

Welcome to the  
67<sup>th</sup> Annual Symposium





## Presidential Welcome for the 67th Annual ASGS Symposium from ASGS President Annalee Pickett



Dear esteemed members and attendees,

With great pleasure, the American Scientific Glassblowers Society extends our warmest welcome to you at our 67th annual Symposium.

Thank you for embracing this opportunity to learn and share together about Scientific Glass. Salem Community College is our vibrant host for activities during the event. This location will bring us together in new ways around access to a cutting-edge Glass Center.

As President of the ASGS and Alumni of Salem CC, my sincerest gratitude goes to the Symposium Committee, Salem staff, generous sponsors and you as a member for making this event happen.

Welcome to New Jersey! Enjoy the Garden State and make this a Symposium to remember.

Warm regards,

*Annalee Pickett*

ASGS President

Founded in 1952 and incorporated in 1954, the American Scientific Glassblowers Society began as a professional, not-for-profit organization of scientific glassblowers and suppliers associated with the field. The objectives of the Society are to further the education of its membership through the gathering, promotion, and dissemination of technical and scientific information concerning all aspects of scientific glassblowing.

As a cost saving measure, we've condensed the information in this printed program to the bare necessities. QR codes will be found throughout the program to point you to the website page with the detailed content. Give it a try.

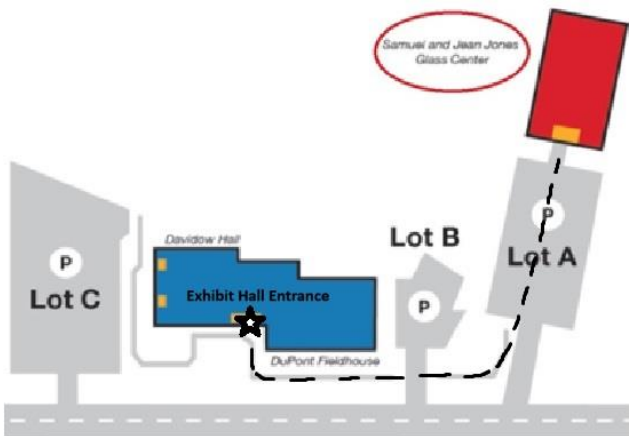
[www.asgs-glass.org](http://www.asgs-glass.org) is the same as:



Please visit the Google Play store or the Apple store to download a free QR Code reader.

**Glass Center parking available in Lot A or C**

★ **Exhibit Hall Entrance**



**Sunday June 23****SCHEDULE**

9:00a.m. – 4:00p.m.	Board of Directors meeting	SCC Glass Center
2:00p.m. – 5:00p.m.	Registration (No registration at hotel)	SCC Glass Center

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**Monday June 24**

8:15a.m.	Shuttle bus from HYATT PLACE	
8:00a.m. – 1:30p.m.	Registration (No registration at hotel)	SCC Glass Center
9:00a.m. – 12:30p.m.	Seminars and workshops	SCC Glass Center
12:30p.m. – 1:30p.m.	Lunch (provided)	Tent in Parking lot A SCC Glass Center
12:30p.m. – 1:30p.m.	Shuttle bus by request	at registration
1:30p.m. – 5:00p.m.	Seminars and workshops	SCC Glass Center
4:00 p.m. – 6:00p.m.	Registration (No registration at hotel)	SCC Glass Center
4:45p.m. – 5:45p.m.	Shuttle bus by request	at registration
5:30p.m. – 8:00p.m.	Exhibition, Silent Auction, National Awards (open bar & dinner provided)	SCC - Davidow Hall
National Awards:	J. Allan Alexander, Helmut E. Drechsel, Memorial, Symposium Chair, John J. Hauer, Wale, William A. Wilt	
8:30 p.m.	Shuttle bus to HYATT PLACE	

