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2016 SPE TPO Shanghai CONFERENCE®

March 22-24, 2016

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Welcome to the 2016 SPE TPO Shanghai CONFERENCE®

Thank you for attending the 1st ***SPE® TPO Automotive Engineered Polyolefins Conference in Shanghai,*** *the world's leading automotive polyolefins forum.* On behalf of our hardworking planning committee and all of SPE, we welcome you to the show and wish you a very successful event.

Whether you're here to present a paper, exhibit your company's products and/or services, or to find solutions to pressing engineering challenges, we hope you find what you're looking for at this year's show.

This is an exciting year for all of us because we decided to bring you the very first TPO Conference in Shanghai this year and it looks like we'll have a great attendance from OEM, Tier-1, and resin suppliers.

- We expect more than 200 guests from around the world.
- We have planned for 28 presentations in 10 technical track throughout the event.
- We have a great exhibition planned for you, thanks to the support of our over 30 sponsors and exhibitors.

Additionally, we have two exciting keynote speakers who are going to help you better understand the complex web of trends and market forces at work in our industry today and that even now are shaping our tomorrow. Not only will you leave here better informed than when you arrived — assuming you visit our sponsors and catch our technical program — but you also should leave with lots of new contacts. That's because we've built numerous networking opportunities into our program.

In addition to two receptions (Tuesday and Wednesday evenings), and lunches (Tuesday and Wednesday), we've also built morning and afternoon breaks into the program so you can ask questions, meet new people, grab a beverage, and avail yourselves of the tremendous amount of collective automotive-plastics knowledge assembled at this venue.

We'd like to acknowledge all the effort our committee of volunteers have expended helping bring this program to you. Our team was hard at work on this conference for the last 12 months. If there's something we could do better, please don't hesitate to tell a member of our committee so we can discuss it in our *postmortem*. If there's something we did right, please don't hesitate to tell us that too. We're always striving to make our events better year after year.

Sincerely,

Dr. Sassan Tarahomi

Dr. Sassan Tarahomi
Conference Chair
International Automotive Components (IAC) Group

2016 Planning Committee

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Dr. Sassan Tarahomi, International Automotive Components (IAC) Group

Technical Program Chair
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Conference Registration
Karen Rhodes-Parker, SPE® Detroit Section

Session Chairs

DAY 1

Soft TPO Applications
Dr. Sam He, Inteva Products LLC

Coatings for Automotive Interiors
Dr. Sam He, Inteva Products LLC

Rigid TPO Compounds
Dr. Tom Turng, University of Wisconsin-Madison

DAY 2

Lightweight TPO Technologies - Part 1
Dr. Tom Turng, University of Wisconsin-Madison

Lightweight TPO Technologies - Part 2
Jack Zhang, Inteva Products LLC

Materials Development - Part 1
Jack Zhang, Inteva Products LLC

DAY 3

Process Developments
Yan Chen, Vintech Industries, Inc.

Modeling and Measurement of Scratch Resistance
Yan Chen, Vintech Plastics

Surface Enhancements
Jack Zhang, Inteva Products LLC

Materials Development - Part 2
Dr. David Kusuma, Tupperware Corp.

Other Committee & Staff

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Dr. Sassan Tarahomi, IAC Group

Technical Program
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Prof. Tom Turng, University of Wisconsin-Madison
Dr. Sassan Tarahomi, IAC Group
Dr. David Kusuma, Tupperware Corp.
Dr. S.T. Lee, Sealed Air Corp.

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Prof. L.S. Xie, SPE Extrusion Division
Dr. Jin Sha, East China University of Science and Technology

OEM Participation
Jim Keller, United Paint & Chemicals Corp
Karen Rhodes-Parker, SPE Detroit Section
Dr. Sassan Tarahomi, IAC Group

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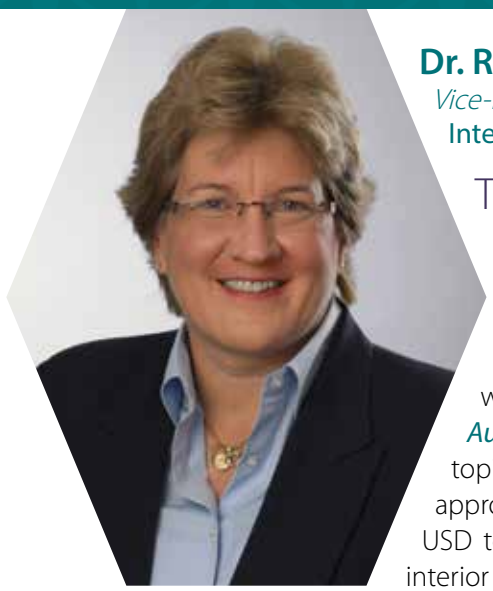
2016 Keynote Speaker



Dr. Rose Ryntz

Vice-President, Advanced Engineering & Material Development
International Automotive Components (IAC) Group

The Changing Landscape for Plastics Use in Interior Automotive Applications

Dr. Rose Ryntz, vice-president, Advanced Development & Material Engineering, International Automotive Components (IAC) Group (Southfield, Mich., U.S.A.) will give a keynote talk entitled ***The Changing Landscape for Plastics Use in Interior Automotive Applications*** on Tuesday, March 22, 2016 at 8:45 a.m. As background on her topic, she explains that plastics use in automotive applications is expected to represent approximately 18% of total vehicle weight by 2020 and contribute roughly $110-billion USD to global plastics sales. During that same time period, global sales of automotive interior components (in all materials) is expected to reach $325-billion USD, offering suppliers "great incentives to participate." However, the functional requirements and usage of plastic materials are changing rapidly due to factors like economics and governmental mandates. With increased demand for lighter, more competitively priced vehicles, and current challenges by vehicle-interior suppliers in meeting growing production demands, it is more important than ever to select plastics and design parts efficiently and correctly if a company wishes to become the supplier of choice for a given automaker.

"My presentation will focus on the changing geographic and demographic landscape for vehicle interiors and the effect of those changes on plastic material selection," explains Ryntz. "As the interaction between car and driver becomes, paradoxically, more complex, the key to supplier success will be focused product segments and technology differentiation. Lifestyle demands, such as the desire for personalization, use of illuminated surfaces, and the focus on occupant comfort and convenience, as well as acoustic performance, environmental stewardship, and safety all will be discussed in relation to polymer selection. Additionally, the advent of the autonomous car and increased human-machine interactions also will be discussed relative to how they affect both the industry and its requirements."

Ryntz holds a Ph.D. degree in Polymer / Organic Chemistry from the University of Detroit and an M.B.A. degree from Michigan State University. During her career she has worked at Dow Chemical, DuPont Automotive, Ford Motor Co., Akzo Nobel N.V., and Visteon Corp. before assuming her current role at IAC. She is a sought-after speaker at domestic and international events, is a prolific writer with over 180 publications, 30 patents, and four books, and is a recipient of many prestigious awards. Last year she was named as one of the 100 Leading Women in Automotive, and in 2014 was awarded the SPE Detroit Section's prestigious Outstanding Member award. Additionally, she has been the recipient of the International Biographical Center *Who's Who in the World,* has received Best Paper and Best Speaker awards from both the Federation of Societies for Coatings Technology (FSCT) and SPE, the FSCT Women in Coatings' Management Achievement Award, the George B. Heckel Award and Matiello Award, the American Chemical Society's (ACS's) Roy Tess Award, the Women Automotive Association's International Professional Achievement Award, the Engineering Society of Detroit's (ESD's) Outstanding Leadership Award and Gold Award, the University of Southern Mississippi's Elias Singer Best Paper Award, a Roon Award from FSCT, and the Henry Ford Technology award presented by the Ford Motor Co. for outstanding technical contributions to the company. Ryntz has been very active as a society volunteer. She served as president of FSCT from 2005-2007, and was elected as a Fellow in SPE in 2006. She also has served on the board of directors of the Detroit Section of SPE, and is currently a member of the Engineering Dean's Advisory Board at the University of Detroit.

