

**Royal Society of Chemistry
Northern Ireland Section - Analytical Community**

Chemistry Education in an Analytical World

By

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Queen's University Belfast

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David Keir Building Room OG/012



Kevin Morgan is a Senior Lecturer (Education) in Chemistry and Chemical Engineering from Queen's University Belfast and a National Teaching Fellow (UK) recognised for leadership in sustainable and inclusive education. Kevin's work focuses on embedding sustainability, authentic assessment and the UN Sustainable Development Goals across curricula, outreach, and recruitment activities. Through innovative pedagogy, widening participation initiatives and public engagement, Kevin has developed educational approaches that connect chemical sciences to real-world challenges while broadening access to the discipline. Kevin's work has been recognised for its impact on student learning, participation, and educational culture, most recently with the Royal Society of Chemistry's Excellence in Higher Education Prize 2025.

Addressing global sustainability challenges demands a chemical education framework that is not only technically rigorous, but also inclusive, data-informed, and grounded in real-world analytical practice. This talk explores how sustainable and inclusive approaches to chemical education can be advanced through curriculum design, pedagogy, outreach, and recruitment.

Drawing on experience across undergraduate teaching and public engagement, the talk highlights how sustainability can be embedded meaningfully within chemistry and chemical engineering curricula through authentic, quantitative and qualitative measurement-driven assessment and challenge-led learning aligned with the UN Sustainable Development Goals. Emphasis is placed on the role of analytical thinking and data interpretation, making sustainability tangible and actionable for students.

The session also explores strategies for widening participation and engagement, demonstrating how contextualised, real-world analytical problems (e.g., environmental monitoring, resource efficiency, and health diagnostics) can enhance relevance while maintaining disciplinary depth. Together, these approaches position analytical chemistry not only as a technical discipline, but as a critical enabler of sustainable and socially responsive education.