Dr. David Furrer is Senior Fellow Discipline Lead for the Materials and Processes Engineering organization at Pratt & Whitney. In this role he leads the Pratt & Whitney Materials Discipline Chiefs and Materials Fellows in the development of technical strategies, and engineering standards and procedures. David supports the development, design and deployment of new materials and associated manufacturing processes. He is responsible for manufacturing technologies development and maturation, including computational tools and methods to support legacy and emerging manufacturing process application and design for manufacture. He is involved in additive manufacturing process development along with other emerging manufacturing processes.

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Prior to Pratt & Whitney, David was Chief of Strategic Materials and Process Technology and Fellow of Materials and Process Modeling at Rolls-Royce, where he led the strategy for materials modeling tools and methods, and the development and acquisition of advanced materials and processes.

David also held various roles at Ladish Co., Inc. (now ATI Forged Products) where he developed and delivered unique thermo-mechanical processing technology for aerospace and general industrial industries. He has over 25 years of experience in the areas of aerospace materials engineering, development and application of computational modeling and simulation tools for engineering materials and manufacturing processes, and data analytics.

In addition to previously working within the aerospace and forging industry, he has been an adjunct professor at the Milwaukee School of Engineering, where he taught materials and manufacturing technology courses within the Mechanical Engineering Department. David is a Fellow of ASM-International. He has served on the ASM-International Board of Trustees from 2010 to 2013. He is also a member of the Connecticut Academy of Science and Engineering. David has received Bachelors and Masters degrees in Metallurgical Engineering from the University of Wisconsin-Madison, and a Doctorate of Engineering from the Universität Ulm, Ulm Germany.

Formalizing the Process-Structure-Property-Performance Approach to Materials, Process and Component Design and Development

Computational materials and process modeling has continued to advance over several decades. The vision of truly integrated computational material and manufacturing engineering (ICM2E) is nearly upon us with rapid changes in how we design and develop new material and associated processing methods. The continued adoption and application of computational methods is changing the materials science and engineering discipline, and is enabling materials and processes to be a much greater part of component and system design at the earliest possible stages. This talk will review some of the advances being made in computational materials engineering, informatics and data analytics relative to various applications within the aerospace industry.
From its beginning in 1913, when William Woodside started the Steel Treaters Club in Detroit, MI, ASM has grown into an organization with over 80 chapters in 17 countries. I recently came back from MS&T 2018 in Columbus. One of the things that was very evident was the International in ASM International. Individuals from countries around the world were presenting papers, hearing new information, and being honored with awards for their research, service, and teaching.

On Monday, October 8th, we honored our members who are ASM Fellows. We added this event to our yearly chapter meeting schedule in 2017 to recognize the contributions of our members that have the distinction of being ASM Fellows. A photo of the 10 Fellows that were able to attend is presented in this newsletter.

Supporting education remains a strong and continuous focus of our chapter. In 2015, ASM International established the Technical and Community College Scholarship program for students pursuing an Associates Degree in a materials-related field. Partnering with ASM International, the Detroit chapter was pleased to help identify and award 10 scholarships to students from 7 colleges in Michigan. In addition to the $500 award, each student was named a Ray and Mary Decker Scholar to honor the Deckers, longtime members of the Chapter, supporters of education, and co-founders of this Scholarship program. Pictures of several of these winners can be found in this newsletter.

Our Detroit Chapter has the unique distinction of being the first ASM chapter and has grown to be one of the largest, with a membership of over 800 members. For the past five years, we have the honor of hosting the ASM International President. This year, we are very fortunate to host Dr. David Furrer, the 2018-2019 President. Dr. Furrer will be our keynote speaker on November 12, and will be speaking on Materials-Centric Design. This topic is very timely for our profession; an example of this approach can be found in the great surge in interest in Additive Manufacturing. This is a direct consequence of its ability to optimize the design geometry based upon taking full advantage of a material’s properties.

I look forward to seeing many of you at our upcoming November meeting. We will take our traditional Holiday break from meetings in December and January; may you and your family enjoy safe travels and the blessings of the holidays.
Buehler is a premier manufacturer of sample preparation equipment, hardness testers and consumables used in materials analysis by manufacturing industries, research/development centers and educational institutions. The Buehler company legacy comprises of entrepreneurial individuals, innovative designs and valuable brands spanning over 100 years. When Swiss immigrant, and microscope salesman, Adolph I Buehler saw the difficulties in metallographic sample preparation in the 1920s, he collaborated with professors and developed a full line of products to go from sectioning a sample, to grinding, polishing, mounting and finally testing or analysis. He realized that his methods would be valuable to the burgeoning automobile and steel industries. The company was then founded in Chicago in 1936, moved to Evanston in 1953 and in 1981 to the current location of Lake Bluff, Illinois.

Buehler was acquired in 2006 by Illinois Tool Works (ITW) and became a part of ITW’s Test & Measurement division. Through acquisition, the century old hardness testing brands of Reicherter, Wilson, Rockwell and Wolpert all reside within Buehler under the Wilson brand. Buehler is committed to quality and customer satisfaction through rigorous problem solving and continuous improvement. Most recently the company launched the AutoMet Grinder/Polisher, a robust and durable grinder/polisher designed for demanding production lab environments. In 2017, Buehler launched an improved online store and in 2019 the eService online portal to expedite and track service requests.

Buehler maintains an extensive network of service, distributor and sales engineer teams that are available to meet with customers worldwide at Buehler Partner Centers (customer demonstration laboratories) in every continent. In addition, Buehler’s team of material scientists, PhDs, and laboratory experts are available to consult at the Buehler Solutions Centers (Buehler owned laboratories). Many customers count on Buehler for calibration services or hardness reference blocks for their Nادcap audits.

