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.
DR. JAN PLANE
DIRECTOR, I4C & MCWIC
PRINCIPAL LECTURER, COMPUTER SCIENCE

KATIE BEMB
COMMUNICATIONS LEAD
BREAK THROUGH TECH DC

CHARLOTTE AVERY
OUTREACH COORDINATOR

VERONICA SANCHEZ
RETENTION COORDINATOR

KATE ATCHISON
ASSISTANT DIRECTOR

CAITLIN RUDY
CAREER ACCESS LEAD,
BREAK THROUGH TECH DC

KRISTINA KRAMARCZUK
GRADUATE ASSISTANT

SOFIA GONZALEZ PRIETO
GRADUATE ASSISTANT
## PROGRAM PARTICIPATION

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>K-12 Students</td>
<td>400</td>
<td>1000</td>
<td>1450</td>
<td>2100</td>
<td>1600</td>
<td>1800</td>
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<td>Current Students</td>
<td>150</td>
<td>400</td>
<td>600</td>
<td>700</td>
<td>750</td>
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<td>K-12 Events</td>
<td>22</td>
<td>34</td>
<td>36</td>
<td>46</td>
<td>35</td>
<td>210</td>
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<tr>
<td>Current Student Events</td>
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<td>21</td>
<td>25</td>
<td>38</td>
<td>32</td>
<td>35</td>
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<tr>
<td>Total Campers</td>
<td>88</td>
<td>125</td>
<td>172</td>
<td>292</td>
<td>175</td>
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<tr>
<td>Total Camp Sessions</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>13</td>
<td>8</td>
<td>12</td>
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<tr>
<td>Total Participants in Peer Mentoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85</td>
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<td>Diversity Conferences Attendance</td>
<td>48</td>
<td>73</td>
<td>98</td>
<td>159</td>
<td>165</td>
<td>160</td>
</tr>
<tr>
<td>Total Number of Tutoring Sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1100</td>
<td>1000</td>
</tr>
</tbody>
</table>
## 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 Programming 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
2021 Projected Enrollment

<table>
<thead>
<tr>
<th>Program</th>
<th>Enrollment</th>
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<tbody>
<tr>
<td>Jumpstart to Computing</td>
<td>50</td>
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<tr>
<td>CompSciConnect</td>
<td>150</td>
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<tr>
<td>Cyber Defense</td>
<td>25</td>
</tr>
<tr>
<td>AI4ALL</td>
<td>25</td>
</tr>
<tr>
<td>Intro to Computing</td>
<td>25</td>
</tr>
<tr>
<td>Year</td>
<td>Title</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2021</td>
<td>First-generation undergraduate women and intersectional obstacles to pursuing post-baccalaureate computing degrees</td>
</tr>
<tr>
<td>2021</td>
<td>Going Virtual: Underrepresented Student Experiences in a Virtual Computing Camp</td>
</tr>
<tr>
<td>2020</td>
<td>Increasing Confidence and Interest in STEM: Computing as a Pathway to Success</td>
</tr>
<tr>
<td>2019</td>
<td>Building a Community of Undergraduate Ambassadors for Current Student Support and for Computing Outreach</td>
</tr>
<tr>
<td>2018</td>
<td>Diversity in Computing: Strengthening the Pipeline for Female and Underrepresented Students to Excel in Computing</td>
</tr>
<tr>
<td>2018</td>
<td>The Impact of Early Interventions on Middle School Girls’ Confidence in Computing</td>
</tr>
</tbody>
</table>
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
CS BACHELOR’S DEGREES AWARDED BY GENDER

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>2015</td>
<td>44/15%</td>
<td>245</td>
<td>289</td>
</tr>
<tr>
<td>2016</td>
<td>34/11%</td>
<td>276</td>
<td>310</td>
</tr>
<tr>
<td>2017</td>
<td>64/17%</td>
<td>317</td>
<td>381</td>
</tr>
<tr>
<td>2018</td>
<td>98/19%</td>
<td>414</td>
<td>512</td>
</tr>
<tr>
<td>2019</td>
<td>120/18%</td>
<td>549</td>
<td>669</td>
</tr>
<tr>
<td>2020</td>
<td>139/19%</td>
<td>607</td>
<td>746</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Category</th>
<th>Data Details</th>
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</thead>
<tbody>
<tr>
<td>Students and alumni</td>
<td>120+</td>
</tr>
<tr>
<td>participated in peer mentoring</td>
<td>in AY 2020-2021</td>
</tr>
<tr>
<td>Tutors</td>
<td>17</td>
</tr>
<tr>
<td>Tutors each semester</td>
<td>13-14</td>
</tr>
<tr>
<td>Tutoring Sessions</td>
<td>900+</td>
</tr>
<tr>
<td>Fall 2020-Spring 2021</td>
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<tr>
<td>CMSC Courses Covered</td>
<td>CMSC 131, CMSC 132, CMSC 215, CMSC 250, CMSC 330, CMSC 351</td>
</tr>
</tbody>
</table>
ENCOURAGING UNDERGRADUATE RESEARCH

75 Tech + Research Participants
In collaboration with

14 Different faculty
Led projects from Across UMD

TECHNICA
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
SUPPORTING STUDENT ORGANIZATIONS

oSTEM
University of Maryland, College Park

TECHNICA

women in CYBERSECURITY
WiCyS

CODE : BLACK

AWC
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

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

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

**CS 125**
A **first-level computing course** that teaches the fundamentals of programming — in a fun way.

**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
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?

Email: Dr. Jan Plane, jplane@umd.edu or Kate Atchison, katea@umd.edu