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# Biography

Dr Rao Balusu is a mining engineer with more than 34 years’ experience in different aspects of mining engineering including production management, consultancy and mining research positions. After graduating from Osmania University (India) in 1983, he has initially worked for 9 years in coal mines in different levels of management, starting from mining engineer to Colliery Manager. He has obtained his Ph.D. in Mining Engineering from University of Wollongong (Australia) in 1993. In 1996 he joined the Exploration and Mining division of CSIRO (Australia) as a Mining Engineer/Research Scientist. During the last twenty one years he has worked on several research projects including Mine gas control, Longwall geomechanics, Rapid roadway development and Inertisation projects. He has led several mine ventilation and gas control research projects including ventilation surveys and network analysis, mine gas control, sponcom management, mine fires control, proactive inertisation, goaf gas flow mechanics, CFD modelling, longwall dust control and coal mining greenhouse gas mitigation strategies.

**Fields of Research**

1. Mine safety and health research, improving resource recovery and efficiency
2. Mine ventilation, spontaneous combustion, fires control, inertisation
3. Underground mine dust control and mine safety risk assessments
4. Coal seam gas reservoirs and emissions, mine gas drainage and control
5. Computational fluid dynamics applications in mining, modelling and simulations
6. Mining technologies, Longwalls, continuous miners, longwall top coal caving
7. Mine planning and design, mine scheduling, mine operations & systems
8. Geotechnical investigations and strata control in underground coal mines.

**Academic and Professional Qualifications**

1. PhD (Mining Engineering), University of Wollongong, Australia, 1993.
2. M.Tech. (Mine Planning & Mechanisation), Osmania University, India, 1990.
3. B.E. (Mining Engineering), Osmania University, India, 1983.
4. First Class Mine Manager’s Certificate of Competency (Coal Mines), India, 1987 (Mine Manager Qualification).
5. Second Class Mine Manager’s Certificate of Competency (Coal Mines), India, 1985 (Under Manager Qualification).

**Professional Experience**

1. Chief Mining Engineer, Coal Mining Research, CSIRO Energy, 2009 – present.
2. Senior Principal Research Scientist, CSIRO, 2005 – 2009.
3. Principal Research Scientist, CSIRO, 2001 – 2005.
4. Senior Research Scientist, CSIRO, 1997 - 2001.
5. Research Scientist, CSIRO, 1996 - 1997.
6. Mining Engineer, GeoGAS Pty Ltd, Australia, 1995 – 1996.
7. Colliery Manager, Singareni Collieries Company Ltd. (SCCL), India, 1994 – 1995.
8. Research Fellow, University of Wollongong, Australia, 1990 – 1993.
9. Deputy Manager and Safety Officer, SCCL, 1988 – 1990.
10. Under Manager and Ventilation Officer, SCCL, 1984 – 1987.
11. Mining Graduate Trainee, SCCL, 1983 – 1984.

**Research Projects**

1. Capacity building for extraction of CMM resource within CIL command areas, CMPDI-CSIRO-GeoGAS collaborative project, S&T Project, Ministry of Coal, India, 2017-20.
2. Grasstree 3 gateroad longwall – CFD modelling of gas distribution, Anglo Coal, Australia, 2017–19.
3. CFD modelling of Grosvenor longwall dust flow patterns, Anglo, 2017-18.
4. Gas management and risk mitigation strategies for longwalls, Australian Coal Association Research Program (ACARP), 2016-19.
5. Specific gas emission patterns from different coal seams, ACARP, 2016–19.
6. Development of gas and sponcom control strategies for longer longwall panels at Grosvenor, Anglo, 2013-18.
7. Geotechnical study of stability of overburden dumps and deep opencast mines at SCCL, Singareni Collieries Co Ltd (SCCL), 2015–20.
8. Goaf gas flow modelling for 500’s longwalls at Oaky North, Glencore, 2015-16.
9. Sponcom review for Carmichael project, Adani, Australia, 2014–15.
10. Dust flow modelling in longwall top coal caving (LTCC) operations for developing effective control strategies, BHP Mitsubishi Alliance (BMA), 2011-14.
11. Gas flow modelling study for Broadmeadow LTCC face, BMA, 2010–12.
12. Goaf gas flow modelling study at Mandalong mine, Centennial, 2010-11.
13. Thick coal seam extraction, CSIRO-Singareni Collieries Co Ltd (SCCL) collaborative project, India, Asia Pacific Partnership on Clean Development & Climate (APP), 2008-12.
