I mean, if we said we were only going to let people, men 5'10", or below engage, in three or four occupations, it would be regarded as totally nutty. And for decades, centuries, we relegated women to just a few occupations. And we did not fully use the talent that’s available. And we’re making progress, but we have got a ways to go.”

I believe the first step to a diversified workforce is for all of organized neurosurgery to strive to be inclusive. In order to do that, students need to be exposed to people that “look like them” on the podium at national meetings, in leadership positions at their institutions, and as role models in their every day lives. It is essential to start at the ground up and inspire grade school age children, undergraduate students, and medical students to pursue neuroscience. To that end, the major focus of my tenure on the WINS EC has been to promote mentorship of undergraduate and medical students.

The mission of the AANS/CNS joint section of Women in Neurosurgery is to serve neurosurgery in addressing the issues inherent in training and maintaining a diverse and balanced workforce and to educate, inspire, and encourage women neurosurgeons to realize their professional and personal goals.

Despite the initial excitement of five years ago that 20% of incoming neurological residents were women, questions of attrition and of opportunities for promotion have tempered our enthusiasm. There are currently 367 female neurosurgeons in the US (257 are board certified). The percentage of neurosurgeons in the US who are women excluding residents are 5.4%. 15.61% of residents are currently women. 76.0% of women and 86.5% of men completed neurological residency between 1990-1999 (Relative Risk for women = 1.8, Chi Square>3.84, 95% Confidence Interval, p=7.1x10^-4). 60.3% of women and 78.7% of men of that cohort were board certified by November 2012 (Relative Risk of 1.9, Chi square >3.84; 95% confidence interval, p=6.6x10^-7)

Women neurosurgeons continue to face challenges to advancement into positions of leadership within neurosurgery. As the decline of the neurological workforce is looming with the anticipated retirement of a number of neurosurgeons in the near future, the question on our collective minds is how to continue to attract the best and the brightest to our field. To quote Warren Buffet’s May 2013 statements, “I think we’ve made a terrible mistake in this country and a lot of other countries, too, but in not using all of our talent.”

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I believe the first step to a diversified workforce is for all of organized neurosurgery to strive to be inclusive. In order to do that, students need to be exposed to people that “look like them” on the podium at national meetings, in leadership positions at their institutions, and as role models in their every day lives. It is essential to start at the ground up and inspire grade school age children, undergraduate students, and medical students to pursue neuroscience. To that end, the major focus of my tenure on the WINS EC has been to promote mentorship of undergraduate and medical students. A medical student mentorship program was first developed by WINS in 2004 after the RRC approached WINS to help find ways to increase
Inspiration from Industry

By Justine Pearl, MD

Julie Foster is impressive. It may be in part due to her stellar academic record during her degree at the University of St. Thomas, graduating Magna Cum Laude with a degree in English and Marketing. Perhaps it was her explosive entry into the workforce, directly from university, as a communications manager. We can't forget her long list of awards and honours. Somehow she has time for a husband and 2 handsome boys. What did it for this writer, though, was just how warm, generous and smart she is: her dedication to mentoring women in furthering their careers is palpable. As a female Neurosurgery resident on the cusp of beginning my career, I thought to myself “This is the kind of person I could really learn something from.” Mrs. Foster currently holds the position of General Manager and Vice President of Pain Stimulation and Targeted Drug Delivery within Medtronic Neuromodulation. As she explains to me, drug targeted therapy involves targeting the delivery of a drug to a specific site. This results in a better delivery profile of the drug, which results in greater potency than using alternative methods. Julie has held several positions in different facets of Medicine, and I think this is because the endless amount of knowledge to be gained is completely energizing for her. When asked how she has overcome the potential roadblocks associated with being a woman in the workforce, she relays advice once given to her: “people don't have the responsibility to listen to me, I own the responsibility of being heard.” Very empowering.

