

CURRICULUM VITAE

1.0 PERSONAL DETAILS

SURNAME : Bright
FIRST NAME : Glen
ADDRESS : 107 Sir Duncan Road
Glenwood
Durban
MARITAL STATUS Lizell Bright, Supply Chain Manager
for Neonpak, Durban
CHILDREN Tyrone, 3rd year Mechanical Engineer-
ing, UKZN, Durban.
DATE OF BIRTH : 22 April 1966
ID NUMBER : 660422 5060 006
CITIZENSHIP : New Zealand and South Africa
LANGUAGES : English and basic isiZulu, Afrikaans,
French and Spanish
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2.0 ACADEMIC QUALIFICATIONS

1987: BScEng. (Mechanical) University of Natal, Durban.
1989: MSc. (Engineering) University of Natal, Durban. *Thesis Title: Automated Guided Vehicle System for Manufacturing Operations.*
1993: PhD (Engineering) University of Natal, Durban. *Thesis Title: Computer Aided Control, Data Transfer Processing, Path Planning and Guidance Techniques for Automated Guided Vehicles.*
2011: MBA. University of KwaZulu-Natal (UKZN), Durban. *Thesis Title: A Total Quality Management System for a University Faculty.* Certificates of Merit: **Business Law, Supply Chain Management, Management Information Systems and Human and Organisational Behaviour.**

3.0 PROFESSIONAL QUALIFICATIONS

Registration as a Professional Engineer in terms of the Engineering Professional Act, 2000 (act 46 of 2000), Engineering Council of South Africa (ECSA). REG NO. 20130182

4.0 BIOGRAPHICAL SKETCH, RESEARCH GRANTS, AWARDS, MEMBERSHIPS

4.1 Biographical Sketch

Graduated with a BSc (Mechanical Engineering), MSc (Engineering) and PhD (Engineering) degree at the Ex-University of Natal in the area of Mechatronics, Robotics and Advanced Manufacturing Systems. Professor of Mechatronics, Robotics and Advanced Manufacturing Systems since 2002. Held the following leadership positions since 2002: Major Leader and Head of the Mechatronics degree program at Massey University, Auckland, New Zealand, Head of School for Mechanical Engineering, Dean of Research for the College of Agriculture, Engineering and Science and Academic Leader in Mechanical Engineering, UKZN.

Holder of the James Fulton Chair based in Mechanical Engineering since 2008. Graduated with an MBA degree at UKZN, Durban, in 2011. Lecture courses in topics associated with Mechatronics, Robotics and Advanced Manufacturing Systems. Teaching and learning objectives are to provide quality education to students at undergraduate and post graduate level.

Leader and supervisor of the Mechatronics and Robotics research Group, (MR²G) since 1995 at UKZN. Research objectives are to provide industry with 'state of the art' solutions for Advanced Manufacturing System problems based on topics related to "Industry 4.0" for Factories of the Future. These objectives are achieved through local and overseas research collaboration. Research outputs and results are regularly presented and published in international conference proceedings, chapters in books and ISI accredited journals.

4.2 Research Grants

1996: FRD award to build a control system for an Automated Petrol Dispensing Unit: R25 000

FRD award for CIM system, collaborative project with M.L.Sultan Technikon: R70 000

University Research award: R8 500

FESTO sponsorship for Fuel Dispensing Robot: R17 500

1997: FRD grant for Advanced Manufacturing research, Gun no: 2053275: R78 900

Bell Equipment/THRIP: R100 000

UEC/THRIP: R20 000

FESTO sponsorship for Fuel Dispensing Robot: R17 500

INA Bearings sponsorship for Fuel Dispensing Robot: R10 000

University Research award: R7560

1998: FRD grant for Advanced Manufacturing Research, Gun no: 2053275: R111 000

Bell Equipment/THRIP: R70 000

University Research award: R9 000

1999: FRD grant for Advanced Manufacturing Research, Gun no: 2053275: R182 000

- Bell Equipment/THRIP: R1 930 000
University Research award: R17 000
- 2000:** FRD grant for Advanced Manufacturing Research, Gun no: 2053275:
R154 000
University Research award: R38 686
- 2001:** NRF grant for Advanced Manufacturing Research, Gun no: 2053275:
R350 000
University Research award: R34 400
- 2002:** NRF grant for Advanced Manufacturing Research, Gun no: 2053275:
R384 000
University Research award: R20 000
Mechatronics research grant (NZ): \$10 000
HARRI New Zealand film industry equipment grant: \$10 000
MURF research grant (NZ): \$5554
Strategic research grant (NZ): \$15 000
- 2003:** NRF grant for Advanced Manufacturing Research, Gun no: 2053275:
R350 000
FESTO research equipment grant: R15 000
Mechatronics research grant (NZ): \$20 000
MURF research grant (NZ): \$7400
Strategic research grant (NZ): \$16 000
- 2004:** NRF grant for Advanced Manufacturing Research, Gun No: 2053275:
R381 000
- 2005:** NRF grant on-going: Control of Advanced Manufacturing and
Electrical Machines, 5 year cycle 2005 till 2009: FA2004031800001:
R1 920 000
- 2006:** NRF grant on-going: Control of Advanced Manufacturing and Electri-
cal Machines, 5 year cycle 2005 till 2009: FA2004031800001
NRF running expense top up grant: R 40 000
- 2007:** NRF grant on-going: Control of Advanced Manufacturing and
Electrical Machines, 5 year cycle 2005 till 2009: FA2004031800001
NRF running expense top up grant: R56 000
CSIR: AMTS funding for RMS: R300 000
- 2008:** NRF grant on-going: Control of Advanced Manufacturing and Elec-
trical Machines, 5 year cycle 2005 till 2009: FA2004031800001
NRF grant increased to R 569 000 per annum
CSIR, AMTS, grant for RMS: R 550 000
UKZN productivity research award: R 40 000
Fulton chair grant: R 250 000
- 2009:** NRF grant on-going: Control of Advanced Manufacturing and Elec-
trical Machines, 5 year cycle 2005 till 2009: FA2004031800001
NRF grant increased to R580 000 per annum
CSIR, AMTS, grant for RMS: R 550 000
CSIR grant for Robocup 2010: R 502 000
UKZN productivity research award: R 40 000
Innovation fund for Search and Rescue robots: R 240 000
Fulton chair grant: R 250 000
- 2010:** CSIR, AMTS, grant for RMS: R 1 100 000
UKZN productivity research award: R 50 000
Innovation fund for Search and Rescue robots: R 100 000

- NRF Rating incentive award: R 40 000
 CSIR grant for Robocup 2010: R 502 000
 Fulton chair grant: R 300 000
- 2011:** CSIR, AMTS, grant for RMS: R 520 800
 UKZN productivity research award: R 134 000
 CSIR grant for Robocup: R 430 800
 NRF Rating incentive award: R 40 000
 Fulton chair grant: R 300 000
- 2012:** NRF Rating incentive award: R 40 000
 UKZN productivity research award: R 115 936
 Fulton chair grant: R 350 000
- 2013:** NRF Rating incentive award: R 40 000
 CSIR grant for Robocup: R 145 000
 NRF Blue Sky research grant initial for Advanced Manufacturing System research: Factories of the Future: R 200 000
 UKZN PhD Studentships: R 60 000
 UKZN productivity research award: R 114 000
 Fulton chair grant: R 350 000
- 2014:** NRF Rating grant: R 40 000
 NRF Blue Sky research grant for Advanced Manufacturing System research: Factories of the Future: R 1 350 000
 NRF Argentina/South Africa Research program: R 150 000
 UKZN productivity research award: R 116 000
 Fulton chair grant: R 400 000
- 2015:** NRF Rating grant: R 40 000
 NRF Blue Sky research grant for Advanced Manufacturing System research: Factories of the Future: R 1 290 000
 NRF Argentina/South Africa Research program: R 150 000
 TIA Grant for RMS: R 187 000
 UKZN productivity research award: R98 000
 Fulton chair grant: R 400 000
- 2016:** NRF Rating grant: R 40 000
 NRF Blue Sky research grant for Advanced Manufacturing System research: Factories of the Future: R 1 560 000
 NRF Argentina/South Africa Research program: R 150 000
 UKZN productivity research award: R 90 000
 Fulton chair grant: R 400 000
- 2017:** NRF Rating grant: R 40 000
 NRF Blue Sky research grant carry over for Advanced Manufacturing System research: Factories of the Future: R 500 000
 NRF Argentina/South Africa Research program: R 150 000
 UKZN productivity research award: R 75 000
 Fulton chair grant: R 400 000
- 2018:** NRF Rating grant: R 40 000
 UKZN productivity research award: TBA
 Fulton chair grant: R 400 000

Total Research Funding: R 35 314 582

4.3 Membership of Local Professional Bodies and International Scientific Committees:

1. IEEE member since 1997: (Membership No: 40196571)
2. ISPE life member of the executive board since 2001.

4.4 Membership of Conference Program Committees and Editorial Boards:

1. IASTED, International conferences and proceedings on Robotics and Manufacturing. (USA)
2. ISPE, International conferences and proceedings on CAD/CAM Robotics & Factories of the Future. (UK)
3. ICARCV, International conferences and proceedings on Control, Automation, Robotics and Computer Vision. (Singapore)
4. ACRA, Australasian conferences and proceedings on Control, Robotics and Automation. (Australia)
5. IFAC, INCOM symposium and proceedings on Information Control Problems in Manufacturing. (Europe)
6. ROBMECH, Robotics and Mechatronics Symposiums. (South Africa)
7. M2VIP, Machine Vision and Practice conferences. Australia)
8. Regional editor for:
 - i) Assembly Automation: International journal of assembly technology and management, MCB Emerald press, London, UK.
 - ii) Sensor Review: Internal journal of sensor technology, MCB Emerald press, London, UK.
 - iii) Industrial Robot: International journal of service robots, MCB Emerald press, London, UK.
9. National Research Foundation, (NRF), project proposal assessor and chairman for new project proposal, existing projects and Technikon projects.
10. ECSA Panel member and visit leader, for University Engineering degree programs. Last evaluation: Industrial Engineering, Pretoria University, September 2007
11. Engineering Applications of Artificial Intelligence: The International Journal of Intelligent Real-Time Automation; A journal of IFAC, the International Federation of Automatic Control

4.5 Awards & Prizes:

1. Award of excellence from the LITERATI club MCB University press United Kingdom:
G. Bright and P. Moodley. “**Sound Signatures Assist Assembly**”, Assembly Automation International Journal, Vol. 15 No. 3, England, 1995, pp. 21-23.
2. Best paper award: J Zyzalo, G Bright, O Diegel and J Potgieter. “**Modular Mechatronic Robotic Plug and Play Controller**”, 8th International Conference on Knowledge-Based Intelligent Information and Engineering Systems, Wellington, New Zealand, September 2004.pp 225 – 231.
3. Certificate of Excellence for Best Lecturer Award in the School of Mechanical Engineering, UKZN - 2009.

4. Certificate of Excellence in recognition of outstanding research productivity in the School/Faculty of Engineering, UKZN – 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015.

4.6 Chairman of Local and International Conferences:

1. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001.
2. Co-chair of the Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November, 2002.
3. Co-chair 1st Symposium on Mechatronics and Robotics, CSIR, Pretoria, 16 November 2007.
4. Co-chair 2nd Symposium on Mechatronics and Robotics, CSIR, Pretoria, 11 November 2008.
5. Co-chair 3rd Symposium on Mechatronics and Robotics, CSIR, Pretoria, 9 November 2009.
6. 25th International Conference on CAD/CAM, Robotics and Factories of the Future, Pretoria, South Africa, July 2010.

4.7 Keynote Addresses:

1. Australian Conference on Robotics and Automation (ACRA 2002). “**Mechatronics Research at Massey University**”, Massey University, Auckland, New Zealand.
2. EMA Telcom Breakfast invited guest speaker: “**Mechatronics: Engineering of the future**”, Auckland New Zealand, November, 2003.

