SEMICONDUCTOR WORKFORCE DEVELOPMENT COLLABORATIVE

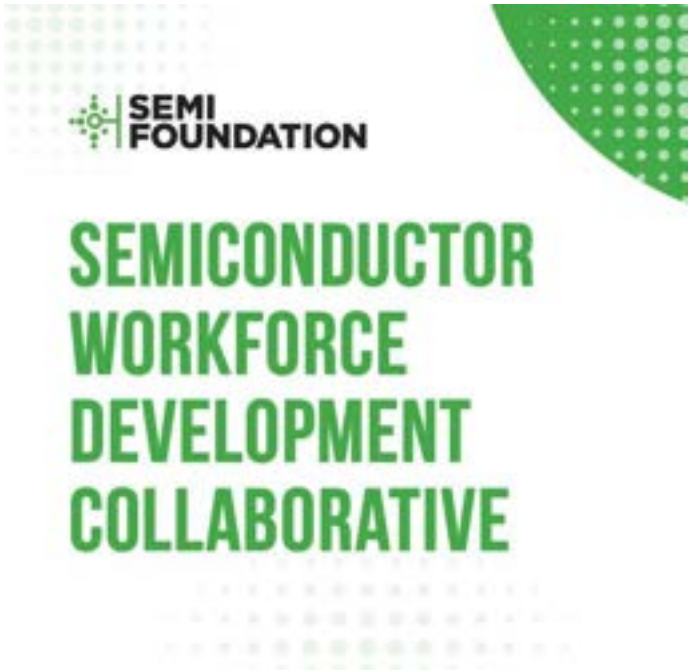
Wednesday, March 5th, 2025

SEMI FOUNDATION

Welcome!

Introduce yourself (name, organization)

If you were at the last meeting, share: what did you take away from our last meeting? If you were not at the last meeting, share something you're looking forward to this spring.



Housekeeping

- The breakout sessions will not be recorded
- Slides will be shared after the meeting
- Invite you to join us on camera
- Mute your microphone
- Use the chat feature

AGENDA

1. Welcome and introductions
2. Reflections from Q4, SEMI Foundation update on certification
3. Getting to know each other: slide introductions
4. Resource Sharing
5. In-person convening planning
6. Reflections and next steps

Meet the Team

Omar Baza

Sr. Specialist, Workforce Training & Operations

Berton Mahardja

Director, Global Education Initiatives

Anissa Hamdon-Morison

Manager, Curriculum and Training

Purvi Rami

Program Manager, Registered Apprenticeships

Robert Sanger

Program Manager, Workforce Training & Operations

Semiconductor Workforce Development Collaborative

Purpose

Identify employer needs and areas of collaboration with community-based organizations and education and training providers to build a thriving microelectronics workforce development network in California.

Objectives

- Build and facilitate relationships between employers and the community for collaborative problem-solving that incorporates worker voice into program design
- Identify employer's hiring and upskilling needs in Northern California
- Create more efficient pathways into microelectronics roles

Reflections from our last meeting (12/24)

Learnings and Highlights

Thank you for the feedback!					
"I made new connections today"					
Agree:	90%	Neutral:	10%	Disagree:	0%
"I learned about employer hiring needs and challenges today"					
Agree:	85%	Neutral:	15%	Disagree:	0%
"I have an idea of next steps to make the pathway into microelectronics more efficient for my clients / students"					
Agree:	70%	Neutral:	30%	Disagree:	0%

We hear you! Top resources requested:

SEMI Evaluation of Trainings

- With growth in demand & hiring, need a process to review, evaluate, and certify training programs
  - Employers benefit from providing input in design and understanding skill outcomes
  - Education & training partners benefit from uniform industry input and clear goals
  - Students & trainees benefit from more direct pipeline and higher visibility in job market
- Well-positioned as an industry association to convene industry & other partners
- Building national standards that can differentiate for local workforce needs
- We are now accepting training programs for review with:
  - Program description (length, course name(s), mode(s) of instruction, interactive learning experiences, etc.)
  - Competencies targeted
  - Enrollment, graduation, and employment data
  - Documentation of development process
    - Industry members that participated in development or review of programming

SEMI Certificates

Program certification

- Based on existing criteria, programs or courses receive a "SEMI Certification"
- Put our logo on your product: we endorse this program/course
- Independent program review based on industry-vetted curriculum:
  - Semiconductor Fundamentals
  - Technician Training
- Process flow:
  - Complete screening form
  - SEMI Foundation readiness evaluation
  - Call between SEMI Foundation and education provider
    - If ready for certification, provide materials and answer questions to finalize review
    - If not ready, discuss pathways and next steps to prepare material

