PEDRO NUNES LECTURES

ULRIKE TILLMANN



FROM TOPOLOGY VIA COMPLEX DATA TO REPRESENTATION THEORY

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QFTS AND THE RENAISSANCE OF THE ALGEBRAIC TOPOLOGY OF MANIFOLDS

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ANFITEATRO ABREU FARO
INSTITUTO SUPERIOR TÉCNICO
LISBOA

PROFESSOR ULRIKE TILLMANN IS A LEADING FIGURE IN ALGEBRAIC TOPOLOGY, WITH INTERNATIONALLY RECOGNISED CONTRIBUTIONS TO TOPOLOGY, GEOMETRY, AND THEIR CONNECTIONS WITH MATHEMATICAL PHYSICS. HER RESEARCH ON MODULI SPACES OF RIEMANN SURFACES HAS PLAYED AN IMPORTANT ROLE IN THE DEVELOPMENT OF MODERN ALGEBRAIC TOPOLOGY AND HAS REVEALED DEEP LINKS WITH IDEAS ARISING IN QUANTUM FIELD THEORY AND STRING THEORY. IN RECENT YEARS, SHE HAS ALSO CONTRIBUTED TO THE EMERGING FIELD OF TOPOLOGICAL DATA ANALYSIS, EXPLORING HOW CONCEPTS FROM PURE MATHEMATICS CAN PROVIDE NEW INSIGHTS INTO PROBLEMS MOTIVATED BY DATA SCIENCE.

PROFESSOR TILLMANN IS PROFESSOR OF MATHEMATICS AT THE UNIVERSITY OF OXFORD. SHE SERVED AS PRESIDENT OF THE LONDON MATHEMATICAL SOCIETY (2021-2023) AND HAS BEEN ELECTED PRESIDENT OF THE INTERNATIONAL MATHEMATICAL UNION (IMU). AMONG MANY DISTINCTIONS, SHE WAS ELECTED A FELLOW OF THE ROYAL SOCIETY IN 2008, A FELLOW OF THE AMERICAN MATHEMATICAL SOCIETY IN 2013, RECEIVED THE WHITEHEAD PRIZE OF THE LONDON MATHEMATICAL SOCIETY, THE BESSEL RESEARCH AWARD OF THE ALEXANDER VON HUMBOLDT FOUNDATION, AND WAS AN INVITED SPEAKER AT THE INTERNATIONAL CONGRESS OF MATHEMATICIANS (ICM 2002).

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