Society of Plastics Engineers Medical Plastics Division Newsletter December 2017 / January 2018

GREETINGS FROM THE CHAIR

Dear Members:

Although still early in 2018 we have a lot of Technical Programming lined up for the first half of the year. In case you missed it, our Medical Plastics MiniTec on Friday February 9th is all set with a full day of exchanges. We teamed up with the Southern California Section – home to many Medical Device Manufacturers and Startups and took advantage of those who will be in Anaheim for MD&M West 2018. If you hadn't planned on going to Anaheim in early February, I urge you to not miss two events that are a Big Deal for our Industry. A link to see the program and register is included here (https://www.eiseverywhere.com/ehome/308508).

As if that wasn't good news already, ANTEC 2018 is shaping up to be one for the history books for our Division. We are grateful to Amin Sedighiamiri and Ajay Padsalgikar for working hard on this years' Technical Program which will include Panel Discussions and Keynote presentations from Industry Leaders. This year will mark the fourth time our biggest conference is co-located with NPE to make a perfect event for technical exchanges and networking with all the key players in the Medical Plastics world.

Inside This Edition…

GREETINGS FROM THE CHAIR (continued)

Many of our board members continue to work hard on introducing a web-based platform for presentations and exchanges and we fully expect to get that going this year. Our objective is to connect our members with various technical experts in simple, yet powerful, interactive sessions.

We will be holding elections again for board members whose terms are expiring. This is an opportunity for those with new ideas to help shape how our Division brings technical content to MPD members – and we welcome anyone interested in joining us.

Of course, we are always looking to hear from members. Drop us a line and let us know how we are doing!

Thanks for reading,

-Pierre.

Do you have questions about MPD Membership?

Please email Ed Fewkes
fewkesej@corning.com

Are you interested in volunteering for the BOD?

Please email Pierre Moulinié
pierre.moulinie@covestro.com

MEET YOUR SPE MPD BOARD OF DIRECTORS

2017-2018 MPD Board Appointments (1-year terms)

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- Teel Plastics
- Technical Program – Webinars Lead

Victoria Nawaby

- Sealed Air
- Education Co-Chair

Amin Sedighiamiri

- Eli Lilly & Company
- ANTEC 2018 Technical Program Committee

Nitin Sood

- Getinge Group
- Communications Committee Chair

Harrison Yu

- Bondable Biopolymers
- Communications Committee – Interdivision Lead

MEET YOUR SPE MPD BOARD OF DIRECTORS

MPD Board Members with Term Expiring in 2018

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- Getinge Group
- Treasurer / Finance Committee/ Technical Program Committee

Len Czuba

- Czuba Enterprises
- Councilor

Margie Hanna

- Czuba Enterprises
- Finance Committee Chair

Bob Herman

- Quality Insights
- Education Committee Co-chair

Maureen Reitman

- Exponent
- Member – Technical Program Committee & Awards Committee

MEET YOUR SPE MPD BOARD OF DIRECTORS

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- Technical Program Committee Chair

Ben Poon

- Baxter Healthcare
- Secretary

Michael Wallick

- Invibio
- Awards Committee Co-Chair

Bhavin Shah

- Tepha
- Vice-Chair

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- Eli Lilly & Company
- Awards co-chair

Ed Fewkes

- Corning
- Membership co-chair

David Jaekel

- Exponent
- Membership co-chair

Ajay Padsalgikar

- Abbott
- ANTEC 2018 Technical Program Committee

Louis Somlai

- Eli Lilly & Company
- Communications – Newsletter Editor

MEET YOUR SPE MPD BOARD OF DIRECTORS

Pierre Moulinié

- Covestro
- Division Chair

Norris Tollefson

- Alcon
- Past Chair

Kathy Schacht

- SPE
- SPE Liaison

Do you have questions about MPD Membership?

Please email Ed Fewkes
fewkesej@corning.com

Are you interested in volunteering for the BOD?

Please email Pierre Moulinié
pierre.moulinie@covestro.com

MEDICAL PLASTICS DIVISION COMMITTEES

Division Chair **Pierre Moulinié**	**Vice-Chair** **Bhavin Shah ('19)** • Education Committee Oversight • Membership Committee Oversight	**Past Chair** **Norris Tollefson** • Awards Committee Oversight • Assistant Treasurer
Technical Committee **Director: Vipul Dave ('19)** ANTEC '18 co-TPCs : Ajay Padsalgikar ('20); Amin Sedighiamiri Webinars Lead: Ned LeMaster Member: Maureen Reitman ('18)	**Secretary** Ben Poon ('19)	**Councilor** Len Czuba ('18)
Education Committee • Co-Chair: Bob Herman ('18) • Co-Chair: Victoria Nawaby	**Communications Committee** **Chair: Nitin Sood** Newsletter : Louis Somlai ('20) Inter-division collaborations: Harrison Yu • Photos: **Vacant** • Website : **Vacant** • Historian: **Vacant**	**Membership Committee** • Co-Chair: Ed Fewkes ('20) • Co-Chair: David Jaekel ('20) • Member: Ben Poon ('19)
Awards Committee Co-Chair: Michael Wallick ('19) Co-chair: Ravishankar Ayyar ('20) Member: **Vacant** Member: **Vacant**	**Finance Committee** **Chair: Margie Hanna ('18)** Treasurer: Ali Ashter ('18) MPD Chair: Pierre Moulinie Ass't Treasurer (Past MPD Chair) Member: **Vacant**	

Are you interested in volunteering for the BOD?

Please email Pierre Moulinié
pierre.moulinie@covestro.com

NEWSLETTER EDITOR

GREETINGS FROM THE NEWSLETTER EDITOR

Happy New Year fellow MPD Members!

Welcome to the latest edition of our newsletter! I appreciate your efforts to help me improve this communication tool; again please keep the feedback coming my way: somlai_louis@lilly.com

Please do take a look at the detailed membership reports included in this newsletter for your review. A more extensive financial report and forecast will also be published in the coming months. In my opinion our division is healthy and growing; please continue to help us make this division one of the best in SPE.

As Pierre mentioned, we have many exciting industry events coming up in 2018 such as MDM West, MiniTec at Anaheim (after the MDM West show; see the preview in our newsletter), as well as our Annual Technical Conference co-located with the National Plastics Expo in Orlando this May (see advertisements within the newsletter as well as on the SPE website www.4spe.org).

We continue to seek firms interested in advertising in our newsletter. Your board has recognized the need to increase fundraising for the division so we have renewed our efforts towards this funding avenue and sponsorship. If you are aware of a firm or organization that would benefit from advertising in our newsletter please let them and me know.

Best regards,

Louis

Newsletter Suggestions? Want to Advertise?

Please email Louis Somlai
somlai_louis@lilly.com

NEWSLETTER SPONSORSHIPS

Sponsors…

We are seeking Sponsor Display Ads for our Award-winning Division Newsletter! To show your support of the Society of Plastics Engineers and in particular, the Medical Plastics Division Newsletter, please consider taking part in this important communication effort.

Sizes Available	(Full year amount, i.e. 3 issues)	
	Full page (8½" X 11")	*$1,250*
	Half page	*$750*
	Quarter page	*$400*
	Eighth page	*$250*

SPECIAL ADVERTISING PRICES UNTIL ANTEC 2018
ACT NOW!!!

The newsletter, as scheduled, is prepared and circulated **three times per year** (*plus the occasional 4th or bonus issue*). Every Medical Plastics Division member, approximately **500**, receives a copy emailed directly to their listed address. Additional copies are also circulated (via the Chain) in our continuing effort to reach new and prospective members and other interested individuals.

To show your support please contact Louis Somlai at 317.209.4719 (email: somlai_louis@lilly.com).

Thank-you for your support!

COUNCILOR'S REPORT

Dear Medical Plastic Division Members:

I would like to encourage everyone to plan to attend ANTEC and to make your travel plans early because of the popularity of this event which is being co-hosted with NPE 18 in Orlando. We especially urge our board members to attend the only face-to-face meeting of our board. The good news regarding the technical program is that this year, there has been a very good number of papers submitted and because of slightly fewer conference rooms for concurrent sessions, the ANTEC program was expanded and will continue from Monday morning May 8th thru Thursday, May 11th. SPE Awards will be presented on Sunday evening preceding the opening of ANTEC and we encourage everyone plan to attend! Also note, the Medical Plastics Division will hold their board meeting, annual division meeting and host an open get together for dinner during our time together. Watch for details and plan to attend and join us!

Another important date to note is Friday, February 9th. Our division is co-hosting a MiniTec with the Southern California section the day after this year's Medical Device & Manufacturing West Show in Anaheim. Anyone attending the MDM West show would make a valuable diversion if they attended our MiniTec with 12 remarkable presentations by some of the strongest technical specialists in our industry. Refer to the website to register and for more information.