4.8 Awarded the James Fulton Chair in Mechanical Engineering at UKZN from 2008 onwards.

4.9 Patents:

1. **An unmanned watercraft** (2009) – patent filing 2009/03 246
2. **A mobile device communication apparatus, method and system** (2009) – patent filing 2009/03 009
3. Complete filing as “**An Antenna for a Mobile Device and a communication system and methods**”, 2010/03 168, 2011

5.0 PUBLICATIONS

5.1 Chapters in Books

1. W.L. Xu, G Bright and A. Cowie, "**Fuzzy Multivariable Control of Meat Chiller**", Mechatronics and Machine Vision 2002: Current Practice, Editor: R Bradbeer and J Billingsley, Research Studies Press Ltd, Baldock, Hertfordshire, England, 2002, ISBN 0 86380 278 8, pp 245 – 252.
2. J.A. Cooney, G. Bright and W.L. Xu, "**Visual Dead-reckoning for Motion Control of a Mecanum-Wheeled Mobile Robot**", Mechatronics and Machine Vision 2003: Future Trends, Editor: J Billingsley, Research Studies Press Ltd, Baldock, Hertfordshire, England, 2003, ISBN 0 86380 2970 7, pp 17 – 24.
3. N.S. Tlale and J. Potgieter and G. Bright, "**Wireless Mechatronic Controller for Tele-operated Camera Platform**", Mechatronics and Machine Vision 2003: Future Trends, Editor: J Billingsley, Research Studies Press Ltd, Baldock, Hertfordshire, England, 2003, ISBN 0 86380 2970 7, pp 127 – 136.
4. R. Mayor, J. Potgieter, G. Bright and N.S. Tlale, "**Mechatronic Controlled Machine Vision Inspection Apparatus for Agile Manufacturing Systems**", Mechatronics and Machine Vision 2003: Future Trends, Editor: J Billingsley, Research Studies Press Ltd, Baldock, Hertfordshire, England, 2003, ISBN 0 86380 2970 7, pp 211 – 220.
5. G. Bright, O. Diegel, J. Potgieter and J. Zyzalo, "**Modular Mechatronic Controller for Reconfigurable Manufacturing Systems**", Computer Science, Editors: Mircea G. H. Negoita, Robert J. Howlett, Lakhmi C. Jain, Springer-Verlag Heidelberg, ISSN: 0302-9743, Volume 3213 / 2004, ISBN: 3-540-23318-0, 2004, pp 225 – 231.
6. G. Bright, N.S. Tlale, and C. Kumile, "**Wireless Communication Technology for Modular Mechatronic Controllers**", Mechatronics in Action, Editors Dr David Bradley and David W Russell, Springer-Verlag, London, UK, 2010, pp. 121-134.
7. R. Stopforth, G. Bright and R. Harley, "**Communication and Artificial Intelligence systems used for the CAESAR robot**" Mobile Robots Navigation, Editor: Aljandra Barrera, In-The Publishers, ISBN978-953-307-076-6, 2010, pp 629-666.
8. C. Onunka, G. Bright and R. Stopforth, "**Brainwave variability Identification in Robotic Arm Control Strategy**" Advances in Intelligent Systems and Computing Robot Intelligence Technology and Application 2, Editor: Jong-Hwan Kim, Springer Publishers, Switzerland, ISBN9783319055817, 2014, pp 173-189.
9. R. Stopforth and G. Bright, "**Dynamic Simulation of a Sagittal Biped System**" Advances in Intelligent Systems and Computing Robot Intelligence Technology and Application 2, Editor: Jong-Hwan Kim, Springer Publishers, Editor: Jong-Hwan Kim, ISBN9783319055817, 2014, pp 887-900
10. A. Sulaiman, F. Inambao and G. Bright, "**Solar Energy as an Aternate Energy Source to Power Mobile Robots**" Advances in Intell-

- gent Systems and Computing Robot Intelligence Technology and Application 2, Editor: Jong-Hwan Kim, Springer Publishers, Editor: Switzerland, ISBN9783319055817, 2014, pp 957-969.
11. C. Feng, R. Stopforth and G. Bright, “**Sagittal Biped Chaos Control Modelling**” Mechatronics: Principles, Technologies and Applications, Editor: Eugenio Brusa, Publisher: Nova Publishers, ISBN9781634828017, 2015, pp 23 – 57.
 12. D. van der Riet, R. Stopforth, G. Bright, P. Perumal, and O. Diegel “**The Low Cost Design of a 3D Multi-Fingered Myoelectric Prosthetic Hand**” Mechatronics: Principles, Technologies and Applications, Editor: Eugenio Brusa, Publisher: Nova Publishers, ISBN9781634828017, 2015, pp 85 – 117
 13. C. Onunka, G. Bright and R. Stopforth, “**Encoding/Decoding Expressive EEG Signal Variability Using IAF/ASDM Technique towards EEG-Controlled Robotic System Development**”, Machine Vision and Mechatronics in Practice, Editor: John Billingsley and Peter Brett, Publisher: Springer Publisher, ISBN9783662455135, 2015, pp 257 – 267
 14. AQ. Amra, J. Padayachee and G. Bright, “**An Open Architecture Control System for Reconfigurable Numerically Controlled Machinery**”, Machine Vision and Mechatronics in Practice, Editor: John Billingsley and Peter Brett, Publisher: Springer Publisher, ISBN 978-3- 662-45513-5, 2016, pp 309 – 322

5.2 Refereed Journals

1. Z. Katz and G. Bright, “**Guidance Technique for an Automated Guided Vehicle**”, International Journal of Advanced Manufacturing Technology, Springer-Verlag London, 1992, Vol 7, pp. 198-202.
2. G. Bright and P. Moodley, “**Sound Signatures Assist Assembly**”, Assembly Automation: International Journal, MCB Press, England, 1995, Vol 15 No. 3, pp. 21-23. *Award of excellence from the LITE-RATI club MCB University press United Kingdom.*
3. G. Bright and S. L. Martegoutte, “**Generic Gripper - Grabs Your Component**”, Assembly Automation: International Journal, MCB Press, England, 1995, Vol 15 No. 4, pp. 24-26.
4. G. Bright, H. Weinert and I. Palmer, “**Robotic Fuel Dispenser**”, Service Robot: International Journal, MCB Press, England, 1996, Vol 16 No. 3, pp. 13-16.
5. G Bright, D. Fererria and R. Mayor, “**Automated Pipe Inspection Robot**”, Industrial Robot: International Journal, MCB Press, England, 1997, Vol 24, pp. 285 - 289.
6. G. Bright and R. Jennings, “**Machine Vision and Intelligence Incorporating Motion Control**”, Assembly Automation: International Journal, MCB Press, England, 1999, Vol 19 No. 1, pp. 55 - 58.
7. N.S. Tlale, R. Mayor and G Bright, “**Intelligent Generic Gripper Using Low Cost Industrial Sensors**”, Electron Journal of the Institute of Electrical and Electronic Engineers, Johannesburg, South Africa, 1999, Vol 16 No.1, pp. 14 - 15.

8. G. Bright and R. Mayor, "**Mechatronics-Based In-Process Verification for Flexible Manufacturing Systems**", Assembly Automation: International Journal, MCB University Press, England, 1999, Vol 19 No. 2, pp. 139 - 145.
9. G. Bright and J. Potgieter, "**Robotic Internet System for CIM Processes**", S. A Mechanical Engineer, South Africa, May 2000, pp 23 - 25.
10. G. Bright and R. Mayor, "**Quality Management for CIM Systems**", S.A Mechanical Engineer, South Africa, July 2000, pp. 17 - 19.
11. G. Bright, M. Hippner and C. Lindsay, "**Advanced Material Handling System for Computer Integrated Manufacturing**", International Journal of Robotics and Computer Integrated Manufacturing 2001, USA, January 2001, Vol 16 No. 6, pp. 437 - 441.
12. G. Bright, "**Mechatronics: State-of-the-Art Solutions for South African Manufacturers**" Mechanical Technology Journal, South Africa, September 2001, pp. 24 - 25.
13. N.S. Tlale and G. Bright, "**Intelligent Optical Electronic inspection System for Reverse Engineering**" Mechanical Technology Journal, South Africa, accepted May, 2002, pp 38 - 40.
14. W.L. Xu and G. Bright, "**Massey Mechatronics: Designing Intelligent Machines**", The International Journal of Engineering Education, Tempus Publications, UK, Vol 19, No 4, 2003, pp 550 – 556.
15. G. Bright and R. Ranjit, "**Multi Sensor Automatic Storage and Retrieval On-Line Inventory Control**". Mechanical Engineers Journal, Materials Handling and Logistics Today, South Africa, May 2003, pp 9-12.
16. N.S Tlale, G. Bright and J. Potgieter, "**Wireless tele-operated Mechatronics control system for camera platform positioning**" Industrial Robot: An International Journal, Vol 30 No 2, 2003, pp 177-183.
17. W.L. Xu, G. Bright and J.A. Cooney, "**Visual dead-reckoning for Motion control of a Mecanum-wheeled mobile robot**" Mechatronics International Journal, Elsevier Ltd, vol 14, 2003, pp 623 – 637.
18. O. Diegel, G. Bright and J. Potgieter, "**Bluetooth ubiquitous networks :Seamlessly integrating humans and machines**". Assembly Automation: International journal, MCB Press, England, 2004, Vol 24 No. 2, pp. 168 - 176.
19. G. Bright and R. Mayor, "**Mechatronic-controlled Machine Vision Inspection apparatus for Agile Manufacturing Systems**". SME Technical Paper, Dearborn, MI, TP04PUB189, 2004, pp 1 – 9.
20. J.A. Cooney, W.L. Xu and G Bright. "**Visual dead-reckoning for Motion control of a Mecanum-wheeled mobile robot**" SME Technical Paper, Dearborn, MI, TP04PUB166, 2004, pp 1 – 9.
21. N.S Tlale, G. Bright and W.L Xu, "**Distributed Control of Hexapod Wall Climbing Robot implementing Controller Area Network (CAN)**", International Journal of Intelligent Systems, Technologies and Applications, IJISTA, Interscience publications, Vol 1, No ½, UK, 2005, pp 66 – 78. ISSN 1740 886.

22. M.D, Hurley, W.L. Xu and G Bright. **“Implementing Fuzzy Logic for Machine Intelligence: A case study”** The International Journal of Engineering Education, Tempus Publications, UK, Vol 21 No 1, 2005, pp 178 - 186. ISSN 0949 149X
23. O Diegel, G Bright and J Potgieter. **“Customized Mass Manufacturing: Low cost, radio frequency node based indoor tracking networks”**, The International Journal of INGENUIM: Engineering Achievements across the Global Village, CGU, Glasgow, vol 3, 2005. pp 423 – 430, ISSN 1363-514X, ISBN 83-7204- 454-6.
24. J Potgieter, G Bright, O Diegel and M Tinnelly. **“Low Cost Guidance System for De-mining robots”**, The International Journal of INGENUIM: Engineering Achievements across the Global Village, CGU, Glasgow, vol 3, 2005. pp 438 – 446, ISSN 1363-514X, ISBN 83-7204-454-6.
25. G Bright, N S Tlale and J Zyzalo. **“Modular Generic Controllers for Mechatronic systems”**, The International Journal of INGENUIM: Engineering Achievements across the Global Village, CGU, Glasgow, vol 4, 2005. pp 449 – 456, ISSN 1363-514X, ISBN 83-7204-454-6.
26. N S Tlale and G Bright. **“Autonomous Hexapod robot for wall climbing tasks: Distributed control architecture implementing CAN”**, The International Journal of INGENUIM: Engineering Achievements across the Global Village, CGU, Glasgow, vol 4, 2005. pp 497 - 504, ISSN 1363-514X, ISBN 83-7204-454-6.
27. A Shaik, NS Tlale and G Bright. **“Parallel Robot Design Incorporating a Direct end Effector Sensing System”**, International Journal of Intelligent Systems Technologies and Applications, Vol. 2, Nos. 3/4, 2008.
28. A Shaik and G Bright **“Closed Loop Sensor System for Automated Machines”**, Engineering IT Journal, Johannesburg, South Africa, February, 2008, pages 18-22.
29. CM Kumile and G Bright **“Sensor Fusion Control System for Computer Integrated Manufacturing”**, South African Journal of Industrial Engineering, 2008, Vol. 19, pp. 179-194.
30. L Butler and G Bright **“Autonomous Materials Handling Robot for Advanced Manufacturing Applications”** Journal of Konbin, Versita Warsaw, Volume 8, Number 1, 2008, pp. 17-26.
31. CM Kumile, NS Tlale and G Bright **“Aspects of Modular Mechatronics in South Africa”**, R & D Journal, July 2008, Vol 24, pp. 23-30.
32. J Padayachee, G Bright and I Masekamelala **“Modular Reconfigurable Machine Tools: Design, Control and Evaluation”** South African Journal of Industrial Engineering, 2009, Vol. 20, Number 2, pp. 127-143.
33. L Butler and G Bright **“Control Strategy for a Mobile Self-balancing Materials Handling Platform”**, Journal of Engineering, Design and Technology, Volume 8, Number 1, pp 6-27, 2010
34. S Davrajh and G Bright **“An Automated Apparatus for Dynamic Inspection of Mass-Produced Custom Parts”**, Journal of Assembly Automation, Emerald Group Publishing Limited, Volume 30, Number 1, 2010, pp 47-55.

