

Intro to HPC Bootcamp Wrap Up & Next Steps

August 11, 2023

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Sustainable Horizons Institute

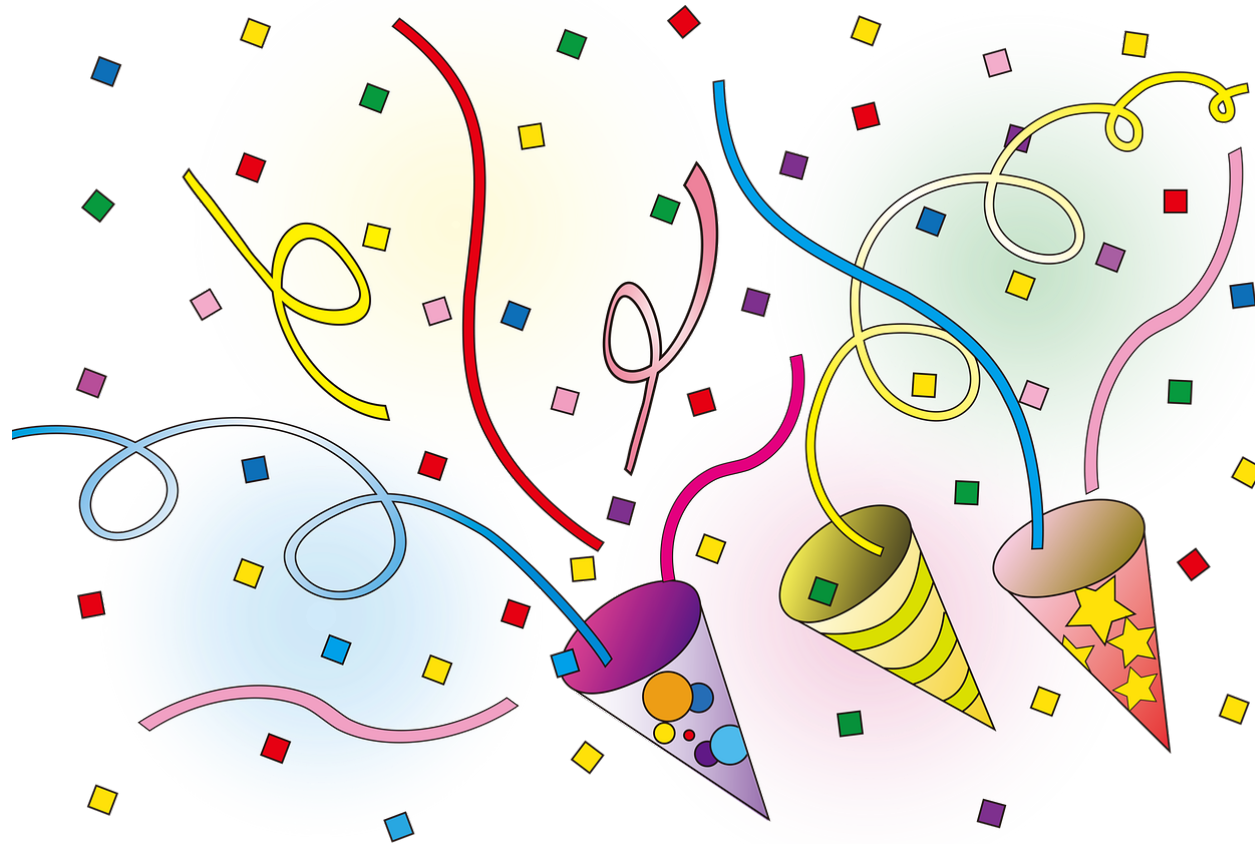


Agenda

- Next Steps & Opportunities
- Brief Recap
- Feedback
- Closing Remarks



Congratulations!



Opportunities and Next Steps



Next Steps



Keep the momentum going!



Consider your class selections



Prepare for your career



Internships



Jobs – Pathways



Academic

Industry

Other Research
Labs (such as
DOE National
Labs)

Government

Nonprofit

Each DOE Lab offers a variety of opportunities for students



Paid Internships

- For both undergraduate and graduate students
- Typically 10-12 weeks in the summer (apply no later than November or December)
- Interns participate in team science
- Summer programs offer additional educational and extracurricular opportunities

Summer Schools

- Several labs offer specialized short (2-3 weeks) educational programs
- Topics include HPC system administration, data science, computational modeling, etc.

