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 22 March, 2023**

Attendees: (total 24) James Pineault, Amy Nolan, Beth Snipes, Casey Gales, Chris Misorski, Christopher D'Elia, David Dobbins, Eckehard Mueller, Gabe Grodzicki, James Prather, Jason Scheuring, Jason Sicotte, John Cline, Joe Rasche, Lynn Ferguson, Mark James, Mohammed Belassel, Philippe Bocher, Rajan Bhambroo, Seung-Yub Lee, Tapan Shah, Thomas Lachtrupp, Toshi Suzuki, Yi Yang.

New Members: Yi Yang – University of Tennessee Knoxville – RS research, James Prather – LMCO, David Dobbins and Tapan Shah – CNH Industrial (OEM of Agriculture and Construction Equipment).

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.
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)

The status of the SAE AMS RS standard: Remaining comments were closed – went to editorial dept. at SAE – limited scope ballot TBD – 28 day ballot imminent – if approved will go to Aero council – close to being released.

Ronnie Rego planning to provide debrief early 2023 on 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 to move forward – another refresh in March. 3 Phase plan through 2030 – will forward info to James P. and Dale B. to assemble and forward to group for review meeting. Presentation and meeting TBD.

Nikolaj Zangenberg to update ASM RSTC on CEN Technical Committee meeting that took place on 8 December 2022 – TBD.

* 1. Residual Stress Handbook (Dave Furrer, Chair, david.furrer@prattwhitney.com (Karen Marken supporting)

Subcommittee met and went through TOC – actively seeking authors - members who have authors in mind whom they think might be a good fit please feel free to contact either Dave or the specific Division Editor to make an introduction. Schedule and TOC to be included with the minutes. Progressing well. Need update for April.

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

Back on track! Published yesterday on Connect site and emailed to ASM-RSTC members. Future editions will highlight the various Divisions of the RS Handbook. Members and Students please feel free to contribute articles – come up with a name for this section. This is your newsletter – continuously looking for “members in the news” ideas - let us know what you are doing! Technical article from ASM Volume 11 available for free until June – then free link will be gone. Rajan asked about AM&P: How does this dovetail with the newsletter or the ASM-RSTC? Beth S. will ping Scott H. - Amy N. will also follow up.

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

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

**Residual Stress Workshop at AeroMat 2023, Fort Worth, TX, March 14-16**
Link and info was added to Aeromat website - Registration went live in December. <https://www.asminternational.org/web/aeromat-2023/education>.

Workshop was cancelled due to lack of interest – could have been the day (i.e. Monday workshop requires Sunday travel)? Figure out what happened? Better advertising? Jason S. will look into it. Ping Jeff B. for April.

Information package of training materials related to the workshops could be useful as a generic training course i.e. the same training pack could be used in other training venues - IP considerations to be discussed – ASM to use for education – presenters still maintain/own the IP for what they present.

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

Rajan B. will send out an announcement for a subcommittee meeting shortly.

“Special Residual Stress” issue of the Journal of Materials Engineering and Performance (JMEP) moving forward really well - abstract acceptance deadline closed March 1st 2023 - about 200 abstracts received (still getting 1 to 5 weekly). Manuscript invites going out now - manuscript submission deadline is June 1st 2023, formal publication ~January 2024. Direct contacts are Lesley (lesley.frame@uconn.edu) and Rajan (rajan.bhambroo.18@gmail.com). They will also reach out to relevant past authors.

List of Upcoming Conferences and Key Dates:

AeroMat 2023, Ft. Worth, TX, March 14-16. Jason Scheuring chaired 2 excellent Residual Stress sessions – thanked the authors – 6 papers up to 30 persons per session. Could push for a 2024 session or see how many papers are submitted. link to website: <https://www.asminternational.org/web/aeromat-2023>

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>

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

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. 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. There will be a RS and Texture Analysis session as well as a Poster session. Abstract submission deadline is 15 March 2023. Tom Watkins at ORNL is the organizer of the RS session. Andrew P. (payzanta@ornl.gov) is also helping out. Link: <https://www.dxcicdd.com/> Soliciting abstracts for the “Stress and Texture Analysis” session. Chair: T.R. Watkins, Oak Ridge National Laboratory, USA, watkinstr@ornl.gov. 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. Link: https://www.dxcicdd.com/dxc-program-2023/Denver Xray Conference (Detroit August 2023) soliciting abstracts for session: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 – 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. 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. Call for abstracts is open will be 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/

ECRS-11, Prague, Sep 9-13, 2024.

ICRS proposal for USA meeting in 2025 - Contact Andrew Payzant payzanta@ornl.gov or Mike Prime prime@lanl.gov ASM-RSTC is interested to link up with ICRS – waiting on location info to decide which city to hold the conference – TBD.

* 1. University Outreach Subcommittee (Joe Rasche, ad hoc Chair – TBD pending approval) Report University RS activities to Joe Rasche via email (joe.rasche@ansys.com).

Joe R. indicated he is in contact with Ansys’ Director Global Academic Programs to discuss possibilities for lining up University RS research with industry interests and will know more by the next meeting – no plan yet but will pencil something in – to involve ASM-RSTC members to make connections.

Dave F. is working on open posting board for students. Vijay V. indicated this is important – suggestions are needed to solve real world problems. Lesley F. indicates problem statement should be very focused and well defined. Dave F. is looking for this kind of input – send ideas to him and he will post and try to match student and faculty with projects (david.furrer@prattwhitney.com)

* 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 offered to be liaison with Executive Committee – will bring up at the next meeting (meets every 6 months) Periodically co-sponsors events – might be useful – Scott H. question.

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

Please send any ideas for this subcommittee to Mike Hill (mrhill@ucdavis.edu).

New business (topics and/or activities)

Technical topic: none

NOTE: Next meeting will be 19 April 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.

**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)