

# ICMCTF 2022 EXHIBIT SHOW GUIDE

ICMCTF exhibitors offer a wide range of instrumentation, components and services that support and enable the analysis and characterization of metallurgical coatings, thin films and surface modification.

Exhibits are open Tuesday and Wednesday only! Take the time to visit the exhibits to speak to the vendors and challenge them with your specific needs and let them help you perform your research more efficiently.

## Exhibit Hall Event Schedule

<u>Tuesday</u>		<u>Exhibit Hours: 12pm to 7pm</u>		<b>EXHIBIT HALL HOURS</b>		
Light Lunch	12:00pm	-	1:40pm	Tuesday	April 24	12pm - 7pm
Afternoon Refreshments	3:20pm	-	4:00pm	Wednesday	April 25	10am - 2pm
Evening Reception	5:30pm	-	7:00pm	<u>TOC:</u>		
Raffle Entry / Drawing	12:00pm	-	6:30pm	Exhibitor List & Floor Plan		2
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<u>Wednesday</u>		<u>Exhibit Hours: 10am to 2pm</u>				
Morning Refreshments	10:00am	-	11:00am			
Light Lunch	12:20pm	-	2:00pm			
Raffle Entry & Drawing	10:00am	-	1:30pm			



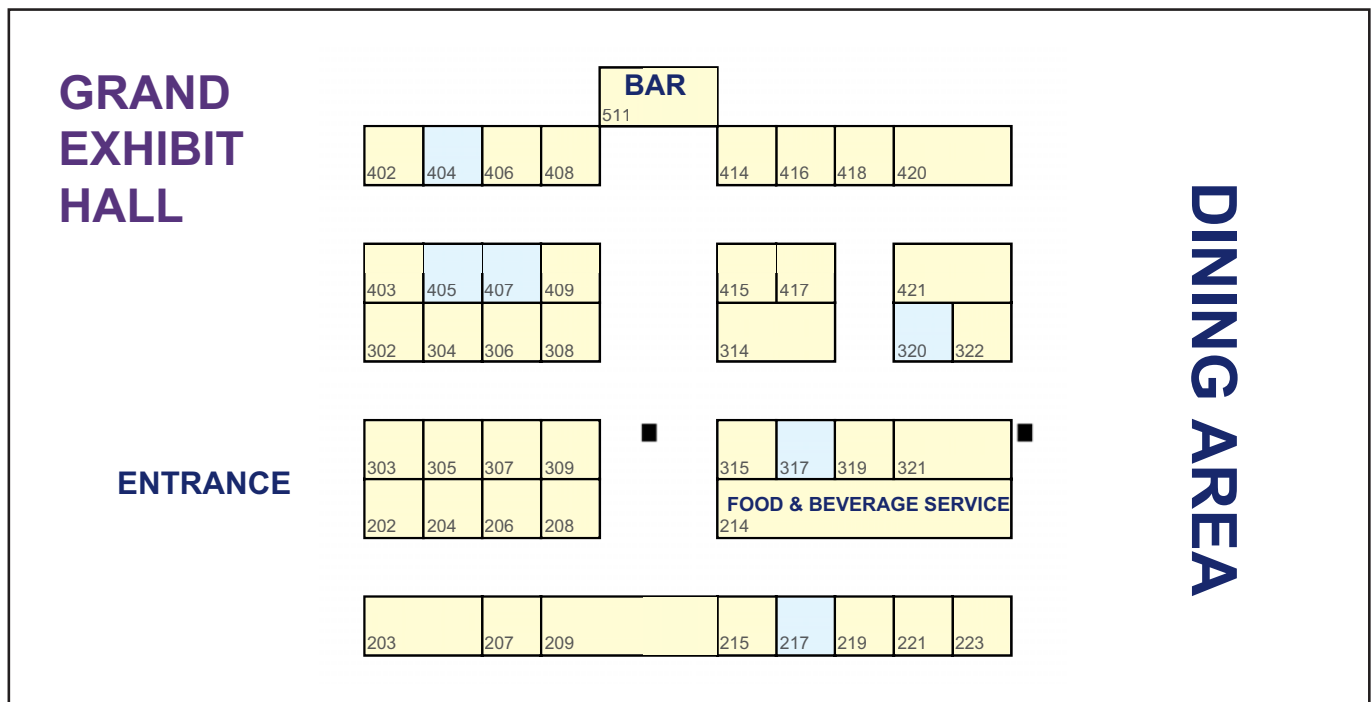