14. Mine fires prevention and control technologies, CSIRO-SCCL collaborative project, India, APP, 2008–12.
15. Integrated coal and methane extraction, CSIRO-Huainan collaborative project, China, APP, 2008–12.
16. Strategic review of gas management options to reduce greenhouse gas emissions, ACARP, 2008–10.
17. Assessment of strata caving and chock capacity requirements for KTK longwalls, SCCL, 2007-11.
18. Foam injection technologies for goaf inertisation, ACARP, 2006-10.
19. Investigation of heatings and related CO and H2 gas flow patterns in longwall goafs, ACARP, 2006–08.
20. Dust control technology for longwall faces – Shearer scrubber development and field trials, ACARP, 2006-09.
21. Goaf gas flow modelling and gas control for hydraulic mining system at Spring Creek, Solid Energy, New Zealand, 2005–06.
22. Pre-mining gas drainage technologies optimisation, ACARP, 2004-07.
23. Dust control technology development for longwall faces – simulation studies, ACARP, 2004–06.
24. Surface goaf gas drainage at Zhangbei mine, Huainan, China, 2004–06.
25. Air and dust flow patterns around the longwall shearer, ACARP, 2003-04.
26. Proactive inertisation strategies and technology development, ACARP, 2003–06.
27. Optimisation of goaf gas drainage and control strategies, ACARP, 2001-04.
28. Prefeasibility study of top coal caving in Australia, Yankuang Coal, China, 2000–01.
29. Optimisation of inertisation practice, ACARP, 2000–02.
30. Rapid roadway development project, JCOAL, 1998-2003.
31. CFD simulation of airflow patterns in place changing gateroads, Anglo, 1998-99.
32. Mine gas control (JCOAL – CSIRO – Dartbrook collaborative project), Japan Coal Energy Centre (JCOAL), 1997-2002.
33. Ground behaviour about longwall faces and its effect on mining, ACARP, 1995-98.

**Publications**

1. Poulsen, B., Adhikary, D. and **Balusu, R**. (2017). Assessment of slope stability for deep pits in sedimentary strata. *International Journal of* *Geotechnical and Geological Engineering, Volume 35, Number 2, pp 631 – 643*.
2. **Balusu, R**., Belle, B. and Tanguturi, K. (2017). Development of gas and spontaneous combustion control strategies for 6.0 km long longwall panels. *Proc. of the 16h Mine Ventilation Symposium*, Golden, Colorado, USA, June, pp 18-11 – 18-18.
3. **Balusu, R**. (2017). Principles of explosion prevention in underground coal mines. *Proc. of the International Workshop on Best Practices in Methane Drainage and Use in Coal Mines, Organised by UNECE Group of Experts on CMM in cooperation with Ministry of Coal, CMPDI, GMI and US EPA,* Ranchi, India, March, 38 pp (Invited presentation).
4. **Balusu, R**. (2017). Coal mine methane drainage technologies in Australia. *Proc. of the International Conference on Next Generation Technologies for Mining and Fuel Industries*, CSIR, ISBM 978-93-85926-40-2, New Delhi, India, February, pp 1329 - 1342.
5. **Balusu, R**. and Tanguturi, K. (2017). CFD modelling of goaf gas distribution in B heading – Grasstree 3 gateroad longwall panels. *CSIRO Energy Report EP176089, July, 26 pp*.
6. **Balusu, R**., Adhikary, D. and Poulsen, B. (2017). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 7 – RG OC-II highwall stability analysis. *CSIRO Energy Report EP167847, January, 106 pp*.
7. Adhikary, D., Khanal, M., Jayasundara, C and **Balusu, R**. (2016). Deficiencies in 2D simulation: A comparative study of 2D versus 3D simulation of multi-seam longwall mining. *Journal of Rock Mechanics and Rock Engineering, 49 (6), pp 2181 – 2185*.
8. Khanal, M., Adhikary, D., Jayasundara, C. and **Balusu, R**. (2016). Numerical study of mine site specific multiseam mining and its impact on surface subsidence and chain pillar stress. *International Journal of* *Geotechnical and Geological Engineering, Volume 34 (1), pp 217 – 235*.
9. Adhikary, D. and **Balusu, R**. (2016). Introduction of high capacity longwall system at Adriyala – Planning and design considerations. *Proc. of the Workshop on Successful Introduction of High Capacity Longwall at Adriyala, Organised by the Singareni Collieries Co Ltd, Hyderabad,* India, April, pp 19 – 33 (Invited paper and presentation).
10. Tanguturi, K. and **Balusu, R**. (2016). Optimisation of gas drainage strategies for 500’s longwall panels at Oaky North. *CSIRO Energy Report EP166994, July, 128 pp*.
11. **Balusu, R**. and Tanguturi, K. (2016). Development of gas and sponcomn control strategies for longer panels at Grosvenor. *CSIRO Energy Report EP164498, May, 160 pp*.
12. **Balusu, R**., Adhikary, D. and Poulsen, B. (2016). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 6 – PK OC-II slope stability analysis. *CSIRO Energy Report EP162140, March*, *120 pp*.