35. A Shaik, NS Tlale and G Bright “**2 DOF resolution adjustment laser position sensor**”, International Journal Intelligent Systems Technologies and Applications, Vol. 8, Nos. 1-4, 2010, pp 348-360.
36. B Xing, NS Tlale and G Bright “**The application of mechatronic design approach in a reconfigurable manufacturing environment**”, International Journal Intelligent Systems Technologies and Applications, Vol. 8, Nos. 1-4, 2010, pp 330-347.
37. R Stopforth, G Bright and R Harley “**Performance of the Improvements of the CAESAR Robot**”, International Journal of Advanced Robotic Systems, ISSN: 1729-8806, INTECH, September 2010, pp 217-226.
38. AJ Walker and G Bright “**Reconfigurable product routing and control for mass customization manufacturing**”, South African Journal of Industrial Engineering, November 2010, Vol 21(2), pp 173-189.
39. R Stopforth, G Bright and R Harley “**Communication Improvements and Gas Danger Analysis used for the CAESAR Robot**”, International Journal of Intelligent Systems Technologies and Applications, (IJISTA), Inderscience, Vol 10, No 1, pp 46 - 64, 2011.
40. R Stopforth, G Bright, S Davrajh and A Walker “**Improved Communication between Manufacturing Robots**” South African Journal of Industrial Engineering, 2011, Vol 22(1): pp99-107.
41. Y. Naidoo, R. Stopforth and G. Bright “**Quad-Rotor Unmanned Aerial Vehicle Helicopter Modelling and Control**”, International Journal of Advanced Robotic Systems, ISSN: 1729-8806, INTECH, September 2011, Vol 8, pp 139-149.
42. J Collins and G Bright, “**Automatic Tool changing within the Reconfigurable Manufacturing Systems Paradigm**” South African Journal of Industrial Engineering, Vol. 22, No. 2, pp 68 – 79, November 2011.
43. N Hassan and G Bright “**A Hybrid Reconfigurable Computer-Integrated Manufacturing Cell for the Production of Mass Customized Parts**” South African Journal of Industrial Engineering, Vol. 23, No. 1, 2012, pp 139-150.
44. A.A. Shaik, N.S. Tlale and G Bright, “**A new hybrid machine design for a 6 DOF industrial robot arm**” International Journal of Intelligent Systems, Technologies and Applications. IJISTA 2012, Vol. 11, Nos. 1-2, accepted, May 2012, pp. 63-80. ISSN (Online): 1740-8873; ISSN (Print): 1740-8865.
45. D Naidu, R Stopforth, G Bright and S Davrajh, “**A portable Passive Physiotherapeutic Exoskeleton**”, International Journal of Advanced Robotic Systems, INTECH, 2012, accepted, Vol 9, pp 1-12. Accepted ISSN: 1729-8806.
46. J Padayachee and G Bright. “**Modular Machine Tools: Design and Barriers to Industrial Implementation**”, Journal of Manufacturing Systems, The Society of Manufacturing Engineers, Elsevier Ltd, 2012, Vol 31, accepted, pp 92-102.
47. R Stopforth and G Bright “**System Integration Performed on the CAESAR USAR Robot**”, Research &Development Journal, Vol. 28, issue 1, accepted, pp 1-9. 2012

48. S Davrajh and G Bright, “**Advanced Quality Control Management System for Product Families in Mass Customization and Reconfigurable Manufacturing**”, *Assembly Automation*, Vol. 33 Issue: 2, accepted, 2013, pp. 127 – 138
49. R.C Dixon, G Bright and R Harley, “**Robust localization of automated guided vehicles for computer-integrated manufacturing systems**”, *South African journal of Industrial Engineering*, Vol. 24, Issue 1, accepted, May 2013, pp 81-90.
50. C Onunka, G Bright and R Stopforth, “**Probabilistic Uncertainty Identification Modelling in USV Obstacle Detection**”, *SAIMEchE R & D Journal*, accepted vol. 29, pp. 36-43, 2013.
51. C. Onunka, G Bright and R Stopforth, “**USV Attitude Estimation: An Approach using Quaternion in Direction Cosine Matrix**”, *IEEE Robotica*, accepted, vol 21, pp 1- 15, 2014.
52. R Stopforth and G Bright, “**Analysis of current South African Semi-Trailer and B-double vehicles using a performance-based Standards approach**”, *R&D Journal*, volume 30, 2014.
53. C Onunka G Bright and R Stopforth, “**Brainwave Variability Identification in Robotic Arm Control Strategy**” *Advances in Intelligent Systems and Computing*, accepted, Vol 274, 2014, pp 173-189.
54. R Stopforth and G Bright , “**Dynamic Simulation of a Sagittal Biped System**” *Advances in Intelligent Systems and Computing*, accepted, Vol 274, 2014, pp 887-900.
55. A Sulaiman, F Inambao and G Bright, “**Solar Energy as an Alternative Energy Source to Power Mobile Robots**” *IOP Conference Series: Material Science & Engineering*, Vol 65, accepted, 2014, pp 957-969.
56. QA Amra, J. Padayachee and G. Bright, “**Modular Open Architecture controller for a Reconfigurable Machine Tool**”, *R&D Journal of the South African Institution of Mechanical Engineering*, published, June 2014, vol 30, pp 14-21.
57. C. Onunka , G. Bright and R. Stopforth , “**Wireless Autonomic Neural Network in EEG Signal Extraction Management**” *International Journal of Computer Applications in Technology*, accepted, vol. 50, No.1/2, pp. 18-29, 2014.
58. L. Butler and G. Bright, “**Computational intelligence for advanced manufacturing system management: a review**” *Int. J. Intelligent Systems Technologies and Applications*, published, vol. 13, No. 4, 2014, pp 258 – 266.
59. J. Collins and G. Bright, “**Nintendo Wii Remotes Provide A Reconfigurable Tool-Changing Unit with an Automatic Calibration Capability**”, *South African Journal of Industrial Engineering (SAJIE)* Vol. 25 Nr. 2 of 2014, pp 135 – 147.
60. R. McLean, J. Padayachee and G. Bright, “**A Thin, Hardware-Supported Middleware Management System for Reconfigurable Manufacturing Systems**” *South African Journal of Industrial Engineering (SAJIE)*. Vol. 26, No. 1, 2015, pp 207 - 223
61. D. van der Riet, R. Stopforth and G. Bright, O. Diegel, “**Sensory System Integration of the Designed Touch Hand**” *Sensor Review*, Emerald Publishers, Vol. 36 iss: 2, ISSN: 0260-2288, accepted, 2016,

62. ML. Bergamini, F. Ansaldo, G. Bright and JF. Zelasco, “**Fundamental Matrix: Digital Camera Calibration and Essential Matrix Parameters**” International Journal of Signal Processing, Vol. 1, 2016, ISSN: 2367-8984, accepted, pp 120 - 126
63. N. Mutombo, F. Inambao and G. Bright, “**Performance analysis of Thermosyphon Hybrid Photovoltaic Thermal Collector**” Journal of Energy in Southern Africa, Energy Research Centre Publishers (UCT), Vol. 27, No. 1, ISSN 2223-6279, accepted, 2016, pp 28 – 38
64. FM. Kasie, G. Bright, A. Walker, “**An Intelligent Decision Support System for on-demand Fixture Retrieval, Adaptation and Manufacture**”, The Journal of Manufacturing technology Management, Emerald Publishers, Vol. 28, Iss. 1, 2016, pp 431 - 440
65. C. Onunka, H. Grobler, G. Bright, “**A Stability Optimization Model for Shaft Rotor-Bearing Systems**”, African Journal of Science, Technology, Innovation and Development, ISSN 2042-1338, 2016, pp 411 - 422
66. AJ.Walker, and G. Bright, “**Modeling Arrival to Departure Sequence Disorder in Flow Controlled manufacturing systems**”, International Journal of Production Research (IJPR), ISSN: 0020-7543, Vol.54 iss: 23, accepted, September 2016, pp 1 - 11
67. J. Padayachee, G. Bright, “**A Multi-Period Group Technology Method for Dynamic Cellular Manufacturing Systems**”, South African Journal of Industrial Engineering, Vol. 27, issue no. 4, accepted, 2016, pp 90 - 100
68. T. Kader, R. Stopforth, G. Bright, “**Simulation System to Aid in Vehicle Simulation Design**”, R&D Journal, Vol 33, accepted, 2017, pp 1-8
69. FM. Kasie, G. Bright, A. Walker, “**Decision Support Systems in Manufacturing: A survey and future trends**”, The Journal of Modelling in Management, Vol. 12 No. 3, accepted 2017, pp 432 - 454
70. A. Illidge and G. Bright, “**An Automated Flexible Fixture System for Mass Customization**” South African Journal of Industrial Engineering, Vol. 29 No. 1, accepted 2018, pp 21 - 34
71. L. Butler and G. Bright, “**Mass Customization Manufacturing Management Optimization Using Computational Intelligence**”, South African Journal of Industrial Engineering, Vol. 29 No. 1, accepted 2018, pp 86 - 96
72. T. Naidoo, A. Walker, G. Bright and S. Davrajh, “**Fuzzy Logic Control for Varied Inspection**”, South African Journal of Industrial Engineering, Accepted 2018
73. C. Basson, G. Bright and A. Walker, “**Testing Flexible Grippers for Geometric and Surface Grasping Conformity in Reconfigurable Assembly Systems**”, South African Journal of Industrial Engineering, Vol. 29 No. 1, accepted 2018, pp 128 - 142
74. E. Naidoo, J. Padayachee and G. Bright, “**A Multi-Stage Optimisation Method for the Management of an On-Demand Fixture Manufacturing Cell for Mass Customisation Production Systems**”, South African Journal of Industrial Engineering, Vol. 29 No. 1, accepted 2018, pp 52 – 64

75. G. Aklilu, S Adali and G. Bright, “**Experimental Characterization of Hybrid And Non-Hybrid Polymer Composites At Elevated Temperatures**”, International Journal of Engineering Research in Africa, Vol. 36, accepted 2018, pp 37-52
76. R. McLean and G. Bright, “**An Introduction to and Discussion on the Implementation of the Advanced Amalgamated Agile Manufacturing System**”, South African Journal of Industrial Engineering, Accepted 2018
77. FM. Kasie, N. Taskin, Z. Huang and G. Bright, “**Integrating Fuzzy Case-Based Reasoning and Discrete-Event Simulation to Develop a Decision Support System for Part-Fixture Assignment and Fixture Flow Control**” Journal of Modelling in Management, accepted 2018
78. A. Pancham, D. Withey and G. Bright, “**Evaluation Of A Simultaneous And Mapping Algorithm In A Dynamic Environment Using A Red Green Blue-Depth Camera**”, Artificial Intelligence and Evolutionary Computations in Engineering Systems, accepted 2018, Springer, pp 717 – 724
79. J.A Kamlofsky, N. Naidoo, G. Bright, M.L Bergamini, J. Zelasco, F. Ansaldo and R. Stopforth: “**Semi-Autonomous Robot Control System With An Improved 3D Vision Scheme For Search And Rescue Missions. A Joint Research Collaboration between South Africa and Argentina**”, Advances in Science, Technology and Engineering Systems Journal, accepted 2018, Vol. 3, No. 6, pp 347-357
80. G. Aklilu, s. Adali and G. Bright, “**Temperature Effect on Mechanical Properties of Carbon, Glass and Hybrid Polymer Composite Specimens**”, International Journal of Engineering Research in Africa, Vol. 39, accepted 2018, pp 119 - 138

5.3 Refereed Conference Proceedings

1. Z. Katz and G. Bright. “**Data Transfer Processing and Path Planning for AGV's in Flexible Manufacturing Environments**”, International Workshop on Intelligent Manufacturing Systems, Dearborn, Michigan, USA, October 1992, pp. 225-228.
2. G. Bright. “**Computer Aided Part Mating in Automated Assembly Processes using Vibration Analysis**”, 3rd International Conference on Automation, Robotics and Computer Vision, ICARCV'94, Singapore, November 1994, pp. 774-777.
3. G. Bright and P. Moodley. “**Acoustic Emission Monitoring System for Automated Part Assembly**”, 3rd IASTED International Conference on Robotics and Manufacturing, Cancun, Mexico, June 1995, pp. 98-102.
4. G. Bright and S.L. Martegoutte. “**Generic Gripper for Electronic Component Assembly**”, 11th International Conference on CAD/CAM, Robotics and Factories of the Future, Columbia, South, America, July 1995, pp. 115-118.
5. G. Bright and K. Kanny. “**Generic Gripper for Part Identification**