Dr. Rose Ryntz

瑞兹博士是位于美国密西根州的国际汽车部件集团公司的副总裁，主管尖端材料工程的开发．她的主题报告题目是”塑料在汽车内饰应用的演变．”

瑞兹博士预计到2020年塑料在汽车上的应用将会达到百分之十八的汽车重量，导至一千一百亿美元的全球塑料销售量．同时，所有的汽车内部材料的全球销售量将达到三千二百五十亿美．这些增长的数量给部件供应商带来很大的吸引力．但是，由于多种因素，比如经济影响及政府政策规定，塑料材料的功能要求和应用正在快速变化．目前对更轻更经济的汽车的需求量正在不断增长，汽车生产量的上升对汽车内部部件供应商也成为一个问题．面临这些挑战性的问，正确的塑料材料挑选和部件设计来产生更高效率是非常重要的．

瑞兹博士报告着重点是地理和人口统计的演变以及它们对汽车内部塑料材料选择的影响．目前的趋势是驾驶员和汽车的互相合作和影响变得越来越复杂．对部件供应商来说，成功的决窍就是将注意力集中在部件分类配套和技术优势．她会讨论如下因素：新的生活方式需求，比如个人化，表面照明，司机和乘客的舒服和方便，音响效果，环境影响，以及安全对高分子材料选择的影响．她也会讨论正在发展中的自动驾驶汽车和不断增长的人与机器的互相合作，以及它们对汽车工业和需求的影响．

瑞兹膊士是从底特律大学获得高分子/有机化学博士学位的．她还从密西根州立大学得到管理学硕士学位．她曾在下列公司工作过；陶氏化学公司，杜邦汽车，福特,阿克苏诺贝尔和伟世通．瑞兹博士经常被邀请去国内和国际会议做报告．她已发表了180篇论文,有30份专利，还出了4本书，得到过许多有声望的奖章．去年她被命名为汽车工业内前一百名杰出女带头人．在2014年她得到了SPE底特律分会的杰出会员奖.她被选入国际传记中心的世界名人录．瑞兹博士的奖章还包括：FSCT和SPE的最佳论文奖以及最佳演讲奖，FSCT的杰出女士涂层管理成就奖，George B. Heckel奖和Matiello奖，美国化学学会Roy Tess奖，女子汽车协会的国际专业成就奖，底特律工程协会的杰出领导能力奖和全奖，南密西比大学的Elias Singer最佳论文奖，FSCT ROON奖，福特科技奖．瑞兹博士一直在为各种科技协会义务做事．2005-2007年，她曾担任FSCT总裁．在2006年她被选为SPE委员．她还担任SPE底特律分会的理事．她现在还是底特律大学工学院的顾问．

2016 Keynote Speaker

Dr. Stéphane Quilliet
Engineering Manager-Injection Molding Team
RocTool

On the Road to a New Standard: High-Definition Plastics

Dr. Stéphane Quilliet, engineering manager-injection molding team, RocTool (Le Bourget du Lac, France) will give a keynote talk entitled ***On the Road to a New Standard: High-Definition Plastics*** on Wednesday, March 23, 2016 at 8:45 a.m. RocTool's technologies for rapid mold heating and cooling provide plastic processors with practical solutions that increase productivity — via faster molding cycles, lower energy usage, better thickness control, and enhanced part complexity — as well as improve post-mold part quality — via optimized surface quality (whether matte or glossy) and invisible weldlines. These features are wanted and needed by molders in all major market segments, but especially in the high-volume, cost-sensitive, aesthetically demanding automotive industry.

"The plastic industry is constantly working to offer better process solutions in order to respond to design challenges from automakers. My presentation will focus on the ongoing evolution of several such process enhancements. I also will share our vision of the next key steps to reach a new quality and performance standard" explains Quilliet. "I will share with the attendees our vision and explain what we believe are the conditions needed to reach a new standard in the industry. In addition, I will discuss the importance of the fact that we now can accurately simulate the inductive heating and cooling technique via AutoDesk, Inc.'s MoldFlow® software, which helps improve the accuracy of moldfilling and warpage analyses as well as shows the benefits of our induction technology during the initial design phase, long before tooling is cut. We think of these as 'high-definition plastics' solutions for OEMs and their manufacturers."

Quilliet has worked at RocTool for almost seven years, the last six of which he spent designing 3itech® technology and conducting moldflow analyses for customers. Before joining RocTool, he spent a decade working for several service companies, including five years at MAPEA, which he founded and where he worked as a development engineer. These companies were involved with a variety of plastics processes, including injection molding, extrusion, and compounding, and gave him experience in simulation, materials science, and training — all of which provided broad knowledge in the field of plastics processing. Quilliet holds a Ph.D. degree in Dynamique des transferts (Transfer Dynamics) from Université de Nantes, where his thesis topic was on modeling the heat-transfer conductance between part and tool during injection molding. He also earned a Diplôme d'ingénieur, Thermique - Energétique (Engineering Diploma - Thermal Energy) degree from Polytech 'Nantes.

Dr. Stéphane Quilliet

桂莱特博士是法国ROCTOOL公司注射型部门的工程经理．他的主题报告题目是"走向新的标准：高保真度塑料."

ROCTOOL公司的快速模具加热和冷却技术使得那些做塑料加工成型的能很实际的解决提高生产力问题-通过更短的成型周期，低能源消耗，更好的厚度控制，和能做更复杂的部件-同时也提高已成型部件的质量-通过最佳化的表面质量（不管是无光泽或光面）以及看不见的接缝．以上那些特色能满足加工成型的需求在所有的市场，但特别是对高产量，成本敏感，审美要求高的汽车工业．

塑料工业总是想找到更好的工艺过程去满足汽车制造业的设计挑战．桂莱特博士的报告的重点将是目前正在进化的几种工艺改革和优化．他会提到所需要的关键步骤去达到新的质量和性能的标准．他会解释他相信所要具备的条件去达到这个新的工业标准．以外,桂莱特博士还会讨论能够精确模拟感应加热和冷却技术的重要性．这种模拟是用Autodesk的MoldFlow软件，它能帮助提高成型度和变型分析精确度．同时它能显示感应加热技术的好处远在很贵的模具制造之前．他认为这些就是"高保真度塑料"能解决很多汽车制造工业的问题．

桂莱特博士在ROCTOOL工作了将近七年．在过去的六年里他设计了3itech技术为用户做模流量分析．在ROCTOOL之前，他在几个服务公司做了十年，包括五年在MAPEA公司他帮助建立起来．在那里他做过开发工程师．那些公司做了许多塑料工艺流程．包括注射成型，挤压成型和塑料改性．这给了他很多在模拟，材料科学，培养和训炼的经验所有这些给了他很广的知识在塑料工艺领域．他的转换动力学博士学位是从Nantes大学获得的．他的博士论文的课题是模拟注射成型时部件和模具之间的热传导和转换．他还从Nantes科技学院得到过热能学士学位．

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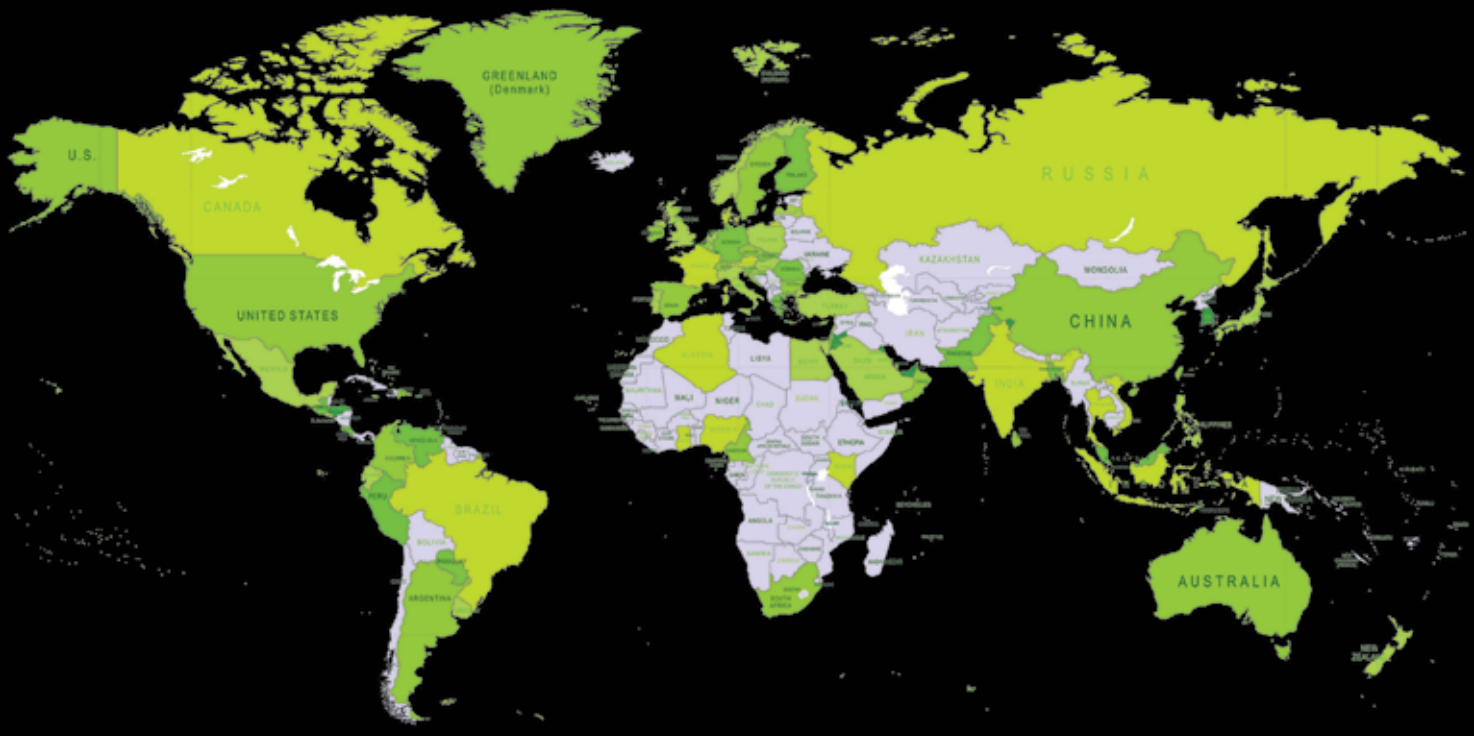