Status:
Completed
In development, RFQ phase
Not started

Semiconductor Fundamentals Certificate: Criteria

For more information, please contact Anissa Hamdon-Morison: ahamdon-morison@semi.org

- Technical knowledge:
  - Basic Semiconductor Process Flow
  - Basic Safety (OSHA, chemical handling, LOTO, etc.)
  - Basic cleanroom awareness (gowning, particle count standards, etc.)
  - Basic hand tools
  - Common manufacturing terminology (assembly, BOM, capacity, downtime, ergonomics, lead time, process flow, QA, rework, scalability, SOP, supply chain, throughput, TQM, WIP, etc.)
  - Troubleshooting, reporting and documenting issues
  - Lean manufacturing basics (5S, kaizen, etc.)
  - Basic problem solving (8D, fishbone, etc.)
  - Basic (high school) math *preferred*
  - Fundamental chemistry *preferred*
- Soft skill / job-readiness training: proper workplace communication, team dynamics, professional standards, etc.
- Industry involvement (input, feedback, collaboration) in the development of course curriculum and content
- Clear and measurable learning objectives
- Knowledge checks and summative assessments
- Multiple instruction and assessment methods
- Standard review process to ensure material relevance, accuracy and currency
- Hands-on learning opportunities for learners
- Clear and supported pathways for course/program completers
- Professional look and feel to course materials

Let's Connect: One Slide Introductions

Norms:

- When you see your slide, come off mute and introduce yourself
- Keep intros to less than two minutes please
- If you see someone you'd like to connect with, can send a note in the chat
  - We will also send out the deck

Presenters

Arathi Ravier- JVS Bay Area

Lawrence Thoo- work2future

San Jose State University

Dr. Clement Lam- Mission College

Sara Ostrowski- Stanford University/ nano@stanford and NW-AI-Hardware Hub

Doug Moody- City of San Jose

Rick Abare- South Bay Consortium for Adult Education

Emily Dilger- Ignited

Megan Lutz- Solidigm Technology

Rajesh Jha- SimInsights

Patrick Meyn- EMD Electronics

Luther Jackson- CHIPS Communities United

SEMI Foundation Team
Purvi, Rob, Omar, Berton, Anissa

SEMI Foundation
HQ: Milpitas, CA
scanca@semi.org

The California team is strengthening the industry workforce with program development in the Bay Area. We collaborate with employers, and community-based organizations to create a more expanded talent pipeline

We work directly with Semiconductor Employers, Community Based-Organizations, Private Funders, & Governmental Agencies

Skills we can share:
-New hire and incumbent training
-Internship, Mentorship and Registered Apprenticeship programs
-Coordination between employers, community-based organizations, colleges
-Funding

Things we would like to learn:

-Organizations that are helping place people into high road occupations
-Employers looking to partner with training, pathways, upskilling
-Regional Partnerships
-Training sources

Arathi Ravier (she/her)

JVS Bay Area
Bay Area
aravier@jvs.org

We support jobseekers with the skills and confidence to secure quality careers with family-sustaining wages.

Chief Strategy Officer

- Inclusive hiring practices to create equitable pipelines for diverse populations
- Proven training program models complimented by industry-recognized certifications
- Strategies for building sustainable employer partnerships
- Technical assistance support for CBOs/training providers

- In-depth understanding of semi-conductor industry hiring needs and skill requirements
- Knowledge of SEMI certification pathways and how they remove employment barriers
- Regional labor market intelligence specific to California's semiconductor sector

LAWRENCE THOO

work2future
San Jose
lawrence.thoo@sanjoseca.gov / 408-741-1170

Local workforce development board in Santa Clara County

Strategic engagement, LMI, regional relationships, pilot initiatives, Board admin

The promise and perils of integrating non-traditional apprenticeships with WIOA

Capturing and scaling the promise and overcoming the perils of integrating non-traditional apprenticeships and WIOA

SAN JOSE STATE UNIVERSITY

San Jose, CA

https://www.sjsu.edu/ https://www.linkedin.com/school/san-jose-state-university

Contacts: John Lee (sang-joon.lee@sjsu.edu) and Hiu-Yung Wong (hiuyung.wong@sjsu.edu)

SJSU is the #1 workforce supplier to Silicon Valley companies, and #1 nationally in research expenditures among all non-PhD granting universities

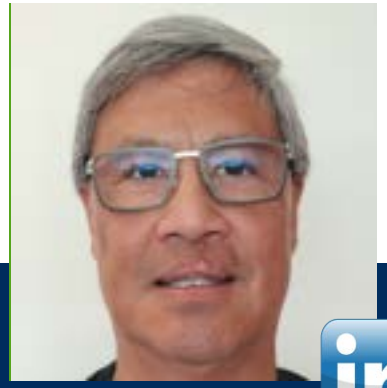
Over 40 faculty and affiliates participate in a campus-wide semiconductor working group, sharing information and interests in research and workforce development.

