

GIDEON P.A.G. VAN ZIJL (DEng, PrEng)

Professor of Civil Engineering

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Born: 10 September 1961, Port Elizabeth, South Africa
Nationality: The Netherlands
Residence: Permanent residence, South Africa
Marital status: Married to CMH (Marietjie) van Zijl-Gerber, children Natali 1996, Berno 1999
Languages: Afrikaans (home), English, Dutch

PROFESSIONAL PREPARATION

Jan 2016 - Dec 2016 **Stellenbosch University**, D.Eng.
Oct 1999 - Mar 2001 **Delft University of Technology**, Post-doc position at Faculty of Architecture
Oct 1995 - Sept 1999 **Delft University of Technology**, Ph.D., Faculty of Civil Engineering and Geosciences
Jan 1987 - Dec 1990 **Stellenbosch University**, M.Eng. (Civil) cum laude
Jan 1983 - Dec 1986 **Stellenbosch University**, B.Eng. (Civil) cum laude

Jan – June 2010 **Sabbatical** theme ‘High performance fibre-reinforced concrete - towards structural analysis and design guidelines’. Study visits to Delft University of Technology (host: Prof Jan Rots), Technical University of Dresden (Prof Viktor Mechtcherine) and Gifu University (Prof Keitetsu Rokugo), Japan.
April 2016 **Sabbatical** theme 3D printing of concrete. Visiting Prof at NTU Singapore, Mechanical and Aerospace Engineering (MAE), Building & construction group (B&C), hosted by Prof Min Jen TANG and Prof Chee Kay CHUA.
Aug-Sept 2016 **Sabbatical** theme retrofitting masonry buildings for seismic resistance, based on the emerging Groningen gas mining-related seismicity. Visiting Prof at TU Delft, Faculty of Civil Engineering and Geosciences, hosted by Prof JG Rots.

PROFESSIONAL APPOINTMENTS

Apr 2001 – present **Professor of Structural Engineering**, Department of Civil Engineering, Stellenbosch University, South Africa
Jan 2010 – Dec 2015 **HOD**: Department of Civil Engineering, Stellenbosch University, South Africa
Jan 2017 - **Head**: Division for Structural Engineering and Information Technology in Civil Engineering, Civil Engineering Department, Stellenbosch University, South Africa
Jan 2009 – Dec 2009
Apr 2001 – Dec 2005
Jan 2006 – June 2009 **Postgraduate Programme Coordinator**: Civil Engineering Department, Stellenbosch University, South Africa
Apr 2001 - Dec 2004
Apr 2001 – Mar 2009 **Research fellow**, 30% appointment, Faculty of Architecture, Delft University of Technology, The Netherlands
Oct 1999 - Mar 2001 **Research fellow**, Faculty of Architecture, Delft University of Technology, The Netherlands
Oct 1995 - Sep 1999 **Assistant Researcher**, Faculty of Civil Engineering and Geosciences, Delft University of Technology, The Netherlands
Oct 1992 - Sep 1995 **Lecturer**, Civil Engineering Department, Stellenbosch University, South Africa
Aug 1989 - Sep 1992 **Structural Engineer/Project manager**, Bureau for Mechanical Engineering, Stellenbosch University, South Africa
Feb 1987 - Jul 1989 **Researcher**, Institute for Structural Engineering, Department of Civil Engineering, Stellenbosch University, South Africa

PROFESSIONAL AFFILIATIONS

Fellow, South African Academy of Engineering (FSAAE)
Member, South African Institute of Civil Engineers (MSAICE; no. 202102)
Member, Concrete Society of South Africa (MCSSA; no. V124)
Engineering Council of South Africa – professional registration (ECSA; no. 930544)

PROFESSIONAL SERVICE

Editorial Advisory Committee:

Materials and Structures - RILEM International Journal

Editorial Committees:

Concrete Beton - Journal of the Concrete Society of Southern Africa

Reviewer: Advanced Concrete Technology, JSCE

ASCE Journal of Engineering Mechanics

ASCE Journal of Materials in Civil Engineering

ASTM Journal of Testing and Evaluation

Canadian Journal of Civil Engineering

Cement and Concrete Research

Cement and Concrete Composites

Concrete Beton

Construction and Building Materials

Engineering Structures

International Journal of Solids and Structures

Journal of Building Material

Journal of the SAICE

Materials and Structures

Materials Research

Ocean Engineering

SA J Science

Structural Concrete

Structural Engineering and Materials

Structural Engineering International (IABSE)

Wind and Structures, An international Journal

JZUS-A (Applied Physics & Engineering)

Referee for Research Funding Bodies - NRF, Israel Science Foundation

- Singapore NRF

- NRF South Africa

- Binational Science Foundation United States – Israel

- Swiss National Science foundation (SNSF)

- SARChI: South African Research Chairs: Member of Panel for Engineering, November 2011, Postal Reviewer, June 2012

External examiner:

Undergraduate courses:

PhD dissertations:

University of Cape Town, North-West University

University of Cape Town; University of Pretoria;

University of the Witwatersrand;

Eindhoven University of Technology, The Netherlands

Delft University of Technology, The Netherlands

University of Auckland, New Zealand

Chennai University, India

University Putra Malaysia

Nanyang Technological University, Singapore

Committees and Boards:

- Vice-President, International Association for Strain-Hardening Cement Composites (SHCC)
- RILEM Educational Activities Committee (EAC) member 2015-2017
- Member of FRAMCOS Board of Advisors (2013-2016). International Association Fracture Mechanics of Concrete and Concrete Structures (IAFraMCoS).

- Advisory Board, Department of Civil Engineering, UCT, 2015.
- International and Advisory Committee, fib Symposium 2016, Cape Town, South Africa.
- International and Advisory Committee, 4th Brazilian Conference on Composite Materials (BCCM), 22-25 July 2018, Rio de Janeiro, Brazil.
- Scientific committee
 - SHCC4, September 2017, Dresden, Germany; SHCC3;
 - SHCC3, November 2014, Dordrecht The Netherlands;
 - SHCC2, December 2011, Rio de Janeiro, Brazil;
- Technical Committee of BEFIB 2016, 9th RILEM International Symposium on Fiber Reinforced Concrete, Vancouver, BC, Canada, September 19-21, 2016.
- International and Advisory Committee, ICCRRR 2015, Leipzig, Germany.
- International Committee HPFRCC:
 - 7th Workshop on High Performance Fibre Reinforced Cement Composites (HPFRCC7), Stuttgart, Germany, 1-3 June 2015. International Committee;
 - 6th Workshop on High Performance Fibre Reinforced Cement Composites (HPFRCC6), Ann Arbor, Michigan, USA, 19-22 June 2011.
 - 5th Workshop on High Performance Fibre Reinforced Cement Composites (HPFRCC 2007), Mainz, Germany
- International Scientific Committee International ACI / fib Workshop on Fibre Reinforced Concrete: from Design to Structural Applications 2013
- International Scientific Committee (ISC) for 8th International Conference on Fracture Mechanics of Concrete and Concrete Structures (FraMCoS-7), 2013, Spain.
- International Advisory Board, Int. Conf. on Structural Engineering, Mechanics and Computation (SEMC): Sept 2016, 2013, 2010, 2007, Cape Town, South Africa
- International and Advisory Committee, ICCRRR 2012, 2008, 2005 Cape Town, South Africa.
- Scientific Committee of the International Conference on Solar Updraft Tower Power Technology, October 2012, Huazhong University of Science and Technology, China.
- Organising Committee: ISO-SABS workshop: STIAS, November 2011.
- Member of RILEM:
 - Chairman RILEM Technical Committee 240-FDS: Framework for durability design of fibre-reinforced strain-hardening cement-based composites (SHCC), 2010-2015.
 - Technical Committee 208-HFC: High performance Fibre Reinforced Cementitious Composites, Co-chairman subcommittee 2: Durability, 2005-2009.
 - Technical Committee NUM: Numerical modeling of cement-based materials.
 - Technical Committee TDC: Test method to determine durability of concrete under combined loads
- Advisory Committee, International Conference on “Innovative World of Structural Engineering-ICIWSE-2010”, September 17-19, 2010, at Government College of Engineering Aurangabad, Maharashtra, India.
- Scientific Committee of the International Conference on Solar Updraft Power Technology, October 2010, Bochum, Germany.
- International Scientific Committee (ISC) for 7th International Conference on Fracture Mechanics of Concrete and Concrete Structures (FraMCoS-7), 2010, Korea.
- Chairman of the International Conference on Advanced Concrete Materials (ACM2009), 17-19 November 2009, Stellenbosch, South Africa.
- Member of Scientific Organizing Committee, International Workshop on Nonlocal Modeling of Material’s Failure, Held on 25-26 June 2007, Wuppertal, Germany.
- Organizing Committee, 5th South African Conference on Applied Mechanics, January 2006, Cape Town
- Scientific Committee, Young Cement and Concrete Engineers’ Scientists’ and Technologists’ Conference, May 2006, Midrand, South Africa
- Scientific and Technical Advisory Committee of the CIDB postgraduate student conference series: 4th (2006) Stellenbosch, 5th (2007) Bloemfontein South Africa
- International Committee, 13th Int. Brick and Block Masonry Conf., July 2004, Amsterdam, The Netherlands

Committee Member National Working Groups:

- National Working Group for revision of SANS10100, 2008-
- Research Advisory Committee: Research in South Africa on cement-based materials, 2006-

Conference session chairs:

- Several, including SEMC 2001, HPFRCC 2005, 2011, SACAM 2006, African Concrete Code 2006, ICCX 2007, 2008, HPFRCC 2007, 2010, Concreep8 2008, ICCRRR 2008, 2012, ACM2009, CSE 2010, ECF18 2010, HPFRCC 2011, ASMES 2011, SHCC2-Rio 2011, ACCTA 2013, SCMT3 2013, SHCC3 2014, FRAMCOS-9 2016, BEFIB 2016, *fib* Symposium 2016

RESEARCH FOCUS AREAS

Structural Mechanics; Computational Mechanics

Durability of new construction materials: Strain-Hardening Cement-based Composites

Computational modeling: constitutive models for cement-based materials, including concrete, fibre-reinforced concrete, masonry