13. Morla, R., **Balusu, R**., Tanguturi, K. and Ren, T. (2015). Inertisation options for BG method and optimization using CFD modelling. *International Journal of Mining Science and Technology Volume 25, Issue 3, May 2015, pp 401 – 405*.
14. Tanguturi, K. and **Balusu, R**. (2015). Fundamental understanding of goaf gas displacement in longwall goaf. *Journal of Mining and Environment, Volume 6, Number 2, pp 191 - 203*.
15. Tanguturi, K., **Balusu, R**. and Belle, B. (2015). Development of goaf gas drainage strategies for start-up areas of highly gassy longwall panels. *Proc. of the Australian Mine Ventilation Conference*, Sydney, August-September, pp 251 – 258.
16. **Balusu, R**., Adhikary, D. and Poulsen, B. and Morla, R. (2015). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 5. *CSIRO Energy Flagship Report EP152085, March*, *113 pp*.
17. Khanal, M., Adhikary, D. and **Balusu, R**. (2014). Prefeasibility study - geotechnical studies for introducing longwall top coal caving in Indian mines. *Journal of Mining Science, ISSN 1062-7391, Volume 50, Number 4, July 2014, pp 719 – 732, JIF 0.223, csiro EP131522*.
18. Poulsen, B., Khanal, M., Rao, A. M., Adhikary, D. and **Balusu, R**. (2014). Mine overburden dump failure: a case study. *International Journal of* *Geotechnical and Geological Engineering; ISSN 0960-3182, Volume 32, Number 2*, April 2014, pp 297 – 309, *JIF 0.27,* *csiro EP1312150*.
19. Tanguturi, K. and **Balusu, R**. (2014). CFD modelling of methane gas distribution and control strategies in a gassy coal mine. *The Journal of Computational Multiphase Flows, Volume 6, Number 1, March 2014, pp 65 - 78*.
20. **Balusu, R**., Tanguturi, K. and Kelly, M. (2014). Longwall top coal caving (LTCC) face gas and dust flow patterns. *Proc. of the* 13*th Longwall Mining Operators Conference,* Hunter Valley, NSW, Australia, October, 36 pp (Invited presentation).
21. **Balusu, R**., Adhikary, D. and Poulsen, B. and Morla, R. (2014). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 4. *CSIRO Energy Flagship Report EP152000, December, 126 pp*.
22. **Balusu, R.** (2014). Spontaneous combustion review for Carmichael project. CSIRO Energy Flagship Report EP144895, August, 44 pp.
23. **Balusu, R**. and Guo, G. (2013). An overview of mine gas drainage technologies in Australia. *Proc. of the 3rd International Workshop on Mine Hazards Prevention and Control*, Brisbane, Australia, November, pp 177 – 191, *csiro EP139073*.
24. Morla, R., **Balusu, R**. and Tanguturi, K. (2013). Optimum inertisation techniques for blasting gallery method. *Proc. of the 3rd International Workshop on Mine Hazards Prevention and Control*, Brisbane, Australia, November, pp 97 – 105, *csiro EP138714*.
25. Poulsen, B., Khanal, M., Adhikary, D. and **Balusu, R**. (2013). Stability analysis of overburden dump. *Proc. of the 3rd International Workshop on Mine Hazards Prevention and Control*, Brisbane, Australia, November, pp 16 – 20, *csiro EP138543*.
26. Morla, R., **Balusu, R**., Tanguturi, K. and Khanal, M. (2013). Prediction and control of spontaneous combustion in thick coal seams. *Proc. of the 2013 Coal Operators’ Conference*, Wollongong, Australia, February, pp 232 – 239, *csiro EP128800*.
27. **Balusu, R**., Adhikary, D., Poulsen, B., Morla, R., Khanal, M., Mead, S., Huston, C., Delaney, G. and Lemiale, V. (2013). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 3. *CSIRO Earth Science and Resource Engineering Report EP1312171,* October, 111 pp.
28. Tanguturi, K.,Morla, R. and **Balusu, R**. (2013). Modelling of dust flow in longwall top coal caving operations for developing effective control strategies. *CSIRO Earth Science and Resource Engineering Report EP137538,* June, 112 pp.
29. **Balusu, R**., Adhikary, D., Poulsen, B., Morla, R., Khanal, M., Mead, S., Delaney, G., Karantgis, L., Lemiale, V., Cleary, P. and Huston, C. (2013). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 2. *CSIRO Earth Science and Resource Engineering Report EP1312105,* March, 90 pp.
30. Poulsen, B., Morla, R., Adhikary, D. and **Balusu, R**. (2013). Site characterization study RGOCII. *CSIRO Earth Science and Resource Engineering EP132094,* February, 42 pp.