Best regards,

Len

MPD Membership Report

Dear Medical Plastic Division Members,

Over the past few months, the MPD board has been analyzing the 2017 membership and enrollment data for our SPE division, and we wanted to share our findings in the latest newsletter. As emphasized in the following pages, MPD membership has continued to grow over the second half of 2017 across most membership types. We have maintained a wide distribution of members across the U.S., and regardless of our heavy U.S. influence, we have members that span the globe with high concentrations in Europe and Australia. We hope to continue this growth and expansion over the next year with an emphasis on our members needs and increased technical content/programming.

To best tailor new technical content, the membership committee wanted to understand our member's industrial and academic affiliations. As highlighted in the last chart, "Analysis of Affiliations," we have a high concentration of members in the medical device /pharmaceutical and manufacturing industries with strong representation from plastics suppliers, consultants, and universities; however, our data is incomplete for almost 20% of our members.

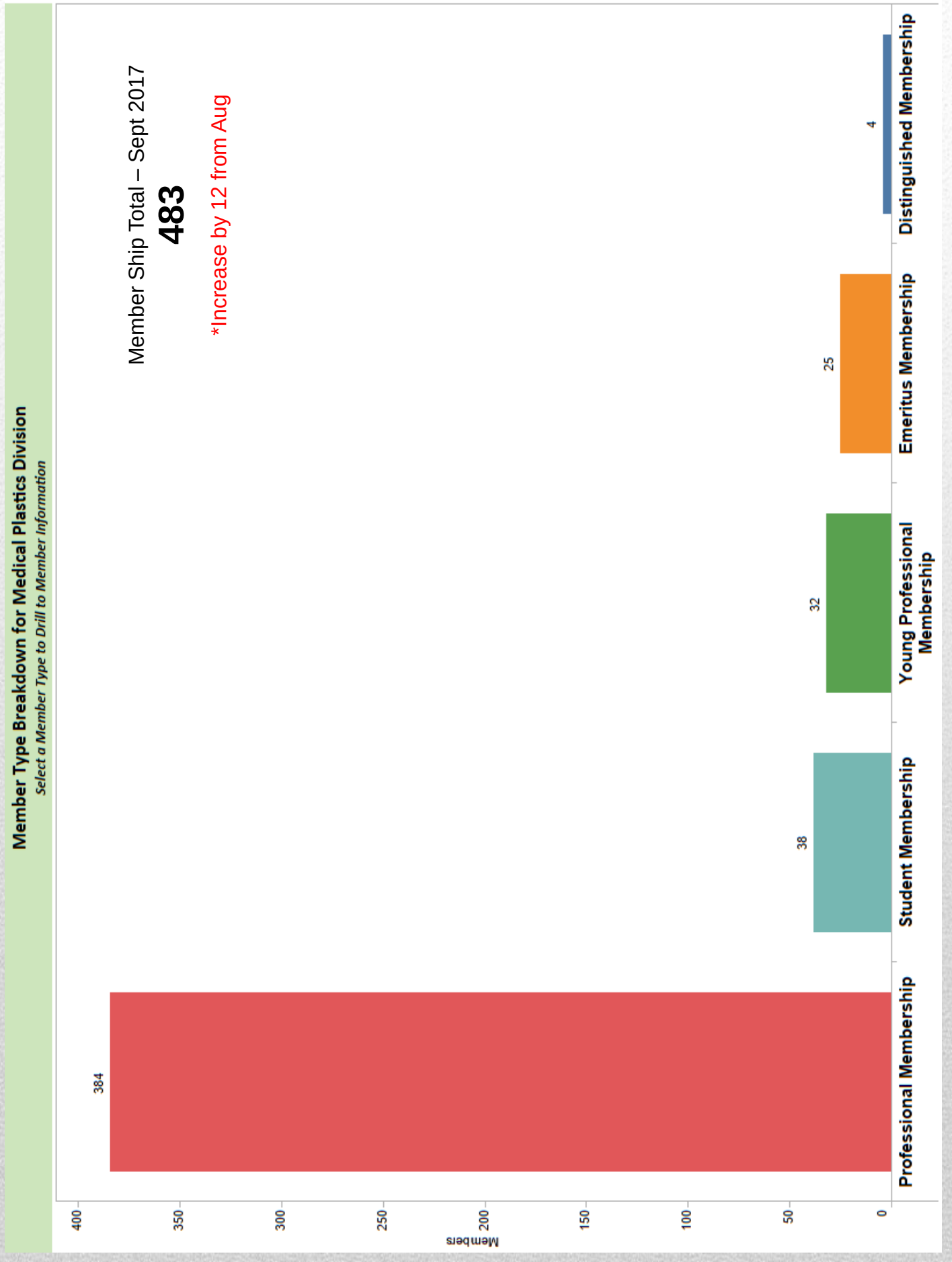
To learn more about our current members, the MPD will be conducting a voluntary membership survey this year. This survey will help the MPD board gather more input on membership industry affiliations, technical programming needs, and maximizing the value of the MPD to our members.

Please be on the lookout for this in the coming months.
We would like to thank you for your continued support of the Medical Plastic Division and helping us grow in 2017. If you have any questions about membership, please contact us.

