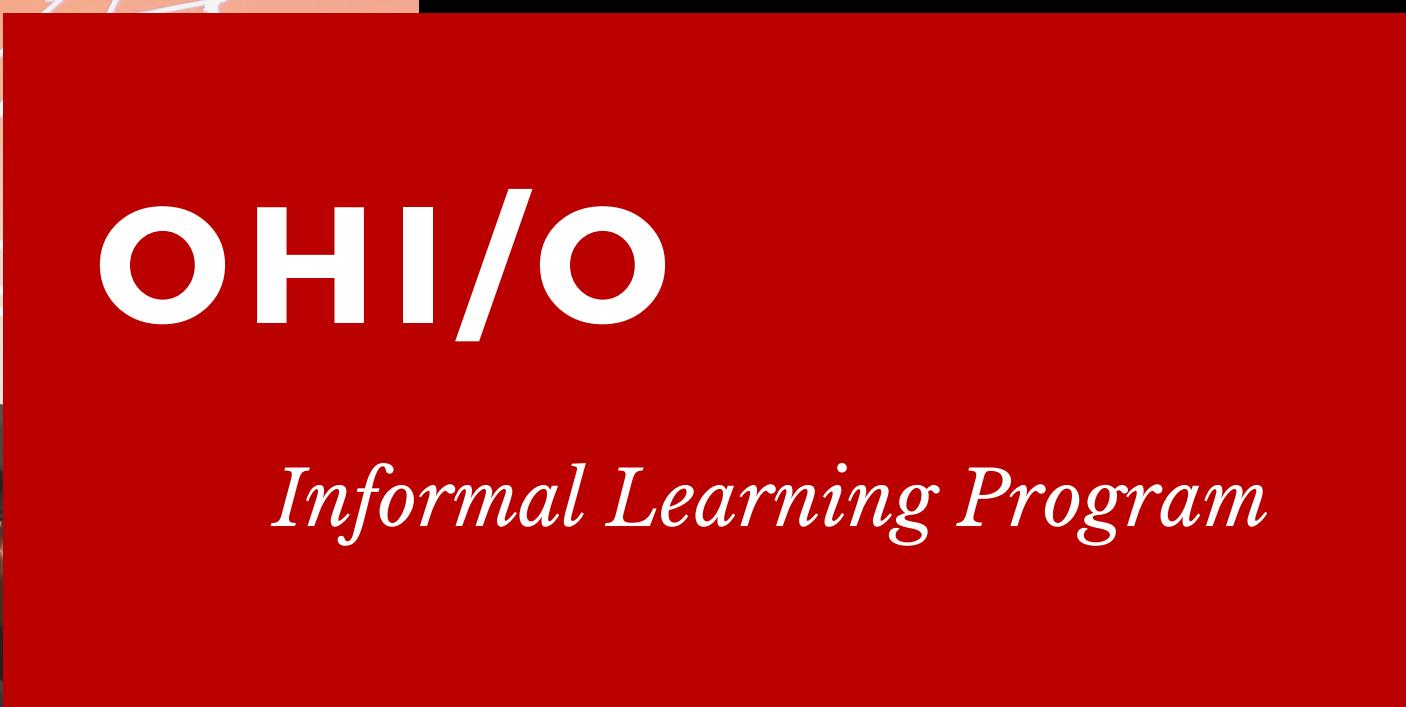




2020-2021 ANNUAL REPORT



OHIO

Informal Learning Program



A PROGRAM DEDICATED TO
FOSTERING TECH CULTURE AT THE
OHIO STATE UNIVERSITY

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PROGRAM STAFF

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OVERVIEW

MISSION

The OHI/O Program fosters a tech culture at Ohio State and its surrounding communities, ultimately providing students the opportunity to learn and build with real technologies outside of the classroom.

STRENGTHS

- Corporate Support & Partnership
- Multifaceted Tech Talent Pipeline
- Education for Career Development
- Diversity + Inclusion for Excellence
- Campus + Community Partnerships

VISION

OHI/O enhances learning experiences and engagement between students, community, industry, and alumni. OHI/O emphasizes providing students an informal and diverse learning platform regardless of experience or background.

