

Departmental Diversity and Inclusion Action Plan
Institute for Computational and Experimental Research in Mathematics (ICERM)
February 2017

Introduction:

The Institute for Computational and Experimental Mathematics (ICERM) is one of several national mathematics research institutes funded by the National Science Foundation (NSF) and the only one in New England. The institute brings together nearly 1,000 international scholars annually to Brown University for its mathematical research conferences that explore topics such as cybersecurity, climate modeling, data science, and the challenges of exascale computing. These programs are selected and developed by the ICERM boards and its directorate, and logistically supported by a core group of administrative staff.

It is important to note that ICERM is not a typical Brown University academic or administrative department; it does not have students, grant degrees, or have faculty in-residence. Rather, the institute operates as an international conference center, bringing researchers (early-career to senior faculty) to Brown University for week-long to semester-length research programs.

A basic culture of diversity and inclusivity has been in place since ICERM's inception in 2010. For example, ICERM supports the NSF's goals of expanding the numbers and diversity of individuals engaged in mathematical sciences. We actively seek the participation of women and underrepresented minorities in ICERM's governing bodies and in all scientific programs, workshops and events. Specifically, the directorate team is proactive by working closely with the Scientific Advisory Board and program organizing committees to increase diversity among participants.

ICERM is pleased to expand its efforts regarding diversity and inclusion using the action plans established by Brown University's Office of Institutional Diversity and Inclusion.

How this plan was developed:

During the summer of 2016, we engaged the directorate and staff in a discussion about Brown's DDIAP goals. From there, we recruited volunteers to serve on ICERM's DDIAP working group: Brendan Hassett (Director), Ruth Crane (Assistant Director), Juliet Duyster (Finance and Administration Manager), Heather Forand (Program Coordinator), and Ulrica Wilson (Associate Director of Diversity and Outreach). Note that Heather Forand is no longer at ICERM; her position on this committee was replaced by Teresa Fitzsenry, also a Program Coordinator.

The DDIAP committee met in July 2016 and again in February 2017. ICERM directors, managers and staff were subsequently updated on the progress of ICERM's DDIAP plan during the institute's monthly "all hands" staff meetings. Finally, ICERM's DDIAP plan will be shared with ICERM's three boards during their 2017 annual meetings.

Identified strengths and existing resources related to diversity and inclusion, PRIOR to DDIAP plan:

For our *scientific programs*, resources related to diversity and inclusion have grown to include the following efforts:

- ❖ ICERM seeks opportunities to recruit, support and showcase mathematicians from diverse groups, especially women and underrepresented minorities. It does so, in part, through the Mathematics Institutes Diversity Committee (MIDC)—a formal partnership with the other NSF mathematical sciences institutes. The MIDC hosts regular national events that address the underrepresentation of women and minorities in the mathematical sciences. These events include the biennial Blackwell-Tapia Conference and Award Ceremony, the Modern Mathematics Workshop, Spring Opportunities for Women and Infinite Possibilities Conferences. In addition to our partnership with the other mathematics institutes, ICERM hosted the Conference for African American Researchers in the Mathematical Sciences and several workshops sponsored by the Association for Women in Mathematics and the National Alliance for Building Faculty Diversity in the Mathematical Sciences. We actively recruit participants by attending and advertising at a wide range of conferences such as the Joint Mathematics Meetings, MAA Mathfest, Field of Dreams, Nebraska Conference for Undergraduate Women in Mathematics, SIAM meetings, and the Underrepresented Students in Topology and Algebra Research Symposium.
- ❖ ICERM hired Ulrica Wilson, an Associate Professor of Mathematics at Morehouse College, as ICERM's first Associate Director of Diversity and Outreach in 2013. In this role, Dr. Wilson provides leadership in meeting institutional diversity goals; she serves as ex officio on the three ICERM boards, ensures diversity throughout ICERM's programs by helping to recruit potential program organizers and search databases and other resources for potential applicants or invitees to ICERM programs, assists in the development of policies and procedures, participates in national mathematics meetings and conferences, and helps to identify and obtain funding for programs and activities related to diversity. Dr. Wilson serves on the NSF Mathematics Institutes Diversity Committee and currently acts as its co-chair. She is also a member of ICERM's DDIAP committee.