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Tuesday, March 22, 2016

All Presentations are in Grand Ballroom-Salon 1A/1B

7:30-8:00 / 0730-0800 — REGISTRATION

8:00-8:30 / 0800-0830 — OPENING REMARKS: Dr. Sassan Tarahomi, *2016 SPE Shanghai TPO Event Chair*

8:30-9:00 / 0830-0900 — KEYNOTE SPEAKER #1: Dr. Rose Ryntz
Vice-President, Advanced Engineering & Material Development, International Automotive Components Group
The Changing Landscape for Plastics Use in Interior Automotive Applications

瑞兹博士是位于美国密西根州的国际汽车部件集团公司的副总裁，主管尖端材料工程的开发．她的主题报告题目是”塑料在汽车内饰应用的演变．”

9:00-9:15 / 0900-0915 — 3 Short Videos on SPE & Speech from Official at SPE Shanghai

9:15-9:30 / 0915-0930 — TECHNICAL PROGRAM HIGHLIGHTS: Dr. Norm Kakarala, *2016 SPE Shanghai TPO Technical Program Chair*

9:30-10:30 / 0930-1030 — BREAK - Grand Ballroom Foyer-Level 5 (Sponsored by SPE®) / EXHIBITS - Grand Ballroom

SESSION 1: SOFT TPO APPLICATIONS

会议 1：软热塑性聚烯烃弹性体(TPO)的应用

10:30-11:00 / 1030-1100

Presentation #1/Plenary Talk: Ken Gassman, *Inteva Products LLC (USA)*
Trends in Automotive Interiors

报告#1/大会报告：Ken Gassman,
Inteva Products LLC (USA)
汽车内饰的发展趋势

11:00-11:30 / 1100-1130

Presentation #2: Roger Young, *Robert Eller Associates LLC (USA)*
Current and Future Prospects for TPOs and TPEs in Interiors

报告 #2: Roger Young, Robert Eller – Robert Eller Associates LLC (USA)
热塑性聚烯烃弹性体和热塑性弹性体在汽车内饰领域的当前应用和发展前景

11:30-12:00 / 1130-1200

Presentation #3: Dan Feeney, *Haartz Corporation (USA)*
New Innovations in Moldable TPO Laminates for Automotive Interiors

报告 #3: Dan Feeney,
Haartz Corporation (USA)
TPO 层压制品在汽车内饰件领域的创新应用

12:00-1:30 / 1200-1330 — LUNCH - Shanghai City Bistro-Level 3 (sponsored by SPE®) / EXHIBITS - Grand Ballroom

SESSION 2: COATINGS FOR AUTOMOTIVE INTERIORS

会议 2：汽车内饰涂层

1:30-2:00 / 1330-1400

Presentation #4: Jim Keller, *United Paint & Chemical Corporation (USA)*
Design of Automotive Interior Coatings

报告 #4: Jim Keller,
United Paint & Chemical Corporation (USA)
汽车内饰涂层设计

2:00-2:30 / 1400-1430

Presentation #5: John Millea, *The Haartz Corporation (USA)*
Overcoming the Challenges Posed By Consumer Products Used In Automotive Interiors

报告 #5: John Millea, Dr. Pravin Sitaram,
Kristine Togneri – The Haartz Corporation (USA)
克服汽车内饰件消费品带来的挑战

2:30-3:00 / 1430-1500

Presentation #6: Martin van den Berg, *Stahl (USA)*
Development of Global Emission Compliant Topcoats and Primers for TPO Materials

报告 #6: Martin van den Berg –
Stahl (USA)
TPO 材料顶漆和底漆全球排放标准的发展

3:00-3:30 / 1500-1530 — BREAK - Grand Ballroom Foyer - Level 5 (sponsored by SPE®) / EXHIBITS - Grand Ballroom

SESSION 3: RIGID TPO COMPOUNDS

会议 3：硬性 TPO 共混物

3:30-4:00 / 1530-1600

Presentation #7: Dr. Laura Shereda, *Asahi Kasei Plastics North America, Inc. (USA)*
Understanding Emissions of PP-Based Resin Compositions

报告 #7: Laura Shereda 博士 –
Asahi Kasei Plastics North America, Inc.
理解 PP 基树脂成分的排放

4:00-4:30 / 1600-1630

Presentation #8: Emily Fu, *Reliable Analysis (Shanghai) Inc. (China)* Continuous Optimization of Interior Air Quality

报告 #8: Emily Fu, Alec Lang –
Reliable Analysis (Shanghai) Inc. (China)
持续优化车内空气质量

4:30-5:00 / 1630-1700

Presentation #9: Dr. Linda Havermans, *SABIC (The Netherlands)*
Meeting the Challenge of Delivering Global PP Compound Solutions

报告 #9: Linda Havermans 博士–
SABIC (The Netherlands)
实现 PP 共混物全球运输的解决方案

5:00-6:00 / 1700-1800 — BREAK - Grand Ballroom Foyer - Level 5 (sponsored by SPE®) / EXHIBITS - Grand Ballroom

6:00-7:00 / 1700-1900 — RECEPTION / DINNER - Shanghai Bistro-Level 3 (sponsored by SPE®)

7:00 / 1900 — CONFERENCE ENDS FOR THE DAY

Wednesday, March 23, 2016

All Presentations are in Grand Ballroom-Salon 1A/1B

7:30-8:00 / 0730-0800 — REGISTRATION

8:00-8:30 / 0800-0830 — OPENING REMARKS: Dr. Sassan Tarahomi, *2016 SPE Shanghai TPO Event Chair*

8:30-9:00 / 0830-0900 — KEYNOTE SPEAKER #2: Dr. Stéphane Quilliet
Engineering Manager-Injection Molding Team, RocTool
On the Road to a New Standard: High-Definition Plastics

桂莱特博士是法国ROCTOOL公司注射型部门的工程经理．他的主题报告题目是"走向新的标准：高保真度塑料."

9:00-9:15 / 0900-0915 — TECHNICAL PROGRAM HIGHLIGHTS: Dr. Norm Kakarala, *2016 SPE Shanghai TPO Technical Program Chair*

9:15-10:30 / 0915-1030 — BREAK - Grand Ballroom Foyer-Level 5 (Sponsored by IMI Fabi SpA) / EXHIBITS - Grand Ballroom

SESSION 4: LIGHTWEIGHT TECHNOLOGIES - Part 1

会议 4：轻质技术-第 1 部分

10:30-11:00 / 1030-1100
Presentation #10: Marco Pan, *Trinseo Automotive (France)*
Enable Lighter Designs: The Renault Espace Full TPO Liftgate

报告 #10: Marco Pan – Trinseo Automotive (France)
启用更轻的设计：Renault Espace 全 TPO 掀背式车门

11:00-11:30 / 1100-1130
Presentation #11: Dr. Linda Havermans, *SABIC (The Netherlands)*
Achieving Weight Reduction and a Balance of Properties with PP Compounds in Both Interior and Exterior Applications

报告 #11: Linda Havermans 博士, Bhuwneesh Kumar – SABIC (The Netherlands)
实现聚丙烯复合物内饰和外饰产品的减重与性能的平衡

11:30-12:00 / 1130-1200
Presentation #12: Dr. Laura Shereda, *Asahi Kasei Plastics North America, Inc. (USA)*
New Developments in Talc and Cellulose Fiber-Reinforced PP for Automotive Interior Trim Weight Savings

报告 #12: Laura Shereda 博士, Vaibhav (Vive) Apte - Asahi Kasei Plastics North America, Inc. (USA)
应用滑石粉和纤维素增强并轻量化聚丙烯内饰产品的最新发展

12:00-1:30 / 1200-1330 — LUNCH - Shanghai City Bistro-Level 3 (Sponsored by SPE®) / EXHIBITS - Grand Ballroom

SESSION 5: LIGHTWEIGHT TECHNOLOGIES - Part 2

会议 5：轻量化技术-第二部分

1:30-2:00 / 1330-1400
Presentation #13: Dr. David Brands, *SABIC (The Netherlands)*
Weight Reduction Technologies for Long Glass-Reinforced Polypropylene

报告 #13: David Brands 博士, Angel Yanev – SABIC (The Netherlands)
长玻纤增强 PP 体系的减重技术

2:00-2:30 / 1400-1430
Presentation #14: Dr. Laura Shereda, *Asahi Kasei Plastics North America, Inc. (USA)*
Welding Improvements with a Focus on High Strength Glass-Reinforced Polypropylene

报告 #14: Laura Shereda 博士, Tom Howie - Asahi Kasei Plastics North America, Inc.(USA)
高强度玻纤增强 PP 体系焊接技术的改进

2:30-3:00 / 1430-1500
Presentation #15: Piergiovanni Ercoli Malacari *IMI Fabi SpA (Italy)*
HVT Extra: Introducing a New Talc for Best Performance Tradeoffs

报告 #15: Piergiovanni Ercoli Malacari – IMI Fabi SpA (Italy)
HVT Extra：一种平衡基体最佳性能的新型滑石粉填料