Sustainability of the built environment

LOCAL AND INTERNATIONAL CONFERENCES ATTENDED LAST 10 YEARS

- 2017: *fib* Symposium, 12-14 June 2017, Maastricht, Netherlands
71st RILEM week and ICACMS, 3-8 September 2017, Chennai, India
SHCC4, 18-20 September 2017, Dresden, Germany
ICCM2017, 2-4 October 2017, Montreal, Canada
- 2016: FRAMCOS-8, Berkeley, May-June 2016
SEMC, Cape Town, September 2016
BEFIB, Vancouver, September 2016
fib Symposium, November 2016
- 2015: HPFRCC7, Stuttgart, Germany 1-3 June 2015
QS Subject Focus Summit - Civil Engineering, NTU, Singapore, 8-10 June 2015
ConMat'15, 19-21 Aug 2015, Whistler, Canada.
69th RILEM Week, 30 Aug – 2 Sept 2015, Melbourne, Australia, held together with Concrete 2015.
- 2014: SHCC3, Dordrecht, The Netherlands, November 2014
- 2013: SCMT3, Kyoto, Japan, August 2013
Fracture Mechanics of Concrete and Concrete Structures (FRAMCOS-8), March 2013, Toledo, Spain
ACCTA, Johannesburg, January 2013
- 2012: International Symposium on Fibre Reinforced Concrete: Challenges and Opportunities (BEFIB 2012), 19-21 September 2012, Guimãeres, Portugal
International Conference on Concrete Repair Rehabilitation and Renovation, Nov 2012, Cape Town
- 2011: 2nd International RILEM Committee on Strain Hardening Cementitious Composites (SHCC2-Rio), Rio de Janeiro, 12-14 December 2011.
International workshop on Basic Research on Concrete and Applications (ASMES), Lausanne, Switzerland, 28-29 July 2011.
International Conference on High Performance Fibre Reinforced Cement-based Composites (HPFRCC-6), June 2011, An Arbor, Michigan, USA.
- 2010: Concrete for a Sustained Environment, August 2010, Johannesburg, South Africa
European Conference on Fracture (ACF18), Dresden, Germany, August 30-September 3, 2010.
- 2009: International Conference on Advanced Concrete Materials, Nov 2009, Stellenbosch University, South Africa
- 2008: International Conference on Concrete Repair Rehabilitation and Renovation, Nov 2008, Cape Town
International Conference on Creep, Shrinkage and Durability of Concrete and Concrete Structures (CONCREEP 8), Oct 2008, Ise-Shima, Japan
International Concrete Conference and Exhibition (ICCX), 19-20 Febr 2008, Sun City, South Africa
- 2007: HPFRCC-5 workshop, July 2007, Mainz, Germany.
International Concrete Conference and Exhibition (ICCX), Febr 2007, Cape Town, South Africa.

RESEARCH GRANTS

Oppenheimer Memorial Trust award for Sabbatical 2016, R200 000

TCI: 2014-2016 project leader (2014 – R 1 000 000; 2015 – R1 106 480; 2016 – R 1 133 484)

PPC: 2014-2016 (R 2 550 000) - project co-leader

NRF: Incentive funding for rated researchers 2010 (R28 000), 2011-2016 (R240 000).

Harry Oppenheimer Memorial Trust award for Sabbatical abroad during January – June 2010, R48 500.

NRF Research Grant for project Durability of SHCC, reference FA2007032600022 (R112 000/a – 2008-2010)
 NRF Research Grant for project TDMSES, reference FA2006021700005 (R63 000 - 2007)
 THRIP Research Grant SIM (R272 250 – 2015;)
 THRIP Research Grant ACM (R298 450 – 2014; R313 733 – 2013; R467 550 – 2012)
 THRIP Research Grant ACM-S (R501 097 – 2011; R504 648 – 2010; R527 500 – 2009)
 THRIP Research Grant SAPERCS (R229 185 – 2006; R309 400 – 2007; R465 000 - 2008)
 THRIP Research Grant APERCS (R252 300 - 2003; R444 446 - 2004; R404 690 - 2005)
 South African Industry partners 2002-2011: (R 252 300 - 2003; R 562 590 -2004, R 735 800 - 2005, R 694 500 -
 2006, R 442 000- 2007, R 980 000 – 2008, R 1 187 962 – 2009, R
 1 304 000 – 2010, R1 503 291 – 2011, R 1 055 000 - 2012)
 Volkswagen Foundation (Germany) Research Grant extension (Euro 10 000 - 2007)
 Volkswagen Foundation (Germany) Research Grant of (Euro 100 000, 2003-2006)
 Technology Foundation STW, The Netherlands, Research Grant DCT 44.3406 for PhD-studies (1995-1999)

HONORS & AWARDS

- Lecturer of the year 2013, Engineering Faculty, Stellenbosch University
- THRIP/DTI award 2011: runner up in category: Human Resource – Quality and quantity of students for the THRIP project From Advanced concrete materials to standards
- Rector’s award for General Performance (2012, 2013, 2014, 2015), Stellenbosch University
- Rector’s award for Research (2010), Stellenbosch University
- Upcoming Researcher of the year (2006), Engineering Faculty, Stellenbosch University
- H.L. Reitz medal for graduate studies in Civil Engineering, Stellenbosch University, 1990.
- Several merit bursaries for undergraduate and graduate studies (1983-1987).
- Academic Colours of Stellenbosch University, 1986.
- PPC medal for best final year engineering student in reinforced concrete, Stellenbosch University, 1986.
- Best paper awards:
 - One of 10 outstanding papers in 2015, selected by Materials and Structures Board of Editors, for the paper entitled “Comparative testing of crack formation in strain-hardening cement-based composites (SHCC)”
 - Dr. HWH West award for the best paper in Architecture/Restoration/Materials/Historic Masonry at the 9th Canadian Masonry Symposium, Fredericton, New Brunswick, Canada, 2001
- Student paper awards:
 - ACCTA 2013, Johannesburg, 27-29 January 2013: Young researchers of the German-South African year of science, best junior scientist’s paper by an author with a South African affiliation – PhD-student Suvash Chandra Paul for his paper entitled “Mechanical behaviour of strain hardening cement-based composites (SHCC) based on micromechanical design”, by SC Paul, GPAG van Zijl.
 - SCMT3 2013, Kyoto, 19-21 August 2013: Paper award to PhD-student Suvash Chandra Paul for the paper entitled “Chloride induced corrosion in cracked reinforced strain hardening cement-based composite (R/SHCC)”, by SC Paul, AI Theunissen, GPAG van Zijl
 - Paul SC, van Zijl GPAG 2016. “Towards the corrosion modelling of cracked reinforced SHCC in accelerated chloride exposure”. SCMT4, Las Vegas, Nevada, USA, 7-11 August 2016. Outstanding paper award.
- NRF C1 rated researcher 2016

Citations	h-factor
Scopus:	11
ResearchGate:	12
Google Scholar Citation:	15

PUBLICATIONS

Books:

1. Van Zijl GPAG and Wittmann FH (eds.) 2011. Durability of Strain-Hardening Fibre-Reinforced Cement-Based composites (SHCC), State-of-the-art report, Rilem TC 208 HFC, SC 2, Springer Publishers, ISBN-13: 978-94-007-0337-7.
2. van Zijl GPAG and Boshoff WP (eds) (2010). Advances in Concrete Materials, Proceedings of the International Conference on Advanced Concrete Materials (ACM 2009), 17-19 November 2009, Stellenbosch, South Africa, CRC Press, Leiden, The Netherlands. ISBN 978-0-415-87637-7.

Books in press:

3. van Zijl GPAG, Slowik V 2016. A framework for durability design with Strain Hardening Cement-based Composites (SHCC). SPRINGER.

Journals in preparation:

4. van Zijl GPAG, Paul SC 2016. Chloride-induced corrosion in cracked reinforced SHCC. **In preparation** for Institute of Civil Engineers (ICE), UK journals (Construction Materials).
5. van Zijl GPAG, Alaud SM 2016. Combined action of mechanical cracking and ASR in concrete. **In preparation**.
6. Zeranka S, van Zijl GPAG 2016. Micro-macro modelling approach to steel fibre reinforced concrete shear resistance. **In preparation**.

Journals submitted:

7. Yan Yao; Ling Wang; Folker H. Wittmann; Nele De Belie; Erik Schlangen; Christoph Gehlen; Zhendi Wang; Hugo Eguez Alava; Yin Cao; Balqis Md Yunus; Juan Li; Max Setzer; Carmen Andrade; Rui Miguel Ferreira; Erika Elaine Holt; Gideon Van Zijl; Feng Xing; Tiejun Zhao; Michal A. Glinicki; Xiaomei Wan; Radhakrishna G. Pillai; Klaas Van Breugel 2016. Recommendation of RILEM TC 246-TDC: Test methods to determine durability of concrete under combined environmental actions and mechanical load" **Submitted to Materials and Structures**.
8. van Zijl GPAG, de Beer L 2016. Sprayed SHCC overlay for strengthening of unreinforced masonry. **Submitted to Engineering Structures**.
9. Paul SC, van Zijl GPAG 2016. Review towards research needs of 3D printing concrete. **Submitted to Rapid Prototyping Journal**. Under review.
10. Mbewe PBK, van Zijl GPAG 2016. A simplified non-linear structural analysis of RC infilled frames subjected to seismic loading. **Submitted to ASCE J Structural Engineering**. Under Review.
11. Alaud SM and van Zijl GPAG 2016, Effects of mechanical loads and cracks on ASR strain in concrete. **Submitted**.
12. Engelbrecht S, van Zijl GPAG 2016. Design rules for reinforced strain hardening cement composites (R/SHCC), **Submitted**.

Journals in print:

13. Gerber JD, van Zijl GPAG 2016. Alternative wall-to-slab connection systems in reinforced concrete structures. Submitted to J SAICE. **In print**.
14. Badenhorst AJ, van Zijl GPAG 2016. Cyclic debonding of carbon fibre reinforced polymer strips from reinforced concrete. Concrete / Beton, Journal of the Concrete Society of southern Africa. **In print**.
15. J.P. de Villiers, G.P.A.G. van Zijl, A.S. van Rooyen 2016. Bond of steel reinforcement in lightweight foamed concrete (LWFC). Structural Concrete, international journal of *fib*. **Available online**, 31 October 2016, DOI: 10.1002/suco.201600019.
16. Paul SC, Babafemi AJ, Conradie K, van Zijl GPAG 2016. Applied voltage on corrosion mass loss and cracking behaviour of steel reinforced SHCC and mortar specimens. ASCE Journal of Materials in Civil Engineering 04016272, **available online** November 2016.