- ❖ ICERM has a page dedicated to program diversity on its website: <https://icerm.brown.edu/diversity/>. It lists all the institute's past, current and future activities related to diversity as well as resources that support diversity and inclusion in mathematics. ICERM is also part of the NSF Mathematics Institute website that features a diversity page: <https://mathinstitutes.org/diversity/>.
- ❖ ICERM has developed, through outside funding, GirlsGetMath@ICERM, an outreach program for high-school girls that seeks to motivate young women to consider careers in mathematics, computation, and quantitative fields. ICERM believes that this extraordinary program can and should be replicated on a national basis and is launching a fundraising campaign this fall. Sufficient funding will enable the institute to “franchise” the program, providing a variety of lecture topics, interactive scientific materials, and computer-lab exercises. A train-the-trainer component is also in the works, as is the potential for creating an application process for start-up seed grants. For more details, see: <https://icerm.brown.edu/girlsgetmath/donate/>.
- ❖ ICERM works to engage the RI community through its public lecture series. Three-to-four lectures are held annually on campus, and have included topics like “The Mathematics of Crime”, “The Mathematics of Cooking” (in partnership with Johnson & Wales University), “The Mathematics of Origami” (in partnership with the Rhode Island School of Design), “Lotteries and Geometries” (co-hosted with Applied Mathematics), “Inverse Problems and Harry Potter’s Cloak”, and many more. Usually held at Brown’s Salomon Center, these events can attract as many as 500 people. For more public lecture details, see: https://icerm.brown.edu/program_archive/#events
- ❖ ICERM sends diversity awareness guides to all semester program and workshop organizers to ensure women and underrepresented minorities are included on program invitation lists. ICERM directors review the proposed lists to ensure women and underrepresented minorities are included, and work in collaboration with every organizing committee to set final, inclusive lists.
- ❖ ICERM states its commitment to diversity on all informational, promotional and employment opportunity materials with the following statement: *ICERM encourages women and members of underrepresented minorities to apply.* It broadly advertises its scientific activities and follows the recommendations of Brown’s Human Resources when posting staff positions that are categorized as underutilized.

- ❖ ICERM has a robust mentoring and professional development program for its early career researchers. The latter program is open to graduate students and postdocs from Brown's Math and Applied Math departments, and covers topics such as Ethics in Research, Job Applications in Academia, Hiring Processes, etc. See <https://icerm.brown.edu/pds/> for more details.
- ❖ ICERM encourages members of Brown's Rose Whelan Society to hold their meetings at the institute, inviting ICERM participants to become involved, meet their peers, and network. (The Rose Whelan Society is a group aimed at creating community among women graduate students, postdocs and faculty in Mathematics and Applied Mathematics at Brown.)
- ❖ The NSF requires that ICERM report annually on the self-reported gender and race/ethnicity of the institute's funded participants. ICERM's directorate and management team recently spent significant time crafting how this information is requested on its application page and on its exit surveys. Examples below (*note: the gender and race/ethnicity choices are dictated by NSF reporting guidelines*):

Why ICERM asks for demographic information: *ICERM receives support from the National Science Foundation (NSF), which is an agency of the Federal Government. The Federal Government has a continuing commitment to monitor the operation of its grant and award processes to identify and address any inequities based on gender, race, ethnicity or disability.*

Your voluntary responses to the following demographic questions are made available to ICERM and reported only in aggregate. *They are not linked to your other survey responses. This data allows us to measure our objective to ensure the participation of a representative sample of the population, hence it is important to get this information from everyone.*

Please tell us your gender:

- *Male*
- *Female*
- *Decline to Respond*

Please tell us your race/ethnicity, checking all that apply:

- *American Indian or Alaskan Native*
- *Asian*
- *Black or African American*

- *Hispanic or Latino*
- *Native Hawaiian or Other Pacific Islander*
- *White*
- *Decline to Respond*

ICERM tracks the following information for its required annual NSF report:

| <i>All ICERM funded and non-ICERM funded participants* from 2010-2016:</i> | | | | | | | | |
|---|-------|--------|--------------------|-----------------|-------|-------|----------|-----------------------|
| Program Type | Total | Female | # Reporting Gender | American Indian | Asian | Black | Hispanic | # Reporting Ethnicity |
| Visitors attending semester-long research programs | 3176 | 537 | 2327 | 17 | 577 | 11 | 70 | 1860 (58%) |
| Visitors attending week-long topical workshops | 691 | 111 | 518 | 0 | 117 | 4 | 17 | 400 (58%) |
| Visitors attending 8-week summer undergrad research programs | 66 | 13 | 36 | 0 | 7 | 0 | 1 | 34 (51%) |
| Visitors attending week-long summer early career research programs | 62 | 14 | 44 | 1 | 7 | 1 | 5 | 40 (64%) |
| TOTAL | 3995 | 675 | 2925 | 18 | 708 | 16 | 93 | 2334 (58%) |

| | | | | | | | | |
|------------------|--|-----|--|------|-----|------|----|--|
| % of # Reporting | | 23% | | 0.8% | 30% | 0.7% | 4% | |
|------------------|--|-----|--|------|-----|------|----|--|

