

# *Women in Science & Engineering*

## *at Cold Spring Harbor Laboratory*

### **2016-2017 Initiatives**

#### **I. Introduction**

##### ***Mission***

Cold Spring Harbor Laboratory is a global leader in scientific research. From groundbreaking biological discoveries and cutting edge technique development to our world-renowned Meetings & Courses program, CSHL has always propelled the scientific community forward. Thus, our institution is in a uniquely powerful position to underscore for the field that scientific progress is driven by diversity – of voices, of ideas, and of its community. The new CSHL WiSE Initiative wishes to harness this power to establish the laboratory as a hub for women in science. By providing solutions to issues disproportionately affecting women in our field, both at the Laboratory and beyond, we can increase the scientific productivity levels of our community members, while helping to attract the best and brightest scientists throughout the world to join our supportive community. The following outlines our specific plans to address issues that have been shown to disproportionately affect women in this field.

##### ***Survey Results and Previous Events***

When the WiSE Initiative first began to gauge our community's interest and awareness on issues of gender inequality in the sciences, we distributed a brief survey electronically to post-docs, students, and research staff here at the lab. An overwhelming percentage of respondents felt that gender bias was an issue in the larger scientific community (84%) but that they did not believe gender bias to be an issue here at CSHL (29%). This was encouraging to us, as we were happy to see that our community is somewhat above the fray. Furthermore, we probed survey respondents' interest in participating in workshops on career and professional development, work/life balance, and opportunities to highlight and connect with prominent women scientists. We found that respondents were very enthusiastic about all of these resources, prompting us to hold several initial events.

Our first event featured a brief talk by new CSHL Fellow, Jason Sheltzer. He summarized the findings in his recent PNAS paper, "Elite Male Faculty in the Life Sciences Employ Fewer Women". We followed this with a panel discussion featuring Assistant Professor Molly Hammell, Assistant Professor Jessica Tollkuhn, Assistant Dean Carrie Cowan, and Stonybrook Professor Maria Ryan. Over 100 CSHL faculty, post-docs, students, and staff attended this event and excitingly, most of the time was spent eagerly discussing questions from the audience regarding issues of gender bias in the field, work/life balance, and advice for navigating difficult professional situations. The feedback from this event was overwhelmingly positive, with many community members reaching out to WiSE to inquire about future events and forums for discussing these issues.

We followed this first event with a smaller roundtable discussion led by Professor and HHMI Investigator, Leemor Joshua-Tor. Dr. Joshua-Tor has since become our group's faculty advisor and works closely with us to shape and execute our group's mission. Again, the attendance exceeded expectations and the discussion was very productive. Dr. Joshua-Tor discussed how she navigated specific instances of both explicit and implicit gender bias in her career. She also shared her advice for young women scientists feeling discouraged by pursuing a career in academia due to these issues. Additionally, roughly 40% of the event's attendees were male and participated heavily, and productively, in the discussion. Based on feedback received from this second event, we believe that we have successfully raised awareness and have begun fostering discussion about issues of gender bias on campus and in the larger scientific community.

Our aim now is to direct our attention toward providing solutions for these issues. In pursuit of this aim, we have already hosted several events (described in detail below) and wish to expand our mission to address various other areas of concern for women in science. To fund our initiatives, we received a grant from The Patrino Foundation, as well as, additional funding from our institution's administration. The Patrino Foundation supports social and educational not-for-profit programs for girls and women in the New York Metropolitan area and surrounding counties.

## **II. Institutional Programs**

### ***McClintock Lecture Series***



The new McClintock Lecture Series was created to honor the legacy of CSHL scientist and Nobel Laureate, Barbara McClintock. McClintock was a brilliant and accomplished scientist who revolutionized the study of genetics and made the groundbreaking discovery of “jumping genes” – now known as transposons. She remains the only woman to have ever received an unshared Nobel Prize in Physiology or Medicine. Her strength, perseverance and endless curiosity allowed her to succeed in science at a time when very few women were welcome in the field.

These lectures serve as a forum for the WiSE group to host two prominent woman scientists annually as part of the CSHL Labwide Seminar Series. McClintock Lecturers give a scientific talk during the Thursday seminar slot as well as meet with WiSE members for several other events during their visit. In addition to those in the CSHL community, promising young women faculty and post-docs are invited from nearby institutions on Long Island and in NYC to attend the lecture and a dinner with WiSE executive board members. The reception and dinner will serve to stimulate discussion about the lecture topic, but more importantly, facilitate networking and scientific collaboration between outstanding women graduate students, post-docs, and faculty in the CSHL community and other scientific institutions.