Journals published:

17. Paul SC, van Zijl GPAG 2016. Chloride-induced corrosion modelling of cracked reinforced SHCC. Archives of Civil and Mechanical Engineering (ACME) 16: 734-742, DOI 10.1016/j.acme.2016.04.016.
18. van Zijl GPAG, Wittmann, FH, Toledo Filho RD, Slowik V, Mihashi H 2016. Comparative testing of crack formation in SHCC. International Journal Materials and Structures 49(4) 1175-1189.
19. Paul SC, van Zijl GPAG, Babafemi J, Ming Jen TAN 2016. Chloride ingress in cracked and uncracked specimens made from strain hardening cement-based composite (SHCC). Construction & Building Materials, 114 (2016) 232-240.
20. Jin Zang and van Zijl GPAG 2015. Developing non-heat treated ultra-high performance concrete with local materials. J. Concrete society of Southern Africa, Concrete / Beton, nr 142, September 2015, pp. 12-23.
21. van Zyl W, van Zijl GPAG 2015. Dynamic behaviour of normally reinforced concrete wind turbine support structures. J SAICE, Dec 2015, Volume 54, No. 4, pp. 35-44.
22. Way A, van Zijl GPAG 2015. Material cost comparison between steel, concrete and hybrid wind turbine support structures in South Africa. J SAICE, Dec 2015, Volume 54, No. 4, pp. 45-54.
23. Suvash C. Paul, Stephan Pirskawetz, Gideon P.A.G. van Zijl and Wolfram Schmidt 2015. Acoustic Emission in Determining the Crack Propagation in Strain Hardening Cement-Based Composites (SHCC). Cement and Concrete Research 69 (2015): 19-24.

24. Suvash Chandra Paul and Gideon.P.A.G van Zijl 2014. Crack formation and chloride induced corrosion in reinforced strain hardening cement-based composite (R/SHCC), *Journal of Advanced Concrete Technology* 12 (Sept 2014): 340-351.
25. Celeste Barnardo-Viljoen, Kenneth Mensah, Johan Retief, Jan Wium, Gideon van Zijl 2014. Background to the Draft SA National Standard for the design of Water retaining structures. *Concrete / Beton* 138(September 2014) 10-19.
26. Suvash Chandra Paul and Gideon.P.A.G van Zijl 2013. Durability index test performance of recycled concrete aggregate mixed with natural aggregate. *International Journal of Advanced Civil Engineering and Architecture Research* 2(1) 53-64.
27. Suvash Chandra Paul and Gideon.P.A.G van Zijl 2013. Mechanically induced cracking behaviour in fine and coarse sand strain hardening cement based composites (SHCC) at different load levels. *Journal of Advanced Concrete Technology*, Vol. 11, 301-311, November 2013.
28. Paul, S.C., and van Zijl, GPAG 2013. Mechanical and durability properties of recycled concrete Aggregate for normal strength structural concrete, *International Journal of Sustainable Construction Engineering & Technology*, Vol 4, No 1, pp 89-103.
29. van Zijl GPAG and Mbewe PBK 2013. Flexural modeling of steel fibre -reinforced concrete beams with and without steel bars. *Engineering Structures* 53 (2013) 52–62.
30. van Zijl GPAG, Folker H. Wittmann, Byung H. Oh, Petr Kabele, Romildo D. Toledo Filho, Eduardo M.R. Fairbairn, Volker Slowik, Atsuhisa Ogawa, Hideki Hoshiro, Viktor Mechtcherine, Frank Altmann, Michael D. Lepech 2012. Durability of strain-hardening cement-based composites (SHCC), *Materials & Structures*, 2012, **10.1617/s11527-012-9845-y**; printed version: *Materials and Structures: Volume 45, Issue 10 (2012)*, Page 1447-1463.
31. van Zijl GPAG 2011. On ingress into strain-hardening cement-based composites (SHCC), *International Journal for Restoration of Buildings and Monuments*, Vol. 17, No. 6, 1-12 (2011).
32. van Zijl GPAG and Wittmann FH 2010. On durability of SHCC, *Journal of Advanced Concrete Technology*, Vol. 8, No. 3, 261-271, October 2010.
33. van Zijl GPAG 2009. Constitutive model for fibre-reinforced strain-hardening cement composites (SHCC), *Concrete / Beton, Journal of the Concrete Society of Southern Africa*, November 2009, No 123, 8-15.
34. Boshoff WP, Mechtcherine V and van Zijl GPAG 2009. Characterising the time-dependent behaviour on the single fibre level of SHCC: Part 1: Mechanism of fibre pull-out creep, *Cement and Concrete Research*, 39 (2009), pp. 779-786.
35. Boshoff WP, Mechtcherine V and van Zijl GPAG 2009. Characterising the time-dependent behaviour on the single fibre level of SHCC: Part 2: Rate effects in fibre pull-out tests, *Cement and Concrete Research*, 39 (2009), 787-797.
36. Fluri TP, Pretorius JP, Van Dyk C, Von Backström TW, Kröger DG, Van Zijl GPAG 2009. Cost Analysis of Solar Chimney Power Plants, *Solar Energy* 83(2) 246–256.
37. von Backström ThW, Harte R, Höffer R, Krätzig WB, Kröger DG, Niemann H-J, van Zijl GPAG 2008. State and Recent Advances in Research and Design of Solar Chimney Power Plant Technology, *VGB PowerTech Journal*, July-edition 2008.
38. Van Zijl GPAG 2007. Improved mechanical performance: Shear behaviour of strain hardening cement-based composites (SHCC). *Cement and Concrete Research*, 37(8), pp. 1241-1247.
39. Vermeltoort AT, Martens DRW and van Zijl GPAG 2007. Brick-mortar interface effects in masonry under compression. *Canadian J Civil Engineering*, November 2007, 34(11), 1475- 1485.
40. Vermeltoort AT, Martens DRW and van Zijl GPAG 2007. Laser speckle (ESPI) observation of brick-mortar interface behaviour under compression. *Canadian J Civil Engineering*, November 2007, 34(11), pp. 1467-1474.
41. Boshoff WP and van Zijl GPAG 2007. Time-dependent response of ECC: Characterisation of creep and rate dependence. *Cement and Concrete Research*, 37, pp. 725-734.
42. Boshoff WP and van Zijl GPAG 2007. A computational model for strain-hardening fibre-reinforced cement-based composites. *J SAICE*, 49(2) 24-31.
43. Qinjiang Shang and van Zijl GPAG 2007. Characterising the shear behaviour of SHCC. *J SAICE*, 49(2) 16-23.
44. Harte R and van Zijl GPAG 2007. Structural stability of concrete wind turbines and solar chimney towers exposed to dynamic wind action. *Journal on Wind Engineering and Industrial Aerodynamics (JWEIA)*, 95 (9-11) October 2007: 1079-1096.
45. Rousseau, J. and van Zijl GPAG 2006. Dynamic evaluation of the solar chimney. *Concrete / Beton*, Nr 114, December 2006, pp. 12-18.

46. Boshoff WP and van Zijl GPAG 2006. Creep and creep fracture of engineered cement-based composites, *Int. J. Restoration of Buildings and Monuments*, 12(2), pp. 133-142.
47. Van Zijl GPAG and Vermeltoort AT 2006. Scheurbeheersing in metselwerk met CFRP-plakwapening (in Dutch), *Cement*, 3/2006, pp. 72-77.
48. Van Zijl GPAG 2005. The role of aggregate in high performance fibre reinforced cement-based composites. *Concrete / Beton*, Nr 110, September 2005, pp. 7-13.
49. Van Zijl GPAG and de Vries PA 2005. Masonry wall crack control with CFRP. *ASCE Journal of Composites for Construction*, 9(1), 84-89.
50. Van Zijl GPAG, 2004. Modeling masonry shear-compression: the role of dilatancy highlighted, *ASCE Journal of Engineering Mechanics*, 130(11), November, 1289-1296.
51. Van Zijl GPAG, de Vries PA and Vermeltoort AT 2004. Masonry wall damage by restraint to shrinkage. *ASCE Journal of Structural Engineering*. 130(7), 1075-1086.
52. Van Zijl GPAG 2004. Masonry shear response characterization. *Masonry International, Journal of the British Masonry Society*, 17(1), 26-32.
53. Van Zijl GPAG and Verhoef LGW 2003. Double Sided Restrengthening of Historic Brickwork with Rods and Strips of Carbon Fibre Reinforced Plastic (CFRP). *Int J Restoration of Buildings and Monuments*, 9(4), pp. 435-453.
54. Van Zijl GPAG and Vermeltoort AT 2003. Schuif-drukmodellering voor metselwerk : Ontwerpen en dimensioneren van steenconstructies (16) (in Dutch), *Cement*, 55(8), pp. 77-80.
55. Van Zijl GPAG, de Vries PA, Verhoef LGW and Groot CJWP, 2002. Laboratory test of crack control in masonry walls by means of carbon fibre reinforced plastics (CFRP). *The Architectural Annual*, 2001-2002, Delft University of Technology, 97-104.
56. Verhoef LGW and Van Zijl GPAG, 2002. Re-strengthening of brickwork to reduce crack width. *Advances in Engineering Software*, 33, 49-57.
57. Van Zijl GPAG, de Borst R and Rots JG, 2001. The role of crack rate dependence in the long-term behaviour of cementitious materials. *Int. J. Solids and Structures*, 38(30-31), 5063-5079.
58. Van Zijl GPAG, de Borst R and Rots JG, 2001. A numerical model for the time-dependent cracking of cementitious materials. *Int. J. Numerical Methods in Engineering*, 52(7), 637-654. DOI: 10.1002/nme.211
59. Van Zijl GPAG, de Borst R and Rots JG, 2001. Time-dependent fracture of cementitious materials. *HERON*, TNO Building and Construction Research:Rijswijk, 45(4), 255-273.

