2020-2021 Review

IRIBE INITIATIVE FOR
INCLUSION & DIVERSITY
IN COMPUTING

MCWIC | MARYLAND CENTER FOR WOMEN IN COMPUTING

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inclusion.cs.umd.edu

The Iribe Initiative for Inclusion and Diversity in Computing 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.

STAFF

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DIRECTOR, I4C & MCWIC
PRINCIPAL LECTURER, COMPUTER SCIENCE

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ASSISTANT DIRECTOR

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COMMUNICATIONS LEAD BREAK THROUGH TECH DC

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OUTREACH COORDINATOR

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RETENTION COORDINATOR

CAITLIN RUDY

CAREER ACCESS LEAD, BREAK THROUGH TECH DC

KRISTINA KRAMARCZUK

GRADUATE ASSISTANT

SOFIA GONZALEZ PRIETO

GRADUATE ASSISTANT

2020-2021 SUPPORTERS

Brin Family Foundation

Brendan Iribe

Campus Support: College of Computer, Mathematical, and Natural Sciences | Department of Computer Science | UMIACS

PROGRAM PARTICIPATION

*MCWIC/I4C Program & Impact (*virtual events)*	*Fall 2015 – Summer 2016*	*Fall 2016 – Summer 2017*	*Fall 2017 – Summer 2018*	*Fall 2018 – Summer 2019*	*Fall 2019 – Summer 2020**	*Fall 2020 – Summer 2021**
K-12 Students	400	1000	1450	2100	1600	1800
Current Students	150	400	600	700	750	800
K-12 Events	22	34	36	46	35	210
Current Student Events	10	21	25	38	32	35
Total Campers	88	125	172	292	175	275
Total Camp Sessions	5	6	9	13	8	12
Total Participants in Peer Mentoring				85	140	80
Diversity Conferences Attendance	48	73	98	159	165	160
Total Number of Tutoring Sessions		165	180	900	1100	1000

2020-21 BY THE NUMBERS

24

Partners

Helped us reach 1500+ K-12 students and over 800+ current students. Over 85% of all students served are from underrepresented in computing

800+

Students

Attended our programs virtually including diversity conferences, tutoring, peer mentoring, and additional virtual events. 300+ joined our new virtual engagement spaces on Slack and ELMS

35

Outreach Ambassadors

Supported 210 activities that encouraged students from underrepresented populations to pursue computing careers and interests serving over 1,500 K-12 students, families, and educators

900+

Tutoring Sessions

Held by our 17 tutors through both Guided Study Sessions and 1:1 tutoring for 350+ current students

150+

Attendees

Professional conferences such as Afro Tech, BEYA STEM, Tapia, and the Grace Hopper Celebration, Celebration of Diversity in Computing, Wonder Women in Tech DC, and oSTEM

175

Campers

Participated in our virtual summer camp programming through AI4ALL, CompSciConnect, and Cyber Defense Camp

2020-2021 K-12 OUTREACH IMPACT

- CompSciConnect 2020: 130 students
- After-School Outreach (weekly virtual outreach): 127 elementary and middle school students
- Weekly High School Programing Workshops: 100+ students
- NCWIT Aspirations: ~90 local awardees
- Girls Who Code Club: 60 students each week
- 30 Different Girl Scout Workshops to 50+ different troops and individuals: 369 Girl Scouts