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**Tuesday June 25**

8:00a.m. – 1:30p.m.	Registration (NO registration at hotel)	SCC Glass Center
8:15a.m.	Shuttle bus from HYATT PLACE	
9:00a.m. – 12:30p.m.	Seminars and workshops	SCC Glass Center
10:30a.m – 12:30p.m.	SCC Campus Tour conducted by Bob Russell (Walking tour) departs from	Tent in Parking lot A
12:30p.m. – 1:30p.m.	Lunch (provided)	Tent in Parking lot A SCC Glass Center
12:30p.m. – 1:30 p.m.	Shuttle bus by request	at registration
1:30p.m. – 5:00p.m	Seminars and workshops	SCC Glass Center



4:00 p.m. – 6:00p.m.	Registration (No registration at hotel)	SCC Glass Center
4:45p.m. – 5:45p.m.	Shuttle bus by request	at registration
5:30p.m. – 8:00p.m.	Exhibition, Silent Auction, Section Awards (open bar & dinner provided) Section Awards	SCC - Davidow Hall
8:30 p.m.	Shuttle bus to HYATT PLACE	

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**Wednesday June 26**

8:15a.m.	Shuttle bus from HYATT PLACE	
8:00a.m. – 1:30p.m.	Registration (No registration at hotel)	SCC Glass Center
9:00a.m – 11:30a.m.	Technical Demos	SCC Glass Center
11:30a.m. – 12:30p.m.	Technical Posters	SCC Glass Center
12:30p.m. – 1:30p.m.	Lunch (provided)	Tent in Parking lot A
12:30p.m. – 1:30p.m.	Shuttle bus by request	at registration
1:00p.m. – 2:00p.m.	Annual Business Meeting at SCC Glass Center (No awards given out during meeting)	Tent in Parking lot A
2:00p.m. – 5:00p.m.	Technical Papers	SCC Glass Center
4:00p.m. – 6:00p.m.	Registration (No registration at hotel)	SCC Glass Center
5:00p.m. – 7:00p.m.	Open Flame Night	SCC Glass Center
7:30 p.m.	Shuttle bus to HYATT PLACE	

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**Thursday June 27**

8:00a.m. – 4:00p.m.	Bus to Chemglass LifeSciences, PEG, and WheatonArts	parking lot Hyatt SCC Glass Center
4:00p.m. – 8:30p.m.	WheatonArts After Dark. All awards given out Mon & Tues evening. No awards given out during dinner)	
8:30p.m. - 10:00p.m.	Bus to Salem Community College and Hyatt Place Riverfront	



<p>Mon AM 9:00AM- 12:30PM</p>	Junior Workshop					
	Allan Brown Workshop Day One					
Lunch 12:30-1:30						
<p>Mon PM 1:30PM-5:00PM</p>	Junior Workshop					
<p>Tues AM 9:00AM- 12:30PM</p>	Allan Brown Workshop Day Two					
Lunch 12:30-1:30						
<p>Tues PM 1:30PM- 5:00PM</p>	Junior Workshop					
	Allan Brown Workshop Day Two					
	<p>So you want to start a glass business Moraine, Kirchoff, Kruesi, Navalinsky One time only</p>	<p>Build a Quartz Torch Patrick Gadzinski One Time Only</p>	<p>Lathe Maintenance Chris Bock Also Tues AM</p>	<p>Tooling at the Bench Mike Greico Also Tues AM</p>	<p>Cool Down with Hot Glass PBS video Dr. Jackson and Tracy Drier Microheterotopia: How scientific glass became a profession Also Mon AM</p>	<p>Component Selection Jim Hodgson Also Mon PM</p>
	<p>Scientific Glassware Repair Strategies Kyle Meyer One Time Only</p>		<p>Lathe Maintenance Chris Bock Also Tues PM</p>	<p>Tooling at the Bench Mike Greico Also Tues PM</p>	<p>Lasers and Wazers and Blasters, Oh My Holly Fels Also Mon AM</p>	<p>Optical Windows Aaron Kirchoff Also Mon AM</p>
	<p>Introduction to Lathe Use &amp; Safety Rich Brinard One Time Only</p>	<p>Quartz The same as Glass but Different Bob Singer One Time Only</p>	<p>Brazing and silver soldering Patrick DeFlorio One time Only</p>	<p>Plasma Light Sculpture Angie McHale Also Mon AM</p>	<p>Cool Down with Hot Glass PBS video Dr. Jackson and Tracy Drier Microheterotopia: How scientific glass became a profession Also Mon PM</p>	<p>Component Selection Jim Hodgson Also Tue PM</p>
		<p>Oven Maintenance and Repair Doug Ohm One Time Only</p>			<p>Lasers and Wazers and Blasters, Oh My Holly Fels Also Tues AM</p>	<p>Optical Windows Aaron Kirchoff Also Tues AM</p>



