ASM International

**Residual Stress Technical Committee (ASM-RSTC) - Sept. 1, 2022 – Aug. 31, 2023**

**James Pineault – Chair,** **xrdlab@protoxrd.com**

**Beth Snipes – Vice Chair,** **beth.snipes@tec-materialstesting.com**

**Seung-Yub Lee - Secretary,** **seungyub.lee@prattwhitney.com**

**Mike Hill – Past Chair,** **mrhill@ucdavis.edu**

**Notes for ASM-RSTC Meeting 17 May, 2023**

Attendees: (total 25) Paul Shade (NEW), James Pineault, Amy Nolan, Scott Henry, Al Conle, Andrew Payzant, Ben Wang, Beth Snipes, Christopher D'Elia, Dale Ball, David Furrer, Ellie Taghaddos, Gabe Grodzicki, James Prather, John Watton, Lynn Ferguson, Mark James, Mohammed Belassel, Nicholas Bachus, Rajan Bhambroo, Rick Lopez, Seung-Yub Lee, Thomas Lachtrupp, Vasisht Venkatesh, Yi Yang.

New Members: Paul Shade – AFRL

TODAYS AGENDA:

Action items for Members

Subcommittee reports

New Business

Technical Topic

Adjourn

Action items for members:

1. Please see “Relevant Links and Materials” section at the end of this document for relevant links https://www.asminternational.org/residual-stress-technical-committee/
2. Recruit new members, especially developing engineers and students – if you have anyone in mind, feel free to invite them!
3. New members: Please fill in roster information form if you have not already – thanks! Link: <https://forms.gle/3YwCTEWGz9NtG5nHA>
4. Suggest presentation topics for future meetings. Student and “Back to basics” presentations are especially welcome. Please contact James Pineault (xrdlab@protoxrd.com)

**Standing Agenda for Residual Stress Committee:**

1. Subcommittee reports
	1. Industry Standards (Dale Ball, Chair, dale.l.ball@lmco.com)

Good news on the new standard SAE AMS RS AS7045 - Residual Stress Measurement and Classification, Metallic Structural Alloy Products and Finished Parts. Release of standard is imminent – waiting for editorial dept. at SAE to release – Dale indicated he will notify the RSTC when available and make sure everyone who wants a copy can get it. Dale will present to RSTC - date TBD.

Ronnie Rego provided a debrief on 25 April 2023 with vision for path forward with regards to developing the ISO TC60 standard (technical committee for gear design) – overall good feedback – will discuss guidelines, phases, etc. internally. Presented in February ISO & British Gear Association & Newcastle University – good feedback on 3 Phase plan through 2030.

Nikolaj Zangenberg provided an update on CEN Technical Committee - Kicked off in January – meetings occurring on regular basis – will update ASM RSTC when more information is available.

A new standard is in progress withing ASTM E08 Committee on Fatigue and Fracture headed by T. J. Spradlin.  The standard is titled “Standard Guide for Incorporating Residual Stresses into Structural Design and Sustainment,” within the Subcommittee E08.04 on Structural Applications. Task Group E08.04.06 on Residual Stress is responsible for the activity. Any ASTM member can join E08 for free and assist in editing, voting on ballots, etc.

* 1. Residual Stress Handbook – Volume 25 (Dave Furrer, Chair, david.furrer@prattwhitney.com Assisted by Amy Nolan at ASM, amy.nolan@asminternational.org)

Subcommittee met 9 May to discuss details on inviting authors – good turnout. Overall progress has been sluggish developing the authors list. Dave F. to send out a Doodle Poll to schedule a working meeting of ~2-3 hours to go through the Handbook Division by Division. It will be a challenge to find authors for 110 articles. Dave asked if anyone has any ideas for authors or would like to help please contact him via email david.furrer@prattwhitney.com. Amy Nolan is handling ScholarOne and follow up questions:amy.nolan@asminternational.org.

