



Brought to you by the Injection Molding Division of the Society of Plastics Engineers

Spring 2022 | No. 116

## Chair's Message

Joseph G. Lawrence



Dear members,

I am writing this letter during the time when Covid-19 restrictions and mask mandates are being eased. ANTEC 2022 in-person conference will be held in Charlotte, NC in June. Our ANTEC 2022 Technical program chair (Chad Ulven) and ANTEC paper review team (Pete Grelle, Ray McKee and Joseph Lawrence) have put together a list of excellent Injection Molding related papers to be presented at ANTEC. I am excited to attend the face-to-face event this year.

It is with great sadness I write to inform you that one of our longtime IMD board member and dedicated past Treasurer, Mr. Jim Wenskus passed away on February 14, 2022. I am sharing the words from Pete Grelle's email about Jim. "He made many contributions to SPE and to the plastics industry. He was also involved in Science Fairs where they made small screwdrivers using injection molding machine for the kids that attended. Education was very important to Jim. He was a great ambassador for the plastics industry beyond the many things he accomplished at SPE." Even though I have not personally worked with Jim, I am amazed by Jim's contributions to the IMD and SPE. Please keep Jim's family in your thoughts.

IMD will partner with the Detroit section and provide technical content for the AutoEPCON conference on May 3, 2022. After postponing a couple of times due to the pandemic and restrictions to the number of participants, we hosted our online IMD conference titled "Sustainability rocks: Part One, Helping Molders Navigate the Sustainability Journey" in February 2022. You will soon be hearing about the Part two in-person event in Cleveland this Fall. Please consider becoming an IMD sponsor; the sponsorship dollars help the board to organize the Injection Molding Division conference and support technical programming such as TOP-CONs, webinars, community outreach and senior capstone projects.

I would like to thank everyone for your continued support to IMD and helping me along the way as chair of the IMD. I enjoyed working with all the board members and SPE management during my tenure as your chair.

Warm Regards,

Joseph G. Lawrence  
 Polymer Institute, The University of Toledo  
 2021-2022 SPE IMD Chair  
 joseph.lawrence@utoledo.edu

## In This Issue:

Letter from the Chair .....	1
Industry Events/Webinars.....	2
ANTEC® 2022 .....	4
James J. Wenskus.....	5
Minutes.....	6
Optimized Adhesion Tips .....	10
Effect of Overflow Tab on Major Modulus of Weld Line in Glass Fiber Filled Injection Molded Parts ..	11
News/Online Features .....	12
IMD Leadership .....	14

Keep the connection!

Join us on:



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## APRIL 2022

### SPE DIVERSITY, EQUITY AND INCLUSION IN MANUFACTURING - ANAHEIM

**APRIL 12, 2022**

Hosted by SPE Medical Plastics Division

Hear how top private and public companies are fostering DEI throughout their organizations. Learn to raise awareness, recognize personal bias, change your company's culture, increase supplier diversity, explore the benefits of creating a more inclusive manufacturing environment, and more!

**FOR MORE INFORMATION:** [https://www.4spe.org/i4a/pages/index.cfm?pageid=7026&utm\\_source=spe-website&utm\\_medium=web&utm\\_campaign=DEI\\_ANAHEIM&utm\\_id=dei-anaheim-2022](https://www.4spe.org/i4a/pages/index.cfm?pageid=7026&utm_source=spe-website&utm_medium=web&utm_campaign=DEI_ANAHEIM&utm_id=dei-anaheim-2022)

### SPE WEBINAR: AN OVERVIEW OF NYLON RESINS

**THURSDAY, APRIL 14, 2022 11:00 AM EASTERN DAYLIGHT TIME (EDT) - 12:00 PM EASTERN DAYLIGHT TIME (EDT)**

**FOR MORE INFORMATION:** <https://www.4spe.org/i4a/pages/index.cfm?pagelD=7135>

### SPE NATIONAL WEEK OF PLASTICS PROCESSING—PLASTIC PROCESSING TUTORIALS (EXTRUSION AND INJECTION MOLDING)

**APRIL 18, 2022 - ALL DAY VIRTUAL EVENT**

In conjunction with SPE Palisades-MidAtlantic Section. Five days of educational content including webinars, seminars, technical papers, a one-day conference, and more. You can choose to attend one day or the whole week.