# ICMCTF 2022 EXHIBITORS

Blue listings indicate our generous sponsors



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206	Annealsys	221	Micro Materials, Ltd.
305	Arbor Specialties	319	Nano4Energy SLNE
416	AVS Membership & Logo Items	207	NETA
418	AVS Publications	<b>202</b>	<b>Oerlikon Balzers</b>
403	Bruker	<b>223</b>	<b>PlasmaSolve</b>
<b>322</b>	<b>CemeCon AG</b>	<b>302</b>	<b>Plasmaterials, Inc.</b>
209	FemtoTools AG	<b>321</b>	<b>PVT Plasma und Vakuum Technik GmbH</b>
408	Ferrotec (USA) Corporation	203	R.D. Mathis Company
307	GE Research U.S.	420	RAFFLE ZONE
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<b>315</b>	<b>IHI Ionbond, Inc.</b>	417	SCI Engineered Materials, Inc.
219	KCS Europe GmbH	309	Solecon Laboratories, Inc.
314	KLA Corporation	414	Swiss Cluster AG
406	Kratos Analytical, Inc.	306	Vergason Technology, Inc.
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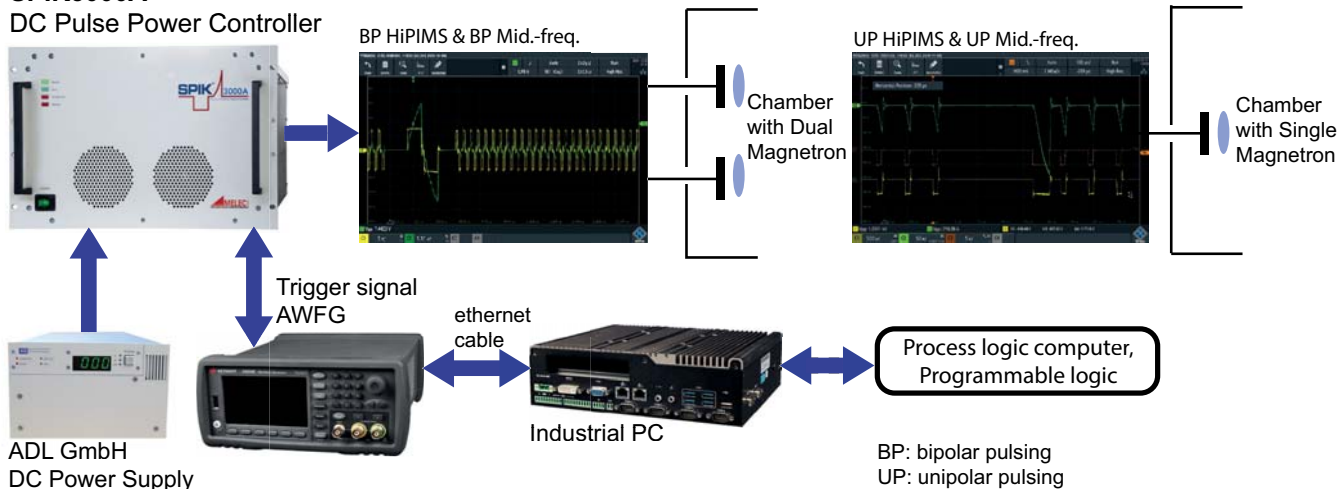
**evatec**  
process systems

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# Synchronization of Superimposed Pulse Power Technology with MELEC GmbH SYNC MY2020 SOFTWARE