31. Khanal, M., Adhikary, D. and **Balusu, R**. (2012). Numerical analysis and geotechnical assessment of mine scale model. *Mining Science and Technology* 22(5), pp 693 – 698, *JIF 0.63,* *csiro EP115628*.
32. Khanal, M., Adhikary, D. and **Balusu, R**. (2012). Assessment of chock capacity and strata caving for a longwall mine. *Geotechnical and Geological Engineering* 30(2), pp 395 – 405, *JIF 0.27, csiro EP106221*.
33. Tanguturi, K., **Balusu, R**., Morla, R. and Khanal, M. (2012). Effect of buoyancy on methane gas distribution and gas control strategies at tailgate region in a gassy coal mine. *Proc. of the 9th International Conference on CFD in the Minerals and Process Industries*, Melbourne, Australia, December, 6 pp, *csiro EP127324*.
34. Dattatreyulu, J. V., Khanal, M., Adhikary, D. and **Balusu, R**. (2012). Geotechnical studies for introducing high capacity longwalls and longwall top coal caving mining in SCCL. *Proc. of the 4th Coal Summit Conference*, New Delhi, India, November, 16 pp, *csiro EP126830*.
35. **Balusu, R**. (2012). Gas capture maximization approach for avoiding methane emissions in ventilation air. *Proc. of the Coal Mining Methane Abatement Seminar, Global Methane Initiative,* Sydney, Australia, September, 24 pp (Invited presentation).
36. **Balusu, R**. (2012). A brief review of feasibility of wider and longer longwall panels at Grosvenor project. *CSIRO Earth Science and Resource Engineering Report,* September, 9 pp.
37. **Balusu, R**. (2012). Spontaneous combustion review for Kevin’s Corner project. *CSIRO Earth Science and Resource Engineering Report EP124979,* June, 34 pp.
38. **Balusu, R**., Adhikary, D., Khanal, M., Zhou, B., Poulsen, B., Sliwa, R. and Karekal S. (2012). Thick coal seam extraction – Final report: APP project number CLM-06-13. *CSIRO Earth Science and Resource Engineering Report EP124636,* June, 211 pp.
39. **Balusu, R**., Yarlagadda, S., Ren, T., Karekal, S., Adhikary, D., Liu, T., Tanguturi, K. and Morla, R. (2012). Mine fire prevention and control – Final report: APP project number CLM-07-17. *CSIRO Earth Science and Resource Engineering Report EP122606,* March, 204 pp.
40. Khanal, M., Adhikary, D. and **Balusu, R**. (2011). Evaluation of mine scale longwall top coal caving parameters using continuum analysis. *Mining Science and Technology* 21(6), pp787 – 796, *JIF 0.63,* *csiro EP106480*.
41. Khanal, M., Adhikary, D. and **Balusu, R**. (2011). Effect of strata properties and panel widths on chock performance. *Journal of Rock Mechanics and Geotechnical Engineering 3 (Supplement)*, pp 407 – 414, *JIF 0.92,* *csiro EP106422*.
42. Ren, T., **Balusu, R**. and Claassen, C. (2011). Computational fluid dynamics modeling of gas flow dynamics in large longwall goaf areas. *Proc. of the 35th Application of Computers and Operations Research in the Minerals Industry*, Wollongong, Australia, September, pp 603 – 614.
43. **Balusu, R**., Schiefelbein, K., Ren, T., O’Grady, P. and Harvey, T. (2011). Prevention and control of fires and explosions in underground coal mines. *Proc. of the Australian Mine Ventilation Conference*, Sydney, September, pp 69 – 77 (Invited paper and presentation).
44. Khanal, M., Adhikary, D. and **Balusu, R**. (2011). Use of numerical tools to evaluate site specific issues using a mine scale model. *Proc. of the 45th U.S. Rock Mechanics / Geomechanics Symposium*, San Francisco, USA, June, pp 2020 – 2026, *csiro EP111210*.
45. Yarlagadda, S., **Balusu, R**., Liu, T. and Veera Reddy, B. (2011). Proactive strategies for prevention and control of fires in bord and pillar mines working in thick coal seams. *Proc. of the 2011 Underground Coal Operators’ Conference*, Wollongong, Australia, February, pp 249 - 256.
46. **Balusu, R**. and Adhikary, D. (2011). Thick coal seam extraction – Fourth interim report on studies of multi-seam mining at Adriyala: APP project number CLM-06-13. *CSIRO Earth Science and Resource Engineering Report EP12039,* December, 58 pp.
47. **Balusu, R**., Tanguturi, K. and Morla, R. (2011). Mine fire prevention and control – Fifth interim report: APP project number CLM-07-17. *CSIRO Earth Science and Resource Engineering Report EP118260,* December, 58 pp.