**Includes ICERM postdocs.*

- ❖ ICERM carefully reviews every program’s exit survey during weekly Director/Manager meetings and quickly responds to concerns or comments about the participation of women and minorities.
- ❖ ICERM works to build relationships with academic institutions that serve large minority populations such as Howard University and Morehouse College; for example, to recruit undergraduates to participate in ICERM’s summer undergraduate research program.

For ICERM’s *staffing*, resources related to diversity and inclusion have grown to include the following efforts:

- ❖ ICERM follows the recommendations of Brown’s Human Resources Department by using targeted ad placements when positions are identified as being underutilized.
- ❖ ICERM creates staff awareness of Brown support services such as the Brown shuttle, SEAS, Title IX support, and other resources (as recommended by HR and/or as needed).
- ❖ ICERM’s staff management team have (or soon will have) completed Brown’s “Leadership Certification Program,” which includes an elective module on Diversity, EEO/AA/Inclusion for Growth, among other things.
- ❖ ICERM ensures its staff interview process utilizes standard questions and consistent interview groups so that every candidate is assessed as fairly as possible.

The grid below shows the gender and race/ethnicity breakdown of ICERM’s directorate, board membership and workforce since its inception in 2010 through 2016.

| <i>ICERM Directorate, Boards and Staff from 2010-2016:</i> | | | | | | |
|---|-------|--------|-----------------|-------|-------|----------|
| Staff Type | Total | Female | American Indian | Asian | Black | Hispanic |
| Directorate | 12 | 3 | 0 | 1 | 1 | 0 |

| | | | | | | |
|--------------|-----------|-----------|----------|----------|----------|----------|
| Boards (3) | 59 | 19 | 0 | 4 | 1 | 1 |
| Staff | 16 | 11 | 0 | 0 | 1 | 0 |
| TOTAL | 87 | 33 | 0 | 5 | 3 | 1 |

DDIAP plan: identified areas for improvement/expansion of diversity and inclusion efforts: In general, ICERM’s effort to ensure participation of women and underrepresented minorities in its scientific programs has been formalized and applied. Still, there are opportunities for improvement, especially when it comes to staff diversity and inclusion efforts. The following recommendations were made by ICERM’s DDIAP committee in December 2016:

- ❖ ICERM will develop a list of publications and online sites that could expand the reach of its ad placements (for scientific programs and postdoctoral positions) to a more diverse audience. Currently, ICERM’s scientific programs, events and positions are marketed through a variety of outlets: its website, dedicated Facebook page and Twitter account, targeted blast emails, posters mailed to purchased targeted university and college lists, placement of advertisements in mathematical journals and newsletters, directorate participation in conferences and exhibits, upcoming program fliers and announcements provided to all ICERM participants, and various on-line math organization calendars (SIAM, AMS, European Mathematical Society, National Math Institutes, and Conference Service Mandl, etc.).

Ulrica Wilson and **Ruth Crane** are the leads. Since December, they researched and found the following additional advertising/marketing resources to better target women and underrepresented minorities.

- *The National Association of Mathematicians* (NAM) newsletter and website, whose mission is to promote excellence in the mathematical sciences and promoting the mathematical development of underrepresented American minorities.
- *Society for Advancement of Chicanos/Hispanics and Native Americans in Science* (SACNAS) website, an organization dedicated to fostering the success of Chicano/Hispanic and Native American scientists, from college students to professionals, in attaining advanced degrees, careers, and positions of leadership in STEM
- *Association for Women in Mathematics* (AWM) website and newsletter, whose mission is to encourage women and girls to study and to have active careers

in the mathematical sciences, and to promote equal opportunity and the equal treatment of women and girls in the mathematical sciences.

- *The Math Alliance*, website and newsletter, whose mission is we want to be sure that every underrepresented or underserved American student with the talent and the ambition has the opportunity to earn a doctoral degree in a mathematical science
- *Committee for Women in Mathematics* (networking website), whose mission is to provide information for and about women in mathematics worldwide.

In the cases where programs can be listed on-line at no cost, ICERM will submit their upcoming programs and events. For those marketing opportunities that require a fee, the ICERM directorate will guide decisions related to where ICERM can get the most bang for the buck.