COMPONENTS

- Collegiate Competitions
- Alumni Engagement
- Industry Mentorship
- Hands-on Workshops
- Scholarships + Grants
- K-12 Outreach

PROGRAM ENGAGEMENT

1000+

Over 1000 students participated in hands-on informal learning opportunities.

23%

23% of participants were women.

150+

Over 150 Ohio State alumni volunteered or attended an event as a guest.

11%

11% of participants were through community development events at the pre-college level.



GOALS

FISCAL SUSTAINABILITY

OHI/O takes a comprehensive approach to building long-term relationships with sponsors. All events are funded through industry support and managed within a set operating budget. For the Program Director position, the 2018-2021 NSF AISL Grant provides salary support. Due to years of fiscal responsibility, the next steps are to establish an endowment fund to offset future program overhead.

In 2020 OHI/O took in a total donation revenue of over \$250K to continue providing resources and experiences in the midst of a global pandemic.

EDUCATIONAL OUTREACH

OHI/O is committed to supporting educational experiences in the community beyond campus.

- High School I/O is OHI/O's annual off campus event, offering high school students across the state a hackathon experience.
- Partner in Ohio State's award from Google's exploreCSR program
- Provided financial support for student app project, the University Innovation Fellows
- Sponsored the first Mental Health Hackathon at Ohio State.
- Provided logistical support to Can't Stop Columbus where hundreds of volunteers produced over 65 impactful projects since March 2020.

PARTNERSHIPS

OHI/O continues to cultivate new partnerships on campus and beyond. With our proven success hosting large events for students, various student organizations and academic centers partnered with OHI/O for smaller, more topic-specific events this past year. In 2020-2021, Julia Armstrong, the OHI/O Director:

- Served on the steering committee for ODEE.
- Was a Faculty Champion for the University Innovation Fellows.
- Served as a judge at TechnoFashion.
- Sat on the CSE Outreach committee.
- Was an invited speaker for the Ohio Cyber Range Institute's 2020 Education Symposium, the GRO Academy and on the Business For Good Podcast.



University Alignment

OHI/O is a part of the greater university and strives to support Ohio State's strategic plan through these pillars of excellence. This living framework guides the University and the OHI/O program, driving forward the future of higher education.

Teaching and Learning

OHI/O achieves this through informal and experiential hands-on learning with aid from industry experts and alumni partnering with faculty and staff to provide support.

I

Access, Affordability and Excellence

OHI/O creates informal and experiential learning programs open to every student, regardless of major or experience level, and completely free to participate. Every event includes a survey, documenting the proven satisfaction of participating.

II

Research and Creative Expression

Self-guided learning is an essential component for successful research. Similarly, creative problem solving and expression is found in the core of all OHI/O Program facets. Partnerships with faculty research labs are encouraged. Program administration focuses on research of OHI/O events and the program.

III

Academic Health Care

Medical industry tech challenges and resources are a component of the OHI/O Program, thanks to strong partnerships with the College of Nursing, Innovation Studio, Biomedical Engineering, BMES, and the Center for Medical and Engineering Innovation.

IV

Operational Excellence & Resource Stewardship

With limited funding, care is taken to minimize waste and offer only the most impactful opportunities. The OHI/O Program runs on a lean staff and many volunteer hours.

V

RESPONSE TO COVID19

OHI/O was uniquely positioned to pivot in response to the pandemic. As an agile tech organization OHI/O was able to take major competitions and events virtual in just a few months, creating valuable experiences during a time when connecting with others was challenging.

ACCESSIBILITY

Taking collaborative events such as HackOHI/O virtual opened the door for nationwide participation and made events more accessible for students with disabilities. Teams could connect and collaborate from anywhere and virtual platforms provided more tech integration with every experience. Virtual gatherings and events not only protected the community from the pandemic, but also offered an engaging and valuable outlet for creation, and made events more inclusive than ever before.

