

**Full Names:** David Ssevviiri

**Contact Information**

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**Date of Birth:** August 17, 1982

**Education**

Jan 2011– Oct 2012	PhD	Mathematics	Nelson Mandela Metropolitan University (NMMU), South Africa
Sept 2009 – Nov 2010	MSc	Mathematics	NMMU, South Africa
Aug 2007– May 2009	MSc	Mathematics	Makerere University, Uganda
Aug 2002– May 2005	BSc Ed	Mathematics, Chemistry	Makerere University, Uganda
2000–2001	UACE	Maths, Physics, Chemistry	Bishop Senior School, Mukono
1996–1999	UCE		Bbaale Senior Secondary School

<b>Adviser</b>	<b>Level</b>	<b>Thesis/Dissertation title</b>
Prof. N. J. Groenewald	PhD	A contribution to the theory of prime modules
Prof. N. J. Groenewald	MSc	On prime modules and radicals of modules
Prof. G. K. Sankaran and Prof. J. Kasozi	MSc	On integral and rational quadratic forms

**Working Experience**

17th Sept 2015 – to date	Head, Department of Mathematics
Jan 2015 – to date	Senior Lecturer, Makerere University
Sept 2013 – Dec 2014	Lecturer, Makerere University
Mar 2013 - June 2013	Post-doc fellow and part-time lecturer at NMMU
Feb 2011 – Aug 2013	Assistant Lecturer, Makerere University
Sept 2009 – Nov 2010	Taught Mathematics at NMMU along side my MSc studies
Sept 2006 – Aug 2009	Assistant Lecturer, Kampala International University and acted as Faculty Administrator for two months prior to joining NMMU
Jan 2006 – Aug 2006	Mathematics and Chemistry teacher at Eden International School, Mbarara. I was also assistant director of studies
Jan 2005 – Dec 2005	Mathematics and Chemistry teacher at Vienna College Namugongo, also acting head of Mathematics department
2003 – 2004	Mathematics and Chemistry teacher at Rise and Shine High School Ntinda

### Research Publications

1. **Ssevviiri D.** On Oka and Ako ideal families, under preparation.
2. **Ssevviiri D.** How important is pure Mathematics? under preparation.
3. Kasozi J, **Ssevviiri D** and Umutabazi V. Red-injective modules, submitted.
4. Kimuli I. P and **Ssevviiri D.** Ehrlich's theorem for near-rings, submitted.
5. **Ssevviiri D.** On completely prime modules, *Int. Elect. J. Algebra*, accepted.
6. Groenewald N. J and **Ssevviiri D.** Classical completely prime submodules, *Hacet J. Math Stat.*, (2015) Doi: 10.15672/HJMS.20164513096.
7. **Ssevviiri D.** A relationship between 2-primal modules and modules that satisfy the radical formula, *Int. Elect. J. Algebra*, **18**, (2015), 34–45.
8. Groenewald N. J and **Ssevviiri D.** Properties of different prime radicals of rings and modules, *Comm. Algebra*, **43**(3), (2015), 971–982.
9. Groenewald N. J and **Ssevviiri D.** On the Levitzki radical of modules, *Int. Elect. J. Algebra*, **15**, (2014), 77-89.
10. Groenewald N. J and **Ssevviiri D.** Generalization of nilpotency of ring elements to module elements, *Comm. Algebra*, **42**(2), (2014), 571–577.

11. **Ssevviiri D.** Characterization of non-nilpotent elements of the  $\mathbb{Z}$ -module  $\mathbb{Z}/(p_1^{k_1} \times \cdots \times p_n^{k_n})\mathbb{Z}$ , *Int. J. Algebra*, **7**(15), (2013), 699–702.
12. Groenewald N. J and **Ssevviiri D.** Köthe’s upper nil radical for modules, *Acta Math. Hungar.*, **138** (4), (2013), 295–306.
13. Groenewald N. J and **Ssevviiri D.** Completely prime submodules, *Int. Elect. J. Algebra*, **13**, (2013), 1–14.
14. Groenewald N. J and **Ssevviiri D.** 2-primal modules, *J. Algebra Appl.*, **12**, (2013), 1250226, DOI: 10.1142/S021949881250226X.
15. **Ssevviiri D.** Structure of non-nilpotent elements of some  $\mathbb{Z}$ -modules, *Int. J. Algebra*, **6** (14), (2012), 691–695.

