

Chapter Newsletter, 2021, Vol. 2**Incoming Chair's Message**

As we complete our 2020-2021 term, I want first to send kudos and a heartfelt "Thanks for a job well done" to our outgoing Chair, Dave Kovarik. Thanks, Dave...great job. The coming 2021-2022 term looks brighter as the pandemic restrictions are lifted, and we anticipate renewing social meetings and gatherings at events. The first of these will be the Cleveland Chapter Golf Outing social event on August 12 at Briarwood Golf Course, held in collaboration with the Cleveland Technical Societies Council. The golf committee is off to a great start in organizing and creating a successful event.

Over the past year-and-a-half, ASMI Cleveland has developed new capabilities in conducting meetings, symposia, and events using virtual platforms. As we approach the start of the coming season and the return of social gatherings, we will evaluate the use of "hybrid" meetings, combining face-to-face social venues with a real-time broadcast over the internet to those who wish to join remotely. We hope to leverage the advantages of each to maximize options and better serve our chapter members.

The upcoming technical program, being developed at this time, will revisit having a Technical Chair for the monthly technical meeting. We invite any of you to suggest topics of interest and potential presenters over the next few weeks to assist in finalizing the program. Our Vice Chair, Dr. Joseph Snyder, is leading that effort. The Chapter Educational Symposium this year, organized by Dr. David Van der Weil of NSL Analytical, will address the topic of battery technology.

As we emerge from the past year's Covid restrictions, let's pull together as a team going forward to grow our involvement and contributions for the good of our Chapter and those we serve. Thanks. And here's to a great year...
John Pickens

Sustaining Members

Special thanks to the following chapter sponsors, whose financial support helps the chapter to put on monthly technical programming, give out scholarships, and serve the interest of our members.

Contact us to become a Chapter Sponsor and help us increase the level of student support, educational opportunities, and outreach we provide to our members and community.



Outgoing Chair's Message

Thank you for the honor of being your chairperson this year. Despite the challenges in having meetings, talks, voting, and just getting together in general, I think we had a good year. I appreciate everyone's help and support because it took all of your efforts to pull it off.

I especially want to thank the other officers; John Pickens, Joe Snyder, and Nic Willis; for their support during the year, and the all the committee chairs for all the work they've done.

Thank you to all the people who attended the meetings and symposium. I hope that you learned something, were able to listen to people that you would usually not be able to hear, and at least saw on Zoom some of your old compatriots. I also want to wish the new officers good luck. I hope that your year will be as good as mine was.

Take care and stay healthy,
Dave Kovarik

2020-2021 Annual Cleveland Chapter Summary Report

The 2020-2021 term year for the Cleveland Chapter was under the restrictions of the Covid-19 lock-down and required much in the way of innovative approaches to carry out the programming. Every one of the chapter technical meetings was conducted as an online virtual meeting using the RingCentral online meeting platform which was purchased by ASM International Headquarters for the use of all of the chapters. Even so, the chapter was able to succeed in conducting a highly productive program for the year without the advantages of having any face-to-face social events. The last social meeting held was in February of 2020 during the preceding 2019-2020 term. All of the meetings of the officers and the Excomm for the 2020-2021 term were also conducted using the RingCentral platform. We had a total of nine technical meetings, five executive committee meetings, a technical symposium, and a poster competition; all done via RingCentral. There was no opportunity to hold any of our usual social events, e.g, the Theater Night and Golf Outing events, during this past term year. However, as we are entering into the 2021-2022 term year, we are

already planning to put the Golf Outing and Theater Night event back in place. The 2020-2021 events program is attached in the table at the end of this report for record.

But, in the sense that "adversity can be the mother of invention", this past year created opportunity to develop more sophisticated approaches to conducting online meeting events. Two of our events in particular, The Cleveland Chapter Educational Symposium and Student Night/Poster Session Competition, had to undergo significant planning, testing, and development to be accomplished.

The Educational Symposium, "Modelling of Thermal Processes" was held in November as a four-night virtual online event over the course of two weeks. The technical program was organized by Dante Solutions under the leadership of Dr. Lynn Ferguson. A total of nine excellent presentations were streamed using RingCentral.

All the presentations were recorded and made available to registrants for later reference and review as a means of enhancing the effectiveness of the learning opportunities for all involved.