## MONDAY AND TUESDAY ALL DAY 9:00 - 5:00 TECHNICAL WORKSHOPS

### Allan B Brown Regular Member Seminar



Instructors: Philip Legge, Ron Legge, and Kevin Teaford

### Joseph S Gregar Junior Member Seminar



Instructors: Christopher Bock, Benjamin Revis, Richard White, Jordan Smith, Byron Keirnan and Daniel DeLashmutt

## MONDAY MORNING 9:00 – 12:30 TECHNICAL SEMINARS



### Oven Maintenance and Repair

*Principal Instructor Doug Ohm*

### Hot Shop Don't Stop + Get Pumped for Pumpkins

*Principal Instructor Katie Severance assisted by Blake Julich*

### Plasma Light Sculpture

*Principal Instructor Angela McHale*

### Lasers and Wazers and Blasters, Oh My!

*Principal Instructor Holly Fels*

### Optical Windows

*Principal Instructor Aaron Kirchhoff*





MONDAY AFTERNOON 1:30-5:00  
TECHNICAL SEMINARS



Introduction to Glass Lathe Safety and Use

*Principal Instructor Rich Brainard*

Quartz; The Same as Glass but Different

*Principal Instructor Bob Singer*

Brazing and Silver Soldering for the Glassblower

*Principal Instructor Patrick DeFlorio*

Plasma Light Sculpture

*Principal Instructor Angela McHale*

<<FREE PARTICIPATION (SPONSORED BY ASGS)>>

Video: Cool Down with Hot Glass

*Dr. Catherine Jackson and Tracy Drier*

Additional videos from the 2023 Vancouver Symposium will follow

<<FREE PARTICIPATION (SPONSORED BY JIM HODGSON)>>

Component Selection

*Principal Instructor James Hodgson*





TUESDAY MORNING 9:00 – 12:30  
TECHNICAL SEMINARS



Scientific Glassware Repair Strategies

*Principal Instructor Kyle Meyer*

<<FREE PARTICIPATION>>

SCC Campus tour including the “original” scientific glass classroom

*Conducted by Bob Russell Instructional Chair SGT 2018-2022*

Lathe Maintenance and Repair

*Principal Instructor Chris Bock*

Tooling at the Bench

*Principal Instructor Mike Greico*

Lasers and Wazers and Blasters, Oh My!

*Principal Instructor Holly Fels*

Optical Windows

*Principal Instructor Aaron Kirchhoff*



**TUESDAY AFTERNOON 1:30-5:00**  
**TECHNICAL SEMINARS**



**So You Want to Start a Glassblowing Business**

Principal Instructors John Kruesi, Doug Navalinsky, Aaron Kirchhoff, Erich Moraine

