



# IRIBE INITIATIVE FOR INCLUSION & DIVERSITY IN COMPUTING

**MCWIC** | MARYLAND CENTER FOR WOMEN IN COMPUTING

*Iribe Initiative for Inclusion and Diversity in Computing (I4C): [Web](#) / [Twitter](#) / [Facebook](#) / [Instagram](#)*  
*Maryland Center for Women in Computing (MCWIC): [Web](#) / [Twitter](#) / [Facebook](#)*

## 2019-2020 Report

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### 1. **Executive Summary**

The Iribe Initiative for Inclusion and Diversity in Computing (I4C) officially launched in April 2019 with the Maryland Center for Women in Computing (MCWIC) underneath this new umbrella Initiative, with additional staff lines created to expand programming to all dimensions of diversity and inclusion. In August 2019, the MCWIC website was rebranded as the [Iribe Initiative for Inclusion and Diversity in Computing](#).

I4C and MCWIC supported over 1,600 K-12 students and over 1,100 current UMD students during the June 2019 - May 2020 academic year. All events after March 15 were either cancelled or held virtually due to the pandemic.

19 corporate and community partners provide funding for the following programs:

- Over 700 current students attended our programs and events including the Inclusion Speaker Series, Penthouse Sweets affinity gatherings, and monthly socials.
- Over 150 students attended Diversity Conferences this year including: [Richard Tapia Celebration of Diversity in Computing](#), [Grace Hopper Celebration](#), [AfroTech](#), [BEYA STEM](#), [Wonder Women in Tech DC](#), and the [Google Women in Leadership Summit](#).
- Free 1:1 and Guided Study Session [Tutoring](#) for undergraduate students enrolled in CMSC 131, 132, 216, 250, 330 and 351 was offered and supported by 13-14 tutors each semester. Over 400 students engaged in 1,200+ tutoring sessions in the 2019-2020 school year.

- Over 150 computing undergraduate and graduate students participated in the peer mentoring program which included technical workshops, topics, and monthly meetings with upperclassmen mentors.
- Tech + Research in collaboration with Technica hosted 59 undergraduate women from all over the US to complete hands-on research experience with nine projects led by our faculty and graduate students.
- 31 [outreach ambassadors](#) supported ~30 activities that encouraged students from underrepresented populations to pursue computing careers and interests serving over 1,600 students over the last year.
- 15 specific ambassadors provided weekly after-school outreach programs at five Prince George's County Public Schools serving over 75 students each semester.
- 292 campers attended [2019 Summer Camps](#) through our programs including 4 new camps: Make your Own Wearables, AI4ALL, Intro to Computing, and JumpStart Computing as well as our returning camps CompSciConnect and Cyber Defense Training Camp .
- A [new initiative to recruit admitted women](#) into Computer Science launched with over 350 accepted women receiving a postcard to commit to attending UMD. 65 students attended the admitted women virtual open house sponsored by MCWIC.
- Diversity and Inclusion training and resources were shared widely with the CS department. An inclusive spotlight was added to the monthly newsletter and an inclusive moment was added to monthly Friday Faculty meetings.
- Monthly communications through the Diversity TL:DR were shared with all students in order to encourage a more inclusive climate.
- Mentoring, tutoring, and some outreach programs successfully moved into a virtual environment with the closure of UMD due to the pandemic.

## 2. Launch & Growth

The Iribe Initiative for Inclusion and Diversity in Computing was launched in April 2019 with a \$1 million gift from Brendan Iribe, University of Maryland alumnus and co-founder of the virtual reality company Oculus. The Initiative aims to increase diversity and foster a stronger environment of inclusion in the university's Department of Computer Science.

The Initiative serves as an umbrella over the Maryland Center for Women in Computing. Throughout the last year, many of our programs expanded and were rebranded underneath the new Initiative. The Maryland Center for Women in Computing still hosts events and spaces for students who identify as women but we have also expanded our efforts to serve all students who are from populations underrepresented in computing.

Under the new Initiative, we were able to hire two new full-time coordinators who assist in the expansion and development of programming. Dr. Jan Plane and Kate Atchison serve as the Director and Assistant Director of the Iribe Initiative for Inclusion and Diversity in Computing and the Maryland Center for Women in Computing, respectively.