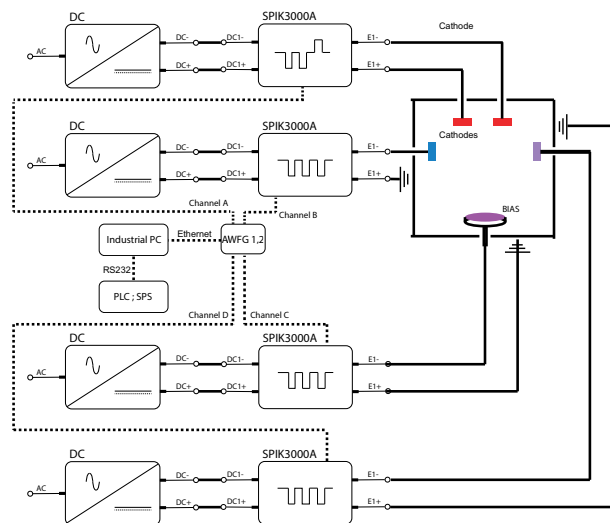
**SPIK3000A**

## DC Pulse Power Controller



The SYNC system is designed to synchronize up to eight pulse devices using arbitrary function generators (AWFG). The AWFGs are controlled using the recipe tool software, which forms the link between the PLC and the AWFG. The pulse pattern is created using the Pulse Editor software SYNC MY2020.

## Example of a synchronized PVD Coating-System



NEW

The drawing shows a PVD device with 2 single magnetrons and 1 dual magnetron system and a pulsed BIAS power supply. All magnetrons are operated using a trigger system in HiPIMS mode. A phase shift of HiPIMS pulses may be necessary not to overload the BIAS power supply. Other applications could be for example co-sputtering or combinations with HiPIMS and Mid-frequency.

MELEC GmbH  
Dr.-Rudolf-Eberle-Str.27  
76534 Baden-Baden  
Germany

Phone: +49 7223 28145-01  
Email: [info@melec.de](mailto:info@melec.de)  
Web: [www.melec.de](http://www.melec.de)

Contact Person  
Mr. Günter Mark  
Phone: +49 7223 28145-10  
Email: [quenter.mark@melec.de](mailto:quenter.mark@melec.de)

2020  
Impact Factor\*  
**2.427**

2020  
Total Citations:  
**10,485**

**BOOTH  
418**

# JVSTA

A 3D molecular model showing a complex arrangement of atoms represented by green, grey, and blue spheres. The model is set against a background of red and blue nebula-like clouds.

Understanding interfaces and surfaces at a fundamental level and using this understanding to advance the state-of-the-art in various technological applications

