedical and technical disciplines with very diverse applications. For example, my Ph.D. research has been focused on characterizing protein structures at multiple scales using computational approaches, while I currently use this knowledge to spatially correlate pathology images with radiology exams with the goal to better characterize diseases and cancer aggressiveness. By bridging the gap between multiple modalities, my research addresses their individual limitations and benefits from their joint advantages.

When working with the younger generation of radiology researchers, I feel it is my responsibility to emphasize the need for a diverse research training that spans many fields, for example: computer science, medicine and mathematic - or biomedical research, precision health and precision medicine. Diversity has many faces. Embracing scientific diversity trains us to be better researchers.

Mirabela Rusu, PhD
Assistant Professor
Integrative Biomedical Imaging Informatics at Stanford
Stanford Medicine | Radiology
I prefer not to think of myself as a “woman in radiology”, but rather a basic scientist in radiology who happens to be a woman. However, regardless of what you call it, there are some unique challenges that women face in academia. Despite working in an area of science that is heavily male-dominated throughout most of my training, I remained largely oblivious to many of these challenges - but over time they have become apparent and should be recognized and discussed rather than minimized and dismissed. Here I would like to describe some of my experience with various challenges that women face and the associated growth opportunities. One of the first things that I realized when starting my lab is that direct communication from women is often perceived unfavorably. This is something that I had never thought about, but realized quickly when I started my lab. When I made the transition from an individual contributor as a postdoc to a group leader as a faculty member, it became evident that women are often perceived as bossy or mean when they speak candidly. While I have learned to cultivate my communication style over time, the real growth has come from reflecting on my own reactions to how others communicate. A second challenge that I have faced is the difficulty that many women share in promoting themselves and their work. Although some aspect of this is personality-driven, I have noticed in conversations and scientific talks that women tend to use “we” much more frequently than “I” when describing their work. In lab and other meetings, I have made a deliberate effort to encourage speakers not to do this. While this kind of modesty may difficult thing change, one thing that is very easy for us to do is to promote the work and accomplishments of each other, as a way of drawing attention to achievements. A third obstacle that I have seen women face is in how they are described by others. Instead of focusing on scientific skills and accomplishments, many recommendation letters for women are often filled with descriptions of how well they got along with their colleagues or descriptions of other interpersonal relations. Although these points are important, I have made a deliberate effort to focus on the scientific aptitude and qualifications of a person when writing and reading recommendation letters. And finally, a force that I and other women contend with is the biological clock. The inherent limited window in which women can typically have children often coincides with critical points in a scientific career at the end of training and the beginning of an independent career. While this is a very personal decision, many people realize that if we wait until the right time to have a child, we may never find a right time. My husband and I welcomed our first child this past summer and I have realized the pros and cons of having a baby at age 39. While having Baby Nolan has been life changing in such a positive way, the physical and mental effects of motherhood are real. I have found talking with other women (and men) to be immensely helpful in finding the needed support. Now I see a tremendous opportunity to pass this support on to other women.

Of course not everything that I have described here is limited to women, and many of these challenges are multifactorial, but they highlight some obstacles that should not be ignored. And while every situation is obviously not immediately solvable, I believe that increasing awareness will allow us to grow. We are so fortunate in this department and at Stanford to have tremendous female role models who are very open to sharing their experiences. One of the most powerful things that I have done here and throughout my career is to find strong mentors (both female and male) to help navigate various issues. I am very grateful for their perspectives and am happy to pass this gift along.
Female radiologists are still a minority in a male-dominated discipline. We are underrepresented amongst radiology residents, fellows, junior faculty and radiology leadership. Many of our parents wanted our brothers to become physicians and us to marry one. Our patients, students and colleagues frequently confuse us with nurses, technicians or administrative assistants. When we correct this, our (mostly female) coworkers in these professions sometimes feel insulted. We have to explain to them that we are not disregarding their importance. We are correcting a stereotype. Our gender does not define our role in the health care system.

Many women who enter the field of medical imaging have to deal with daily criticism: Our colleagues provide (perhaps well meant) unsolicited “advice”, our trainees scrutinize our appearance, our patients question our competence and all of the above score us lower on evaluations than our male peers, typically without rational explanation. I recently learned that this phenomenon has been well described in the social sciences: It is called the “tall poppy syndrome” (google it). It refers to a culture in which people of genuine merit and conspicuous success are resented, attacked and undermined with the goal to bring the “tall poppy” down. The tall poppy can be a successful woman or another high achieving individual who is perceived as “different”.

