

List of International Conference Presentations,
Publications and Research Interests

of

John Alphonsus Ryan

1. **International Conferences:**

The Enumeration of Irreducible Binary Goppa Codes
Workshop on Coding and Cryptography WCC2001
held in Paris
January 2001

2. Counting Irreducible Goppa Codes
Workshop on Coding and Cryptography WCC2003
held in Versailles, France
March 2003

3. Quasicyclic Irreducible Goppa Codes
International Symposium on Information Theory ISIT 2004
held in Chicago, Illinois, USA
June/July 2004

4. Goppa Codes of Varying Dimension and Minimum Distance
International Conference on TeleCommunications ICT 2005
held in CapeTown South Africa
April 2005

5. Equivalent Irreducible Goppa Codes
International Conference on TeleCommunications ICT 2005
held in CapeTown South Africa
April 2005

6. The Determination of all Cubic Irreducible Goppa Codes and Beyond
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005

7. The Number of Dimensions of a Certain Category of Goppa Codes
(together with Denis Chirwa)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005

8. A First Attempt at Categorising Goppa Codes
(together with Isaiah Makwakwa)
Southern Africian Mathematical Science Association SAMSA 2005

held in Blantyre, Malawi
November/December 2005

9. Quasicyclic Irreducible Goppa Codes of Length $q^n - 1$
(together with Khumbo Kumwenda)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005
10. Low Density Parity Check Irreducible Goppa Codes
(together with Paul Kubwalo)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005
11. Quintic Binary Goppa Codes of length 32
(together with Kondwani Magamba)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005
12. A Subset of Goppa Codes whose Dimension and Minimum Distance meet the
Minimum Bounds
(together with Atipatsa Kaminga)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005
13. Sextet Binary Goppa Codes of Length 32
(together with Douglas Madise)
Southern Africian Mathematical Science Association SAMSA 2005
held in Blantyre, Malawi
November/December 2005
14. The Essential Nature of Tertiary Education in Developing Countries
Development Education Conference 2006
held at Dublin City University March 23rd – 24th 2006
Dublin, Ireland.
15. In-Equivalent Irreducible Goppa codes and the Precise Number of Quintic
Goppa Codes of Length 32.
(together with Kondwani Maghamba)
AFRICON 2007
held in Windhoek, Namibia
26 – 28 September 2007.
16. Excluding Some Weak Keys in the McEliece Cryptosystem.
AFRICON 2007
held in Windhoek, Namibia
26 – 28 September 2007.

17. The Wisdom of Choosing Goppa Codes for a Cryptosystem
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
18. Binary Goppa Codes of Degree Four and their Extended Versions
(together with Weston Govere)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
19. Classical Goppa Codes and Random Codes
(together with R.K. Shava and D. Sibanda)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
20. Binary Goppa Codes of Degree Four and their Extended Versions
(together with Weston Govere)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
21. Implications of Lengths of Orbits on Goppa Codes
(together with Rachael Chavula)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
22. A list of Optimum Goppa Codes
(together with S.F. Nayega)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
23. The Weight Distribution of Goppa Codes
(together with Nephtale Mumba)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
24. Cyclic Extended Goppa Codes
(together with M.M. Nyirenda and D. Nyirenda)
SAMSA 2008
held in Maputo, Mozambique
25th – 28th November 2008.
25. Quintic Ternary Goppa Codes of length 27
(together with Michaelimba)
SAMSA 2008
held in Maputo, Mozambique

25th – 28th November 2008.

Publications in Mathematics:

- 1) *Ten CounterExamples in Group Theory*, pages 29 – 37
Bulletin Irish Mathematical Society 1983
- 2) *Counting Irreducible Goppa Codes*, pages
Journal Aust. Mathematical Society 2001
- 3) *The Number of Inequivalent Irreducible Goppa Codes*, pages 209 – 216
Proceedings of the International Workshop On Coding and Cryptography 2001
- 4) *Irreducible Goppa Codes*, pages 207 – 215
Proceedings of the International Workshop On Coding and Cryptography 2003
- 5) *Quasicyclic Irreducible Goppa Codes*, page 183
International Symposium on Information Theory 2004
- 6) *Irreducible Goppa Codes*, pages 399 - 412
Discrete and Applied Mathematics 2006
- 7) *Goppa Codes of Varying Dimension and Minimum Distance*
in Conference Proceedings ICT 2005 CD ROM
- 8) *Equivalent Irreducible Goppa Codes*
in Conference Proceedings ICT 2005 CD ROM
- 9) *The Wisdom of Choosing Goppa Codes for a Cryptosystem*
in Conference Proceedings SAMSA 2008 CD ROM

Publications in Education:

The Essential Nature of Tertiary Education in Developing Countries
in E-Book, Linking the Global and the Local, edited by Fiona Dwyer,
Section: Education in the South (7 pages).

Publications in Religion:

- 1) *Isila*, A Catholic Catechism in Chisukwa Monfort Press 1995
- 2) *Amashu Gha Kyala*, Gopel passages in Chindali Monfort Press 1995

Research Interests:

- Categorising Goppa codes
- Finding 'good' Goppa codes
- Connections between Quasicyclic codes and Goppa codes
- Connections between LDPC codes and Goppa codes
- Development Education
- Education and HIV/AIDS

J.A. Ryan is involved in many Developmental and Communities Activities in and around Mzuzu. For further information see: <http://www.mzuzu.org>