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# SPEAKING ENDURICAN

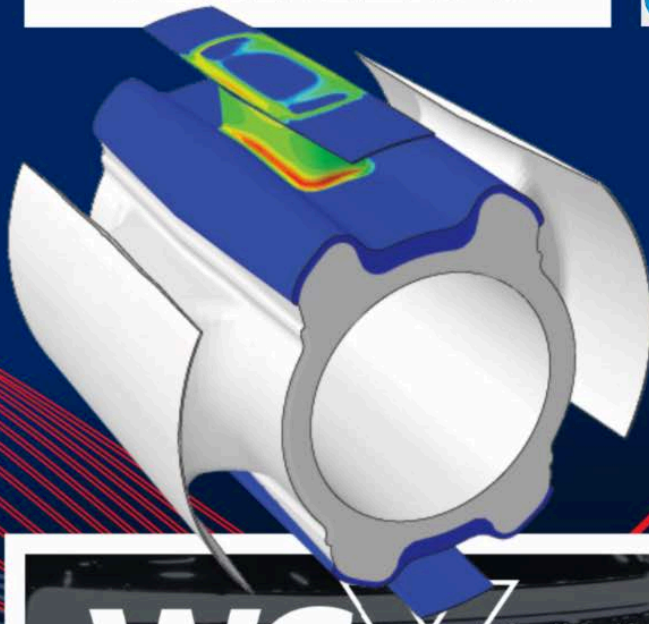
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**Validation of SLA  
Control Arm  
Bushings Fatigue Life  
Under Multi-Channel  
Road Load Input**



Will Mars, Endurica LLC; Kevin Barbash, Matthew Wieczorek, Liem Pham, General Motors LLC;  
Scott Braddock, Tenneco; Ethan Steiner, Endurica LLC; Scott Strumpfer, General Motors LLC

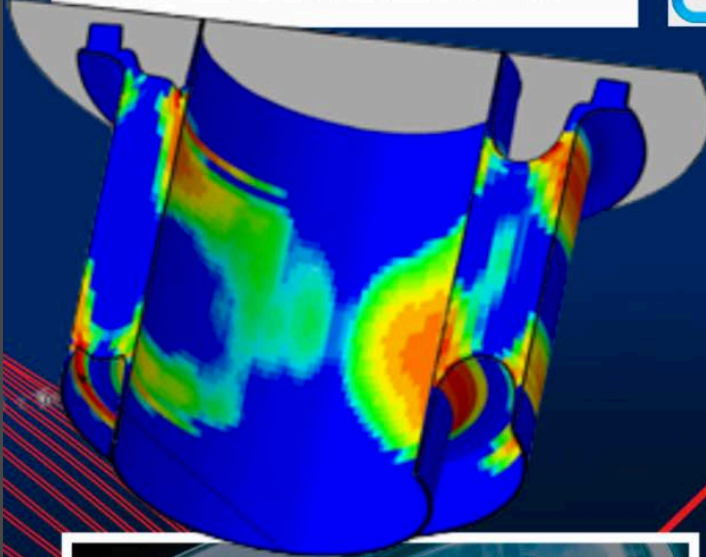
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**Durability of  
Elastomeric Bushings  
Computed from  
Track-Recorded  
Multi-Channel  
Road Load Input**



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WINNING ON DURABILITY

# INDUSTRY SPOTLIGHT: RAIL

FEATURING DR. NINA HEINRICH, LEAD STRUCTURAL ENGINEER  
TRELLEBORG ANTIVIBRATION SOLUTIONS



**LIVE  
WEBINAR:**

**WED, APRIL 23, 2025 at 10 am EDT (UTC-3)**

with Dr. Will Mars, Endurica, Founder & President

Wes McMinimy, Endurica Europe, Business Development Manager

## Endurica

Get Durability Right®

Do not miss this special live episode spotlighting Endurica's work in the rail industry from Trelleborg Antivibration Systems in Switzerland!

Endurica's Dr. Will Mars and Wes McMinimy talk with Nina Heinrich, Ph.D., the global leader of Trelleborg's simulation-based product development engineers about her work predicting a rubber spring's Wohler line with Endurica in the presence of self-contact.