A typical reaction by junior “tall poppies” is to try to blend in, to avoid speaking up and to avoid standing out. It took me many years to realize that this might not be the best approach and that this entire reaction is not about me. It is about people who are unhappy about their own career choices or who feel threatened somehow. They will criticize you no matter what you do. This is actually very easy to address: Surround yourself with supportive people – people who encourage you to be the best you can be and who are happy to see you grow. Be like water: If barriers enter your life, just flow around them. Reprogram your brain with the confidence that nobody can stop you. Be comfortable with being unique and strong. Our daughters are watching you. And we will all benefit from your success!

I am grateful that I found my supportive community at Stanford Radiology!
Marriage, like friendship, is about shared experiences. When I was looking for a life partner I had hoped to find someone who shared some of my passions and interests, like classical music and movies. The fact that I am married to a Radiologist is an extra special bonus because it lets me also share my work experiences and interests. As it happens, I met my wife Terry through our mutual involvement in contrast media research—we were actually “fixed-up” by colleagues who knew us both. Our relationship evolved in parallel with our research, and when I branched off into informatics, she understood my rationale completely and was supportive as I changed career directions. So she gets to use all the Radiology books I don't need anymore (!).

We are one of several Radiologist couples among the faculty, and luckier than most in that we are both at the same institution. When one of us has an especially good or bad day, the other often understands exactly why. But the downside is that we can sometimes spend too much time talking about work, and have to make a conscious effort to let things go once we are home.

Some of my colleagues have life partners whose schedules are completely flexible, which makes it easy for them to arrange travel and household tasks. That is definitely not the case for me, as Terry’s Radiology schedule is dictated by clinical demands, so it is highly constrained. And this has only gotten worse recently as the hospital gets busier and busier. The logistics of my home life would definitely be easier if my wife had a job with a more flexible schedule. With a working spouse in a demanding field like Radiology, what is gained in extra household income is a trade-off with the added stress of trying to get all the necessary things done at home. But when I think of how much I value being able to share my work with Terry, and how much I gain by having a wife in Radiology to bounce ideas off of, I am sure it is worth it.

Daniel Rubin, MS, MD

Professor of Radiology, Biomedical Data Science, Medicine
Integrative Biomedical Imaging Informatics at Stanford
Stanford Medicine | Radiology
Being married to a woman in radiology is great. Gloria practices body IR at Stanford and I practice Neuro IR at UCSF. As I quip: “she does neck down and I do neck up; between us we've got it all covered.” We met as freshmen at Harvard in the most romantic setting: organic chemistry class. Once the sweet smell of toluene had cleared, we both decided to become doctors and, eventually, interventionalists. In the convergent evolution of our careers, we've come to understand each other's responsibilities to patients, colleagues, and trainees. That helps us stay in good spirits despite days that start before dawn and nights that sometimes require operating on the sickest patients in the hospital. We've developed the necessary icy determination that performing emergency procedures on guts and brains require. It's not just because of her cryoablation work that Gloria's IR clinical fellows honored her with the moniker of “Ice Queen,” complete with photoshopped Disney princess Elsa's white-blond locks added.

Faced with life-threatening crises as our professional norm, approaching other problems with equanimity is a relative breeze. I'm pleased that Gloria has recently turned her considerable skills in performance improvement—focused on her husband and daughters for years—to the clinical operations of Stanford Radiology. Not a day goes by that Gloria isn't reading a leadership manual, listening to a management podcast, or attending quality meetings. Having been at Stanford since starting medical school in 1996, Gloria's learned the ins and outs of the institution and seems exceptionally perceptive of the needs of everyone from technologists to students to housestaff to faculty. Her myriad conference calls this year regarding the PACS rollout have made me grateful for my own ignorance of such matters. She was the first person I'd ever heard of identified as an Epic “superuser”—her facility with the electronic medical record seemingly has made her the go-to professor for just about everyone. She's our IT guru at home, too, much to her chagrin.

