Curriculum Vitæ – Ian Douglas Sanders

as at 6 January 2025

1 Personal Details

Surname	Sanders
First Names	Ian Douglas
Date of Birth	6 May 1956
Place of Birth	Klerksdorp, North West (formerly Transvaal), South Africa
Marital Status	Married
Residential Address	28 Leicester Road Kensington Johannesburg South Africa
Postal Address	As above
Telephone Numbers	(+2711) 622-1966 (Home) (+2783) 455-3088 (cell)
e-mail Address	dr.id.sanders@gmail.com
Current Employer	Retired
Current Position	Visiting Professor at the Associate Professor level School of Computer Science and Applied Mathematics University of the Witwatersrand, Johannesburg
ORCID ID	http://orcid.org/0000-0001-9081-8145
Scopus Author ID	7004408250
ResearcherID	A-6630-2016
Google Scholar	https://scholar.google.com/citations?user=fsnRRkIAAAAJ&hl=en

2 Academic Qualifications

1998 - 2002	PhD (Computer Science) (part-time) University of Pretoria Thesis entitled *The Axial Line Placement Problem* Supervisor – Professor Derrick Kourie External examiners – Dr J O'Rourke (Smith College), Dr J Hattingh (Georgia State University) Graduated on 5 September 2002
1988 - 1991	MSc (Applied Mathematics) (Part-time) University of the Witwatersrand (Wits) Dissertation entitled *Fast Robust Restoration of Binary Images* Supervisors – Prof C J Wright and Dr N Pendock
1985 - 1986	Higher Diploma in Computer Science (Part-time) Wits
1981 - 1983	BSc Honours (Applied Maths) (Part-time) Wits
1979	BSc Honours (Geophysics) Wits
1975 - 1978	BSc (Applied Mathematics, Geophysics) Wits
1969 - 1973	Milner High School in Klerksdorp, North West
1962 - 1968	Strathvaal Primary School in Stilfontein, North West

3 Previous Employment

01/12 - 12/21	Professor, Department of Computer Science, School of Computing, College of Science, Engineering and Technology, University of South Africa
1/01 - 12/11	Associate Professor, School of Computer Science, University of the Witwatersrand, Johannesburg
1/98 - 12/00	Principal Tutor on the Special List, Department of Computer Science, University of the Witwatersrand, Johannesburg
1/96 - 12/97	Principal Tutor, Department of Computer Science, University of the Witwatersrand, Johannesburg
1/95 - 12/95	Senior Tutor on the Senior Lecturer Salary Scale, Department of Computer Science, University of the Witwatersrand, Johannesburg
1/90 - 12/94	Senior Tutor, Department of Computer Science, University of the Witwatersrand, Johannesburg
7/89 - 12/89	Project Leader, Anglovaal Limited
11/88 - 6/89	Systems Analyst, Anglovaal Limited
2/87 - 6/87	Major-time Senior Tutor, Department of Computer Science, University of the Witwatersrand, Johannesburg, (on secondment from Anglovaal Limited)
2/86 - 10/88	Geological Analyst/Programmer, Anglovaal Limited
1/85 - 1/86	Senior Analyst, Themis Computer Systems
6/84 - 12/84	Research Officer, NITRR, CSIR
8/83 - 5/84	Systems Analyst, GEMCOM
9/82 - 7/83	Senior Geophysicist, SOEKOR
3/80 - 8/82	Geophysicist, Southern Oil Exploration Corporation (SOEKOR)
5/74 - 12/74	Research Assistant, Messina Transvaal Development

4 Membership of Professional Bodies/Associations

1. South African Institute of Computer Scientists and Information Technologists (Member).
2. The Association for Computing Machinery (Member).
3. ACM SIGCSE (Special Interest Group in Computer Science Education)

4. Southern African Computer Lecturers' Association.

5 Teaching

5.1 Teaching Commitments

I have taught courses from first year level through to Masters level. In the main these courses are related to Theoretical Computer Science or Algorithms and Data Structures but I have also taught operating systems and networks courses.

My most recent teaching commitments at Unisa were

- COS3701 Theoretical Computer Science III
- COS3751 Techniques of Artificial Intelligence
- COS4851 Logic-based Programming
- COS4861 Natural Language Processing
- HRCOS82 Honours Research Report (supervising projects)

I taught COMS3005A Advanced Analysis of Algorithms at Wits (as a sessional lecturer) in 2024 and 2025.