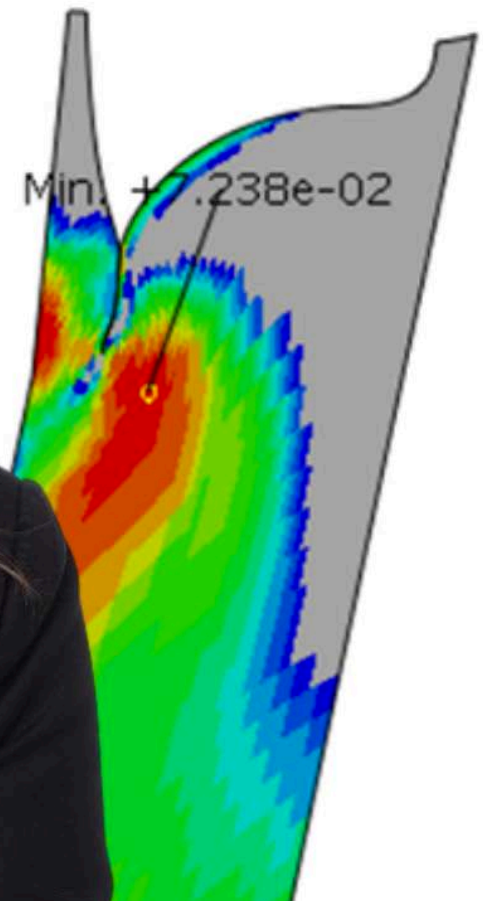
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WINNING ON DURABILITY

FEATURING  
**DR. NINA HEINRICH**  
LEAD STRUCTURAL ENGINEER



TRELLEBORG





# Calling all Customers: Do Not Miss our Next Fatigue Ninja Friday



**FATIGUE NINJA FRIDAY**  
**TIRE ANALYSIS IN ENDURICA**  
**FRIDAY, MAY 15, 2025 @ 10:00 AM EDT**



Endurica presents Fatigue Ninja Friday updates to keep you abreast of our latest information and workflows. There is no charge for this advanced training. If you are a user and are not receiving invitations to our Fatigue Ninja Friday series, please [email Pauline Glaza at pwglaza@endurica.com](mailto:pwglaza@endurica.com)

**Customer Bonus: Past Fatigue Ninja Friday episodes can be viewed at no charge via the Customer Portal on our new website!**



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## Get Durability Right With The World's Best-Validated Fatigue Life Simulation System For Elastomers

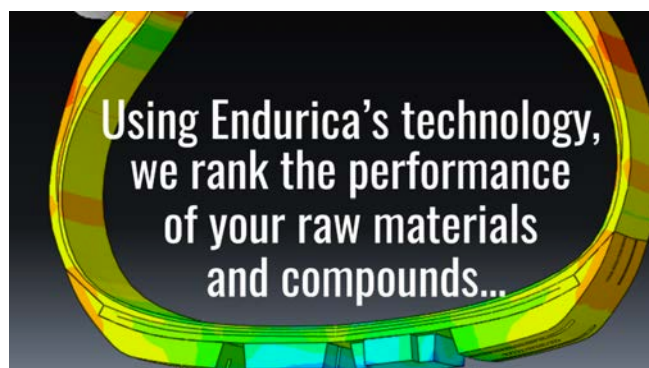
Endurica provides simulation software, characterization services, testing instruments, CAE services and training to get rubber products to market faster.

Go to [endurica.com](https://endurica.com) and click on the user icon. Enter your email, name and company, then click the box to Sign up for Endurica Academy. Your credentials will be verified and we will send an

email enabling access to the Fatigue Ninja Friday library. Be sure to take advantage of this newly-available, on-demand training benefit.

[Check it out](#)

## **Raw Materials Suppliers: *reveal the power of your raw materials and compounds***



All of this happens WITHOUT the time and cost of building molds, interrupting production, producing prototypes or running long, expensive physical tests.