### Supervision of graduate students

1. Stephen Kadedesya, worked on the topic: “On the radical formula of modules” - completed and graduated in Jan 2015 (supervised with Prof. J. Kasozi).
2. Innocent Ndikubwayo, worked on the topic: “On the Cauchy integral formula using winding numbers” - completed and graduated in Jan 2015 (supervised with Dr. S. H. Nsubuga).
3. Sarah Nakato, worked on the topic: “On the prime ideal principle in commutative rings” - to graduate in Jan 2016 (supervised with Dr. S. H. Nsubuga).
4. Edson Bazeyo Tumuhimbise, worked on the topic: “On the analysis of algebraic curves” - to graduate in Jan 2016 (supervised with Dr. G. I. Mirumbe).
5. Vincent Umutabazi, “On a generalization of injective modules: Red-injective modules and strongly Red-injective modules” - to graduate in Jan 2016. (supervised with Prof. Kasozi).
6. Ivan Philly Kimuli, “Morphic near-rings”- through with viva-voce examination (supervised with Dr. G. I. Mirumbe).
7. Topilisita Nabirye, working on the topic: “On McCoy rings” - on going, presented proposal at school (supervised with Dr. G. Kakuba).
8. Peter Amutuheire, “On conditions for which prime ideals are completely prime”- on going, presented proposal at school (supervised with Prof. Kasozi).

9. Mustafa Ahmed Moalim Ali, “Dualizing generalizations of injective modules”-developing proposal (supervised with Prof. Kasozi).

### **Conferences, workshops and summer schools attended**

1. 12th-14th November 2015: Participated in the development of PhD with taught component curriculum that took place at Linkoping University, Sweden.
2. 27th -29th October 2015: Participated in the development of PhD with taught component curriculum that took place in the boardroom of the College of Engineering, Design, Art and Technology at Makerere University.
3. Participated in the Nairobi Workshop on Algebraic Geometry, 10-13 August 2015, University of Nairobi, Kenya.
4. Presented a paper entitled, “Algebra and its Applications” in the 3rd Strathmore International Mathematics Conference, 3-7 August 2015, Strathmore University, Nairobi, Kenya.
5. Attended a summer school on Experimental pure mathematics held at Makerere University from 6th July 2015 to 23rd July 2015.
6. Participated in the EAUMP summer school on representation theory which took place from 7th July 2014 to 26th July 2014 at Arusha technical college, Tanzania.
7. Presented on the topic, “2-primal modules” at the 2012 SAMS conference held at the University of Stellenbosch, South Africa.
8. Presented on the topic, “Nilpotency in modules” at a pure mathematics workshop held at Strathmore University, Kenya in July 2012.
9. Presented on the topic, “Completely prime submodules” at the International Conference on the theory of Radicals, Rings and Modules held at the Sultan Qaboos University, Oman in January 2012.
10. Presented on the topic, “On classical and completely prime submodules” at a pure mathematics workshop held at Strathmore University, Kenya in August 2011.