SAVINGS

Some of the most significant costs associated with OHI/O signature events are rental fees, food and beverage. Transitioning all programs and events to 100% virtual experiences dramatically shifted expenses and reduced the largest budget demands by more than 75%. OHI/O was able to maintain healthy attendance levels, even increasing the rate of submission for judging at MakeOHI/O, while also reducing the total per person cost at each event.

THE FUTURE

Based on the successes from 2020-2021, OHI/O will explore hybrid options that foster the connections people experience in person, while also capitalizing on the accessibility and reach of virtual events. Fall 2021 will involve safeguarded in-person participation that continues to protect our communities with a focus on experience quality, and diversity. As OHI/O builds greater networks of alumni and industry support, having flexible engagement options is a benefit to all.





FISCAL PRINCIPLES

ACCESS

Financial standing will never stand in the way of a student participating in an OHI/O opportunity.



Thanks to generous contributions, OHI/O provides all students opportunities free of charge, and provides supplies & resources to each participant.

COMMUNITY

OHI/O gives back to Ohio State students and the families of our Central Ohio community to support a growing tech culture.



Targeting a minimum of 10% of spend on K12 programs, OHI/O supports projects, tech scholarships, and other entities with a shared mission.

RESPONSIBILITY

A focus on fiscal responsibility to provide high quality events at a low per-person cost to the program.

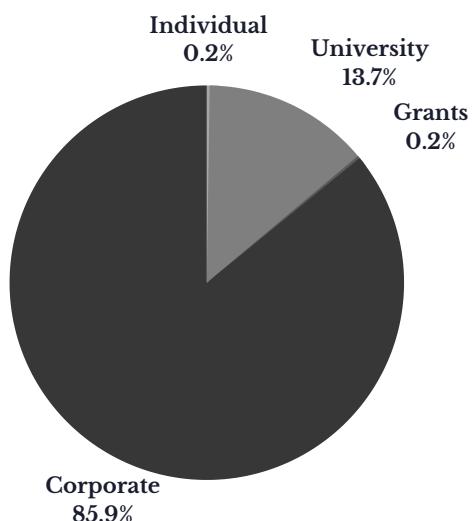
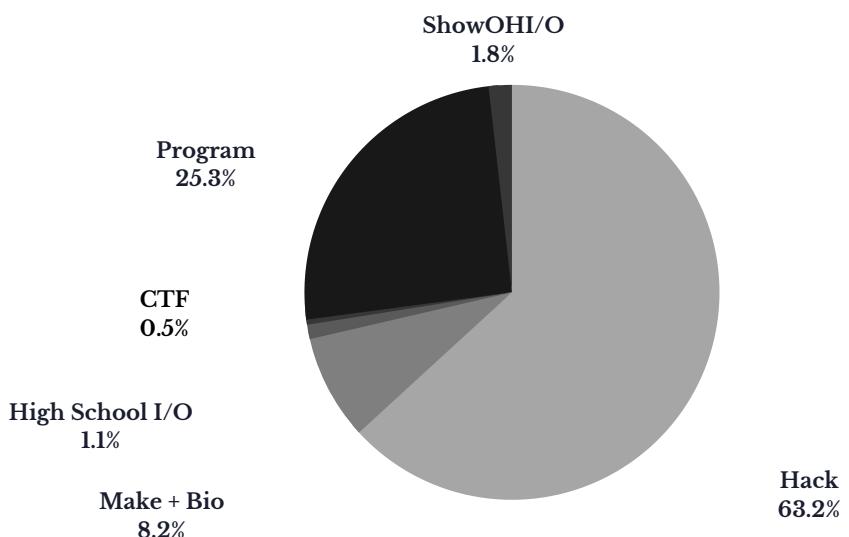


Sourcing the most cost effective supplies, spending time developing partnerships, and focusing on the most impactful community support.