I am also an online tutor for the BSc in Computer Science at Goldsmiths College, University of London. I am involved with 3 modules – CM2035 Algorithms and Data Structures II, CM3060 Natural Language Peocessing and CM3070 Final Project.

5.2 External examination of courses/programmes at other Universities

- Complete computing programme for the National University of Science and Technology, Zimbabwe – 2012 to 2014.
- COMP314 Theory of Computation for University of KwaZulu-Natal, both Westville and Pietermaritzburg campuses – from 2013 to present.
- COS700 Honours Projects for Department of Computer Science, University of Pretoria – 2014.
- COMP315 Advanced Programming for University of KwaZulu-Natal, both Westville and Pietermaritzburg campuses – 2015.
- CSIM6813 Theory of Algorithms for the University of the Free State – 2016.
- COMS3005 Advanced Analysis of Algorithms for School of Applied Mathematics and Computer Science at the University of the Witwatersrand, Johannesburg – 2019, 2020 and 2021.
- External for all second year to Honours modules for the Computer Science Department of Rhodes University – 2019, 2020 and 2021.
- COMP700 Honours Research Reports for University of KwaZulu-Natal, both Westville and Pietermaritzburg campuses – 2022, 2023 and 2024.
- COS3751 Techniques of Artificial Intelligence for University of South Africa – 2023 and 2024.
- COS4892 Formal Program Verification for University of South Africa – 2024.
- CSC03A Computer Science 3A for University of Johannesburg – 2024.

6 Supervision of Higher Degrees

6.1 Completed

MSc

1. Mr Steven Ruskin. Wits. MSc by coursework and research report, report titled *Polygonal approximation algorithms with application to aerial photographs*. Degree awarded May 1998.
2. Ms Tamsin Herbert. Wits. MSc by coursework and research report, report titled *Women role models in computer science at the University of the Witwatersrand*. Degree awarded on 23 November 2000.
3. Ms Tina Götschi. Wits. Co-supervisor with Dr Vashti Galpin. MSc by coursework and research report, report titled *Mental models of recursion*. Graduated with distinction on 29 April 2004.
4. Mr Leonard Hagger. Wits. MSc by dissertation, dissertation titled *A greedy heuristic for Axial Line Placement in collections of convex polygons*. Graduated with distinction in April 2005.
5. Ms Linda Wedderburn. Wits (School of Science Education). Co-supervisor with Prof M Rollnick. MSc coursework and research report, report titled *The learning styles and approaches of students studying the Fundamental Algorithmic Concepts course at the University of the Witwatersrand*. Graduated with distinction in November 2005.
6. Mr Berhane Mengisteab. Wits. MSc by dissertation, dissertation titled *Single-crossing orthogonal axial lines in orthogonal rectangles*. Graduated in November 2007.
7. Mr Unnel-Teddy Ngoumandjoka. Wits. MSc by dissertation, dissertation titled *Correlation Between Internet Usage and Academic Performance Among University Students*. Graduated in June 2012.
8. Mr Jan van der Linde. Unisa. MSc by dissertation, dissertation titled *Enlarging Directed Graphs to Ensure All Nodes are Contained in Cycles*. Graduated on 13 May 2016.
9. Ms Saadia Essa, Unisa, MSc by dissertation, dissertation titled *Using an e-learning tool to overcome difficulties in learning object-oriented programming*. Graduated on 22 June 2016.
10. Mr Thomas Marokane, Unisa, MTech by dissertation, dissertation titled *Hindrances to learning to program in an introductory programming module*. Graduated on 15 September 2017.
11. Mr Thabo Khomo, Unisa, MTech, co-supervisor with Dr Colin Pilkington, dissertation titled *The use of information and communication technology by mathematics and physical science teachers at secondary schools*. Graduated on 12 March 2019.
12. Mr Sewisha Lehong, Unisa, MSc. Co-supervisor with Prof Judy van Biljon. Dissertation titled *Supervisors' perspectives of usability guidelines for learning management systems in open distance learning environments*. Graduated on 9 October 2020.
13. Ms Louise Cronje, Unisa, MSc, Dissertation titled *Semi-automated class attendance monitoring using smart phone technology*. Graduated on 31 May 2021.
14. Mr Phillip Choshi, Unisa, MSc. Co-supervisor with Prof Judy van Biljon. Dissertation titled *Mobile Applications in supporting Open and Distance Learning students' research*. Graduated on 1 December 2021.

