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THE SOCIETY OF PLASTICS ENGINEERS – SOUTHERN CALIFORNIA SECTION

The·Press SPE®

May 2018 • No 1

Presidents Message

Welcome to the new and improved Southern California SPE Newsletter! After a year of publishing our newsletters online, The Board has decided to revert to our "old school" avenue for publishing the newsletter in print and have it sent right to your front door. We have found that although the internet is a great resource, it does not always provide the personal touch that we were seeking. The Board hopes to offer companies that are associated within the Plastics Industry an engaging outlet for their advertising. We are confident our readers will find this new newsletter easy to follow SoCal SPE and keep up with important industry news. As always, we encourage insightful feedback from our readers.

I am thrilled to report that the Southern California Chapter will be a recipient of SPE's 2017 Gold Pinnacle award and Communication of Excellence Award. The Pinnacle Gold is awarded to Chapters who, in addition to meeting Pinnacle Silver criteria, demonstrate superior performance in the Gold achievement categories. SPE will recognize these achievements at the Society's 76th Annual Technical Conference at NPE this May. There is an immense amount of work, time, commitment that goes into maintaining a society and I want to thank all our Board, SoCal Members, and Sponsors. Congratulations on helping us achieve a successful 2017. Here's looking to an even better 2018!

Sincerely,
Ashley Spittle
Southern California SPE President

SO CA SPE WORKSHOP SERIES 2018

Molding – Past, Present and Future




FIMMTECH INNOVATION & TRAINING CENTER
Carlsbad, CA
Thursday May 31, 2018

John Wesley Hyatt filed the patent for the first injection molding machine in 1872. Reciprocating screw was developed in 1956. Since then, there have been many advances in molding technology. However, the progress in terms of molding shop owners and technicians mind set has been painfully slow to changes. Many molders are still mired in the old habits and outdated molding practices.

The day long workshop will address the key issues facing the molders today and growth opportunities. Efficiency, improvements and profitability cannot be achieved without spending lots of money is a misconception. Maximum productivity molding with minimum expenditure will be discussed. Recognizing the fact that it is the people on the floor that make or break the operation, importance of properly training the technicians and machine operators is explored.

None of the sophisticated molding machines, skills or technology can solve molding issues stemming from the inadequate part design. For example, sink and void issues due to uneven and thick walls, non-fills and burning created by deep ribs without venting considerations cannot be simply solved by twisting knobs or punching new numbers. Learn how to solve the problems related to the part design.

Optimizing the process and making the process robust is the key to trouble free molding. How to optimize the process by creating process window and how to conduct simple DOE will be discussed.

The latest technologies from the largest plastics industry technology showcase will be highlighted. What is the future of molding? What is Industry 4.0 all about, what are Smart Factories and how molders can stay abreast, take advantage and ride the new wave to profitability will be discussed.

DATE
Thursday, May 31, 2018

TIME
9:00 – Registration
9:30 – Workshop
1:00 – Live Demonstrations
4:15 – Adjourn

LOCATION
FimmTech
5900 Sea Lion Place, Suite 140
Carlsbad, CA 92010

COST
SPE Member: $100
Non-Member: $ 130
(Join SPE today and save $30)
(Includes Continental Breakfast and afternoon Lunch)

SCHEDULE

9:30 to 10:30	Vishu Shah	**Breaking the bad habits – A review of conventional molding practices and how to break out of the mold inhibiting the molder's growth.**
10:45 to 12:00	Tuan Dao	**How a poor part design affect molder's profitability – Simple, low cost solutions.**
12 noon to 1:30		**Lunch and demonstrations**
1:30 to 3:00	Suhas Kulkarni	**Improving the Cpk: What is Cpk (Process capability), Why is it Important and How to Improve it**
3:15 to 4:15	Vishu Shah	**Future trends: Equipment, Molding technologies, Automation, Industry 4.0/Smart Factories The latest from NPE.**

Register On line at www.socalspe.org

SPEAKERS

Tuan M. Dao, B.Ch.E., MSME, is a Senior Consultant at the Engineering Plastics Consulting Group. He was formerly with DuPont Company and has 25+ years' experience in Plastic Engineering with applications in various industries such as automotive, medical, electrical/electronics, irrigation, and consumer. His expertise includes product design, Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), mold design, runnerless technology, and optimum molding. He has been teaching Advanced Plastic Product Design classes at UCSD for past five years. He is a senior member, past president of So. Cal. SPE section and currently serving on board as a technical program director.