It is clear to me that Mrs. Foster would cite her family as one of her greatest joys. Her hero is her husband – a man who never fails to be there. In her sparse free time, she enjoys spending time with her family – and if that is outdoors, all the better! Her support structure is of paramount importance to her, and she credits her success to surrounding herself with bright and talented people. Her wish for the world would be that “people would always assume positive intent with others,” and I believe this is how she approaches her daily interaction. When asked how residents just starting out in their careers can best interact with the other members of their team, she favours an open, transparent approach focusing on areas where a team approach is greater than the individual working alone. It is no wonder that she was awarded the Wallin Leadership Award, named after a former beloved CEO of Medtronic. It is focused on leadership in the development and advancement of others. This award is extremely precious to Mrs. Foster because it highlights on of the most rewarding aspects of her career: “helping others develop both professionally and personally.”

When asked how she balances her very full life, her response seemed like words to live by. “I don’t really believe there is such a thing as balance. I believe in making the best choices you can each day, learn from your mistakes, forgive yourself and move on.”

Engaging with Women Across Disciplines
By Julie G. Pilitsis MD,PhD

At the CNS meeting on Oct 22, 2013, WINS hosted the kick-off event for our educational platform on Leadership Development at the Women Leading the Way Reception. This reception featured a leadership panel consisting of 8 high level corporate females from the medical device industry who shared their experiences in leadership development, mentorship, conflict negotiation, and work-life balance. We welcomed 90 attendees, consisting of men and women, neurosurgeons and nurses, residents and attendings, husbands and wives. It enjoyed wild success and hopefully will lead to a long and fruitful relationship between women neurosurgeons, women in the device industry and all interested in the topic. In light of this success, we chose to focus one article in this newsletter on a woman in the medical device industry who has achieved great success, Julie Foster, Vice President and General Manager, Medtronic Neuromodulation.

Justine Pearl is the chief resident in neurosurgery at the University of Saskatchewan in Canada and a WINS member. She looks forward to pursuing a career in neurosurgical oncology.
Over the past several years, WINS has seen many accomplishments, from influential publications regarding the state of women in neurosurgery to the recent designation of this organization as a joint section of the AANS/CNS. WINS continues to effect its presence at national meetings through leadership seminars and poignant speakers, and has made great strides in mentoring women at all stages of their careers from medical students to young faculty members.

This organization is comprised of highly ranked female neurosurgeons who have achieved top honors in their field and continue to earn awards and distinctions every year. Here is a look at the executive committee and their recent accomplishments:

Aviva Abosch M.D. Ph.D. was featured in Breakthrough Medicine in the Minnesota Monthly and is the current elected Vice President of the American Society for Stereotactic and Functional Neurosurgery (ASSFN).

Deborah Benzil M.D. was selected as a “Top Doctor” by her peers in Westchester Magazine last year.

Isabelle Germano M.D. was named America’s Top Surgeon of 2011. She was also a part of the Boston University Chairman Interview in 2011. She was recently awarded the Leksell Radiosurgery Award by the AANS.

Aruna Ganju M.D. is currently serving as the chair-elect of WINS.

Holly Gilmer M.D. was named Top Doc of 2013 by “Hour Detroit”

Odette Harris M.D. served as the president of WINS in 2011.

Karin Muraszko M.D. became the chair of the department of neurological surgery at the University of Michigan in 2007. She is still the only female to be the chair of an RRC approved residency program.

Susan Pannullo M.D. founded a global brain tumor information service called the Hope Brain Tumor Center and is the founder of the New York Brain Tumor Project.

Julie Piilitsis M.D. Ph.D. is the co-principal investigator of a $3 million R01 grant from NIH to develop an MRI-guided robotic system for tumor treatment. She is currently serving as the Chair of WINS and of the Pain Section.

Gail Rosseau M.D. recently published the first article on the use of virtual reality simulation in transsphenoidal surgery. She was also recently featured in “Who Runs Government” in the Washington Post. She currently serves on the Board of Directors of USA Football, and was the first woman elected to AANS Board in 2010. She was also elected to Administrative Council of World Federation of Neurosurgical Societies (WFNS).

Uzma Samadani M.D., PhD is currently the secretary of WINS.

Lauren Schwartz M.D. was recently nominated by the AANS President to serve on the Ethics Committee and was featured on Lifetime TV’s “Women Heroes of 9/11” and Forbes Magazine’s “It is brain surgery: The art and business of medicine.”

Roxanne Todor M.D. wrote the most recent edition of the WINS guide for medical students So You Want to Be a Neurosurgeon?