REVENUE & EXPENSE

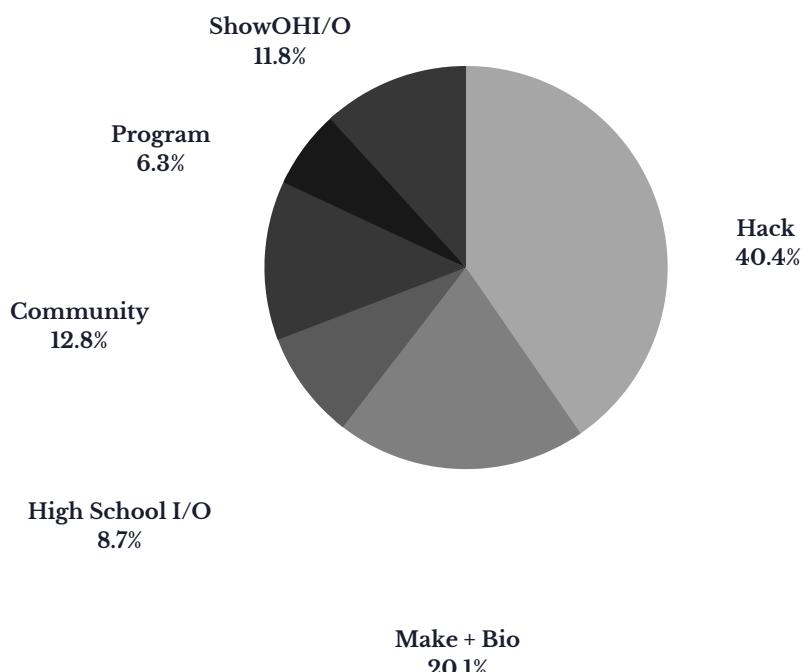
REVENUE BY EVENT

- Sponsors are able to choose individual events or the entire program when pledging funds.
- With virtual event plans, all sponsorships were discounted for fiscal year 2020.
- HackOHI/O continued to attract the most donors.
- Microsoft renewed for the third year as lead Program Sponsor.



REVENUE BY SOURCE

- In 2020-2021 OHI/O sourced additional support from various university entities such as Student Life and OSUAA.
- Corporate donations remain the main funding source for OHI/O events due to interest in recruiting participants, coming in at over \$200K.



EXPENSE BY EVENT

- HackOHI/O was again the largest and most expensive event of the year, in part due to event platform costs.
- Without catering and rental fees however, the total cost was reduced.
- MakeOHI/O + BioHack had additional supply costs as electronics kits were provided to all participants.
- This year, more than ever, giving back to the community was important. Over \$5K was redirected to support K12 and university students.

OUTREACH



CODE I/O

A free computer-science workshop for students ages 10 - 15 (girls strongly encouraged to apply). This workshop aims to enable students to see the power and fun of programming.

HIGH SCHOOL I/O

A one day hackathon for high schoolers, offered twice this past year.

MENTAL HEALTH HACK

Make use of data about mental health on campus, and provide creative, data-driven recommendations addressing challenges.

CLIMATATHON

24-hours of student collaboration and innovation to build Ohio's climate resilience.

DUBLIN GIRLS CODE

After school club for high school girls learning computer science. Taught weekly by OHIO Student Aid, Morgan Adams.

COOL TECH GIRLS

Year-long, immersive, hands-on exploration of tech and fashion for middle school girls.

CAN'T STOP COLUMBUS

A community-wide movement that addresses problems that have arisen due to the COVID-19 crisis in 2020.

CORNERSTONE EVENTS

HACKOHI/O*

HackOHI/O this year is a 48 hour hackathon that attracts over 800 participants annually for a full weekend of coding, building, learning, networking, and innovation. HackOHI/O gives students a unique opportunity to jumpstart a project in an environment that's all about supporting them.



Hugs Not Bugs

Providing data regarding COVID safety, and whether people are adhering to social distancing and wearing a mask using AI and visual indication software.

75

Unique projects from students

42

Alumni returning as mentors, judges or industry representatives.



MAKEOHI/O*

Over 150 undergraduate and graduate students design, build, and demonstrate projects. In 2021 BioHack and MakeOHI/O partnered to create a hands on design sprint with a medical focus that encouraged students to address real life challenges such as mobility issues, telehealth, or Covid-19 prevention.