Buehler maintains its legacy of industry partnership with affiliations such as the ASM International, American Society for Testing and Materials, the International Metallographic Society, the American Ceramic Society and others. The company also contributes to the study of material science through the endowment of the ASM Francis F. Lucas Metallographic Award since 1946 and the International Metallographic Society’s Pierre Jacquet Award. For additional information on the Buehler product offering please visit [www.buehler.com](http://www.buehler.com) or contact your area representative, Joe Butchart.
Teacher Scholars to be Awarded at November 12th Meeting

As part of its Student Outreach Program, the ASM Detroit Chapter has created the Teacher Scholar Program to assist Materials Camp alumni in demonstrating Materials Science to their students. The Scholar Award consists of a $250.00 grant to the teacher to be used for the purchase of equipment and supplies needed to perform materials-related experiments. The ASM-Detroit Chapter is proud to award nine grants this year. The Teacher Scholars will be recognized at the meeting on Monday, November 12th.

Two Scholarships Available to College and University Students in Materials

Our chapter is happy to announce that it will be offering two scholarships to students pursuing a degree in materials science and engineering.

The Marion Semchyshen and James A. Mansfield Scholarships will be given to two students selected for their high scholastic achievement and their activities in the field of materials science or metallurgy. The scholarships are for students that are sophomores, juniors, and first-year seniors. Each scholarship consists of a $1,500 cash award and certificate, and will be presented at an ASM-Detroit Chapter meeting in March or April.

If you know of a college or a university student in materials science or metallurgy, please let them know of this opportunity.

The scholarship applications will be mailed to university advisors and posted on the ASM-Detroit website by January 6, 2019. In order to be considered, the applicants need to complete the form and return it to the ASM Detroit Chapter before midnight on Sunday, January 27, 2019.

Please take a moment and think of that outstanding co-op or student intern you know; send them email and encourage them to apply!
Congratulations to Michigan’s newest ASM Fellows with Ron Radzilowski, Dr. Dale Gerard (ASM Saginaw Valley Chapter), Dr. Ron Radzilowski, Prof. Katsuo Thornton, and Dr. James Boileau.

Congratulations to Jack Simon for winning the ASM Honorary Member Award at this year’s MS&T. Standing from Left to Right: Dr. Peggy Jones, Dr. Dale Gerard, Dr. James Boileau, and Dr. Jack Simon.
The ASM Detroit Chapter
Thanks It’s Sustaining
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Continued Support!

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November 2018
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Kae Trojanowski is presented with an ASM Award by Dr. James Boileau (18-19 ASM Detroit Chapter Chair) for her service as the ASM Detroit Chapter Chair for the 2017-2018 Season at the October 8th dinner meeting.

The ASM Detroit Chapter Fellows who attended the October 8th Dinner Meeting at Southfield-St. Johns. Front Row from Left to Right: Dr. David Sponsellor, Dr. Robert McCune, Dr. Ronald Radzilowski, Dr. Susan Hartfield-Wünsch, Back Row from Left to Right: Dr. Stephen Lebeau, Dr. Gerald Cole, Mr. Bohdan Lisowsky, Mr. Aquil Ahmad, Dr. Raymond Decker, and Dr. Manish Mehta.

David Masha was recognized at the October 8th meeting for receiving an Outstanding Volunteer Award from ASM International. From Left to Right: David Masha (ASM Detroit Chapter Photographer) and Dr. James Boileau (18-19 ASM Detroit Chapter Chair).

Kae Trojanowski is presented with an ASM Award by Dr. James Boileau (18-19 ASM Detroit Chapter Chair) for her service as the ASM Detroit Chapter Chair for the 2017-2018 Season at the October 8th dinner meeting.

Dr. James Boileau (18-19 ASM Detroit Chapter Chair) and Eric McCarty (October 8th Tech Chair) present Dr. Jason Carroll with an ASM Speaker Award at the October 8th ASM Detroit Chapter Dinner Meeting.

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November 2018
Chapter Members Needed to Judge “Best Use of Materials” Award on January 29th

Please join the members of the ASM Detroit Chapter as we again judge the annual Future City Competition. As part of National Engineers’ Week, Future Cities gives middle school students a chance to envision a city in the year 2050, and to address the challenges that face it. This year’s theme is “Powering Our Future” and challenges student teams to design a resilient power grid for their future city that can withstand and quickly recover from the impacts of a natural disaster.

The Future City Competition is being held on Tuesday, January 29, 2019 at the Suburban Collection Showplace in Novi, MI. The ASM Detroit Chapter has a judging team that awards the “Best Use of Materials” to one of the competing schools. In the past, we have had a judging team with 8 people; with this number, the judging goes quickly and smoothly for everyone. The judging begins with an orientation at 8 AM and will be finished by 11:30 AM. A complimentary breakfast and lunch are offered to each judge.

Please take the time to mark your calendar and volunteer as an ASM judge for this program; to do so, please email Angella Sell (asell@appliedprocess.com) or Julie Nimer (asmdetroitchapter@gmail.com).
Congratulations to the 2018 Raymond and Mary Decker Community College Scholars

Seth Pettit
Northwestern Michigan College

Randall Dragstra
Grand Rapids CC

Curtis Baxter
Henry Ford CC

Dr. Ron Radzilowski Presents the Inaugural Robert. D. Pehlke Lectureship in Materials Processing on September 14, 2018 at University of Michigan for the Materials Science and Engineering Department. Ron’s talk was on “Emerging Technologies and Process Innovations in the Steel Industry.”

From Left to Right: Professor Robert D. Pehlke (FASM) and Dr. Ronald Radzilowski (FASM).

Professor Amit Misra Presents Dr. Ronald Radzilowski with a speaker award at the September 14th Lectureship.