In addition, ICERM will continue to support the goals set by the NSF Math Institutes diversity committee by participating in the following math conferences that specifically target women and underrepresented minorities:

- Field of Dreams
- Nebraska Conference for Undergraduate Women in Mathematics
- Modern Math Workshop/SACNAS annual meeting
- Blackwell-Tapia Conference and Award Ceremony
- Conference for African-American Researchers in the Mathematical Sciences (CAARMS)

Tracking results: ICERM participants self-report their gender and race/ethnicity when applying to attend ICERM programs. Therefore, the institute should be able to compare gender and race/ethnicity data from past years to the data collected after additional venues are used for marketing ICERM programs. Diversity recruiting data will be reviewed for effectiveness every year, starting in late spring/early summer 2017, when ICERM submits its annual report to the NSF.

- ❖ ICERM will cast a broader net when marketing and placing ads for its *staff positions*. ICERM will work with Brown's Human Resources Department for advice on where to most effectively place ads for underutilized positions. ICERM identified some additional job placement resources, including: WorkplaceDiversity.com (which reaches Latino, Military Veteran, Female, Asian American, African American or LGBT communities), as well as college and university career services sites.

Juliet Duyster is ICERM's HR Coordinator and is the point person for employment listings. She will follow the advertising advice from HR whenever they identify a position as underutilized.

Tracking results: Diversity recruiting data will be reviewed for effectiveness every year, starting in late spring/early summer 2017, when ICERM submits its annual report to the NSF.

- ❖ To help ICERM staff feel well-informed and to help manage their expectations, ICERM will formalize a staff orientation to include written policies and procedures for new hires which will be reviewed with their hiring manager. This will include information about Brown's Title IX policies, support services that Brown provides such as the Brown shuttle, SEAS, etc., and details about the Brown and ICERM's DDIAP plans.

Ruth Crane is the lead on this project. She convened several meetings in late 2016 and early 2017 with the ICERM managers. Together, they developed an ICERM-specific on/off-boarding and orientation checklist, as well as a staff policy and procedures document. These documents are being reviewed by the directorate and staff, and should be in place by April 1, 2017. All new hires will review, with their supervisor, the on-boarding checklist and the staff policy document during their first week at the institute. The content of the documents themselves will be reviewed at the end of every fiscal year and, if updated, shared with staff during a regular monthly "all hands" staff meeting.

Tracking results: The roll-out of the checklist and staff policies will be completed by March 2017. The committee will check Brown University's regularly scheduled staff climate survey to watch for fluctuations in how ICERM staff feel regarding being treated with respect, if they feel they are valued members of the department, and whether or not they feel they are free to express their views and opinions.

- ❖ ICERM will inform its boards about the institute's DDIAP plan.

Brendan Hassett is the lead and will ensure a review of the institute's DDIAP is on the agenda during annual board meetings; the Education Advisory Board meets in September, the Scientific Advisory Board meets in November, and the Board of Trustees meets in May.

Tracking results: Any suggestions the ICERM boards make to improve the institute's DDIAP will be considered. Unless there are drastic changes to the institute's DDIAP, it will be reviewed by the boards every odd annual meeting year, starting in 2017.

- ❖ ICERM currently sends diversity awareness guides to all semester program and workshop organizers to ensure women and underrepresented minorities are included on program invitation lists. ICERM will create diversity awareness much earlier in the program planning by updating its program *proposal submission* process and adjusting the guidelines to include language about the importance of the organizers' role in helping to recruit a diverse pool of participants. A preliminary invitation list will be made a part of the proposal requirement and will help guide further discussions and recommendations among the directorate and the Scientific Advisory Board (SAB) before any proposal is approved.

Ruth Crane and **Ulrica Wilson** are the leads on this project. They drafted the organizer guideline language and it was reviewed during a regular director/manager meeting in February:

Your workshop was approved with the understanding that all of the organizers will be in residence during the program.

ICERM's experimental and computational missions often lead to activities with a broader scope than many workshops. Therefore, your planned activities should range from the theoretical to the application-oriented and cut across mathematical specialities, as well as include significant computational or experimental aspects. *Also please keep in mind our expectation that no more than 1/3 of the invited speakers will come from outside the US, and we encourage you to include a significant number of women and underrepresented minorities among the invited speakers.*

Tracking results: ICERM's Scientific Advisory Committee (SAB) will formally roll-out and adhere to the updated proposal guidelines/language after its mid-year conference call in May 2017. ICERM will work with the SAB and program organizers to ensure that every invitation list includes women and underrepresented minorities. ICERM will also watch to see if the gender and ethnicity data (collected and reported annually for the NSF) has increased starting with the 2017-2018 reporting cycle.