Why work at a National Lab?

Research with impact

- Challenging, real-world problems of importance
- Science and technology in the national interest

Access to world-class researchers and facilities

Engage with the world-wide research community

- Academic-like settings
- Publish scholarly papers
- Attend conferences
- Frequent colloquia/seminars

Mentoring opportunities

- Summer students
- Postdocs
- Thesis committees

DOE directly supports other opportunities for undergraduate and graduate students



DOE Science Undergraduate Laboratory Internships (SULI) &

DOE Community College Internships (CCI)

- Funds research internships at DOE laboratories
- 10-week summer internship
- U.S. citizen or lawful permanent resident undergraduates
- Undergraduate minimum GPA of 3.0/4.0
- Applications due Jan 2022

science.energy.gov/wdts/suli

science.osti.gov/wdts/cci



DOE Computational Science Graduate Fellowship

- Funds graduate training of interdisciplinary researchers in computational science
- Up to 4 years full tuition for graduate studies; \$38,000 annual stipend
- 12-week practicum at DOE lab
- U.S. citizens or permanent resident aliens
- Undergraduate seniors and first-year graduate students
- Applications due Jan 2022

krellinst.org/csgf

Each DOE Lab offers many postdoctoral opportunities



Postdoctoral Research Staff

- Work on challenging, important problems
- Launch a career in academia, industry, or national labs
- Collaborate closely with a mentor and lab scientists
- Access unique research facilities
- Mentor students
- Salaries competitive with industry
- Up to 3-year appointments

Named Postdoctoral Fellowships

Premier postdoctoral positions for advanced PhD graduates - Application dates vary

- ANL: [Wilkinson](#)
- BNL: Noether
- LANL: [Feynman, Oppenheimer](#)
- LBNL: [Alvarez, Hopper](#)
- LLNL: [Fernbach, Lawrence](#)
- ORNL: [Householder](#)
- PNNL: [Pauling](#)
- SNL: [Von Neumann](#), (New) Data Science Fellowship

For more information

National Laboratory		Opportunities
Argonne	Mathematics and Computer Science	Undergraduate Programs Graduate Programs Postdoctoral and Career Positions
Brookhaven	Computational Sciences	Undergraduate and Graduate Internships Postdoctoral and Career Positions
Lawrence Berkeley	Computing Sciences	Undergraduate, Graduate, and Faculty Opportunities Postdoctoral Positions Career Positions
Lawrence Livermore	Computing	Undergraduate and Graduate Internships Postdoctoral Positions Career Positions
Los Alamos	Simulation and Computation	Undergraduate and Graduate Internships Postdoctoral Positions Career Positions
Oak Ridge	Computing and Computational Sciences	Education and Internship Opportunities Postdoctoral and Career Positions
Pacific Northwest	Computational Science	Undergraduate and Graduate Internships Postdoctoral Positions Career Positions
Sandia	Center for Computing Research	Undergraduate and Graduate Internships Postdoctoral Positions Career Positions



ARGONNE INTERNSHIP: SIP

Funded by Argonne

SIP – Seasonal Intern Program

- **Year round**
 - Summer (10 weeks); Fall and Spring (15 weeks)
- This program is **only at Argonne**
- Can be **undergraduate or graduate**
- Conduct research on a scientific team with multiple projects
- **Paid by stipend:** \$650/week plus \$250/week housing allowance
- Eligible for **on-site housing**

**Application opens for Spring 2024:
October 27, 2023**

**Application due for Summer 2024:
February 28, 2024**

Computing Sciences Internships at Berkeley Lab

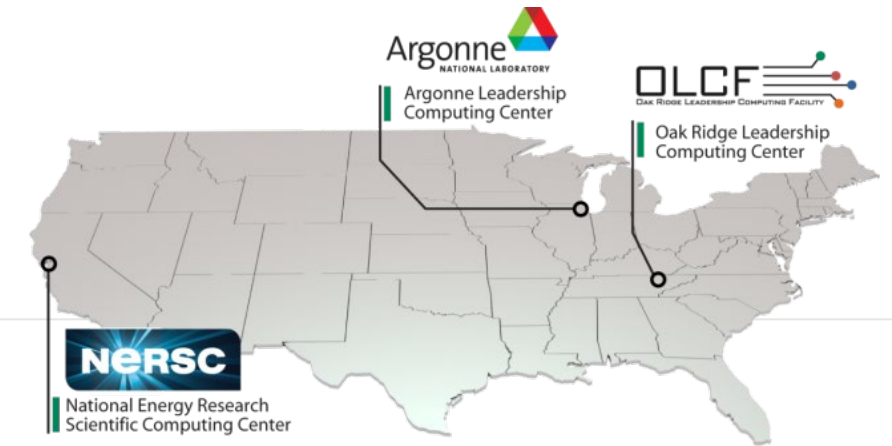
Student internships are offered in all CS divisions!

