



Electrical Testing a New Tyne & Wear Metrocar on the Arth Rigi Railway in Switzerland.

Photo: Martin Horath

**Railway Division**

# **NORTH EASTERN CENTRE PROGRAMME OF EVENTS 2023-2024**

Institution of  
**MECHANICAL  
ENGINEERS**

## **Contact Us**

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**Improving the world through engineering**

## **A Note from the Centre Chair**

Your committee and I have tried to create a balanced programme for the year ahead, incorporating train operations, rolling stock engineering and infrastructure topics. Highlights include; Fast Battery charging technology, new train projects, a heritage paper, and research discussions from the University of Sheffield.

We are living in a changing world, post pandemic, one aspect of this is less train travel is now undertaken midweek and greater weekend leisure train journey is being enjoyed, than before Covid. Railway engineering, operations, and infrastructure must take account of this changing behaviours and rethink our engineering and maintenance strategies.

As many will be aware there is an ever-increasing skills gap in all aspects of our society including engineering, continued professional development (CPD) and engineering networking is more important than ever before to pass on experience and skills to the next generation of engineers. If you are line manager or mentor, may I take this opportunity to request that you encourage younger engineers to partake in CPD activities. Our Future of Rail competition in February 2024, is the perfect opportunity to support the young engineers in our region with this aim, I hope you can attend.

If you like this programme, tell your friends and colleagues; if not, please tell us, or even better join the committee, please keep an eye on the IMechE 'Near You' webpage in case of changes.

Andy Batters - Centre Chair

## Events & Activities Programme

<p>Wednesday 20<sup>th</sup> Sept 2023</p> <p>18:00 Refreshments 18:30 Start</p>	<p><b>North Eastern Railway Engineers' Forum</b> <b>Joint with IET; ICE; IRSE and PWI</b></p> <p>Speaker: Tom Hardwick, Nexus - Delivering Metro Flow, the UK's first Train Tram. Speaker: Simon Middleton, AECON - The Northumberland Line. Speaker: Jonathan Buttery, Atkins - York's third Line.</p> <p>Synopsis: The speakers will present on the above subjects.</p> <p>Location: York Priory Street Centre YO1 6ET</p>
<p>Thursday 5<sup>th</sup> Oct 2023</p> <p>18:30 Start</p>	<p><b>Fast Charge Battery Train Trial</b></p> <p>Speaker: David Horton MEng ACGI CEng MIMechE, Chief Mechanical Engineer, Great Western Railway. Synopsis:- David will explain how GWR in collaboration with the former company Vivarail, will trial new fast charging battery-charging technology on its network, paving the way for future battery-only trains to run future regular passenger services.</p> <p>Location: Virtual</p>
<p>Thursday 9<sup>th</sup> Nov 2023</p> <p>18:00 - Tea/Coffee and Biscuits 18:30 - Start</p>	<p><b>Chairman's Address - Along the Way</b></p> <p>Speaker: Andrew Skinner Synopsis:- Andrew provides his perspective on several experiences he has had and events he has been involved in. He explores how these have had an impact on not only his engineering career but also working within a system which is the rail industry. He distils these down to reveal the key elements we need to be good railway engineers and provides a perspective on where the industry and its engineers need to be in the future.</p> <p>Location: York Priory Street Centre YO1 6ET &amp; Hybrid?</p>
<p>Thursday 7<sup>th</sup> Dec 2023</p> <p>18:00 - Tea/Coffee Biscuits &amp; Mincepies 18:30 - Start</p>	<p><b>Challenging gravity, steep railways</b></p> <p>Speaker: Felix Schmid Synopsis:- Felix Schmid explains how some of the world's most challenging places have been conquered by rail engineers. Engineering and travelogue combined.</p> <p>Location: York Priory Street Centre YO1 6ET</p>
<p>Thursday 18<sup>th</sup> Jan 2024</p> <p>18:00 - Tea/Coffee and Biscuits 18:30 - Start</p>	<p><b>Hetton Colliery Railway</b></p> <p>Speaker: John Cook Synopsis:- The Hetton colliery railway was an 8-mile (13 km) long railway opened in 1822 by the Hetton Coal Company at Hetton-le-Hole, County Durham. It was the first railway to be designed to be operated without animal power, as well as being the first entirely new line to be developed by George Stephenson. Steam from end to end!</p> <p>Location: Darlington Hippodrome. Parkgate, Darlington DL1 1RR</p>

<p>Wednesday 7<sup>th</sup> Feb 2024</p> <p>18:00 - Tea/Coffee and Biscuits</p> <p>18:30 - Start</p>	<p><b>Future of Rail Competition</b></p> <p>Speakers: Young Members</p> <p>The North Eastern heat of the National IMechE 'Future of the Rail' competition, where we invite topical papers by Young Engineers, judged by eminent railway engineers. Participants have the opportunity to win a cash prize and go forward to present at the prestigious IMechE HQ in Birdcage Walk, London.</p> <p>We seek mentors and line managers to promote this event to our younger colleagues.</p> <p>Location: Regent Hotel, Regent Square, Doncaster DN1 2DS</p>
<p>Thursday 7<sup>th</sup> Mar 2024</p> <p>18:00 - Tea/Coffee and Biscuits</p> <p>18:30 - Start</p>	<p><b>The New Trains for the Tyne &amp; Wear Metro</b></p> <p>Speaker: Marc Robson, Head of Rail Service, Stadler UK Ltd.</p> <p>Synopsis:- Marc Robson will speak about the design and development of the new Class 555 Metrocar for Tyne &amp; Wear Metro in response to Nexus' specification. He will describe the step-change in technology, the approach to delivery of the new cars and the new depot, purpose built on the site of the former depot whilst full service continued uninterrupted.</p> <p>The talk may be preceded by a visit to view the new vehicles at the Gosforth Depot.</p> <p>Location: Newcastle <b>TBC</b></p>
<p>Wednesday 18<sup>th</sup> April 2024</p> <p>18:00 - Tea/Coffee and Biscuits</p> <p>18:30 - Start</p>	<p><b>Track Circuits, vulnerability to contamination</b></p> <p>Speaker: David Fletcher, University of Sheffield</p> <p>Synopsis:- Professor Fletcher will speak about the joint Sheffield University and Rail Safety &amp; Standards Board (RSSB) project to investigate track circuit and train detection vulnerability to rail/wheel contamination (leaves, rust, grease) leading to signalling failures. He will describe the laboratory and field testing carried out as part of the project.</p> <p>Location: University of Sheffield</p>
<p>Thursday 16<sup>th</sup> May 2024</p> <p>18:00 - Tea/Coffee and Biscuits</p> <p>18:30 – AGM 18:45 - Start</p>	<p><b>Rail Accident Investigation Branch – Investigation Techniques</b></p> <p>Speaker: <b>TBA</b></p> <p>Synopsis:- <b>TBA</b></p> <p>The meeting will be preceded by the Centre AGM</p> <p>Location: <b>TBC</b></p>

For further information on the Railway Division please visit [www.imeche.org/railway](http://www.imeche.org/railway)