Eve Tsai M.D. Ph.D. was featured in the Top 25 Women of Influence by Women of Influence Magazine in 2012, as well as Canada’s Top 40 under 40 in 2009. She is also the current Endowed Chair for Spinal Cord Research at The Ottawa Hospital. She was the president of WINS in 2012.

Jamie Ullman, M.D. was the Vice President of the Congress of Neurological Surgeons (CNS) in 2013. She was the first woman to hold executive office in the CNS.

Stacey Quintero Wolfe M.D. was featured in “Social Media: A Surgeon’s Digital Footprint” in the AANS publication. She recently served as the Chair of the Young Neurosurgeons Committee (YNC) and is currently serving as the Treasurer of WINS.

Edie Zusman M.D. has recently earned an M.B.A in Health Care and Health Policy at George Washington University. She is also the Chief of Neurosurgery at Sutter Medical Center in Sacramento and was the American Board of Neurological Surgeons Oral Boards Invited Guest Examiner in 2011.

Shelly Timmons, M.D., PhD is on the AANS board of directors, the American College of Surgeons Board of Governors, and the Program Director of Neurosurgery Residency Program for the Geisinger Health System.
A Resident’s Perspective

While the percentage of female neurosurgery residents is growing, it is yet to be seen if this will translate to a proportional percentage of women in leadership positions among the highest ranks of our field. There has been only one female chair of a major academic program, and to date, there have been no female neurosurgeons to serve as president of the AANS, CNS or SNS. These facts demonstrate that we are far from realizing a balanced neurosurgical workforce.

Deftly delineating the issues preventing women from securing leadership positions, *Lean In* by Sheryl Sandberg ought to be required reading for female neurosurgery residents. In her book, Sandberg not only highlights the struggles faced by ambitious women in a workforce where male counterparts have long been the majority - she also provides a roadmap for success. With lessons that traverse industries, *Lean In* emphasizes that women need to begin by embracing their ambitions and both literally and figuratively “sitting at the table.” Through several poignant studies she highlights a particular challenge women often face, the inverse correlation of success and likeability, to which our male counterparts are often immune. She also offers straightforward and sound advice regarding pregnancy: “Don’t leave before you leave,” confronting the tendency of some women to redefine their aspirations and scale back prematurely in preparation for childbirth and raising a family.

To achieve success, both Sandberg and Sharon Meers, a former managing director at Goldman Sachs and our guest speaker at the upcoming AANS evening reception, emphasize the importance of having the right partner. In her book *Getting to 50/50*, Meers outlines the steps to negotiating a demanding and fulfilling career, raising balanced children, and having a successful marriage. Offering a similarly realistic, and perhaps more sobering perspective, Anne-Marie Slaughter, President of the New America Foundation and our upcoming AANS Louise Eisenhardt Breakfast speaker, comments that much needs to change before we can achieve a world with equal opportunity for both men and women. In her compelling essay published in the Atlantic, “Why Women Still Can’t Have It All,” Slaughter identifies the pervasive barriers holding women back from ultimately achieving success at the highest levels of their careers.

The field of neurosurgery is fortunate to have generations of trailblazing women, and in this issue, we see the myriad accomplishments of some of the female leaders of our field. Lessons learned from our role-models from within and outside of neurosurgery underscore the notion that the only way to ultimately achieve balance in our workforce is to have more women in leadership positions where they can foster an environment conducive to the success of men and women alike. Despite the current gender disparities in our field, it is nonetheless exciting and empowering to recognize that we are at the forefront of change.

Chair’s Message: The Importance of Mentorship

Female applicants for neurological residencies and was run from then until now by Dr. Roxanne Todor for many years. I have been fortunate enough to serve as co-director over the last three years. Over that time, WINS has successfully matched 60-80 medical students with mentors annually. We are actively working with other interested parties to make this program more inclusive and sustainable. What I have found from this endeavor is that we are still having great difficulty attracting the best and the brightest women to our field. Furthermore, as we enter our professional careers, the numbers that reach professorship fall to the single digits. Thus, moving forward, once we attract medical students to our field, it is essential to mentor and sponsor them through residency and junior faculty positions. In line with our mission, WINS has resolved to make leadership development the main focus of our educational agenda as a section. To that end, we sponsored a kick off event with our corporate partners to share strategies for success with females from the medical device industry. At this AANS, we will have an evening reception with Sharon Meers, author of *Getting to 50/50* and our Eisenhardt Lecturer is Anne Marie Slaughter. At CNS, on Friday October 17, 2014, we will be sponsoring a full day Leadership Development Program geared toward all neurosurgeons.