Vishu H. Shah is President of Consultek Consulting Group, a consulting firm specializing in Business Growth strategic planning and new product/Technology strategy development. His 26 years of extensive practical experience in plastics Industry includes positions as president and cofounder of Performance Engineered Products – a custom injection molder, Senior Plastics Engineer of Rain Bird Corporation and NIBCO Inc. His areas of expertise include product design, processing, automation, materials, rapid prototyping, tooling, failure analysis and testing. He is the author of Handbook of Plastics Testing and Failure Analysis and has taught various plastics related subjects throughout his career. Currently, he is teaching classes covering, Plastics Theory and Practice, Scientific Molding, Product Design and Tooling at CAL POLY, Pomona. An active, involved professional, he is a senior member, past president of So. Cal. SPE section, SPE Honored Service Member and a board member of SPI Western Moldmakers Division. Vishu is a graduate of UMass Lowell where he received B.S. and M.S. degree in Plastics Engineering. He has worked extensively with legal community as expert witness and provided technical support with litigation.

Suhas Kulkarni is the President of FIMMTECH, a consulting firm that specializes in services related to injection molding. He earned his Master's in Plastics Engineering from the University of Massachusetts, Lowell and a Bachelors in Polymer Engineering from the University of Poona, India. He has 22 years of experience as a process engineer. His main area of expertise is Scientific Processing for Injection Molding. He conducts regular training seminars in Injection Molding and has developed a custom software called Nautilus, that aids the complete process development routine to production release. He is a contract faculty at UMASS Lowell and has given numerous presentations and written several articles. He is also an author of the book 'Robust Process Development and Scientific Molding' published by Hanser Publications.

Medical Plastics MiniTec

The first ever Minitec was held in Anaheim, CA on Friday the 9th of February. The event was cosponsored by Southern California SPE and the Medical Plastics division of the SPE. The day long event had 12 speakers who gave presentations from novel technologies, advances in materials to additive manufacturing. There were close to 50 attendees with 9 table top exhibitors. We ended the day with cocktails and dinner sponsored by the Horn Company.

The Minitec was well received by the attendees and the board felt that it was a good start to a yearly event. We hope to have such an event every year around the time of the MDM show. There are thoughts of hosting the Minitec before or after the MDM Show. We request everyone to provide their feedback. The board is hoping to obtain more of the local medical companies to participate and support. Technology is fast changing and one of the efficient avenues to get exposure to new technologies is to attend such conferences. Conferences and exhibitions provide good overviews under one roof and in a short amount of time.

The Minitec event was sponsored by several companies that included Celanese, Compuplast International, BD, The Horn Company, Emerson Branson, Thermofischer Scientific and Teel Plastics.

The Speakers at the conference

THE SOUTHERN CALIFORNIA SOCIETY OF PLASTICS ENGINEERS IS PROUD TO HOST

35th Annual Golf Tournament for Plastics Education

Thursday June 21, 2018, 7:30 AM

$5000.00 Prize for Hole-in-One

Our Golfers will enjoy our return to the exclusive Sierra Lavern Country Club. Located in the rolling foothills of the majestic San Gabriel Mountains, the course offers a cool climate surrounded by great natural beauty. We have an early morning shotgun start at 7:30AM with the awards luncheon following the round. Join in after the tournament for the golf awards presentation, raffle and luncheon after golf. Get your name on the Rusty Miller perpetual trophy (The Rusty) for the low score foursome. Be the next to have your name engraved on the trophy. If the foursome is sponsored by a company, we will engrave the company name with the player's name. Come and support us in education. Past SPE presidents are invited for our traditional informal past presidents meeting We are asking for Tee sponsors for this Year's Tournament. We would like to thank last year's Tee Sponsors. Many are doing so this year. All of the funds go directly to the Scholarship, High school essays and student admissions to our events. SPE Southern California is also looking for an event sponsor. The tournament will be named after this sponsor. The (ABC Inc.) 35rd Annual Golf Tournament for Plastic Education. A $2000 per year donation with a commitment for 3 years is all that is needed to have the tournament in your company's name.

7:30 AM, June 21 tee time
Shotgun start, Scramble format
Coffee and rolls served at registration

- Tee sponsor: $120
- Flag Sponsor: $250
- Raffle prizes accepted at the door
- $115.00 per SPE member, $130 per non member

Please Call Kerry Kanbara, 909 906 2332 for more details.

Any donations in the form of Raffle Prizes, Tee Sponsorship, Cash or Services for this fundraiser will be greatly appreciated. Your contribution will be recognized at the tournament.

REGISTRATION
Register online at www.socalspe.org. Ashley Spittle, event chair. 714-423-8050.