**FOR MORE INFORMATION:** <https://www.4spe.org/i4a/pages/index.cfm?pagelD=7308>

### SPE NATIONAL WEEK OF PLASTICS PROCESSING—TRENDS AND INNOVATION IN PLASTICS PROCESSING AND RECYCLING CONFERENCE

**APRIL 20, 2022 9:00 AM (EDT) - 4:00 PM (EDT) VIRTUAL EVENT**

In conjunction with SPE Palisades-MidAtlantic Section. Five days of educational content including webinars, seminars, technical papers, a one-day conference, and more. You can choose to attend one day or the whole week.

**FOR MORE INFORMATION:** <https://www.4spe.org/i4a/pages/index.cfm?pagelD=7309>

### SPE NATIONAL WEEK OF PLASTICS PROCESSING—PLASTIC PROCESSING TUTORIALS (ADDITIVE MANUFACTURING)

**APRIL 21, 2022 10:00 (EDT) - 12:00 PM (EDT) VIRTUAL EVENT**

In conjunction with SPE Palisades-MidAtlantic Section. Five days of educational content including webinars, seminars, technical papers, a one-day conference, and more. You can choose to attend one day or the whole week.

**FOR MORE INFORMATION:** <https://www.4spe.org/i4a/pages/index.cfm?pagelD=7310>

## Industry Events/Webinar Calendar

### MAY 2022

#### 2022 SPE AUTO EPCON CONFERENCE

**MAY 3, 2022 8:00 AM (EST) - 6:00 PM (EST)**

**Detroit Marriott - Troy, 200 W Big Beaver, Troy, MI 48084**

Co-Hosted By SPE Detroit Section and SPE Injection Molding Division

The SPE Detroit Section and the SPE Injection Molding Division are pleased to announce the 2022 Automotive Engineering Plastics Conference and Exhibition (Auto EPCON) on May 3, 2022 at the Detroit Marriott Troy located in Troy, Michigan.

**FOR MORE INFORMATION:** <https://www.4spe.org/i4a/pages/index.cfm?pageid=7022>

#### GREY IS THE NEW GREEN: HOW TO BE COMFORTABLE WITH AMBIGUITY

**MAY 11, 2022 5:30 PM (EST) - 6:30 PM (EST) VIRTUAL EVENT**

Though many in the plastics industry are familiar with the overwhelming benefits that polymeric materials provide, the public has become highly skeptical. And rightly so – when you see clogged rivers and dead fish, what are people supposed to think? Let's rethink plastics among ourselves for a moment, at least in terms of how the public views it. By acknowledging the paradoxical nature of plastics' efficiency, we can perhaps take a more holistic approach to design that utilizes the full value of a material's properties while considering end-of-life implications. The nuances and complexities of modern plastics ensure that there are no easy answers. And though we have to make difficult choices, we cannot let the perfect be the enemy of the good.

**FOR MORE INFORMATION VISIT:** <https://www.4spe.org/i4a/calendar/details.cfm?id=613&pageID=3277>

#### SPE WEBINAR: UV EFFECTS ON PLASTIC MATERIALS: DEGRADATION, TESTING AND PROTECTION

**MAY 12, 2022 11:00 AM (EDT) - 12:00 PM (EDT) WEBINAR VIA ZOOM**

**FOR MORE INFORMATION VISIT:** <https://www.4spe.org/i4a/pages/index.cfm?pageID=7136>

### JUNE 2022

#### SPE PRECISION EXTRUSION TOPCON

**JUNE 21, 2022 8:00 AM (CST) - THURSDAY, JUNE 23, 2022 5:00 PM (CST)**

Hilton Nashville Green Hills Hotel, Nashville, TN

Hosted by SPE Extrusion Division

Look around, the world is filled with products that are the result of precision extrusion! To make these parts a thorough knowledge of extrusion is required—beginning with fundamentals and material selection, and then learning advanced extrusion techniques—process monitoring and analysis is also key.