Our inaugural McClintock Lecture was held on February 12, 2016. We hosted distinguished Institute Professor at MIT and recipient of the National Medal of Science, Dr. Ann Graybiel. The two-day event received extremely positive feedback from students, faculty, staff, and administrators. Prior to Dr. Graybiel’s lecture, Dr. Anne Churchland hosted the McClintock Lecture dinner; an event attended by WiSE board members and prominent women neuroscientists from local institutions, particularly Drs. Arianna Maffei, Yael Niv, Jackie Gottlieb and Heather Read. Additionally, a WiSE Breakfast was held for the entire WiSE group to foster discussion about Dr. Graybiel’s career path and advice for navigating issues that disproportionately affect women in science. The 2016-2017 McClintock Lecturers will be Dr. Leslie Vosshall and Dr. Carol Greider. We are thrilled to have these two incredibly accomplished scientists participate in our new initiative.

The McClintock Lecture Series will provide important opportunities for CSHL scientists to network with prominent women in their field. Women, specifically, will benefit from forming connections with these women, interactions that often lead to further networking and future career opportunities. Furthermore, it is important for all scientists to consistently see other women scientists succeeding in our field. This desensitizes both men and women to women in science and will contribute to eliminating implicit gender biases. McClintock Lecturers will also provide critical insights into navigating issues disproportionately affecting women, such as childcare, maternity leave, confidence, as well as instances of sexual harassment. Though, from the results of our survey, these issues do not seem to be problematic at CSHL, it is important to prepare our scientists for situations they may encounter elsewhere at meetings, courses, and in future positions. The new McClintock Lecture Series will address all of these goals.

### ***CSHList: Women in Science Speaker List***

It has been shown in a majority of scientific fields, that disproportionately fewer women are chosen as conference and course organizers/instructors, are chosen to give talks, and are nominated for participation in panels. It has also been shown, by Dr. Sandra Masur and our own Dr. Anne Churchland, that compiling lists of prominent female scientists as a resource for institutions organizing these events, drastically decreases their bias and results in a gender ratio more representative of that field. Our Meetings & Courses Program here at CSHL puts great effort into ensuring gender balanced participation in these events and has amassed an incredible network of distinguished women scientists who have participated in our programs. To further address the mission of the WiSE group, we propose to expand this network to fields within the biological sciences and open it up to the larger scientific community. *CSHList*, a high quality and comprehensive database of prominent women scientists, will be used worldwide by institutions planning various meetings and courses in the biological sciences and will further our goal to establish CSHL as a hub for supporting women in science.

### ***CSHL Child Care Grant Program***

In collaboration with the Meetings & Courses Program at CSHL, WiSE will be creating a new program to assist families at CSHL with childcare expenses while traveling for a scientific meeting or course. This program will be funded by a specific endowment and managed by the Meetings & Courses Department. WiSE will participate in the advertisement of the program, application process, and management of the recipients.

### **III. Career & Professional Development Resources**

In a survey conducted by WiSE in October 2015, we found that 80% of female post-docs, graduate students and technicians would like more access to personal and professional development workshops geared toward women at the Lab. Moreover, 44% of women rated these workshops as their top priority for the WiSE initiative. Our goal in expanding CSHL workshops to include more professional development, in addition to career development, will address a critical need for women in science from multiple angles. These workshops will provide women and men with the knowledge, skill set, and confidence to advance in their personal and professional lives. This will boost their ambition and productivity at the Lab, as well as in their subsequent careers. In order to reduce event redundancy and reach a wide variety of people at the lab, we will work closely with the PDLC, CDP, and BEC groups on campus in planning and hosting these workshops.

Our first professional development event was held in January 2016 and drew over 50 attendees including students, post-docs, faculty, staff, and administrators. We hosted nationally renowned leadership consultant and executive coach, Liz Bentley, who gave a lecture entitled “Things |that hinder women from advancing and how to overcome them”.

Future workshops will generally be tailored towards addressing issues that disproportionately affect women, however, men will always be encouraged to attend. We plan to host three to four professional development workshops each year, focusing on the skills critical to succeeding as a scientist. These include those related to persuasive communication, negotiation, and leadership. These workshops will address a need not currently met by existing groups on campus, such as the CDP and PDLC. Other groups on campus currently hold programming focused on presenting possible career paths and suggestions for pursuing these. However, our workshops will provide women with the personal skills necessary to succeed in the leadership and positions they often accept. During the 2016-2017 academic year, we plan to host a workshop series by the Moxxie Network as well as begin a bi-monthly “WiSE Fridays” event.