- using Microprocessor Control within a C.I.M.**”, International Symposium on Intelligent Robotic Systems, Bangalore, India, November 1995, pp. 356-361.
6. G. Bright and H. Weinert. **“Automated Fuel Dispensing Actuator”**, 12th International Conference on CAD/CAM Robotics and Factories of the Future, Middlesex University, London, U.K, July 1996, pp. 789-795.
 7. G. Bright and K. Kanny. **“Part Recognition and Manipulation by means of a Generic End Effector with Sensing Capability”**, 4th International Conference on Automation, Robotics and Computer Vision, ICARCV'96, Singapore, October 1996, pp. 1150-1154.
 8. G. Bright and P. Moodley. **“Low Cost 3-D Scanning for Reverse Engineering within a CIM System”**, International Conference on Manufacturing Automation, ICMA'97, Hong Kong, May 1997.
 9. G. Bright, D. Ferreria and R. Mayor. **“Short Pipe Inspection Robot based on Mechatronic Principles”**, 14th International Conference on CAD/CAM, Robotics and Factories of the Future, Bogota, Columbia, South America, July 1997.
 10. G. Bright and R. Mayor. **“Automated Visual Inspection Apparatus for CIM systems”**, 4th International Conference on Computer Integrated Manufacturing Systems, Singapore, October 1997, pp. 1233 - 1242.
 11. G. Bright, S. Tlale and R. Mayor. **“Robotic Generic Gripper for Electronic Component Assembly”**, 29th International Symposium on Robotics, Birmingham, England, May 1998, pp. 158 - 162.
 12. G. Bright and R. Mayor. **“Cost Effective Mechatronic Control of an Automated Visual Inspection Apparatus”**, IEEE International Symposium on Industrial Electronics, Pretoria, South Africa, July 1998, pp. 472 - 475.
 13. G. Bright and R. Jennings. **“Machine Vision and Intelligence Incorporating Motion Control”**, IEEE International Symposium on Industrial Electronics, Pretoria, South Africa, July 1998, pp. 497 - 501.
 14. G. Bright and J. Potgieter. **“PC-Based Mechatronic Robotic Plug and Play System for Part Assembly Operations”**, IEEE International Symposium on Industrial Electronics, Pretoria, South Africa, July 1998, pp. 426 - 429.
 15. G. Bright, S. Tlale and R. Mayor. **“Intelligent Generic Gripper Low Cost Industrial Sensors”**, IEEE International Symposium on Industrial Electronics, Pretoria, South Africa, July 1998, pp. 415 - 419.
 16. G. Bright and J. Potgieter. **“PC-Based Modular Robotic System for Part Assembly Operations”**, 6th IASTED International Conference on Robotics and Manufacturing, Banff, Canada, July 1998, pp. 86-88.
 17. G. Bright and R. Mayor. **“ORIS: An Object Recognition and Inspection System for the CIM Environment”**, 14th International Conference on Computer Aided Production Engineering, Tokyo, Japan, September 1998, pp. 393 - 398.
 18. G. Bright and R. Jennings. **“Computer Aided Motion Control System Incorporating Vision Technology for Production Engineering”**, 14th International Conference on Computer Aided

- Production Engineering, Tokyo, Japan, September 1998, pp. 385 - 391.
19. G. Bright and J. Potgieter. **“Operating System for part Assembly Operations using PC-Based Plug and Play Mechatronic Technology”**, 9th DAAAM International Symposium on Intelligent Manufacturing, Automation and Networking, Technical University Cluj-Napoca, Romania, October 1998, pp. 73 - 76.
 20. G. Bright and R. Mayor. **“An Integrated Mechatronic Based Approach to Automated Visual Inspection”**, 5th International Conference on Automation, Robotics and Computer Vision, (ICARCV) 1998, Singapore, December 1998, pp. 738 - 742.
 21. G. Bright, J. Parker and R. Mayor. **“Cost Effective Automated Visual Inspection Apparatus for FMS”**, International Conference on Quality Manufacturing, Stellenbosch, South Africa, January 1999, pp. 34 - 38.
 22. G. Bright, M. S. Khan and R. Mayor. **“AGV Docking System for Computer Aided Production Engineering”**, 15th International Conference on Computer Aided Production Engineering, Durham, England, April 1999, pp. 530 - 533.
 23. G. Bright and C. Duebler. **“Design and Implementation of an Intelligent Remote Centre Compliant (IRCC) for state of the art Process Control and Self Optimisation”**, IEEE International Symposium on Industrial Electronics, Slovenia, Yugoslavia, July 1999, pp. 929 - 933.
 24. G. Bright and J. Potgieter. **“Flexible PC-Based Modular Mechatronic Operating Systems for Computer Integrated Manufacturing”**, 15th International Conference on CAD/CAM, Robotics and Factories of the Future, Aguas de Lindoia, SP, Brazil, August 1999, pp. RF2-1 - RF2-4.
 25. G. Bright and C. Duebler. **“Design and Implementation of an Intelligent Remote Centre Compliance (IRCC) as means of Intelligent Position Feedback for a Construction Robot”**, 16th International Symposium on Automation and Robotics in Construction, Madrid, Spain, September 1999.
 26. G. Bright, M. Hippner and C. Lindsay. **“Cordless Linear Motor Material Handling System for Computer Integrated Manufacturing”**, 5th International Conference in Computer Integrated Manufacturing (ICCIM) 2000, Singapore, March 2000, pp. 404 - 412.
 27. G. Bright and R. Mayor **“ORIS: Total Quality Management Technology for the CIM Environment”**, 16th International Conference on CAD/CAM, Robotics and Factories of the Future, Port of Spain, Trinidad, West Indies, June 2000, pp. 189 - 195.
 28. G. Bright and J. Potgieter. **“Mechatronic Modular Robotic Internet Based Control System for Computer Integrated Manufacturing Processes”**, 7th IASTED International Conference on Robotics and Manufacturing 2000, Honolulu, Hawaii, USA, August 2000.
 29. G. Bright and C. Kumile, **“Modeling and Developing a Real-Time Mechatronic Shop-Floor Control System for Computer Integrated Manufacturing”**, 7th Mechatronics Forum International Conference, Atlanta, Georgia, USA, September 2000. pp on supplied compact disc of journal proceedings.

30. G. Bright, N. S. Tlale and C. Lindsay. “**Intelligent Material Handling System for Advanced Electronic Component Inspections**”, 11th DAAAM International Symposium: Intelligent Manufacturing and Automation: Man-Machine-Nature, Croatia, Europe, October 2000.
31. G. Bright, M. Hippner and C. Lindsay. “**Integrated Reverse Air Bearing Levitation System for a Moving Magnet Linear Motor Material Handling System**”, 6th International Conference on Control, Automation, Robotics and Computer Vision (ICARCV) 2000, Singapore, December 2000, pp. on supplied compact disc of conference proceedings.
32. G. Bright and J. Potgieter. “**Mechatronic Internet Based Control System for Computer Integrated Manufacturing Process**”. International Conference on Competitive Manufacturing, COMA’ 01, Stellenbosch, South Africa, February 2001, pp. 354 - 360.
30. G. Bright, S Tlale and C Lindsay. “**Incorporating an Advanced Material Handling System**”. International Conference on Competitive Manufacturing COMA ‘01, Stellenbosch, South Africa, February 2001, pp. 332 - 336.
31. G. Bright and J. Potgieter. “**Integrated Mechatronic Control Approach for Global Manufacturing Enterprises**”. IASTED International Conference on Robotics and Manufacturing (RM2001), Cancun, Mexico, May 2001. pp. 128 - 131.
32. G. Bright and L. Qingxue. “**Systems Integrating Approach Towards CIM Modelling**” 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 42 - 51.
33. G. Bright and NS Tlale. “**Intelligent Optical Electronics Inspection System for Reverse Engineering**”. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 52 - 57.
34. G. Bright, R. Jennings and R. Mayor. “**Integrated Machine Technologies for Adaptive Automation Systems**”. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 67 - 75.
35. G Bright and J Potgieter. “**Mechatronic Control Approach for Global Internet Manufacturing**”. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 263 - 270.
36. G Bright and R Mayor. “**On-Line Automated Quality Control for Modern Manufacturing Environments**”. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 297 - 303.
37. G Bright, C Lindsay and M Hippner. “**Materials Handling Using a Cordless Linear Synchronous Motor**”. 17th International Conference on CAD/CAM, Robotics and Factories of the Future, Durban, South Africa, July 2001, pp. 1000 - 1005.
38. G Bright and R Mayor. “**Rapid Systems Development Tool using Integrated Mechatronics**”. 5th International Conference on Mechatronic Design and Modelling, Conya, Turkey, September 2001, pp. 135 - 146.

39. G Bright and R Mayor. "**Integrated Mechatronics: The Key to Rapid Systems Development**". The International Manufacturing Leaders Forum (IMLF) 2002, Adelaide, Australia, February 2002, pp. On supplied compact disc of conference proceedings.
40. G Bright and C Kumile, "**Real-Time sensor based CIM Control Architecture**". Mechatronics Forum International Conference - Mechatronics 2002, Netherlands, June 2002. On supplied compact disc of conference proceedings.
41. G Bright and R Mayor. "**Computer-Controlled Inspection Apparatus for Modern Agile Manufacturing Systems**". 18th International Conference on CAD/CAM, Robotics and Factories of the Future, Porto, Portugal, July 2002, pp 73 - 82.
42. G Bright, J Potgieter and S Tlale, "**A Low Cost, Flexible, Modular Design Apparatus for Reverse Engineering and Inspection of PCBs**". 18th International Conference on CAD/CAM, Robotics and Factories of the Future, Porto, Portugal, July 2002, pp 545 - 554.
43. G Bright, J Potgieter and S Tlale, "**Modular Mechatronic Control System for Internet Manufacturing**", 18th International Conference on CAD/CAM, Robotics and Factories of the Future, Porto, Portugal, July 2002, pp 529 - 536.
44. G Bright, S Tlale and J Potgieter. "**Mechatronic Controller for Tele-Operated Camera Platform**", Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 48-53.
45. G Bright, J Potgieter, O Deigel and S Tlale. "**Internet Control of a Domestic Robot Using a Wireless LAN**" Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 212-215.
46. G Bright, J Potgieter, W L Xu, O Deigel and S Tlale. "**Wireless Network Control for Internet Manufacturing**" Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 202-205.
47. G Bright, NS Tlale, J Potgieter and W L Xu. "**Mechatronics Modular Design of an Apparatus for PC Board Inspection**" Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 139-144.
48. G Bright "**Mechatronics for Designing Intelligent Machines**" Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 128-131.
49. O Diegel, A Badve, G Bright, J Potgieter and S Tlale "**Improved Mecanum Wheel Design for Omni-directional Robots**" Australasian Conference on Robotics and Automation (ACRA 2002), Auckland, New Zealand, November 2002, pp 117-121.
50. G Bright and C Kumile. "**Design of a Mechatronic Sensor Based Real- Time Controller for Computer Integrated Manufacturing**", Mechatronics Forum International Conference - Mechatronics 2003, Loughborough, June 2003. On supplied compact disc of conference proceedings.
51. G Bright, N S Tlale and J Potgieter. "**Control of a Domestic Robot Appliance via the Internet Using Wireless LAN**" 19th International

- Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia, July 2003. pp 653 - 660.
52. G Bright, N S Tlale and J Potgieter. **“Integrated Mechatronics Design of an Inspection System for PCB’s”** 19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia, July 2003. pp 443 - 454.
 53. G Bright, N S Tlale and J Potgieter. **“Internet Control of a FMS Using a Wireless LAN System”** 19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia, July 2003. pp 455 - 464.
 54. G Bright and R Ranjith, **“Low Cost, Multi Sensor Automatic Storage and Retrieval System with On-Line Inventory Controls”** 19th International Conference on CAD/CAM, Robotics and Factories of the Future, Kuala Lumpur, Malaysia, July 2003. pp 645 - 652.
 55. G Bright, J. Potgieter, N. S Tlale and W.L Xu. **“Computer Controlled Manufacturing Environment Utilising Internet Technology”** 7th IASTED International Conference on Internet and Multimedia Systems and Applications, Honolulu, Hawaii, August 2003. On supplied compact disc of conference proceedings.
 56. J. Potgieter, G. Bright, O. Diegel and NS. Tlale **“Communication and Control of a Domestic Robot via the Internet”**, 2nd IASTED International Conference on Communications, Internet, & Information Technology, CIIT 2003, November 17-19, Scottsdale, AZ, USA, 2003. pp 803 – 807.
 57. G Bright, R. Mayor, NS Tlale and J Potgieter **“Mechatronic-Controlled Machine Vision Inspection Apparatus for Agile Manufacturing Systems”**, 10th Annual IEEE Conference on Mechatronics and Machine Vision in Practice, Perth, Australia, December 2003. On supplied compact disc of conference proceedings.
 58. G Bright, NS Tlale, J Potgieter and O Diegel **“Wireless Mechatronic Controller for Tele-Operated Camera Platforms”**, 10th Annual IEEE Conference on Mechatronics and Machine Vision in Practice, Perth, Australia, December 2003. On supplied compact disc of conference proceedings.
 59. G Bright, NS Tlale, WL Xu and J Potgieter **“Mechatronic Modular Design of a PC Board Vision Inspection Apparatus”**, 10th Annual IEEE Conference on Mechatronics and Machine Vision in Practice, Perth, Australia, December 2003. On supplied compact disc of conference proceedings.
 60. G Bright, J Potgieter, WL Xu and NS Tlale. **“Integrated Wireless Network Control for Internet Manufacturing Processes”**, International Conference on Competitive Manufacturing 2004, (COMA’04), Stellenbosch, South Africa, February 2004. pp 349 - 354.
 61. G Bright, NS Tlale and J Potgieter. **“Wireless Mechatronic Controller for Tele-Operated Camera Platform”**, International Conference on Competitive Manufacturing 2004, (COMA’04), Stellenbosch, South Africa, February 2004, pp 343 - 348.