**FOR MORE INFORMATION VISIT:** <https://www.4spe.org/i4a/pages/index.cfm?pageid=7269>

# JOIN US! ANTEC® 2022



**ANTEC® 2022**

Charlotte, NC • June 14-15, 2022  
Co-located with PLASTECSouth

**ANTEC® showcases the latest advances in industrial, national laboratory and academic work. Papers will share findings in polymer research and/or new and improved products and technologies.**

SPE is hosting ANTEC® 2022 in-person, co-located with PLASTECSouth, an Informa event, in Charlotte, NC, June 14-16. PLASTECSouth is a comprehensive annual plastic design and manufacturing event for plastics professionals, suppliers and buyers to discover innovation, engineer new technology, and to expand their networks. ANTEC® 2022 will also include an online component.

The presentations at the in-person event will be selected/invited based on the applicability of their topic across a wide cross-section of the plastics value chain. Presentation/speaker selection, which will occur through a paper submission/review process and/or through invitation, will be considered based on the quality, relevance and newness of any research done in the field as well as the speaker's position in the plastics industry. Technical Papers that are not selected for in-person ANTEC® will be recorded and delivered virtually over a schedule that will be announced soon.

## **Day 1 (June 14)**

- 2:00 PM – 5:00 PM      SPE Leadership Meetings
- 5:00 PM                 General Reception with SPE Meetup Area

## **Day 2 (June 15)**

- 8:00 am – 12:00 pm:      ANTEC® Sessions
- 12:00 – 1:30 pm:         SPE Honors & Awards Lunch
- 1:30 – 5:00 pm:          ANTEC® Sessions
- 5:00 pm:                  SPE Chapter Networking Events

## **Day 2 (June 15)**

- 8:00 am – 12:00 pm:      ANTEC® Sessions
- 12:00 :                     Adjourn



## The SPE Injection Molding Division Mourns the Loss of a Long Time SPE Board Member James J. Wenskus, Jr.



The Injection Molding Division is deeply saddened by the loss of their long time board member, Jim Wenskus. Jim has been a loyal contributor and asset to the SPE Injection Molding Divisions and has served many years of dedication to our division.

James J. Wenskus, Jr., was born in Rochester, NY, to his Lithuanian parents, Anna and James Wenskus, on August 17, 1935. He graduated from Aquinas Institute and, pursuing his interest in science, attended the Massachusetts Institute of Technology, where he earned a degree in chemistry in 1957.

He worked for several years at Stromberg-Carlson before moving to the Manufacturing Research and Engineering Organization of Eastman Kodak Company where he stayed for 33 years. In his time there, he built one of the country's first computer-monitored injection-molding machines and pioneered numerous plastics molding techniques and technologies, earning seven U.S. and numerous foreign patents in the process.

Jim met his wife, Judy, in 1964 and married in 1966. They remained together for 55 years, raising two sons, Tim and Ted, in a loving home in Greece, NY, along with several cats.

He was active in the USAF Auxiliary/Civil Air Patrol (CAP) for most of his life, attaining the rank of Lt. Colonel before retiring as Rochester Region Group Commander in 1994. He then acted as CAP Communications Officer for the Finger Lakes region of New York, where he pioneered a digital radio communication packet network for support of CAP search-and-rescue and disaster relief missions in New York State, including missions during 9/11.

He was also active in numerous professional and non-profit organizations, ranging from the Society of Plastics Engineers, the National Science Foundation, and the Rochester Council of Scientific Societies, where, as President, he oversaw a mini-grant program for science teachers by providing up to \$250 for science classroom projects.

Jim's interests were far-reaching. He was a radio amateur for 70 years, specializing in digital communications, and was also interested in meteorology, astronomy, science fiction, Egyptology, food, classical music, Biblical archaeology, and (in his own words) "prehistoric geocatastrophism and its derivative mythos." But above all, he loved his family.

James J. Wenskus, Jr., of Greece, passed away on February 14, 2022. He is predeceased by his parents, James & Anna Wenskus. He is survived by his wife, Judith Wenskus; sons, Timothy Wenskus & Edward Wenskus.

# IMD Board of Directors Meeting Minutes

**February 18, 2022**

*Respectfully Submitted by Secretary Tom Giovannetti*

## **Welcome & Opening Remarks – Guest - Mr. Jerry Blackerby, Manager, Mastip Inc. Presented by Joe Lawrence and Tom Giovannetti**

Chair Joe Lawrence called the meeting to order at 9:00 AM EST and welcomed all attendees.