1 https://www.sjsu.edu/mpel/

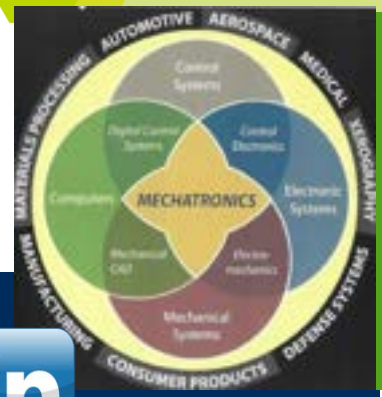
SJSU has:

1. Faculty expertise across all branches of science and engineering.
2. Highly motivated students at B.S. and M.S. levels.
3. Shared lab facilities for microfabrication [1] and materials characterization [2].
4. Strong partnerships with industry-leading companies.

From the SEMI network, SJSU looks forward to collaborating with organizations to provide contemporary experiential learning and professional development opportunities for our students as well as for the faculty who help prepare them for successful careers in the semiconductor industry. We welcome partnerships in applied research, both on our campus and via industry immersion.



Dr. Clement Lam (he/him)



Mission College
Santa Clara, California
Clement.lam@missioncollege.edu

Mechatronic Technology Program
(Certificate of Achievement & AS degree)

Dean of STEM and Creator of this Technician training program

WE teach students these skills

- Equipment Setup
- Reading of Diagrams
- Programming
- Troubleshooting

SO that they can work with Electro-Mechanical systems in Advanced Manufacturing Industries

WE like this group to provide

- Mentorship
- Company Visits
- Internship
- Apprenticeship

OPPORTUNITIES for our students

Sara Ostrowski (she/her)

Stanford University / nano@stanford and NW-AI-Hardware Hub
Stanford, California
sostrow@stanford.edu

- Provide open access to shared nanotechnology facilities
- Develop educational practices (ex. internships, teacher PD workshops)

Associate Director of nano@stanford,NNCI

Technician Training Coordinator for the NW-AI-Hardware Hub

What can you SHARE?

- Tips for cleanroom internship programs
  - Recruitment
  - Retention
  - Team Building
  - Lab support
- Info on NanoSIMST (middle school teacher PD)

What do you hope GAIN?

- Learn from others' programs
- How to better engage with industry
- Resources to share with our participants

DOUG MOODY (he/him)

City of San José, Office of Economic Development
San Jose, CA
doug.moody@sanjoseca.gov | 669.314.4130 office

The City provides infrastructure and services for the San Jose community

I help businesses grow in San Jose

Talk with me about City services like:

- Site selection assistance
- Streamlining development
- Foreign Trade Zones
- Promoting businesses
- Workforce development
- Incentives & connections to other government agencies

I would like to know more about:

- Data representing the status and direction of the semiconductor industry at California and Silicon Valley scales
- Infographics that explain the semiconductor industry

Rick Abare (he/him/his)

South Bay Consortium for Adult Education
San Jose Region
Richard.abare@sbcae.org

Provide education services to adults in the San Jose Region of Santa Clara County – ELL / HSD-E / CTE / WfP

Director for SBCAE

Knowledge of Regional Adult Education and Community College Career Pathways
-
Data Analytics
-
Process alignment and partnership building

Hope to build intentional relationships with industry to support our students in achieving gainful employment via targeted short-term training

Emily Dilger (she/her)

Ignited
Santa Clara, CA
edilger@igniteducation.org

Ignited connects educators with industry experiences, equipping them to bring real-world applications into the classroom and inspire students' career paths.

CEO

- Workforce & Talent Pipeline Insights
- Industry-Education Collaboration
- Teacher & School Needs

- Industry Trends & Workforce Needs
- Industry Language & Priorities
- Economic & Policy Factors

Megan Lutz (She/Her)
Pronounced like vegan

Solidigm Technology
Portland, OR
Megan.lutz@solidigmtechnology.com

Solid State Drive Manufacturer

University Relations and Intern PM

Workforce development programs with universities and community colleges- semiconductor manufacturing; Apprenticeship programs. Process engineering

Design, Validation and Firmware WFD opportunities. Memory and Semiconductor career studies.