- ❖ ICERM will formalize its orientation and training for ICERM's rotating directorate to ensure general awareness of Brown's policies and procedures, and a sensitivity to ICERM's DDIAP.

Brendan Hassett and **Ruth Crane** are the leads on this and will have an orientation in place when the directorate next rotates in either 2017 or 2018. A folder will be created on Dropbox specifically for Deputy Directors, and will include the "top-10" things these individuals need to know: program timelines, diversity goals for participant invite lists, staff policies and procedures, DDIAP plans, etc.). These documents will be reviewed and updated prior to the start of any new member of the directorate and made available to new hires.

Tracking results: We expect that the passing of the baton from one departing deputy director to another will go smoothly since job expectations and work guidelines will be a part of the orientation provided by the ICERM Director and Assistant Director.

- ❖ To increase "early career" awareness about opportunities at the institute and NSF math institutes in general, ICERM will work to develop relationships with the historically black and hispanic colleges and universities that grant degrees in Mathematics.

Ruth Crane and **Ulrica Wilson** will work with an ICERM student intern to develop a list of math department chairs from these schools, and will develop an annual communications plan that will help create awareness about ICERM programs and opportunities. This plan will be in place by July 2017.

Tracking results: ICERM will watch to see if the number of participants from historically black and hispanic colleges and universities has increased when it submits its annual NSF report in 2017-2018.

- ❖ ICERM will endeavor to attract a broader, more diverse audience for its outreach programs.

Ruth Crane is the lead for this. For its public lectures, ICERM will expand the neighborhoods where public lecture posters are posted (for example, develop a mailing list of local business that can put up posters in the neighborhoods beyond the East Side). For its GirlsGetMath high-school day camp, ICERM will create bilingual posters (as suggested by the Providence School District).

Tracking results: ICERM Public lectures are free but require a ticket, so increased ticket “sales” will gauge the success of the advertising for these events. As for GirlsGetMath, ICERM can gauge the success of the advertising for that program by seeing an increase in the number of applications received, by the expanding the list of high-schools the applicants come from, and the make-up of the participants themselves. This will be on-going and will start immediately.

- ❖ ICERM will begin reviewing programmatic and job posting language to ensure the pronouns “they”, “them”, and “their” are used intentionally to be inclusive of all gender identities.

Heather Forand was the original lead for this effort (she has since left the institute). As of this writing, ICERM’s job postings and programmatic language is gender neutral.

Tracking results: This will be on-going effort.

- ❖ ICERM has added diversity and inclusion slides (to include information about Title IX) to its professional development series for ICERM’s early career researchers.

Brendan Hassett is the lead and worked with Carly Klivans, ICERM’s Associate Director in charge of ICERM’s mentor and professional development programs. The new slides have been in place since February 2017.

Tracking results: Completed.

- ❖ ICERM will roll-out a new diversity mission statement, to be listed on several places on its website: <https://icerm.brown.edu/about/#>, <https://icerm.brown.edu/jobs/>, and <https://icerm.brown.edu/diversity/>.

The following is the statement created by ICERM’s DDIAP committee:

Since our inception in 2010, the Institute for Computational and Experimental Research in Mathematics (ICERM) has valued diversity and inclusion as part of our core values and our strategic goals. Embracing differences is essential to our success as a leading international mathematics research institute.

The entire ICERM DDIAP committee is the lead, and this diversity mission statement will be posted by mid-spring 2017.

Tracking results: Updates to website and job placement ads will be completed March 2017.

5. Collaborations:

- ❖ As mentioned in several sections above:
 - ICERM partners with the other NSF Mathematics Institutes and annually hosts or co-sponsors special events or conferences that target women and underrepresented minorities in the mathematical sciences
 - ICERM encourages members of Brown's Rose Whelan Society to hold their meetings at the institute, allowing ICERM participants to be included, meet their peers, and network.
 - ICERM works closely to share information about upcoming programs and events with the Applied Math and Mathematics departments, and frequently co-host events together. The early career researchers from both departments are invited to participate in all of ICERM's professional development programs. It is expected that the same courtesy will be extended to the nascent Data Science Initiative group.
 - ICERM works to engage the RI community through its public lecture series. ICERM will continue to seek opportunities to co-host public lectures with other Brown departments, as well as local universities and colleges.
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