### **Roll Call**

*Motion: Previous minutes approved by Tom Giovannetti, and seconded by Pete Motion passes*

## **Financial Report - General Balance Sheet Overview – Ray McKee, Treasurer of IMD**

Only activity is SPE rebate revenue and no expenses.

## **Technical Director Report (ANTEC 2022 update and TOPCON activities review) – Pete Grelle, Technical Director and Chad Ulven**

### **ANTEC®, June 14-16, 2022. Co-located with Plastec South in Charlotte, NC. Chad Ulven TPC.**

A total of 69 papers were submitted. IMD has approved 19 papers and 9 papers were selected by SPE. There will be one IMD paper on the first day and eight IMD papers in the IMD session on second day in the morning. There will be 1 1/2 days concurrent sessions.

### **Auto EPCON, May 3, 2022 will be in person**

The Automotive Division will not participate for the first time ever. David Okonski is the selected chair and is seeking papers and sponsors. Pete Grelle and David Okonski are looking if possible to use IMD ANTEC® papers not being used at Auto Epcon. They will be working with Kathy Schacht.

### **International Polymer Colloquium, June 17, 2022**

International Polymer Colloquium, will be in person per Tom Turng.

### **Innovation and Emerging Plastics Technologies Conf, June 8-9, 2022**

Innovation and Emerging Plastics Technologies Conference will be in person per Brad Johnson. IMD members can attend for free.

## **IMTECH 2022 Conference - Peter Grelle and Sue Montgomery**

IMTECH will be a virtual conference and an in-person conference in Fall of 2022.

## IMD Board of Directors Meeting

### Sustainability Rocks Webinar, February 24, 2022

Pete Grelle and Sue Montgomery hosted with help from M. Holland.

### Sustainability Rocks Conference Part 2, October 13, 2022

Sustainability Rocks Conference Part 2 will be in person in the Cleveland, OH area. Amanda Nicholson, Davide Masato, Pete Grelle, Saeed Farahani, Sue Montgomery and Tom Giovannetti are the committee members. Cleveland/Akron sections will be co-hosted with IMD. Sue M. presented a rough draft of the proposed budget. Sue presented pictures of the venue and will update SPE HQ the fees in the budget.

*Motion: Dave Okonski gave motion to hold conference. Motion seconded by Edwin Tam. Motion passes.*

### By Laws Committee Update - David Okonski and Peter Grelle

**Committee Members** - Jeremy Dworshak, Peter Grelle, David Okonski, Kishor Mehta, Tom Giovannetti, Hoa Pham, Erik Foltz and Rick Puglielli. Jeremy Dworshak asked to read and send comments to him for discussion with the committee. Three main focus areas: Term limits, committees and indemnification.

*Motion: Jeremy Dworshak gave motion to approve first reading. Motion seconded by Edwin Tam. Motion passes.*

### Nominations Committee Update - Hoa Pham

#### IMD Board Officer Nominations 2022

<b>BOD Officer Position</b>	<b>Ends on June 30,2022</b>	<b>Nominee for 2022-2023</b>
Chair	Joseph Lawrence	David Okonski
Chair Elect	David Okonski	Chad Ulven
Treasurer	Raymond McKee	Raymond McKee
Technical Director	Pete Grelle	Pete Grelle
Secretary	Tom Giovannetti	Tom Giovannetti

#### Candidates for Board of Directors Nominations 2022

##### Nominees for IMD General Ballot      Nominees to be Exempted after Board Officer Approval

Kishor Mehta	Pete Grelle
Tom Turng	Raymond McKee
Adam Kramschuster	
Davide Masato	

*Motion: Hoa Pham gave motion to approve and motion seconded by Edwin Tam. Motion passes.*

*Motion: Hoa Pham gave motion to approve BOD candidates and motion seconded by Peter Grelle. Motion passes.*

**ANTEC Technical Program Chair**

<b>Name</b>	<b>Term</b>	<b>TPC of</b>
Chad Ulven	2021-2022	ANTEC 2022
Raymond McKee	2022-2023	ANTEC 2023
Lynzie Nebel	2023-2024	ANTEC 2024
Tom Giovannetti	2024-2025	ANTEC 2025