3:00-3:30 / 1500-1530 — BREAK - Grand Ballroom Foyer-Level 5 (Sponsored by SPE®) / EXHIBITS - Grand Ballroom

SESSION 6: MATERIAL DEVELOPMENTS - Part 1

会议 6：材料发展-第 1 部分

3:30-4:00 / 1530-1600
Presentation #16: Dr. Sam He, *Inteva Products LLC (USA)*
Discussion of Thermoplastic Concentrates / Additives and Automotive Interior Applications

报告 #16: Sam He 博士 – Inteva Products LLC (USA)
热塑性填料/添加剂在汽车内饰产品中的应用

4:00-4:30 / 1600-1630
Presentation #17: Jungdu Kim, *Songwon Industrial (South Korea)*
UV Product Developments for TPO Automotive Applications

报告 #17: Jungdu Kim, J. Mara, T. Schmutz, HeeJung Kwon, K. Keck, and B. Iyer – Songwon Industrial (South Korea)
紫外光处理 TPO 汽车制品的研究进展

4:30-5:00 / 1630-1700
Presentation #18: Şerif Erdoğan, *Elastron Kimya (Turkey)*
Mechanical-Physical and Weathering Properties of New 'MATT SEBS' Series for Weatherseal Applications

报告 #18: Şerif Erdoğan – Elastron Kimya (Turkey)
新型"MATT SEBS"复合物的机械-物理和耐候性能以及其在汽车密封条上的应用

5:00-7:00 / 1700-1900 — RECEPTION / DINNER - Shanghai Bistro-Level 3 (Sponsored by SPE®)

7:00 / 1900 — CONFERENCE ENDS FOR THE DAY

Thursday, March 24, 2016

All Presentations are in Grand Ballroom-Salon 1A/1B

7:30-8:00 / 0730-0800 — REGISTRATION

8:00-8:30 / 0800-0830 — OPENING REMARKS: Dr. Sassan Tarahomi, *2016 SPE Shanghai TPO Event Chair*

	SESSION 7: PROCESS DEVELOPMENTS	会议 7： 加工工艺的发展	SESSION 9: SURFACE ENHANCEMENTS	会议 9：表面强化
8:30-9:00 / 0830-0900	**Presentation #19: Professor Lih-Sheng (Tom) Turng,** *University of Wisconsin–Madison (USA)* Recent Developments of Microcellular Injection Molding	报告 #19: Lih-Sheng (Tom) Turng 教授, University of Wisconsin –Madison (USA) 微孔发泡注射成型的发展近况	**Presentation #25: Jerry Luo,** *Kingfa Science & Technology Co. Ltd. (China)* Innovative Compounded TPO Materials for Automotive Applications	报告 #25: Jerry Luo, Kingfa Science & Technology Co. Ltd. (China) 应用于汽车行业的创新复合 TPO 制品
9:00-9:30 / 0900-0930	**Presentation #20: Wu Jie,** *JSR (Shanghai) Co. Ltd. (China)* Bonding Properties & Structure between TPVs and EPDM Vulcanizates for Automotive Profiles	报告 #20: Wu Jie – JSR (Shanghai) Co. Ltd. (China) 热塑性硫化橡胶（TPVs）和 EPDM 硫化胶汽车制品的粘接性能与结构	**Presentation #26: Voly Wang,** *Dow Corning (China) Holding Co. Ltd. (China)* Next-Generation Additives for Scratch Improvements of Auto Interior Talc-Filled Polypropylene Parts	报告 #26: Voly Wang, Dow Corning (China) Co. Ltd. (China) 增强滑石粉/PP 内饰制品抗刮性能的新一代添加剂
9:30-10:30 / 0930-1000	**Presentation #21: Dr. Shih-Po (Tober) Sun,** *CoreTech System Co., Ltd. (China)* Simulating Composite Manufacturing with Moldex3D	报告 #21: Shih-Po (Tober) Sun 博士- CoreTech System Co., Ltd. (China) Moldex3D 软件在复合材料加工过程模拟中的应用		
0:00-10:30 / 1000-1030	BREAK - Grand Ballroom Foyer-Level 5 (sponsored by SPE®) / EXHIBITS - Grand Ballroom			
	SESSION 8: MODELING & MEASUREMENT OF SCRATCH RESISTANCE	会议 8：耐划伤性能的模型构建及测试表征	**SESSION 10: MATERIAL DEVELOPMENTS - Part 2**	会议 10: 材料的发展-第二部分
10:30-11:00 / 1030-1100	**Presentation #22: M. Jamali,** *Parsa Polymer Sharif Co. (Iran)* Correlating Scratch Visibility with Mechanical Behavior of TPO Compounds	报告 #22: M. Jamali, R. Bagheri, O. Dadgari, and A. Ghasemi – Parsa Polymer Sharif Co. (Iran) TPO 复合材料的耐划伤可见性和力学性能之间的关系	**Presentation 27: Roger Liu,** *LyondellBasell Industries (China)* Recent Advances in Soft-Touch Feeling Material	报告 #27: Roger Liu, LyondellBasell Industries (China) 软触觉材料的最新进展
11:00-11:30 / 1100-1130	**Presentation #23: Dr. Sassan Tarahomi,** *International Automotive Components Group (USA)* TPO Scratch & Mar Predictability - Part 1: Simulation	报告 #23: Sassan Tarahomi 博士- International Automotive Components Group (USA) TPO 耐划伤和擦伤性能预测 – 第一部分：模拟	**Presentation 28: Colin Chen,** *LyondellBasell Industries (China)* Low VOC Automotive Interior with New Developments on PP Compounds	报告 #28: Colin Chen, LyondellBasell Industries (China) 低挥发性有机化合物汽车内饰 PP 混合物的新发展
11:30-12:00 / 1130-1200	**Presentation #24: Dr. Sassan Tarahomi,** *International Automotive Components Group (USA)* TPO Scratch & Mar Predictability - Part 2: Building the Surface Characteristic Database	报告 #24: Sassan Tarahomi 博士– International Automotive Components Group (USA) TPO 耐划伤和擦伤性能预测 – 第二部分：构建表面-性能数据库		
12:00 / 1200	CONFERENCE ENDS FOR THE YEAR			

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Soft TPO Applications

会议 1：软热塑性聚烯烃弹性体(TPO) 的应用

Presentation #1/ Plenary Talk: Ken Gassman, Inteva Products LLC (USA)

Trends in Automotive Interiors

In today's automotive industry, OEMs and suppliers are working hard to set themselves apart. During this talk, we will discuss how vehicle interiors are influenced by everything from nature to fashion and how manufacturers and suppliers are addressing these trends.

- The exterior grabs you, the interior holds you. Consumers now expect luxuriously designed interiors to match the highly designed exterior, no matter the vehicle segment.
- Designers are driven by insightful and ingenious ideas. Defining new standards in vehicle interior design, style, performance, and comfort is the result of a multitude of influences and inspiration.
- The fashion industry is bringing forward new elements of design in textiles, textures, patterns, and stitching. Learn how automotive designers can integrate that industry's best practices into well-crafted interiors.
- The vehicle's interior is becoming an outlet for personalization and creativity. It is helpful to look outside the automotive industry to stay on top of trends, apply uncommon expertise, and develop new product and process ideas.
- Not only do today's interiors look and feel like fashion showpieces, they can meet and even surpass our industry's needs in terms of cost, form, and function, durability, low weight and low mass. All require technical ingenuity.

报告#1/大会报告：Ken Gassman, Inteva Products LLC (USA)

汽车内饰的发展趋势

在如今的汽车工业领域，设备制造商和供应商们正在不断努力使产品与众不同。在这个报告中，我们将讨论从自然到时尚的众多不同因素对汽车内饰的影响，并且突出制造商和供应商们是如何迎合这些趋势的。

- 外饰吸引你，内饰捕获你。无论是汽车的哪个部分，现在的消费者期望更加奢华的内饰设计以符合高质量的外部设计。
- 设计师们受独创的、精巧的想法所驱动。多种影响因素和灵感的融合，正在不断诠释汽车内饰设计，风格，性能和舒适等方面的新的标准。
- 时尚产业正在不断推出新的设计元素，如质地、纹理、图样、缝法等。汽车设计师探索如何应用产业界的最新成果来完善内饰件的设计。
- 汽车内饰正在成为个性化和创造力的展现。这有利于汽车工业开拓视野，紧跟流行前沿，应用新技术，开发新产品和新工艺。
- 不仅今天的内饰外观看起来像时尚典范，而且他们在成本，形式和功能，耐用性、减轻重量等方面可以满足甚至超越我们行业的需求。所有的这些都需要技术创新。

Soft TPO Applications

会议 1：软热塑性聚烯烃弹性体(TPO) 的应用

Presentation #2: Roger Young, Robert Eller,
Robert Eller Associates LLC (USA)

Current and Future Prospects for TPOs and TPEs in Interiors

Compound technology and fabrication methods are enlarging the performance profiles for TPOs and TPEs in interiors. This presentation explores enabling technologies, targets and paths to innovation in interiors, including foams, soft-touch technology, skins, body /glazing seals, mats, and acoustics within the context of a shifting supply chain, globalization, and shifting performance requirements.