- **Direct hire:** applications for summer accepted via Lab careers website beginning in November. Decisions in April timeframe.
- **DOE Science Undergraduate Laboratory Internship (SULI) & Community College Internship (CCI):** DOE-run internships for fall, spring, or summer; apply at least 4 months before desired semester for internship
- **Sustainable Research Pathways (SRP):** December recruitment workshop for collaborative summer research projects

For more info, see [Internships webpage](#)



Oak Ridge National Lab Internships (In Tennessee)

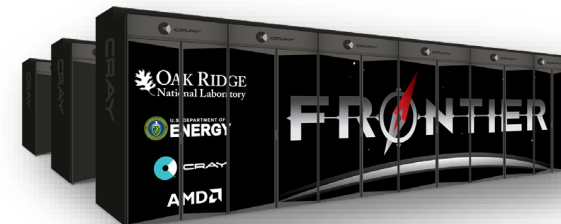


Pathways to computing

- **10-week summer program that provides undergraduate students with learning opportunities in computer science, computational science, and mathematics. Students will be mentored by ORNL research and technical staff and make contributions to projects in diverse domains including computer science, health data science, and climate science. See <https://education.ornl.gov/pathways/> for eligibility and to watch for the call for applications.**

All ORNL Internships

- **See <https://education.ornl.gov/> for a comprehensive list of graduate and undergraduate internships at Oak Ridge National Lab.**



Sustainable Research Pathways



- Virtual Matching & Exploratory Workshop
- Paid summer internships at any of 7 participating DOE National Labs

Faculty Track

Faculty from a variety of institutions, including minority-serving institutions, liberal arts, and community colleges, working with students from underrepresented groups* are encouraged to apply.

Student Track

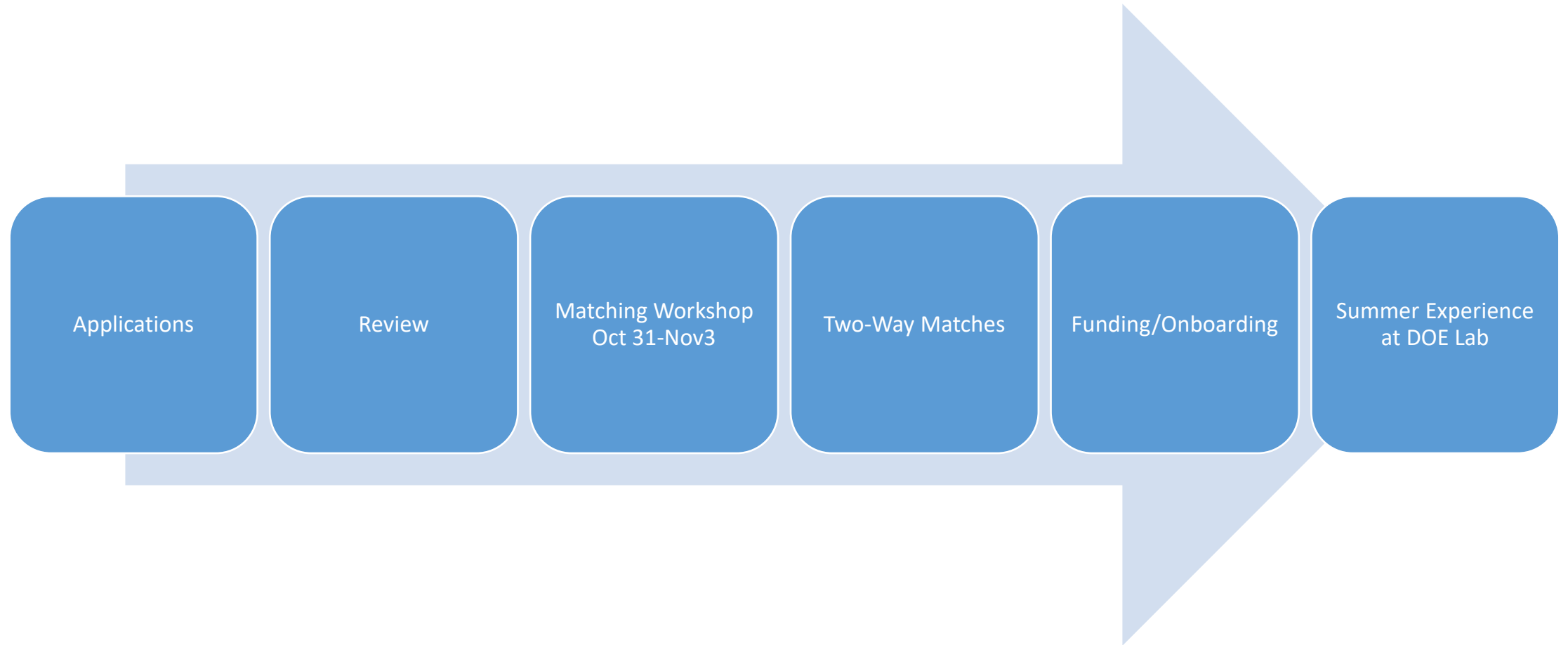
Undergraduate and graduate students at an accredited US academic institution have two ways to apply: 1) as part of a faculty application or 2) apply on your own.