Since our founding in 1989, WINS has been committed to supporting the professional and personal needs of female neurosurgeons at various stages in their career - from residency through retirement. We are making inroads with more female neurosurgeons involved in organized neurosurgery and internal policy making. We have moved from an era of mentorship to sponsorship. We still have a long way to go. If you are interested in getting more involved, please contact me directly at jpiilitsis@yahoo.com.

Sharona BenHaim, MD
Mentoring in Neurosurgery: A Medical Student’s Perspective

As the first university graduate in my family, entering medical school was a daunting task. Furthermore, pursuing an interest in neurosurgery seemed completely out of reach. However, having a mentor has made this goal much more attainable. From providing exposure to neurosurgery, research opportunities, and practical advice, a mentor is an invaluable resource. Often times, students have limited exposure to neurosurgery. The opportunity to observe procedures and ask questions can cement a student’s interest. However, this is the tip of the iceberg. Having a mentor allows unfettered access to observing the planning of procedures, after care of patients, and coordination of care within the medical team. As an added bonus, students may observe the mentor balance career and family commitments. The concern of balance is prevalent in students interested in neurosurgery, and I have developed a positive outlook on this issue as a result of interactions with neurological faculty at my institution. While mentoring provides exposure and peaks interest in the field, research opportunities allow students to become more competitive applicants.

A mentor may also offer research opportunities and training to help students prepare for their future career. Prior to entering medical school, few students have participated in neurosurgical research. Even fewer students have navigated an Institutional Review Board (IRB) or applied for grants. I have had the opportunity to learn these skills and many more. The research experience my mentors offer extends beyond publications and builds skills needed to one day pursue a career in academic neurosurgery. Aside from assisting students in enhancing their CV, mentors offer practical advice to help us become better practitioners. From tips on participating in neurological rounds to learning how to suture, a mentor can offer practical advice that is seemingly unattainable anywhere else. I recall scouring the internet for information about attending rounds and coming up empty-handed. However, my mentor had an entire list of tips to make the experience more beneficial to both myself and the team. She even had suggestions about professional organizations and navigating medical device companies which will benefit me for years to come. The advice received is vital and can only be obtained from someone who has gone through the process themselves.

Having a mentor is extremely beneficial and necessary for students interested in neurosurgery. Students can find a mentor by examining their medical school’s department website or by asking an advising dean. Finding a mentor early and having goals in mind for the relationship is critical. By setting these goals, students can determine the suitability of the mentor-student relationship. The exposure to the field, research opportunities, and advice cannot be matched by any other resource. However, the biggest benefit is simply having someone who cares and demonstrates every day that a career in neurosurgery is within reach.

“...A mentor can offer practical advice that is seemingly unattainable anywhere else.”

Priscilla De La Cruz, MD Candidate
Albany Medical College

Priscilla De La Cruz is a first year medical student and aspiring neurosurgeon. Her research interests include peripheral nerve stimulation and the value of Deep Brain Stimulation in Parkinson’s Disease.

FRIENDS OF WINS: Roy A. E. Bakay, MD

By Julie G. Pilitsis, MD, PhD

On Sept. 5, 2013, the world lost a great neurosurgical innovator when Roy Bakay, MD, FAANS, passed away after a long struggle with stomach cancer. Dr. Bakay was born in Evanston, Ill. in 1949. He graduated from Beloit College in Wisconsin, where he was captain of the varsity football team. He graduated as valedictorian, and went on to medical school at Northwestern University. In 1981, Dr. Bakay completed a residency in neurosurgery at the University of Washington in Seattle. He was a fellow at the National Institutes of Health (NIH), before going on to faculty at Emory University where he moved the field of functional neurosurgery with tremendous advances. In 2000, he was recruited back to Chicago to become the A. Watson Armour III and Sarah Armour Presidential Chair in Neurosurgery at Rush University. I was fortunate enough to serve as his fellow from 2006-2007.