62. O Diegel, G Bright and J Potgieter. **“The Seamless integration of Humans and Machines using Bluetooth communication”**. 20th International Conference on CAD/CAM, Robotics and Factories of the Future, San Christobal City, Venezuela, July 2004, pp 221-229.
63. G Bright, S Tlale, M Jayasinghe and J Potgieter. **“Wireless Servo Motor control for Modular Mechatronic Actuators”**. 20th International Conference on CAD/CAM, Robotics and Factories of the Future, San Cristobel City, Venezuela, July 2004, pp 63 – 71.
64. G Bright, O Diegel, J Potgieter and J Zyzalo **“Generic Mechatronic control for Agile Manufacturing”**, 9th International Mechatronics Forum 2004, Ankara, Turkey, August 2004. PP on CD.
65. J Zyzalo, G Bright, O Diegel and J Potgieter. **“Modular Mechatronic Robotic Plug and Play Controller”**, 8th International Conference on Knowledge-Based Intelligent Information and Engineering Systems, Wellington, New Zealand, September 2004. pp 225 – 231. Won: best paper award.
66. MJ. Tinnelly, J Potgieter, G Bright and O Diegel, **“Laser Guidance System for De-Mining Robots”**, 11th Electronics New Zealand Conference, Palmerston North, New Zealand, November 2004, ISBN 0-476-01106-x, pp. 44-48.
67. G Bright, B Xing and S Craig. **“Modular Machine Design for Reconfigurable Manufacturing”**, 3rd International Conference on Reconfigurable Manufacturing, Michigan, USA, 2005, pp on supplied memory stick.
68. G Bright, B Xing, J Eganza and S Craig. **“Reconfigurable Machines for Mass Customization”**, 3rd Interdisciplinary World Congress on Mass Customisation and Personalisation: MCPC 2005, Hong Kong, September, 2005, pp. on CD
69. O Diegel, G Bright and J Potgieter. **“Indoor Tracking Networks for Flexible Manufacturing”** 3rd Interdisciplinary World Congress on Mass Customisation and Personalisation: MCPC 2005, Hong Kong, September, 2005, pp on CD.
70. P Nadiu, G Bright and O Diegel. **“Part Tracking, Routing and Scheduling of Products for Mass Customisation”**, Australasian Conference on Robotics and Automation (ACRA 2005), Sydney, Australia, December 2005, pp on CD.
71. A Shaik, G Bright and W.L Xu **“Modular Sensor System for Flexi-Picker and Multi Axis Automated Machines”**, 12th IFAC Symposium on Control problems and Manufacturing, Saint-Etienne, France, May 2006, pp on CD.
72. B Xing, J Eganza, G Bright and J Potgieter. **“Reconfigurable Machine for Agile Manufacturing”**, 12th IFAC Symposium on Control problems and Manufacturing, Saint-Etienne, France, May 2006, pp on CD.
73. J Eganza and G Bright. **“Automated Visual Inspection and Reverse Engineering (AVIRE) Apparatus for an Agile Manufacturing System”**, 22nd International Conference on CAD/CAM, Robotics and Factories of the Future, Vellore, India, July 2006, pp 424 - 431.

74. B Xing, G Bright, NS Tlale and J Potgieter “**Reconfigurable Manufacturing Systems for Agile Mass Customized Manufacturing**”, 22nd International Conference on CAD/CAM, Robotics and Factories of the Future, Vellore, India, July 2006, pp 473 - 482.
75. NS Tlale and G Bright “**Distributed Mechatronics Controller for Modular Wall Climbing robot**”, International Conference on CAD/CAM, Robotics and Factories of the Future, Vellore, India, July 2006, pp 740 - 752.
76. AS Shaik, G Bright and WL Xu “**Sensor System to Locate Tool-Head for Multi-axis automated machines**”, 22nd International Conference on CAD/CAM, Robotics and Factories of the Future, meia, July 2006, pp 779 - 787.
77. P Naidu, G Bright and NS Tlale “**Reconfigurable Materials Handling System Incorporating Part Tracking, Routing and Scheduling**”, 22nd International Conference on CAD/CAM, Robotics and Factories of the Future, Vellore, India, July 2006, pp 1001 – 1009.
78. A Shaik, G Bright and WL Xu “**Robot Sensor System for Automated Machines**” Australasian Conference on Robotics and Automation (ACRA 2006), Auckland, New Zealand, December 2006, pp and CD.
79. AA Shaik, G Bright and WL Xu “**Mechatronic Sensor System for Robots and Automated Machines**”, International Conference on Competitive Manufacturing 2007, (COMA '07). Stellenbosch, South Africa, January 2007, pp 327-332.
80. P Naidu and G Bright “**Reconfigurable Materials Handling System for part Customization**”, International Conference on Competitive Manufacturing 2007, (COMA '07), Stellenbosch, South Africa, January 2007, pp 339-344.
81. B Xing, G Bright and NS Tlale “**Modular Mechatronic Control of Reconfigurable Manufacturing System for Mass Customization**”, International Conference on Competitive Manufacturing 2007, (COMA'07), Stellenbosch, South Africa, January 2007, pp 223-228.
82. J Eganza and G Bright “**Dual Sensor Quality Control and Reverse Engineering System for Agile Manufacturing Systems**”, International Conference on Competitive Manufacturing 2007, (COMA '07), Stellenbosch, South Africa, January 2007, pp 217-221.
83. G Bright and A Pancham “**Modular Mechatronic Navigation and Guidance System for Cooperation for Cooperation of Mobile**”, International Conference on Competitive Manufacturing 2007, (COMA '07), Stellenbosch, South Africa, January 2007, pp 333-338.
84. C Kumile, NS Tlale and G Bright **Mechatronics Sensory System for Computer Integrated Manufacturing**”, International Conference on Manufacturing Automation (ICMA 07), Singapore, May 2007, pp on CD.
85. AA Shaik, G Bright and WL Xu “**Sensor System for Multi-Axis Automated Assembly and Manufacturing Machines**”, IEEE International Symposium on Assembly and Manufacturing 2007, Ann Arbor, Michigan, USA, July 2007, pp 38-43.

86. G Bright, AA Shaik and WL Xu “**Closed Loop Sensor System for Automated Manufacturing Machines**”, 35th International Matador Conference, Taiwan, July 2007, pp on CD.
87. C Kumile, NS Tlale and G Bright “**Automated Visual Inspection System (AVIS) for Computer Manufacturing**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
88. G Bright, S Davrajh and J Eganza “**Non-Contact Quality Control And Inspection Apparatus for Mass Producing Custom Products**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
89. G Bright and A Pancham “**Generic Navigation and Guidance System for Autonomous Mobile Robots**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
90. C Kumile, NS Tlale and G Bright “**A Review of Modular Mechatronics**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
91. B Xing, G Bright and NS Tlale “**Reconfigurable Manufacturing Systems for Mass Producing Custom Product**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
92. C Kumile, NS Tlale and G Bright “**Sensor Fusion Control System for Computer Integrated Manufacturing**”, 23rd ISPE International Conference on CAD/CAM Robotics and Factories of the Future, Militar Nueva Granada University, August 2007, pp on CD.
93. A Shaik and G Bright “**Control Loop Sensor System for Automated Machines**” IEEE Africon conference, Region 8, Windhoek, Namibia, September, 2007, pp on CD.
94. A. Pancham, G. Bright and J. Potgeiter “**Variable Sensor System for Guidance and Navigation of AGVs**”. 2nd International Conference on Sensing Technology, Massey University, Palmerston North, New Zealand, November 2007, pp on CD.
95. G Bright and A Walker “**A Mobile Mechatronic Platform Architecture for Flexible Materials Handling**” Australian Conference on Robotics & Automation, ACRA, Australia, December 2007, pp on CD.
96. G Bright and A Walker “**Standardised Framework for Flexible Materials Handling Management based on Operation System**”, Australian Conference on Robotics & Automation, ACRA, Australia, December 2007, pp on CD.
97. G Bright and S Davrajh “**Automated Apparatus for In-line Inspection of Mass Produced Custom Parts**”, Australian Conference on Robotics & Automation, ACRA, Australia, December 2007, pp on CD.

98. R Marumo, CM Kumile, NS Tlale and G Bright “**Computational Intelligence for Mobile Robotic Systems**”. 15th International Conference on Mechatronics and Machine Vision in Practice, Massey University, Auckland, New Zealand 2008, pp on CD.
99. M de Villiers, NS Tlale and G Bright “**Kinematics and Dynamic Modelling of a Mecanum Wheeled Mobile Platform**”. 15th International Conference on Mechatronics and machine Vision in Practice, Massey University, Auckland, New Zealand, 2008, pp on CD.
100. A Shaik, NS Tlale and G Bright “**Variable Pendulum Mass Model for Delta PKM Dynamic Modelling**”. 15th International Conference on Mechatronics and Machine Vision in Practice, Massey University, Auckland, New Zealand, 2008, pp on CD.
101. K Mpofu, CM Kumile, NS Tlale and G Bright “**Design of a Commercial off the Shelf Reconfigurable Machine Tool**”. 15th International Conference on Mechatronics and Machine Vision in Practice, Massey University, Auckland, New Zealand, 2008, pp on CD.
102. P Bosscha, NS Tlale and G Bright “**On Modelling and Control of Two-wheeled Self Balancing Mobile Robot**”. 15th International Conference on Mechatronics and Machine Vision in Practice, Massey University, Auckland, New Zealand, 2008, pp on CD.
103. T Naidoo, M de Villiers and G Bright “**Biologically Inspired Visual Navigation for machine Robots**”, 15th International Conference on Mechatronics and Machine Vision in Practice, Massey University, Auckland, New Zealand, 2008, pp on CD.
104. R Stopforth and G Bright “**Required Improvements and Possible Solutions for Urban Search and Rescue (USAR) Robots**”, ARCS-2008 Conference, FL, USA, July 2008, pp on CD.
105. C Bemont, G Bright and R Bodger, “**The Development of Robust Structural Health Monitoring Systems utilizing TRIP Steel**”. ISSS International on Smart Materials Structures and Systems, Bangalore, India, July 2008, pp on CD.
106. G Bright and J Padayachee “**Modular Reconfigurable Machines for Reconfigurable Manufacturing Systems**”, 24th ISPE International Conference CARS & FOF, Japan, July 2008, pp on CD.
107. G Bright and S Davrajh “**Intelligent Quality Control Apparatus for Inspecting Moving Custom**”, 24th ISPE International Conference CARS & FOF, Japan, July 2008, pp on CD.
108. L Butler and Glen Bright “**Automated Materials Handling Robot for Reconfigurable Manufacturing Systems**”, 24th ISPE International Conference CARS & FOF, Japan, July 2008, pp on CD.
109. J Pitot de la Beaujardiere and G Bright “**Simulation of Fluid-Structure Interaction Phenomena of a Composite Rocket Nozzle**”, 9th International Conference on Computational Structures Technology, Greece, September 2008, pp on CD.
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- Mechatronics Symposium, Bloemfontein, South Africa, November 2008, pp on CD.
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 113. R Stopforth and G Bright “**Robotic Communication Protocol (RCP)**”. 2nd Robotics and Mechatronics Symposium, Bloemfontein, South Africa, November 2008, pp on CD.
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 115. A Walker and G Bright “**Layered Platform Architecture for the Development of Flexible Materials Handling Systems**”. 2nd Robotics and Mechatronics Symposium, Bloemfontein, South Africa, November 2008, pp on CD.
 116. L Butler and G Bright “**Feedback Control of a Self-Balancing Materials Handling Robot**”. 10th International conference on Control, Automation, Robotics & Vision, Hanoi, Vietnam, 17-20 December 2008, pp on CD.
 117. S. Holtzhausen, O. Matsebe, N.S. Tlale and G. Bright “**Autonomous Underwater Vehicle Motion Tracking using a Kalman Filter for Sensor Fusion**” 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.
 118. A Walker, L Butler, G Bright, N Tlale and C Kumile “**Mobile Materials Handling Platform Interface Architecture for Mass Production Environments**” 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.
 119. J. Padayachee, I. Masekamela , G Bright , NS Tlale and CM Kumile, “**Modular Reconfigurable Machines Incorporating Modular Open Architecture Control**”, 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.
 120. S Davrajh , T Naidoo, G Bright , NS Tlale and CM Kumile “**Automated Visual Inspection of Moving Custom Parts**” 15th International conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.
 121. R Stopforth, S Holtzhausen, G Bright, N S Tlale and C M Kumile, “**Robots for Search and Rescue Purposes in Urban and Purposes in Urban and Water Environments – A Survey and Comparison**” 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December pp on CD, November 2008.
 122. B Xing, Nkgatho S Tlale, and G Bright “**The Application of Mechatronic Design Approach in a Reconfigurable Manufacturing Environment**” 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.