VITAL

A vital-taking kiosk to make healthcare more accessible. Went on to semi-final status in the Clinton Global Initiative (CGI) Social Innovation Challenge

29

Different majors represented across participants.

37

Customized hardware kits were created and delivered to teams.

SHOWOHI/O*

This black tie event highlights outstanding and innovative technologies developed by Ohio State faculty, students, and alumni. This event reaches beyond campus, linking students and faculty to alumni and the entrepreneurial community to celebrate and support tech entrepreneurs making an impact.

PRIVATE PITCH SESSION

For the first time in 2021 ShowOHI/O created a private pitch session connecting the top five projects with our top experts for feedback and networking opportunities. This private session featured Q&A with:

- Mike Triplett, PhD Co-Founder & CEO, Armatus Bio, Inc.
- Jake Mendel, VP, Startup Banking, Silicon Valley Bank
- Lindsay Stencel, Partner, Thompson Hine LLP
- Dominick Sica, Managing Partner of Sica Ventures
- Nicole Weidner, CEO, MavenView
- Tonja Coverdale, PhD, AVP, Workforce & Legal Technology, Nationwide
- Bill Baumel, Managing Director, Ohio Innovation Fund
- Andy Dickson, Co-Founder, Carmen Ventures

VIP Q&A PANEL

ShowOHI/O opened with panel discussion on the biggest issues tech start up's face featuring:

- Arnab Nandi, PhD Founder, Mobikit
- Grant Schneider, PhD Vice President, Machine Learning & Head of Upstart Columbus
- Ayanna Howard, PhD, Dean of the College of Engineering & Founder of Zyrobotics
- Hosted by Cheryl Turnbull, Senior Director, Keenan Center for Entrepreneurship



Electron LLC

Electron provides turnkey mobile energy storage services by repurposing second life automotive packs to provide a cost effective, easily accessible, and sustainable mobile energy solution.

100+

Attendees: students and professionals

20

Start Up's launching new ventures presented

In partnership with:



THE OHIO STATE UNIVERSITY
ALUMNI ASSOCIATION

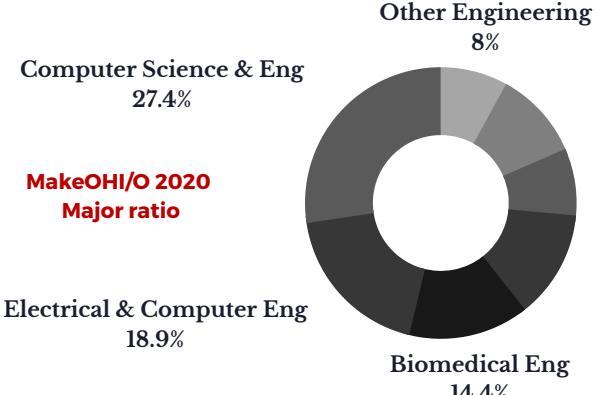
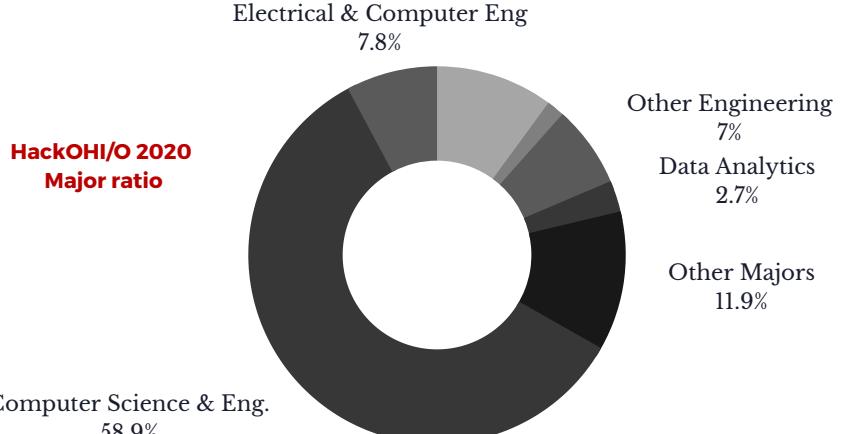