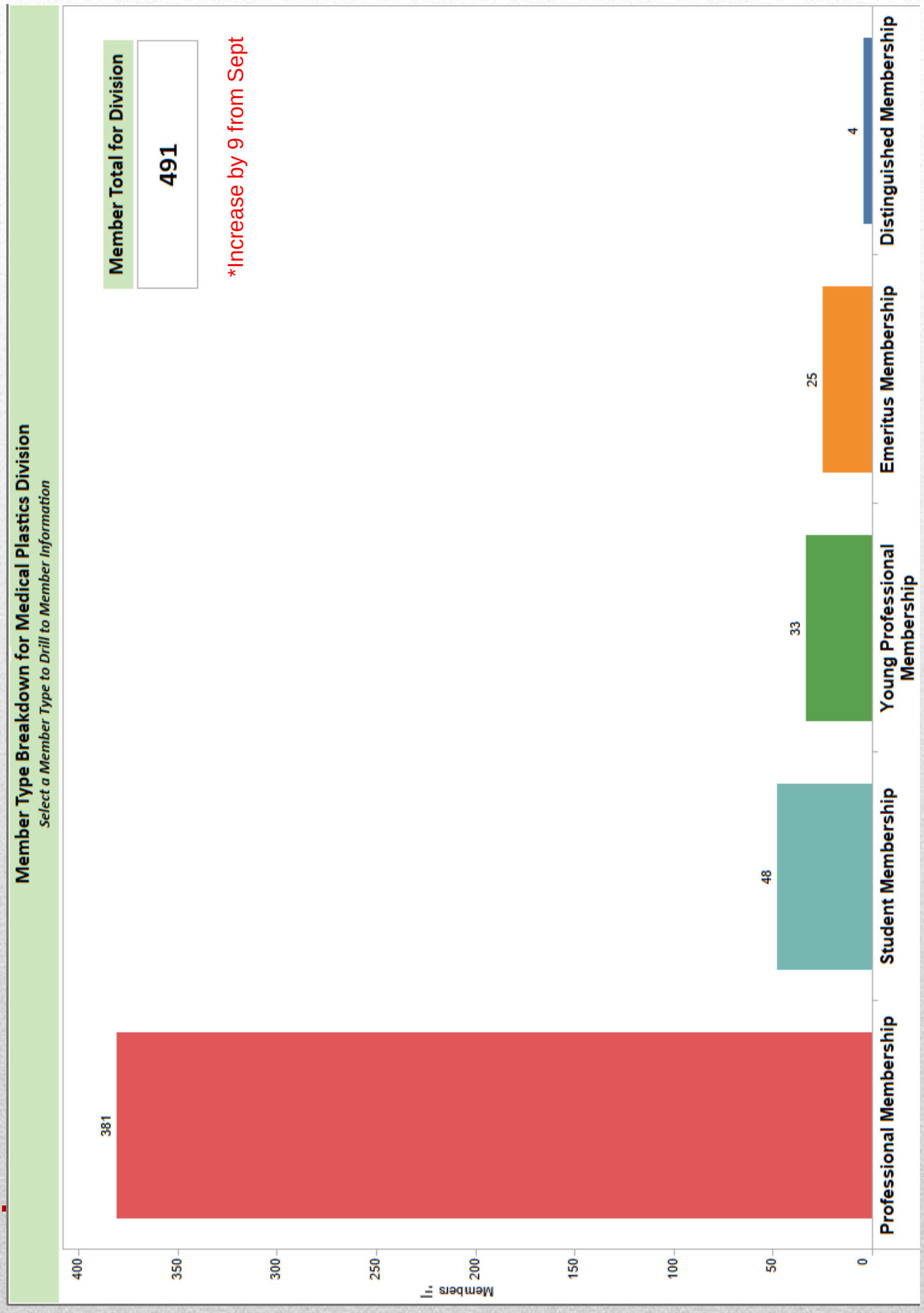
Best Regards,

Dave

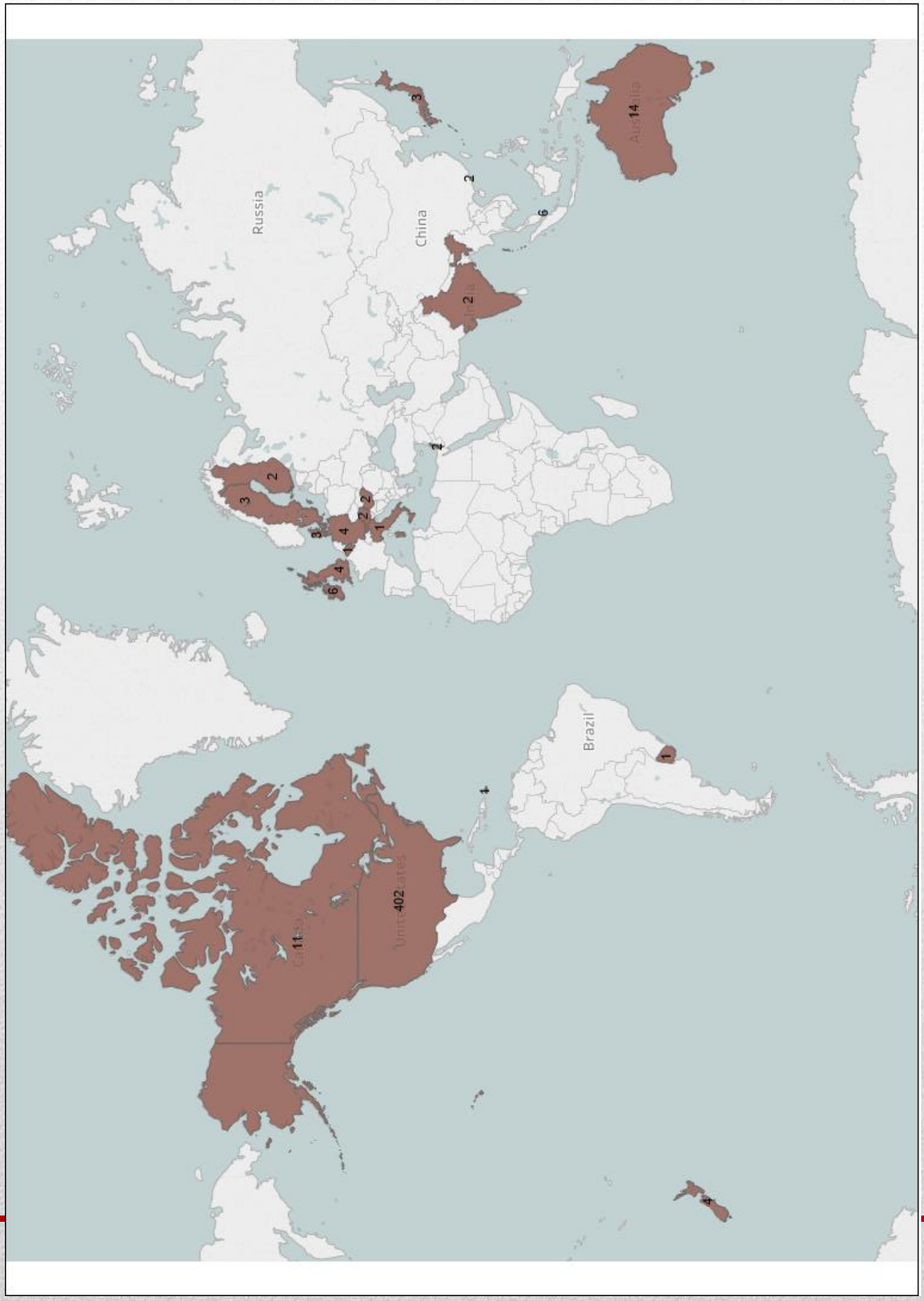
2017 MPD Membership Report



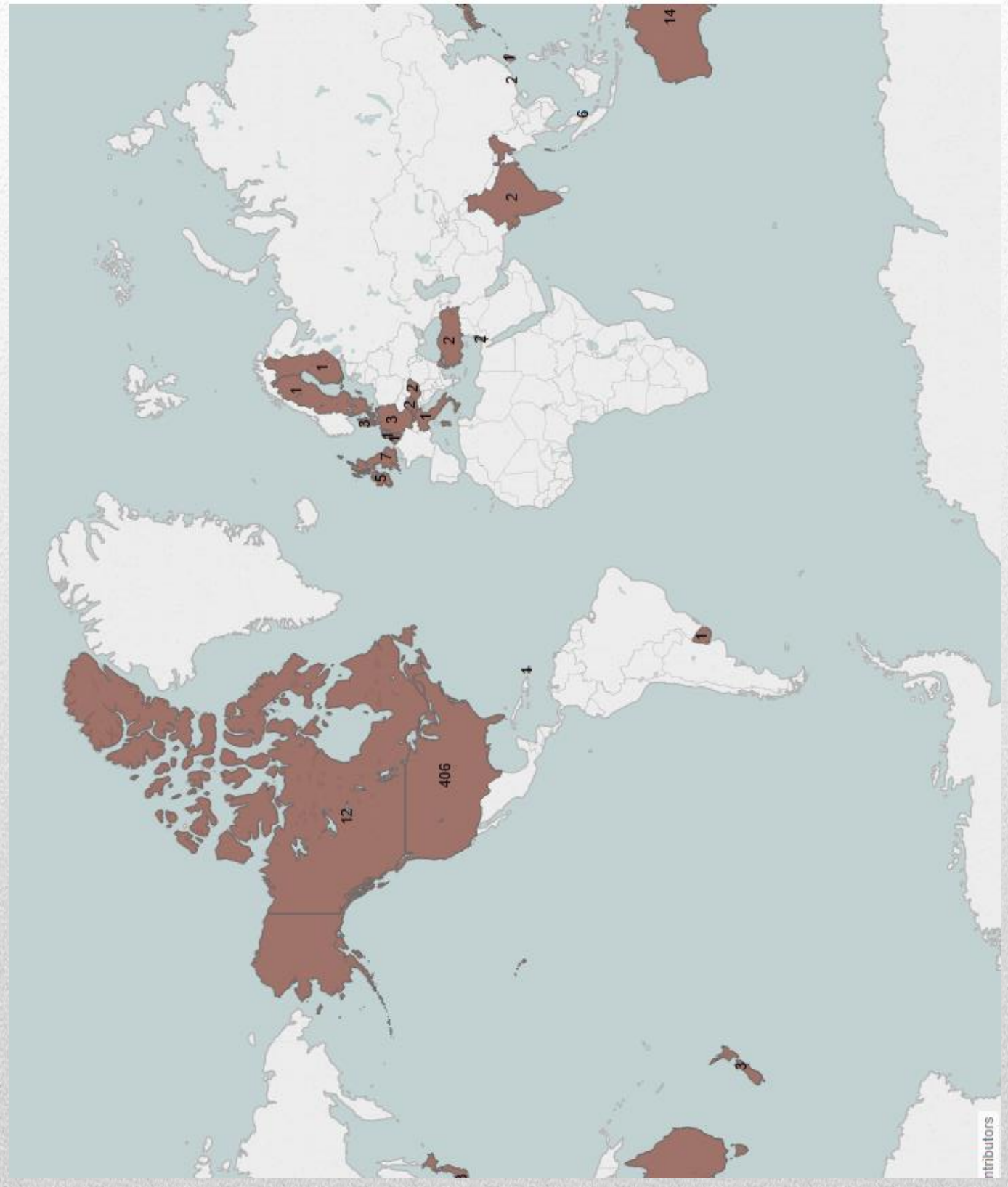
2018 MPD Membership Report



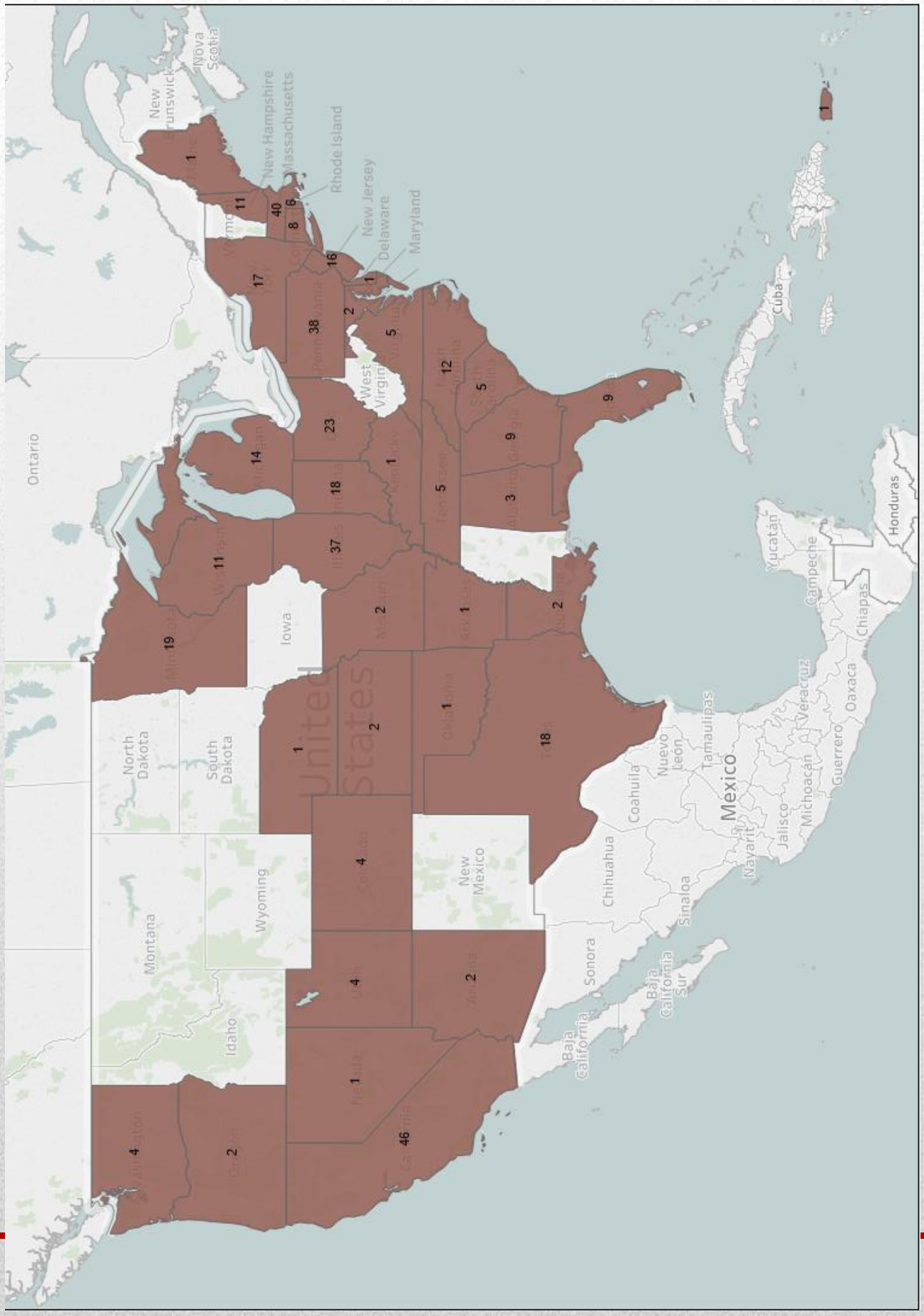
2017 MPD Membership Report



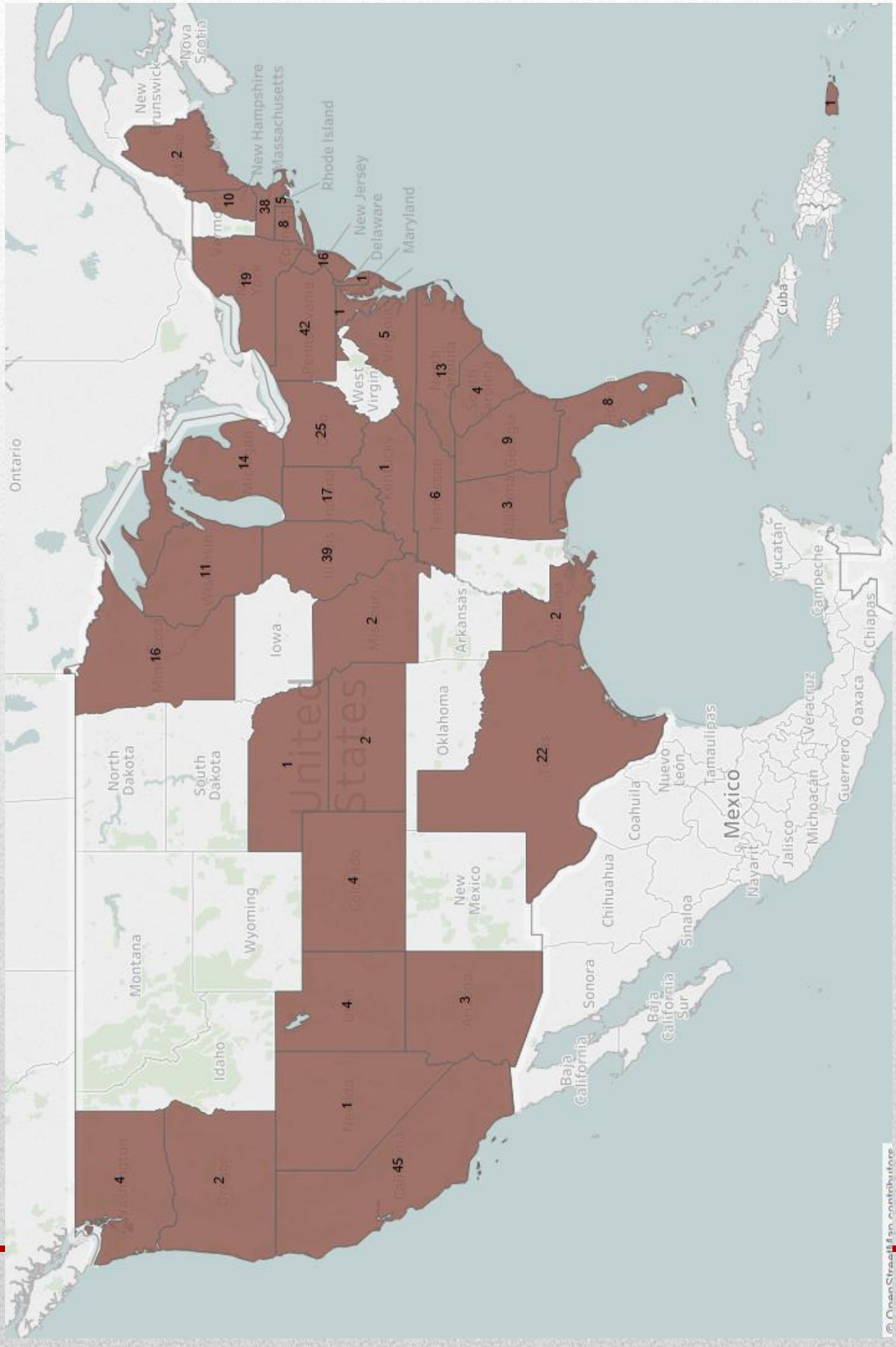
2018 MPD Membership Report



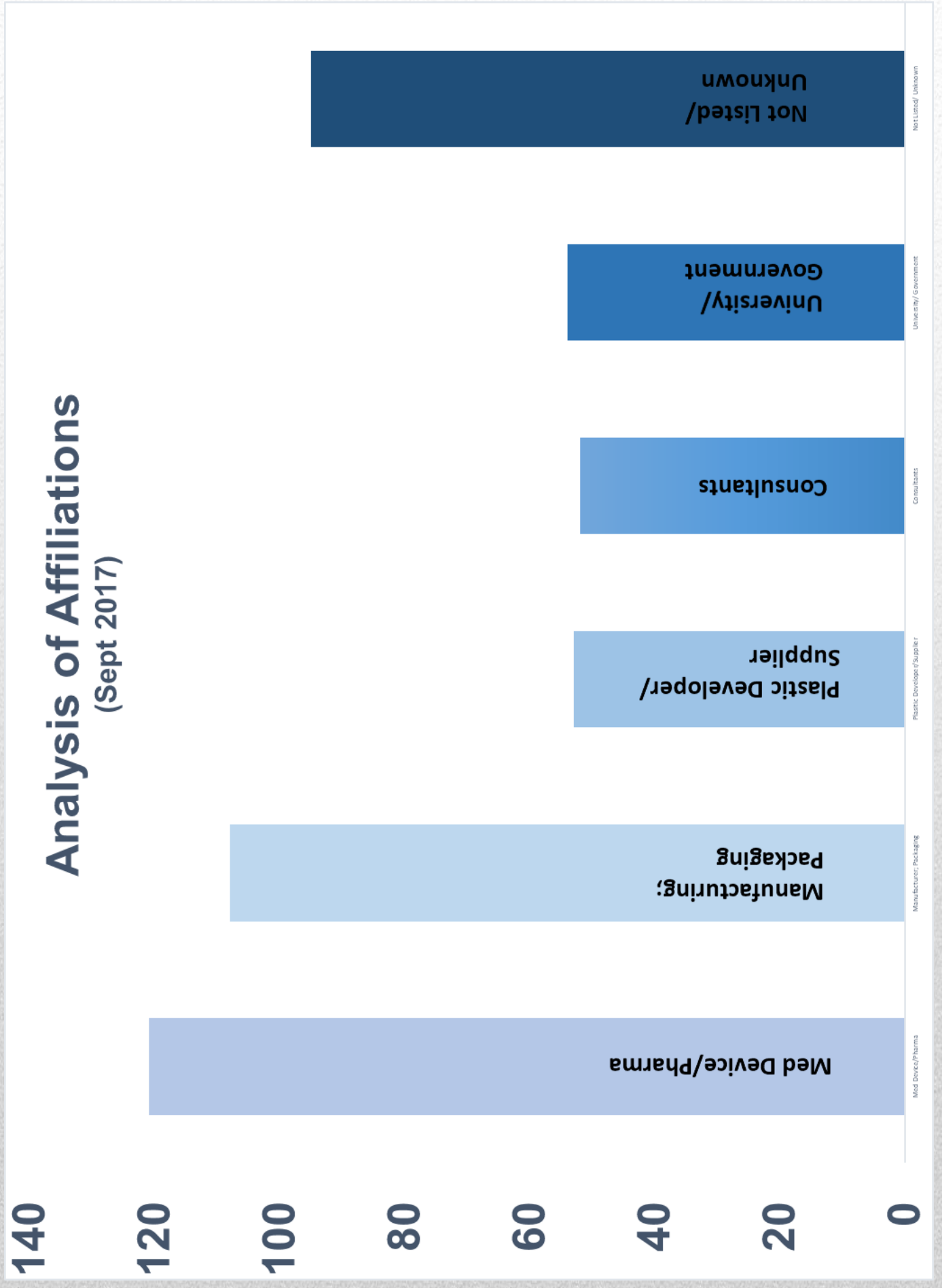
2017 MPD Membership Report



2018 MPD Membership Report



2017 MPD Membership Report



CompaMed / Medica Show 2017

Check out what you missed…

CompaMed / Medica Show 2017 (13NOV to 17NOV):

COMPAMED (~780 exhibitors from ~35 countries; ~20,000 visitors) is the leading trade fair for suppliers of medical technology products and services.

MEDICA (~5,100 exhibitors from 66 countries) the world's largest medical trade fair.

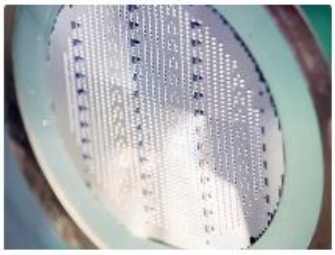
CompaMed / Medica Show 2017

Check out what you missed…

Components, parts, modules, OEM

Electrical and electronic components

Tubings and tubing equipment



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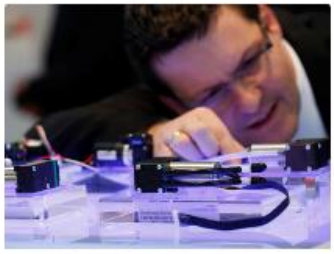
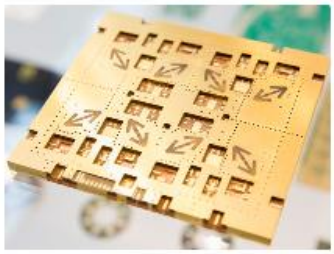


Pumps

Valves

Catheters

Needles



Raw materials and adhesives

Equipment and technologies for laboratories and manufacturing

Manufacturing Services

Packaging and print

Services

MEDICA Product categories

CompaMed / Medica 2017: An Overview of Products & Categories

CompaMed / Medica Show 2017

Check out what you missed…

CompaMed / Medica 2017 Show – Educational Seminar

Check out what you missed…

CompaMed / Medica Show 2017 – Expo Hall

CompaMed / Medica Show 2017

Check out what you missed…

CompaMed / Medica 2017 Show – Wearable Technologies Educational Seminar

Anaheim MiniTec Preview

8:00a Begin with **Welcome, Introductions, Announcements** and Review of Program and Sponsors & Exhibitors

Session on New Materials

8:30a Vipul Dave – Johnson & Johnson
Title: **Materials for Medical Applications**