Benefits

- Pre-Workshop Q&A webinar
- Matching and Exploratory Workshop to meet with ECP lab staff to discuss possible collaborations
- Potential to participate in paid summer research

<https://shinstitute.org/sustainable-research-pathways-2024-workshop/>

Matching Workshop





SRP Intern

- Gladys Chen + Suzanne Parete-Koon
@ORNL

DOE laboratories are energizing, dynamic, flexible,
and fun interdisciplinary research environments



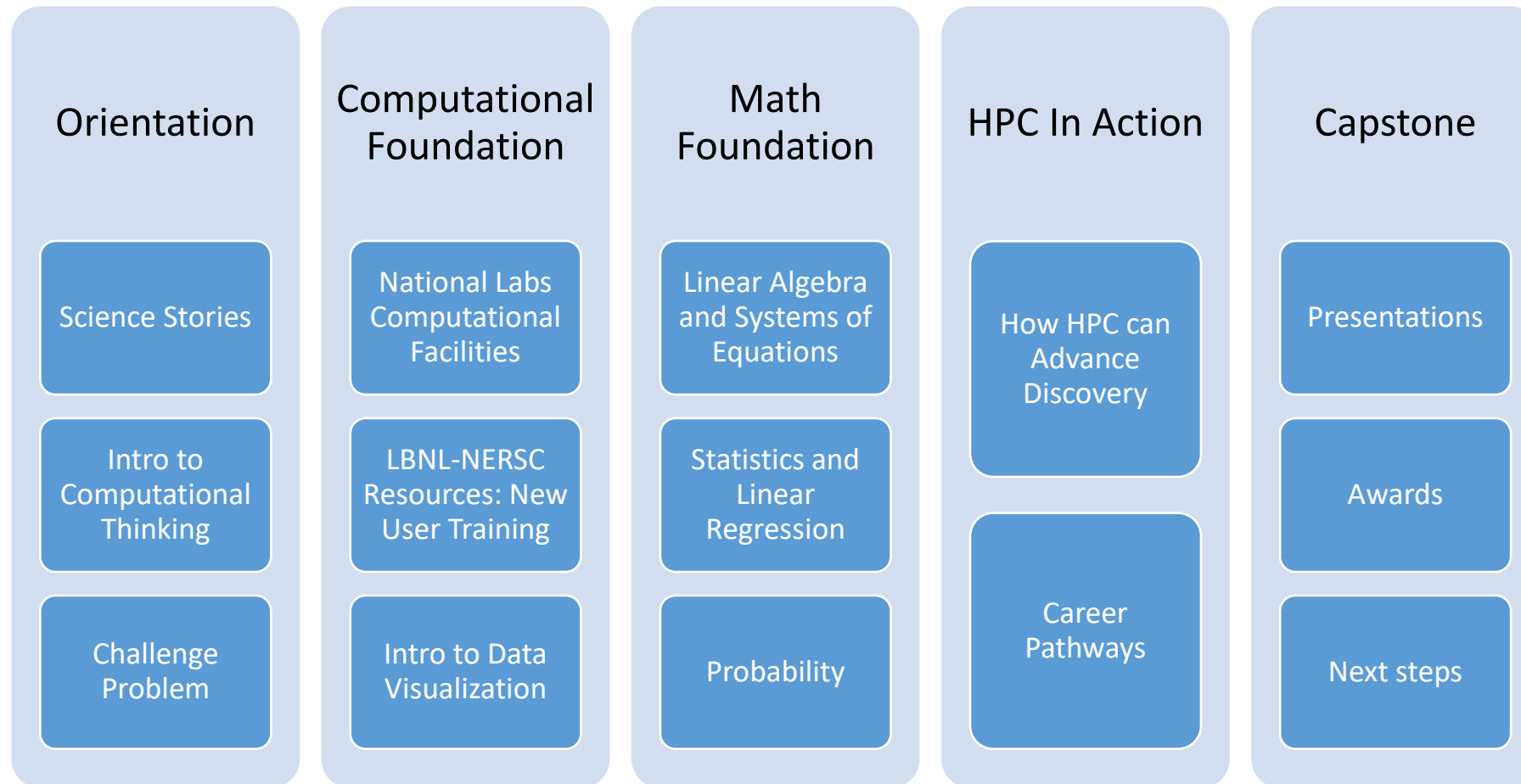
DOE = U.S. Department of Energy



A Week In Review

- Highs
- Lows – Areas for Improvement

Week at a Glance/Highlights





Bootcamp Post Survey



Next Steps

- Try something new
- Try something uncomfortable
- Ask for help
- Give help
- Share your experience
- Make a new goal

“Do one thing every day that scares you.”

-- Eleanor Roosevelt





Tips for lasting mentoring relationships

- Stay in touch!
 - Send a follow-up email asking for more information on any programs or suggestions they gave you
 - If you apply to anything let them know and let them know if you get accepted
 - Let them know if you will be at a conference they may be at or visiting near there institution; Suggest a meet-up.
- Actively participate!