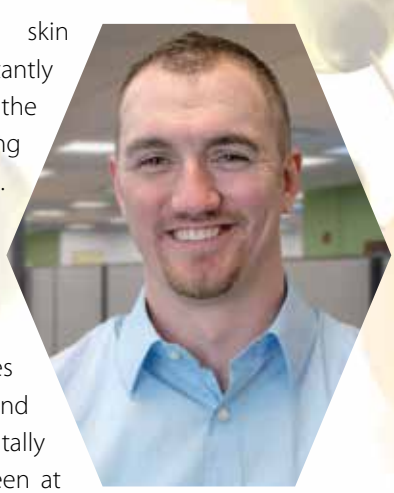
报告 #2：Roger Young, Robert Eller – Robert Eller Associates LLC (USA)

热塑性聚烯烃弹性体和热塑性弹性体在汽车内饰领域的当前应用和发展前景

共混技术和制备工艺极大的改善了 TPOs 和 TPEs 作为汽车内饰件的性能。本报告探讨了通过技术、目标和路径创新，在供应链不断变化、全球化、及产品性能需求的不断变化的大背景下，实现内饰件的技术创新，如发泡材料，软触技术、皮肤、身体/光滑面密封，垫子，和音响等技术。

Presentation #3: Dan Feeney,
Haartz Corporation (USA)

New Innovations in Moldable TPO Laminates for Automotive Interiors



Automotive Interior skin technologies are constantly evolving to meet the many and ever-changing industry requirements. Innovation has focused on TPO-based materials with a soft haptic, while meeting the increased challenges of chemical resistance and remaining environmentally friendly. Haartz has been at the forefront developing new TPO laminate constructions as solutions to this challenge. By using years of manufacturing expertise, we have created a portfolio of highly engineered materials to form over even the most complex shapes.

报告 #3: Dan Feeney, Haartz Corporation (USA)

TPO 层压制品在汽车内饰件领域的创新应用

汽车内饰表皮技术不断发展以满足多样和不断变化的行业需求。创新主要集中在改善 TPO 材料的触觉体验，但是却不断遇到耐化学性和保持环保友好的挑战。Haartz 公司率先开发出新的 TPO 层压结构技术来解决这一问题。基于多年的加工经验，我们的工程材料产品可以满足制品的复杂形状要求。

Coatings for Automotive Interiors

会议 1：软热塑性聚烯烃弹性体(TPO)的应用

Presentation #4: Jim Keller,
United Paint & Chemical Corporation (USA)

Design of Automotive Interior Coatings

Coatings for automotive interiors provide improved aesthetics (color harmony, uniform gloss), haptics or tactile sensation (soft touch, smooth and slippery feel), durability (weatherability, scratch and wear resistance), and chemical resistance. This presentation explains why coatings are used and the special challenges in developing coatings for TPOs and engineered polypropylenes. Function of different components of the coatings will be explained in the context of meeting specific end-use property requirements.

报告 #4: Jim Keller, United Paint & Chemical Corporation (USA)

汽车内饰涂层设计

汽车内饰涂层增加了美学(颜色和谐、均一的光泽)，触觉或质感(柔软的触摸，光滑和湿滑的感觉)，耐用性(耐气候性、划痕、耐磨性)和耐化学性。本报告解释了为什么使用涂层以及应用 TPOs 和工程聚丙烯材料作为涂层过程中遇到的特殊挑战。我们将在满足特定性能需求的背景下探讨不同成分在涂层中的功能。

Presentation #5: John Millea,
Dr. Pravin Sitaram, Kristine Togneri,
The Haartz Corporation (USA)

Overcoming the Challenges Posed by Consumer Products used in Automotive Interiors

As consumers try to resist microbes, the sun, and more, they are transferring chemicals from such products as hand sanitizer and sunscreen to the surface of their vehicle's interior. The molded soft-trim materials in automotive interiors have a new challenge to resist these chemical attacks. To combat the challenge, extensive R&D efforts at Haartz have led to new TPO formulations and lacquers that achieve greater chemical resistance while maintaining a balance between performance, processing, haptics, and environmental responsibility.

报告 #5: John Millea, Dr. Pravin Sitaram, Kristine Togneri – The Haartz Corporation (USA)

克服汽车内饰件消费品带来的挑战

由于消费者试图避免微生物，阳光，和其它因素，他们正在把诸如洗手液和防晒霜等化工产品转移到他们汽车里面。汽车内饰中的模塑软制品在抵抗这些华工产品时面临了新的挑战。为了应对这些挑战，Haartz 公司经系统研发，平衡产品性能、加工、触觉和环境的责任之间的关系，开发出领先的，具有耐化学性的 TPO 配方和涂料。

Coatings for Automotive Interiors

会议 1：软热塑性聚烯烃弹性体(TPO) 的应用

Presentation #6: Martin van den Berg, Stahl (USA)

Development of Global Emission-Compliant Topcoats and Primers for TPO Materials

Days of a "new car smell" are over. VOC emissions are no longer tolerated because of legislation, OEM-specific car interior guidelines (based on toxicology), and consumers. Stahl, a leading manufacturer of coatings for car interior-trim applications, is launching anew series of coating products that not only comply with the most stringent OEM requirements for emissions and aesthetic and technical performance, but also takes it one step further by introducing coatings with an ongoing and increasing content of renewable raw materials.

报告 #6: Martin van den Berg – Stahl (USA)

TPO 材料顶漆和底漆全球排放标准的发展

对于“新车味道”喜爱的时期已经结束。由于法律，原始制造商遵循的特定汽车内饰件指南(基于毒理学)，和消费者的要求，对挥发性有机化合物(VOC)的排放量必须加以控制。Stahl 作为汽车内饰涂料的主要制造商，推出了一个新的涂料系列产品，不仅符合最严格的原始制造商的排放要求，以及美学和技术特性要求，而且进一步应用了可再生的原材料。

Rigid TPO Compounds

会议 3：硬性 TPO 共混物

Presentation #7: Dr. Laura Shereda,
Asahi Kasei Plastics North America, Inc. (USA)

Understanding Emissions of PP-Based Resin Compositions

As the world becomes more concerned with air quality and carbon footprint, in the automotive industry OEMs have begun to add emissions criteria to their parts and prints. These tests generally include measurements of odor, fog, and VOCs. Asahi Kasei has performed extensive testing to determine how the results of each test are related to changes in formulation, processing, and molding. This presentation will provide an overview of emissions in polypropylene compounds.

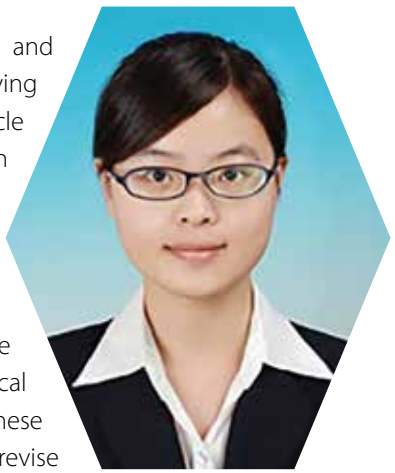
报告 #7: Laura Shereda 博士 – Asahi Kasei Plastics North America, Inc.

理解 PP 基树脂成分的排放

随着空气质量和温室气体的排放引起了更多的关注，汽车行业的原始设备制造商（OEM）对于他们自己的产品部件和印刷过程已经开始推行排放标准。这些测试一般包括测量气味、雾和挥发性有机化合物（VOCs）。Asahi Kasei 公司已通过广泛的试验研究，以确定每个试验结果，材料配方，加工过程和模塑成型之间的关系。本报告将概述聚丙烯材料体系的排放。

Presentation #8: Emily Fu, Alec Lang,
Reliable Analysis (Shanghai) Inc. (China)

Continuous Optimization of Interior Air Quality



As we all know, more and more people are paying attention to vehicle interior air quality. In order to improve the vehicle interior air quality, protect human health, and promote the automobile industry's technical progress, the Chinese government decided to revise the standard GB/T 27630-2011 and convert it to a compulsory standard. The new draft, published on Jan. 2016 shows much stricter requirements. This presentation will focus on the different emission tests and the change in emission requirements over time.

报告 #8: Emily Fu, Alec Lang – Reliable Analysis (Shanghai) Inc. (China)

持续优化车内空气质量

越来越多的人开始关注车厢内空气质量。中国政府为了改善车内空气质量，保护乘驾车人员的健康，并且改进汽车工业的生产工艺，重新制定了新的国家标准（GB/T 27630-2011），并强制执行。2016 年 1 月，新出台的草案更为严格。本报告将关注不同的排放测试和排放标准的变化。

Rigid TPO Compounds

会议 3：硬性 TPO 共混物

Presentation #9: Dr. Linda Havermans,
SABIC (The Netherlands)

Meeting the Challenge of Delivering Global PP Compound Solutions

Today, automotive OEMs demand higher performance from PP compounds to successfully address key challenges (i.e., enhanced aesthetics, safety, and weight reduction). OEMs also demand global grades that are readily available locally. Global grade design is complex and challenging because of regional differences in raw material profiles. However, globally unified PP compound performance profiles can be achieved, as this presentation will demonstrate, by focusing not only on material compositions, but also properties critical to success.

