CURRICULUM VITAE

Xi-Wen Guan graduated from Jilin University, China, in 1998, followed by three years of postdoctoral research in Germany and Brazil. From 2002 to 2008, he was a Research Fellow at the Australian National University (ANU), and as a Level C Fellow there from 2009 to 2013. After leaving ANU, he joined the Innovation Academy for Precision Measurement Science and Technology (APM), Chinese Academy of Sciences, as a Full Professor of Physics. Since 2016, he has held an Honorary Professorship at the ANU. In 2014, he was appointed the C N Yang Visiting Fellow at the Chinese University of Hong Kong. He has chaired 4 national key research grants and received multiple awards, including 4 Research Breakthrough Prizes, the Outstanding Talent Award at APM, and the 2024 First Prize of Hubei Provincial Natural Science. In 2024, he was elected a Fellow of the American Physical Society (APS).
2011–2020: Advisory Panel, Journal of Physics A; 2020–2022: Board Editor, Journal of Physics A; 2023–present: Executive Board Editor, Journal of Physics A.Currently, he serves as a Committee Member of the International Union of Pure and Applied Physics (IUPAP) Mathematical Physics Commission (C18).

Guan's research involves the study of exactly solvable models, quantum degenerate gases, low dimensional spin materials, strongly correlated electronic systems and quantum impurity problems. He has made a number of original contributions in these fields, which have led to direct applications in recent breakthrough experiments on one-dimensional many-body systems. He has published over 150 SCI papers in exactly solvable models, ultracold atoms, and condensed matter physics, including in journals such as Science, Review Modern Physics, Advances in Physics, Report on Progress in Physics, NPJ Quantum Information, National Science Review, Nature Communications, Physical Review Letters, Phys. Rev. A/B, etc. His work has contributed to recent experimental observations of novel phenomena, including super Tonks gases, Wilson ratios, criticality, Luttinger liquids, and spin-charge separation.

Since returning to China in 2022, he has led his research group for over a decade to profoundly uncover the microscopic nature of quantum many-body phenomena. He has guided experiments to achieve the world's first definitive experimental verification of spin-charge separation, Tomonaga-Luttinger liquids, incoherent liquid theory, and quantum critical phenomena, addressing several long-standing challenges in the field that have drawn widespread attention for more than 40 years. His work has essentially expanded the application scope of exactly solvable models and further advanced their critical applications in quantum technology.

Research interests:

• Exactly solvable models in cold atoms, strongly correlated electron systems, spin chains, vertex models, spin ladder compounds.
• Haldane exclusion statistics, Tomonaga-Luttinger liquids, quantum criticality and quantum correlation functions.
• Quantum algebra, quantum groups, open boundary quantum inverse scattering method, quantum transfer matrix.