11. Presented on the topic, “Completely prime modules” at the First Kenyatta University International Mathematics Conference that was held in June 2011 at Kenyatta University in Nairobi Kenya.
12. Attended a two week summer school on Linear Algebra and the fast Fourier transform held at the Makerere University Uganda from 6th to 17th Dec 2010.
13. Presented in Pretoria - South Africa on the topic, “On prime modules and prime submodules” at the South African Mathematical Society (SAMS) annual congress that was held in November 2010.
14. Attended a workshop titled, “Writing a funding proposal in the Sciences” held on the 27th August 2010 at VIP lounge indoor sports center NMMU.
15. In Nov 2009, presented on the topic, “On the Structure of multiplicative group of  $p$ -adic numbers” at the South African Mathematical Society (SAMS) congress that was held in Johannesburg.
16. Attended a two week summer school on Sets and Logic held at the University of Nairobi Kenya from 6th to 19th April 2009.
17. Attended a two week summer school on the topic “From the basics to Google Algorithm“ held at Bandari College in Mombasa Kenya from 2nd to 14th December 2008.
18. Attended a two week summer school on Linear Algebra held at Makerere University, Kampala, Uganda from 17th to 29th March 2008.

### **Achievements and Awards**

1. In June 2011, received the vice-chancellor’s award for being the best masters graduate by course work for Science, Engineering and Technology at NMMU.
2. In November 2010, was awarded a prize for giving the best talk (by MSc students) at SAMS conference held in Pretoria.
3. In April 2011, graduated with a Cum-Laude MSc (Mathematics) at NMMU.
4. Attained a Cumulative Grade Point Average (C.G.P.A) of 4.81 on the scale of 5 for the MSc degree at Makerere University.
5. Won the 2004 National Mathematics Contest at University level in Uganda.

**Membership to professional bodies and societies:**

- 2011- to date: Member of the Uganda Mathematical Society (UMS).
- 2015 - to date: Member of the Algebraic Geometry/Algebra Group. This is a group that aims to promote Algebraic Geometry/Algebra in East Africa through organising workshops, schools, and aiding in the process of getting promising students PhD scholarships. It involves members from Makerere University, the University of Nairobi, Oxford University and Warwick University.

**Lecture notes written:**

- Rings and Modules: These notes introduce both rings as well as modules. All the necessary theory needed to prove the Artin-Wedderburn Theorem is given and eventually the notes end with the proof of the Artin-Wedderburn Theorem.

**Papers reviewed for Zentrablatt Math (Germany)**

1. Bergman, George M. Minimal faithful modules over Artinian rings, *Publ. Mat., Barc.*, **59**, No. 2, 271–300 (2015).
2. Arabi, M.; Asgari, Sh. Almost injective modules lack a “Baer-like” criterion, *J. Algebra Appl.* **14**, No. 7, Article ID 1550110, 5 p. (2015).
3. Stancu, Alin, On some constructions of nil-clean, clean and exchange rings, *J. Algebra Appl.* **14**, No. 7, Article ID 1550101, 11 p. (2015).
4. Usaini, S; Mohammed, L. On the rhotrix eigenvalues and eigenvectors, *Afr. Mat.* **25**, No. 1, (2014), 223–235.
5. Bailey, Abigail C.; Beachy, John A. On reduced rank of triangular matrix rings, *J. Algebra Appl.*, **14**, No. 4, 1550059, 9p. (2015).
6. Asgari, Shadi; Haghany, A.; Rezaei, A.R., Modules whose  $t$ -closed submodules have a summand as a complement, *Commun. Algebra*, **42**, No. 12, (2014), 5299–5318.
7. Jung, Da Woon; Kwak, Tai Keun; Lee, Min Jung; Lee, Yang, Ring properties related to symmetric rings, *Int. J. Algebra Comput.*, **24**, No. 7, (2014), 935–967.