报告 #9: Linda Havermans 博士– SABIC (The Netherlands)

实现 PP 共混物全球运输的解决方案

今天，汽车的原始设备制造商对 PP 共混物的性能提出了更高的要求(例如,既要注重美观，改善安全性，也要考虑产品减重)。原始设备制造商也要求实现在当地购买全球化的原材料。由于原材料的地区差异性，实现全球产品等级的设计是复杂的和具有挑战性的。然而，正如本报告所展示的，通过关注材料组成和产品性能，可以在全球范围内实现 PP 共混物性能的统一标准。

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Lightweight Technologies - Part 1

会议 4：轻质技术-第 1 部分

Presentation #10: Marco Pan,
Trinseo Automotive (France)

Enable Lighter Designs: The *Renault Espace* Full TPO Liftgate

In a joint project, Renault and Trinseo developed a full thermoplastic liftgate solution, which was commercialized and implemented on the serial production of the 2015 *Renault Espace*. The solution involved replacing metal with plastic on a key vehicle component. The innovative aspect was the use of a single thermoplastic material with different fillers for a mono-material liftgate. The final design achieved optimal dimensional stability, which had been considered the main challenge.

报告 #10: Marco Pan – Trinseo Automotive (France)

启用更轻的设计：Renault Espace 全 TPO 掀背式车门

在一个联合项目中，雷诺和 Trinseo 开发了一个全热塑性塑料掀背式车门的解决方案，这个方案已经商业化并应用在 2015 雷诺埃斯佩斯系列产品上。该方案在车辆一个关键部件上实现用塑料替代金属。创新点在于应用含有不同填料的热塑性塑料实现了制备单一材料的掀背式车门。最终的设计突破挑战，实现了产品的尺寸稳定性。

Presentation #11: Dr. Linda Havermans, Bhuwneesh Kumar,
SABIC (the Netherlands)

Achieving Weight Reduction and a Balance of Properties with PP Compounds in Both Interior and Exterior Applications

The automotive industry is challenged to remove weight to improve fuel efficiency and reduce tailpipe emissions. Smart design, like ribbing, can get weight out in semi-structural plastic parts, but not in less structural parts produced from PP compounds. For some interior parts, a challenge is to achieve low temperature impact resistance while maintaining (or even increasing) stiffness without processing penalties. This presentation provides innovative approaches to save weight, with minimal tradeoffs, and an excellent property balance.

报告 #11: Linda Havermans 博士, Bhuwneesh Kumar – SABIC (The Netherlands)

实现聚丙烯复合物内饰和外饰产品的减重与性能的平衡

汽车工业正在试图通过减少车重来提高燃料的利用率，同时减少尾气排放。一些针对聚丙烯复合物的巧妙设计，如肋板，能够有效减轻半结构件的质量，但是在结构件上却无法实现。对于一些内饰产品，在保持甚至提高产品强度的同时提高其抗低温冲击能力依然是一项难题。本研究提供了一种创新方法，以极少的成本达到了减重和优良性能的平衡。

Lightweight Technologies - Part 1

会议 4：轻质技术–第 1 部分

Presentation #12: Dr. Laura Shereda, Vaibhav (Vive) Apte,
Asahi Kasei Plastics North America, Inc. (USA)

New Developments in Talc and Cellulose Fiber-Reinforced PP for Automotive Interior Trim Weight Savings

Asahi Kasei Plastics has recently developed several new PP compounds based on cellulose fiber and/or that also include high flow, strength and stiffness talc-filled PP grades. These provide equivalent performance at reduced weight. The use of these new PP compounds that provide an equivalent level of stiffness with lower carbon footprint will be discussed in the context of material replacement to achieve a value / performance proposition.

报告 #12: Laura Shereda 博士, Vaibhav (Vive) Apte - Asahi Kasei Plastics North America, Inc. (USA)

应用滑石粉和纤维素增强并轻量化聚丙烯内饰产品的最新发展

近期 Asahi Kasei 塑料公司利用纤维素改性生产出一些新型 PP 共混物，其中包括滑石粉填充的高流动、高强度和刚度的 PP。这些材料能够在减重的同时提供与普通 PP 同样的性能。本文从如何替代传统材料这一观点出发，研究了这种高性能、低碳释放量的 PP 的强度。

Lightweight Technologies - Part 2

会议 5：轻量化技术-第二部分

Presentation #13: Dr. David Brands, Angel Yanev,
SABIC (The Netherlands)

Weight Reduction Technologies for Long Glass-Reinforced Polypropylene

Semi-structural plastic parts, such as front-end module carriers, are typically designed using complex geometrical shapes and ribbing to help take weight out. For less structural parts (i.e., instrument-panel carriers, door modules, etc.), mass reduction is usually achieved by reducing lowering wall thickness or density (such as by using foamed parts). This study compares different weight reduction technologies — chemical foaming, physical foaming, and thin-wall compact injection molding — applied to a long-glass fiber-reinforced PP composite resin to help define optimal performance.

报告 #13: David Brands 博士, Angel Yanev – SABIC (The Netherlands)

长玻纤增强 PP 体系的减重技术

一些半结构塑料部件，如车前端模块载体，通常利用复杂的几何外形设计和肋板来减轻重量。而对于少数结构件（如仪表板和车门等）则是利用减少壁厚和降低密度（如利用发泡制品）来达到减重的目的。本研究对比了不同减重方法（化学发泡，物理发泡和薄壁注塑成型）在长玻纤增强 PP 共混物体系中的优化效果。

Presentation #14: Dr. Laura Shereda, Tom Howie,
Asahi Kasei Plastics North America, Inc. (USA)

Welding Improvements with a Focus on High Strength Glass-Reinforced Polypropylene

Historically, welding of semi-crystalline polymers is more difficult than with amorphous polymers. When we determine the total strain energy of the material, we can greatly increase the strength of the weld. Strain energy optimization will be investigated by looking at several welding parameters and the composition of the material.

报告 #14: Laura Shereda 博士, Tom Howie - Asahi Kasei Plastics North America, Inc. (USA)

高强度玻纤增强 PP 体系焊接技术的改进

半结晶高分子的焊接一般比非结晶高分子要困难。当确定了材料的总应变能，我们就能够大幅度提高材料的焊接强度。本文通过研究不同的材料组分和焊接参数，进而优化材料的总应变能。

Lightweight Technologies - Part 2

会议 5：轻量化技术-第二部分

Presentation #15: Piergiovanni Ercoli Malacari,
IMI Fabi SpA (Italy)

HVT Extra: Introducing a New Talc for Best Performance Tradeoffs

IMI Fabi has developed a new product (HVT Extra), which is a highly delaminated talc that provides outstanding stiffness when compared to standard micronized talc normally used in TPO compounds. Large platey particles ensure very-high rigidity in polyolefins using the new filler, while retaining other mechanical properties. The innovative compaction process used to produce the new product enables a truly free-flowing, dust-free powder in every condition and does not show any bridging or funneling during handling. Performance results with the new product in conventional TPO compounds will be compared with standard talc solutions to demonstrate potential applications.

报告 #15: Piergiovanni Ercoli Malacari – IMI Fabi SpA (Italy)

HVT Extra：一种平衡基体最佳性能的新型滑石粉填料

IMI Fabi 生产出一种高度分层的滑石粉（HVT Extra），与复合在 TPO 中的传统微粒滑石粉相比，这种材料能够提供更好的强度。利用这种大颗粒的滑石粉，聚烯烃能够在维持其他力学性能的同时达到非常高的强度。生产该产品所应用的创新压缩方法也保证了整个生产过程无流动、无粉尘且便于操作，并且该型填料不易形成架桥。通过对常用滑石粉改性的 TPO 的性能进行比较，进一步证实了 HVT Extra 的潜在应用价值。

Material Developments - Part 1

会议 6：材料发展–第 1 部分

Presentation #16: Dr. Sam He,
Inteva Products LLC (USA)

Discussion of Thermoplastic Concentrates / Additives and Automotive Interior Applications

Thermoplastic concentrates / additives are needed for material properties and processing, and for product functions and performance. This presentation discusses some key requirements and essential expectations for concentrates / additives and their suppliers. The discussion includes additives, processing aids, color and colorants, surface appearance quality of final components, and the end-user's experience. The presentation covers the expectations of automotive-interior business trends, innovation, cooperation in development, supply quality, and delivery, etc.

报告 #16: Sam He 博士 – Inteva Products LLC (USA)

热塑性填料/添加剂在汽车内饰产品中的应用

热塑性填料/添加剂常用来改善原材料和制品的性能和加工条件。本研究讨论了针对热塑性添加剂的关键要求，除了添加剂本身和供应商，还应包括加工助剂，色母料，制品表面质量和用户体验。此外，本研究也展示了汽车内饰制品的趋势、创新、供应链质量和运输等方面的发展。

Presentation #17: Jungdu Kim, J. Mara, T. Schmutz, HeeJung Kwon, K. Keck, B. Iyer,
Songwon Industrial (South Korea)

UV Product Developments for TPO Automotive Applications

This presentation will begin by providing an overview of the photo-degradation and light stabilization of polyolefins and the chemistry and structure-activity relationships in hindered amine light stabilizers (HALS). It will end with the introduction of new synergistic UV stabilizer packages developed in partnership with Sabo to achieve increasing performance demands in the outdoor weathering of polyolefin-based applications, particularly automotive TPO components for interior and exterior.