123. A Shaik, NS Tlale and G Bright **“2 DOF Resolution Adjustment Laser Position Sensor”** 15th International Conference on Mechatronics and Machine Vision in Practice (M2VIP08), Auckland, New-Zealand, 2-4 December 2008, pp on CD.
124. AJ Walker and G Bright **“Flexible Process Integration for Mass Customization Manufacturing via Autonomous Mobile Payload Routing Platforms”**, in Proceedings of the 2009 IEEE International Conference on Intelligent Robots and Systems, St Louis, Missouri, USA, 11-15 Oct 2008, pp on CD.
125. R Stopforth, G Bright and R Harley **“Experienced Outcomes from the Improvements made to the USAR robot”**, 2009 International Conference on Automation, Robotics and Control Systems (ARCS-09), Orlando, USA, July 2009, pp on CD.
126. J Pitot de la Beaujardiere, EV Morozov and G Bright **“Numerical Simulation of the Aero-thermostructural Response of a Composite Solid Rocket Nozzle During Motor Ignition”**, 45th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, 2-5 August 2009, Denver, USA, pp on CD.
127. R Thorogood, Bright G, P Nordengen and P Lyne **“Performance-Based Analysis of Current South African Semi-trailer Designs”**, 82nd Annual Congress, SASTA 2009, 26-28 August 2009, International Convention Centre, Durban, South Africa, pp on CD.
128. J Padayachee and G Bright **“Design of Reconfigurable Machine Tools for Reconfigurable Manufacturing”** 3rd Mechatronics and Robotics Symposium (RobMech 2009), Pretoria, South Africa, 9 November 2009, pp on CD.
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130. S Davrajh and G Bright **“Design Requirements of Quality Control Systems for Reconfigurable Cellular Manufacturing Environments”**, 3rd Robotics and Mechatronics Symposium, Pretoria, South Africa, November 2009, pp on CD.
131. L. Butler and G Bright **“Sensory Infrastructure for an Autonomous Self-balancing Mobile Materials Handling Platform”**, 3rd Robotics and Mechatronics Symposium, 9 November 2009, Pretoria, South Africa, pp on CD.
132. C Onunka and G Bright **“Dynamics of an Autonomous Sea craft for Deep sea Search and Rescue operations”**, Robotic and Mechatronic symposium 2009, CSIR International Conference Centre, Pretoria, 10th November 2009, pp on CD
133. J Padayachee and G Bright **“The Development of a Mechatronic Control System for Modular Reconfigurable Machine Tools”**, Australasian Conference on Robotics and Automation 2009, Sydney, Australia, 2-4 December 2009, pp on CD.
134. R Stopforth, C Onunka and G Bright **“Robots for Search and Rescue Purposes in Urban and Water Environments – A Survey and Comparison”** International Conference on Competitive Manufacturing,

- COMA '10, University of Stellenbosch, 3-5 February 2010. pp 209-214, pp on CD.
135. A Walker, L Butler, N Hassan and G Bright “**Reconfigurable Materials Handling Control Architecture for Mass Customisation Manufacturing**” International Conference on Competitive Manufacturing, COMA '10, University of Stellenbosch, 3-5 February 2010. pp 277-283, pp on CD.
 136. J Padayachee, S Davrajh, J Collins and G Bright “**The Development of Reconfigurable Manufacturing Equipment for Product Mass Customization**” International Conference on Competitive Manufacturing, COMA '10, University of Stellenbosch, 3-5 February 2010, pp 291-296.
 137. N Hassan and G Bright “**Optimum mass customised part production via reconfigurable computer integrated manufacturing cells**” 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 29:1-10.
 138. J Padayachee and G Bright “**The Design of a Reconfigurable Control System for NC Machines with Augmented Flexibility**”, 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 35:1-12.
 139. C Onunka and G Bright “**A Study on Direction Cosine Matrix (DCM) for Autonomous Navigation**”, 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 28: 1-10.
 140. S Davrajh and G Bright “**Research Directions for the Design of Quality Control Equipment for Reconfigurable Manufacturing Environments**”, 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 51:1-9.
 141. J Collins and G Bright “**A Tool Changing Unit for Modular Reconfigurable Manufacturing Systems**”, 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 51: 1-10.
 142. R Stopforth “**Caesar Robot – Improvements and Modifications for USAR Robots**” 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 4:1:11.
 143. M de Villiers and G Bright “**Development of a Control Model for a Four Wheel Mecanum Vehicle**” 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010, pp 56:1-10.
 144. L Butler and G Bright “**Data Management Onboard an Autonomous Self-Balancing Mobile Materials Handling Robot**” 25th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Pretoria, 13-16 July 2010. pp 50:1-11.
 145. O Chiemela and G Bright “**Autonomous Marine Craft Navigation: On the Study of Radar Obstacle Detection**” 11th International Conference on Control, Automation, Robotics and Vision, Singapore, 7-10 December 2010, pp on CD.

146. J Collins and G Bright “**Automatic Calibration of a Tool-changing Unit of Reconfigurable Manufacturing Systems (RMS) using Nintendo Wii remotes**” 26th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Kuala Lumpur, Malaysia, July 2011, pp 550-557, pp on CD.
147. N Hassan and G Bright “**A Distinctive Manufacturing Cell for Mass Customization**” 26th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Kuala Lumpur, Malaysia, July 2011, pp 108-115, pp on CD.
148. R Dixon and G Bright “**Decentralized Navigation of AGVs in a Computer Integrated Manufacturing Environment**” 26th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Kuala Lumpur, Malaysia, July 2011, pp 603-611.
149. A Shaik, G Bright and NS Tlale “**Novel 6 DOF Hybrid Machine Design**” 26th International Conference of CAD/CAM, Robotics & Factories of the Future Conference, Kuala Lumpur, Malaysia, July 2011, pp 631-639.
150. C Bemont, LA Cornish and G Bright “**The Effects of Transformation Temperature on the Rate of Transformation in TRIP Steels**” AES-ATEMA 2011, International Conference on Advances and Trends in Engineering Materials and their Applications, 11-15 July 2011, pp on CD.
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157. AA. Shaik, NS. Tlale and G Bright. “**6 DOF, Low Inertia, Concept Design for an Industrial Robotic Arm**”, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD

158. Y Naidoo, R Stopforth and G Bright. **“Rotor Aerodynamic Analysis of a Quadrotor for Thrust Critical Applications”**, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
159. A Pancham, R Stopforth and G Bright. **“Literature Review of SLAM and DATMO”**, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
160. L Butler and G Bright. **“Analysis and Evaluation of an Autonomous Self-balancing Mobile Materials Handling Platform for Advanced Manufacturing Systems”**, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
161. J Padayachee and G Bright. **A Theoretical Framework for a Manufacturing Planning System for RMSs**”, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
162. D Naidu, R Stopforth, G Bright and S Davrajh. **Upper and Lower Exoskeleton Limb for Assistive and Rehabilitative Applications”**, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
163. C Onunka and G Bright. **“Robotics and the Brain-Computer Interface System: Critical Review for Manufacturing Application”**, ROBMECH 2011, 4th Robotics and Mechatronics Conference of South Africa, 23-25 November 2011, Pretoria, South Africa, ISBN: 978-0-620-51897-0. pp on CD
164. A A Shaik, N.S. Tlale and G Bright. **“Novel light-weight 6 DOF robotic arm”**, M2VIP11, 18th International Conference on Mechatronics and Machine Vision in Practice, 6-7 December 2011, Brisbane, Australia: ISSN: 1908-1162. pp on CD.
165. R Dixon, G Bright and R Harley **“Robust Kalman Filter Based Localised of an Omnidirectional Automated Guided Vehicle”** IFACs 14th Symposium of information and Control Problems in Manufacturing, May 23-25 2012, Bucharest, Romania, pp on CD.
166. J Padayachee and G Bright **“Automated Design of Reconfigurable Manufacturing Systems: A Framework based on a Genetic Algorithm and Discrete System Simulation”** 9th International Conference on informatics in Control, Automation and Robotics (ICINCO 2012), Rome, Italy, 28-31 July 2012, pp on CD.
167. G Bright, A Pancham and NS Tlale **“Advancement of vision-based SLAM from static to dynamic environments”**, 19 International Conference (M2VIP 2012). ISBN-9780473204853, New Zealand, 28-30 November 2012, Edition 19.
168. L Butler and G Bright **“Computational Intelligence for advanced Manufacturing System Management: A Review”**, 19th International Conference (M2VIP 2012), ISBN – 9780473204853, New Zealand, 28-30 November 2012. Vol. 19.

169. R. Stopforth and G. Bright “**EEG Extraction Management in Autonomous Neural Network**”, 19th International Conference (M2VIP 2012). ISBN – 9780473204853, New Zealand, 28-30 November 2012. Vol 19, accepted, pp on cd.
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171. C Onunka, G. Bright and R. Stopforth “**EEG Management Using Autonomous Neural Network Systems**” 19th International Conference on Machine Vision in Practice (M2VIP 2012), Auckland New Zealand, November 2012, accepted, pp on cd.
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173. A. Walker and G. Bright, “**Production Flow Control Using Biased Minimum Feedback**”, International Conference on Competitive Manufacturing (COMA ‘13), 30 January 2013, Stellenbosch, South Africa, accepted, pp on cd.
174. R. Stopforth, G. Bright and C. Feng, “**A Hip Actuated Passive Dynamic Walking Biped Robot**”, IEEE EuroCon 2013, Croatia, June 2013, accepted, pp on cd.
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176. A. Amra, G. Bright and J. Padayachee; “**Open Architecture Controller for Modular Reconfigurable Machine Tool**”, The 20th International Conference on Mechatronics and Machine Vision in Practice (M2VIP 2013); 18-20 September 2013, Ankara, Turkey, Section on Control of mechatronic systems - Robotics and mobile platforms, accepted, pp on cd.
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178. C. Onunka, G. Bright, and R. Stopforth, “**Investigating the Choice Factors On the use of XBee/Bluetooth as the Communication Scheme in EEG Sensor Networks**”, IEEE 6th Robotics and Mechatronics (RobMech) conference, Durban, South Africa, October 2013, accepted, pp on cd.
179. D. Van De Riet, R. Stopforth, G. Bright and O. Diegel, “**Simultaneous Vibrotactile Feedback for Multi-sensory Upper Limb Prosthetics**”, IEEE 6th Robotics and Mechatronics (RobMech) Conference 2013, Durban, South Africa, October 2013, accepted, pp on cd.
180. N. Naidoo, G. Bright and R. Stopforth, “**Material Flow Optimisation in Flexible Manufacturing Systems**”, IEEE 6th Robotics and Mechatronics (RobMech) conference 2013, Durban, South Africa, October 2013, accepted, pp on cd.

181. A. Sulaiman, F. Inambao and G. Bright, “**Development of Solar hydrogen energy for mobile robots**”, (RobMech) conference, October 2013, Stellenbosch, South Africa, accepted, pp on cd.
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184. A. Sulaiman, G. Bright and F. Inambao, “**Solar hydrogen energy as an alternative for mobile robots and the new age car**”, 27th International Conference on CAD/CAM, Robotics and Factories of the Future 2014, London, United Kingdom, July 2014, accepted, pp on cd.
185. S. Davrajh and G. Bright, “**Inspection Planning for Customer-driven Manufacturing Environments with Modular Inspection Stations**”, International Conference on Advanced Intelligent Mechatronics, Bescon, France, July 2014, accepted, pp on cd.
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188. C Onunka, G Bright and R Stopforth, “**Complex Augmentation in Autonomic EEG-Cayley Neural Network – Integrating Bipartite-Trivalent graph with Erdos-Renyi in EEG Network Modelling**”, The 13th International Conference on Control, Automation, Robotics and Vision, December 2014, Marine Bay Sands, Singapore, accepted, pp on cd.
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195. D. van der Riet, R Stopforth, G. Bright and O. Diegel, "**Control Considerations of the Touch Hand**", IEEE International Joint RobMech/PRASA Conference 2015, Port Elizabeth, South Africa, accepted, November 2015, pp on cd.
196. N. Naidoo, G. Bright, R. Stopforth, Z.F. Zelasco and J. Donayo, "**Optimizing Search and Rescue Missions through a Cooperative Mobile Robot Network – A joint collaboration initiative between South Africa and Argentina**", IEEE International Joint RobMech / PRASA Conference 2015, Port Elizabeth, South Africa, accepted, November 2015, pp on cd.
197. G. Bright, C. Onunka and R Stopforth, "**The Development of an EEG Data Management Using Action Observation Network in Autonomous Wireless System**", International Conference on Competitive Manufacturing (COMA), Stellenbosch, South Africa, January 2016, accepted, pp on cd.
198. N. Naidoo, G. Bright and R. Stopforth, "**A Cooperative Robot Network in ROS for Advanced Manufacturing Applications**", International Conference on Competitive Manufacturing (COMA), Stellenbosch, South Africa, January 2016, accepted, pp on cd.
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202. N. Naidoo, G. Bright and R. Stopforth, "**Navigation and Control of Cooperative Mobile Robots using a Robotic Middleware Platform**", 12th IEEE International Conference on Control and Automation 2016 (ICCA), Kathmandu, Nepal, May 2016, accepted, pp on cd.
203. N. Naidoo, G. Bright and R Stopforth, "**The Cooperation of Heterogeneous Mobile Robots in Manufacturing Environments Using a**