Total K-12 Students Impacted: ~1,500 students

SUMMER ACADEMY

2021 Projected Enrollment

50	Jumpstart to Computing
150	CompSciConnect
25	Cyber Defense
25	AI4ALL
25	Intro to Computing

RESEARCH TO INCREASE DIVERSITY

2021	2021	2020	2019	2018	2018	2018
First-generation undergraduate women and intersectional obstacles to pursuing post-baccalaureate computing degrees	**Going Virtual: Underrepresented Student Experiences in a Virtual Computing Camp**	**Increasing Confidence and Interest in STEM: Computing as a Pathway to Success**	**Building a Community of Undergraduate Ambassadors for Current Student Support and for Computing Outreach**	**Diversity in Computing: The Process to Understand Best Practices to Help Students from Underrepresented Populations Excel in Computer Science & Cybersecurity**	**Diversity in Computing: Strengthening the Pipeline for Female and Underrepresented Students to Excel in Computing**	**The Impact of Early Interventions on Middle School Girls' Confidence in Computing**
Paper, RESPECT	*Poster, AERA*	*Paper, SIGCSE*	*Lightning Talk, SIGCSE*	*Poster, SIGCSE*	*Poster, RESPECT*	*Poster, Tapia*

RESEARCH FOCUS

- Develop and implement summer camp and outreach programs
- Work closely with middle school students and support them as they transition into high school
- Evaluate outreach programs and modify based on research findings, when necessary

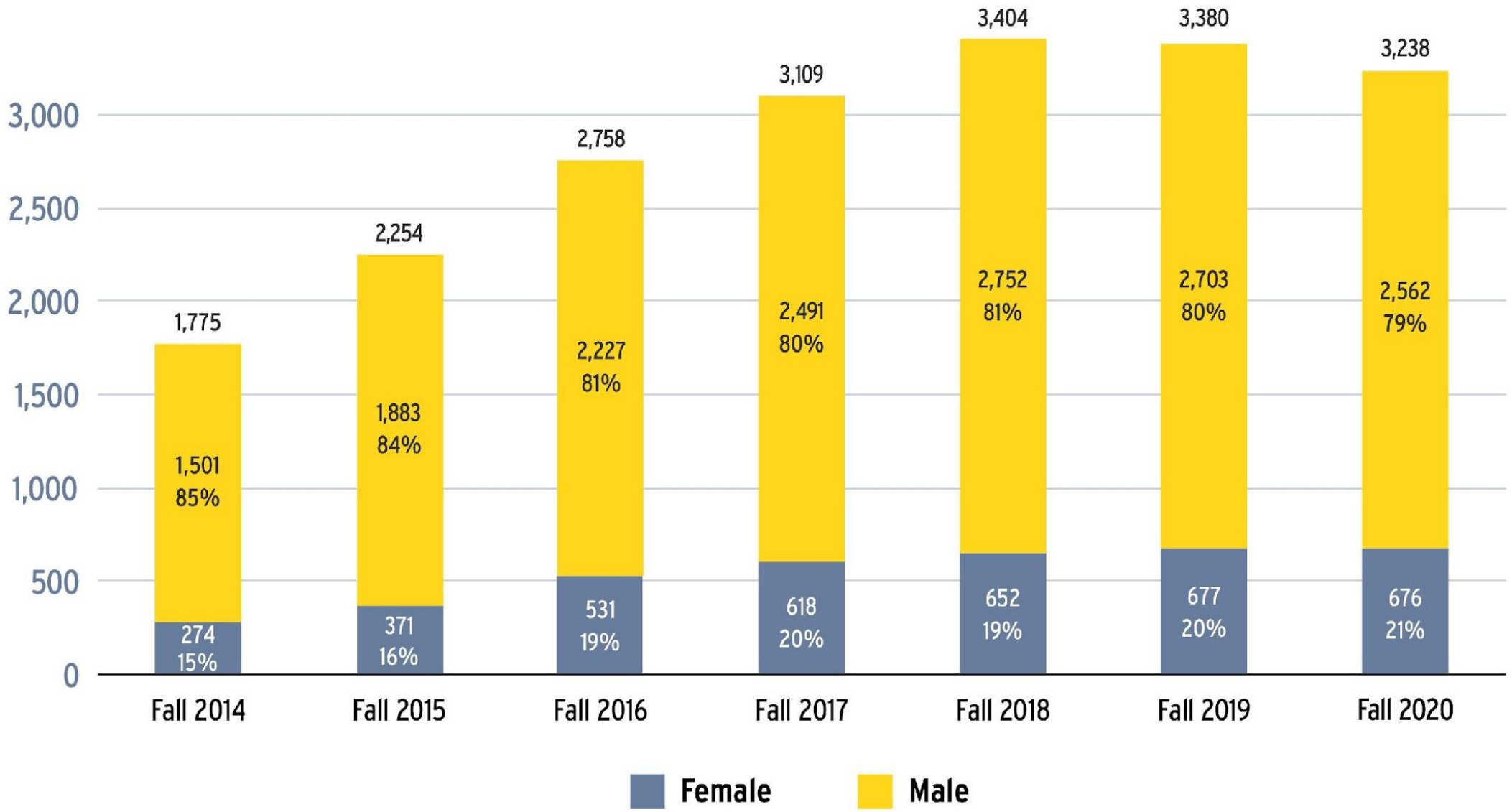
"MIDDLE SCHOOLERS ARE INDEED ALREADY THINKING ABOUT FUTURE CAREERS, THAT GENDERED MESSAGES INFLUENCE THEIR THINKING AND PLANNING, AND THAT GIRL-SERVING ORGANIZATIONS, OR GIRL ONLY "LEARNING EXPERIENCES" CAN POSITIVELY MITIGATE THOSE MESSAGES AND BROADEN GIRLS' CAREER CHOICES."