Additionally, certificates for nine Professional Development Hours (PDH units) were made available to any participant that requested it for their use. The live event also included the opportunity for the presenter to take questions from the audience participants. The advertising for this event was done via emails to Chapter members, but we also took advantage of a new opportunity to advertise globally across all ASM International Chapters using the new ASMI Connect communications system. We did a series of advertising notices with progressive updates featuring information on each of the upcoming presentations to grow interest and add participants.

Since this online approach to running our symposium resulted in no expenses for the chapter, the registration fee was reduced to promote greater participation. The end result was that an appreciable addition to the Chapter's Scholarship Fund was made from the proceeds of the symposium.

This year's Student Night event incorporated a Poster Competition that had to be done virtually.
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This was another completely new dilemma that was addressed to find a way to present and judge individual posters presented online by the students in an effective and timely manner.

Under the leadership of our Chairman, David Kovarik, we “blazed a new trail” to accomplish this using a number of virtual, individual breakout rooms. This allowed viewers and judges to have discussions with the individual presenters without disturbing the others. The poster competition included students from both Case Western Reserve and Cleveland State Universities. There were a total of eight excellent poster presentations and a panel of seven judges, volunteers from within the Cleveland Chapter membership. The plan was to give monetary awards to the first, second, and third place winners as selected by the judging panel. However, the posters were so well done that the leadership decided to increase the award money and give two second place awards in place of a third-place award.

The winners were Kimberly Gliebe, 1st place plus David Scannapieco, and Bridget Beggs.

Related to all of the efforts and successes in developing ways to effectively promote chapter events this past year while under the pandemic social restrictions, the Chairman, David Kovarik, has submitted applications to ASMI Headquarters for consideration for three awards: (a) Innovative Programming Award, (2) Communication Award 2021, and (3) Student Outreach Award 2021.

Teachers Camps were not conducted in the usual manner during this past year, except as virtual Teacher’s Camp events. The chapter did reach out to local virtual Teacher Camp attendees to seek ways to build relationships and outcomes. One of these teachers took advantage of this and the chapter has provided her with approximately \$500 in materials for her use in her classroom. We have also followed up with the STEM School based at Case Western Reserve University to partner in their efforts. This STEM program is aimed at having CWRU students work with community recreation centers to provide after-school materials science activities. Due to the virus lockdown, initial efforts were put on hold until CWRU is back to face-to-face interaction again.

The Chapter continued its involvement with the Northeast Ohio Science Fair and supplied special judges for the virtual Science Fair event. We awarded two first place, one second place, three third place awards plus seven Honorable Mentions. Judges went online to review the posters and videos presented by the students in a series of four online meetings and subsequently gave input to the Event Coordinator, one of our own Cleveland Chapter members. Though initially, \$1000 had been earmarked for the awards, an extra \$100 was approved so there could be two first place winners.

Four \$1000 scholarships were awarded as a part of the Donaldson-Kiefer scholarships program. This program awards scholarships to undergraduate students from any of the Northeast Ohio Colleges and Universities. Though initial intent was to award three scholarships, the Executive Committee approved addition of a fourth scholarship because the top four candidates were all equally deserving.

This past 2020-2021 term has shown that the virtual meeting option has several advantages in facilitating attendance by members who may otherwise not be able to attend an off-site face-to-face social event, plus it provides the opportunity to have presenters from across the nation and world without the burden of travel expenses to the chapter. Yet, the historical social gathering with socializing, networking, building relationships and camaraderie has value that must be preserved. Therefore, for the coming 2021-2022 term year, the leadership team of officers and Excomm members will be considering the means and equipment required to go to Hybrid events...having the typical social event incorporating hospitality hour, networking, a meal, and a technical presentation coupled with a broadcast to those who prefer to attend virtually from their chosen location. We invite anyone who can supply guidance and suggestions to join us in this endeavor.

Respectfully submitted,
John Pickens, Vice Chair

Tuesday, October 12th, hybrid meeting

Heat Treaters Night

Special Topic: Tracer Gas Leak Detection

Guest Speaker: David Deiwert

We “Kicked Off” our monthly technical meetings with a special Heat Treater’s Night and Manufacturing Day celebration at Cleveland State University. David Deiwert, the Product Manager for Pfeiffer Vacuum on leak detection products, gave us practical instruction in equipment and techniques for measuring / detecting leaks in vacuum heat treating furnaces. Following the presentation, there was a tour of Cleveland State University laboratories where David gave a hands-on demonstration of the “how-to” in checking furnaces and vacuum systems for leaks using equipment he is brought to the meeting.