8. Zhou, Jinming; Wang, Dengyin; Linear maps on matrix algebra Jordan derivable at involutory matrices, *Linear Multilinear Algebra* **62**, No. 7, (2014), 913–917.
9. Holbrook, J.; O’Meara, K.C. Some thoughts on Gerstenhaber’s theorem. *Linear Algebra Appl.* **466**, (2015), 267–295.
10. Bora, Shreemayee; Karow, Michael; Mehl, Christian and Sharma, Punit. Structured eigenvalue backward errors of matrix pencils and polynomials with Hermitian and related structures, *SIAM J. Matrix Anal. Appl.* **35**, No. 2, (2014), 453–475.
11. Tai Keun Kwak, Min Jung Lee and Yang Lee, On sums of coefficients of products of polynomials, *Comm. Algebra.* **42**, (2014), 4033–4046.
12. Ouyang, Baiyu; Duan, Luling; Li, Weiqing, Relative projective dimensions, *Bull. Malays. Math. Sci. Soc.* **2/37**, No. 3, (2014), 865–879.
13. Erdoğan, Melek; Özdemir, Mustafa, On eigenvalues of split quaternion matrices. *Adv. Appl. Clifford Algebr.* **23/3**, (2013) 615–623.
14. Kwak, Tai Keun; Lee, Min Jung; Lee, Yang, Quasi-Armendariz property on powers of coefficients, *Int. Electron. J. Algebra.* **15**, electronic only (2014), 208–217.
15. Türkmen, B.N.; Pancar, A. Generalizations of  $\oplus$ -supplemented modules *Ukr. Math. J.* **65/4**, (2013), 612–622 and *Ukr. Mat. Zh.* **65/4**, (2013), 555–564.
16. Kwak, Tai Keun; Lee, Dong Su; Lee, Yang, Annihilators in one-sided ideals generated by coefficients of zero-dividing polynomials *J. Korean Math. Soc.* **51/3**, (2014), 495–507.
17. Surjeet Singh. Rings with indecomposable right modules uniform. *Comm. Algebra.* **41**, (2013), 2139–2158.
18. Keshari, Manoj K; Lokhande, Swapnil A. Projective modules over overrings of polynomial rings and a question of Quillen *J. Pure Appl. Algebra*, **218/6** (2014), 1003–1011.
19. Tuganbaev, A.A. Modules with Nakayama’s property *J. Math. Sci., New York* **193/4**, (2013), 601–605; translation from *Fundam. Prikl. Mat.* **17/5**, (2012), 179–185.

20. Ecevit, Şule; Koşan, Muhammet T; Tribak, Rachid, Rad- $\oplus$ -supplemented modules and cofinitely rad- $\oplus$ -supplemented modules; *Algebra Colloq.* **19/4**, (2012), 637–648.
21. Camillo, Victor; Kwak, Tai Keun; Lee, Yang, On a generalization of McCoy rings, *J. Korean Math. Soc.* **50/5**, (2013), 959–972.
22. Bozkurt, D, Tam, Tin-Yau and Yan, Wen, Singular values and eigenvalues of matrices in  $\mathfrak{so}_n(\mathbb{C})$  and  $\mathfrak{sp}_n(\mathbb{C})$  *Ann. Funct. Anal. AFA* **5/1**, electronic only (2014), 94–100.
23. Chuang C.L, Lee T.K and Liu C.K, Invariant polynomials of ore extensions by q-skew derivations, *Proc. Amer Math. Soc.*; **140/11** (2012), 3739–3747.
24. Asgari, Sh.; Haghany, A and Tolooei, Y, T-semisimple modules and T-semisimple rings, *Comm. Algebra*; **41/5**, (2013), 1882–1902.
25. Mattila, Mika and Haukkanen, Pentti, On the eigenvalues of certain number-theoretic matrices, *East-West J. Math.* **14/2**, (2012), 121–130.
26. Amin, Ismail; Ibrahim, Yasser and Yousif, Mohamed, Rad-projective and strongly rad-projective modules, *Comm. Algebra*; **41/6**, (2013), 2174–2192.
27. Ghahramani Hoger, Zero product determined triangular algebra, *Linear Multilinear Algebra*, **61/6** (2013), 741–757.
28. Wang, Dengyin; Zhu, Min and Lv, Wenping, The group of commutativity preserving maps on upper triangular matrices over a commutative ring, *Linear Multilinear Algebra*, **61/6** (2013), 775–783.
29. R. P. Sullivan, BQ-semigroups of generalized transformations, *PU. M. A.* **21/1** (2010), 59– 78.
30. Dino Lorenzini, Elementary divisor domains and Bezout domains, *J. Algebra*, **371** (2012), 609–619.
31. R. Tribak, On  $\sigma$ -local modules and amply  $\sigma$ -supplemented modules, *J. Algebra Appl.*, **12/2** (2013), 1250144 (14 pages).
32. G. Bergmann, Bilinear maps on Artinian modules, *J. Algebra Appl.*, **11/5** (2012), 1250090 (10 pages) DOI: 10.1142/S0219498812500909.