***Some programs and events are supported and specific to the Maryland Center for Women in Computing. These programs are highlighted with three \*\*\*.***

### 3. **Iribe Initiative for Inclusion and Diversity and Computing Staff**

- Director: Dr. Jan Plane
- Assistant Director: Kate Atchison
- Retention Coordinator Veronica Sanchez (Amy Andrade Feb 2020)
- Outreach Coordinator: Charlotte Avery (Morgan Lanahan Feb 2020)
- Graduate Assistant: Kristina Kramarczuk (Jessica Brown March 2020)
- Graduate Intern: Oscar Avilez Marquina
- Office Undergraduate Student Worker: Utsa Santosh
- Undergraduate Research Student: Elana Katzen
- 31 Student Outreach Ambassadors throughout the academic year
- 19 I4C Tutors throughout the academic year
- 12 Summer 2019 Ambassadors

### 4. **K-12 Outreach**

[K-12 outreach](#) programs include summer camps, after-school outreach programs, workshops, STEM festivals, admitted student events, and weekend events.

Throughout the year, Ambassadors take our curriculum on the road to visit local organizations and schools (i.e. local Girl Scout troops) with a fun STEM activity. Activities last approximately 2 hours. STEM options include LEGO Mindstorm Robots, cryptology activities, and programming that provide an introduction to computing principles. Additional activities include high school recruiting events and local resource fairs.

Outreach efforts are primarily staffed by our Ambassadors. Funding for these programs is supported primarily through Brendan Iribe, AFCEA Bethesda, and MCWIC general funds.

*Key Stats:*

- ~30 Outreach Events
- Over 1,600 students reached
- 31 undergraduate students hired to support programs

#### ***Outreach Ambassadors***

Each year, undergraduate students are selected as ambassadors where students receive training on best practices for teaching and content and then apply these skills to our various outreach programs described below. 12 Teaching Ambassadors were hired full-time in the summer to support camps. At least 20 Outreach Ambassadors were hired during the school year to support ~100 hours of events throughout the semester. From Summer 2019-May 2020, 30 different ambassadors supported outreach efforts. (83% women, 18% underrepresented racial populations)

#### ***CompSciConnect\*\*\****

[Computer Science Connect](#) is a three-year camp designed to introduce middle school girls and boys from underrepresented populations to programming concepts using drag and drop programming, intro to Python, dynamic web pages, and basic virtual reality games. Campers learn

additional computer science topics including number theory, cybersecurity, logic puzzles, and computer use and safety. Since its inception in Summer 2012, over 400 students have participated in CompSciConnect. Undergraduate students serve as Teaching Ambassadors by leading campers through the curriculum and supporting them with school year projects. In Summer 2019, six different two-week sessions of camp were offered. Over 250 students and their parents attended the annual showcase in December. The annual Maryland Day presentations were cancelled due to the pandemic.

*Key Statistics:*

- 140 students in the summer camp
- ~100 students continuing each month during the school year
- 12 undergraduate Teaching Ambassadors in Summer 2019
- 6 two week sessions of CompSciConnect in Summer 2019

***AI4ALL***

In Summer 2019, I4C hosted its first AI4ALL Summer Camp. AI4ALL is a national program that seeks to increase diversity and inclusion within artificial intelligence by introducing high school students to the field. UMD AI4ALL welcomed 21 students to the program, all from underrepresented populations in computing in the surrounding geographic area. Throughout the three-week residential program, students were given a full college experience, including AI instruction in the Iribe Center, living and eating on campus, and exploring UMD. Nora Blasko served as our curriculum lead. Four faculty supported research projects within Artificial Intelligence and Machine Learning, all culminating in the AI4ALL Banquet. At the banquet, students were celebrated and presented their projects to family, friends, faculty and staff.