48. Tanguturi, K., Yarlagadda, S. and **Balusu, R**. (2011). Gas flow modeling studies for Broadmeadow longwall top coal caving operations. *CSIRO Earth Science and Resource Engineering Report EP117086,* November, 128 pp.
49. **Balusu, R**. and Adhikary, D. (2011). Stability analyses and design optimization of overburden dumps and deep opencast mines at Singareni Collieries: Interim report 1. *CSIRO Earth Science and Resource Engineering Report EP111773,* March, 48 pp.
50. **Balusu, R**., Ren, T., Schiefelbein, K., O’Grady, P. and Harvey, T. (2010). Proactive strategies to prevent fires and explosions in longwall mines. *Proc. of the Extracting the Science: A Century of Mining Research, Edited by Jurgen Brune, SME publication*, March, pp 408 – 417, csiro procite:1a77d857-68a7-4ff6-a023-708720f3834e (Invited paper and presentation).
51. Guo, H., **Balusu, R**., Hainsworth, D., Shen, B., Adhikary, D., Su, S. and Roberts, J. (2010). CSIRO coal mining research and technologies. *Proc. of the Extracting the Science: A Century of Mining Research, Edited by Jurgen Brune, SME publication*, March, pp 70 – 80, csiro procite:09db2ee2-0eb8-469d-9b43-a71328672e76.
52. Ren, T. and **Balusu, R**. (2010). The use of CFD modelling as a tool for solving mining health and safety problems. *Proc. of* *the 10th Underground Coal Operators’ Conference,* Wollongong, Australia, February, pp 339 – 349.
53. **Balusu, R**., Adhikary, D., Khanal, M. and Karekal S. (2010). Thick coal seam extraction – Third interim report on studies into feasibility of LTCC at Adriyala field site: APP project number CLM-06-13. *CSIRO Earth Science and Resource Engineering Report EP111102,* December, 94 pp.
54. **Balusu, R**., Yarlagadda, S. and Liu, T. (2010). Mine fire prevention and control – Fourth interim report: APP project number CLM-07-17. *CSIRO Earth Science and Resource Engineering Report EP111068,* December, 86 pp.
55. **Balusu, R**. (2010). Explosion prevention in Anglo American mines – phase 1 review report. *CSIRO Earth Science and Resource Engineering Report EP106678,* December, 16 pp.
56. **Balusu, R**., Yarlagadda, S. and Tanguturi, K. (2010). Gas flow modeling studies for Broadmeadow longwall top coal caving operations – Review and initial assessment of airflow patterns on LTCC face. *CSIRO Earth Science and Resource Engineering Report EP10206,* October, 24 pp.
57. Moreby, R., **Balusu, R**., Yarlagadda, S., Ren, T. and Su, S. (2010). Strategic review of gas management options for reduced GHG emissions: ACARP project C17057. *CSIRO Earth Science and Resource Engineering Report P2010/860,* May, 168 pp.
58. **Balusu, R**., Yarlagadda, S. and Liu, T. (2010). Mine fire prevention and control – Third interim report: APP project number CLM-07-17. *CSIRO Earth Science and Resource Engineering Report P2010/820,* May, 96 pp.
59. Ren, T. X. and **Balusu, R**. (2009). Proactive goaf inertisation for controlling longwall goaf heatings. *Procedia Earth and Planetary Science, Volume 1, Issue 1,* September, pp 309 – 315, *JIF 0.19, csiro procite:76bb8b65-c72b-481e-af94-503918dba7e9*.
60. Mossad, R., Vella, A. and **Balusu, R**. (2009). Inertisation of highwall mining to control methane concentration at the Moura mine. *Proc. of* *the Second International Conference on CFD in the Minerals and Process Industries, Melbourne,* Australia, December, 6 pp, csiro procite:2de138a1-96ea-4730-8e70-5fd9ff2ae65f.
61. **Balusu, R**. and Moreby, R. (2009). Review of ventilation and gas management strategies to reduce greenhouse gas emissions. *Proc. of the* *Gas and Coal Outburst Committee Seminar*, Wollongong, Australia, November, pp 47 – 66 (Invited presentation).
62. **Balusu, R**. and Moreby, R. (2009). Review of ventilation and gas management strategies to reduce greenhouse gas emissions. *Proc. of the* *8th Longwall Mining Operators Conference,* Hunter Valley, NSW, Australia, October, 19 pp (Invited presentation).
63. Ren, T., Plush, B. and **Balusu, R**. (2009). Development of a new shearer scrubber system for dust control. *Proc. of* *the Queensland Mining Industry Health and Safety Conference and Innovation Awards,* Townsville, Australia, August, 9 pp, csiro procite:80d71eb0-f580-4800-8283-c1e81dc44e16.
64. **Balusu, R**. (2009). Optimum inertisation strategies. *Proc. of the Sealing a Part of a Coal Mine – Coal Industry Workshop, Capella, Queensland, Australia, March*, 17 pp (Invited presentation).