Invited plenary papers:

60. Van Zijl GPAG 2017. **In preparation** for the 4th International conference on Strain-hardening cement-based composites (SHCC4), 18-20 September 2017, Dresden, Germany.
61. Van Zijl GPAG 2015. A framework for durability design with SHCC. Keynote presentation at 69th RILEM WEEK, Melbourne, Australia, 30 Aug – 2 Sept 2015.
62. Van Zijl GPAG 2013. Invited keynote lecture: Crack formation and durability in advanced cement-based materials, ACCTA, Johannesburg, January 2013.
63. van Zijl GPAG 2011. Invited lecture: Crack distribution characterisation, towards a framework for durability design of Strain-hardening Cement-based Composites (SHCC), Proceedings PRO 81, International RILEM workshop on Strain Hardening Cementitious Composites (SHCC2-Rio), 12-14 Dec 2011, Rio, Brazil, pp. 149-156.
64. van Zijl GPAG 2011. Invited lecture: Crack formation and durability of Strain-hardening Cement-based Composites (SHCC), ASMES International workshop on Basic Research on Concrete and Applications, 28-29 July 2011, Lausanne, Switzerland, pp. 277-289.
65. van Zijl GPAG 2010. Invited lecture: Efficient use of materials, Towards sustainability through efficient use of cement-based materials, CDROM Proceedings National Symposium on Concrete for a sustainable environment, 3-4 August 2010, Johannesburg, South Africa, pp. 122-133.
66. Van Zijl GPAG 2008. FRC in South Africa - application fields, new developments and outlook, Proceedings of International Concrete Conference and Exhibition, Sun City, South Africa, February 2008, pp. 46-52.
67. Van Zijl GPAG 2006. ECC shear behaviour characterization, *Advances in Cement and Concrete: Sustainability*, July 2-7 2006, Davos, Switzerland, pp. 66-71.
68. Van Zijl GPAG 2005. Optimisation of the composition and fabrication methods, applications for precast concrete members, Invited lecture in *Hochductile Betone mit Kurzfaserbewehrung – Entwicklung, Prüfung, Anwendung* (ed. V. Mechtcherine), pp. 37-54.

International Conference Proceedings:

In preparation and submitted

SHCC4, Dresden

69. Van Zijl GPAG, de Jager D 2017. Computational assessment of SHCC overlay retrofitting of unreinforced load-bearing masonry. **In preparation** for SHCC4, 18-20 September 2017, Dresden, Germany.
70. Van Zijl GPAG, Bezuidenhout SR, van Rooyen AS 2017. Chloride-induced corrosion in cracked cement-based composites. **In preparation** for SHCC4, 18-20 September 2017, Dresden, Germany.
71. Van Zijl GPAG, Boshoff WP 2017. **In preparation** for SHCC4, 18-20 September 2017, Dresden, Germany.

Fib Symposium

72. Dunn T, Van Rooyen AS, Van Zijl GPAG 2017. **In preparation** for the fib Symposium, 12-14 June 2017, Maastricht, The Netherlands.
73. Muzofa T, Van Zijl GPAG, Day PW 2017. **In preparation** for the fib Symposium, 12-14 June 2017, Maastricht, The Netherlands.
74. Gerber JD, Van Zijl GPAG 2017. **In preparation** for the fib Symposium, 12-14 June 2017, Maastricht, The Netherlands.

71st RILEM week and ICACMS

75. Van Rooyen AS, Van Zijl GPAG 2017. Durability of impregnated LWFC. **In preparation** for the 71st RILEM week and ICACMS, 3-8 September 2017, Chennai, India.
76. Dunn T, Van Rooyen AS, Van Zijl GPAG 2017. Structural connection systems assessment of R/LWFC seismic resistance. **In preparation** for the 71st RILEM week and ICACMS, 3-8 September 2017, Chennai, India.
77. Biranchi Panda, Yi Wei Daniel Tay, Suvash Chandra Paul, Ming Jen Tan and Gideon P.A.G van Zijl 2017. Study on fresh properties of fly ash-based geopolymer for 3D printing application. **In preparation** for the 71st RILEM week and ICACMS, 3-8 September 2017, Chennai, India.

ICCM2017

78. Biranchi Panda, Suvash Chandra Paul, Ming Jen Tan and Gideon P.A.G van Zijl. Influence of alkaline solution formulation on hardened properties of 3D printed geopolymer concrete. 10th ACI/RILEM Alternative binders for sustainable concrete. **In preparation** for the 10th ACI/RILEM alternative binders for sustainable concrete, 2-4 October 2017, Montreal, Canada.
79. Suvash Chandra Paul, Biranchi Panda, Yi Wei Daniel Tay, Ming Jen Tan and Gideon P.A.G van Zijl. Mechanical properties of 3D printed concrete relative to the printing direction. 10th ACI/RILEM Alternative binders for sustainable concrete. **In preparation** for the 10th ACI/RILEM alternative binders for sustainable concrete, 2-4 October 2017, Montreal, Canada.
80. Alaud SM and van Zijl GPAG 2016. Effect of combined ASR and cyclic loading on concrete bridges. **Submitted to Sustainable Civil Infrastructures: Innovative Infrastructure Geotechnology GeoMEast.**
81. Alaud SM and van Zijl GPAG 2016. ASR and Mechanical crack width in reinforced concrete. **Submitted to DBMC.**

Accepted

Published

82. Haris Sohawon, Hans Beushausen, Nabeel Omar, Gideon van Zijl 2016. Evaluating the performance of ECC as patch repair mortar. FIB, 21-23 November 2016, Cape Town.
83. Van Zijl GPAG, De Beer L 2016. Retrofitting load bearing masonry with a sprayed SHCC overlay. FIB, 21-23 November 2016, Cape Town.
84. Mbewe PBK and Van Zijl GPAG 2016. Towards development of a non-linear structural analysis analytical model for evaluation of structures. FIB, 21-23 November 2016, Cape Town.
85. Van Zijl GPAG, Paul SC 2016. Crack distribution linked to chloride-induced corrosion in R/SHCC. Paper ID No. 201 BEFIB, 19-21 September 2016, Vancouver, Canada.
86. De Beer L and van Zijl GPAG 2016. SHCC overlay as retrofitting strategy for load bearing masonry seismic resistance. Paper ID No. 117 BEFIB, 19-21 September 2016, Vancouver, Canada.
87. Alaud SM and van Zijl GPAG 2016. Effects on concrete properties by ASR deterioration under different exposure conditions. SEMC, 5-7 September 2016, Cape Town, South Africa.
88. Paul SC, van Zijl GPAG 2016. Towards the corrosion modelling of cracked reinforced SHCC in accelerated chloride exposure. SCMT4, Las Vegas, Nevada, USA, 7-11 August 2016. **Outstanding paper award.**

89. Alaud SM and van Zijl GPAG 2016. Role of pre-crack formation and Alkali Silica Reaction in concrete. Proceedings 15th International Conference on Alkali Aggregate Reaction (15th ICAAR), 3-7 July 2016, Sao Paulo, Brazil.
90. Van Zijl GPAG, Paul SC, Ming Jen Tan 2016. Properties of 3D printable concrete, Proceedings 2nd International Conference on Progress in Additive Manufacturing (Pro-AM 2016), 16-19 May 2016, Singapore.
91. De Villiers JP, van Zijl GPAG, van Rooyen AS 2016. Fracture of light weight foamed concrete in evaluation of bond behaviour of steel reinforcement in LWFC. In Proceedings of FRAMCOS-9, 29 May-1 June 2016, Berkeley, USA, DOI 10.21012/FC9.289
92. van Zijl GPAG, de Beer L 2016. An SHCC overlay retrofitting strategy for unreinforced load bearing masonry. In: Proceedings of FRAMCOS-9, 29 May-1 June 2016, Berkeley, USA, DOI 10.21012/FC9.290.
93. Zeranka S, van Zijl GPAG 2015. Multi-scale characterisation of the shear-dominant fracture in a steel fibre-reinforced cement-based composite. In: Proceedings of 5th International Conference on Construction Materials (ConMat'15), Whistler, BC, Canada, August 19-21, 2015.
94. Paul SC, van Zijl GPAG 2015. Influence of cracks in chloride penetration and corrosion of fibre reinforced strain hardening materials under sustained loading condition. Paper nr 92 in Proceedings of 5th International Conference on Construction Materials (ConMat'15), Whistler, BC, Canada, August 19-21, 2015.
95. Alaud SM and van Zijl GPAG 2014, Role of mechanical load and Alkali Silica Reaction in concrete, International Congress on Durability of Concrete ICDC, 4-6 December 2014, New Delhi, India.
96. Paul SC, Ebell Gino, van Zijl GPAG, Schmidt Wolfram 2014, Cracked and uncracked strain hardening cement-based composite (SHCC) specimens under different exposure conditions, SHCC3, 3-5 November 2014, Dordrecht, the Netherlands, pp. 25-32.
97. Paul SC and van Zijl GPAG, Rens Johannes Petrus 2014, Corrosion of steel in reinforced strain hardening cement-based composite (R/SHCC) specimens under sustained load, SHCC3, 3-5 November 2014, Dordrecht, the Netherlands, pp. 69-76.
98. Paul SC and van Zijl GPAG 2013. Assessment of fracture toughness in strain hardening cement-based composite (SHCC) made from fine and coarse sand. SEMC, September 2013, Cape Town.
99. Zeranka S and van Zijl GPAG 2013. Characterising the shear behaviour of steel fibre reinforced concrete, SEMC, September 2013, Cape Town.
100. Paul SC, Theunissen AI and van Zijl GPAG 2013. Chloride induced corrosion in cracked reinforced strain hardening cement-based composite (R-SHCC). SCMT3, Kyoto, May 2013. **(Paper award)**
101. van Zijl GPAG and Suvash CP 2013. Crack spacing in steel bar reinforced strain hardening cement-based composites (R/SHCC), towards corrosion modelling. SCMT3, Kyoto, August 2013.
102. Paul SC and van Zijl GPAG 2013. Mechanical behaviour of strain hardening cement-based composites (SHCC) based on micromechanical design, Advances in Cement and Concrete Technology in Africa (ACCTA), Johannesburg, 28-30 January 2013, pp. 525-533. **(Best paper award)**
103. Van Rooyen AS, van Zijl GPAG and Kearsley ES 2013. Non-autoclaved lightweight aerated concrete, Advances in Cement and Concrete Technology in Africa (ACCTA), Johannesburg, 28-30 January 2013, pp. 401-408.
104. Paul SC and van Zijl GPAG 2013. Strain hardening cement based composite (SHCC) with fine and coarse sand under tensile load and chloride attack. In Proceedings 8th International Conference on Fracture Mechanics of Concrete and Concrete Structures (FRAMCOS-8), March 10-13, 2013, Toledo, Spain.
105. Paul CS and van Zijl GPAG 2012. Strength of recycled aggregate concrete for structural use, in: CDROM Proceedings, ICCRRR, Cape Town, 3-5 September 2012.
106. Badenhorst AJ and van Zijl GPAG 2012. A model for cyclic delamination of CFRP strips from RC beams, in: CDROM Proceedings, ICCRRR, Cape Town, 3-5 September 2012.
107. Van Zijl GPAG and Zeranka S 2011. The impact of rheology on the mechanical performance of steel fibre reinforced concrete, HPRCC 6, Ann Arbor, Michigan, USA, 19-22 June 2011, pp. 59-66.
108. Van Zijl GPAG and Mbewe PBK 2011. Towards a design model for steel fibre reinforced concrete in bending, HPRCC 6, Ann Arbor, Michigan, USA, 19-22 June 2011, pp. 221-229.
109. Chandra Paul Suvash and van Zijl GPAG 2010. Mechanical performance of concrete containing recycled concrete aggregate, Conference on Concrete for a Sustained Environment, Johannesburg, 3-4 August 2010.
110. van Zijl GPAG 2010. Modelling the rate effects in cracking and fracture of strain-hardening cement-based composites (SHCC), Fracture and Damage of Advanced Fibre-reinforced Cement-based Materials, Symposium organized with 18th European Conference on Fracture, 30 Aug – 3 Sept 2010, Dresden, Germany, pp. 185-193.
111. Mucambe, ESD and van Zijl GPAG 2010. Creep and shrinkage prediction models for Concrete Water Retaining Structures in South Africa, SEMC 2010, Cape Town, South Africa.

