MULTIDIMENSIONAL, MULTICHANNEL SIGNAL AND IMAGE PROCESSING

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

This mathematics research project aims to construct tools for signal and image processing. These tools include smooth, compactly supported orthogonal multidimensional wavelets with other prescribed properties such as near-cardinality, symmetry and more, which are suitable for colour image processing.

COMPETITIVE ADVANTAGE

- World-first construction of multidimensional wavelets
- Application of novel techniques from Clifford analysis that are unknown to most researchers in signal and image processing
- Advanced techniques from optimisation theory

PARTNERS

- University of New Mexico, USA
- University of Goettingen, Germany
- Technical University of Munich, Germany

IMPACT

- Potential for improved treatment (especially compression) of colour images
- Potential for improved performance of higher-dimensional quadrature and approximation

CAPABILITIES AND FACILITIES

- High-performance computing facilities
- High-end capabilities in pure, applied and computational harmonic analysis
- International network of collaborators

MORE INFORMATION

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