65. **Balusu, R**., Yarlagadda, S., Ren, T., Karekal, S., Liu, T. and Adhikary, D. (2009). Mine fire prevention and control – Second interim report: APP project number CLM-07-17. *CSIRO Earth Science and Resource Engineering Report P2009/1974,* December, 102 pp.
66. **Balusu, R**., Adhikary, D., Khanal, M., Poulsen, B. and Karekal, S. (2009). Thick coal seam extraction – Second interim report on studies of caving mechanics at Adriyala site: APP project number CLM-06-13. *CSIRO Earth Science and Resource Engineering Report P2009/1871,* December, 116 pp.
67. Karekal, S., Adhikary, D., Poulsen, B. and **Balusu, R**. (2009). Geotechnical considerations for blasting gallery fire issues. *CSIRO Report P2009/2017,* November, 62 pp.
68. Adhikary, D., **Balusu, R**., Khanal, M. and Poulsen, B. (2009). Assessment of strata caving and chock capacity requirements for Adriyala longwalls. *CSIRO Exploration and Mining Report P2009/1960,* November, 212 pp.
69. Adhikary, D., **Balusu, R**., Khanal, M. and Poulsen, B. (2009). Assessment of strata caving and chock capacity requirements for KTK longwalls. *CSIRO Exploration and Mining Report P2009/732,* October, 138 pp.
70. **Balusu, R**. (2009). A brief review of inertisation and goaf gas drainage strategies at Moranbah North. *CSIRO Exploration and Mining Report,* September, 11 pp.
71. **Balusu, R**., Ren, T. and Plush, B. (2009). Dust control technology for longwall faces – Shearer scrubber development and field trials: ACARP project C14036. *CSIRO Exploration and Mining Report P2009/1178,* June, 76 pp.
72. **Balusu, R**., Yarlagadda, S., Ren, T., Karekal, S., Huddlestone-Holmes, C. and Adhikary, D. P. (2009). Mine Fire Prevention and Control – Interim report on site investigation and characterisation studies: APP project number CLM-07-17. *CSIRO Exploration and Mining Report P2009/194,* March, 68 pp.
73. Guo, H., **Balusu, R**. and Adhikary, D. (2008). Coal mine gas drainage and recent developments in Australia. *Proc. of the China International Conference on Coal Gas Control and Utilisation*, Huainan, China, October, pp 159 - 183.
74. Karacan, C. O., Ren, T. X. and **Balusu, R**. (2008). Advances in grid-based numerical modelling techniques for improving gas management in coal mines. *Proc. of* *the 12th US/North American Mine Ventilation Symposium,* Reno, Nevada, USA, June, pp 313 - 320.
75. Ren, T. and **Balusu, R**. (2008). Innovative CFD modelling to improve dust control in longwalls. *Proc. of* *the 8th Underground Coal Operators’ Conference – Improvement in Productivity and Safety,* Wollongong, Australia, February, pp 137 - 142.
76. Ren, T. and **Balusu, R**. (2008). Investigation of heatings and related CO and H2 gas flow patterns in longwall goafs: ACARP project C15022. *CSIRO Exploration and Mining Report P2008/2299,* December, 122 pp.
77. Huddlestone-Holmes, C., Elmouttie, M., Adhikary, D. P. and **Balusu, R**. (2008). Punch entry highwall mapping and stability study using SiroVision and SIROMODEL. *CSIRO Exploration and Mining Report P2008/2707,* December, 45 pp.
78. Karekal, S., Adhikary, D. P. and **Balusu, R**. (2008). Adriyala and Kakatiya longwall projects – Hydro-Geomechanical framework and PMP characterisation. *CSIRO Exploration and Mining Report P2008/2412,* October, 104 pp.
79. Keilich, W., Poulsen, B., Adhikary, D. P. and **Balusu, R**. (2008). Assessment of strata caving and chock capacity requirements for Adriyala and KTK longwalls – Interim report. *CSIRO Exploration and Mining Report P2008/2339,* September, 102 pp.
80. **Balusu, R**., Sliwa, R., Zhou, B. and Adhikary, D. P. (2008). Thick coal seam extraction – Interim report on site investigation and characterisation studies: APP project number CLM-06-13. *CSIRO Exploration and Mining Report P2008/2193,* September, 68 pp.
81. Sliwa, R., Zhou, B., Adhikary, D. P. and **Balusu, R**. (2008). Adriyala and Kakatiya longwall projects – Geological and geophysical characterisation. *CSIRO Exploration and Mining Report P2008/2167,* September, 160 pp.
82. **Balusu, R**. and Guo, H. (2008). Review of the proposed goaf gas drainage technologies for South Blakefield Colliery. *CSIRO Exploration and Mining Report P2008/1620,* June, 12 pp.