**Faculty Projects**

- Communicating with the Robot through Signing - Cornelia Fermuller
- Using GANs to Generate Realistic but New Images - Soheil Feizi
- Triwizard Competition - Yasser Shoukry
- Recognizing Object in Images - David Jacobs

***JumpStart Computing Summer Camp***

In Summer 2019, we expanded our JumpStart computing workshop into a full week-long summer camp. Elementary students participated in an interactive learning experience around computing, robotics, and cybersecurity. Computer science ambassadors led the camp in topics such as Python Art, Number Theory, Scratch, Cryptography, and Robotics over the course of this one-week camp. Throughout the summer, 67 students participated in JumpStart Computing across three one-week sessions.

***Intro to Computing***

In an effort to reach high school students who do not have prior computing experiences, we launched the Intro to Computing summer camp. Introduction to Computing Camp was a one-week camp in which students will learn the basics of Python. Students spent the week with our teaching ambassadors to explore the field of computing, through guest speakers, lab visits, and field trips. 28 students participated in Intro to Computing in Summer 2019.

### ***Cyber Defense Training Camp\*\*\****

The Cyber Defense Training Camp was held in July 2019. 28 students completed the advanced cyber defense curriculum. Throughout the one-week residential program, students were given a full college experience with cyber instruction, living on campus, and exploring UMD. Students also connected with MC2 and ACES faculty and staff.

### ***Make Your Own Wearables\*\*\****

In an effort to connect to applied computing and art principles, a new Make Your Own wearables camp was created to reach high school girls. Students spent the week with our teaching ambassadors learning with Arduino compatible Flora Boards, conductive thread, and fabric, and also exploring the field of computing, through guest speakers, lab visits, and field trips. 12 girls participated in this program in Summer 2019.

### ***After-School Outreach***

In a weekly after-school program, ambassadors provided programs in the nearby Prince George's County Public School System to introduce more students to computing through hands-on activities and real world problems. Much of the curriculum is adapted from CompSciConnect. In 2019, Lamont Elementary, College Park Academy, Mother Jones Elementary, and Langley Park Elementary continued their programs. We also created short commitments with Benjamin Tasker Middle School in Fall 2019 and Paint Branch Elementary in Spring 2020. The College Park Academy program continued through the pandemic, but the rest of the after-school programs were put on hold through the end of the Spring 2020 semester.

#### *Key Stats:*

- 5 PGCCPS after-school outreach programs per semester
- ~130 students served per semester
- 14 UMD undergraduate Outreach Ambassadors served 2-3 hours weekly each semester

### ***Elementary Workshop- JumpStart Computing***

In December 2019 we hosted the JumpStart Computing Elementary Workshop. 55 students participated in this program. During the workshop, students rotated between activities on Scratch, cryptography, number theory, and introductory Python Art. Outreach Ambassadors lead the curriculum. The Spring workshop was cancelled due to the pandemic.

### ***Girl Scouts\*\*\****

We partnered with the Girl Scouts of the Nation's Capital Region to host robotic workshops for Brownie and Junior Girl Scouts two times per semester. Two to three sessions of the workshops were held each day with ~30 students served in each session. In 2019-2020, workshops were held in October 2019, November 2019, and February 2020. The March 2020 workshop was cancelled due to the pandemic. Two smaller troop based events were held in the Spring including one virtual program. 265 Girl Scouts in the local area were impacted by this effort. We are currently developing curriculum to support the Girl Scouts across multiple levels to complete computing based badges such as Cybersecurity and Coding For Good.

### ***Girls Who Code- University of Maryland Chapter\*\*\****

Led by three undergraduate women in computer science and 15 other volunteers, over 90 girls in grades 6-12 met weekly and learned coding fundamentals while also building a strong community of computing women. The students were divided into two classes based on experience due to the large number of participants and volunteers.

### ***Reboot Representation Rise-Up 4 CS\*\*\****

In 2019-2020 in partnership with University of Michigan and Reboot Representation, we launched the Project RiseUp4CS with over 25 women from the surrounding area. This program supported underrepresented women in passing the Advanced Placement (AP) Computer Science A exam through weekly webinars and 1:1 tutoring sessions with undergraduate tutors here at UMD.

### ***High School Recruiting Workshop- Ladies Navigate Computer Science\*\*\****

In 2019, we hosted the third Ladies Navigate Computer Science recruiting event to engage current high school juniors and seniors to learn about the University of Maryland Computer Science program, computing research, and computing careers. 42 high school women attended.