Sierra Lavern Country Club
6300 Country Club Drive, La Verne, CA • 91750 909-596-2100

Quantity, Quality, and the Myth of Cheap Plastic Parts

Recently, I had a series of conversations with a potential new client. They were developing a new product, and were getting ready to make protoypes. They were evaluating materials and manufacturing processes – not just for prototypes, but also for production. The kicker – the new client was an inventor (actually, a couple of inventors, working together).

As a general rule, I don't work with inventors. While some have good ideas, most have no clue about what they are getting involved in. These guys were different. Not only did they understand the product development process, they also had a well thought out business plan. They They had defined the end-use requirements, and were very clear about the market their product was going to compete in, the needs and expectations of potential users, and the pricing structure of competitive products. They claimed their concept had some competitive advantages, and they were also interested in pursuing the use of sustainable materials, utilizing existing recycling streams with minimal waste and scrap. On top of all that, they had funding. So, I made an exception to my rule, and we started talking.

In our initial conversation, we talked about performance requirements, including stiffness, weight, chemical and environmental resistance, and the overall user experience. We also talked about production volumes, and the trade-offs between various production processes: piece part costs versus tooling investments, near net shape manufacturing versus secondary operations, etc. We also talked about material selection (as a plastics guy, these are the conversations I enjoy the most).

During this conversation, one of the partners made an off-handed comment, something to the effect of:

"THIS SEEMS LIKE OUR BEST OPTION SO FAR, AS IT GIVES US A REASONABLY CHEAP PART WHILE ALSO MAINTAINING QUALITY."

It was a simple comment, one that flowed naturally in the conversation. Later, I realized that it hit my hot button. Actually, it hit several of my hot buttons, all at once.

EVALUATING OPTIONS

The first hot button had to do with evaluating options.

No doubt, developing a new product is not an easy task. The path to production involves ideas, concepts, prototypes, dead-ends, trial and failure, and also (hopefully) trial and success. And that is just the product. There are also business decisions to be made, not just about the product, but strategy and branding, distribution, market penetration, and more. Add to that the issues about the effective use of materials, including supply chain logistics, re-processing and recycling, waste management, and other environmental concerns.

I have been in the design and development business for a long time, and I understand all that. But when someone makes a decision about material selection in a preliminary meeting, I sometimes get a bit . . . frustrated.

"THIS SEEMS LIKE OUR BEST OPTION . . ."

The material being discussed might have been appropriate, but what bothered me was their decision making process. They were making decisions, without sharing the criteria on which those decisions are made. Worse yet, they weren't even aware of the criteria that they were using – and they had no real data on which to base any of their decisions. How in the world can you determine that any material offers the best option?

MAINTAINING QUALITY

The second hot button had to do with quality.

As a small business owner, I understand what they meant. Basically they were saying "We want a quality part at fair price." They have every right to expect that. As the classic TV commercial might say:

I AM NOT GOING TO PAY A LOT FOR THIS MUFFLER!

However, as an engineer and product guy, I take exception to how they described their quality requirements.

The term "quality" has several meanings, and they are often mis-understood and mis-used. In common language, the term quality is used inter-changeably with other terms such as luxury and elegance. And while these terms are often hard to evaluate, they usually imply a sense of superiority.

JAMES, PLEASE BRING THE BENTLEY UP FRONT. THANK YOU.

In the business world, the term quality has a practical definition, involving the concept of "fitness for purpose."

DOES THIS MATERIAL / PRODUCT / SERVICE / PRACTICE MEET THE REQUIREMENTS?

While the requirements may vary, the answer to the question is absolute. Either the requirements are met, or they are not. While some may argue that this hot button is all about semantics, I would argue that clear and well understood langauge is a foundation for effective design. To paraphrase Forest Gump, Quality Is as Quality Does.

MAKING CHEAP PARTS

The third hot button had to do with cost. Above all else, what really pissed me off was the comment about making cheap parts. I don't know about you, but I don't do cheap.

I work on world class products. They are made from state of the art materials, using state of the art manufacturing technologies. The design and the materials meet international standards for safety, performance, reliability, and yes quality. They are reviewed and certified by leading experts from around the world, in conjunction with organizations such as ISO, UL, CSA, FDA, ASME, ASTM, SAE, and more. And while yes, they are cost effective, they are not cheap.

Bottom line, I deliver bonafide, certified, even sanctified design solutions to world class problems. So don't ever talk to me about making cheap parts.