Abstract: Development of novel polymer systems has led to several innovations that have profoundly influenced the future of medicine. Polymers are widely used in many medical devices for short-term and long-term applications and the properties of these materials must be tailored for the intended use. There is always a need to modify existing materials or develop new materials to meet the challenging demands of new medical devices. The presentation will provide an overview of the selection criteria of materials that are used for medical applications, and examples will include materials that are used in cardiovascular, orthopedic, surgical and drug delivery devices.

9:00a Isaac Platte – Covestro
Title: **A Uniform and Unbiased Method for Testing the Chemical Resistance of Plastics in Medical Luer Connectors**
Abstract: Medical Luer connector seal using the mechanical advantage of threaded collars to press a conical projection into a mating conical hole. The high hoop stresses generated can reduce the ability of plastic female to resist harsh medical liquids, such as disinfectants or drug solutions. Covestro has developed a test method proven to evaluate the chemical resistance of female Luers immersed in these liquids while being subjected to a range of sealing force. The method eliminates variability caused by Luer design or material friction and greatly reduces the number of samples required to establish a rank of chemical resistance.

9:30a Rick Finnie – M.R. Mold & Engineering
Title: **Product Design Differences Between Plastic and LSR**
Abstract: This presentation will outline the differences in designing products for silicone injection molding vs. plastic injection molding. Learn why some design issues make a product unmanufacturable and a slight variation of the design can make all the difference.

10:00a Morning break

10:30a Ajay Padsalgikar – Abbott (SJM)
Title: **Stability of Polyurethanes in Cardiac Applications**
Abstract: Biological stability of polyurethanes is an important property for the integrity of device functionality especially for long term implantable devices. The biostability of polyurethane materials has been a subject of intense research over the years and various methodologies have been used to predict and assess this property. Accelerated in vitro testing has been used to isolate degradation mechanisms and predict clinical performance of biomaterials. However, validation that in vitro methods reproduce in vivo degradation is critical to the selection of appropriate tests. High temperature has been one of variables proposed as a method to accelerate degradation. Correlation of such data to in vivo performance is poor for polyurethanes due to the impact of temperature on microstructure. This review looks at the mechanism of polyurethane degradation and the appropriateness of different methods that have been used by researchers.