### ***NCWIT Aspirations\*\*\****

The Maryland Center for Women in Computing serves on the NCWIT Maryland Affiliate Team. Each year we promote, recruit, review applications, and host the NCWIT Aspirations in Computing Award Ceremony to honor Maryland young women and their work in computing. In 2020, 95 students and educators were recognized for their efforts. The award ceremony was hosted virtually in May with over 300 people viewing the live stream. Additional outreach support is given through the Aspire IT grant program. We currently support high school student-run programs run by students at Montgomery Blair and Wootton High Schools. These programs support current high school girls to run after-school programs that teach computer programming.

### ***Admitted Women Recruitment\*\*\****

In order to better admit and recruit women into the computer science major, a new initiative to target admitted women into Computer Science launched in Spring 2020. All 350 women who were admitted into Computer Science at the University of Maryland received a postcard to invite them to an open house on campus. Due to the pandemic, this event was held virtually. 65 students attended the admitted student open house.

## **5. Current Students**

Throughout the year, the Iribe Initiative for Inclusion and Diversity in Computing (I4C) offers a wide array of professional development, community building, and tutoring support for our current students. More than 1,110 current students were impacted by our programs over the last academic year.

### ***Tutoring Program***

I4C tutoring is offered each semester for CMSC 131, 132, 216, 250, 330, and 351 from the second week of the semester to the end of the semester. Undergraduate tutors offer both 1:1 tutoring and specific guided study sessions. Each semester 12-14 students are hired as tutors (19 unique tutors). In 2019-2020, over 400 students benefited from the tutoring program during the academic year with more than 1,200 tutoring sessions completed.

### *Key Stats for 2019-2020*

- 13 undergraduate tutors in Fall 2019
- 14 undergraduate tutors in Spring 2020
- 12 Guided Study Sessions offered each academic week
- Over 50 hours of 1:1 tutoring offered each academic week
- 608 one-on-one 1 tutoring appointments
- 620 students in guided study sessions

### ***Peer Mentoring***

In Fall 2019, we expanded the peer mentoring program to all computer science students. Over 130 students expressed interest in the program. Students were paired with mentors based on preferences (experience, identity, etc.). Large group meetings on professional development topics such as academic success, networking, and imposter syndrome were held monthly with alumni panels occurring. Each meeting was followed by a hands on technical workshop. 60 students participated in the Spring session. The Peer Mentoring team was led by Andrew Lambath and an undergraduate leadership team.

### ***Student Advisory Board (SAB)***

A student advisory board was created in February 2019 to create a space for students to share feedback, concerns, and advice to help make the UMD Computer Science Department more inclusive and to shape programming and resources to provide for the community. The SAB is supported by I4C full-time staff and a member of the Undergraduate Advising Office. Over the last year, students advocated for computing students, supported outreach events and awareness events, and shared ideas. In May 2020, a formal structure and subcommittee structure was established. A student chair and three vice chairs will help lead the SAB.

### ***DICE Lounge***

In April 2019, the Maryland Center for Women in Computing Lounge was officially re-branded as the Diversity in Computing Education Lounge. Tutoring, corporate events, and many socials are held in this space on the first floor of the Iribe Center. This space provides an inclusive space for students to gather, study, and build community.

### **Diversity and Inclusion Newsletter**

In order to increase awareness around diversity and inclusion issues, a Diversity and Inclusion spotlight is sent out each month to all 4,000+ undergraduate and graduate students. Each month features an affinity group spotlight as well as the DICE Roll-up Tip. You can view the 2019-2020 newsletters below.

- [September](#): Latinx Students
- [October](#): Students with Disabilities
- [November](#): Native American Students
- [December](#): First-Generation Students
- [February](#): Black College Students
- [March](#): Women Students
- [April](#): LGBTQ+ Students
- [May](#): Year in Review

### ***Diversity Conference Support***

With funding support from BRAID, Cisco, and the Iribe Initiative for Inclusion and Diversity in Computing, we sent more than 160 students and 12 faculty and staff to Diversity Conferences last year. Students who receive scholarships attended orientation as well as conference preparation workshops. Students attended Richard Tapia Celebration of Diversity in Computing, Grace Hopper Celebration, AfroTech, BEYA STEM Conference, and the Google Women in Leadership Summit. They gained valuable connections, resources, career opportunities, and advice.