*(Call for volunteers for TPC Chair for ANTEC 2026)*

**TCP Chair**

<b>Term</b>	<b>TCP</b>	<b>Chair-Elect</b>	<b>Chair</b>
2019-2022	David Okonski	David Kusuma	Rick Puglielli
2020-2021	Joseph Lawrence	David Okonski	Rick Puglielli
2021-2022	Chad Ulven	David Okonski	Jeremy Lawrence
2022-2023	Raymond McKee	Chad Ulven	David Okonski
2023-2024	Lynzie Nebel	Raymond McKee	Chad Ulven
2024-2025	Tom Giovannetti	Lynzie Nebel	Raymond McKee

*(Determine replacement for Raymond McKee who would like to by-pass the progression to Chair-elect and Chair)*

Lynzie Nebel needs a later date for TPC chair. Tom Giovannetti will move up to the 2023-2024 term. Davide Masato will take 2024-2025 term. Amanda Nicholson might take 2025-2026 term but wants to know roll of TPC. Pete will put together rolls of TPC and send out.

**Action:** *Pete Grelle will create a document with rolls and responsibilities of TPC and send to BOD.*

**Membership Update - Erik Foltz**

Erik suggested the IMD should do some networking events in high membership regions like Top Golf. May-be do a multi site event and at ANTEC.

**Action:** *Erik will be researching networking events for IMD.*

**Awards Committee Update - Tom Turng**

Tom asked for nominations for Fellow of the Society and Honored Service Member due Oct 1, 2022. Tom will send links to applications for both.

Fellow of the Society: <https://www.injectionmoldingdivision.org/awards-grants/spe-fellows-and-honored-service-member-nominations/>

Honored Service Member: <https://www.injectionmoldingdivision.org/awards-grants/honored-service-member/>

**Action:** *Erik will be researching networking events for IMD.*



## Councilor Report - Edwin Tam

Edwin gave a 31 page report. Email Edwin will e-mail all details.

## Any New Business/Next Meeting Venue and Dates

Items brought up after approval of minutes. Weeks of Learning - Lynzie Nebel. Lynzie suggested IMD putting on basic seminars which will all be IM based and free to members. The goal of the seminars is to distribute content to our members as a benefit. The Color and Appearance Division is currently producing seminars. Kathy Schacht will looking into at dates in August and September. Alex Beaumont, TomGiovannetti. John Ratzlaf and Erik Foltz will help Lynzie.

Joe Lawrence asked IMD will be having a reception at ANTEC 2022. Date for reception must be Wed., June 15 after 5 pm or Thursday June 16 after 2 pm per SPE Headquarters. There are hotel room limitations therefore Sriraj Patel, Ray McKee and Erik Foltz will research doing other events, like Top Golf to replace the reception at ANTEC . The target would be Tuesday or Wednesday evening of ANTEC.

**Action:** *Erik, Ray and Sriraj look into an event at ANTEC to replace reception at hotel. Tom G. as secretary to submit IMD BOD roster by June 30, 2022. Pete asked what to do for Jim Wenskus funeral and suggested sending flowers and maybe create a future scholarship program.*

## Next Meeting and Dates

Next board meeting will be in person at ANTEC on Tuesday, June 14, 2022 at 2:00 pm EST.

## Adjournment

**Motion:** *Motion to adjourn meeting made by Jeremy Dworshak, seconded by Pete Grelle.*

**Motion passes.**

# Optimized Adhesion Tips for TPE Materials & Substrate Pillars

By Dallas D. Cada



Whenever I get a trouble shooting call about TPE parts it usually is a result of poor adhesion. My experience with TPE materials is in automotive weather seals however this tech brief will help optimize adhesion with all TPE related parts. More often than not, the parts I am asked to help with have splits within them. This is a result of poor adhesion between the material (TPE) and the substrate (usually made with TPV or a polyolefin material). In order to optimize adhesion between the substrate and TPE material I have created a list of important steps to help.