PhD

1. Dr Benjamin Okundaye. Wits. Co-supervisor with Prof Sigrid Ewert. Thesis titled *A Tree Grammar-based Visual Password Scheme*. Graduated on 9 December 2015.
2. Dr Adejide Olu Ade-Ibijola, Wits. Co-supervisor with Prof Sigrid Ewert. Thesis titled *Automatic Novice Program Comprehension for Semantic Bug Detection*. Graduated on 5 July 2016.

3. Dr John Kamau, Unisa. Thesis titled *Adoption of free desktop open source software in developing countries in Africa: A case of Kenyan university students*. Graduated on 14 March 2018.
4. Dr Nuru Jingili. Wits. Co-supervisor with Prof Sigrid Ewert. Thesis titled *Syntactic Generation of Similar Pictures*. Graduated on 7 July 2020.
5. Dr Kehinde Aruleba. Wits. Co-supervisor with Prof Sigrid Ewert (Wits) and Dr Mpho Raborife (UJ). Thesis titled *Extracting Finite Automata from Hand-drawn Images*. Graduated on 7 December 2020.
6. Dr Emmanuel Freeman, Unisa. Co-supervisor with Prof Bester Chimbo. Thesis titled *A framework for activity-based computer programming instruction in a blended learning environment*. Graduated on 4 May 2022.
7. Dr Anil Pise, Wits. Co-supervisor with Prof Hima Vadapalli. Thesis titled *Facial Emotion Recognition Using Temporal Relational Network: An Application to E-learning*. Graduated on 18 July 2022.
8. Dr Edward Zimudzi, Unisa. Thesis titled *Few-shot learning for image classification and object detection*. Graduated on 12 October 2022.
9. Dr Olaperi Yeside Okuboyejo, Wits. Co-supervisor with Prof Sigrid Ewert. Thesis titled *Enhanced Automatic Feedback Generation for the Learning of Regular Expressions*. Graduated on 12 December 2022.
10. Dr Tlou James Ramabu, Unisa. Co-supervisor with Prof Marthie Schoeman. Thesis titled *An Animation-Based Pedagogical Framework for Struggling Introductory Programming Students.* Graduated on 11 April 2024.
11. Dr Samkeliso Dube, Unisa, Co-supervisor with Dr Anitta Thomas. Thesis titled *Detecting Informal Structures Within Formal Residential Areas: A Case of Bulawayo Metropolitan Area*. Graduated on 18 October 2024.

6.2 In progress

Unisa PhD

1. Gilbert Dzawo PhD. Co-supervisor with Dr Anitta Thomas. Thesis titled *Using knowledge of students' learning approaches for course design in Computer Science*

University of Johannesburg PhD

1. Nthabiseng Mokoena, PhD, Co-supervisor with Prof Hima Vadapalli. At the thesis proposal stage.
2. Hosiah Masha, PhD, Co-supervisor with Prof Hima Vadapalli. At the thesis proposal stage.

6.3 Honours students

I supervised the research reports of 86 Honours students at Wits between 1990 and 2011.

At Unisa I supervised 6 students on my own and was involved in supervisory groups where a total of about 100 students were supervised.

In 2022 I was involved in the supervision of 10 Honours Research Reports at Wits.

6.4 MSc Examining

1. In July 2011 I examined the MTech dissertation of a student at the Tshwane University of Technology (Mr Mukala).

2. In April 2012 I examined an MScEng dissertation of a student (Mr Wong) from the Department of Electrical Engineering at the University of Cape Town.

3. In January 2015 I examined an MCom of a student (Mr Sayed Ally) from the School of Management, IT and Governance of the University of Kwazulu-Natal (Westville Campus). In July 2015 I re-examined this dissertation.

4. In January 2015 I examined an MSc of a student (Ms MJ Zeeman) from North West University.

5. In January 2015 I examined an MSc of a student (Mr Amrit Parshotam) from the School of Computer Science, The University of the Witwatersrand.

6. In August 2015 I examined an MCom of a student (Mr WSJ Marais) from University of the Free State.

7. In October 2016 I examined an MSc of a student (Mr George Obaido) from the University of the Witwatersrand. In May 2017 I re-examined this dissertation.

8. In February 2018 I examined a Masters half-thesis of a student (Mr M Fürst) from Rhodes University.

9. In July 2018 I examined an MSc of a student (Mr Hanno Brink) from the School of Computer Science and Applied Mathematics, The University of the Witwatersrand.

10. In July 2019 I examined the MCom of a student (Ms H N Ngwane) from the School of Management, IT and Governance, College of Law and Management Studies, University of KwaZulu-Natal (Scottsville). I re-examined the dissertation in January 2020.