* 1. Newsletter (co-Chairs: Beth Snipes, Beth.Snipes@tec-materialstesting.com , Ben Wang, wang.ben@cummins.com)

Next newsletter to begin highlighting the Handbook Divisions. Dave to start with overview of Handbook for next newsletter. Dave suggest Division Editors help Ben start with a blurb from their respective Divisions. Ben has some ideas on how to present Handbook Division coverage but needs help Ben as your Divisions come up so his effort will be better directed/focused i.e. to get the flavor right.

Nihad B. suggested to announce the new SAE Aerospace Spec. in the newsletter. Ben had an idea for trivia. Beth S. suggested shape memory alloys might have RS? Dave F. indicated SCC might be interesting?

Members and Students please feel free to contribute articles – still need a name for this section. Always feel free to contribute “members in the news” ideas for those who have received awards – don’t be shy to announce - let us know what you are doing! Feel free to contribute trivia or “did you know” ideas.

A link to the newsletter could go into AM&P – up to editorial team – Scott and Joanne to work on what may be possible. Link to current newsletter on ASM RSTC website:
https://www.asminternational.org/wp-content/uploads/residual-stress-technical-committee/ASM%20RSTC\_Got\_Stress\_2023-1.pdf

* 1. Education and Chapter Outreach (Jeff Bunn, Chair, bunnjr@ornl.gov)

Members: Bunn, Hill, Ben Salah, Snipes, Sicotte, Styger, Furrer, Belassel

IMAT workshop scheduled for Sunday 15 October 2023 from 1pm to 5 pm. Other workshops will be running as well. https://www.asminternational.org/imat-2023/wp-content/uploads/sites/43/2023/03/Residual-Stress-Course.pdf

1.5. Professional Meetings, Conferences, Symposia (Rajan Bhambroo, Chair rajan.bhambroo.18@gmail.com,Toshi Suzuki, Vice Chair, toshi-suzuki@pulstec.co.jp)

Subcommittee met 9 May to discuss details on upcoming events. Monthly meetings were proposed to be held Tuesdays 1 week before main RSTC meeting. Discussed the scope of the RSTC and which conferences we should focus on – preference was for ASM meetings i.e. IMAT and Aeromat. If you have any suggestions where to better focus efforts, please email Rajan. (rajan.bhambroo.18@gmail.com)

“Special Residual Stress” issue of the Journal of Materials Engineering and Performance (JMEP) moving forward. Manuscript submission deadline is fast approaching - June 1st 2023 – the first 10 papers have been received and are in the process of peer review - we will likely need volunteers from the RSTC to help review. Formal publication ~January 2024. Direct contacts are Lesley (lesley.frame@uconn.edu) and Rajan (rajan.bhambroo.18@gmail.com). Will also reach out to relevant past authors.

List of Upcoming Conferences and Key Dates:

The 16th Annual Conference on Creep and Fracture in Engineering Materials and Structures will be held at the Purdue University campus June 5 - 7, 2023. Lesley F. is an organizer. This conference has historically had an academic focus, but is industry friendly. Please contact Lesley if interested in attending. lesley.frame@uconn.edu

Link to website: <https://engineering.purdue.edu/MSE/CREEP/CREEP2023>

ECHT 2023, Genoa Italy 29-31 May. Considerable heat treatment and surface engineering content, with influence of residual stresses on distortion. Link: <https://en.a3ts.org/evenements/echt-2023>

ICF-15 in Atlanta, June 11-16, 2023, Residual Stress Symposium. Mike Hill indicated ICF-15 is all set. There will be 12 papers? in RS Symposium and other relevant papers in AM and other sessions. There will be 3 Residual Stress sessions one on Monday and two on Tuesday. ICF-15 is still open for posters. Come to Atlanta! Link: <https://icf15.gatech.edu/> Targeting Journal of Fatigue for publication of the papers – Science Direct – Elsevier.