Gloria's a California girl, born in the OC and grown up in Silicon Valley. (Do remind her of her OC roots when you see her: she'll love you for it.) With our hectic schedules and the demands of on-call pagers, we're grateful to have our parents nearby. Harmonizing our work and meeting commitments has always been a challenge, and not having to worry that our children will have no one at home with them when the nanny leaves has been invaluable for everyone's sanity. When our girls were in preschool, having grandparents within a few minutes was invaluable, relieving a bit of our professional guilt at not spending unlimited time with our children. The equation is now shifting, and our parents' health issues are coming to the forefront as our girls are now 9 and 13.
Gloria and I are both younger children, a point our put-upon elder daughter reminds us of at every opportunity. Our counter narrative—which we learned in a Harvard undergraduate moral reasoning course called “justice”—is that first children benefit from a disproportionate amount of parental attention, hence their over-representation in elite educational institutions as compared to their forgotten free-range younger siblings. We younger siblings have to stick together; after all, 700 out of 900 students in Justice were first or only children.

Gloria and I are grateful to have returned to California to serve the communities we grew up in and to enable our girls to grow up here too. The irony of having gone 3000 miles away to meet someone who grew up 30 miles from you is not lost on us. But chance favors the prepared mind! We share a passion to improve our institutions, the exemplars of public and private medical education, research, and care in the Golden State. And we’re proud of working in departments that can attract the best and brightest from around the world to make medicine in the Bay Area even more outstanding. Californians are the future... and always will be!

Steven Hetts, MD

Professor of Radiology
University of California San Francisco
Life is not easy for any of us. But what of that? We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for something, and that this thing, at whatever cost, must be attained.

— Marie Curie
physicist, chemist, and winner of the 1903 Nobel Prize in Physics and 1911 Nobel Prize in Chemistry
Insights from Summer Student Irmina Benson

Irmina Benson, a summer student at the Canary Center, shared her experiences on CBS/KPIX:

“My siblings and I did face a lot of discrimination and a lot of racialized bullying when we were younger,” recalled Benson. “That was very difficult.” Studying became Benson’s safe space. Benson plans on being a doctor, and serving communities of color and others who need extra care. Her training at the Canary Center at Stanford is part of that future.


Lab life - When Privileged are a Minority, Equity Stands a Chance

Aamin Aalipour, MD-PhD student and member of the Gambhir lab, shared his experiences in a recent opinion article in Nature:

“In my experience, equity prevails in groups with no apparent ethnic or gender bias. I have been a student in six labs and collaborated with countless others. My current lab is the most heterogeneous: of 37 members, 14 of us are female and our backgrounds span 17 countries. Only two fit the description of ‘white American male’. I find it empowering to work in a gender-diverse, multicultural environment that is quick to rebuke entitled behaviour.”

https://www.nature.com/articles/d41586-018-07453-3
Avoiding gender bias in reference writing

Got a great student? Planning to write a super letter of reference? Don’t fall into these common traps based on unconscious gender bias.

Mention research & publications
Letters of reference for men are 4x more likely to mention publications and twice as likely to have multiple references to research. Make sure you put these critical accomplishments in every letter!

Don’t stop now!
On average, letters for men are 16% longer than letters for women and letters for women are 2.5x as likely to make a minimal assurance (‘she can do the job’) rather than a ringing endorsement (‘she is the best for the job’).

Emphasize accomplishments, not effort
Letters for reference for men are more likely to emphasize accomplishments (‘his research’, ‘his skills’, or ‘his career’) while letters for women are 50% more likely to include ‘grindstone’ adjectives that describe effort. ‘Hard-working’ associates with effort, not ability.

We all share bias
It is important to remember that unconscious gender bias isn’t a male problem. Research shows that women are just as susceptible to these common pitfalls as men. This is a problem for all of us - let’s solve it together!

Keep it professional
Letters of reference for women are 7x more likely to mention personal life - something that is almost always irrelevant for the application. Also make sure you use formal titles and surnames for both men and women.

Stay away from stereotypes
Although they describe positive traits, adjectives like ‘caring’, ‘compassionate’, and ‘helpful’ are used more frequently in letters for women and can evoke gender stereotypes which can hurt a candidate. And be careful not to invoke these stereotypes directly (‘she is not emotional’).

Be careful raising doubt
We all want to write honest letters, but negative or irrelevant comments, such as ‘challenging personality’ or ‘I have confidence that she will become better than average’ are twice as common in letters for female applicants. Don’t add doubt unless it is strictly necessary!

Adjectives to avoid:  Adjectives to include:
caring successful
compassionate excellent
hard-working accomplished
conscientious outstanding
dependable skilled
diligent knowledgeable
dedicated insightful
tactful resourceful
interpersonal confident
warm ambitious
helpful independent

Follow us at: www.facebook.com/uacsw
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