SHAPIRO ET AL. (2015)

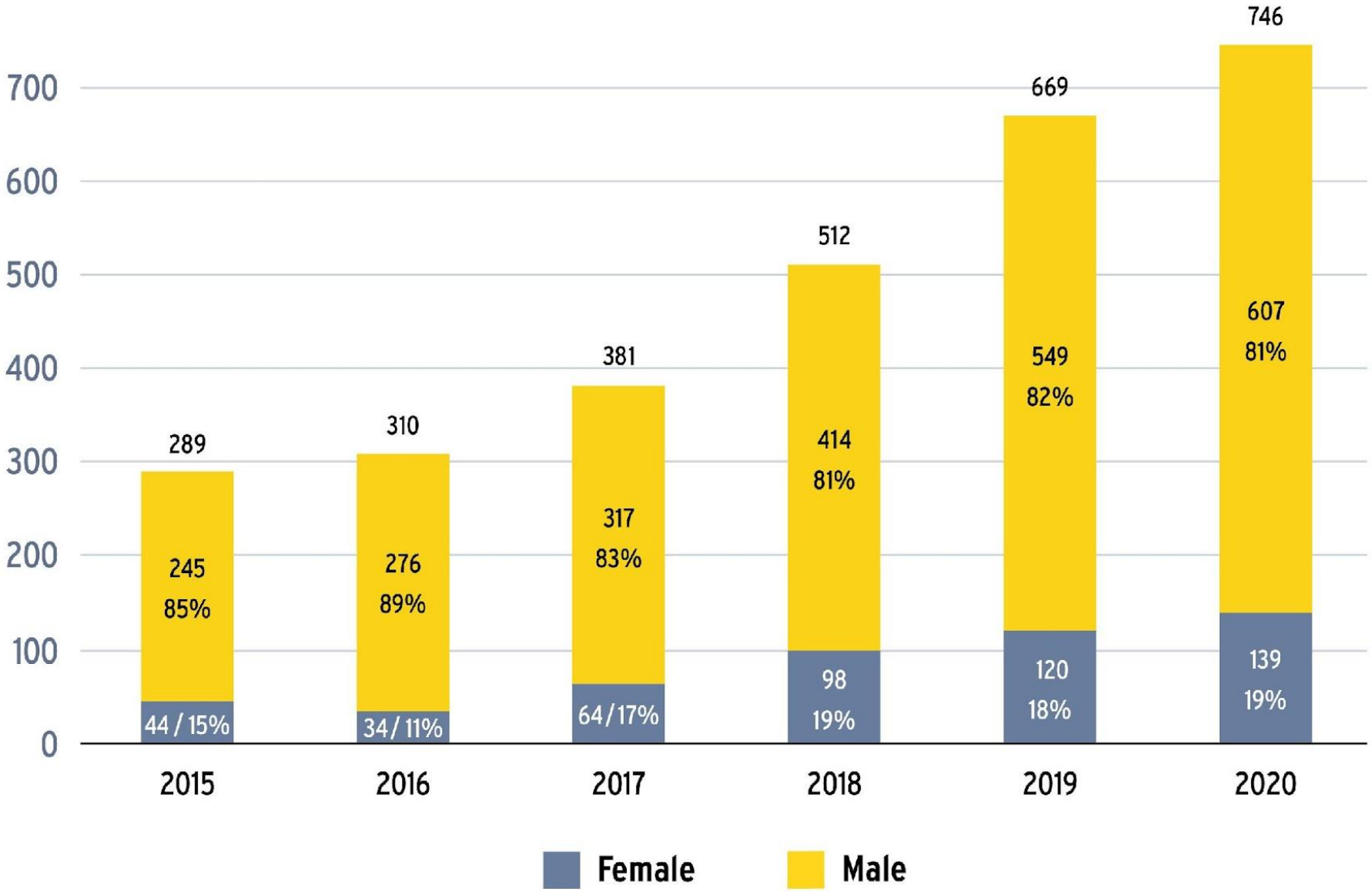
SUMMARY OF RESULTS

- Encouragement to pursue STEM fields and a student's confidence in their ability to succeed increases with age
- Camps are effective at giving students a positive perception of their abilities in STEM and their ability to complete a STEM degree in the short and long term
- Campers respond positively to inclusive learning environments (online and in-person) and value their experiences with the teaching ambassadors

ENROLLMENT OF CS MAJORS BY GENDER



CS BACHELOR'S DEGREES AWARDED BY GENDER



2020-2021 CURRENT STUDENT IMPACT

- **Tutoring:** 17 tutors supported over 350 students that scheduled over 1,000 tutoring sessions in CMSC 131, 132, 216, 250, 330, and 350
- **Tech + Research:** 75 undergraduate women from across the U.S. were given hands-on research experience with our faculty and graduate students
- **Peer Mentoring:** 65 students participated