International Conference of Engineering Against Failure to be held June 21-23 2023 at Spetses Island, Greece. Link: http://iceaf.eu

DXC 2023 – Chicago, Aug 7-11. DXC 2023 Link: [https://www.dxcicdd.com/](https://www.dxcicdd.com/P). Program now online: <https://www.dxcicdd.com/dxc-program-2023/>. Stress & texture session is Wednesday, August 9th. Chair: T.R. Watkins, Oak Ridge National Laboratory, USA, watkinstr@ornl.gov. Andrew P. (payzanta@ornl.gov) is also helping out. The Stress and Texture Analysis session seeks to provide a forum to display and discuss the latest techniques and analyses for stress and texture work using diffraction across a broad range of applications. Contributions are also sought from related areas that impact these analyses including but not limited to elasticity, statistics, validation, modelling, etc. Keywords: Stress, Strain, Texture, Preferred Orientation, in-situ, X-ray, neutron. Invited Speakers: Adam Creuziger, NIST, USA, Nathan Peterson, Colorado School of Mines, USA, Dan Savage, Los Alamos National Laboratory, USA.

SAE FD&E Committee looking to have a meeting likely in the fall 2023? Casey G. will forward info for virtual and for student Fuch’s award – just presentations, no paper required – looking for RS and gfeneral fatigue materials. Contact: galescaseye@johndeere.com

8THICLPRP – International Conference on Laser Peening and Related Phneomena held at Hwabaek International Convention Center (HICO), Gyeongju, South Korea from October 22-27, 2023. Call for abstracts still open? – location is nice, feel free to submit soft close on abstract submission May 1 2023 – covers RS, modeling, surface treatment, properties etc. Large aero OEM presence. Link: <https://www.iclprp2023.org>

INCASE 2023 - 3rd International Conference on Advanced Surface Enhancement - Singapore 26-28 September 2023. Feb 15th 2023 Abstract deadline. https://www.incase2023.org/

Heat Treat 2023 (co-located with IMAT 2023 – will have cross listed sessions) will be held October 16-19 2023 in Detroit. Lesley F. should have the info on RS related topics - will organize one or two RS sessions and/or may have a panel session as well (similar to the met/prep one) which gives audience members an opportunity to ask questions and interact live - provide tips – James P., and Rajan B. indicated a willingness to support this effort. Mike H. suggested to pre-empt Q&A with some basic overview/lecturing. Lesley will bring up at next subcommittee meeting – Dave F. to contact Lesley for latest status. Call for abstracts was extended to March 7th 2023 for the sessions (be sure to submit RS related papers to the heat treat section) link for abstract submissions: https://asm.confex.com/asm/ht23/cfp.cgi. Papers could also be invited to the JMEP Heat Treat special issue. Panel session would involve inviting panel members – Dave F. has volunteered to Chair the session – could take up the equivalent of 2 paper sessions i.e. ~1 hour to 1.5 hours long – session to provide awareness of RSTC, discuss real issues, etc. Need to set a time slot that does not conflict with RS sessions. Link: https://www.asminternational.org/web/heat-treat

21st International ASTM/ESIS Symposium on Fatigue and Fracture Mechanics (43rd National Symposium on Fatigue and Fracture Mechanics) will be held November 8-10, 2023 at the Washington Hilton, Washington, DC. <https://na.eventscloud.com/website/44342/21st-international-astm-esis-symp/>. Mark James indicated there may not be any RS related sessions??? TBD. Mark will look into it – program not online yet.

ECRS-11, Prague, ECRS11, May 20-24, 2024 - Call for papers?

Aeromat 2024, 12-14 March, Charlotte, NC. Acceptance of abstracts now open – deadline 30 September 2023. Link: <https://www.asminternational.org/aeromat-2024/>

ICRS proposal for USA meeting in 2025 – Contact Andrew Payzant payzanta@ornl.gov or Mike Prime prime@lanl.gov ASM to link up with ICRS – to be held in Detroit and will co-locate with IMAT.

ICSP will be held at Purdue University in 2025 dates TBD.