*\*Students were scheduled to attend: NSBE, Women in Cybersecurity, WonderWomen in Tech, and Black ComputerHER, but these events were cancelled or moved to a virtual space.*

### Key Stats for 2019-2020

- [Richard Tapia Celebration of Diversity in Computing](#)
  - September 2019- Dallas, Texas
  - 21 students, 4 faculty and staff members
- [Grace Hopper Celebration](#)
  - October 2019, Orlando, Florida
  - 78 students, 6 faculty and staff members
- [AfroTech](#)
  - November 2019
  - 16 students, 2 staff members
- Google Women Leadership Summit
  - October 2019, Washington DC
  - 35 students, 1 staff
- [BEYA STEM Conference](#)
  - February 2020, Washington DC
  - 8 students (Additional students and faculty attended through the [Center for Minorities and Science and Engineering](#))
- Additional Conferences - 6 students & 2 faculty staff

### ***Grace Hopper Celebration\*\*\*\****

With support from the BRAID initiative and additional sponsors, MCWIC fully funded 40 students to attend the [Grace Hopper Celebration in Orlando, Florida](#). In October 2019, I4C, MCWIC, and the department supported 46 students and 5 faculty/staff. The iSchool supported 10 students and one staff member. 22 students secured funding from outside sources. In total, 78 UMD students and six faculty and staff members attended the conference.

### **Diversity Celebration**

The [Iribe Initiative for Inclusion and Diversity in Computing](#) celebrated these students who attended diversity-based conferences in Fall 2019 at the Diversity in Computing Celebration. Student Attendees, Corporate Partners, and Faculty and Staff came together to share the positive experiences of students who attended these conferences.

[View the slideshow of students' experiences at these conferences here.](#)

## **Inclusion Speaker Series**

The Inclusion Speaker Series brings in diverse faculty members, researchers, and professionals to give technical talks about all areas of computing, giving our student body role models in the field. In 2019-2020, we hosted three Inclusion Speaker with 70 students:

- Dr. Darsana Josyula, March 2020
  - Professor of Computer Science, Bowie State University
  - UMD CS '05
  - Towards self-learning, self-correcting explainable systems
- Niles Pyelshak, December 2019
  - Service Deployment Manager in Cloud Cybersecurity at Cisco.
  - Security in Data Utilization
- Brandon Long, October 2019
  - Software Engineer from Appian
  - Intro to GitHub

## **Community Building Socials**

Each month we held community events to support creating space and awareness of unique inclusion issues for these students.

### **Fall 2019**

In Fall 2019, over 200 students participated in at least one of our Fall events.

- First Year Women Welcome into Computing\*\*\*
- Dessert & Dialogue: Latinx
- Grad Women Lunch
- Code: BLACK Cookie Decorating Social
- GHC Viewing Party
- Women Gathering of CMSC 330/351/320\*\*\*
- Dessert & Dialogue: LGBTQ
- Mason Jar Social
- Aspirations in Computing Review Session
- Lunch for LGBTQ+ Students
- Dessert & Dialogue: First-Gen
- Holiday Cookie Decorating w/ AWC
- Senior Send-Off\*\*\*

### **Spring 2020**

In Spring 2020, over 120 students participated in at least one of our Spring events including two virtual events. All in person events after Spring Break were cancelled due to the pandemic.

- Welcome to Computing
- Penthouse Sweets: Students of Color
- Grad Women Lunch
- Candy Gram Social
- LGBT+ Lunch
- Rainbow Bracelet Social
- DICE Cream Social (virtual)
- Senior Send-off (virtual)

## **Tech + Research: Welcoming Women to Computing Research\*\*\***

The Department of Computer Science at the University of Maryland and the Center for Women in Computing presented the second [Tech + Research: Welcoming Women to Computing Research](#), a three day research workshop geared towards engaging undergraduate women in computing. During this workshop, **59 students** came together and collaboratively worked together to use technology to solve pressing issues.