THE OHIO STATE UNIVERSITY
KEENAN CENTER FOR ENTREPRENEURSHIP

PARTICIPANTS

HACKOHI/O

At HackOHI/O 2020, 457 participants from 26 different universities joined. 263 participants were Computer Science Majors. The others represented a mix of engineering (notably mechanical and electrical), data analytics, arts and science, business and medical majors. 75 projects went to judging: a higher project submissions ratio than ever before.



MAKEOHI/O + BIOHACK

In 2021 MakeOHI/O combined with BioHack to offer a unique experience with a biomed focus. 149 students participated across 29 majors. OHI/O virtually hosted this event by allowing teams to form before the event and custom build a hardware kit that was then shipped directly to their homes. 53% of teams submitted for judging and 21 awards were handed out.

PARTNER EVENTS

DataO- A concentrated experience with data and analytical tools where participants collaborate with peers, professors, and professionals. Groups of 1-4 work on projects relating to AI and predictive algorithms, data visualization, and/or actionable insights. Open source data sets are provided or groups may also provide their own if data.

CodeO- A free computer-science workshop for students ages 10 - 15 (girls strongly encouraged to apply). The workshop aims to enable students to see the power and fun of programming. Activities include interactive programming with Scratch, hands-on introduction to web development, and real-life applications of Computer Science.



FUTURE TARGETS

ENDOWMENT FUND

The OHI/O Program is on an annual cashflow cycle due to the nature of corporate sponsorships and the typical corporate budget cycles. An endowment fund would help sustain core programming in times of financial uncertainties.

ALUMNI ORGANIZATION

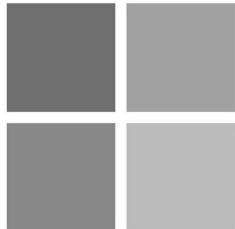
As the OHI/O Program matures and more students each year graduate who participated in OHI/O events or served as OHI/O student leaders, we will stay connected to alumni returning to volunteer as mentors and judges. These young professionals are interested in forming an Alumni Organization to better support the OHI/O Program and their own professional career journeys.

PRE-COLLEGIATE PROGRAMMING

OHI/O will continue to focus on outreach with a goal of 10% or more of the program participants being pre-college students. Current outreach is focused at the high school level but there are opportunities to expand into the K-8 space and provide more opportunities to underserved communities.



SPONSORS



Microsoft

HONDA
The Power of Dreams

**AMERICAN
ELECTRIC
POWER
FOUNDATION™**
BOUNDLESS ENERGY™

**JPMORGAN
CHASE & CO.**

Root
Insurance Co

STATE AUTO®
Insurance Companies

Aptiv	Engie	Nexient
CAS	Garmin	Northrup Grumman
Battelle	Genpact	Olive
Big Lots	JobsOhio	Quantum Health
Capital One	Lamden	Root Insurance
Cardinal Solutions	Mobikit	Texas Instruments
Amazon Web Services	Nationwide Insurance	Veeva Systems Inc.
Caterpillar Inc.	Crown Equipment	Github



PARTNERSHIPS

OHI/O has partnerships across Columbus.

THE
INNOVATION STUDIO

THE OHIO STATE UNIVERSITY
UNIVERSITY LIBRARIES

the
Electronics Club

CMEI

acm-w

BMES BIOMEDICAL
ENGINEERING
SOCIETY

KEEN
ENGINEERING UNLEASHED

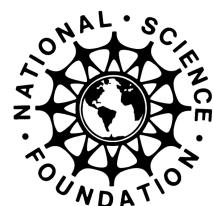
THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Department of
ELECTRICAL & COMPUTER ENGINEERING

Department of
COMPUTER SCIENCE AND ENGINEERING

THE OHIO STATE
UNIVERSITY
KEENAN CENTER FOR
ENTREPRENEURSHIP

CAN'T
STOP
CBUS.