11. In March 2020 I examined the MSc of a student (Mr I D van der Linde) from the Department of Computer Science and Informatics, Faculty of Natural and Agricultural Sciences, University of the Free State.

12. In July 2020 I examined the MSc of a student (M B Agbaje) from the School of Mathematics, Statistics and Computer Science, College of Agriculture, Engineering and Science, University of KwaZulu-Natal.

13. In November/December 2020 I examined the MSc of a student (M T C Vambe) from the School of Mathematics, Statistics and Computer Science, College of Agriculture, Engineering and Science, University of KwaZulu-Natal.

14. In April/May 2022 I examined (as the internal examiner) an MSc of a student (Mr RR Fourie) from the School of Computer Science and Applied Mathematics, The University of the Witwatersrand.

15. In May/June 2022 I examined an MSc of a student (Mr HE Chindove) from the Department of Computer Science, Rhodes University.

6.5 PhD Examining

1. In January 2010 I acted as the Internal Examiner for the PhD Thesis of Mr S P Levitt a candidate in the School of Electrical and Information Engineering, Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg.

2. In December 2016 I examined a PhD of a student (Ms Claudette Muller) from the Faculty of Education, University of the Witwatersrand, Johannesburg.

3. In January/February 2019 I examined a PhD of a student (Mr MV Gwetu) from the School of Mathematics, Statistics and Computer Science, University of KwaZulu-Natal (Westville).

4. In August 2019 I examined the PhD of a student (Ms O O Bankole) from the School of Computer Science, University of the Western Cape. I re-examined this thesis in May 2020.

5. In January 2020 I examined a PhD of a student (Ms A Keivani) from the School of Engineering, University of KwaZulu-Natal (Westville). I re-examined this thesis in June 2020.

6. In January/February 2022 I examined a PhD of a student (Ms O Taiwo) from the School of Mathematics, Statistics and Computer Science, University of KwaZulu-Natal. I re-examined this thesis in May 2022.

7. In February/March 2024 I examined the PhD of a student (Mr T Magadza) from the School of Mathematics, Statistics and Computer Science, University of KwaZulu-Natal.

8. In August/September 2024 I examined the PhD of a student (Mr T Maleti) from the Department of Computer Science and Informatics in the Faculty of Natural and Agricultural Sciences at the University of the Free State

7 Service to the School/College/University

7.1 School

Wits: Acted as undergraduate coordinator; many terms as acting Head of School; member of the Governing Committee of the School; etc.

Unisa:

1. Stand-in Chair of the Computer Science Division of the School of Computing (2016; 2017; first half of 2018)

2. Chair of the School of Computing Research Committee (2012 – June 2016) – responsible for the committee overall but also led in terms of management, planning and reporting.

3. School of Computing Research Committee (2012 – 2018 and again in 2021). From July 2016 to December 2018 my responsibilities were mentoring the new chair and providing continuity. In 2021 I was responsible for the Academic Associates for the Department of Computer Science.

4. School of Computing Higher Degrees Committee (2016 – 2021) – responsibilities included acting as non-examining chair in some postgraduate examination processes; administering the online mentors; administering the supervisory panels; finding external examiners; supporting less experienced supervisors; student workshops; etc.

5. Department of Computer Science Tuition Committee (2020 and 2021) – qualification custodian for BSc Computing, BSc Honours in Computing and the new BSc Honours in Computer Science.

7.2 College/Faculty

Wits: Faculty Board; Faculty Research Committee; Faculty Staffing and Promotions Committee; many Faculty Selection Committees.

Unisa:

1. Represented School of Computing on the College of Science, Engineering and Technology Research and Innovation Committee (2012 – 2016) – responsible for School reporting and planning.
2. Served on various CSET Vetting Committees (2012 – 2016) – Postdoctoral Fellows, Visiting Researchers, Academic Qualification Improvement Programme, Masters and Doctoral Support Programme, etc.
3. CSET Postgraduate Degrees Committee (2020 and 2021)
4. College Board (2012 – 2021).

7.3 University

Wits: Senate; Many Senate Disciplinary Committee meetings, Selection Committees as representative from a different Faculty.

Unisa: On advisory board of the High Performance Computing Centre (2014 – 2018).