112. van Zijl GPAG 2010. Computational modeling of strain-hardening cement composites (SHCC), International Conference on Advanced Concrete Materials, 17-19 November 2009, Stellenbosch, South Africa, pp. 263-270.
113. C.J. Adendorff, W.P. Boshoff & G.P.A.G. van Zijl 2010. Crack characterisation in SHCC: towards durability assessment, Advances in cement-based materials: Proceedings International Conference on Advanced Concrete Materials, 17-19 November 2009, Stellenbosch, South Africa, pp. 215-221.
114. Fraser ES and van Zijl GPAG 2009. Computational Investigations of Concrete Footing Rotational Rigidity, Proceedings of World Academy of Science, Engineering and Technology, Volume 38, ISSN: 2070-3740, Penang, Malaysia, February 25-27, 2009, pp. 523-532.
115. van Zijl GPAG and Stander H 2009. SHCC repair overlays for RC: Interfacial bond characterization and modeling, CDROM Proceedings International Conference on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR 2008), University of Cape Town, South Africa, pp. 995-1003.
116. van Zijl GPAG 2009. Durability of strain-hardening cement composites (SHCC) - an overview, CDROM Proceedings International Conference on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR 2008), University of Cape Town, South Africa, pp. 199-205.
117. Van Zijl GPAG and Boshoff WP 2009. Mechanisms of creep in fibre-reinforced strain-hardening cement composites (SHCC), Proceedings of 8th International Conference on Creep, Shrinkage and Durability of Concrete and Concrete Structures (CONCREEP 8), Oct 2008, Ise-Shima, Japan, pp. 753-759.
118. Boshoff WP, Adendorff C and van Zijl GPAG 2009. Creep of pre-cracked strain-hardening cement composites (SHCC), Proceedings of 8th International Conference on Creep, Shrinkage and Durability of Concrete and Concrete Structures (CONCREEP 8), Oct 2008, Ise-Shima, Japan, pp. 723-728.
119. Boshoff WP and Van Zijl GPAG 2007. Mesh-objectivity of crack modelling in SHCC. *Proc. International Workshop on Nonlocal Modeling of Material's Fracture (NMMF 2007)*, 25-26 June 2007, Wuppertal, Germany, pp. 57-70.
120. Boshoff, WP and van Zijl GPAG 2007. Paper Ref: SEMC 2007: Time-dependant behaviour of SHCC on the single fibre level. *Proc. Third International Conference on Structural Engineering, Mechanics and Computation (SEMC 2007)*, Cape Town, South Africa, Sept 2007, pp. 1412-1416.
121. Van Zijl GPAG and Alberti L 2007. Paper Ref: SEMC 2007/696: Flow around Cylindrical Towers: the stabilizing role of vertical ribs. *Proc. Third International Conference on Structural Engineering, Mechanics and Computation (SEMC 2007)*, Cape Town, South Africa, Sept 2007, pp. 884-889.
122. Visser CR and van Zijl GPAG 2007. Mechanical characteristics of extruded SHCC. *Proc. International RILEM CONFERENCE on High performance fibre reinforced cement composites*, 10-13 July 2007, Mainz, Germany, pp. 165-173.
123. Boshoff WP and Van Zijl GPAG 2007. Tensile creep of SHCC. *Proc. International RILEM CONFERENCE on High performance fibre reinforced cement composites*, 10-13 July 2007, Mainz, Germany, pp. 87-95.
124. Hirotooshi Kikuchi, Yukio Tamura, Gideon van Zijl, Kazuki Hibi, Sungil Hong, Lisa Alberti 2006. Wind pressures acting on a circular cylinder with rotors, 12th International Conference on Wind Engineering (12ICWE), 1-7 July 2007, Cairns, Australia.
125. Hirotooshi Kikuchi, Yukio Tamura, Gideon van Zijl, Kazuki Hibi, Nadaraja Pillai, Lisa Alberti 2006. Wind pressures on cylindrical models with serrated roughness and flow fields, 12th International Conference on Wind Engineering (12ICWE), 1-7 July 2007, Cairns, Australia.
126. Wittmann FH and Van Zijl GPAG 2006. Task Group B – Durability of SHCC Conclusions, *Proceedings Rilem International Workshop on High Performance Fiber Reinforced Cement-Based Composites (HPRCC) in Structural Applications*, May 22-27, 2005, Honolulu, Hawaii, pp. 109 – 114.
127. Boshoff WP and Van Zijl GPAG 2006. Time-dependent response of ECC: Characterisation and modelling of creep and creep fracture, *Proceedings Rilem International Workshop on High Performance Fiber Reinforced Cement-Based Composites (HPRCC) in Structural Applications*, May 22-27, 2005, Honolulu, Hawaii, pp. 125–134.
128. Van Zijl GPAG and Stander H 2006. The effect of admixtures on the fresh and consolidated behaviour of ECC. *Proceedings Advanced Cement-Based Materials*, June 2005, Denmark University of Technology, Denmark, BYG-DTU 2005: 89-102.
129. Schönwälder J, van Zijl GPAG and Rots JG, 2006. A computational model for cardboard creep fracture. *Proceedings 16th European Conference of Fracture*, Alexandroupolis, Greece, 3-7 July 2006, 10 pp.
130. Fluri T, Pretorius JP, van Dyk C, von Backström TW, Kröger, DG and van Zijl GPAG (2006). Cost Analysis of Solar Chimney Power Plants, *CD-Rom Proc. EUROSUN 2006*, Glasgow, 27-30 June.
131. Wium, JA and van Zijl GPAG 2005. The South African loading code revision of provisions for seismic loading, African Concrete Code Conference, November 2005, Tripoli, Libya.

132. Loedolff GF and Van Zijl GPAG 2005. A rational approach to determine the best packing of particles to enhance concrete quality, *Proceedings Congress on Global Construction: Ultimate Concrete Opportunities*, July 2005, Dundee, UK, pp 155-164.
133. Harte R and van Zijl GPAG 2005. Renewable energy for Sub-Saharan Africa – structural aspects of classical wind turbines and innovative solar chimney concept, *Proceedings of the Fourth European & African Conference on Wind Engineering (EACWE4, eds J. N'aprtek & C. Fischer)*, Prague 11-15 July, 2005, Paper #326.
134. Van Zijl GPAG and Wium JA 2004. Engineered cement-based composites for seismic ductility. CDROM *Proceedings Developing concrete to serve practical needs*, October 2004, Midrand South Africa, 101-112.
135. Loots JJ and van Zijl GPAG 2004. Experimental verification of settlement-induced damage to masonry walls. *Proceedings 13th International Brick and Block Masonry Conference*, Amsterdam, 1134-1225.
136. Netzel H and Van Zijl GPAG 2004. Nonlinear numerical simulation of settlement-induced damage to solid masonry walls. *Proceedings 13th International Brick and Block Masonry Conference*, Amsterdam, 1255-1264.
137. De Koker D and Van Zijl GPAG 2004. Extrusion of engineered cement-based composite material. *Proceedings 6th Rilem Symposium on Fibre reinforced Concrete (FRC)*, Varenna, Italy, 1301-1310.
138. Gao Song and Van Zijl GPAG 2004. Tailoring ECC for commercial application. *Proceedings 6th Rilem Symposium on Fibre reinforced Concrete (FRC)*, Varenna, Italy, 1391-1400.
139. De Koker D, Van Zijl GPAG and Mostert D 2004. Manufacturing processes for engineered cement-based composite material. CDROM *Proceedings SEMC 2004*, Cape Town, South Africa, 1055-1060.
140. Boshoff WP and Van Zijl GPAG 2004. Computational and experimental modelling of creep behaviour of Engineered Cement-based Composites. *Proceedings SEMC 2004*, Cape Town, South Africa, 1061-1066.
141. Van Dyk C and Van Zijl GPAG 2004. Realisation of the inlet guide vanes – an integral part of the solar chimney. *Proceedings SEMC 2004*, Cape Town, South Africa, 315-320.
142. Boshoff WP and Van Zijl GPAG 2004. Numerical modelling of ECC. *Proceedings 5th Fracture Mechanics of Concrete and Concrete Structures (FRAMCOS-V)*, (eds VC Li et al.), Vail, USA, 1037-1043.
143. Van Zijl GPAG, de Vries PA, Verhoef LGW and Groot CJWP, 2003. Laboratory testing of efficiency of crack control in brickwork by epoxy bonded CFRP. *International Conference on Performance of Construction Materials in The New Millennium* (Eds. AS El-Dieb, SL Lissel, MM Reda Taha), Cairo, 675-674.
144. Van Zijl GPAG, de Vries PA, Verhoef LGW and Groot CJWP, 2003. Experimental confirmation of predicted restrained shrinkage damage in masonry walls. *International Conference on Performance of Construction Materials in the New Millennium* (Eds. AS El-Dieb, SL Lissel, MM Reda Taha), Cairo, 565-574.
145. Van Zijl GPAG, 2003. Shear-compression modelling of cement-based material. *Computational Modelling of Concrete Structures* (eds. N Bićanić et al.), Balkema, Lisse, 335-343.
146. Boshoff WP and Van Zijl GPAG 2003. Computational strategies for time-dependent behaviour of ECC. *Computational Modelling of Concrete Structures* (eds. N Bićanić et al.), Balkema, Lisse, 59-65.
147. Van Zijl GPAG and Verhoef LGW 2003. Double Sided Restrengthening of Historic Brickwork with Rods and Strips of Carbon Fibre Reinforced Plastic (CFRP). *Material Science and Restoration MSR-VI*, AEDIFICATIO Verlag, Freiburg, pp. 397-413.
148. Van Zijl GPAG, Boonpitchetvong M, Rots JG and Verkleij JW, 2002. Sensitivity of masonry wall under base-restrained shrinkage. *Proceedings DIANA Conference, Tokyo*, October 2002, Balkema, pp.275-283.
149. Van Dyk C and van Zijl GPAG, 2002. A large scale solar chimney structure. *Proc. Int. IASS Symp. on lightweight structures in Civil Engineering* (ed. JB ObrHbski), pp. 144-150.
150. Van Zijl GPAG, Billington SL and Rouge JM, 2002. Time-dependent behaviour of Engineered Cement-Based Composites: A combined experimental and computational characterization. *CDROM-Proc. Concrete in the 21st century*, Cement and Concrete Institute, Midrand, South Africa.
151. Van Zijl GPAG and Wells GN, 2001. A rate-dependent model for analysing the interaction between creep and fracture. *Creep, Shrinkage and Durability of Concrete and other Quasi-Brittle Materials*, Eds. F.-J. Ulm, Z.P. Bažant and F.H. Wittmann, Elsevier, 229-237.
152. Van Zijl GPAG and Wells GN, 2001. The time scale in concrete fracture: A model based on partitions of unity. *Proc. Fourth Int. Conf. on Fracture Mechanics of Concrete and Concrete Structures*, Eds. R. de Borst, J. Mazars, G. Pijaudier-Cabot and J.G.M. van Mier, Balkema, 301-306.
153. Van Zijl GPAG, de Borst R and Rots JG, 2001. The physical role of crack rate dependence in the long-term behaviour of cementitious materials. *Proc. IUTAM Symposium on Theoretical and Numerical Methods in Continuum Mechanics of Porous Materials*, Kluwer Academic Publishers, 321-328.