ICDT

CYBER SECURITY CLUB

BYRD POLAR AND
CLIMATE RESEARCH CENTER

BDAA
BIG DATA & ANALYTICS ASSOCIATION

THE OHIO STATE UNIVERSITY
ALUMNI ASSOCIATION

women in
CYBERSECURITY
WiGyS

The
Erdős
Institute

LEADERSHIP

FACULTY ADVISORY COMMITTEE

In its third year, the Faculty Advisory Committee (FAC) met twice. Members are volunteers from around campus who are passionate about the work of OHI/O, can offer various elements of support, and understand what it means to the students and for the community.

Meris Longmeier, Faculty Director	University Libraries
Jeremy Morris, Faculty Director	Computer Science and Engineering
Steve Bibyk	Electrical and Computer Engineering
Rachel Kajfez	Engineering Education
Sandra Metzler	Mechanical and Aerospace Engineering
Amy Thaci	Engineering Career Services
Danny Dotson	University Libraries
Tim Raderstorf	College of Nursing & Innovation Studio
Josh Roush	Translational Data Analytics Institute
Chris Orban	Physics
Jessica Philips	ODEE Digital Flagship
Roman Holowinsky	Mathematics & The Erdős Institute
Jake Cohen	Fisher& Keenan Center

INDUSTRY ADVISORY BOARD

Anita George, Director	Microsoft
Mike Fortin, Corporate	Microsoft
Peter Glotfelter, Software Engineer	Microsoft
Beth Pan, Software Engineer	Microsoft
Eric Bauer, R&D Engineer	Honda
Samantha Lynch, Sr. Coordinator	Honda
Wiley Elliot, Project Manager	AEP
Greg Filipkowski, Chief IT Executive	AEP
Greg Taccetti, SVP & Chief Innovation & Strategy Officer	State Auto
Nia McBride, Strategic Communication Partner	State Auto
Aaron McCanty, Cyber Computer Scientist	Battelle
Luke Waltz, VP of Engineering	Crown Equipment
Steve Keller, Asst. Dir. of IT	CAS
Eric Schnabel, Vice President	JP Morgan Chase
Emily Bishop, Campus Recruiter	JP Morgan Chase
Bill Kaper, VP Engineering	ROOT Insurance
Ken Mulh, Sr. Engineering Manager	ROOT Insurance
Kevin Kepp, VP of IT Development	BigLots

STAFF*

Program Director: Julia Armstrong

Julia has been in the role of Program Director for OHI/O since August 2017. She has grown OHI/O from two events to a comprehensive platform including over 12 events, the Faculty Advisory Committee and Industry Advisory Board, and fundraised over \$1 million. She has worked to build strong connections and cross-support around the university and the community. Her interests go beyond event planning into cultivating student leaders, educational research, curricular development, and workforce development.

Program Coordinator: Cal King

Cal (BA, BS) comes from a background of community building, marketing, and MAKE-ing in her previous role as Chief of Staff at the Idea Foundry. Starting her role in 2020 she helped transition OHI/O events to virtual experiences and facilitate distance learning experiences. Her strengths are in community activism and cultivating student leadership. Her drive is to make space for inclusive tech programs that empower individuals to impact their neighborhoods and make positive change in the world.

STUDENT EXECUTIVE BOARD*

Sadaqat Ali, CSE	Technical Lead
Matthew Ayers, CSE	ShowOHI/O Lead
Grace Cao, CIS	Finance Lead & Sponsor Liaison
Ben Kowalski, CSE	Sustainability Lead
Jacob Woods, CIS	Marketing Lead
Thomas Dawit, CSE.....	Website Lead
Sounak Dey, CSE	High School I/O lead
Matthew Hu, CSE	Sponsorship Support
Harshi Kosaraju, CSE & Mathematics	High School I/O Lead
Parshva Shah, CSE	HackOHI/O Co-lead
Josh Wang, CSE	MakeOHI/O Lead
Dominik Winecki, CSE	HackOHI/O Co-lead