**Papers reviewed for Mathematical Reviews (USA)**

1. Parkash, Anand One dimensional local domains and radical formula. *Beitr. Algebra Geom.* **56** (2015), no. 2, 729–733.
2. Alahmadi, Adel; Facchini, Alberto; Khanh Tung, Nguyen, Automorphism-invariant modules. *Rend. Semin. Mat. Univ. Padova*, **133** (2015), 241–259.
3. D. V. Zlydnev, Rings of quotients for rings with big center. *Translation of Vestnik Moskov. Univ. Ser. I Mat. Mekh.*, 2014, no. 2, 25–30. *Moscow Univ. Math. Bull.* **69** (2014), no. 2, 67–72.
4. Pop, Lavinia, Morhic bimodules and rings. *Carpathian J. Math.* **30** no. 2, (2014), 245–252.
5. Guil Asensio, Pedro A.; Srivastava, Ashish K. Automorphism-invariant modules. *Noncommutative rings and their applications*, 19–30, *Contemp. Math.*, 634, Amer. Math. Soc., Providence, RI, 2015.
6. First, Uriya A. General bilinear forms. *Israel J. Math.* **205** (2015), no. 1, 145–183.
7. AL-Ashker, Mohammed M.; Ashour, Arwa E.; Abu Mallouh, Ahmed A. On primal compactly packed modules. *Palest. J. Math.*, **3** (2014), Special issue, 481–488.
8. Cansu, Sibel Kilicarslan; Yilmaz, Erol. On generalized semiradical formula. *Palest. J. Math.* **3** (2014), Special issue, 512–517.
9. V. M. Prokip, On the solvability of a system of linear equations over the domain of principal ideals. Translation of *Ukrain. Mat. Zh.* **66** (2014), no. 4, 566–570. *Ukrainian Math. J.* **66** (2014), no. 4, 633–637.
10. Burcu, Ungor; Sait, Halicioglu; Handan, Kose; Abdullah, Harmanci. Rings in which every nilpotent is central, *Algebras Groups Geom.* **30** (2013) no. 1, 1–18.
11. Yousif, Mohamed; Amin, Ismail; Ibrahim, Yasser. D3-modules. *Comm. Algebra.* **42** (2014), no. 2, 578–592.
12. Nekooei, R.; Rostami, E. A prime submodule principle. *Algebra Colloq.*, **21** (2014), no. 4, 697–710.

13. Singh, Surjeet; Srivastava, Ashish K. Rings of invariant module type and automorphism-invariant modules. *Ring theory and its applications*, 299–311, *Contemp. Math.*, 609, Amer. Math. Soc., Providence, RI, 2014.
14. Rincn-Meja, Hugo Alberto; Sandoval-Miranda, Martha Lizbeth Shaid On pseudocomplements and supplements in the big lattice of preradicals. *J. Algebra Appl.* **13** (2014), no. 7, 1450043, 19 pp.
15. Hiramatsu Naoya, Remarks on subcategories of Artinian modules. *Illinois J. Math.* **56** (2012), no. 3, 835–848.
16. Raggi Francisco, Ríos José, Rincón Hugo, Fernández-Alonso, Rogelio and Gavito Silvia, Main modules and some characterizations of rings with global conditions on preradicals, *J. Algebra Appl.* **13** (2014), no. 2, 1350099, 19 pp.
17. H. Ansari-Toroghy and F. Farshadifar, On the dual notion of prime radicals of submodules, *Asian-Eur. J. Math.* **6/2** (2013), 1350024, 11 pp.
18. B. Goldsmith and P. Zanardo, On maximal relatively divisible submodules. *Houston J. Math.* **39** (2013), no. 2, 387404.
19. M. Ziembowski, Regularity and strong regularity in the context of certain classes of rings, *J. Algebra Appl.* **12/5** 1250205 (2013), 9 pages.
20. Sh. Ghalandarzadeh, S. Shirinkam and P. Malakooti Rad, Annihilator ideal-based zero-divisor graphs over multiplication modules. *Comm. Algebra.* **41** (2013), 1134–1148.
21. A. Azizi, On prime radicals of submodules, *Publ. Math. Debrecen.* **82/2** (2013), 309–324.