8 Service to the Profession/Discipline/Community

8.1 Refereeing, Editorial Boards, etc

8.1.1 Refereeing

1. Journals
   (a) South African Journal of Psychology – July 1992.
   (b) South African Computer Journal – December 1999, April 2001, January 2002, December 2004, August 2006, October 2012, January 2014, March 2016, March 2017, January 2019, September 2019, June 2020, September 2020.
   (c) Computers & Education – October 1995, May 2001, August 2002, April 2004, January 2005, May 2007, January/February 2008, September/October 2008, January/February 2009, June/July 2009, October 2009, January/February 2010, May/June 2010, October 2010, February 2011, July/August 2011, August 2011, November 2012, April 2013, February 2014, August 2014, September 2014, November/December 2014, April 2015, September 2015, November 2015, March 2016, April 2016, September/October 2016, February/March 2017, March 2018, July 2018, April 2019, September 2019, September 2020, January 2021, March 2021, November 2021.
   (d) Information Processing Letters – December 2002/January 2003.
   (e) Computer Science Education – July 2003 reviewed 2 papers for a Special Edition.
   (f) Turkish Online Journal of Educational Technology – September 2010 (2 papers), September 2011 (2 papers), September 2012 (2 papers).
   (g) Eurasian Journal of Educational Research – January 2011.
   (h) Computing – October 2012.

(i) TD The Journal for Transdisciplinary Research in Southern Africa – December 2014, June 2015.

(j) IEEE Transactions on Education – December 2014, May 2015, July 2015 (revised version of previous paper), June 2017.

(k) ACM Transactions on Computing Education – August 2015.

(l) Signal, Image and Vision Processing – June 2016, October 2016.

(m) African Journal of Information Systems – October 2016, November 2018.

(n) Measurement Journal – April 2020, June 2020, April 2021.

(o) Journal of Artificial Intelligence and Technology – May 2021, September 2021, July 2023, January 2024 (re-reviewed March 2024), August 2024.

(p) Computers & Education: Artificial Intelligence – May 2021, June 2021, July 2021, August 2021, October 2021, January 2022, February 2022, May 2022, July 2022, August 2022, October 2022, March 2023, October 2023, May 2024 (2 different papers), July 2024, November 2024.

(q) Entertainment Computing – August 2021.

(r) Renewable & Sustainable Energy Reviews – September 2021, November 2021, January 2022.

(s) Journal of King Saud University: Computer and Information Sciences – September 2021, January 2022.

(t) Computers in Human Behavior Reports – October 2021.

(u) Computing Open – October 2023.

2. Conferences

(a) SIGCSE Technical Symposium – in October 1994 for SIGCSE 1995, in October 1996 for SIGCSE 1997 (3 papers), in September 1999 for SIGCSE 2000 (4 papers), in September/October 2000 for SIGCSE 2001 (2 papers), in July 2001 for SIGCSE2002 (3 papers), in October 2002 for SIGCSE2003 (3 papers), in September 2003 for SIGCSE2004 (4 papers), in September 2004 for SIGCSE2005 (5 panel proposals), in October 2005 for SIGCSE2006 (3 papers), in September 2006 for SIGCSE 2007 (3 papers), in September 2007 for SIGCSE 2008 (3 papers), in September 2008 for SIGCSE 2009 (5 panel proposals), in September 2009 for SIGCSE 2010 (3 special sessions proposals, 1 panel proposal, 2 workshop proposals), in September 2010 for SIGCSE 2011 (2 papers, 1 workshop proposal), in September 2011 for SIGCSE 2012 (3 papers), in September 2012 for SIGCSE 2013 (3 papers), in September 2013 for SIGCSE 2104 (3 papers), in September 2014 for SIGCSE 2015 (1 workshop and 2 papers), in September 2015 for SIGCSE 2016 (3 papers), in September 2016 for SIGCSE 2017 (3 papers), in September 2017 for SIGCSE 2018 (5 papers), in September 2018 for SIGCSE 2019 (5 papers).

(b) ACM SIGCSE/SIGCUE Conference on Innovation and Technology in Computer Science Education – January 1997 for ITiCSE97, March 1998 for ITiCSE98 (5 papers), May 1999 for ITiCSE99 (3 papers), December 1999 for ITiCSE2000 (4 papers), December 2000 for ITiCSE2001 (5 papers), December 2001 for ITiCSE2002 (3 papers), December 2002 for ITiCSE2003 (3 papers), December 2003 for ITiCSE2004 (5 papers), December 2004 for ITiCSE2005 (3 papers). January/February 2006 for ITiCSE2006 (2 papers), January/February 2007 for ITiCSE2007 (3 papers), February 2008 for ITiCSE2008 (3 Papers), February 2009 for ITiCSE2009 (2 papers), February 2010 for ITiCSE2010 (2 papers), February 2012 for ITiCSE 2012 (2 papers), February 2013 for ITiCSE 2013 (2 papers), February 2014 for

ITiCSE2014 (4 papers), February 2015 for ITiCSE2015 (4 papers), February 2016 for ITiCSE 2016 (4 papers), February 2017 for ITiCSE2017 (5 papers), February 2018 for ItiCSE2018 (5 papers).