In collaboration with [Technica](#), the largest all-women hackathon in the nation, **59 students** participated in the Research track at Technica through nine hands-on research projects with faculty. Along with providing hands-on research experience in a dynamic hackathon setting, the weekend workshop included sessions introducing attendees to the basics of computer science research (CSR) and highlighting the exciting opportunities that come with pursuing a graduate degree in computer science. Students presented their projects as part of the demo session at Technica. Plans are underway to host a virtual experience in 2020. This project was funded through the National Science Foundation (NSF). Thank you to Dave Levin for leading the Computer Science Research Bootcamp. Thank you to the nine faculty leads and their graduate students for serving as mentors on the leading [research projects](#).

- Analyzing the Cost of Schema Evolution (Abadi)
- Augmented Reality Tools to Learn a Foreign Language (Zwicker)
- Game Development for the Flycycle Exercise Robot (Krieger)
- Property Based Testing in Python (Hicks)
- Smarter Shared Mobility (Tokekar)
- Understanding Generative Models on Complex Datasets (Feizi)
- User-centered Design of Technology For People With Dementia (Lazar)
- Virtual Try-On Systems (Lin)
- Visualizing Calling Context Tree (Bhatele)

You can view the full [Technica annual report here](#).

### ***Employer Spotlight & Employer Previews***

As part of our Corporate Partner's program, employer spotlights were added to our programming in 2019-2020. Advocate level supporters hosted week-long employer spotlights with 1:1 meetings, coffee chats, round table discussions, and workshops to support our students. Treats and swag were often sent to encourage students to learn more about the different organizations. Partner level supporters hosted smaller two hour events in the DICE lounge. In 2019-2020, we hosted 20 individual corporate events.

## **6. Research Efforts & Special Projects**

### **NCWIT Learning Circles**

Beginning in Spring 2019, the University of Maryland Computer Science Department was invited to participate in the National Center for Women in Technology (NCWIT) Learning Circles program. A task force of faculty and staff led by Kate Atchison was created to lead the NCWIT Learning Circles effort and complete a 360-degree view of our computer science undergraduate program. During this project, the Committee worked closely with the NCWIT Extension Services Consultant (ESC) and NCWIT social scientists. The ESC directly guided the Committee in using evidence-based practices and methods for recruiting and retaining women at the University of Maryland.

Bi-Weekly meetings occurred during the spring addressing topics such as data analysis, branding, climate issues, and recruitment and retention best practices.

- Beginning in Spring 2019, Collected five years of CS data on recruitment, enrollment, attrition, and graduation rates based on gender and race
- Participated in monthly learning circles with CASE Western and the University of South Florida
- Administered an entry-level survey for first semester students in CSMC 131 & 132
- Created a recruitment and retention action plan based off of self assessment and data

Recommendations from this effort included:

- Make diversity and inclusion efforts central and visible on the website
- [Incorporate and model inclusive practices in the CS Department](#)
- Formalized Teaching Assistant Training
- Direct recruitment of admitted students from underrepresented background

[Executive Summary Slides](#)

[NCWIT Learning Circles Recruitment and Retention Plan](#)

[NCWIT Learning Circles Recruitment and Retention Plan-Specific Programs and Initiatives](#)

### ***Faculty Diversity and Inclusion Training***

In October 2019, we presented at the Full Faculty Lunch with Dr. Carlton Green, Director of Training, UMD Office of Diversity and Inclusion. We previewed a program: [Engage the Turtle: Tools for Computing Advocacy](#). This program will officially launch in Fall 2020. Additional follow-up and training was provided through a Supporting Students with Anxiety Workshop and additional inclusive moments at monthly Full Faculty Lunches.

### ***Big Ten Academic Alliance - Women in STEM Summit\*\*\****

<https://www.pbs.org/video/santana-stem-1559917614/>

With support from the Provost's office, MCWIC participated in a four day workshop at Rutgers University where 10 of the Big Ten schools collaborated to share, compare, and brainstorm new ideas of how to recruit and retain more diverse populations into the STEM fields. The goal of the Summit was to work collaboratively to design new initiatives to increase equity in undergraduate, graduate and faculty ranks at the Big Ten universities. Since the workshop, we continued to meet virtually several times a month preparing a large program that will be run across the schools of the Big Ten conference supporting women of color in STEM and encouraging more inclusive recruiting and hiring practices.