#### ***The Moxxie Mentoring Foundation Workshops***

The Moxxie Mentoring Foundation, Inc, founded by Beth Meixner here on Long Island, provides mentorship, professional development, and leadership programs for young women. The program will offer three two-part workshops that will focus on key factors for career success. Suggested workshops include (1) Keys to confidence (2) Difficult conversations and (3) Leadership. During part one of each workshop, leadership coaches will provide tools for turning challenges into opportunities. Participants will be “challenged” to set a personal goal related to the topic of the workshop, and then, over the course of two weeks, they will put what they have learned to practical use. Two weeks later, part two will feature a follow-up session given by the organization’s Practical Application’s Facilitator who will come to discuss the progress of each participant’s goal and whether his or her desired outcomes were achieved using tools learned in the workshop. Each workshop will be followed by a survey for participants that will help gauge effectiveness of each program. These assessments will also allow WiSE and CSHL administration to assess the value of such workshops and will inform the direction of our future events.

#### ***WiSE Fridays***

On the first Friday evening of every other month, the WiSE group will convene over dinner for discussion and a brief talk by one of our own group members. These events will be informal and will feature a discussion topic of the presenter’s choice. These events are modeled after those held by Sandy Masur’s group at Mount Sinai. She has found these to be very effective in fostering a supportive, productive, and confident community of women scientists. Presenters will discuss an issue that they feel is critical to personal development or improving one’s scientific abilities. They can also use this forum to present practice presentations if they have an upcoming interview, etc. or can solicit feedback on their work if they have encountered a difficult roadblock or need to learn

a new technique. These events, open to all male and female scientists at the Lab, will provide additional support for particularly important issues. For example, we anticipate the first several WiSE Fridays to include discussions on: “How to give a more confident presentation”, “How to write a more convincing journal article”, “How to overcome fear of asking a question”, etc. These events will be led by WiSE group members and will emphasize the importance of learning from the strengths of other scientists in our community.

### ***NYC Summer Networking BBQ***

To foster collaboration and networking between other Women in Science & Engineering groups in NYC and the surrounding areas, we plan to hold a Summer Networking BBQ here at CSHL. This event will be held on a Saturday afternoon and will feature a Keynote Lecturer and several short collaborative exercises to foster discussion around tackling issues disproportionately affecting women in the sciences. We have already garnered interest in this event from WiSE groups at Columbia University, Rockefeller University, NYU, Stonybrook University, Feinstein Institute, and the Icahn School of Medicine at Mount Sinai.

### **IV. Education & Outreach Activities**

A recent report by Nature Education found that differences in confidence between genders become apparent in middle school. Girls report less self-confidence than boys in their math and science ability specifically, and this contributes to fewer women ultimately pursuing careers in this field. To encourage more young girls to feel confident in their ability to pursue science, the Education and Outreach committee of WiSE, in collaboration with the DNALC, will be spearheading a summer camp for middle school girls. The new DNALC event for girls will build on the existing “Fun with DNA” program and will be open to girls entering sixth grade. In addition to small science experiments and lectures, the weeklong camp will include a day focused on improving confidence and fostering team building. Activities explicitly promoting confidence and empowering young girls are not found in other summer camps on Long Island and this will undoubtedly set DNALC programs apart from the rest.

Furthermore, we are working with the CSHL PDLC to develop a “Day with a Scientist” event in partnership with Girls, Inc. This event will feature the popular *BioBus* and provide an invaluable experience for young girls from underprivileged areas. Providing more opportunities for these girls to meet role models in science and learn how exciting and rewarding a place like CSHL is will address another critical need. The Education & Outreach Committee of CSHL WiSE is also available as resources for groups in the community who wish to incorporate STEM introductions into their events for children and young adults. To this end, we are assisting Mighty Lass with an empowerment program for girls at the East Woods School. WiSE members will attend the event and run a Strawberry DNA Extraction and Food Web Dance with the girls. They will also serve as mentors throughout the day and discuss their scientific work and experiences with the girls.

These outreach experiences will foster mentoring opportunities for women scientists at CSHL, an essential skill to prepare us for careers as educators and mentors in academia.

### **V. Conclusions**

Over the next year, CSHL WiSE plans to carry out various new programs and events to address issues that disproportionately affect women and limit their participation in the sciences. Our combination of Institutional Events – to foster discussion and collaborative efforts to tackle these challenges, Professional Development Resources – to improve the confidence, leadership, and productivity of women scientists at CSHL, as well as our Education & Outreach Initiatives – to provide grassroots support for young girls intimidated by our currently male-dominated field. Our initiative will not only address an unmet need here at CSHL, but also establish our institution as a hub for women in science worldwide and attract talented