Editor-in-Chief: Eray Aydil, *New York University, USA*

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- Surface Engineering
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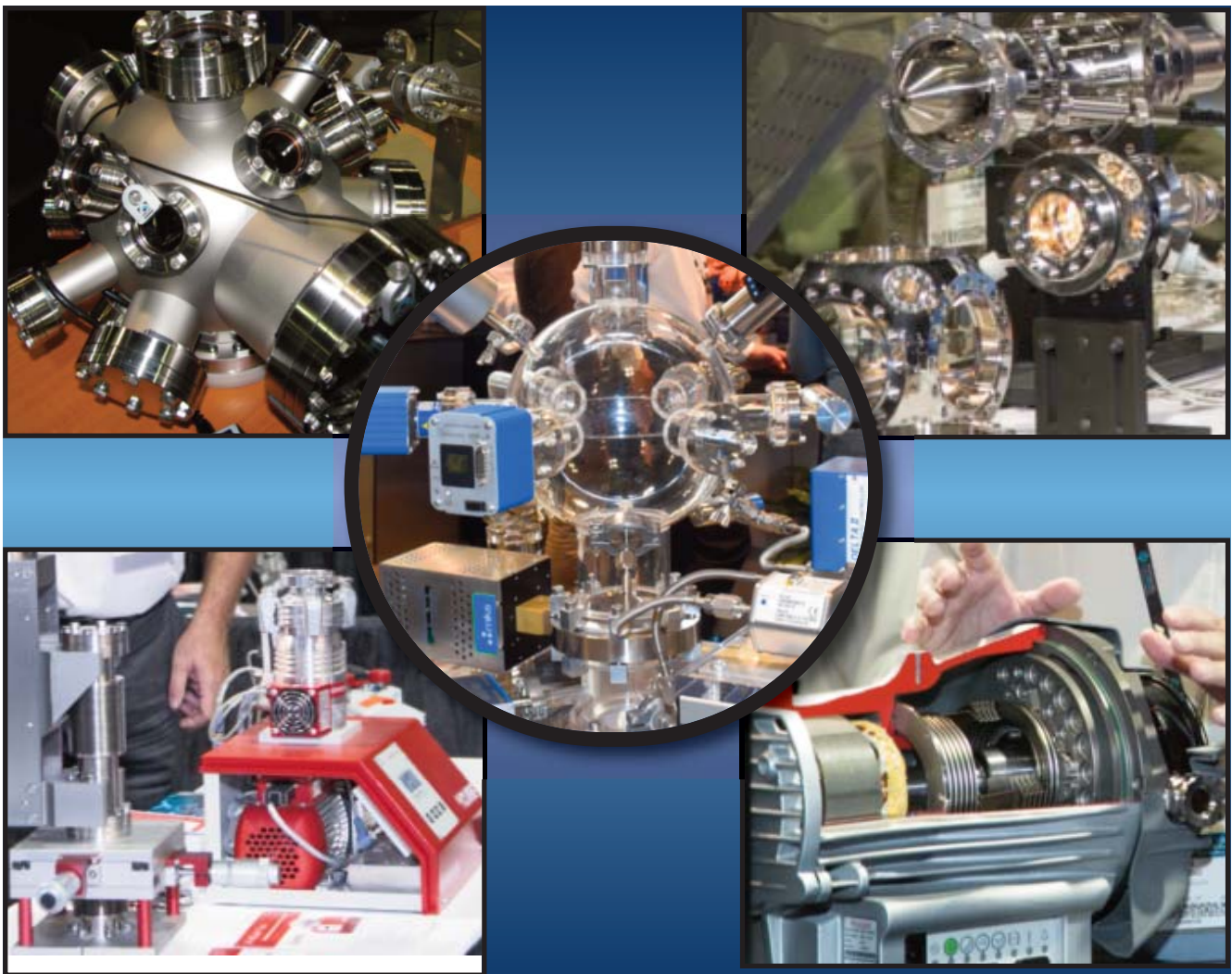


# EXHIBITOR PRODUCT CATEGORIES

**Not sure which vendors offer the products you're looking for?**

The Product Locator will help you find the vendors and the products they offer.

Product categories are listed alphabetically followed by the supplier(s) and their corresponding booth location.



# EXHIBITOR PRODUCT CATEGORIES

## PRODUCT CATEGORIES FOLLOWED BY THE EXHIBITORS WHO OFFER THEM

### Analytical & Testing Services

GE Research	307
KLA Corporation	314
NETA	207
Rtec Instruments, Inc.	215
Solecon Laboratories, Inc.	309

### Analytical Instrumentation

HORIBA Scientific	415
KLA Corporation	314
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Rtec Instruments, Inc.	215

### Auger Electron Spectrometers

Kratos Analytical, Inc.	406
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### Backing Plates

Plasmaterials, Inc.	302
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### Bonding

IHI Ionbond, Inc.	315
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### Bonding Techniques

IHI Ionbond, Inc.	315
NETA	207

### Chemical: Surface Treating Services

IHI Ionbond, Inc.	315
Vergason Technology, Inc.	306

### Coating Machines/Instruments

AJA International, Inc.	402
Annealsys	206
CemeCon AG	322
KCS Europe GmbH	219
Nano4Energy SLNE	319
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PVT Plasma und Vakuum Technik GmbH	321
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Vergason Technology, Inc.	306
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### Consulting

GE Research	307
Laser Thermal	208
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PlasmaSolve	223
Solecon Laboratories, Inc.	309
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### Crucible Liners

Plasmaterials, Inc.	302
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### Custom Vacuum Systems

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### CVD Diamond Coatings

CemeCon AG	322
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### Detectors / Multipliers

