

ICRI: International Collaborative Research Initiative

**Wheel/Rail Noise Online Workshop
22/2/2023**

Agenda for today

0:00 – 0:15	Introduction and overview of the recent International Workshop on Railway Noise (IWRN14) held December 2022 Briony Croft, Acoustic Studio
0:15 – 0:45	Survey of curve squeal occurrence for an entire metro system Peter Torstensson, Swedish National Road and Transport Research Institute (VTI)
0:45 – 1:15	Optimizing components in the rail support system for dynamic vibration absorption and pass-by noise reduction Jannik Theyssen, Chalmers University of Technology
1:15 – 1:45	Transient modelling of curve squeal considering varying contact conditions Astrid Pieringer, Chalmers University of Technology
1:45 – 2:00	General Questions, Discussion, Closing Briony Croft, Acoustic Studio

International Workshop on Railway Noise



Repeat of three papers presented at IWRN14

Held every 3 years

Single session format

History of IWRN

Edition	Year	City	Country	Delegates
1	1976	Derby	United Kingdom	35
2	1978	Lyon	France	60
3	1981	Monument	USA	50
4	1985	Noordwijkerhout	The Netherlands	60
5	1995	Voss	Norway	70
6	1998	Ile des Embiez	France	103
7	2001	Portland	USA	96
8	2004	Buxton	United Kingdom	120
9	2007	Munich	Germany	120
10	2010	Nagahama	Japan	147
11	2013	Uddevalla	Sweden	160
12	2016	Terrigal	Australia	135
13	2019	Ghent	Belgium	
14	2022	Shanghai + Online	China	

IWRN Conference Themes

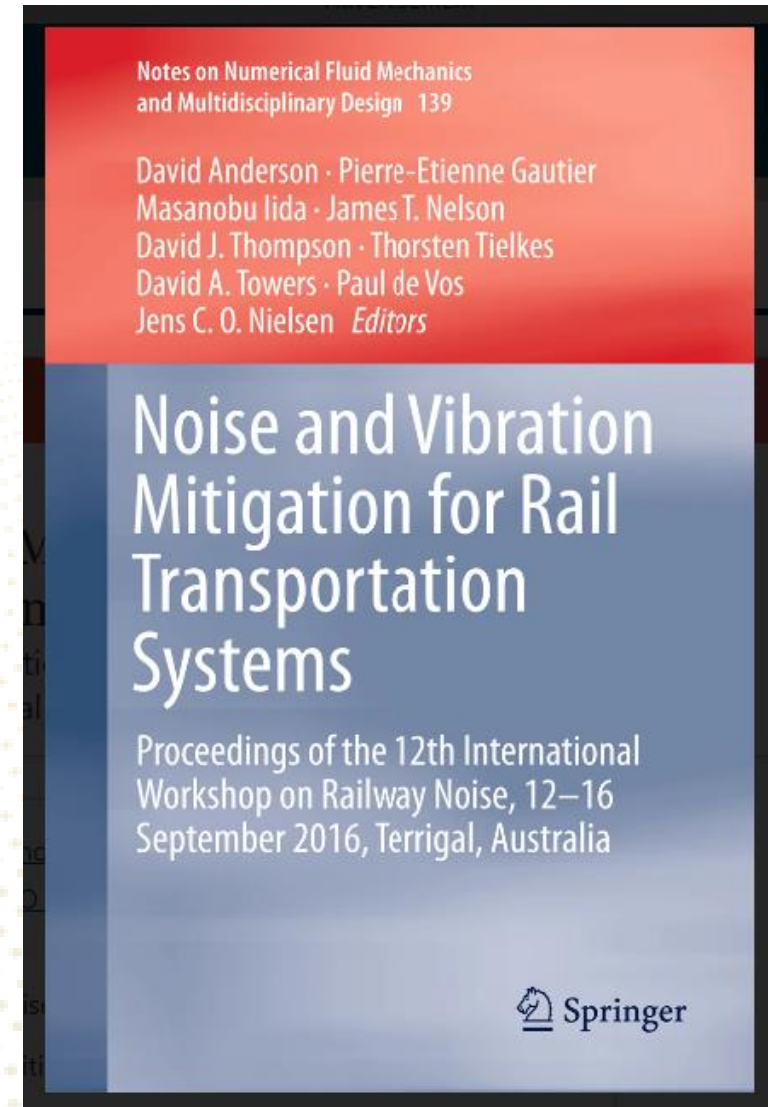
The IWRN workshops have contributed significantly to the increased understanding of many problems in railway noise and vibration, building a scientific foundation for reducing environmental impact by air-borne, ground-borne and structure-borne noise and vibration. Themes include:

- High speed rail and aerodynamic noise
- Interior noise
- Policy, regulation and perception
- Predictions, measurements, monitoring and modelling
- Rail roughness, corrugation and grinding
- Squeal noise
- Structure-borne noise and ground-borne vibration
- Wheel and rail noise

Future events

Applications to host IWRN15 in 2025 currently open

Proceedings from IWRN14 will be published following peer review of papers by the International Committee



Housekeeping

30 minutes for each speaker, allowing for discussion time

Presentation will be 15-20 mins, then questions to follow

Raise hand or write in chat

Speaker introductions

- Peter Torstensson is Research director for the division of environment at the Swedish national road and transport research institute (VTI). Peter is docent in applied rail vehicle dynamics at Chalmers university of Technology and has approximately 15 years of experience in research with focus on modelling of mechanical degradation and noise generated from rail traffic.
- Jannik Theyssen is a Postdoc at Applied Acoustics / CHARMEC at Chalmers University, Gothenburg. He recently defended his PhD thesis “Simulating Rolling Noise on Ballasted and Slab Tracks: Vibration, Radiation and Pass-by Signals” with David Thompson as the opponent. In the PhD project, he developed modelling approaches for track and wheel vibration and radiation, which were then used to investigate noise mitigation measures.
- Astrid is a researcher at the Division of Applied Acoustics at Chalmers University of Technology. Since 2006, she has been engaged in Chalmers competence centre for railway mechanics, CHARMEC, focusing on railway noise and vibration. Her main research area is modelling of wheel/rail interaction and wheel/rail noise.