- Mentors come in all forms; may need multiple

Career/Professional/Leadership Development

Keeping the Momentum Going: Volunteer Opportunities

- Alumni Activities
- Other ideas?



8/11/2023

Interested in volunteering? Send an email to lbarrier@shinstitute.org

THANK YOU



Acknowledgements

Awards



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Your Project Leaders and Trainers



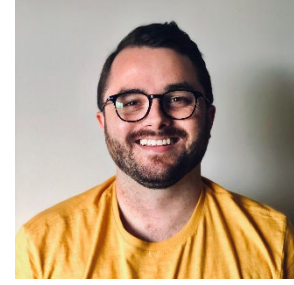
[Alvaro Vazquez-Mayagoitia](#)



[Charles Lively](#)



[Dan Fulton](#)



[Kellen Leland](#)



[Lipi Gupta](#)



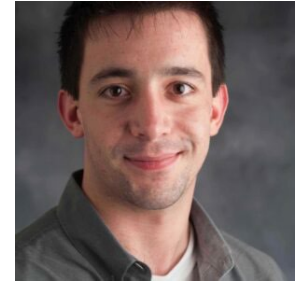
[Murat Keceli](#)



[Rebecca Hartman-Baker](#)



[Rollin Thomas](#)



[Sam Foreman](#)



[Scott Feister](#)



[Subil Abraham](#)



[Suzanne Parete-Koon](#)



[Wilbur Ouma](#)



[Yun \(Helen\) He](#)

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Your Organizers



Kate Cahill



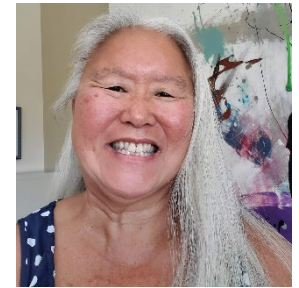
Keisha Moore



Lacy Barrier



Lois McInnes



Mary Ann Leung



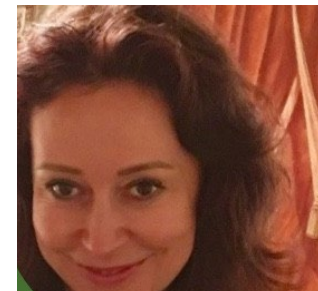
Paige Kinsley



**Sreeranjani "Jini"
Ramprakash**



Seleste Rodriguez



Yulia Capitao



Zaida McCunney



Closing Remarks

- Stay in touch
- Build your relationships
- Connect with others to amplify your impact