- Robotic Middleware Platform**", 8th International Federation of Automatic Control on Manufacturing Modelling, Management & Control 2016, Troyes, France, June 2016, accepted, pp on cd.
204. ML. Bergamini, F. Ansaldo, G. Bright and JF. Zelasco, "**Fundamental Matrix: Digital Camera Calibration and Essential Matrix Parameters**", 16th International Conference on Signal Processing, Computational Geometry and Artificial Vision 2016 (ISCGAV), Ischia, Italy, June 2016, accepted, pp on cd.
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208. T. Naidoo, A. Walker, G. Bright and S. Davrajh, "**Fuzzy Logic Control for Varied Inspection Applications in Advanced Manufacturing Cells**", 2016 Pattern Recognition Association of South Africa and Robotics and Mechatronics International Conference (PRASA-Rob mech), Athens, Greece, November 2016, accepted, pp on cd.
209. FM. Kasie, G. Bright, and A. Walker, "**Stabilizing the Flow of Fixtures using Fuzzy Case-based Reasoning and Discrete-event Simulation**", 27th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM2017, Modena, Italy, June 2017, accepted, pp on cd.
210. FM. Kasie, G. Bright, and A. Walker. "**Estimating Cost of New Products Using Fuzzy Case-based Reasoning and Fuzzy Analytic Hierarchy Process**", 2017 ISPE International Conference on Transdisciplinary Engineering (TE2017), July 2017, Nanyang, Singapore, accepted, pp on cd.
211. R. McLean, G. Bright and A. Walker, "**An Artificial Neural Network Driven Decision-Making System for Manufacturing Disturbance Mitigation in Reconfigurable Systems**", 13th International Conference on IEEE International Conference on Control & Automation (ICCA), July 2017, Ohrid, Macedonia, accepted, pp on cd.
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214. T. Naidoo, A. Walker, G Bright and S. Davrajh, “**The Fuzzy Logic Control for Varied Inspection for Manufacturing Lead Time Reduction**”, 14th International Conference on Informatics & Control Automation & Robotics, July 2017, Madrid, Spain, accepted pp on cd.
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220. D. White, G. Bright, A. Walker and S. Davrajh, “**Development of Optimization Algorithm for Customizable Jigs and Fixtures**”, 2017 IEEE 24 International Conference on Mechatronics and Machine Vision Practice, November 2017, Auckland, New Zealand, accepted pp on cd.
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222. E. Slabbert, G. Bright and A. Walker, “**Modal Analysis of Machining Processes on an Automated Flexible Fixture for a Reconfigurable Manufacturing System**”, 2017 IEEE 24 International Conference on Mechatronics and Machine Vision Practice, November 2017, Auckland, New Zealand, accepted pp on cd.
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224. C. Basson, G. Bright and A. Walker, “**Investigating Geometric Adaptability for Flexible Grippers in Reconfigurable Assembly Systems**”, 2017 IEEE 24 International Conference on Mechatronics and Machine Vision Practice, November 2017, Auckland, New Zealand, accepted pp on cd.
225. N. Naidoo, G. Bright, R. Stopforth, J. Zelasco and J. Kamlofsky, “**Semi-Autonomous Robot Control System and with 3D Vision Scheme for**

- Search and Rescue Missions**", 2017 IEEE 24 International Conference on Mechatronics and Machine Vision Practice, November 2017, Auckland, New Zealand, accepted pp on cd.
226. N. Naidoo, G. Bright and R. Stopforth, **"Towards a Decentralised Mobile Robot Learning System for Indoor Environments"**, 2017 IEEE 24 International Conference on Mechatronics and Machine Vision Practice, November 2017, Auckland, New Zealand, accepted pp on cd.
227. G. Aklilu, S. Adali and G. Bright. **"Temperature Effect on Mechanical Properties of Carbon, Glass and Hybrid Polymer Composite Specimens"**, European Advanced Energy Materials and Technology Congress, March 2018, Stockholm, Sweden, accepted pp on cd.
228. C. Basson and G. Bright, **"Active Haptic For A Biologically Inspired Gripper In Reconfigurable Assembly Systems"**, 15th International Conference on Informatics in Control, Automation and Robotics, July 2018, Porto, Portugal, accepted pp on cd.
229. E. Naidoo, J. Padayachee and G. Bright, **"Scheduling Technique for Customised Parts with Modular Fixtures in On-Demand Fixture Manufacturing Cells"**, 14th IEEE International Conference on Control and Automation", June 2018, Alaska, USA, accepted pp on cd
230. C.E Reddy, J. Padayachee and G. Bright, **"A Reconfigurable Robotic End Effector For Machining And Part Handling – Machine Tool Simulation"**, 29th SAIIE (South African Institute for Industrial Engineering)Annual Conference, October 2018, Spier, Stellenbosch, accepted pp on cd

6.0 POSTGRADUATE STUDENTS

6.1 MSc Students

1. K. Kanny. **"Generic Gripper for Part Identification within a CIM Cell"**. Completed January 1997.
2. P. Moodley. **"Design of a Coordinate Measuring Machine for Reverse Engineering"**. Completed April 1998.
3. H. Weinert. **"Automated Fuel Dispensing Actuator"**. Completed April 1998.
4. J. Potgieter. **"PC-Based Plug and Play System for Robots"**. Completed March 1999.
5. S. Tlale. **"Electronic Component Assembly using Reverse Engineering"**. Completed March 1999.
6. R. Mayor. **"Automated Visual Inspection Apparatus for Flexible Manufacturing Systems"**. Completed April 1999. Cum Laude.
7. R. Jennings. **"Automated Glue Dispensing Unit for Filters"**. Completed July 1999.
8. C. Lindsay. **"Linear Motor Materials Handling System for FMS Systems"**. Co-supervisors: Prof R Harley and Dr M Hippener, Electrical Engineering, University of Natal. (Multi-disciplinary project). Completed April 2001.

9. C. Duebler. **“Intelligent Remote Centre Compliance for Part Assembly”**. Completed March 2001.
10. M.S. Khan. **“AGV Docking System for Computer Aided Production Engineering”**. Completed March 2001. Cum-Laude.
11. A. Badve. **“Intelligent Control of an all-Terrain Mobile Robot”**, Massey University, Auckland, New Zealand. Completed November 2003
12. R. Ranjit. **“Optimisation and Integration of an AS/RS into a CIM cell”**. Completed March 2004.
13. B. Xing. **“Reconfigurable Machines for Agile Manufacturing”** Completed 2008.
14. A. Shaik. **“Multi Variable Mechatronic Machine for Agile Manufacturing Systems”** Completed March 2007.
15. P. Naidu. **“Autonomous Reconfigurable Materials Handling System for Reconfigurable Machines”** Completed March 2007.
16. A. Pancham. **“Modular Navigation and Guidance Systems for Mobile Robot Cooperation”** Completed December 2008
17. S. Cowling. **Design Optimisation of a Cane Haulage Vehicle”** Completed February 2008.
18. A. Walker. **“Mobile Platform Architecture for Flexible Materials Handling”**, Completed November 2010.
19. S. Davrajh. **“Non-Contact Quality Control Machine for Reconfigurable Manufacturing Environments”**, Completed 2009.
20. R. Thorogood, **“Computer Dynamic Simulation of a Heavy Haulage Vehicle”**. Completed April 2010.
21. J. Pitot, **“Numerical Simulation of the Thermo-structural Response of Composite Rocket Nozzles”**, Summa Cum Laude. Co-supervisor Prof Y Morozov. Completed April 2010
22. S. Holtzhausen, **“Design of an autonomous underwater vehicle: vehicle tracking and position control”**, Completed April 2010.
23. P. Bosscha. **“Navigation of Mobile robot using landmarks, Kalman Filter and Kayesian Theorem”** Completed April 2011.
24. M. de Villiers **“A Mechatronics Design of an Omnidirectional Mobile Platform for Indoor Service Robotic Applications”** Completed April 2011.
25. J. Padayachee. **“A Modular Reconfigurable Machine Tool for Reconfigurable Manufacturing Systems”**. Completed April 2010. Cum-Laude.
26. L. Butler. **“Inverted Pendulum Materials Handling Robot for Reconfigurable Manufacturing Systems”**. Completed April 2010.
27. C Onunka, **“Autonomous Sea Craft for Deep Sea Rescue Operations”**, Completed June 2011.
28. J Collins, **“Automatic Calibration for a Machine Tool Changing Unit”**, Completed April 2012.
29. N. Hassan, **“Optimum Part Production via Reconfigurable Computer Integrated Manufacturing Cells”**, Completed June 2011.
30. H. Grobler, **“Condition Monitoring of Rotor Bearing System”**. Co-supervisor Dr R Loubser. Completed September 2012
31. D. Naidu, **“Bio-Mechatronic Implementation of a Portable Upper Limb Rehabilitative Exoskeleton”**. Completed April 2012.

32. C. Feng, "**Controlling Chaos in a Sagittal plane Biped Robot using the Ott-Grebogic-Yorke**". Completed September 2012, Cum-Laude.
33. R. Dixon, "**Decentralised Navigation and Coordination of Multi-Agent Material Handling Robots in a Computer Integrated Manufacturing Environment**", Co-supervisor: Prof R Harley, Dr R Stopforth and Mr A Walker, Completed December 2012
34. A. Amra, "**Development of a Reconfigurable Open Architecture Control System for Reconfigurable Machine Tools**". Completed October 2013
35. N. Mutombo, "**Design and Performance Analysis of Hybrid Photovoltaic-Thermal Grid Connected System for Residential Application**", Supervisor: Dr Freddie Inambao, Co-Supervisor: Prof G Bright. Completed April 2013
36. N. Naidoo, "**The Co-operation of Heterogeneous Mobile Robot Configurations in Advanced Manufacturing Environments**", Co-Supervisor: Dr R Stopforth, Completed February 2015
37. R. McLean, "**A Middleware Management System for Reconfigurable Manufacturing Systems**", Co-Supervisor: J Padayachee, Completed 2015, Cum-Laude
38. A. Illidge, "**Automated Flexible Fixture Systems for Customer-Driven Production**", Co-supervisor: Dr A Walker, Completed April 2016
39. A. Athol-Webb, "**Computational Investigation of the Wind-induced Vibration of Overhead Conductors**". Co-supervisor: Dr R Loubser, Completed April 2013
40. N. Chiraga, "**Factory Communication System for customer driven based production execution**", Co-supervisor: Dr A Walker, Completed 2016
41. T. Kader, "**Motion Control of a Vehicle Simulator**", Supervisor: Prof R Stopforth, Co-supervisor: Prof G Bright, Completed 2016
42. C Basson, "**Investigating Part Clamping and Fixture Geometric Adaptability for Reconfigurable Assembly Systems**", Co-supervisor: Prof G Bright, Completed April 2018
43. Y. Naidu, "**Development of an Unmanned Aerial Vehicle**". Co-supervisor: Dr R Stopforth. Registered February 2010
44. A. Ayob, "**Low Cost Motion Controller for Vehicle Simulator**". Co-supervisor: Dr R Stopforth, Registered August 2012
45. C. Cunniffe, "**Low Limb Rehabilitation System**" Supervisor: Dr R Stopforth and Co-supervisor: Prof G Bright, Registered 2012
46. E. Slabbert, "**Low level task execution, programing and control for jigs, fixtures and equipment**", Co-supervisor: Dr A Walker, Registered 2016
47. K. Govender, "**An Investigation into Application Specific Epoxies as Adhesives in creating Complex Metal Laminates through Laminated Object Manufacturing**", Supervisor: Dr A Walker, Registered 2015.
48. T. Naidoo, "**Investigation into Inspection System Utilization for High Variety Manufacturing Environments**", Co-supervisors: Prof G Bright, Dr S Davrajh, Registered 2016

49. R. Aidan, “**Research and Design of a Numerical Control System for a Hybrid Kinematic CNC Machine**”, Co-supervisor: Prof G Bright, Registered 2016.
50. D. White, “**Reconfigurable Jigs Inspection System**”, Co-supervisor: Prof G Bright, Registered 2016
51. E. Naidoo, “**A Customised On-Demand Fixture Manufacturing Cell for Mass Customisation Production Systems**”, Co-supervisor: Prof G Bright, Registered 2016.
52. W. Dharmalingum, “**Research and Design of a Reconfigurable 3-DOF Parallel Kinematic Manipulator**”, Co-supervisor: Prof G Bright, Registered 2017.
53. C. Reddy, “**The Research and Development of a Reconfigurable Robotic End-Effector for Machining and Part Handling**”, Co-supervisor: Prof G Bright, Registered 2017

6.2 PhD Students

1. R. Mayor, “**Machine Vision Inspection System using state of the art Visual Inspection Techniques**”. Completed in April 2001.
2. NS. Tlale, “**Advanced Electronic Assembly System by means of an Artificial Intelligent Generic Gripper for Reverse Engineering**”. Completed in April 2002.
3. J. Potgieter, “**Integrated Virtual Reality System using PC-Based Plug and Play System for Computer Integrated Manufacturing Process**”. Completed in March 2003.
4. C.M Kumile, “**Sensor based real-time Mechatronic Control of Computer Integrated Manufacturing**”, Completed in April 2009.
5. R. Stopforth, “**Contractible Arms Elevating Search and Rescue (USAR) Robots**”, Co-supervisor: Prof R Harley, Completed May 2011.
6. A. Shaik, “**Design, Optimization and Construction of a Novel Hybrid Machine for Improved Manufacturing**”. Completed April 2013.
7. A. Walker, “**Autonomous Manufacturing Execution System (MES) to enable Mass Customisation Manufacturing (MCM)**. Completed September 2013.
8. C. Bemont, “**The Development of TRIP Steel Based Smart Structural Health Monitoring Devices**”, Completed in April 2014
9. C. Onunka, “**Brain control of Exoskeleton for materials handling in Advanced Manufacturing Systems**” Co-supervisor: Dr R Stopforth. Completed March 2015
10. S. Davrajh. “**Quality Control for Reconfigurable Manufacturing in Advanced Manufacturing in Advanced Manufacturing Systems**”. Co-supervisor: Dr R Stopforth, Completed April 2016.
11. J. Padayachee, “**Development of a Reconfigurable Manufacturing Execution System for Transformable Manufacturing Environments**”, Completed April 2016.