HORIBA Scientific	415
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### E-Beam Gun Power Supplies

Ferrotec (USA) Corporation	408
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### E-Beam Gun Sweeps

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## E-Beam Guns

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## E-Beam Parts and Accessories

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R.D. Mathis Company 203

## Evaporation Materials

AJA International, Inc. 402  
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R.D. Mathis Company 203

## Film Thickness Systems/Equipment

Bruker 403  
HORIBA Scientific 415  
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k-Space Associates, Inc. 304  
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## Gas Control Systems

R.D. Mathis Company 203

## Gauges, Tubes

ANCORP 409

## Glassware

ANCORP 409

## HIPIMS

CemeCon AG 322  
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Nano4Energy SLNE 319  
PVT Plasma und Vakuum Technik GmbH 321

## Ion / Electron Guns

Kratos Analytical, Inc. 406

## Ion Beam Deposition Systems/Guns

AJA International, Inc. 402

## Lab Furnaces

Annealsys 206

## Magnetron Sputtering Cathodes

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MELEC GmbH 204  
Vergason Technology, Inc. 306

## Magnetron Sputtering Equipment

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MELEC GmbH 204  
Nano4Energy SLNE 319  
R.D. Mathis Company 203  
Swiss Cluster AG 414  
Vergason Technology, Inc. 306

## Materials / Standards

KCS Europe GmbH 219  
Micro Materials, Ltd. 221  
Plasmaterials, Inc. 302  
R.D. Mathis Company 203  
Swiss Cluster AG 414

## Materials Testing

Bruker 403  
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Laser Thermal 208  
Micro Materials, Ltd. 221  
PlasmaSolve 223  
Rtec Instruments, Inc. 215

## Metrology Equipment/Systems

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Laser Thermal 208  
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Rtec Instruments, Inc.	215

## NanoMechanical Testing Systems

Bruker	403
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Annealsys	206
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## Particle Monitoring

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## Planar Magnetron Cathodes

Vergason Technology, Inc.	306
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## Precious Metal Alloys

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## Precious Metal Refining

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## Process Controllers/Monitors

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## RAMAN Spectroscopy

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## RF Systems/Generators/Power Supplies

Nano4Energy SLNE	319
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## Scanning Probe Microscopy Systems

HORIBA Scientific	415
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## Software

HORIBA Scientific	415
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Swiss Cluster AG	414

## Spectrometer Accessories

HORIBA Scientific	415
Kratos Analytical, Inc.	406

## Sputtering Deposition System

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## Sputtering Deposition Targets

Plasmaterials, Inc.	302
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# EXHIBITOR PRODUCT CATEGORIES

## Thickness Monitors/Measurement

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Solecon Laboratories, Inc.	309

## Thin Film Vacuum Coating

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Nano4Energy SLNE	319
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## Tribology Equipment/Services

Bruker	403
Micro Materials, Ltd.	221
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## Tubing/Piping/Bellows Assemblies

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## Vacuum System Accessories

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## Vacuum System Replacement Parts

ANCORP	409
Ferrotec (USA) Corporation	408
R.D. Mathis Company	203
Vergason Technology, Inc.	306

## Valves

ANCORP	409
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## X-Ray Photoelectron Spectrometers

HORIBA Scientific	415
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### ICMCTF 2022 Career Center

The International Conference on Metallurgical Coatings and Thin Films (ICMCTF) will be hosting their first on site Career Center, open to all attendees, for the purpose of connecting job seekers with potential employers. The goal is to facilitate contact and networking during the Conference. This event will take place Sunday-Thursday, May 20-26, 2022. Please visit the registration area for participation instructions.