### Major areas of research interest

Algebra, specifically, ring theory, radical theory, module theory, group theory and near-ring theory.

### Scholarships and Bursaries

March 2013 - June 2013	DAAD and RCD NMMU
2012	NRF grant and DAAD
2010-2011	NRF grant and NMMU postgraduate bursary
2008-2009	MARM grant/LMS, EAUMP
2002-2005	Government of Uganda

### **Examination of theses/dissertations**

I have been an **external examiner** of one PhD thesis and an **internal examiner** of two MSc dissertations.

### **Other responsibilities**

1. 18th – 22nd June 2015: Acting Head, Department of Mathematics, Makerere University.
2. March 2015 – April 2015: Setter and Examiner of University Mathematics contest questions for UMS.
3. 16th Feb 2015 – 28th Feb 2015: Acting Head, Department of Mathematics, Makerere University.
4. Jan 2015: Algebra trainer of Secondary School students (at Turkish Light Academy) in preparation for 2015 International Mathematics Olympiad .
5. Member on the Scientific Committee for the 2015 EAUMP Summer School on Experimental pure Mathematics that was held at Makerere University from the 6th July 2015 to 17th July 2015.
6. 15th – 26th Sept 2014: Acting Head, Department of Mathematics, Makerere University.
7. May 2014 – June 2014: Algebra trainer of students preparing for International Mathematics Olympiad.
8. May 2014– Sept 2015: Department of Mathematics representative at the College of Natural Science Research Committee.
9. Feb 2014 – Sept 2015: Secretary, Projects Committee, Department of Mathematics, Makerere University.

10. 2014: Setter and Examiner of University Mathematics contest questions for UMS.
11. Feb 2014 – Sept 2015: Assistant graduate co-ordinator, Department of Mathematics, Makerere University.
12. Sept 2013 – Sept 2015: Chairperson, Lecture Material Vetting Committee, Department of Mathematics, Makerere University.
13. Jul 2013 – to date: Member, Departmental Research and Higher Degrees Committee, Department of Mathematics, Makerere University.
14. 2012: Algebra trainer of Secondary School students in preparation for the 2012 International Mathematics Olympiad.
15. 2012: Setter of O-level 2012 Mathematics contest questions for UMS.
16. 2010: Served on the house committee of Post Graduate Student Village at NMMU, particularly as treasurer and chief of village 4 from April 2010 to November 2010.

### Community out-reach

- From January 2015 to date: Chairman, Bbaale Primary School old boys and old girls association. Among other things, the association is involved with the construction of the girls' dormitory at Bbaale Primary School.
- With my initiative, Bbaale Primary School participated in the 2015 UMS contests.
- 15th August 2015: Chief-guest, fundraising ceremony for the construction of the girls' dormitory at Bbaale Primary School.
- 20th November 2015: Guest of honour, Speech Day at Happy Parents, Day and Boarding, Nursery and Primary School, Ndejje Kyadondo.

### Referees

1. Prof. J. Kasozi,  
Dean, School of Physical Sciences,  
College of Natural Sciences, Makerere University,  
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2. Prof. J. Y. T. Mugisha,  
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3. Prof. L. S. Luboobi,  
Former Vice-Chancellor Makerere University,  
Department of Mathematics, Makerere University  
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4. Prof. Balazs Szendroi, Organizer of most of conferences attended in Kenya  
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