### ***Maryland Center for Women in Computing 5th Anniversary***

In November 2014, the [Maryland Center for Women in Computing](#) officially launched. In November 2019, we celebrated five years of MCWIC supporting women in computing. Brendan Iribe joined us for the celebration after participating in the launch. Check out the article: [Maryland Center for Women in Computing Celebrates Five Years of Success](#) from UMIACS. You can view the slideshow highlighting the growth of [MCWIC here](#).

### ***CompSciConnect/Laboratory for Telecommunication Sciences***

MCWIC conducts research to evaluate its programs and to understand the effects of exposure and access to K-12 education in computing on underrepresented students' confidence to pursue STEM majors and careers. Through one-day workshop styled events, summer camps and after-school programs, pre- and post- surveys are collected from student participants. An initial analysis of surveys collected shows several trends in the lack of encouragement and exposure to computing that underrepresented middle school students receive and shows that our outreach efforts do have a positive impact on student confidence in the field of computing. Research will be submitted for consideration to several other conferences this year.

### **Maryland Center for Computing Education [MCCE]**

For many years, MCWIC has partnered with other programs improving the computing education K-12. This began with the CS Matters in Maryland Project, expanded to Jan Plane's chairing the statewide steering committee for computer science education and serving on the advisory board for the MCCE created as a USM center by Maryland state statute. The goal of the steering committee is to help develop policies through broad representation to improve education for computing at all levels. The MCCE's primary goal is in the preparation of teachers for computing across the grades and across the state. MCWIC partners with MCCE to ensure that diversity, inclusion, and equity are major considerations in those goals.

### **BRAID**

The BRAID initiative includes fifteen computer science departments across the U.S. including the **University of Maryland** that are committed to implementing changes to their introductory computer science courses, pathways into the major, departmental climate, and outreach efforts in hopes of diversifying their computer science majors. In return for funding, we provide data on the computer science department and our students. Updated research can be found [here](#).

## **7. Additional Department Diversity Efforts and Student Support**

In Fall 2019, the Diversity Committee expanded and worked to formalize their role in the department. The members were highlighted on the Iribe Initiative for Inclusion and Diversity website. Subcommittees were formed. A new UMD Computer Science diversity site is expected to launch in Summer 2020. The Committee has been active in collecting survey data from faculty, staff and students and aligning that survey data with the university's efforts in the same area. The committee is specifically looking at hiring practices and graduate student admission practices to better understand diversity and inclusion in these contexts as well as better connecting undergraduates to research opportunities as creating a system for incident reporting.

In collaboration with the CS Undergraduate Advising Team, new guidelines for CS Affiliated Student Orgs were created and launched to better support our student organizations. We co-hosted a student organization fair with over 20 organizations in attendance. The Iribe Initiative for Inclusion and Diversity in Computing specifically supports diversity based organizations: Girls

Who Code UMD, AWC, Technica, GradWomen in CS, and CodeBlack. Additional resources have been set aside to help start-up affinity based student organizations as needed.

In partnership with David Mount and with funding from the [NCWIT Learning Circles](#) program, we offered 5 sessions of TA Training for all undergraduate and graduate TAs in the department. TAs learned best practices while also participating in skits and scenarios. Additionally, an ELMS site was launched to continue sharing resources and training for TAs. Looking at the next academic year, the TA team is reviewing survey data, best practices, and feedback on how to grow and improve the TA process. TA Training is currently being expanded for Fall 2020.