RAJESH JHA (he/him)

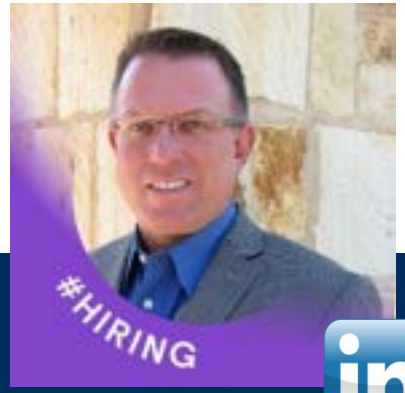
SimInsights
Irvine, CA
(714) 651-4104

SimInsights is a California-based provider of AI-powered AR/VR training solutions. Our platform, **HyperSkill**, enables organizations to create, deploy, and analyze immersive simulations for semiconductor workforce training and credentialing.

As CEO of SimInsights, I lead our efforts in developing XR/AI-powered simulation software and content. With over a decade of experience in VR/AR and AI/ML applications, I focus on driving innovation to advance training and operations across industries like semiconductors, manufacturing, healthcare, education and defense.

I can share insights into how immersive technologies like AR/VR, combined with AI and machine learning, can reduce cost, accelerate time to proficiency and increase career exploration. Research shows that improving these metrics helps workforce development and organizational impact. Additionally, I'd be happy to discuss how to navigate the adoption of technologies in a low cost and low risk manner to get rapid ROI.

I hope to gain a broader perspective on emerging trends and challenges within the semiconductor workforce training spaces. Learning from others about how they approach scalability of semi workforce and user engagement by leveraging new technologies would be invaluable. I'm also interested in exploring collaborative opportunities that push the boundaries of what's possible with immersive learning and data driven approaches.



Patrick Meyn

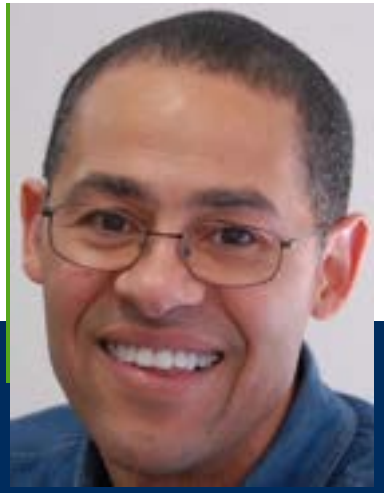
EMD Electronics
Patrick.meyn@emdgroup.com
www.linkedin.com/in/pmeyn/

Semiconductor Materials Equipment and Services

Site Director
Engineering Logistics and Operations

Gas and Chemical Expert
20+ years of managing large chemical gas and semiconductor facilities. Hiring development of large integrated teams performing high volume engineering and sustaining activities.

Being competitive with best workplace. Developing a appealing industrial workplace for Millennials and Alphas.



Luther Jackson (he/him)

CHIPS Communities United
National
lutherpjackson3@gmail.com

We are a national coalition working to ensure that investments under the Chips and Science Act benefit workers and community health

Workforce development consultant

My interests include identifying sources of undervalued talent to work in the industry and promoting innovative training approaches including apprenticeship.

I would like to learn more about industry skill requirements and opportunities for career mobility.

Resource Sharing

- Use the link in the chat to access our resource sharing spreadsheet

- Feel free to share:
  - Resources that have helped you learn more about the semiconductor industry
  - Resources that explain what your organization does
  - Articles related to current industry trends and changes
  - Anything you think may be helpful or interesting to this group

- Save the site so that you can review later
  - We will also send out the link after today's event

In-Person Collaborative Meeting

- What would success look like for an in-person event?
  - List ideas in the chat or come off mute
    - Topics
    - Participants
    - Timing/structure
- Let's prioritize:
  - What do we **need** to have? 
  - What is **nice** to have? 
- Polls:
  - Full day or half day?
  - Times of day?
  - Employer site or school site?
  - May or June?
- Funding opportunity for travel costs

Thank you and next steps

- Complete our exit survey to help us improve and to provide feedback for our upcoming in-person collaborative
- Resources from today will be sent via email
- Connect with us at any time: scanca@semi.org
- Any final thoughts or reflections?

THANK YOU

See you at the in person convening!