(c) South African Institute of Computer Scientists and Information Technologist (SAICSIT) annual research symposium – August 1999 for SAICSIT99 (9 papers), July 2000 for SAICSIT2000 (10 papers), June/July 2001 for SAICSIT2001 (6 papers), July 2004 for SAICSIT2004 (5 papers), June 2005 for SAICSIT2005 (4 papers), July 2009 for SAICSIT 2009 (3 papers), June 2010 for SAICSIT 2010 (2 papers), June/July 2011 for SAICSIT 2011 (5 papers), July 2012 for SAICSIT 2012 (3 papers plus I was involved in the process of choosing the best Computer Science paper), July 2013 (3 papers), July 2014 (2 papers), July 2015 (4 papers), July 2016 (4 papers), July 2017 (5 papers), July 2018 (4 papers), May 2019 (2 papers), June 2020 (2 papers), June 2023 (2 papers), May 2024 (2 papers).

(d) Frontiers in Education conference (FIE) in April 2005 for FIE 2005 (3 papers) and in April 2008 for FIE 2008 (4 papers).

(e) SACLA (Southern African Computer Lecturers' Association) Annual Conference – SACLA 2006 (4 papers in March/April 2006); SACLA 2009 (2 papers in March 2009), SACLA 2012 (3 papers), SACLA 2016 (2 papers), SACLA 2017 (4 papers), SACLA 2018 (6 papers), SACLA 2019 (3 papers), SACLA 2020 (7 papers), SACLA 2021 (2 papers).

(f) Informing Science and Information Technology Education Joint Conference – InSITE 2010 January 2010 (3 papers), InSITE 2011 January 2011 (3 papers), InSITE 2012 January 2012 (3 papers), InSITE 2103 (2 papers).

(g) Consortium for Computing Sciences in Colleges: South Western Conference – January 2008 (2 papers and a tutorial proposal), January 2009 (2 papers), January 2010 (1 paper), December 2010/January 2011 (2 papers).

(h) Consortium for Computing Sciences in Colleges: Midwest Conference – April 2009 (1 paper).

(i) Consortium for Computing Sciences in Colleges: Eastern Conference – May 2010 (3 papers), May 2011 (3 Papers).

(j) Consortium for Computing Sciences in Colleges: Northeastern Conference – December 2010 (3 papers), December 2011 (3 papers).

(k) Consortium for Computing Sciences in Colleges: Southeastern Conference – May 2011 (4 papers), April/May 2013 (3 papers and 1 tutorial proposal), May 2015 (3 papers), May 2017 (4 papers), August 2020 (3 papers), August 2021 (3 papers).

(l) International Conference on Computer Supported Education (CSEDU) – January 2014 (2 papers), January 2015 (2 papers), January 2016 (4 papers)

(m) International Conference on the Internet, Cyber Security and Information Systems – July 2017 (1 paper),

(n) IEEE Information Communication Technology and Society Conference – November 2018 for ICTAS 2019 (3 papers), November 2019 for ICTAS 2020 (3 papers), November 2020 for ICTAS 2021 (1 paper)

(o) International Conference on Design Science Research in Information Systems and Technology (DESRIST) – February 2023 (2 papers).

(p) Annual International RAPDASA Conference joined by RobMech, PRASA and AMI – July 2023 (1 paper).

(q) International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM) – October 2023 for SOFSEM 2024 (2 papers).

8.1.2 Editorial boards

1. October 1994 to December 1999 – on the editorial board of GATES – an international journal promoting greater access to technology, engineering and science published by Deakin University, Australia. The journal is currently in abeyance due to lack of funding.

2. May 1997 to April 2024 – on the editorial board of Computers & Education.

3. March 2014 to May 2024 – Section Editor (Computer Science) for the South African Computer Journal (SACJ).

4. July 2020 to present – Associate Editor for the Journal of Artificial Intelligence and Technology (JAIT).

5. May 2024 to present – Assistant Editor for the South African Computer Journal.

8.1.3 Programme Committee for Conferences

1. South African Institute of Computer Scientists and Information Technologist (SAICSIT) annual research symposium – 1999, 2000, 2001, 2002, 2009, 2011, 2102, 2013 and 2015.