12. L. Butler, "**Computational Intelligence Optimisation Model for Advanced Manufacturing Systems**". Completed April 2016.
13. G. Tefera, "**Environmental impact on wind turbine blade structural material in tropical region**", Supervisor: Prof S Adali, Co-supervisor: Prof G Bright, Completed April 2018
14. F. Kasie, "**Development of a Bounded Fixture Supply Loop through a Decision based Control and Part/Fixture Assignment System**" Co-supervisor: Dr A Walker, Completed April 2018
15. N. Naidoo, "**Middleware for Distributed Networked Robots to Provide Cooperation for Mobile Robot Applications**", Co-Supervisor: Prof R Stopforth, Completed April 2018
16. A. Pancham, "**SLAM and DATMO in Dynamic Environments Utilizing Multiple Kinect Sensors**", Co Supervisor: NS Tlale, Registered September 2011
17. M. Mekonnen, "**An Investigation into the Process Optimisation of a 3D Metal Laminate Printer**" Co-supervisor: Dr A Walker, Registered October 2014
18. M. Gebremeskal, "**Aeolian Vibration Analysis of an Optical Ground Wire**", Supervisor: Dr R Loubser, Co-supervisor: Prof G Bright, Registered October 2014
19. R. McLean, "**A Middleware Management System for Reconfigurable Manufacturing Systems**", Co-Supervisor: J Padayachee, Registered 2015
20. J. Collins, "**Research and Design of an Open Architecture Control System for an Ultra-Lightweight Parallel Kinematic Robotic Machining Platform**", Registered 2017

6.3 Post-Doctoral Students

1. Dr R. Mayor, 2002
2. Dr A. Walker, 2014
3. Dr C. Onunka, 2015 - 2017

7.0 RESEARCH COLLABORATION WITH INDUSTRY AND UNIVERSITIES

- To establish contact with research colleagues locally and overseas doing research in similar fields.
- To set up collaborative research projects with colleagues in industry and universities
- To investigate education programmes currently adopted by other universities. This includes both undergraduate and graduate programmes.

7.1 Research collaboration partners:

1. Prof R Harley, Georgia Technical University, USA. Area of Research: Optimisation of material handling procedures, Power electronics, Mechatronics, Robotics and Advanced Manufacturing systems.

2. Dr K Kanny, Durban University of Technology, RSA. Area of Research: Mechatronics, Robotics and Advanced Manufacturing Systems.
3. Mr R Ranjit, Durban University of Technology, RSA. Area of Research; Mechatronics, Robotics and Advanced Manufacturing Systems.
4. Prof Igor, NMMU, RSA. Area of Research: Mechatronics, Robotics and Advanced Manufacturing Systems.
5. Dr K Mpofo, TUT, RSA, Area of Research: Mechatronics, Robotics and Advanced Manufacturing Systems.
6. Dr AA Shaik and Ms A Pancham, CSIR, RSA. Area of Research: Mechatronics, Robotics and Advanced Manufacturing Systems.
7. Mr M Selwane, TIA, Area of Research: Reconfigurable Manufacturing Systems.
8. Prof K Kahn, University of Bradford, United Kingdom. Area of Research: Mechatronics, Robotics and Advanced Manufacturing Systems.
9. Prof J Zelega, University of Buenos Aires, Argentina. Area of Research; Mechatronics and Search and Rescue Robots.
10. Prof S Rosler, University of Applied Sciences, Germany. Area of Research; Advanced Manufacturing Systems.
11. Prof S Adali, University of KwaZulu-Natal, Durban, South Africa, Area of Research: Advanced Materials.
12. Prof D A Bradley, University of Abertay, Dundee, United Kingdom: Area of Research: Mechatronics and Robotics.
13. Prof R Gill, Middlesex University, London, United Kingdom. Area of Research; Mechatronics and Robotics.
14. Prof J Ziegert, University of Kentucky, United States of America. Area of Research: Multi variable machine table for FMS.
15. Prof C Syan, University of West Indies. Area of Research: Mechatronics and Robotics.
16. Prof M Tseng, Hong Kong University of Technology and Science, China, Area of Research: Reconfigurable machines for mass customization.
17. Prof P Butala, University of Ljubljana, Slovenia. Area of Research: Rapid prototyping for reconfigurable machines in Agile manufacturing systems
18. Prof K Ueda, University of Tokyo, Japan. Area of Research: Bilateral research on cooperation of autonomous mobile robots.

19. Prof P Xu, Massey University, Auckland, New Zealand, Area of Research; Flexi-picker robots for assembly operations, Advanced Mechatronics and Robotics.
20. Prof M Schurman, Bell Equipment, RSA. Area of Research: Advanced Manufacturing Research for Assembly Operations.
21. Mr S Stols, UEC, Verulam, RSA. Area of Research: Intelligent Component Assembly
22. Mr H Spring FESTO, RSA. Area of Research: Coordinate Measuring Machine transfer system, Mechatronics and Robotics.
23. Mr R Coetzee, AMTS, CSIR, RSA. Area of Research; Development of manufacturing strategy and business plan for SA manufacturing, Mechatronics and Robotics. Advanced Robotics and Manufacturing Research Network.
24. Dr NS Tlale, AMTS, TIA, CSIR, RSA. Area of Research: Mechatronics and robotics research: Reconfigurable machines and retrofitting machines for Manufacturing systems, Mechatronics and Robotics. Advanced Robotics and Manufacturing Research Network.
25. Other consortium academic institutions in South Africa: University of KwaZulu Natal, Durban Institute of Technology, Tshwane University of Technology, University of the Witwatersrand, University of Cape Town, University of Stellenbosch, University of Free State, University of Johannesburg, University of Pretoria, Nelson Mandela Metropolitan University, Central University of Technology, Cape Peninsular University of Technology, CSIR FAB LAB
26. Mr H Harrison (NZ), Harri Harrison's Productions, Wellington New Zealand. Area of Research: Research, design and development of wireless camera platform for the Lord of the Rings Trilogy.
27. Dr R Templer (NZ), Industrial Research Limited (IRL), USA, Australia and New Zealand. Area of Research: Carcass cutting for animals by means of a floor standing robot and Cooperation of mobile robots.
28. Dr D Boyd (NZ), Electrolux Sweden AB, Sweden, Area of Research; Intelligent control of domestic Appliances (Robot Vacuum cleaner) via the Internet. Intelligent control of domestic Appliances (Lawn Mower) via the Internet.
29. Dr M W Tilden, Robosapien, Hong Kong, China. Area of Research: intelligent Mechatronic control and cooperation of a humanoid robot for advanced manufacturing materials handling

8.0 MECHATRONICS AND ROBOTICS RESEARCH GROUP (MR²G)

The Mechatronics and Robotics Research Group, MR²G, was created in 1995. Under the leadership of Prof Glen Bright, the MR²G continues to establish its reputation internationally. Structured project supervision, management and leadership from Prof Bright, state of the art equipment and motivated research students have contributed to its success. Staff members and students from universities in South Africa, Australia, New Zealand, UK, Europe and the USA have been collaborating on international research projects. Prof Bright has actively pursued collaboration research projects with foreign partners. The result has been large international networks and research funding grants in the fields of Mechatronics, Robotics and Advanced Manufacturing.

The research group has produced high quality researches, international publications and worldwide recognition. The MR²G's resources continue to enhance the education of graduate engineers. Improving the quality of life and enhancing the productivity and competitive ability of service industries remains a priority by means of international research collaboration. Students have gained expertise with system integration and the design of control algorithms for system optimization. Local industries have benefited by improving their control strategies and procedures for hardware used in Mechatronics and Robotics.

9.0 EMPLOYMENT EXPERIENCE

- 1988:** Mechanical Engineering workshop trainee engineer at the Natal Roads Department (12 weeks). Duties included the design of workshop equipment and the design of a fuel transport vehicle.
- 1989:** Project engineer at the GEC Electrical Project Limited Company, Rugby, UK. (3 months) This involved the design of a guidance system, drive and wheel system for an omni-directional patient handling robotic vehicle for hospitals.
- 1991:** Lectured in **Manufacturing Technology and Advanced Manufacturing Systems** on a part time basis for the Mechanical Engineering Department, University of Natal, Durban.
- 1992:** Lectured in **Manufacturing in Applied Thermodynamics II and Applied Thermodynamics III** on a part time basis for the Mechanical Engineering Department, Mangosuto Technikon, Durban (6 months).
- 1993:** Postdoctoral studies whose subjects included: **The Study of Peg-in-hole Mating Procedures for Assembly Operations; Design of a Floating Tool for Machine Cutting Processes and the Design of a Generic Gripper**. Research was carried out in the Mechanical Engineering Department, University of Natal, Durban.
- 1994:** Lecturer in Manufacturing Systems, Subjects included: **Manufacturing Technology, Advanced Manufacturing Systems and Strengths of Materials**. Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities.
- 1995:** Senior Lecturer in Manufacturing Systems, Subjects included: **Manufacturing Technology, Advanced Manufacturing Systems,**

Strengths of Materials and Measurement and Experimental Methods. Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

2000: Associate Professor in Mechatronics and Robotics, Subjects lectured included:

Mechatronics, Introduction to Robotics, Computer Fundamentals and Measurement Methods.

Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

2002: Visiting Professor, Major Leader and Head of the Mechatronics degree program, Massey University, Auckland, New Zealand. Subjects lectured included: **Robotics, Automation and Control and Mechanics and Manufacturing Engineering.** Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group at Massey University.

2004: Professor in Mechatronics and Robotics at UKZN. Subjects lectured included: **Mechatronics, Introduction to Robotics, Computer Fundamentals and Measurement Methods.** Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

2007: Head of School, School of Mechanical Engineering, UKZN, Durban. Professor in Mechatronics, Robotics and Advanced Manufacturing. Lectured subjects included: **Mechatronic Engineering, Computer Fundamentals and Measurement and Experimental Methods.** Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

2013: Dean of Research in the College of Agriculture, Engineering and Science, Academic Leader for Mechanical Engineering, UKZN. Professor in Mechatronics, Robotics and Advanced Manufacturing. Holder of the Fulton Chair in Mechanical Engineering at UKZN. Subject lectured included: **Mechatronic Engineering and Design and Research project for final years.** Supervisor of the Manufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

2018: Dean of Engineering in the College of Agriculture, Engineering and Science, UKZN. Professor in Mechatronics, Robotics and Advanced Manufacturing. Holder of the Fulton Chair in Mechanical Engineering at UKZN. Subject lectured included: **Mechatronic Engineering and Design and Research project for final years.** Supervisor of the Man-

ufacturing and Robotics Laboratory. Project supervisor for student projects and involved in Mechatronics, Robotics and Advanced Manufacturing research activities. Leader of the Mechatronics and Robotics Research Group.

10.0 PERSONAL NOTE

I am very passionate about my career and commitment to community involvement. Higher education in South Africa is operating in a very challenging environment. I am acutely aware of this and understand the challenges faced by the different stakeholders that want to see quality higher education at South African Universities upheld. I also believe that transformation, community engagement and environmental accountability are essential to the sustainability of higher education in South Africa. I am a very responsible and ethical person. I am accountable for my actions and take responsibility of my decisions.

On a personal note, I am an active person. I have completed the two Comrades marathons (90 km), a number of qualifiers (42.2 km), the Two Oceans marathon (56 km), Cape Argos and Amashova cycle tours (108 km), Dusi canoe marathon twice (120 km), Midmar Mile numerous times, climbed Mount Kilimanjaro and Mount Olympus. I have also hiked in the United States, South America, Europe, Australia, Himalayas and New Zealand. I have played Touch Rugby for my province (Natal), as captain, from 1995 – 2004. I was chosen for the Springbok Touch Rugby side for both the Hawaii Touch World cup, 1995, and Australia Touch World Cup in 1999.

My hobbies include international travel that has taken me to most accessible countries in the world, beach water sports, tennis, running, cycling, fishing, motorcycling, jet skiing, paddling and hiking.

11.0 REFEREES

1. Prof C Trois, Head and Dean of the School of Engineering, University of KwaZulu-Natal, Durban, South Africa.
Email: Troisc@ukzn.ac.za
2. Prof S Adali, University of KwaZulu-Natal, Durban, South Africa.
Email: Adali@ukzn.ac.za
3. Prof LWR Roberts, University of KwaZulu-Natal, Durban, South Africa.
Email: Roberts@ukzn.ac.za
4. Prof R G Harley, School of Electrical Engineering, Georgia Institute of Technology, Atlanta, Georgia, USA.
Email: rharley@ece.gatech.edu
5. Prof D A Bradley, University of Abertay, Dundee, United Kingdom .
Email: d.bradley@abertay.ac.uk
6. Prof R Gill, Middlesex University, London, United Kingdom.

7. Email: r.gill@mdx.ac.uk
Prof C Syan., University of the West Indies.
Email : Syan@sta.uwi.edu