

Tutorial Title

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Troubleshooting EMI in Power Electronics Systems: A Hands-On Learning Experience

Instructor Team

Team Chair: Min Zhang

Co-Speakers:

Abstract

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This dynamic 3-hour session is designed to take attendees on a **practical journey** through the art of **troubleshooting and resolving EMI issues** commonly encountered in power electronics products and systems.

Through a mix of foundational EMC concepts and **real-world case studies**, the session will offer actionable insights into diagnosing and addressing both conducted and radiated emissions challenges.

What to Expect:

- Clear explanation of key EMC principles
- Practical, hands-on examples to reinforce learning
- Insights into typical design pitfalls and how to avoid them

Case Studies Include: • **Troubleshooting Conducted Emissions** – Solving EMI issues caused by a switched-mode power supply • **Troubleshooting Radiated Emissions** – Identifying and mitigating noise from high-speed GaN/SiC platforms and high-speed digital circuits

Whether you're a design engineer, test engineer, or systems integrator, this session will give you the tools to approach EMI problems with confidence.



Dr. Min Zhang is the founder and principal EMC consultant at Mach One Design Ltd, a UK-based engineering firm specializing in EMC consulting, troubleshooting, and training. With extensive expertise in power electronics, digital electronics, electric machines, and product design, Dr. Zhang has provided invaluable insights and solutions to companies worldwide. He currently chairs the IEEE EMC Chapter for the UK and Ireland branch.

Instructor Team Biographies

*Biographies here