   In 2012 I was the programme chair for the SAICSIT Master's and Doctoral symposium.

2. Southern African Computer Lecturers' Association Conference 2003 – responsible for reviewing Computer Science paper and poster submissions. Co-editor of the conference proceedings.

3. Member of SIGCSE 2015 and SIGCSE 2016 International Committee

8.2 Organisations

1. November 1999 to September 2001 – Treasurer for the South African Institute of Computer Scientists and Information Technologists (SAICSIT).

9 Publications

9.1 Journals

31. Olaperi Yeside Okuboyejo, Sigrid Ewert, and Ian Sanders. Automatic feedback generation for the learning of regular expressions. *ACM Transactions on Computing Education*, page Accepted with revisions, 2024

30. Sewisha Lehong, Judy van Biljon, and Ian Sanders. Usability requirements for learning management systems in open distance electronic learning environments: Considering lecturers' views on students' needs. *International Journal of Human–Computer Interaction*, 40(3):567–583, 2024

29. Ian Sanders, Colin Pilkington, and Laurette Pretorius. Making research methodologies in theoretical computing explicit. *South African Computer Journal*, 34(1):192–216, 2022

28. Anil Pise, Hima Vadapalli, and Ian Sanders. Estimation of learning affects experienced by learners: An approach using relational reasoning and adaptive mapping. *Wireless Communications and Mobile Computing*, 2022. Article ID 8808283, 14 pages

27. Anil Pise, Hima Vadapalli, and Ian Sanders. Relational reasoning using neural networks: A survey. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 29(Supp02):237–258, 2021. Special Issue on Trends in Artificial Intelligence and Data Analytics for an Ethical and Inclusive Digitalized Society

26. Anil Pise, Hima Vadapalli, and Ian Sanders. Facial emotion recognition using temporal relational network: An application to e-learning. *Multimedia Tools and Applications*, pages 1–21, 2021. Published online 14 November 2020 – the volume and issue numbers are still to be allocated

25. Edward Zimudzi, Ian Sanders, Nicholas Rollings, and Christian W. Omlin. Remote sensing of mangroves using unmanned aerial vehicles: current state and future directions. *Journal of Spatial Science*, 66(2):195–212, 2021

24. Louise Cronjé and Ian Sanders. Semi-automated class attendance monitoring using smart phone technology. *Journal of Artificial Intelligence and Technology*, 1(1):9 – 20, 2021. Published online

23. Sigrid Ewert, Nuru Jingili, Liemiso Mpota, and Ian Sanders. Bag context picture grammars. *Journal of Computer Languages*, 51:214 – 221, 2019

22. Edward Zimudzi, Ian Sanders, Nicholas Rollings, and Christian Omlin. Segmenting mangrove ecosystems drone images using SLIC superpixels. *Geocarto International*, 34(14):1648–1662, 2019

21. Colin Pilkington and Ian Sanders. Learners' and educators' perspectives on the value of web design in the South African grade 11 computer applications technology curriculum. *African Journal of Research in Mathematics, Science and Technology Education*, 20(3):267–277, 2016

20. Ian D Sanders and Patricia M Alexander. A study of computing doctorates in South Africa from 1978 to 2014. *South African Computer Journal*, 57(1):58–89, 2015

19. C.L. Pilkington and I. D. Sanders. An online collaborative document creation exercise in an ODL research project module. *Computers & Education*, 77:116–124, 2014

18. I. D. Sanders and T. L Scholtz. First year students' understanding of the flow of control in recursive algorithms. *African Journal of Research in Mathematics, Science and Technology Education*, 16(3):348–362, December 2012

17. V. C. Galpin and I. D. Sanders. Perceptions of computer science at a South African university. *Computers & Education*, 49:1330–1356, 2007

16. L. Hagger and I. D. Sanders. A greedy heuristic for axial line placement in collections of convex polygons. *South African Computer Journal*, (37):51–60, December 2006

15. D. Wilkins and I. D. Sanders. Axial line placement in deformed urban grids. *South African Computer Journal*, (33):10–23, December 2004

14. Ian Sanders and Andrew Russell. Syntax assisted word prediction in a programming environment. *South African Computer Journal*, (33):67–76, December 2004

13. V. C. Galpin, I. D. Sanders, H. Turner, and B. Venter. Computer self-efficacy among school and university students in South Africa: the role of gender and educational background. *IEEE Technology and Society Magazine*, 22(3):43–48, 2003