**Build A Quartz Torch**

*Principal Instructor Patrick Gadzinski*

**Lathe Maintenance and Repair**

*Principal Instructor Christopher Bock*

**Tooling at the bench**

*Principal Instructor Mike Greico*

**<<FREE PARTICIPATION>>**

**Video: Cool Down with Hot Glass**

*Dr. Catherine Jackson and Tracy Drier*

**<<FREE PARTICIPATION Sponsored by Jim Hodgson>>**

**Component Selection**

*Principal Instructor James Hodgson*

**WEDNESDAY MORNING 9:00-11:30**  
**TECHNICAL DEMONSTRATIONS**



**You Call That a Side Seal - Dylan Karle**

**Sealing Perforated Quartz Disk - Carlos Rodriguez Flores**

**How is Your Neck? - Joe Sharp**

**Angled Suprasil Window Seal Using Glass Torches and Fixture**

*Andy Benowitz*

**Valves, Valves, Everywhere Valves - Annalee Pickett**

**Build a Diffusion Pump Skirt Using High Temp Carbon Felt**

*Devin Shields*



WEDNESDAY AFTERNOON 2:00-5:00  
TECHNICAL PAPERS

**2:00 PM Are We Running Out of Glass?** - *Charlie Manion*

**2:25 PM Interdisciplinary Scientific Glassblowing:** *Art-Inspired Glass Instruments*  
*Part 1 - Paul Vanouse*

**2:50 PM Interdisciplinary Scientific Glassblowing:** *Art-Inspired Glass Instruments*  
*Part 2 Tracy Drier, Lauren Aria*

**3:15 PM Review of Franz Cells** - *Nolan Galb*

**3:40 PM The Glass Class:** - *Vivian Feng*

**4:05 p.m. Semiconductor Industry & Quartz Glassblowing** -*Mike Glenn TOSOH*  
*Quartz*

**4:30 p.m. Scientific Glassblowing at the University: What Does it Mean to  
be an Advocate for your Field?** - *Lauren Aria and Tracy Drier*

Posters are available all week for viewing.

Authors will be present Wed 11:30 - 12:30

TECHNICAL POSTERS



**Make Your Own Glass KF**

**flange** – *Aaron Kirchhoff*

**Micro Sublimations** – *Adam Kennedy*

**How to Make Kappas and Similar Tools** – *Bandhu Dunham*

**Quartz Still for Tungsten 188 Processing** – *Carlos Rodriguez*

**Machinist, a Glassblower's Best Friend** – *Devin Shields*

**Order of Business** – *Jill Korgemagi-Clarke*

**Holding at an Angle** – *Jim Hodgson*

**Bridging the Flameworking Community** – *Glass Education Exchange (GEEX)*

**3D Printing Applications for the Glass Shop** – *Lauren Aria, Tracy Drier, Sebastian*  
*Thompson*

**Glass Micro-Capillary Electrodes for Corrosion Research** – *Tracy Drier, Lauren*  
*Aria, Changkyu Kim*



THURSDAY ALL DAY (GLASS CENTER IS CLOSED)  
Company Tours: ChemGlass and PEG  
WheatonArts Tour



## READ CAREFULLY THIS IS IMPORTANT

On the back of your name badge is your bus number (and group letter).

**You must board the bus # you are assigned to.**

We have a complex bus schedule that's been carefully planned to get everyone to where they need to be. If you haven't already registered, we don't have room for last minute add-ons as we are completely full.

### <<VERY IMPORTANT>>

**Bus 1 leaves the SCC Glass Center parking lot @ 8:45AM sharp**

**Bus 2 leaves the Hyatt 9:00AM and SCC @ 10:00AM sharp**

If you miss your bus, sorry, you must book an Uber to catch up with your bus. Don't be that person (please).

**ALL COMPANY TOUR PARTICIPANTS MUST WEAR CLOSED TOE SHOES  
AND SAFETY GLASSES or DIDYMIUMS**

## **WheatonArts After Dark Art Auction and Fundraiser Dinner**



Cocktail hour 4-5PM

Fundraiser dinner and art auction to follow.  
Donation bar all evening.