Tuesday, November 16th, hybrid

Young Members Night

Special Topic: Simulating Heat Treatment of Steel Parts

Guest Speaker: Justin Sims

Our November meeting featured a presentation by one of our prominent young members, Justin Sims of Dante Solutions. The talk presented a series of case studies to illustrate the material data and process parameters needed to simulate commercial heat treat processes for steel parts, as well as the challenges surrounding obtaining the required data.

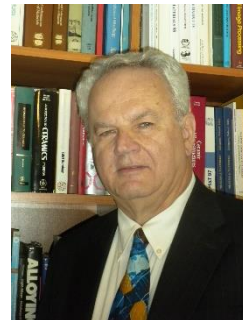


Tuesday, March 16th, online Technical Meeting and Student Night

Special Topic: Metallography Preparation and Examination of Medical Implant Devices

Guest Speaker: George F. Vander Voort

Mr. Vander Voort is president of Vander Voort Consulting L.L.C. and a consultant for Buehlers, is a graduate of Drexel University and Lehigh University with a background in metallurgy and materials science and 29 years’ experience in the US steel industry.



This lecture presented techniques and results for examination of titanium-based acetabular cups and Co-Cr-Mo femoral hip stems and knees.

Student Night Poster Presentations

As part of student night, poster presentations were given prior to the start of the talk. This year’s virtual competition still allowed for interaction between presenters and attendees and showcased a variety of different topics. The winners were Kimberly Gliebe in first place, and David Scannapieco and Bridget Powers Beggs tied for second place (pictured below, left to right). More information about their posters can be found on our chapter website and in an article posted on the CWRU website: <https://engineering.case.edu/news/gliebe-wins-asm-cleveland-student-poster-competition>



Monday, April 12th, online

Special Topic: Low Density, High Entropy Alloys

Guest Speaker: . C. C. Koch, PhD

Dr. Koch has a is currently Kobe Steel Distinguished Professor with North Carolina State University’s Materials Science and Engineering Department.

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Previously, he has been a staff scientist at Oak Ridge National Laboratory, and an NSF fellow at Birmingham University, UK. He has published over 360 papers and edited or co-edited 7 books.

High entropy alloys are a new class of multi-component alloy systems in which the design of the alloys is based not on adding solutes to a single “base” element, but rather on choosing elements that will form solid solutions when mixed at near-equiatomic concentrations.

Structural materials with low densities and good mechanical properties have been sought after for many years. The new paradigm in alloy development /materials science of so-called high entropy alloys offers greatly expanded possibilities for development of such alloys.



Tuesday, May 20th, online Technical Meeting and Awards Night

Special Topic: Process Considerations for Forging Duplex Stainless Steel Rings

Guest Speaker: Sue Schreiner

Sue Schreiner has been an active metallurgist in multiple industries in the Northeast Ohio region for over 20 years. Sue is currently a metallurgist for thyssenkrupp rothe erde.

Duplex stainless steels are widely used in the chemical processing, oil, and gas industries. Due to the increasing demand for energy, ever larger cast or forged parts are required in the offshore industry. Characterization of the mechanical and metallurgical properties and corrosion resistance of rolled ring products with large wall thicknesses are critical to assessing the success of forging and heat-treating operations.

2020/2021 Award Recipients

Awards were presented during our May technical meeting which was conducted on Ring Central.

After the online meeting, the plaques were delivered to recipients. Pictures and more details are available on our website on the gallery tab.

<https://connect.asminternational.org/clevelandchapter/aboutus-gallery/aboutus-gallery-photogallery>

The Award of Distinction was awarded to Bill Loewenthal, FASM, PCC Airfoils.

The Technical Educator Award was awarded to Professor Tushar Borkar, Ph.D., Cleveland State University.

The Outstanding Company Support Award was awarded to Mager Scientific.

The President's Award was presented to John Pickens, Materials & Process Innovation.

The 2020-21 Chairman Plaque was presented to Dave Kovarik, NSL Analytical Services.