83. Ren, T. and **Balusu, R**. (2007). Controlling dust. *Australia’s Longwalls Journal*, September, pp 14 - 16.
84. Guo, H., Su, S. and **Balusu, R**. (2007). Current status of coal mine methane research in CSIRO and VAMCAT demonstration project in China. *Proc. of the Methane to Markets Partnership Expo: A Forum for Projects, Technology, Financing and Policy*, Beijing, China, October - November, 20 pp.
85. Ren, T. and **Balusu, R**. (2007). Applications of CFD simulations for mine gas and spontaneous heatings control in underground coal mines. *Proc. of the China International Symposium on Coal Gas Control Technology*, Huainan, China, October, pp 100 - 114.
86. **Balusu, R**., Humphries, P., Guo, H., Ren, T. and Xue, S. (2007). Mine gas control technologies and practices in Australia. *Proc. of the China International Symposium on Coal Gas Control Technology*, Huainan, China, October, pp 148 - 172.
87. Ren, T. and **Balusu, R**. (2007). CFD simulation of longwall airflow patterns for respirable dust control. *Proc. of* *the 32nd International Conference of Safety in Mines Research Institutes,* Beijing, China, September, pp 137 - 153.
88. Zhou, B. and **Balusu, R**. (2007). Adriyala and Kakatiya longwall projects – Reprocessing of 2006 Jallaram 2D seismic test data. *CSIRO Exploration and Mining Report P2007/517,* July, 34 pp.
89. **Balusu, R**. and Humphries, P. (2007). Gas and ventilation, Chapter 5 – High capacity underground coal mining: Scoping study – Defining the system needs for a 15Mtpa longwall operation: ACARP project C15008 (L15). *CSIRO Exploration and Mining Report P2007/537,* June, 25 pp.
90. Ren, T., **Balusu, R**. and Plush, B. (2007). Dust control technology development for longwall faces – Shearer scrubber development: ACARP project C14036. *CSIRO Exploration and Mining Report P2007/362,* June, 59 pp.
91. **Balusu, R**., Adhikary, D., Guo, H. andRutherford, A. (2007). Assessment of support capacity for Adriyala longwall project. *CSIRO Exploration and Mining Report P2007/64,* March, 15 pp.
92. Adhikary, D., Sliwa, R., Zhou, B., Guo, H. and **Balusu, R**. (2007). Adriyala and Kakatiya longwall projects – preliminary recommendations for geotechnical investigations. *CSIRO Exploration and Mining Report P2007/44,* March, 44 pp.
93. Guo, H., Shen, B., Su, S. **Balusu, R**. and Adhikary, D. (2007). Co-production of coal and methane – scoping study. *CSIRO Exploration and Mining Report P2007/35,* March, 23 pp.
94. **Balusu, R**., Tuffs, N., White, D. and Harvey, T. (2006). Surface goaf gas drainage strategies for highly gassy longwall mines. *Journal of The Mine Ventilation Society of South Africa, Volume 59, Number 3, July*/September, pp 78 - 84.
95. **Balusu, R**., Ren, T., Humphries, P., O’Grady, P., Schiefelbein, K. and Harvey, T. (2006). Proactive inertisation to prevent heatings and fires in longwall goafs. *Coal International Journal*, May/Jun, pp 30 - 37.
96. Kelly, M., Guo, H., **Balusu, R**., Hainsworth, D. and Humphries, P. (2006). Status of longwall research in CSIRO. *Proc. of the* *5th Longwall Conference*, Hunter Valley, New South Wales, Australia, October, 19 pp.
97. **Balusu, R**. (2006). Inertisation strategies to control heatings and fires in longwall goafs. *Proc. of the* *10th Australian Longwall Mining Summit,* Yeppoon, Queensland, June, 11 pp.
98. **Balusu, R**. (2006). Review of gas and frictional ignition issues at New Denmark Colliery in South Africa. *CSIRO Exploration and Mining Report P2006/732*, October, 7 pp.
99. Ren, T. and **Balusu, R**. (2006). Goaf gas flow modelling and gas control for hydraulic mining system at Spring Creek Colliery. *CSIRO Exploration and Mining Report P2006/300,* April, 23 pp.
100. Xue, S., Guo, H., Chen, S. **Balusu, R**. and Ren, T. X. (2006). Study of a new approach for predicting outburst of coal and gas in an outburst prone coal seam. *CSIRO Exploration and Mining Report P2006/131,* March, 39 pp.
101. Guo, H., Ren, T., **Balusu, R**., Adhikary, D. and Xue, S. (2006). Surface goaf gas drainage at Zhangbei mine. *CSIRO Exploration and Mining Report P2006/88,* February, 31 pp.