LESSON LEARNED

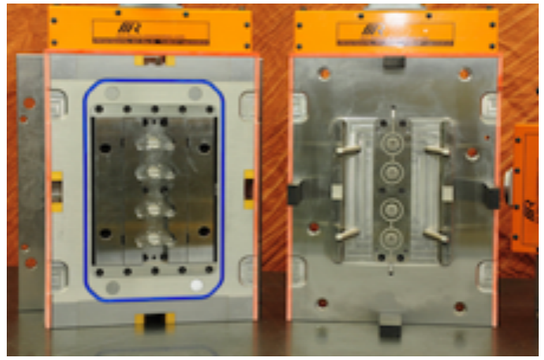
There is an old adage, We teach best what we most need to learn. For me, this exercise was not

(Continued on page 9)

M.R. Mold & Engineering to highlight silicone molding expertise at NPE

Wednesday, December 27, 2017

By: Clare Goldsberry, NPE
Injection Molding
Automotive and Mobility, Consumer Products, Materials,Medical
November 16, 2017



M.R. Mold & Engineering will demonstrate its expertise in building silicone injection molds with tight tolerances, complex geometries and flashless processing capabilities at NPE 2018. Liquid silicone rubber (LSR) moldmaking and molding has become a specialty for the company, which is based in Brea, CA. M.R. Mold & Engineering produces molds for the medical, dental, consumer product and automotive industries.

In partnership with Krauss Maffei, M.R. Mold will run a four-cavity, in-mold slitting duckbill mold featuring a four-drop cold runner system at booth W403. In-mold slitting is part of the mold automation with specific molding machine sequencing.

In Makura USA's booths—W911 and W1103—M.R. Mold will be represented with a four-cavity mold producing a magnification lens from optically clear silicone. A single-drop cold runner system on M.R. Mold's universal base will feature ejection that presents the part for robotic removal.

Zieger Industries (booth 5483) will demonstrate M.R. Mold's technology with a two-cavity LSR mold for a high-beam automotive application. The exhibit will show how silicone can be molded in applications that thermoplastics are incapable of doing.

"LSR poses challenges that do not exist in the plastics industry," commented Rick Finnie, President of M.R. Mold. "With 34 years of experience creating solutions to those challenges, we can help companies with their requirements from concept through completion to speed their product to market."

In M.R. Mold's own booth (W4391), R.D. Abbott will showcase the latest addition to its technical services portfolio—a Liquid Additive Manufacturing (LAM) 3D printer. The patent-pending LAM 3D printer was developed in collaboration with German RepRap GmbH, a manufacturer of 3D printers, and Dow Performance Silicones. German RepRap's LAM platform combined with Dow Performance Silicones' 3D printable Silastic LC 3335 LSR is potentially capable of printing functional prototypes and enabling small manufacturing trials of complex parts. Further, the material properties closely match those of molded LSR, allowing an easy transfer into injection molding processes for high-volume manufacturing. M.R. Mold & Engineering also designs and builds molds for silicone gumstock, thermoset and thermoplastics materials.

M.R. MOLD & ENGINEERING CORP.
SPECIALIZING IN THE DESIGN & MANUFACTURE OF MOLDS

NPE 2018 comes to the Orange County Convention Center in Orlando, FL, from May 7 to 11, 2018.

Southern california spe awards winners in 'wonders of plastics' essay contest.

On March 7, in the Hall of Champions of the NHRA Museum in Pomona, approximately 40 attendees honored some of our youngest champions. In the Education Night for the Southern California Region of the SPE, scholarships were awarded to three young talented high school students. These students participated in the "Wonders of Plastics" Essay Contest. In this contest students research any area of their choosing where plastics are of benefit to humanity, and then proceed to eloquently provide their conclusion in a concise essay. This year the entrants wrote on topics from food safety, recycling, bioplastics, medical safety, energy savings amongst many other topics. Our awardees were:

The scholarships awarded were $250 for first place, $150 for second place and $100 for third place. Matching funds were also given to their high schools, $400 to Ontario High School and $100 to Diamond Ranch High School.

We would like to thank Prestige Mold, Hi-Tec, Alba Enterprises and Fimmtech for their financial support.

First Place: Viridiana Medina – Ontario High School: "How Plastics Save Energy"

Second Place: Mariana Orozco-Berber– Ontario High School: "Plastic: The Unexpected Hero of the Food Industry"

Third Place: Mauro Lozano– Diamond Ranch High School: "Plastic: Molding an Efficient Tomorrow, Today"

(Continued from page 6)

about working – or not working – with inventors. It was about staying true to technology, and the things that I believe in. In a nutshell:

1. Make a good GREAT product
First and foremost, focus your efforts on making a truly great product. One that provides value to the end user - and also delights them.