### PLENARY LECTURE

"The Fundamental Physics of Spray Coatings and Surface Impacts: Unit Process Studies of Hypersonic Particle Impacts"

Monday, May 23, 2022 8:00 am



Christopher A. Schuh  
Department of Materials Science and Engineering  
MIT

**BOOTH  
418**



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**JVST A:**

- Atomic Layer Deposition & Etching
- Thin Films
- Surfaces & Interfaces



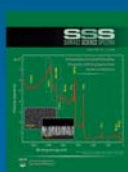
**JVST B:**

- Electronic & Optoelectronic Devices & Processing
- Microelectronics & Nanoelectronics
- Device Measurement & Materials Characterization Technology



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# EXHIBITOR COMPANY PROFILES

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**North Scituate, MA 02060**  
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**409**

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**Phone: 33-467-202-363**  
**[www.annealsys.com](http://www.annealsys.com)**

**206**

Annealsys manufactures Rapid Thermal Processing (RTP) and chemical vapor deposition (CVD/ALD) systems. Our customers are Research and Development laboratories and companies for production applications. The privately owned company Annealsys was established in 2004 in Montpellier, South of France. Annealsys provides outstanding technical and process customer service through a worldwide sales and service organization. Our philosophy involves: · Building up a long-term relationship with our customers · Provide high reliability and high quality tools · Insure low cost of ownership · Offer support and service excellence To achieve this goal, we set up a worldwide sales and customer service network.

**Arbor Specialties**  
**990N. VENTURA AVENUE**  
**VENTURA, CA 93001**  
**Phone: 805-648-4664**  
**[www.arborspecialties.net](http://www.arborspecialties.net)**

**305**

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**AVS PUBLICATIONS** 418  
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Stop by the AVS Publications Booth 418 during ICMCTF to learn about the AVS suite of publications and journals and how to submit papers for consideration into any of our journals with no page charges!

- Journal of Vacuum Science & Technology A (JVST A)
- Journal of Vacuum Science & Technology B (JVST B)
- AVS Quantum Science (co-published with AIP)
- Biointerphases
- Surface Science Spectra (SSS)

**Bruker** 403  
**40 Manning Rd**  
**Billerica, MA 01821**  
**Phone: 520-289-2207**  
**www.bruker.com/nano**

Bruker is a world-leading manufacturer of metrology and testing solutions with a suite of technologies for thin film characterization, including contact and non-contact surface profilers, mechanical testers and nanoindenters. Visit our booth (#403) to see our latest technologies and application stories. Check us out online at [www.bruker.com/nano](http://www.bruker.com/nano).

**CemeCon AG** 322  
**Adenauerstrasse 20A4**  
**52146 Wuerselen**  
**Germany**  
**Phone: 49-2405-4470-100**  
**www.cemecon.com**



CemeCon highlights for the 2022 ICMCTF: Pure HiP-IMS Coatings with a deposition rate as high as 2 µm/hour - this makes the CC800 HIPIMS the ideal piece of equipment for industrial HiPIMS production and for cutting edge thin films research The next generation Diamond Coatings for graphite moulds for curved displays for cell phones and CFRP/composites for the aircraft industry

**FemtoTools AG** 209  
**Furtbachstrasse 4**  
**Buchs ZH 8107**  
**Switzerland**  
**Phone: +41 44 844 44 25 • www.femtotools.com**  
 FemtoTools develops and sells high resolution, MEMS-based nanoindenters for applications in metallurgy, thin films and microsystem technology

**Ferrotec (USA) Corporation** 408  
**3945 Freedom Circle Suite 450**  
**Santa Clara, CA 95054**  
**Phone: 408-964-7700**  
**www.ferrotec.com**

Ferrotec is a world leader in advanced material, component, and system solutions. Ferrotec manufactures precision electron beam coating solutions including complete systems for system buyers, integrated component solutions for system builders, or components and accessories for system users who need replacements or upgrades. Our booth features our Temescal Systems division, E-Beam components from Germany, and our Vacuum Feedthrough products. For more information, visit [www.ferrotec.com](http://www.ferrotec.com).