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## Next Up: Conferences

### SIMULIA AMERICAS USERS CONFERENCE

Novi, Michigan  
April 29–May 1, 2025

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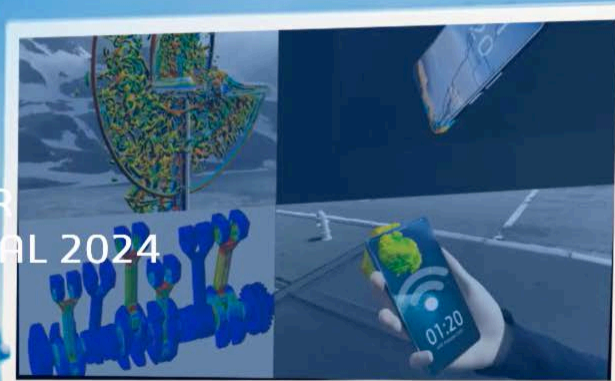


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### SIMULIA REGIONAL USER MEETING — EUROCENTRAL 2024

IN PERSON | REGISTRATION CLOSED

o Bamberg, Germany



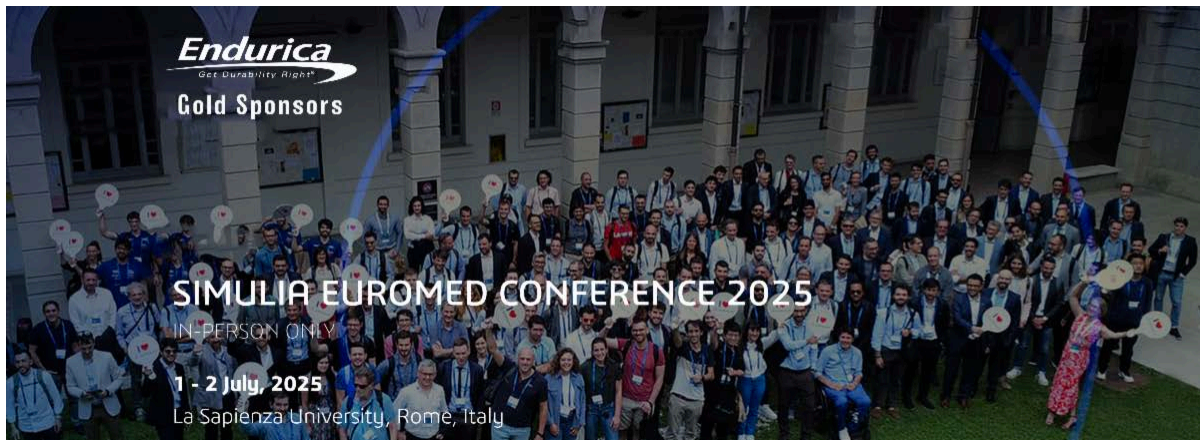
### SIMULIA EURNORTH REGIONAL USER MEETING 2025

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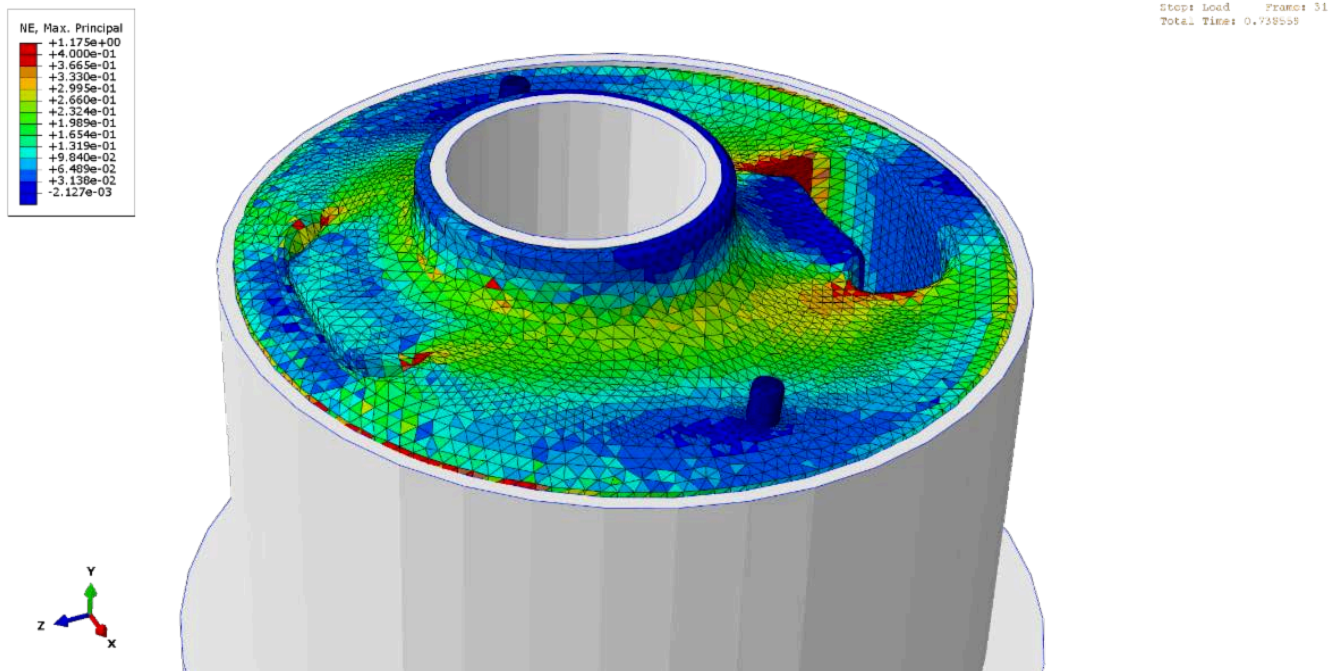
Mercure Manchester Piccadilly Hotel, Portland Street, M1 4PH, United Kingdom