- **DICE Lounge:** 200 students joined our virtual DICE Lounge on Slack
- **Diversity Conference Celebrations:** 150 CS students participated in conferences such as Richard Tapia Celebration of Diversity in Computing, Grace Hopper Celebration, AfroTech, BEYA STEM, Wonder Women in Tech DC, and oSTEM
- **Diversity TL:DR:** Entire student body receives monthly DEI newsletter with a monthly theme

MENTORING AND TUTORING

120+

Students and alumni participated in peer mentoring in AY 2020-2021

17

Tutors

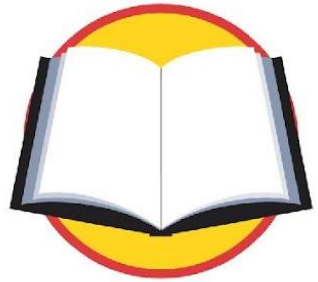
13-14

Tutors each semester

900+

Tutoring Sessions

Fall 2020-Spring 2021



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CMSC Courses Covered

CMSC 131
CMSC 132
CMSC 215
CMSC 250
CMSC 330
CMSC 351

ENCOURAGING UNDERGRADUATE RESEARCH

75

Tech + Research Participants In collaboration with

TECHNICA

14

Different faculty Led projects from Across UMD

MCWIC AND I4C OUTREACH AMBASSADORS

100+

MCWIC and I4C Outreach Ambassadors
(Summer 2013-Fall 2020)