The Distinguished Service Award was awarded to Professor Mark De Guire, Ph.D., FASM, Case Western Reserve University.

The Distinguished Leadership Award was awarded to Dave Ellis, Ph.D., FASM, NASA John H. Glenn Research Center at Lewis Field.

The Young Member Award was awarded to Juli Chiara, Momentive Quartz Technologies.

2021 Donaldson-Kiefer Scholarships Recipients

Hugh Smith

Hugh is a rising fourth-year student from Albany, NY studying Materials Science and Engineering at Case Western Reserve University. Within the study of materials, Hugh's interests and research lie in applied data science and electroceramics. Hugh is involved with the Undergraduate Materials Society at CWRU and was recently accepted to ACerS President's Council of Student Advisors. After Hugh graduates in January 2022, he plans to find an internship to bridge him to graduate school where he hopes to study materials for electronics or energy applications.



Bridget Powers Beggs



Bridget is a rising fourth-year student from Spokane, WA studying Materials Science and Engineering at Case Western Reserve University. Bridget is involved with the Undergraduate Materials Society, Engineers without Borders, and Dr. Sehirlioglu's Electroceramics group at CWRU. Bridget is interested in the application of materials science to the energy industry and the electric grid and has interned at National Grid for two summers.

Jen Bradley

Jen is a rising fourth-year student studying Materials Science and Engineering at Case Western Reserve

Jackson Smith

Jackson is a rising senior in the Materials Science and Engineering department at CWRU. She assists with research for Dr. John Lewandowski in the Advanced Manufacturing and Mechanical Reliability Center. She also am on the CWRU rowing team and works as a teaching assistant for a materials science course. Currently, she is on a Spring-Summer Co-op at Nikon Research Corporation of America as a research intern. After finishing her BSE, she plans to complete her Masters at CWRU.



Cleveland Chapter Officers for 2021-2022

Chapter Chairperson – John Pickens

Chapter Vice Chair – Joe Snyder

Chapter Treasurer – Tushar Borkar

Chapter Secretary – Jeremy Isler

Email – ASMClevelandChapter@gmail.com

Executive Committee Members

Audit Committee Chairperson - Roseanne Brunello

Awards Committee Chairperson - Bob Vigneulle

Chapter Historian/Archivist - Dave Kovarik

Constitution and Long-Range Planning - Dave Kovarik

CTSC Committee Chairperson - Dave Brown

ExComm Advisor - Brad Beattie

ExComm Advisor - David Scannapieco

ExComm Advisor - Diana Essock

ExComm Advisor - Greg Petrus

ExComm Advisor - Ivan Locci

ExComm Advisor - Jim Hyres

ExComm Advisor - Justin Sims

ExComm Advisor - Mark DeGuire

ExComm Advisor - Ryan Paul

ExComm Advisor - Thomas Glasgow

Hospitality Committee Chairperson – vacant

Membership Committee Chairperson - John Kuli

Nominations Committee Chairperson - Dave Kovarik

Publications - Website/Newsletter - Juli Chiara

Registration Committee Chairperson – Matthew Gaydos

Social Committee Chairperson - Bob Vigneulle

Student Affairs and Scholarship Committee Chairperson – Dave Brown




Student Chapter Liaison - CWRU – vacant

Symposium Coordinator - Dave Van Der Weil

Young Members Committee Chairperson - Dave Brown

Zay Jeffries Night Chairperson - David Ellis

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Upcoming Events

Here's a first look at what we're planning for the 2021/2022 Program Year. Technical meetings dates and topics are all tentative. Watch your e-mail or check our ASM Website for updates!

Date	Event	Speaker & Topic
August 12 th Thursday	Scholarship Golf Tournament	Briarwood Golf Course (see flier on page 3 for details)
September 13 th Monday - <i>tentative</i>	First ExComm meeting of the program year	Annual Committee Planning – Approve budget and Program
October/November	2021-2022 Symposium	Organized by NSL Analytical; “Battery technology, materials, and testing”
October 11 th Monday - <i>tentative</i>	Heat Treaters Night	Heat treating topic
November 9 th Tuesday - <i>tentative</i>	Young Members Night	Materials modeling topic
December 6 th Monday - <i>tentative</i>	Past Chair Night	R&D topic