## Now on our website: Devil in the Details: How to achieve accurate fatigue calculations with Coreform Cubit and Endurica CL



Small features on molded rubber parts, such as small radius fillets, mold injection ports, and tire vents, can significantly affect fatigue performance due to their stress-concentrating effects. However, these critical details are often overlooked because of the challenges they pose in meshing.

Accurate fatigue life prediction hinges on precise stress and strain calculations, which are directly tied to mesh quality. Watch the in-depth discussion on how:

- - Small features and mesh quality impact fatigue life.
- - Effective mesh development depends on core principles.
- - The meshing process can be simplified and optimized with our tools.
- - Accurate fatigue predictions can be made with minimal effort.
- - Automotive bushing used as example.



Learn More and Watch the Webinar

Thanks to all who joined us!

ECLIPSE  
WITH  
ENDURICA

Endurica  
Get Durability Right™

FLASHBACK  
TO THE  
ENDURICA  
COMMUNITY  
CONFERENCE

APRIL 8-9, 2024  
FINDLAY, OH USA

Highlight  
Video  
1:45

## DELIVERING DURABILITY ACROSS THE RUBBER SUPPLY CHAIN

FEATURING INDUSTRY LEADERS FROM GENERAL MOTORS, TENNECO, BASF, BRIDGESTONE, STELLANTIS, DASSAULT SYSTEMES CENTIRE, CNH INDUSTRIAL, BIRLA CARBON, AXEL PRODUCTS, COESFELD, RASSINI BYPASA, WOLF STAR TECHNOLOGIES



Why wait months for answers? Try hours!  
Intrinsic Strength Analyser

One Hour Test Screens  
Materials for Long-Term  
Fatigue Performance

Use this instrument when you  
need to:

- Compare materials
- Find the fatigue threshold for a simulation
- Avoid crack growth
- Justify long product life



The Intrinsic Strength Analyzer (ISA) measures the minimum tearing energy ( $T_0$ ) needed to initiate and propagate crack growth in elastomer materials. This instrument provides critical insights into the intrinsic toughness of materials, helping to predict long-term performance under cyclic stress. The ISA is ideal for applications requiring precise control of crack growth parameters, ensuring high-quality data for material characterization and durability analysis. Its automated data acquisition and advanced control systems make it a key tool in fatigue analysis.

[Learn More](#)



***Rubbernecking is an interesting thing that makes us look twice.***

## **Why Cutting is Easier than Tearing Elastomers**

*D Zhao, A Cartier, T Narita, F Lechenault, C Creton... - **Nature Communications**, 2025*

Tearing tough soft solids such as rubbers, leather or meat is much harder than cutting them with a sharp blade. To understand why, we use samples labeled with mechanically sensitive fluorophores to investigate cutting and fracture behavior in PDMS elastomers and quantify the extent of bond scission resulting from cutting pre-stretched samples. Our findings reveal that stretch-induced cracks produce significant deformation, bond scission and blunting near the crack tip, requiring more ...

• Cites: Why cutting strength is an indicator of fatigue threshold [READ MORE](#)





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