154. Van Zijl GPAG and Verhoef LGW, 2001. Computational assessment of renovation intervention in a historic masonry building. *CDROM-Proc. 9th Canadian Masonry Symposium*, eds. P.H. Bischoff, J.L. Dawe, A.B. Schriver and A.J. Valsangkar.
155. Van Zijl GPAG, Rots JG and Vermeltfoort AT, 2001. Modelling of shear-compression in masonry. *CDROM-Proc. 9th Canadian Masonry Symposium*, eds. P.H. Bischoff, J.L. Dawe, A.B. Schriver and A.J. Valsangkar.
156. Van Zijl GPAG, 2001. A unified model for shrinkage, creep and cracking of cementitious materials. *CDROM-Proc. Plasticity: Fundamentals and Applications*, eds. D.R.J. Owen, E. Onate and E. Hinton, Barcelona.
157. Van Zijl GPAG, 2001. The time scale in quasi-static fracture of cementitious materials. *Structural Engineering, Mechanics and Computation*, ed. A. Zingoni, Elsevier, 729-736.
158. Van Zijl GPAG, 2001. A discrete crack modelling strategy for masonry structures. *Structural Engineering, Mechanics and Computation*, ed. A. Zingoni, Elsevier, 745-752.
159. Hobbelman GJ, Van Zijl GPAG, Veer FA and Ting CN, 2001. A new structural material by architectural demand. *Structural Engineering, Mechanics and Computation*, ed. A. Zingoni, Elsevier, 455-462.
160. Van Zijl GPAG, de Borst R and Rots JG, 1998. Finite element analysis of cracking due to shrinkage. *Fracture Mechanics of Concrete and Concrete Structures*, eds. H. Mihashi, K. Rokugo, Gifu, 1363-1376.
161. Van Zijl GPAG and Verhoef LGW, 2000. Collaboration between brickwork and concrete. *Maintenance and restrengthening of materials and structures: Brick and Brickwork*, eds. LGW Verhoef and FH Wittmann, Zürich, 83-96.
162. Van Zijl GPAG, 2000. Time-dependent behaviour of masonry: a numerical approach. *Proc. 12th Int. Brick/Block Masonry Conference*, Madrid, 1877-1887.
163. Van Zijl GPAG and Rots JG, 2000. Creep and shrinkage of cementitious materials: a computational and experimental characterisation. *Proc. South African Conference on Applied Mechanics*, Cape Town, 721-728.
164. Van Zijl GPAG, de Borst R and Rots JG, 1999. Finite element analysis of moisture migration, creep, shrinkage and cracking. *CDROM-Proc. European Conference on Computational Mechanics*, München, Germany.
165. Van Zijl GPAG, de Borst R and Rots JG, 1999. Moisture transport and shrinkage cracking in masonry. *Book of extended abstracts: United States National Conference on Computational Methods*, Boulder.
166. Van Zijl GPAG, de Borst R and Rots JG, 1998. FE analysis of the interaction between moisture migration, creep, shrinkage and cracking. *Computational modelling of concrete structures*, eds. H Mang, N Bicanic and R De Borst, Balkema, Amsterdam, 505-511.
167. Van Zijl GPAG and Rots JG, 1998. Restrained shrinkage of masonry walls. *Proc. 2nd South African Conference on Applied Mechanics*, eds. BD Reddy, GP Mitchell, RB Tait, Cape Town, 1079-1090.
168. Van Zijl GPAG and Rots JG, 1997. Understanding masonry wall restrained shrinkage behaviour. *Proc. 11th International Brick/Block Masonry Conference*, eds. Mingshun Wu, Yiliang Qian, Xiaozu Su and Xianglin Gu, Shanghai, 748-757.
169. Van Zijl GPAG, PB Lourenço and Rots JG, 1997. Non-associated plasticity formulation for masonry interface behaviour. *Plasticity: Fundamentals and Applications*, eds. DRJ Owen, E Onate and E Hinton, Barcelona, 1586-1593.
170. Van Zijl GPAG and Rots JG, 1997. Towards numerical prediction of masonry walls behaviour. *Finite Elements in Engineering and Science*, eds. MAN Hendriks, H Jongedijk and JG Rots, Balkema, 329-340.
171. Van Zijl GPAG and Rots JG, 1997. Towards numerical prediction of cracking in masonry walls. *Computer Methods in Structural Masonry – 4*, eds. GN Pande, J Middleton and B Kralj, E & FN SPON, 94-102.
172. Van Dyk C, Alberti LT and van Zijl GPAG 2006. The technology development methodology and solar chimney plant wind-structure interaction. *CD-Rom Proc. 4th CIDB Postgraduate Conference*, Stellenbosch, October 2006, pp.56-68.
173. Loots, J.J. and van Zijl GPAG, 2006. Symplified modeling strategy for masonry infilled RC framed buildings. *Proceedings 3rd Young Cement and Concrete Engineers' Scientists' and technologists' Conference* (ed. E. Kearsley), Midrand, South Africa, May 2006, 10pp.
174. Rousseau, J. and van Zijl GPAG, 2006. Dynamic evaluation of the solar chimney. *Proceedings 3rd Young Cement and Concrete Engineers' Scientists' and technologists' Conference* (ed. E. Kearsley), Midrand, South Africa, May 2006, 11pp.
175. Visser, C.R. and van Zijl GPAG, 2006. Mechanical optimization of ECC manufactured by extrusion. *Proceedings 3rd Young Cement and Concrete Engineers' Scientists' and technologists' Conference* (ed. E. Kearsley), Midrand, South Africa, May 2006, 12pp.

176. Van Zijl GPAG, 1993. Finite Element Analysis of a Satellite Reception Antenna. *Proc. of the Symposium on Finite Element Methods in South Africa*, University of Pretoria, South Africa, session 2, 9 July, paper 1.
177. Van Zijl GPAG and Du Toit CG, 1992. Simplest Finite Element Solution of the Incompressible Navier-Stokes Equations. *Proc. of the Symposium on Finite Element Methods in South Africa*, Cape Town, South Africa, 573-588.
178. Du Toit CG and Van Zijl GPAG, 1991. Recovering the Pressure after a Penalty Finite Element Solution of the Incompressible Navier-Stokes Equations. *Proc. of the 2nd National Symposium on Computational Fluid Dynamics*, Potchefstroom University of CHE, South Africa, 251-261.
179. Van Zijl GPAG and Du Toit CG, 1991. Segregated Finite Element Solution of the Incompressible Navier-Stokes Equations. *Proc. of the 2nd National Symposium on Computational Fluid Dynamics*, Potchefstroom University of CHE, South Africa, 236-250.
180. Van Zijl GPAG and Du Toit CG, 1990. Segregated Finite Element Solution of the Incompressible Navier-Stokes Equations with Equal-Order Velocity-Pressure Formulation. *Proc. of the Symposium on Finite Element Methods in South Africa*, University of Pretoria, South Africa, session 7, paper 2.
181. Wium JA, Van Zijl GPAG and Boshoff WP (2009). Research programme on concrete materials and structures, *Civil Engineer (SAICE)*, March 2009.
182. Wium JA, Van Zijl GPAG and Boshoff WP (2008). Research programme on concrete materials and structures, *Civil Engineer (SAICE)*, March 2008 16(3): 23-24.

Technical and Scientific Reports:

1. Van Zijl GPAG 2010. *REPORT ON MATERIALS AND CALIBRATION: Concrete Materials for Water retaining structures*. Report ISI2010-05, Institute of Structural Engineering, Stellenbosch University.
2. Van Zijl GPAG 2009. *Computational modeling of SHCC*. Report ISI2009-20, Institute of Structural Engineering, Stellenbosch University.
3. Van Zijl GPAG 2007. *Computational modeling of cardboard*. Report 2008-BK-ST001, Delft University Press.
4. Van Zijl GPAG and Verhoef LGW 2003. Double Sided Restrengthening of Historic Brickwork with Rods and Strips of Carbon Fibre Reinforced Plastic (CFRP). *Advances in Material Science and Restoration* (ed. FH Wittmann), AMSR 1(VII-VIII), AEDIFICATIO Verlag, Freiburg, pp. 99-116.
5. Van Zijl GPAG and Verhoef LGW 2003. Versterken van metselwerk om scheurwijdte te reduceren. *CUR Rapport 2003-3: Geavanceerd rekenen voor civiele constructies*, Stichting CUR, Gouda, The Netherlands, chapter 11.
6. Boonpitchetvong M and Van Zijl GPAG, 2001. Numerical studies of strength and stiffness of Calcium Silicate Masonry products. Report 2001-BK-ST001, Delft University Press.
7. Van Zijl GPAG, 1999. *A Numerical Formulation for Masonry Creep, Shrinkage and Cracking*. Report Series 11 Eng. Mech. 01, Delft University Press.
8. Van Zijl GPAG, 1999. *A Numerical Formulation for Moisture migration*. Report Series 11 Eng. Mech. 02 Delft University Press.
9. Van Zijl GPAG, 1996. *Shear transfer across bed joints in masonry: A numerical study*. TU Delft Report 03.21.0.22.28, Delft University of Technology, The Netherlands.
10. Bird WW, Dunaiski PE, Louw JM, Van Rooyen GC and Van Zijl GPAG, 1994. *Report on the Technical Audit of the Semi-Mobile Crusher Installation at Jwaneng, Botswana*. Institute for Structural Engineering Report prepared for Bateman Materials Handling, Civil Eng. Dept., Stellenbosch University.
11. Maritz G. and Van Zijl GPAG, 1994. *Verification of Design Moments (Wood & Armer) for Skew Decks*. Institute for Structural Engineering Report prepared for the Provincial Administration Western Cape, Civil Eng. Dept., Stellenbosch University.
12. Van Zijl GPAG and Marquardt AE, 1992. *Analysis of Nozzles Connecting Downcomers to Make-gas Boiler*. Bureau for Mechanical Engineering Report Report BM 92/72 prepared for LURGI SA (Pty) Ltd, Mechanical Eng. Dept., Stellenbosch University.
13. Van Zijl GPAG, 1992. *Verification and certification of 4.8m Satellite Reception Antenna*. Institute for Structural Engineering Report 19206-01 prepared for Skywave, Civil Eng. Dept., Stellenbosch University.
14. Van Zijl GPAG, 1992. *Design and certification of 4.8m Satellite Reception Antenna*. Institute for Structural Engineering Report 19206-02 prepared for Skywave, Civil Eng. Dept., Stellenbosch University.
15. Van Zijl GPAG, 1992. *Guidelines for founding of 4.8m Satellite Reception Antenna*. Institute for Structural Engineering Report 19301 prepared for Skywave, Civil Eng. Dept., Stellenbosch University.
16. Van Zijl GPAG, 1992. *Analysis of Copper Press*, Bureau for Mechanical Engineering Report BM 91/193 prepared for Maksal Tubes (Pty) Ltd, Mechanical Eng. Dept., Stellenbosch University.

17. Terblanche E, Marquardt AE and Van Zijl GPAG, 1992. *Finite Element Stress Analysis of Saldanha Iron Ore Tippler*. Bureau for Mechanical Engineering Report BM 91/250 prepared for Portnet, Mechanical Eng. Dept., Stellenbosch University.
18. Van Rooyen GC and Van Zijl GPAG, 1991. *Design of Steel Pipes According to CE-WS11:1987*. Bureau for Mechanical Engineering Report BM 90/275, Mechanical Eng. Dept., Stellenbosch University.
19. Van der Westhuizen K, Theron N and Van Zijl GPAG, 1991. *LDV: Dynamic Finite Element Analysis on Pick-up (PUP-92)*. Bureau for Mechanical Engineering Report BM 90/66, Mechanical Eng. Dept., Stellenbosch University.
20. Du Preez RJ and Van Zijl GPAG, 1990. *Modelling of Mechanical Properties of ASTM A285 Grade C under Cyclic Temperature Conditions*. Institute for Structural Engineering Report 90/02 prepared for Sastech (Pty) Ltd, Civil Eng. Dept., Stellenbosch University.
21. Van Rooyen GC and Van Zijl GPAG, 1990. *Finite Element Analysis of the Karee Mill : Plinth Only Model*. Bureau for Mechanical Engineering Report BM 90/172 prepared for Dorbyl Heavy Engineering, Mechanical Eng. Dept., Stellenbosch University.
22. Van Rooyen GC and Van Zijl GPAG, 1990. *Finite Element Analysis of Karee Mill : Plinth and Pinion Model*. Bureau for Mechanical Engineering Report BM 90/172 prepared for Dorbyl Heavy Engineering, Mechanical Eng. Dept., Stellenbosch University.
23. Du Preez RJ, Heymann FA, Van Rooyen GC and Van Zijl GPAG, 1989. *Consultancy Services for Synthol Reactor and Structure : Static and Dynamic Analysis and Fatigue Evaluation*, Institute for Structural Engineering Report 88/17 prepared for Badger B.V., Civil Eng. Dept., Stellenbosch University.
24. Du Preez RJ, Van Rooyen GC, Heymann FA and Van Zijl GPAG, 1988. *Static Stress Analysis of Lower Transfer Line, Synthol Reactor, Sasol Three*. Institute for Structural Engineering Report 88/09 prepared for Sastech (Pty) Ltd., Civil Eng. Dept., Stellenbosch University.
25. Heymann FA and Van Zijl GPAG, 1988. *The Effect of the Foundation and Bedrock Substrata on the Dynamics and Stiffness of the Reactor (Mossref Synthol Reactor)*. Institute for Structural Engineering Report 88/15 prepared for Badger B.V., Civil Eng. Dept., Stellenbosch University.
26. Van Rooyen GC and Van Zijl GPAG, 1987. *Structural Analysis of Penna Vehicle*. Institute for Structural Engineering Report 87/04 prepared for Sandock-Austral Limited, Civil Eng. Dept., Stellenbosch University.

DEng dissertation:

van Zijl, G.P.A.G. 2016. *Contributions to structural mechanics and durability in structural engineering*, Dissertation, Stellenbosch University, South Africa. CDSI-6.

PhD dissertation:

van Zijl, G.P.A.G. 2000. *Computational Modelling of Masonry Creep and Shrinkage*, Dissertation, 6 March 2000, Delft University of Technology, The Netherlands.

MEng dissertation:

van Zijl, G.P.A.G. 1990. Segregated finite element solution of the incompressible Navier-Stokes equations, with equal-order velocity-pressure formulation, MEng-thesis, December 1990, University of Stellenbosch.

INVITED PRESENTATIONS

- Delft University of Technology, The Netherlands, 3 September 2016, “Retrofitting of unreinforced load bearing masonry with a bonded SHCC overlay for improved seismic resistance”.
- Nanyang Technological University (NTU)
 - 8 April 2016 – Building & Construction Research Group at MAE, Prof TAN Ming Jen “Construction materials for housing; manufacturing processes and mechanics”
 - 13 April 2016 – “Sustainable housing by industrialization?”
 - 26 April 2016 – “3D printing of concrete materials to construction standards”
- NTU, 8 June 2015, Seminar on corrosion in reinforcing steel embedded in cement-based composites. Host Assistant Professor En-Hua Yang (NTU)
- Gifu University, Japan, May 2010.
 - Current postgraduate student projects under ACM-S, presentation to postgraduate research group in Gifu, Chair of Prof Keitetsu Rokugo, 2 June 2010.
 - Concrete for a sustained environment, Efficient use of materials; lecture to 3rd year class in Environmental Engineering, Gifu, 3 June 2010.

- Concrete materials and structures research, Department of Civil Engineering Stellenbosch; presentation to research colleagues and industry partners of Civil Engineering Dept in Gifu University, 5 June 2010.
- Delft University of Technology, The Netherlands, March 2010, Computational modeling of Strain-hardening cement composites
- Murray and Roberts Marine, 5 August 2009, Fibre Reinforced Concrete in South Africa
- Stanford University, April 2004,
 - FE Analysis of masonry structures
 - Developing and characterizing modern cement-based materials for local application
- Concrete Society of Southern Africa, April 2004, AGM lecture, Characterising self-compacting concrete for use in South Africa
- North-Western University, group of Prof Surendra Shah, Oct 2004,
 - Advanced performance of structures of cement-based materials: developing cement-based material in South Africa
 - Numerical creep modeling of ECC
- Bergische University Wuppertal, 2 June 2003, Theoretical Structural Mechanics: Required in the era of complete FE technology?

CONTINUED PROFESSIONAL DEVELOPMENT COURSES PRESENTED

- Design of Wind Tower Support Structures, 3 September 2014, STIAS, Stellenbosch
- The new South African Concrete Code, 3 October 2016 Durbanville, Cape Town, 5 October 2016, Durban

GRADUATE STUDENT SUPERVISION

Completed: 37 (28 MEng, 8 Doctoral, 1 Post Doc)

Current: 6 MEng, 8 PhD

Student supervision: Post Doc:

Dr. W.P. Boshoff, *The design, characterisation and implementation of advanced cement-based composites in the South African Civil Engineering Industry*, 2007

Student supervision: Doctoral promoter:

1. **Dr.ir. A.T. Vermeltoort**, Brick Mortar interaction in Masonry under compression, (2005, co-promoter, TUE)
2. **Dr. W.P. Boshoff**, Time-dependent behaviour of ECC, PhD March 2007, SU. (Promoter GPAG van Zijl) CDSI-1
3. **Dr. C van Dyk**, A methodology for radical innovation – illustrated by application to a radical civil engineering structure, PhD December 2008, SU. (Promoter Prof GPAG van Zijl, Prof JV Retief, Dr G de Wet) CDSI-2
4. **Dr Peter William Day**, A contribution to the advancement of Geotechnical Engineering in South Africa, DEng March 2013, 222p. (Promoters Profs JV Retief, GPAG van Zijl)
5. **Dr. Jin Zang**, Developing non-heat treated UHPC in South Africa, PhD March 2015. (Promoter GPAG van Zijl) CDSI-3
6. **Dr Johan V. Retief**, Contributions to the Implementation of The Principles of Reliability to The Standardized Basis of Structural Design, DEng December 2015. (Promoters Prof GPAG van Zijl, Dr C Viljoen)
7. **Dr. Suvash Chandra Paul**, The Role of Cracks and Chlorides in Corrosion of Reinforced Strain Hardening Cement-Based Composite (R/SHCC), PhD December 2015. (Promoter GPAG van Zijl) CDSI-4
8. **Dr. Salhin Alaud**, Durability of concrete under combined action – mechanical load and alkali-silica reaction, PhD dissertation approved for graduation in December 2016, Stellenbosch University. CDSI-5
9. Mr. Stephan Zeranka, Design-oriented shear constitutive model for steel fibre-reinforced concrete (SFRC), March 2012, envisaged graduation December 2017. CDSI-7
10. Mrs Susan Engelbrecht, Towards Design guidelines for strain-hardening fibre reinforced cement-based composites (registered 2009, part-time; envisaged graduation March 2017, SU)
11. Mr Peter Mbewe, Structural system performance evaluation towards sustainable housing. 2014 – 2016.
12. Mr Algurnon S. van Rooyen. Mechanics and durability of surface treated foamed concrete. 2013 – 2016
13. Mr Mohamad Pourbehi. Co-supervisor. Computational modelling of ASR. 2015-2017.
14. *Mr WS Swanepoel, Infrastructure Asset Management – Bridges, 2017-2019*
15. Ms Julia Schönwälder, Experimental and Computational investigations into the mechanical behavior of architectural cardboard (envisaged graduation 2014, 2nd promoter, TU Delft)
16. Mrs Mahsa Tavesh. Co-supervisor. Infrastructure Asset Management – Bridges, 2017-2019