## 8. In the News and Recognition

- Jacq Deprey, a May 2020 grad, I4C tutor, and Student Advisory Board member, was selected for the [Sally Sterling Byrd Award](#).
- Krithika Ramanathan, a May 2020 grad and MCWIC Lead Ambassador, was selected for a [Fulbright Scholar](#).
- Kate Atchison was selected as a [CMNS 2020 Dean's Outstanding Employee](#).
- Dr. Jan Plane and Senior, Jacqueline Deprey were featured in a Voices of America clip on the impact of our efforts and collaboration with [BRAID](#) and [AnitaB.org View the clip here](#).
- [What You Could Learn From a Weekend of Research](#)
- [MCWIC Celebrates 5 Year of Success](#)
- [Model, Coder Karlie Kloss to Speak at Technica](#)
- [CompSciConnect Alumnae share valedictorian status and come to UMD](#)
- [Powering the Future of AI with High School AI Summer Programs](#)

## 9a. Mission for Iribe Initiative for Inclusion and Diversity in Computing

The Iribe Initiative for Inclusion and Diversity in Computing (I4C) is committed to making computing a field that includes participation of individuals across the intersections of gender identification, race, ethnicity, socioeconomic status, sexual orientation, and disability status. We aim to create a vibrant, inclusive community of students, educators, and researchers coming together to increase the involvement—and success—of underrepresented populations interested in computing.

### Goals:

- Supports, educates, and mentors from underrepresented populations majoring in computing fields at the University of Maryland.
- Collaborates with the K-12 community in order to encourage all students, especially those from underrepresented populations to participate in computing.
- Sustains a vibrant community of scholars, researchers, students and educators working together to increase the involvement—and success—of those from underrepresented populations interested in earning a computer science and other technical degrees.

- Fosters a supportive, collaborative, and inclusive community for faculty, undergraduate and graduate students studying computing at the university.
- Advocate for underrepresented populations by increasing the awareness and skill set of those within the computer science community.

In the Iribe Initiative for Inclusion and Diversity in Computing, we base the foundation of our definition for “underrepresented populations in computing” on the National Science Foundation (NSF) statement below.

“Across the computing workforce at all levels, there is underrepresentation of various populations including women, minorities (African Americans/Blacks, Hispanic Americans, American Indians, Alaska Natives, Native Hawaiians, Native Pacific Islanders, and persons from economically disadvantaged backgrounds), and persons with disabilities.”

(<https://www.nsf.gov/pubs/2018/nsf18101/nsf18101.jsp>)

We also recognize and support underrepresented populations across the intersections of gender identification, race, ethnicity, socioeconomic status, sexual orientation, and disability status.

## **9b. Mission for Maryland Center for Women in Computing**

### **Mission:**

The Maryland Center for Women in Computing (MCWIC) works to increase diversity in all fields of computing by providing opportunities for individuals who identify as women to engage and contribute to the technical community through research, education, outreach, and partnerships. MCWIC envisions a vibrant community of scholars, researchers, students and others coming together to increase the involvement—and success—of all women interested in earning or currently pursuing a computing degree.

### **Goals:**

- Supports, educates and mentors who identify as women majoring in computing fields at the University of Maryland.
- Collaborates with the K-12 community in order to encourage all students, especially women to participate in computing.
- Sustains a vibrant community of scholars, researchers, students and educators working together to increase the involvement—and success—of those who identify as women interested in earning a computer science and other technical degrees.
- Fosters a supportive, collaborative, and inclusive community for faculty, undergraduate and graduate women studying computing at the university.
- Increase the awareness and the skill set of the computer science community in how to strengthen its advocacy for those that identify as women.

## 10. Supporters and Funding

### Fiscal Year 2020 Budget total:

#### Annual Budget Allocation

\$50,000- College of Mathematical and Natural Science

\$25,000- Dept of Computer Science

\$25,000- UMIACS (University of Maryland Institute for Advanced Computer Studies)

#### Additional Financial Support

- \$500,000 gift from Brendan Iribe to start the Initiative
- \$100,000 yearly from Brendan Iribe- 2017-2021 for MCWIC
- \$80,000 from AI4ALL National Organization for the AI4ALL Summer Camp
- \$25,000 yearly- AFCEA Bethesda- earmarked for Outreach/CompSciConnect
- \$40,000 yearly from NSA's research lab - Laboratory Telecommunication Science (LTS)- earmarked for research
- \$30,000 yearly from AnitaB through the Braid program.
- [Corporate Partner Support/Alumni Giving](#)- ~\$51,000 for 2019-2020
- Registration Fees for summer camps and workshops
- Various Gifts and Grants- [NCWIT](#), [CSMatters-NSE](#), and Reboot Representation

### 2019-2020 Corporate Sponsors

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