## Design of the substrate (often referred to as an EPDM pillar).

- Incorporate a step in the substrate profile to create an abrupt transition between the TPE and substrate.
- Use a proper shut off design.
- Using mechanical interlocks in the component design will help immensely.
- Avoid “feathering” or gradual thinning in the design for over molding TPE.
- Keep the TPE flow-length/part thickness ratio below 150:1. Take care to have appropriate TPE thickness as too thin can lead to delamination. Delamination can result in poor adhesion.
- Incorporate a suitable texture on the mold for long flow paths.
- Optimize venting wherever possible especially at the end of polymer flow.
- Optimize gating on the tool. Most tools will incorporate a sub-gate. It is imperative to use a gate size that will supply adequate polymer to the part.

## Important substrate features.

- It is best if the EPDM pillars are extruded then fresh cut to length. They should then immediately be placed in the mold to bond with the addition of the TPE material. If the pillars are made in advance they need to be stored in an environmentally controlled area (as least moisture as possible). When these pillars are used it is important to fresh cut them.
- Once again it is imperative to use fresh cut EPDM pillars.

[Read Full Story>](#)

# Effect of Overflow Tab on Major Modulus of Weld Line in Glass Fiber Filled Injection Molded Parts

By Amanda Nicholson, Customer Success Engineer at Moldex3D North America, Inc.

Weld lines in injection molded plastic parts can cause a localized reduction of mechanical properties. This loss of strength and impact resistance is a result of the lack of entanglement between polymer chains where two melt fronts meet. When an external load is applied to a weld line region, the part's potential for mechanical failure is increased.

The injection molding process can be optimized to maximize weld line strength by increasing mold and melt temperatures, and by increasing pack pressure at the weld line. These processing changes will increase chain entanglement. Further improvements can be made by ensuring sufficient venting in the weld line area to avoid trapping air bubbles and choosing gate locations that maximize the meeting angle.

The addition of glass fibers to a thermoplastic resin can magnify the mechanical property loss at the weld line by diluting the concentration of polymer chains in the melt, thus reducing the potential for chain entanglement. Nonuniform fiber orientation at the weld line further contributes to the loss of strength and stiffness.

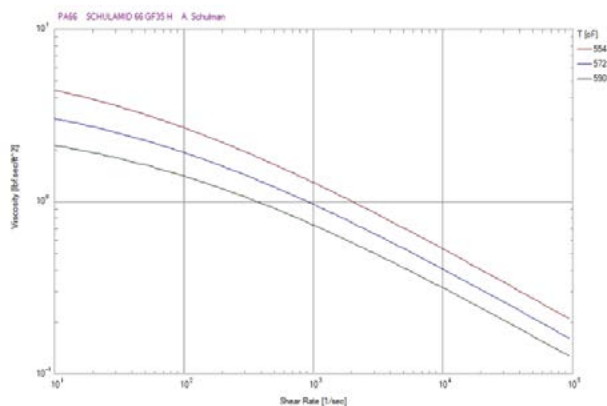


Figure 1: Shear Rate [1/sec] vs Viscosity [lbf-sec/ft<sup>2</sup>]  
(Source: Moldex3d Studio 2021 R3 Material Wizard)

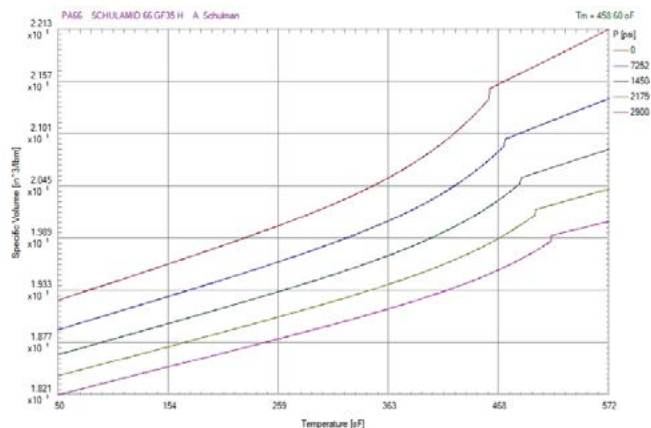


Figure 2: Temperature [°F] vs Specific Volume [in<sup>3</sup>/lbm]  
(Source: Moldex3d Studio 2021 R3 Material Wizard)

## Material Evaluated:

For this simulation study, PA66 Schulamid 66 GF35 H from A. Schulman was used. See Figures 1-5 for material properties.