报告 #17: Jungdu Kim, J. Mara, T. Schmutz, HeeJung Kwon, K. Keck, and B. Iyer – Songwon Industrial (South Korea)

紫外光处理 TPO 汽车制品的研究进展

本文首先回顾了聚烯烃制品的光降解性和光稳定性，以及使用阻氨光稳定剂（HALS）后 TPO 化学性能和结构活性的关系。最后展示了与 Sabo 合作开发的新型紫外光稳定剂满足聚烯烃在户外的应用条件，特别适用于汽车内外饰制品。

Material Developments - Part 1

会议 6：材料发展–第 1 部分

Presentation #18: Şerif Erdoğan, Şebnem Tayyar, Can Ozer,
Elastron Kimya (Turkey)

Mechanical-Physical and Weathering Properties of New "MATT SEBS" Series for Weatherseal Applications

This presentation discusses the mechanical-physical, rheological, and weathering properties of non-crosslinked "MATT SEBS" compound, which is designed as an alternative to EPDM/PP and crosslinked TPE-S. EPDM/PP-based thermoplastic vulcanizate is mainly used as a material for different types of automotive weatherseal applications, including beltline seals and glass-run channel seals. The new high-performance MATT SEBS-based compounds have competitive properties, including lower compression set at higher temperature, low gloss value, good weathering resistance, higher physical and mechanical properties, and similar flow properties with EPDM/PP.

报告 #18: Şerif Erdoğan, Şebnem Tayyar, Can Ozer –Elastron Kimya (Turkey)

新型"MATT SEBS"复合物的机械-物理和耐候性能以及其在汽车密封条上的应用

为了替代 EPDM/PP 和交联 TPE-S，本文研究了非交联 MATT SEBS 复合物的机械-物理、流变和耐候性能。基于 EPDM/PP 的热塑性硫化橡胶主要用于汽车密封方面（包括密封条和玻璃运行通道密封），而与其加工流动性能类似的新型 MATT SEBS 复合物则拥有更多优势，如高温成型压力较低，低光泽值，更好的耐候性以及物理-机械性能等。

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THE SPE TPO *Automotive Engineered Polyolefins Conference* typically draws over 800 attendees from 20 countries on 4 continents who are vitally interested in learning about the latest in rigid and elastomeric TPO as well as TPE and TPV technologies. Fully a third of conference attendees work for a transportation OEM, and nearly 20% work for a tier integrator. Few conferences of any size can provide this type of networking opportunity or put you before such an engaged, global audience interested in hearing the latest olefin advances. Interested in presenting your latest research? Abstracts are due April 18, 2016 and Papers/Presentations on July 29, 2016. Email abstracts/papers to TPOpapers@auto-tpo.com or fill out the online form at:
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Process Development

会议 7： 加工工艺的发展

Presentation #19:
Professor Lih-Sheng (Tom) Turng,
University of Wisconsin–Madison (USA)

Recent Developments of Microcellular Injection Molding

Injection molding with microcellular plastics is capable of producing parts with excellent dimensional stability while using less material and energy, lower injection pressure, and a shorter cycle time. As a result, microcellular injection molding has found broad applications in automotive products, business equipment, and various industrial applications and is applicable to TPO materials. In spite of these advantages, however, wider adoption of this promising process has been limited due to its inherent drawbacks, such as surface defects and inferior mechanical properties compared to conventional solid injection molded parts. This talk will present recent developments of microcellular injection molding that employs gas-laden and ready-to-foam pellets to realize mass production of foamed injection molded parts and co-blowing agents as well as microcellular nanocomposites and blends that offer improved mechanical properties or ductility using the microcellular injection molding process.

报告 #19: Lih-Sheng (Tom) Turng 教授, University of Wisconsin–Madison (USA)

微孔发泡注射成型的发展近况

微孔发泡注射成型技术能够利用较少的材料和电能、较低的注射压力以及较短的成型时间生产出具有良好尺寸稳定性的发泡产品。因此，微孔注射成型技术在汽车制品、商业设备和许多工业应用中得到应用，该技术同样适用于ＴＰＯ材料。尽管优点突出，但与固体注塑制品相比，微孔发泡制品固有的表面缺陷和较弱的力学性能在某种程度上限制了该技术的广泛应用。本报告将探讨最新的预发泡粒料技术，多种物理发泡剂技术，以及纳米复合材料技术在微孔发泡注射成型过程中的应用，极大地改善了发泡制品的机械性能和延展性。

Process Development

会议 7： 加工工艺的发展

Presentation #20: Wu Jie,
JSR (Shanghai) Co. Ltd. (China)

Bonding Properties & Structure between TPVs and EPDM Vulcanizates for Automotive Profiles

Compared with cured rubber, olefinic-based thermoplastic vulcanizate (TPV) elastomers offer both cost savings (using less labor at higher process efficiency) as well as environmental benefits (due to lower carbon emissions and low mass). A new TPV grade (EXCELLINK) has been developed by optimizing the polypropylene matrix to have lower crystallinity and higher molecular weight. In this presentation, test results will be reviewed to show that the new material provides excellent adhesion to cured rubber, compression set, friction durability, and soft feel in an automotive door weather seal application.

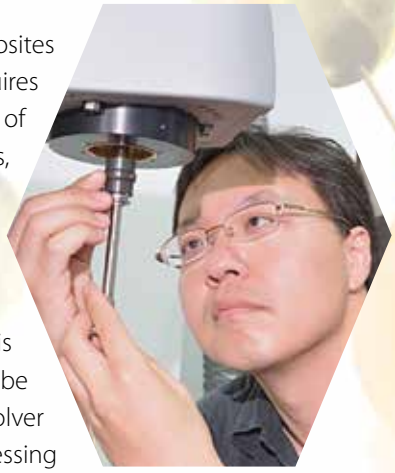
报告 #20: Wu Jie – JSR (Shanghai) Co. Ltd. (China)

热塑性硫化橡胶（TPVs）和 EPDM 硫化胶汽车制品的粘接性能与结构

与固化橡胶相比，烯烃基热塑性硫化橡胶弹性体（TPVs）成本低廉（使用较少的劳动力便能达到较高的生产效率）且环保（碳排放总量较低）。通过优化聚丙烯基体的低结晶度和高分子量，一种新级别的 TPV（EXCELLINK）已经被生产出来。研究数据表明，这种 TPV 生产的车门用密封条产品，与固化橡胶具有优良的附着力，抗压缩变形，耐磨性和触觉感良好。

Presentation #21: Dr. Shih-Po (Tober)
Sun - CoreTech System Co., Ltd. (China)

Simulating Composite Manufacturing with Moldex3D



The success of composites simulation requires an understanding of material properties, process mechanisms, and simulation integration between design, analysis, and manufacturing tools. This presentation will describe how the Moldex3D solver tackles different processing techniques, and how the lab characterizes thermal and flow properties of the materials.

报告 #21: Shih-Po (Tober) Sun 博士- CoreTech System Co., Ltd. (China)

Moldex3D 软件在复合材料加工过程模拟中的应用

成熟的复合材料模拟需要理解材料的性能，加工机理，以及设计、分析和加工设备间的一体化模拟。本报告将介绍 Modex3D 软件是如何处理不同加工工艺和如何确定材料的热和流动性能的。

Modeling & Measurement of Scratch Resistance

会议 8：耐划伤性能的模型构建及测试表征

Presentation #22: M. Jamali, R. Bagheri O. Dadgari, A. Ghasemi,

Parsa Polymer Sharif Co. (Iran)

Correlating Scratch Visibility with Mechanical Behavior of TPO Compounds

Goal of the current research is to better understand the role of the plastic matrix on scratch visibility in common formulations for interior trim. Two different compounds including a PP-elastomer and a PP-elastomer-filler were utilized. These materials could represent automotive door-panel and instrument-panel compounds, respectively. Scratch visibility on the grained surface was evaluated and correlated with the observations made in tensile, bending, and hardness testing of the compounds. Scratch path was analyzed using optical and scanning-electron microscopes. Strain at yield and stress whitening of the polymer were found to have considerable effects on scratch visibility.

报告 #22: M. Jamali, R. Bagheri, O. Dadgari, and A. Ghasemi – Parsa Polymer Sharif Co. (Iran)

TPO 复合材料的耐划伤可见性和力学性能之间的关系

当前研究的主要目标是为了更好地理解汽车内饰通常所用的材料配方中聚合物基质对其耐划伤性能的影响。研究了聚丙烯弹性体和聚丙烯弹性体填料两种复合材料体系，它们分别是汽车门板和仪表盘所常用的材料体系。通过拉伸、弯曲和硬度测试，对纹饰表面的耐划伤可见性进行表征。通过光学显微镜和电子显微镜观察分析了划痕的发展过程。结果发现聚合物屈服应变和应力发白过程对材料的耐划伤性能有极其重要的影响。

Presentation #23: Dr. Sassan Tarahomi,

International Automotive Components Group (USA

TPO Scratch & Mar Predictability - Part 1: Simulation

Materials used in automotive interiors include many filled and unfilled PP and TPO grades. With increased competition and materials improvement, customers expect much better performance for the interior materials used in their cars. The traditional method of testing grained plaques for scratch and mar does provide directional performance data but is very time consuming. This presentation discusses scratch and mar predictability for PP and TPO products by utilizing CAE analysis.