Student supervision: M-promoter:

1. **Mr Gerardo P.J. Cirillo**, Prediction of Damage to Cement-Based Structures Subject to Tunneling-Induced Settlements (Dec 2003, SU) **cum laude** (Contracts Manager Road Mac)
2. **Mr Cobus van Dyk**, The realisation of the solar chimney inlet guide vanes (Apr 2004, SU) (Associate, UWP)
3. **Mr Don de Koker**, Manufacturing Processes for Engineered Cement-Based Composite Material Products (Dec 2004, SU)
4. **Mr Gao Song**, Matrix Manipulation to Study ECC Behaviour (Apr 2005, SU)
5. **Mr Jurie J. Loots**, Computational assessment of seismic resistance of RC framed buildings with masonry infill (Dec 2005, SU) **cum laude** (Business Unit Director AVENG 2013; Executive Pioneer)
6. **Mr Jean-Pierre Rousseau**, Dynamic modeling of the solar chimney (Dec 2005, SU) (Regional Manager Ingerop)
7. **Mr Schalk W Marais**, Punching shear of flat slabs (April 2005, SU) (Associate; Structures Leader Western Region AECOM)
8. **Ms Lisa T Alberti**, Flow around cylindrical towers: the stabilizing role of vertical ribs (Dec 2006, SU) **cum laude** (Technical director, ELEMENT)
9. **Mr Qinjiang Shang**, Shear behaviour of SHCC (Dec 2006, SU) (Project Engineer/Structural Engineer, China Petroleum Engineer (CPE), Calgary)
10. **Mr Heinrich Stander**, Experimental and computational characterisation of SHCC-Concrete interfacial bond (March 2007, SU) **cum laude** (Technical Director, AURECON)
11. **Mr Christo R Visser**, Mechanical and structural characterization of extrusion moulded SHCC (Dec 2007, SU) **cum laude** (Construction Project Manager, Atvantage Group)
12. **Mrs Susan Victor**, Towards Design guidelines for reinforced strain-hardening cement-based composites (March 2008, SU) (Senior Discipline Mentor (structural) CSM)
13. **Ms Elsje Fraser**, Computational modeling of footing rotational rigidity (Dec 2008, SU) (engineer at COWI, Denmark)
14. **Ms WI Dunaiski** (co-promotor) Investigation into the effective lengths of web compression elements in parallel chord trusses (Dec 2008, SU) **cum laude** (Lecturer, SUN)
15. **Mr Gerrit Visser**, FRP external reinforcement of bridges in SA (Dec 2009) (Principal, Structural Engineer Royal HaskoningDSV)
16. **Mr Katiso Molapo**, The behaviour of strain-hardening cement composites under biaxial compression (Dec 2010) (Owner Rinka Africa (Pty) Ltd.)
17. **Mr Edson Mucambe**, Creep and Shrinkage prediction models for concrete water retaining structures in South Africa (Dec 2010) (Technical director, BVI)
18. **Mr Peter Mbewe**, Development of analytical flexural models for steel fibre reinforced concrete beams with and without steel bars (July 2009 – June 2011, graduation ceremony Dec 2011) 197 p. **cum laude** (Lecturer, Polytechnic Malawi)
19. **Mr Suvash Chandra Paul**, Mechanical behaviour and durability performance of concrete containing recycled concrete aggregate (Dec 2011), 176 p. (Research Fellow, NTU Singapore)
20. **Mr Willie Swanepoel**, The behaviour of fibre reinforced concrete (SHCC) under biaxial compression and tension (Dec 2011), 126 p. (Director, Euro Technology)
21. **Mr Charl de Jager**, A critical appraisal of existing models for nonlinear finite element analysis of reinforced concrete response (March 2012), 176 p. **Cum laude** (Associate, WSP, Structural Engineer)
22. **Mr Adriaan Badenhorst**, Debonding of external carbon fibre reinforced polymer plates from reinforced concrete structures by cyclic loading effects. (March 2012), 120 p. (Structural Engineer, Element)
23. **Mr Algurnon van Rooyen**, Energy efficient construction materials: Structural lightweight aerated concrete. (March 2013), 101 p. (Lecturer, SUN)
24. **Mr Willem van Zyl**, Concrete wind turbine towers in Southern Africa. (Dec 2014), 125 p. **Cum laude** (Structural Design Engineer, De Villiers Consulting)
25. **Mr Andrew Way**, A study on the design and material costs of tall wind turbine towers in South Africa. Dec 2014, 169 p. **Cum laude** (Structural Engineer, Element)
26. **Mr JP de Villiers**, Bond behavior of lightweight foamed concrete for use in structural application. December 2015. **Cum Laude** (Structural Engineer AURECON)
27. **Mr JD Gerber**, Alternative wall-to-slab connection systems in reinforced concrete structures. December 2016. **Cum laude** (Structural Engineer AURECON)
28. **Mr L de Beer**, Developing and testing a sprayable overlay of SHCC for retrofitting of unreinforced load bearing masonry walls. December 2016. **Cum laude** (Structural Engineer AURECON)
29. **Mr Tino Muzofa** (2016 -). Wind turbine foundation optimization.

30. Mr Trevor Dunn (2016 -). Lightweight reinforced concrete building systems for sustainable residential infrastructure.
31. Mr Schalk Bezuidenhout (2016 -). Corrosion propagation in cracked RC structures.
32. Mr Jacques Kruger (2017 -). 3D printing concrete.
33. Mr Edmund Meyer (2017 -). Façade design for sustainability.
34. Mr Dirk de Jager (2017 -). Structural retrofit strategy for seismic resistance of multi-storey masonry buildings.

Member of the adjudication committee of PhD students:

1. Bright Ng'Andu, Bracing steel frames with calcium silicate element walls, 2006, TU Eindhoven, The Netherlands.
2. Hans-Dieter Beushausen, Long-term performance of bonded concrete overlays subjected to differential shrinkage, 2005, University of Cape Town, South Africa.
3. Joseph V Ngowi, Stability of dry-stack masonry, 2005, university of Witwatersrand, South Africa.
4. Celeste Barnardo, Load and response estimation and model recalibration using inverse finite element method, 2006, Stellenbosch University, South Africa.
5. Walied A. Elsaigh, Modelling the behaviour of steel-fibre reinforced concrete pavements, 2006, University of Pretoria.
6. Kees van Kranenburg, Fatigue crack growth in Aluminium Alloys, 9 March 2010, TU Delft, The Netherlands.
7. Lupita Sierra Beltran, 20 December 2011, TU Delft, The Netherlands.
8. Yi-Wei Lin 2013. PhD-candidate, Shotcrete Engineering Cementitious Composite. Department of Civil and Environmental Engineering University of Auckland, New Zealand
9. V. Kannan, 2014. Durability Performance of Self Compacting Concrete Containing Rice Husk Ash and Metakaolin. Promoter Prof K Ganesan University Chennai, Tamilnadu state, India (India's 7th Ranked University).
10. James Olawuyi, 2015. Mechanical and micro-structure properties of high strength concrete containing super absorbent polymers. Promoter Prof WP Boshoff, Stellenbosch University, South Africa.
11. Kachalla Mohammed, 2016. Development of strength capacity determination for profiled composite RC slab using reliability approach. Promoter Sekolah Pengajian Siswazah School of Graduate Studies, University Putra Malaysia, Malaysia.
12. Eric Mündecke, 2016. The tensile behaviour of SHCC in combination with steel reinforcement. Dresden Technical University, Germany.
13. Li Junxia, 2016. Probabilistic-based micromechanics model of ECC and its application for mix design of SHCC. NTU, Singapore.

Member of the adjudication committee of M students:

1. Nick Bester (2015). The influence of curing on restrained shrinkage cracking of bonded overlays, promoter Prof H Beushausen, University of Cape Town.
2. P Krikke (2015). The effect of steel fibres on the shear strength of concrete beams in the South African Context, promoter Prof ES Kearsley, University of Pretoria.
3. Paul Duvenhage (2014). Guidelines for the prioritization of maintenance for reinforced concrete reservoirs, promotor Prof JA Wium, Stellenbosch University.
4. Ryno Barnard (2014). Mechanical properties of geopolymers with and without fibres, promotor Prof WP Boshoff, Stellenbosch University.
5. DW Immelman (2013). The influence of percentage replacement on the aggregate & concrete properties from commercially produced coarse recycled concrete aggregate, promotor Mrs WI de Villiers, Stellenbosch University.
6. Chilwesa M (2012). Assessing the age at cracking of concrete repair mortars/overlays subjected to restrained drying shrinkage, Dr H Beushausen, UCT.
7. P Nieuwoudt (2012). Quantifying the cracking behaviour of strain hardening cement-based composites, promotor Prof WP Boshoff, SU
8. Le Roux R (2010). Assessment of seismic drift of structural walls designed according to SANS 10160- Part 4, promotor Prof JA Wium, SU
9. Adendorff CJ (2009). The time-dependent cracking behaviour of strain hardening cement-based composite, promotor Prof WP Boshoff, SU.
10. Van der Merwe JE (2009). Rocking shear wall foundations in regions of moderate seismicity, promotor Prof JA Wium, SU

11. Spathelf C (2008). Assessment of the behaviour factor for the seismic design of reinforced concrete structural walls according to SANS10160: Part 4, promotor Prof JA Wium, SU.

Courses taught:

First year Bachelor in Civil Engineering level:

Strength of Materials 144 (2001, 2004); 143 (2005)

Second year Bachelor in Civil Engineering:

Strength of Materials 214 (2001 - 2004)

Strength of Materials 224 (2017)

Strength of Materials 244 (2002 - 2004); Strength of Materials 254 (2005)

Construction Materials 244 (2001-2004); Construction Materials 254 (2005-2008)

Third year Bachelor in Civil Engineering:

Structural Design: Reinforced Concrete Design 314 (1992 - 1995)

Theory of Structures 324: Introduction to Continuum Mechanics (2007-2009)

Theory of Structures 354: Finite Element Method (2005-2015)

MSc, PhD (Civil Engineering) level:

Advanced Mechanics of Materials and Modelling (AMMM) (2010-)