2. Materials and Processes
Materials and manufacturing processes often go hand-in-hand. Sometimes the material is the most important, and the process is secondary. Other times, it goes the other way. As you explore things, keep your eyes and ears – and your options - open.

3. Waste Not, Want Not
In any manufacturing process (as in life), there is always "waste" material. Whether you call it scrap, left over material, prototype runs, whatever - there is always something left over. Yes, the infrastructure to re-process the left overs in the plastics industry is sometimes lacking, but it is getting better. And while changes to the infrastructure are going to be driven by the major players, every little thing matters.

I am reminded of a phrase from a teacher long ago. It's never too old to learn.

Here endeth the lesson[1].

This article originally appeared on the blog site plasticsguy.com, and is reprinted here with the permission of the author, Eric R. Larson.

[1] Jim Malone, as played by Sean Connery in the 1987 movie The Untouchables.

MAY 2018						
S	M	T	W	T	F	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

May 7 to 11
NPE 2018
Orange County Convention Center – Orlando, FL

May 31
Workshop: Molding Past-Present-Future
6:00 PM
FimmTech – Carlsbad, CA

JUNE 2018						
S	M	T	W	T	F	S
27	28	29	31	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

June 21
35th Annual Golf Outing for Plastic Education
7:30 AM
Sierra La Verna Country Club

AUGUST 2018						
S	M	T	W	T	F	S
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

August 16
Southern California Annual Western Plastics Trade Fair
12:30 PM
Phoenix Club – Anaheim, CA

Society of Women Engineers
Orange County

PROFESSIONAL DEVELOPMENT CONFERENCE

YOU HAVE ARRIVED!

Sponsored by
Medtronic

Event Information
Date: Saturday, April 21, 2018
Time: 8:00 am – 3:30 pm
Location: Anaheim, CA
http://fy18-sweoc-pdc.eventbrite.com/

Early Bird Rates
Through April 14, 2018
Students/Retirees/Unemployed ... $25
SWE Members $30
Non-Members $45

Standard Rates
After April 14, 2018
Students/Retirees/Unemployed ... $35
SWE Members $40
Non-Members $55

Keynote
Kim O'Rourke

Kim O'Rourke will provide the keynote presentation at the Professional Development Conference. She will discuss how emotional intelligence (EI/EQ) has an impact on your professional success.

Kim O'Rourke has been with The Boeing Company for 25 years and is currently an Environment, Health and Safety specialist. She's held various leadership positions, most recently as the Senior Manager, Quality for Boeing's Shared Services Group.

Transitioning to Management
Joy Allen

Showcasing leadership skills will give you an edge in any organization and increase your visibility. Once you become recognized as a hard worker who is able to work well with others your reputation will precede you and your leadership skill will speak for itself.

Joy Allen is the C4I Systems branch supervisor for the Naval Surface Warfare Center Corona Division. She currently manages a branch of 17 analysts who specialize in material readiness.

Building Your Personal Brand
Elizabeth Ruedas

Having a strong personal brand sets us up to be on the receiving end of many opportunities, ultimately leading to career growth. Devoting time and energy into developing a strong personal brand is worth the investment.

Elizabeth is a Professional Civil Engineer with CNC Engineering. She plans national events for the American Society of Civil Engineers, helping facilitate discussions.

Dream It or Do it: Live an Exceptional Life
Brooke Castro

Learn how to live with intention, develop an action mindset, and live a more positive life. During this interactive presentation, attendees will learn tools on how to begin living a "Level 10" exceptional life.

Brooke has worked at Parker Hannifin Aerospace for 25 years in various departments, divisions, and facilities. Today, she is a Senior Project Engineer in lean product development.

Panel Session: Soaring to New Heights from the Foundation You've Built

Chelsea Gregg, Senior R&D Engineer at Medtronic
Dr. Amanie Abdelmessih, Mechanical Engineering Professor at California Baptist University
Sangavi Pari, Systems Engineer at Naval Surface Warfare Center
Elizabeth San Miguel, Assistant Department Manager at Northrop Grumman

The conference will conclude with a panel session focusing on the topic of "Soaring to New Heights from the Foundation You've Built." The panel will include a variety of speakers with a wide range of backgrounds and experiences. Meet engineers who will share challenges they faced in the workplace and how they overcame them. This interactive panel will engage the audience and provide insight as to how they can approach obstacles they may encounter throughout their career and how they used them as stepping stones to get to the next level.

Society of Women Engineers – Orange County
http://fy18-sweoc-pdc.eventbrite.com/ | www.swe-oc.org | pdc@swe-oc.org