90%
Women

90%
Retained in a Computing major

60%
Returned

SCHOLARSHIPS TO DIVERSITY CONFERENCES

150+ Students receive scholarships each year

600+ Students have attended since 2014

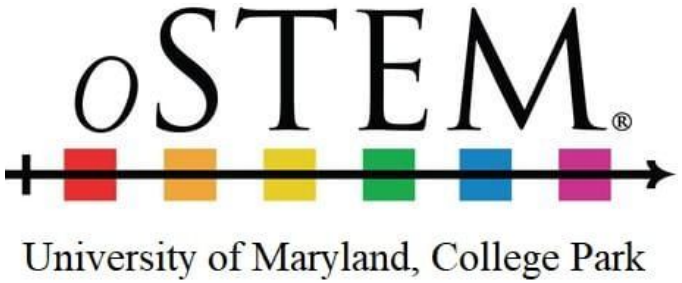
VIRTUAL GRACE HOPPER CELEBRATION ANITA B.ORG

WONDERWOMENTECH

AFROTECH

VIRTUAL
2020 ACM RICHARD TAPIA
CELEBRATION OF DIVERSITY IN COMPUTING CONFERENCE
INCLUSION DRIVES INNOVATION

SUPPORTING STUDENT ORGANIZATIONS



BREAK THROUGH TECH DC

Break Through Tech works at the intersection of academia and industry to propel more women and underrepresented communities into computing degrees and careers. Our goal is to achieve gender equality in tech.

Learn More: **breakthroughtech.umd.edu**

Connect with us: **go.umd.edu/ConnectBTT**

Break Through Tech DC Opportunities

BREAK THROUGH TECH DC

Guild

A **one-week program** where you can work in teams to solve a pressing social problem using technology

CS 125

A **first-level computing course** that teaches the fundamentals of programming — in a fun way.

Sprinternships

Immersive **3-week industry experiences** that jump-start your résumé and help you compete for summer internships

Community-building

Opportunities to meet, make friends with, and **develop a network** of like-minded DC women in tech

NCWIT LEARNING CIRCLES

360-degree view of our computer science undergraduate program

- Collected 5 years of data on computer science recruitment, enrollment, attrition, 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 on self assessment and data

DIVERSITY AND INCLUSION TRAINING

Faculty Awareness

- Incorporate into faculty meetings
- Connect to national and campus efforts
- Fearless Teaching: Faculty Inclusion Workshop Series

TA Training

- Skits and Scenario Practice
- Implicit Bias
- Campus Resources
- Creation of class concern reporting

DATA COLLECTION

- BRAID enrollment and degrees granted data
- NCWIT Tracking Tool
- Entry-Level Survey
- Data Buddies Member
- Department of CS–Diversity Reports
- Program assessment and impact

BRAID
Building Recruiting And Inclusion for Diversity

national center for women & INFORMATION TECHNOLOGY

JOIN THE PEER & ALUMNI MENTORING PROGRAM!

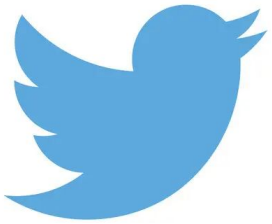
- Acceptance to the I4C Peer Mentoring Group in Terrapins Connect
- 1-on-1 mentor/mentee virtual relationships
- Monthly technical workshops and social events
- Resources on professional, social, and academic virtual events
- Opportunity to engage 1:1 with corporate partners and alumni through Terrapins Connect
- **Fall 2021 applications open in August**

CONNECT WITH US

Inclusion.cs.umd.edu
inclusion@cs.umd.edu

linkedin.com/company/i4cumd

@i4c_umd
@brkthroughumd



@iribeinitiative
@BrkThroughUMD

HOW YOU CAN HELP

- Host a Sprinternship in January 2022
- Give a Lightning Talk to our K-12 students
- Be a mentor to our current students
- Mentor a research project at the research hackathons
- Support I4C in diversity conference scholarships, programming, and student support

- Help us secure presenters for the inclusion speaker series and the Tech+X series
- Help us recruit companies to host Sprinternships increases in size

QUESTIONS?

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