## Exhibition Davidow Hall

*Co-Chairs Dave Surdam, Phil Surdam, Dennis Wargo*

**Exhibit Opening Night** Mon June 24<sup>th</sup> 5:30PM - 8:30PM  
National Awards presentation with meal & open bar

**Exhibit Second Night** Tues June 25<sup>th</sup> 5:30 – 8:30 PM  
Section Awards presentation with meal and open bar

### **Exhibitors** (in alphabetical order)

#### **ABR Imagery**



[www.abrimagery.com](http://www.abrimagery.com)

3803 W. Vernal Pike Bloomington IN 47404  
(812) 339-0147

#### **Arnold Gruppe** (Symposium Sponsor)



[www.bhservicesllc.net](http://www.bhservicesllc.net)

B.H. Services Agent for Arnold Gruppe  
Bedford Lane Newton PA.18940  
(215) 378-1292

#### **Carlisle Machine Works**



[www.carlislemachine.com](http://www.carlislemachine.com)

412 S Wade Blvd. Bldg. #5 Millville, NJ 08332  
(856) 825-0627

## Chemglass Life Sciences

(Symposium sponsor)



[www.chemglass.com](http://www.chemglass.com)

3800 North Mill Road Vineland, NJ 08360

(800) 843-1794

## Friedrich & Dimmock



[www.fdglass.com](http://www.fdglass.com)

2127 Wheaton Ave, Millville, NJ 08332

(856) 825-0305

## GM Associates

[www.gm-quartz.com](http://www.gm-quartz.com)



9824 Kitty Lane Oakland, CA 94603

(510) 430-0806

## Precision Electronic Glass



[www.Pegglass.com](http://www.Pegglass.com)

1013 Hendee Rd Vineland, NJ 08360

(800) 982-4734



## QS Quartz Solutions

(Symposium Gold Sponsor)



150 North Michigan Avenue, 35th Floor  
60601 Chicago, Illinois USA Michigan Avenue, 35th (312) 560-3179

## Salem Community College Glass Center



[www.salemcc.edu/glass](http://www.salemcc.edu/glass)

460 Hollywood Avenue Carneys Point, NJ 08069  
(856) 351-2234

## Tosoh Quartz

(Symposium Diamond sponsor)



[www.tosohquartz.com](http://www.tosohquartz.com)

14380 NW Science Park Dr, Portland, OR 97229

(503) 605-5600



## VitroCom



[www.vitrocom.com](http://www.vitrocom.com)

8 Morris Ave, Mountain Lakes, NJ 07046  
(973) 402-1443

## Wale Apparatus



[www.waleapparatus.com](http://www.waleapparatus.com)

400 Front St, Hellertown, PA 18055  
(610) 838-7047



## Chairs, Presenters, and helpers



This list is incomplete. The number of contributors, some seen, some unseen, is immense. If your name isn't on this list, it's because we've been overwhelmed by the level of support and couldn't keep up. Double "thank yous" to those of you who were accidentally not included. To all who've helped, we are deeply grateful for your time and energy.

### Your Symposium Chairs

Klaus Paris, Kaite Jones, Erich Moraine

Aaron	Kirchhoff	Devin	Shields	Lauren	Aria
Adam	Kennedy	Doug	Navalinski	Lenorau	Stott
Angela	McHale	Doug	Ohm	Maxwell	Montini
Annalee	Pickett	Dylan	Karle	Mike	Greico
Bandhu	Dunham	Erich	Moraine	Nicole	Stowe
Benjamin	Revis	Holly	Fels	Nolan	Galb
Blake	Julich	James	Hodgson	Patrick	Gadzinski
Bob	Singer	John	Kruesi	Paul	Vanouse
Carlos	Flores	Joseph	Horvat	Phil	Legge
Celeste	Tsang	Kaite	Jones	Reed	Allison
Chandra	Lamberth	Katherine	Cheetham	Rich	Brainard
Changkylu	Kim	Katia	Eklund	Ron	Legge
Charlie	Manion	Katie	Severance	Ruth	Babbitt
Chris	Bock	Kayla	James	Suzanne	Peck
Dan	Walker	Kevin	Teaford	Tracy	Drier
Dave	Surdam	Klaus	Paris	Truman	Long
Dennis	Wargo	Kyle	Meyer		