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**1 Research Circle**  
**Building K1-1D41**  
**Niskayuna, NY 12309**  
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**HORIBA Scientific**  
**20 Knightsbridge Road**  
**Piscataway, NJ 08854**  
**Phone: 732-494-8660**  
**[www.horiba.com/scientific](http://www.horiba.com/scientific)**

Elemental Metal Infrared Analyzers (EMIA) measure gases extracted during combustion in a programmable High Frequency furnace directly with no conversion; The EMGA series offers analytical functions and stable control techniques providing fast, high precision analysis of materials ranging from micro-quantity to high-concentration samples; Micro-XRF Analyzers include XGT X-ray Fluorescence micro-analyzers combining fast, non-destructive elemental analysis of energy dispersive X-ray Fluorescence with the ability to pinpoint individual particles with diameters down to 10µm in size. Automated sample scanning provides detailed images of element distribution over areas as large as 10cm x 10cm. The new EMIA Expert Carbon/Sulfur Analyzer offers Non-Dispersive Infrared (NDIR) measurement capabilities, and is equipped with a unique CO Detector. It can be used for a wide variety of Inorganic materials like steel, cokes, catalyst, non-ferrous alloy like aluminum and lithium-ion battery materials.

**307**

**IHI Ionbond, Inc.**  
**1823 East Whitcomb Avenue**  
**Madison Heights, MI 48071**  
**Phone: 248-398-9100-2214**  
**[www.ionbond.com](http://www.ionbond.com)**

Ionbond provides advanced coating solutions for applications in the aerospace, medical, food contact, automotive, decorative and tooling industries. We offer a broad range of hard, low-friction, wear-resistant coatings based on PVD, PACVD and CVD technologies. With 35 job coating centers in 15 countries in Europe, North America and Asia, Ionbond has one of the largest coating networks in the world. Ionbond is part of renowned Japanese industrial consortium IHI Group.



**315**

**KCS Europe GmbH**  
**Am Handwerkerzentrum 6**  
**Monschau 52156**  
**Germany**  
**Phone: 247-297-0320**  
**[www.kcs-europe.com](http://www.kcs-europe.com)**

KCS Europe GmbH is the European Partner of the globally operating Kobe Steel Group from Japan, which specializes in the construction of PVD coating systems under the trade name KOBELCO. With more than 500 coating units sold worldwide, KOBELCO is one of the market leaders in the field of surface technology. KCS Europe, based in Monschau, Germany, therefore provides high-performance coating units as well as application-based coating solutions and films for various applications that significantly enhance the performance and service life of precision components and tools. The latter is made possible by the in-house research and development department as well as numerous collaborations with renowned institutes and universities. Visit us at booth #219 and get to know more about our latest innovations. We look forward to seeing you there!

**219**

# EXHIBITOR COMPANY PROFILES

## **KLA Corporation 314**

**1 Technology Drive  
Milpitas, CA 95035  
Phone: 408-375-3000 • [www.kla.com/](http://www.kla.com/)**

The Nano Indenter product line extends KLA-Tencor's surface metrology product suite to include a range of products well matched to customer's broader KLA Instruments offers a portfolio of profilometers, nanoin-denters, thin film reflectometers, sheet-resistance tools and defect inspection and metrology systems. For in-dustry experts, academics and other innovators, KLA Instruments delivers trusted measurements, enabling the world's breakthrough technologies.

## **Kratos Analytical, Inc. 406**

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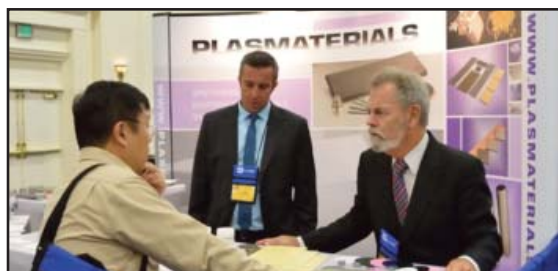
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## EXHIBITORS KEYNOTE

“Fabrication and Characterization of Industrially Important Films and Coatings”  
 Tuesday, May 24, 2022, 11:00 a.m.



Vincent S. Smentkowski  
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## Join Us for Awards Night

**Wednesday, May 25, 2022**  
**5:45 p.m., Town & Country A**

R.F. Bunshah Award & Lecture

Bill Sproul Award

Graduate Research Awards

The Awards Reception Will Follow at 7:30 p.m.





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