* 1. University Outreach Subcommittee (Joe Rasche, ad hoc Chair joe.rasche@ansys.com)

Dave F. and Joe R. worked on interfacing with Ansys’ Director Global Academic Programs. Ansys has volunteered to manage a hosting site that we can post to via the ASM site (i.e. no need for ASM to support) to connect Academia and Industry thus enabling a global reach. Looking for projects – is there anything you need looked at/analyzed? Need real problem statements from Organizations/Individuals that are very focused and well defined, then match Students and Faculty with projects. Contact Dave F. (david.furrer@prattwhitney.com) or Joe R. (joe.rasche@ansys.com) with ideas or topics.

* 1. Articulation with Other Professional Groups (To be a Joint Effort).

ASTM E28.13 – Gary Schajer (Beth S., James P.)

ASTM E08 – Fatigue and Fracture – Mark James has been authorized to be liaison with Executive Committee bring items of potential interest to RSTC.

ASME Pressure Vessel and Piping Division (PVP) oversees the PVP Code. Residual stress issues, notably welding and fracture mechanics (crack growth and fracture), are frequently discussed in the Materials and Fabrication committee (PVP M&F). Mike Hill has links to M&F and can provide introductions to interested RSTC members. New members are added to M&F each July at the annual PVP Conference - John Cline is interested in being in the loop especially pipeline/pressure vessel related activity – also offered that numerous case studies could be made available – TBD.

SAE FD&E – Casey Gales.

SEM – Beth S. to reach out

New business: Failure Analysis Society is looking for journal papers for JFAP– must be new work – residual stress failures and solutions – please feel free to contact Beth snipes or FAS – Elvin Beach is the editor in chief.

Technical topic: none.

NOTE: Next meeting will be 21 June 2023.

**Relevant Links and Materials:**

**New members:** Please fill in roster information form <https://forms.gle/3YwCTEWGz9NtG5nHA>

**Advertising:** Please consider advertising the committee when presenting at professional meetings (**we need an online link!!**). if you need a ppt slide please contact Beth Snipes beth.snipes@tec-materialstesting.com

**New web page:** Please feel free to share web page link for ASM-RSTC <https://www.asminternational.org/residual-stress-technical-committee>

**LinkedIn shout-out:** Members please share/forward to improve visibility. <https://www.linkedin.com/posts/asm-international_the-asm-residual-stress-technical-committee-activity-6970438123017101312-97rt?utm_source=share&utm_medium=member_desktop>

**Student intro/outreach letter:** Please contact Beth Snipes beth.snipes@tec-materialstesting.com

**Newsletter ideas:** Please feel free to send newsletter ideas to Ben Wang wang.ben@cummins.com: always looking for contributions, i.e. Members in the News, Did you know? Trivia items, any fun reading ideas welcome, ideas for new features. The newsletters past and current can also be found on the ASDM-RSTC webpage: <https://www.asminternational.org/residual-stress-technical-committee>

**Outreach Poster:** Please contact Scott Henry if you have ideas for Mat. Sci. organizations you think might benefit from it scott.henry@asminternational.org

**Link to free ASM Handbook article:** J.A. Pineault, M. Belassel, M.E. Brauss, X-Ray Diffraction Residual-Stress Measurement in Failure Analysis, Failure Analysis and Prevention, Vol 11, 2021 ed., ASM Handbook, Edited By Brett A. Miller, Roch J. Shipley, Ronald J. Parrington, Daniel P. Dennies, ASM International, 2021, p 221–239, [https://doi.org/10.31399/asm.hb.v11.a0006768](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoi.org%2F10.31399%2Fasm.hb.v11.a0006768&data=05%7C01%7C%7C1a219a52be714e71eb6008dac661f229%7C9ca5347b2c51447995329f98f21e059c%7C0%7C0%7C638040421360168821%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=n9uvOxXLtbbnK20wLhT0NNTYgj4PJCOXsJsw84oKopQ%3D&reserved=0)