12. I. D. Sanders. Placing axial lines in urban grids. *South African Computer Journal*, (26):145–153, 2000. This issue of SACJ is a Special Issue which constitutes the *Proceedings of the 2000 SAICSIT Research and Development Symposium*, Cape Town, 1-3 November 2000. Included in this Special Issue are Research articles, Experience papers and New Ideas papers. This is a Research article

11. I. D. Sanders, D. C. Watts, and A. D. Hall. Orthogonal axial line placement in chains and trees of orthogonal rectangles. *South African Computer Journal*, (25):56–67, 2000

10. V. C. Galpin, S. E. Hazelhurst, C. S. M. Mueller, and I. D. Sanders. Introducing research methods to Computer Science Honours students. *South African Computer Journal*, (24):258–263, 1999. This issue of SACJ is a Special Issue which constitutes the Proceedings of the 1999 SAICSIT Research and Development Symposium

9. I. D. Sanders, D. J. Lubinsky, M. Sears, and D. Kourie. Orthogonal ray guarding of adjacencies between orthogonal rectangles. *South African Computer Journal*, (23):18–29, 1999

8. I. D. Sanders and C-L. Tsai. Word prediction strategies in program editing environments. *South African Computer Journal*, (20):18–24, December 1997

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9.5 Viewpoint articles

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9.6 Invited submissions

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9.7 Other Publications

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9.8 Seminars

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17. Picking cycles in directed graphs, School of Computing, Unisa, 14 November 2012.

16. The Axial Line Placement problem, School of Computing, Unisa, 30 May 2012.

15. The Axial Line Placement problem, Department of Computer Science, Brunel University, Uxbridge, 26 January 2007.

14. Teaching recursion at the University of the Witwatersrand, Department of Computer Science, University of Bedfordshire at Luton, 24 January 2007.

13. Teaching recursion at the University of the Witwatersrand, Department of Computer Science, University of Kent at Canterbury, 23 January 2007.

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11. The Axial Line Placement Problem, Department of Computer Science, University of Pretoria, 12 June 2002.

10. Axial Line Placement, Department of Computer Science, Clemson University, Clemson, South Carolina, 8 March 2002.

9. Teaching empirical analysis of algorithms, School of Computer Science, University of the Witwatersrand, Johannesburg, February 2002.

8. Heuristics for placing non-orthogonal axial lines to cross the adjacencies between orthogonal rectangles, School of Computer Science, University of the Witwatersrand, Johannesburg, August 2001.

7. Axial Line Placement, School of Computer Science, University of the Witwatersrand, Johannesburg, April 2001.

6. Non-orthogonal Ray Guarding, Department of Computer Science, University of the Witwatersrand, Johannesburg, August 1999.

5. Ray Guarding Configurations of Adjacent Rectangles, Department of Computer Science, University of the Witwatersrand, Johannesburg, September 1997.

4. Ray Guarding Configurations of Adjacent Rectangles, Department of Computer Science, Clemson University, Clemson, South Carolina, February 1996.

3. Reportback on SIGCSE Technical Symposium and ACM Computer Science Conference, Department of Computer Science, University of the Witwatersrand, Johannesburg, March 1993.

2. Research in Computer Science Education at the University of the Witwatersrand, College of Computer Science, Northeastern University, Boston, Massachusetts, February 1993.

1. AAPT: Algorithm Animator and Programming Toolbox, Department of Computer Science, University of the Witwatersrand, Johannesburg, June 1991.

9.9 Other presentations

2. Perceptions of Computer Science, Reflections on Work-In-Progress Symposium, University of the Witwatersrand, September 2002 with V. Galpin who did the actual presentation.

1. Retention of Women in Computer Science, Interface2000, University of Pretoria, 19 & 20 May 2000. Paper written by V. C. Galpin.

9.10 Other research involvement

- Advised a group of Honours students in the writing of a paper which was accepted as an electronic publication for SAICSIT 2001.

  J. Adler, G. D. Christelis, J. A. Deneys, G. D. Konidaris, G. Lewis, A. G. Lipson, R. L. Phillips, D. K. Scott-Dawkins, D. A. Shell, B. V. Strydom, W. M. Trakman and L.D. Van Gool, Finding adjacencies in non-overlapping polygons, *Electronic Proceedings of South African Institute of Computer Scientists and Information Technologists Annual Research Symposium*, 2001

10 General Interests

- Sports – Golf.

- Hobbies – Wine tasting, beer making, watching cricket, bird watching, reading and music.

11 References

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