I had met Roy many times before embarking on this fellowship, as Roy made a habit of attending the annual CNS WINS reception on Tuesday night. He stood out not only because he was a world renowned stereotactic pioneer, but often because he was the only man. He was more than happy to speak with all of us, though as we all know grunts were a major part of any dialogue with Roy. Having said that, not only did we appreciate his attendance, but we also welcomed his guidance. While at Rush, Roy also trained Patricia Raskin MD, FAANS Mina Foroohar MD, FAANS and Diane Sierens, MD, FAANS. He was a lifelong friend to Roberta Glick MD. He was a good man who affected many patients and colleagues and whose legacy will live on. Please join us at the Louise Eisenhardt breakfast on April 9, 2014, where we will present the Friend of WINS award to Roy A.E. Bakay MD. His companion Cheryl Morris and daughters Jackie and Candy Bakay will accept on his behalf.
The Louise Eisenhardt Resident Travel Scholarship is granted yearly to an outstanding resident abstract accepted at the American Association of Neurological Surgeons Annual Meeting. A stipend of up to $2,000 is given to cover travel expenses.

Sophia F. Shakur, MD is this year’s winner of The Louise Eisenhardt Resident Travel Scholarship for her paper “Cerebrovascular Effects of Extracranial Carotid Stenosis on Intracranial Blood Flow”.

The Sherry Apple Resident Scholarship was named in honor of our dear colleague and WINS president who, sadly, died in 2001. The Sherry Apple Resident Travel Scholarship is granted yearly to an outstanding resident abstract accepted at the CNS meeting. A stipend of up to $2,000 is given to cover travel expenses.

Matthew Frank Gary, MD is this year’s winner of The Sherry Apple Resident Scholarship for his paper entitled “LMP Knockout Mice have Reduced Spine Trabecular Bone Density on Microcomputed Tomography Due to Decreased BMP Responsiveness.”

WINS has a long tradition of supporting neurosurgery residents. This page highlights some of the most recent award winners.

For both Sherry Apple and Louise Eisenhardt resident Travel Scholarships, all interested residents may submit their abstracts through the CNS and AANS Abstract Center, respectively, prior to the deadlines, and select the above scholarships from the menu.

For the WINS Greg Wilkins-Barrick Chair Visiting International Surgeon Award, application details can be found at: www.neurosurgerywins.org

Thanks to the generosity of Mark Bernstein, MD, FRCSC, the Greg Wilkins-Barrick Chair in International Surgery, two annual awards are available to encourage international collegiality, education and collaboration. The award of $5000 is to fund travel and registration fees for an international female resident or faculty neurosurgeon to attend the AANS or CNS meeting. The 2014 award will be given at the WINS breakfast on April 9, 2014.

The WINS Leadership Development Award, established in 2014, recognizes a WINS member who has been in neurosurgical practice for less than 10 years, who demonstrate excellence in mentoring and leadership, in order to advance women leaders in neurosurgery. We will solicit nominations in early 2015 for the first award to be given at AANS 2015.

Dr. Mark Bernstein, MD, FRCSC, Greg Wilkins-Barrick Chair in International Surgery
Sharon Meers is the coauthor of Getting to 50/50, now out in paperback. Currently, Sharon is the Head of Enterprise Strategy at Magento, which is part of eBay Inc., a global commerce and payments leader. Prior to joining eBay, Sharon was a Man-
Anne-Marie Slaughter is currently the President and CEO of the New America Foundation, a public policy institute and idea incubator based in Washington and New York. She is also the Bert G. Kerstetter ’66 University Professor Emerita of Politics and International Affairs at Princeton University. From 2009–2011 she served as Director of Policy Planning for the United States Department of State, the first woman to hold that position. Prior to her government service, Dr. Slaughter was the Dean of Princeton’s Woodrow Wilson School of Public and International Affairs from 2002–2009 and the J. Sinclair Armstrong Professor of International, Foreign, and Comparative Law at Harvard Law School from 1994–2002.