



Abdul R Mirza

28 - 15 April 1985

Physics

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South Africa

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Dr. Abdul R Mirza completed his BSc (Applied Math, Physics) at the University of Natal. He went on to complete his MSc at the University of KwaZulu-Natal (UKZN) in Physics. During this period he co-founded the Centre for Quantum Technology, a research group at the University of KwaZulu-Natal. Dr A Mirza completed his PhD in Quantum Physics at UKZN in 2012 and is currently a Research Manager at the Centre for Quantum Technology. He is the co-founder and currently the Executive Director of QZN Technology (Pty) Ltd, a technology company focused on quantum innovation.

CURRENT RESEARCH

Topic

Quantum Communication:
Future proof information
security

Methodology

- Component design
 - Single photon generation, manipulation and detection
 - System development
 - System integration
- The aim is to create a complete quantum cryptography system for commercial use.

Application

Information security for
high end requirements.
Long term data security
through a post-quantum
era.

UKZN main Publications

1. Abdul Mirza and Francesco Petruccione, Realizing long-term quantum cryptography, JOSA B, Vol. 27, Issue 6, pp. A185-A188 (2010)
2. Abdul Mirza and Francesco Petruccione, Quantum-secured Communication, Quest Science, Vol. 6, Issue 2 (2010) 50-53
3. Abdul Mirza and Francesco Petruccione, Gaby Lenhart and Gregoire Ribordy, Quantum Key Distribution - A World First for Durban, Quantum Journal (2010) 11-12
4. Abdul Mirza and Francesco Petruccione, quantumCity gets quantumStadium, Physics Comment, Vol. 2 Iss. 2 (2010) 2-3
5. Abdul Mirza and Francesco Petruccione, Recent Findings from the Quantum Network in Durban, Conf. Proc. QCMC 2010, Brisbane, Australia
6. Abdul Mirza and Francesco Petruccione. Quantum Technology: A next generation solution for secure communication. in MICSSA 2011. 2011. Pretoria, South Africa.
7. Abdul Mirza and Francesco Petruccione, Industrial application for global quantum communication, In American Institute of Physics Conference Series. 2012. p. 58-62.

Past Researches

1. Free High School Science Textbook: Physics (2007)

Future Interests

1. Post-quantum cryptography standardization
2. Technology-based entrepreneurship

Extra Interests

Sports, outdoors, adventure, hikes