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Western Joint Branch

Technical Lecture
Vibration and Torque Density in AC and DC Machines

Presented by: Chris Hodge from BMT

Date: Monday, 10th of March 2025

Time: Refreshments at 18:15, lecture starts at 18:45 – Please note this new time is a trial for this season

Venue: 16-18 Queen Square, BA1 2HN, Bath Building.

Organiser: Western Joint Branch RINA/IMarEST **Contact:** secretary.wjb@branches.imarest.org

Background:

Chris Hodge served for 26 years in the Royal Navy, gaining a BSc in mechanical engineering, a postgraduate diploma in nuclear science and technology, and an MSc in marine electrical engineering. Chris was the marine engineer officer of nuclear and conventional submarines; now, Chris is the Chief Electrical Engineer for BMT. Chris is an Honorary Fellow of the IMarEST, a Fellow and former elected Trustee of the Royal Academy of Engineering and was an Honorary Professor of Engineering with the University of Warwick, from 2009 to 2016. He was the Chairman of the IMarEST Board of Trustees and has served as its President. Chris was made an Officer of the Order of the British Empire in Her Majesty the Queen's Birthday Honours in 2015 for services to Royal Navy Engineering.

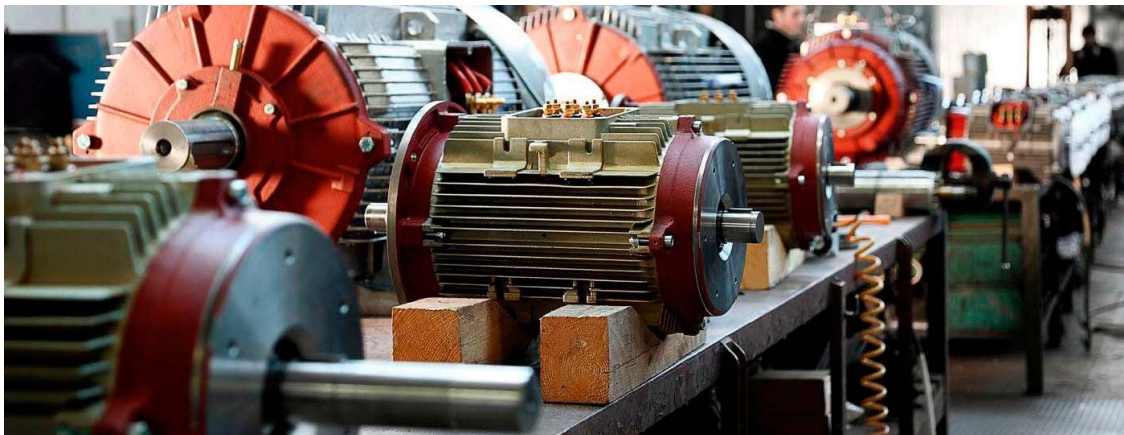


Image from Electrical Engineering Portal, 2025.

Chris will discuss the opposing aspects of vibration and torque density in both AC and DC machines. He will illustrate how all AC machines can be thought of as DC machines, and all DC machines can be thought of as AC machines. Chris will then discuss how torque is developed in both machines, and how DC and AC machines have differing advantages and disadvantages in N&V and torque density. Leading to the explanation of why using a solid-state commutator can bring significant advantages in both noise and torque density.

Registration:

We will be running this as a Hybrid Event - [Click Here to Register](#)



CPD Certificates will be sent out on request to the email address used to register.

Next event: Engineering on Tap: Reefs vs Man Made Objects, presented by Yves De Lenneer, President of IMarEST.

Date: 24th March 2025; **Time:** Refreshments at 18:15, talk starts at 18:45.

Venue: The Huntsman, Bath.



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