报告 #23: Sassan Tarahomi 博士- International Automotive Components Group (USA)

TPO 耐划伤和擦伤性能预测 – 第一部分：模拟

汽车内饰所用的材料包括有填料或者纯的聚丙烯和 TPO。随着日益加剧的竞争和材料的日新月异，客户对汽车内饰所用材料的性能要求越来越高。传统的测试划伤和擦伤的方法确实能够提供指导性的性能数据，但是却极其耗时。该报告研究了如何通过 CAE 软件分析 PP 和 TPO 产品的耐划伤和擦伤性能。

Modeling & Measurement of Scratch Resistance

会议 8：耐划伤性能的模型构建及测试表征

Presentation #24: Dr. Sassan Tarahomi,
International Automotive Components Group (USA)

TPO Scratch & Mar Predictability - Part 2: Building the Surface-Characteristic Database

This presentation is a continuation of the information presented as Part 1: Simulation. The FEA method is used to analyze surface damage by scratch and mar. The scope of this presentation is to present the extensive work completed in building the database. Scan and discretization of interior automotive surface textures and further discussion in the accuracy of simulation versus physical testing with confirmation runs are discussed in this paper.

报告 #24: Sassan Tarahomi 博士– International Automotive Components Group (USA)

TPO 耐划伤和擦伤性能预测 – 第二部分：构建表面–性能数据库

本报告是第一部分：模拟部分的延续，通过 FEA 方法分析表面划伤和擦伤。报告的主要内容是展示在构建数据库过程中的大部分工作。本文主要对汽车内饰表面纹理进行扫描和离散分析，并通过实验和模拟结果的对比来验证分析模拟的准确性。

Surface Enhancements

会议 9：表面强化

Presentation 25: Jerry Luo,
Kingfa Science & Technology Co. Ltd. (China)

IInnovative Compounded TPO Materials for Automotive Applications

A series of innovative polypropylene material solutions have been developed to meet automotive lightweight and environmental-protection requirements. These technologies include high-flow grades for thin-wall applications, low-density, long-fiber-reinforced, low-emission, anti-scratch, bloom-free, and tacky grades, soft-touch materials, imitation-flocking grades, and paint-free materials among others. This presentation will discuss validation of these materials on automotive parts with a focus on part-design optimization, CAE analysis, process capability, and part testing.

报告 #25: Jerry Luo, Kingfa Science & Technology Co. Ltd. (China)

应用于汽车行业的创新复合 TPO 制品

为了解决汽车的轻量化问题和环保需求，一系列针对 PP 材料的改进的工艺应运而生。这些改进的性能包括：生产薄壁制品的高流动性，长玻纤增强，低密度、低碳排放量、抗刮性，触感好，以及免喷漆等性能。本文从结构优化，CAE 分析，成型能力和性能检测等方面，验证新型 PP 在汽车制品中的应用。

Presentation 26: Voly Wang,
Dow Corning (China) Co. Ltd. (China)

Next-Generation Additives for Scratch Improvement of Auto Interior Talc-Filled Polypropylene Parts

The automotive industry continues to push for parts that are more durable yet environmentally friendly. This presentation discusses the next generation of siloxane masterbatch additives for talc-filled polypropylene compounds designed for automotive interior parts. The technology provides excellent scratch performance at lower dosage levels than previously achieved while minimizing impact on mechanical properties. Additionally they offer the best combination of properties including excellent scratch resistance, long-term heat and UV stability, low fogging, and low VOC generation.

报告 #26: Voly Wang, Dow Corning (China) Co. Ltd. (China)

增强滑石粉/PP 内饰制品抗刮性能的新一代添加剂

汽车工业始终致力于更耐用的环保制品的开发。本文讨论了针对滑石粉填充 PP 复合汽车内饰制品的新一代硅氧烷母粒添加剂。少量该添加剂就能够使制品具备良好的抗刮性能，且对制品本身的力学性能影响极低。该添加剂同时也增强了制品在高温和紫外线下的稳定性、抗雾化和 VOC 沉积能力。

Material Developments - Part 2

会议 10: 材料的发展-第二部分

Presentation 27: Roger Liu,
LyondellBasell Industries (China)

Recent Advances in Soft-Touch Feeling Material

Soft-touch feeling material (Softell) provides high quality finished part surfaces with soft touch and matte surface without painting, as well as excellent scratch resistance and surface robustness. The parts made of these material feature very good noise-dampening properties, and better VOC emission performance on interior parts. Recent advances in the grades demonstrated further improvements in the soft-touch feeling.

报 告 #27: Roger Liu, LyondellBasell Industries (China)

软触觉材料的最新进展

软触觉材料（softell）提供了高质量精巧的制件表面，使得制件表面具有柔软触觉和没有着色的无光泽的表面，同时具有优秀的耐刮伤性和表面坚固性。用这些软触觉材料制成的制件有着非常好的噪音抑制特性，并且对于汽车内饰件有着非常好的挥发性有机化合物排放特性。最新的发展证明了这种软触觉材料已经得到了很大的改善。

Presentation 28: Colin Chen,
LyondellBasell Industries (China)

Low VOC Automotive Interior with New Developments on PP Compounds

After the updated regulation release of GB 27630 in early 2016 for automotive cabin hazardous VOC emission control, more and more attention is being given by key tiers and OEMs to this topic. New technology developments in PP compounds for reduction of hazardous VOC emission on interior applications will be discussed in this presentation.

报 告 #28: Colin Chen, LyondellBasell Industries (China)

低挥发性有机化合物汽车内饰 PP 混合物的新发展

2016 年初发布更新对于汽车驾驶室内有害挥发性有机化合物排放控制 GB 27630 新规则后，这个话题引起关键的供应商和原始设备制造商们越来越多的关注。关于 PP 混合物在减少汽车内饰有害挥发性有机化合物的排放新技术的发展将在本报告中讨论。

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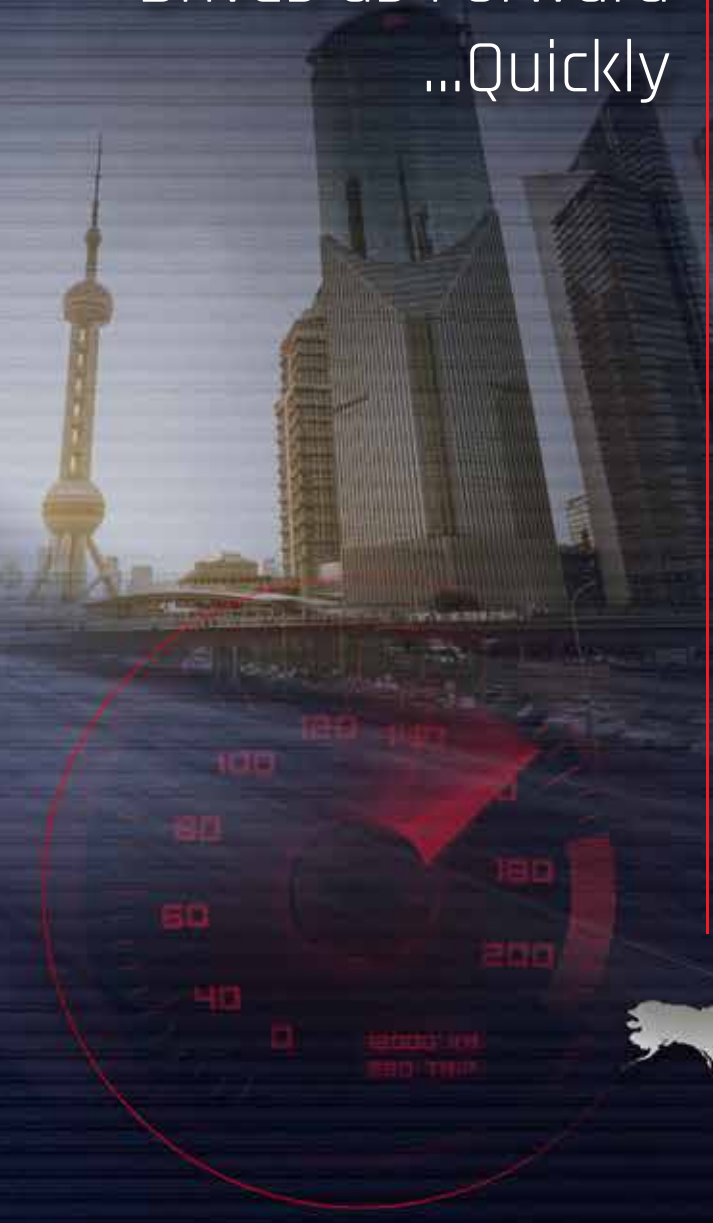

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