## Read Full Story >

# Diversity, Equity, and Inclusion in Manufacturing - Anaheim



**April 11-12, 2022, Anaheim, CA, Anaheim Convention Center**

Co-located at Informa's Advanced Manufacturing Event – regional trade show with pavilions for plastics, packaging, automation technology, medical design and manufacturing, and design engineering and manufacturing.

Join Us For An Industry-Wide Dialogue Around DEI Issues

Hear how top private and public companies are fostering DEI throughout their organizations. Learn to raise awareness, recognize personal bias, change your company's culture, increase supplier diversity, explore the benefits of creating a more inclusive manufacturing environment, and more!

[Get More Information>](#)

**Have news about your company?**

**The Injection Molding Division is seeking company news to share with our members.**

**Send in your press releases to share on the injection molding division website.**

**Email your news>**





## INJECTION MOLDING

### Top Reasons to Join SPE and its Injection Molding Division

#### **Networking within the Plastics Industry**

The Injection Molding Division (IMD) boasts the largest membership of all divisions within SPE. Joining the IMD allows you access to over 20,000+ members within your industry.

#### **The Chain**

SPE's very own community forum provides tools for you to share information, ask for help, discuss problems, exchange lessons learned, search for information, or simply stay connected with other SPE members.

#### **Online Technical Library**

Downloadable technical papers on every key topic in plastics.

#### **PLASTICS INSIGHT**

Bringing you weekly focused content from thousands of sources, covering product, research, trends, and more.

#### **SPE PRO-Plastics Research Online**

RSS Feed of the latest in plastics research.

#### **Free subscription to "Plastics Engineering Magazine"**

#### **Awards and Scholarships for Students/Young Professionals**

The Injection Molding Division is helping promote the plastics industry to students and young professionals, by offering scholastic and travel scholarships to students interested in the plastics industry.

#### **SPE Conferences and Webinars**

Discounts on 40+ SPE Conferences around the world. Bringing you in-depth information on materials, processes or industries to help you gain knowledge and expand your professional network.

#### **Jobs in the Industry**

Resources for job seekers. Post your resume free!

**Visit [www.4spe.org](http://www.4spe.org) to join today.**



### **DIVISION OFFICERS:**

**Chair:** Joseph Lawrence (University of Toledo)

**Chair-Elect:** David Okonski (General Motors)

**Treasurer:** Raymond McKee (Currier Plastics)

**Secretary:** Tom Giovannetti

**Technical Director:** Peter Grelle (Independent Consultant)

**Past Chair/Education Committee Chair:** Rick Puglielli (Promold Plastics)

### **BOARD OF DIRECTORS:**

**Communications Chair:** Angela Rodenburgh (Ladder Up)

**Communications Committee:** Adam Kramschuster (University of Wisconsin)

**Membership Chair:** Erik Foltz (The Madison Group)

**Sponsorship Committee Chair:** Sriraj Patel (Currier Plastics)

**Sponsorship Committee:** Alex Beaumont (Beaumont Technologies), David Kusuma (Tupperware)

**Education Committee:** Vikram Bhargava (Independent Consultant),

Dr. Saeed Farahani (Clemson University), Chad Ulven (C2Renew)

**Awards/Scholarships Chair:** Lynzie Nebel (Tech Tank)

**Awards Committee:** Kishor Mehta (Retired Plastics Engineer), Tom Turng (University of Wisconsin)

**Board Nominations Chair/Historian/Asst. Treasurer:** Hoa Pham (Freudenberg Performance Materials LP)

**Bylaws Chair:** David Okonski (General Motors)

**Bylaws Committee:** Hoa Pham (Freudenberg Performance Materials LP),

Peter Grelle (Independent Consultant), Jeremy Dworshak (3M), Kishor Mehta (Retired)

**Councilor:** Edwin Tam (Teknor Apex)

Larry Geist (Ferguson Production)

Amanda Nicholson (Polymers Center)

### **ANTECTCP:**

2020 Dave Okonski

2021 Joseph Lawrence

2022 Chad Ulven

2023 Raymond McKee

2024 Edwin Tam

2025 Lynzie Nebel

2026 TBD

### **EMERITUS:**

Mal Murthy (Doss Corp.)

Larry Schmidt (LR Schmidt Assoc.)

Jim Wenskus (Retired Plastics Engineer)