11:00a Christian Herrild - Teel Plastics
Title: **Anti-counterfeiting Features in Medical Devices**

Abstract: Counterfeit medical devices are a major problem in some markets, especially with the rise of production and consumption in countries with historic counterfeiting issues. Counterfeit devices can damage the reputation of a medical device OEM and cause lost sales, but more critically they can be harmful to patients. While there are many technologies and techniques that can be used to help prevent counterfeiting or detect counterfeit devices, device manufacturers need an understanding of the market dynamics for counterfeit goods and the behaviors of companies making counterfeit devices to know how best to protect their products. The market dynamics for counterfeiting and some anti-counterfeiting technologies will be reviewed.

11:30a "Chip" Kurt Breitenkamp – Exponent
Title: **Assessing Potential Health Risks of Polymers Used in Wearable Devices**
Abstract: The market for wearable medical devices continues to grow based on the introduction of fast, lightweight technology with improved ability to analyze and rapidly communicate patient vital signs and, in the future, changes in sweat and blood chemistry. One common trait of wearable devices, including wearable medical devices, is long-duration contact on the skin. Since most devices are constructed using many types of synthetic polymers, there has been increased awareness of how plastic device housings, adhesives, coatings, among other materials, may impact the user's health over time during use. In this presentation, we will discuss how analytical methods and literature-based toxicological risk assessments can be used to understand the potential toxicity of extractable and leachable compounds from wearable devices in simulated end-use scenarios. We will describe common leachable compounds we've identified during our testing of wearables and potential risk mitigation strategies to employ during device development.

Q & A

12:00n **Lunch break**

Session on New Processing Technologies

1:00p Charlie Martin – Leistritz
Title: **Precision Compounding via Twin Screw Extruders for Medical Products**
Abstract: Developed almost 100 years ago for natural rubber/plastics applications, processes via twin screw extrusion (TSE) are used to continuously compound cutting-edge plastics formulations for medical device and drug delivery systems. There are many mixing devices, but it has become evident why TSE processing offers significant advantages as compared to other manufacturing techniques. The well-characterized nature of the TSE process lends itself to ease of scale-up and process optimization, while also affording the benefits of continuous manufacturing. A comparison of the similarities and differences for a plastics format TSE and "GMP" class configuration will be presented.

1:30p Melissa Butrie - 3D Proscan
Title: **Increasing Efficiency in Design and Validation of Plastic Parts Using CT Scanning**
Abstract: CT scanning is being used for various industrial applications and enabling significant improvements in terms of process efficiency. It allows customers to perform defect analysis non-destructively, compare manufactured parts to CAD models or other parts, execute first article inspections and validations in less time, and reverse engineer models from legacy parts. Examples of real world scenarios, including a time and cost comparison for various dimensional inspection methods and a brief overview of the reverse engineering process, will be given. Some of the ways in which CT scanning ties into Additive Manufacturing will also be discussed.

2:00p Marcel Fenner – Priamus
Title: **Process Monitoring and Control Systems as Basic Building Blocks for the 4th Industrial Revolution**
Abstract: The use of cavity pressure and cavity temperature signals to monitor and control the injection molding process is state of the art in the production of technically sophisticated injection molded parts. The 4th industrial revolution is opening up untold possibilities in the automation of administrative, technical

and planning processes. Such control systems are an ideal source of data of the highest relevance and information density. Depending on the target to be achieved information from many different machines and devices can be collected and analyzed. Some examples are dryers, mold temperature controllers, hot runner controllers, robots, molds, injection molding machines and any other machine or devices with network capability. Specific gains of such systems can be a faster recognition of quality trends and correcting it accordingly, traceability, remote monitoring and controlling or the data is the base for better production planning.

2:30p Afternoon break

3:00p Suhas Kulkarni – Fimmtech

Title: **Proven Methods to Reduced Process Development, Inspection & In-Process Inspection Times for Injection Molding of Medical Device Components**

Abstract: Over the last several years, the requirements for medical products has changed in two ways. First the required volume of production has increased some components and assemblies by a significant amount and second, the products have become much more complicated with tighter tolerances and requirements. All this has led to increased developmental times, increased mold cavitation, increased inspection and increased costs. Understanding the molding parameters and performing a Designed Experiment (DOE) based on the molding factors can significantly reduce times and costs for development. The talk will present proven ways with some case studies and provide a road map that one could easily implement on their next project.

3:30p Steve Kurtz - Exponent

Title: **A New Injection Moldable, Medical Grade HMWPE for Implant Applications**

Abstract: We present the properties of a new polyolefin medical grade, GUR® 1001, which is a linear HMWPE that can be injection molded. Properties will be compared with GUR® 1020 UHMWPE. Biocompatibility data will be presented as well as an injection molding processing guideline. It will be shown that, despite its still relatively high molecular weight, injection molding of GUR®1001 can be performed without degrading the material. Resulting properties of molded parts are comparable to compression molded parts of GUR® 1001. Furthermore, e-beam irradiation at different dosages has been performed to analyze property changes. Due to its lower molecular weight, the mechanical properties of GUR® 1001 do not reach the same level of as UHMWPE, but in certain medical applications the extraordinary wear resistance and impact strength are not required to the extent UHMW-PE grades offer.

4:00p Kai Wender - Arburg

Title: **3D Printed Prototype Parts out of Production Material**

Abstract: Rapid Prototyped parts through Freeforming capabilities with exactly the material that the part will be produced in mass production. Discussion on how this technology works and how it can help to quickly go through the Prototype stage and convert the generated information into the final product. Further we will review the capability of Freeforming and individualizing mass produced parts quickly in very unique ways.

4:30p Summary, closing remarks

4:45p – 6:00p **Networking reception**

Anaheim MiniTec Preview

Vipul Dave – Johnson & Johnson

Dr. Vipul Davé joined Johnson & Johnson in 1996 and held several roles of increasing responsibility within the Medical Device and Consumer Sectors of the company. He is currently a Research Director and Fellow in the Global OTC Technology Group in Johnson & Johnson Consumer Inc. and is responsible for leading the development of novel oral pharmaceutical dosage forms and external innovation. Vipul's research has focused on the fundamental understanding of structure-property-processing relationships of polymers for health care applications.

Vipul is an inventor of over 28 granted US patents and 46 US patent applications, authored over 30 publications in journals and books, and presented over 70 papers at technical conferences. Vipul received his BS in Textile Engineering from University of Baroda, an MS in Polymer Science from University of Massachusetts Lowell and a PhD in Materials Engineering Science from Virginia Tech. Vipul is a Fellow of the American Institute for Medical and Biological Engineering and Society of Plastics Engineers and a Board Member of SPE's Medical Plastics Division.

Isaac Platte – Covestro

Isaac Platte graduated from Michigan State University with a BSME. He began his career at Covestro as technical trainee rotating through Polyurethane and Coatings business units. He joined Application Development in Polycarbonates after the trainee rotational program. His main responsibilities include helping customers with part and mold design as well as evaluations through structural and injection molding simulation.

Rick Finnie – M.R. Mold & Engineering

In 1985, Rick Finnie opened M.R. Mold & Engineering with one employee. Fortunately for Rick, he had a number of contacts within the industry and he steadily grew his business.

Rick's journey ultimately leading to M.R. Mold success began within his father's line of work, which was in tool and cutter grinding. After his dad closed his business in 1977, Rick worked for eight years for Kipe Molds. Originally housed in a 1,500-sq.-ft. building in Brea, M.R. Mold was not going to be just a mold maker but would design and build anything anyone needed, a complete machine shop, which they are today.

Today within 16,500 sq.ft, M.R. Mold & Engineering is known globally for its EXPERTISE and EXPERIENCE in liquid silicone rubber (LSR) and gum stock silicone. Although known for its LSR capabilities, M.R. Mold has been building plastic injection molds for its customers for 33 years. M.R. Mold believes in 'American Made' and they are celebrating 28 years in business in Brea, CA.

Ajay Padsalgikar – Abbott (SJM)

Ajay graduated with a degree in Polymer Engineering from the University of Poona, India in 1990. He then completed a PhD from Clemson University, SC, USA in 1996. In his PhD, he worked on the micro-rheology of polymer blends and their resultant structure formation in the process of fiber spinning. His first work assignment after his education was at the Research & Technology Center in Everberg, Belgium at ICI Polyurethanes. At ICI, Ajay worked mainly on the processing of polyurethanes, thermoplastic as well as thermoset. In 1999, ICI Polyurethanes became Huntsman Polyurethanes. Ajay's work continued in the field of processing of polyurethanes but became more focused on computer modelling and simulation of the different processes including polyurethane synthesis.

In the middle of 2002, Ajay joined AorTech Biomaterials in Scotland from where he was transferred to Australia in late 2002. He served as the Chief Scientific Officer of the company and various projects that he was involved with included polyurethane bulk and solution synthesis, chemical engineering of the synthesis of raw materials for polyurethanes, processing of polyurethanes for medical devices.

Ajay joined St Jude Medical in December 2012 as a Senior Principal Scientist and has been involved with material development, application and characterization in the cardiac space. St. Jude Medical was acquired by Abbott in 2017.

Ajay has more than 30 published scientific papers and 10 patents. In 2017, a book titled 'Plastics in Medical devices for Cardiovascular Applications' authored by Ajay was published by Elsevier.

Anaheim MiniTec Preview

Christian Herrild - Teel Plastics

Christian Herrild has a diverse background in the plastics and chemical fields. He currently acts as Teel's Director of Growth Strategies. He researches and evaluates new markets and technologies for Teel and helps set Teel's strategic plan. In addition, he manages the branding and marketing efforts for Teel. Prior to his current position, Christian was Director of Sales and Marketing for Teel Plastics and managed its sales force and customer service area. Christian works closely with Teel's technical team in this role, including new product launches with key customers. Christian also serves as in-house counsel for Teel and handles nondisclosure agreements, contracts, sales agreements, and licensing.

He graduated cum laude from University of Wisconsin – Madison Law School in 2012 and earned his MBA from the UW School of Business, with a specialization in Entrepreneurial Management, in 2011. In addition, he has a strong technical background, with undergraduate degrees in both Mathematics and Chemistry from Marquette University, where in won several awards for his chemistry work as an undergraduate. Prior to his advanced schooling, he spent about two years as an industrial synthetic chemist working primarily with polynucleotides.

"Chip" Kurt Breitenkamp – Exponent

Dr. Breitenkamp provides a wide range of chemistry, polymer science and surface science expertise applicable to medical devices, consumer electronics and intersecting products including wearable electronics, point of care diagnostics and other integrated devices. His extensive polymer chemistry and polymer materials characterization knowledge has supported product development at all stages including design, materials selection and performance validation.

Prior to joining Exponent, Dr. Breitenkamp co-founded Intezyne Technologies, a biotechnology company focused on the development of advanced, polymer nanoparticles for targeted drug delivery. After his tenure at Intezyne, Dr. Breitenkamp joined The Scripps Research Institute where he initiated efforts to develop new classes of conductive polymers and hybrid polymer-virus nanoparticles.

A prolific innovator, he is listed as an inventor on 21 patent families that include 26 issued US patents. He received a Ph.D. in Polymer Science and Engineering from the University of Massachusetts - Amherst and a B.S. in Polymer Science from the University of Southern Mississippi.

Anaheim MiniTec Preview

Charlie Martin – Leistritz

As President/General Manager of Leistritz Extrusion, Charlie is responsible for the management of a company that provides manufacturing equipment and engineering services to the plastics, medical and pharmaceutical industries in the USA and around the world.

Extensively published in trade publications, textbooks and journals, Charlie has delivered 200+ technical presentations at wide-ranging international events and is the co-editor of the textbook Pharmaceutical Extrusion Technology, a seminal book on a new manufacturing technology that has been embraced by the pharmaceutical industry. He has also been awarded 2 extrusion related patents.

Charlie currently serves on the Board of Directors for the Society of Plastics Engineers (SPE) Extrusion Division, the Polymer Processing Institute @ New Jersey Institute of Technology and also on the Technical Advisory Board for Teel Plastics. Previously he has held the Technical Program Chairman and Chairman positions for the SPE Extrusion Division.

Charlie earned his undergraduate degree from Gettysburg College and MBA from Rutgers University.

Melissa Butrie - 3D Proscan

With nearly a decade of quality experience in the biotech and life science industries, ranging from custom peptide development to cGMP, ISO regulated membrane and filter testing, Melissa has a broad knowledge of products and processes. Be it R&D or controlled manufacturing settings, solving problems in order to provide the highest quality products as efficiently as possible has always been a passion and as a result, she obtained her ASQ Certified Quality Engineer certification. Now through the use of industrial CT scanning, she looks forward to helping others achieve the same high quality, product realization goals.

Marcel Fenner – Priamus

Marcel Fenner started his career with an apprentice ship as plastics technician with specialization in injection molding. Later on he graduated from the University of Applied Sciences and Art Northwestern Switzerland in Mechanical Engineering and Plastics Engineering.

After his graduations he received further experience working as a process engineer and setting up a department for mold trials and process development for a company specialized in insert molding in Switzerland. In 2000 he was transferred to the USA to setup a production for that company in Tennessee for supplying the Automotive industry in the NAFTA region.

Prior to joining PRIAMUS he had worked at EMS-Grivory, a resin manufacturer specialized in polyamides. He setup the department for Application Development and Technical Customer Service in China. In his position as Application Development Manager he was also in charge of training and developing the engineers in the Asia/Pacific region.

Fenner started with PRIAMUS System Technologies in January 2013 in Switzerland as Technical Manager and joined the North American subsidiary in August of that year. He was appointed President of that operation in June 2014.

Suhas Kulkarni – Fimmtech

Suhas Kulkarni is the president of FIMMTECH Inc., a firm that specializes in services and training related to Plastic Injection Molding. Suhas earned his Master's in Plastics Engineering from the University of Massachusetts, Lowell and a Bachelor's in Polymer Engineering from the University of Poona, India.

He has 24 years of experience as a process engineer. He is the author of the book 'Robust Process Development and Scientific Molding' published by Hanser Publications. He also a contract faculty at the University of Massachusetts at Lowell. He is also the author of several papers and articles. His website is www.fimmtech.com.

Steve Kurtz - Exponent

Dr. Kurtz is a Corporate Vice President and the Director of Exponent's Biomedical Engineering practice. He serves as a part-time Research Professor and Director of the Implant Research Center at Drexel University's School of Biomedical Engineering, Science, and Health Systems. Dr. Kurtz has expertise in the clinical performance of polyethylene, ceramic, and metal-on-metal hip implants. His professional career has involved the evaluation of medical device technologies, from a combined analytical, experimental, and clinical perspective.

His research activities have emphasized real-world clinical performance of medical devices, including orthopedic, spine and cardiovascular implants, as assessed by human implant retrieval specimens and national health care databases; mechanical behavior of synthetic biomaterials; contact mechanics of artificial joints; and structural evaluation of bone-implant systems.

Dr. Kurtz is active in many professional societies, including the American Academy of Orthopedic Surgeons, the American Association of Hip and Knee Surgeons, the Hip Society, the Knee Society and the American Society for Testing and Materials (ASTM). Dr. Kurtz has edited eight books and written over 210 journal articles and 470 conference abstracts. He is the founding editor of three educational websites: the UHMWPE Lexicon (www.uhmwpe.org); the Medical PEEK Lexicon (www.medicalpeek.org); and the Medical Ceramics Encyclopedia (www.medicalceramics.org). He has co-edited STP 1591: Modularity and Tapers in Total Joint Replacements for the ASTM in 2015 and recently completed the UHMWPE Biomaterials Handbook, 3rd Edition, which was published in 2016.

Kai Wender - Arburg

Kai started his formation in 1985 with a three-year study becoming a Plastic Technician followed by the two-year formation to an Application Engineer in mold injection.

He worked for two years in the molding department of Schmidt Feintechnik / Germany, moved to Arburg / Germany into the Application Engineering for five years followed by five years in the process and machine development for optical storing devices. In 2000, he moved to Brazil, became the Technical Manager in the new founded Brazilian subsidiary and assumed in 2006 the position of the Managing Director of Arburg Brazil.

In 2016 he moved to the U.S. to assume the West-Coast Business for Arburg / USA responsible for the Irvine Technology Centre.

UPCOMING EVENTS

M&M WEST

DON'T MISS NORTH AMERICA'S LARGEST ANNUAL MEDTECH EVENT

February 6-8, 2018 | Anaheim Convention Center | Anaheim, CA

Expo Floor Highlights

Center Stage

This is the base for all of the show action, every hour. Expand your industry knowledge through free presentations, demonstrations, and expert panels.

Tech Theater

Hear from innovative medtech exhibitors as they showcase their latest technologies. Ask questions, get answers, and discover products to engineer into your projects.

Innovation Tours

Join an expert guide on a one-hour tour of the show floor. Each walk focuses on a key theme at the forefront of the industry and highlights today's innovative tech.

Leading Suppliers

Meet representatives from 3M, Ametek, Zeus, and more as you source from the largest collection of medtech suppliers in the world.

View exhibitor directory »

Networking Events

Connect with other professionals for five-minute sessions during speed networking, or discuss specific solutions to your challenges during attendee-to-exhibitor matchmaking.

Cutting-Edge Technologies

Get a chance to see, touch, and test the latest innovations, including new materials, automation technologies, and electronic components.

NEW — 3D Printing Focus

Delivering faster prototyping and lower manufacturing costs, 3D printing is driving the future of medtech. MD&M West is making this game-changing tech an event focus in 2018. Explore 3D printing technologies across the show floor, and learn through 3D-printing-focused tours, activities, demos, and conference sessions throughout all three show days.

Five Leading Shows. One Powerful Event.

Advanced design and manufacturing's leading trade shows come together on one floor for the nation's most comprehensive industry event. Your pass gives you access to a full spectrum of solutions spanning medtech, automation technology, plastics, packaging, and design engineering. Join over 20,000 industry professionals and more than 2,000 top suppliers as you explore groundbreaking technologies and gain new insights.

M&M WEST · WEST PACK · Design & Manufacturing PACIFIC · ATX AUTOMATION TECHNOLOGY EXPO WEST · PLASTEC WEST A PLASTICSTODAY EVENT

UPCOMING EVENTS

Medical Plastics MiniTec 2018

Presented by Southern California Section and the Medical Plastics Division

SOCIETY OF PLASTICS ENGINEERS

What's New in Medical Device Materials & Processing

Friday
February 9, 2018

Sheraton Park Hotel
1855 S. Harbor Road
Anaheim, California 92803

Schedule of Events

7 :00 - 8:00 AM
Conference Check in &
Continental Breakfast

8:00 AM - 5:00 PM
All Day Minitec
Lunch and Breaks included

8:00AM - 6:30 PM
Tabletop Exhibition
(all day)

4:30 - 6:30 PM
Networking Reception

Questions?

Vishu Shah
+1 909-465-6699
vishu@consultekusa.com

Len Czuba
+1 630-627-9242
lczuba@czubaenterprises.com

For more information visit:

Medical Plastics Minitec

One-day conference where speakers from the medical plastics industry discuss recent advances in materials and processing.

SESSION ON NEW MATERIALS

Vipul Dave, Johnson & Johnson
Materials for Medical Applications

Isaac Platte, Covestro
A Uniform and Unbiased Method for Testing the Chemical Resistance of Plastics in Medical Luer Connectors

Rick Finnie, M.R. Mold & Engineering
Product Design Differences Between Plastic and LSR

Ajay Padsalgikar, Abbott (SJM)
Stability of Polyurethanes in Cardiac Application

Christian Herrild, Teel Plastics
Anti-counterfeiting Features in Medical Devices

"Chip" Kurt Breitenkamp, Exponent
Assessing Potential Health Risks of Polymers Used in Wearable Devices

SESSION ON NEW PROCESSING TECHNOLOGIES

Charlie Martin, Leistritz
Precision Compounding via Twin Screw Extruders for Medical Products

Melissa Butrie, 3D Proscan
Increasing Efficiency in Design and Validation of Plastic Parts Using CT Scanning

Marcel Fenner, Priamus
Process Monitoring and Control Systems as Basic Building Blocks for the 4th Industrial Revolution

Suhas Kulkarni, Fimmtech
Proven Methods to Reduced Process Development, Inspection & In-Process Inspection Times for Injection Molding of Medical Device Components

Steve Kurtz, Exponent
A New Injection Moldable, Medical Grade HMWPE for Implant Applications

Kai Wender, Arburg
3D Printed Prototype Parts Out of Production Material

Held the day after MDM West!!!

UPCOMING EVENTS

550+ Technical Papers & 60+ Technical Marketing Presentations in the following areas:

Additive Manufacturing/3Dp	Joining of Plastics & Composites
Advanced Energy	Medical Plastics
Alloys & Blends	Mold Technologies
Applied Rheology	Plastic Pipe & Fittings
Automotive	Plastics in Building & Construction
Bioplastics	Polymer Analysis
Blow Molding	Polymer Modifiers & Additives
Color & Appearance	Product Design & Development
Composites	Reaction Injection Molders
Decorating & Assembly	Rotational Molding
Electrical & Electronic	Sustainability
Engineering Properties & Structure	Thermoforming
Extrusion	Thermoplastic Elastomers
Failure Analysis & Prevention	Thermoplastic Materials & Foams
Flexible Packaging	Thermoset
Injection Molding	Vinyl Plastics

Medical Plastics Division

ANTEC® 2018 PAPERS

Submission Deadline: NOW CLOSED

Type of Papers/Presentations:

- Technical (full written paper)
- Commercial, presentation is allowed, but need to review before acceptance

Topics of Interest Include:

- Novel Materials/Chemistries
- High Performance Materials/Composites
- Implantable Materials
- Absorbable Materials
- Drug Delivery Devices
- Medical Devices for Different Applications
- Additive Manufacturing
- Micro-molding
- Medical Textiles and Woven Structures
- Surface Modifications, Coatings and Additives
- Diagnostics Devices and Methods
- Modeling and Characterization Methods

ACCEPTING SUBMISSIONS FOR ANTEC 2019

Coming Soon! Preliminary Program to be published in the next newsletter!

CALL FOR PAPERS

Medical Plastics Division
Injection Molding Division
Joint Session

ANTEC® 2018

Submission Deadline: NOW CLOSED

Type of Papers/Presentations:

- **Technical (full written paper)**
- **Commercial, presentation is allowed, but need to review before acceptance**

Topics of Interest Include:

- Regulatory requirements for molded parts for medical usage
- What does it take to be a Medical Molder?
- Machine and Mold design for micro molding
- Use of molding flow simulation tools in medical part molding
- Molding biodegradable materials
- Case studies in Medical Molding
- Molding technologies for medical molding
- Material selection and design considerations for injection-moldable medical parts

ACCEPTING SUBMISSIONS FOR ANTEC 2019

Coming Soon! Preliminary Program to be published in the next newsletter!

UPCOMING EVENTS

NPE2018

THE PLASTICS SHOW

WE'VE GOT IT COVERED

May 7–11, 2018

Orange County Convention Center, Orlando, Florida USA

NPE2018 COVERS MEDICAL MANUFACTURING

We cover the latest advances in plastics for medical devices.

TREASURER'S REPORT

TREASURER'S REPORT – Ali Ashter

Treasurers report as of November 30, 2017

Balance as of August 2, 2017	$ 21,210.43

INCOME

Income Type	Amount
No income to be reported	
TOTAL INCOME	$ -

EXPENSE

Expense Type	Amount
No expense to be reported	
TOTAL EXPENSE	$ -

FUNDS AVAILABLE AS OF NOVEMBER 30, 2017	$ 21,210.43

Do you have questions about the Treasurer Report?

Please email Ali Ashter
ashter2000@gmail.com

SPE CALENDAR

2018 CALENDAR – SPE WEBSITE (WWW.4SPE.ORG)

23 Jan — **Forum by JEC & SPE Composites for Performance in Sports**
January 23-24, 2018, Long Beach, CA, USA

9 Feb — **Medical Plastics 2018 MiniTec - "What's new in Medical Device Materials & Processing Technology?"**
February 9, 2018, Anaheim, CA

20 Feb — **Thermoset 2018 Conference**
February 20-21, 2018, Indianapolis, Indiana

25 Feb — **International Polyolefins Conference**
February 25-28, 2018, Houston, Texas

6 Mar — **Successful Plastic Part Design – Midwest 2018**
March 6-7, 2018, Gurnee, IL

14 Mar — **11th European Thermoforming Conference**
March 14–16, 2018, Rome, Italy

27 Mar — **2018 TPO Shanghai**
March 27-29, 2018, Shanghai, China

18 Apr — **Additives & Color Conference Middle East**
April 18-19, 2018, Manama, Bahrain

1 May — **AUTO EPCON 2018**
May 1, 2018, Troy, Michigan

7 May — **ANTEC® Orlando**
May 7-10, 2018, Orlando, Florida

7 May — **NPE: The Plastics Show**
May 7-11, 2018, Orlando, Florida

8 May — **Plastics Leadership Summit**
May 8-10, 2018, Orlando, FL

8 May — **Re|focus Sustainability & Recycling Summit**
May 8-10, 2018, Orlando, FL

3 Jun — **Rotational Molding Conference 2018**
June 3-6, 2018, Cleveland, Ohio

21 Jun — **SPE Extrusion MiniTec**
June 21,2018, Marietta, Georgia

5 Sep — **SPE Automotive Composites Conference & Exhibition**
September 5-7, 2018, Novi, Michigan

Newsletter Suggestions?
somlai_louis@lilly.com

SPE CALENDAR

2018 - 2019 CALENDAR – SPE WEBSITE (WWW.4SPE.ORG)

11 Sep **Advances in Foam Materials & Technology**
September 11-14, 2018, Montreal, Quebec, Canada

18 Sep **2018 Thermoplastic Elastomers Conference - Innovation Bounces Back**
September 18-20, 2018, Akron, Ohio

23 Sep **Color and Appearance Conference: (CAD RETEC®)**
September 23-25, 2018, North Charleston, South Carolina

24 Sep **Thermoforming Conference®**
September 24-26, 2018, Fort Worth, Texas

7 Oct **Automotive TPO Conference**
October 7-10, 2018, Troy Marriott (Detroit Suburbs), Michigan

8 Oct **Annual Blow Molding Conference 2018**
October 8-10, 2018, Pittsburgh, Pennsylvania

2019

24 Feb **International Polyolefins Conference**
February 24-27, 2019, Houston, Texas

18 Mar **ANTEC® Detroit**
March 18–20, 2019, Renaissance Center Detroit, MI

9 Sep **Thermoforming Conference®**
September 9-12, 2019, Milwaukee, Wisconsin

23 Sep **Annual Blow Molding Conference 2019**
September 23-25, 2019, Atlanta, Georgia

23 Sep **Color and Appearance Conference: (CAD RETEC®)**
September 23-25, 2019, Cleveland, Ohio

23 Sep **Annual Blow Molding Conference 2019**
September 23-25, 2019, Atlanta, Georgia

1 Oct **Vinyltec® 2019 Conference**
October 1-3, 2019, Akron, Ohio

6 Oct **Automotive TPO Conference**
October 6-9, 2019, Troy Marriott (Detroit Suburbs), Michigan

Newsletter Suggestions?

somlai_louis@lilly.com