102. **Balusu, R**., Ren, T. X. and Humphries, P. (2006). Proactive inertisation strategies and technology development – ACARP project C12020. *CSIRO Exploration and Mining Report P2006/26,* January, 94 pp.
103. Su, S., Ren, T., **Balusu, R**., Beath, A., Guo, H. and Mallett, C. (2006). Development of two case studies on mine methane capture and utilisation in China. *CSIRO Exploration and Mining Report P2006/17,* January, 41 pp.
104. Ren, T. X. and **Balusu, R**. (2005). CFD modelling of goaf gas migration for control of spontaneous combustion in longwalls. *Journal of the Australasian Institute of Mining and Metallurgy*, No. 6, November/December, pp 55 - 58.
105. **Balusu, R**. (2005). Reducing shearer dust. *Australia’s Longwalls Journal*, September, pp 48 - 49.
106. Ren, T. X., **Balusu, R**., Guo, H. and Su, S. (2005). Improvement of mine gas drainage and utilisation: Case study A. *Methane to Markets Partnership Regional Workshop in China*, Beijing, December, 12 pp.
107. **Balusu, R**., Ren, T. X., Adhikary, D., Su, S. and Guo, H. (2005). Development of integrated approach for coal mine gas capture and utilisation. *Proc. of the 5th International Symposium on CBM/CMM in China*, November - December, pp 242 - 257.
108. Kelly, M., Guo, H., **Balusu, R**., Hainsworth, D. and Humphries, P. (2005). Status of longwall research in CSIRO. *Proc. of the International Symposium on Advances in Mining Technology and Management,* Kharagpur, India,November - December, pp 103 - 121.
109. **Balusu, R**., Ren, T., Schiefelbein, K., Loney, M., O’Grady, P. and Winkelmann, N. (2005). Proactive inertisation to prevent heatings in active longwall panels. *Proc. of* *the 31st International Conference of Safety in Mines Research Institutes,* Brisbane, Australia, October, pp 188 - 193.
110. **Balusu, R**., Chaudari, S., Harvey, T. and Ren, T. (2005). An investigation of air and dust flow patterns around the longwall shearer. *Proc. of* *the 8th International Mine Ventilation Congress,* Brisbane, Australia, July, pp 135 - 142.
111. **Balusu, R**., Tuffs, N., Peace, R. and Xue, S. (2005). Longwall goaf gas drainage and control strategies for highly gassy mines. *Proc. of* *the 8th International Mine Ventilation Congress,* Brisbane, Australia, July, pp 201 - 209.
112. Ren, T., **Balusu, R**. and Humphries, P. (2005). Development of innovative goaf inertisation practices to improve coal mine safety. *Proc. of* *the 6th Australasian Coal Operators’ Conference,* Brisbane, Australia, April, pp 315 - 322.
113. Ren, T. and **Balusu, R**. (2005). CFD modelling of goaf gas migration to improve the control of spontaneous combustion in longwalls. *Proc. of* *the 6th Australasian Coal Operators’ Conference,* Brisbane, April, pp 259 - 264.
114. **Balusu, R**. (2005). Proactive strategies for gas and spontaneous combustion control. *Proc. of the 2nd Mine Managers Association of Australia Mining Industry Seminar,* Newcastle, April, 10 pp.
115. **Balusu, R**. (2005). Methane emission estimations for power generation at abandoned mines (Teralba Colliery). *CSIRO Exploration and Mining Report P2005/436*, November, 10 pp.
116. Ren, T. and **Balusu, R**. (2005). Dust control technology development for longwall faces – simulation studies ACARP project C13019. *CSIRO Exploration and Mining Report P2005/394,* September, 89 pp.
117. **Balusu, R**., Tuffs, N, Peace, R. and Harvey, T. (2004). Research aims to reduce gas. *Australia’s Longwalls Journal*, September, pp 32 - 36.
118. **Balusu, R**., Chaudari, S. and Ren, T. (2004). Air and dust flow patterns around the longwall shearer – ACARP project C12025. *CSIRO Exploration and Mining Report P2004/57,* October, 110 pp.
119. Ren, T. and **Balusu, R**. (2004). Coal mine gas studies for power generation at United Colliery. *CSIRO Exploration and Mining Report P2004/58,* October, 58 pp.
120. **Balusu, R**., Tuffs, N., Peace, R., Harvey, T., Xue, S. and Ishikawa, H. (2004). Optimisation of goaf gas drainage and control strategies - ACARP project C10017. *CSIRO Exploration and Mining Report 1186F,* June, 136 pp.
121. Rowan, G., Beitz, A., **Balusu, R**., Einicke, G., Fillon, O., Glynn, P., Guo, H., Humphries, P. and Smartt, P. (2004). Mine communication & information systems for real time risk analysis – Year 2. *CSIRO Exploration and Mining Report 1185C*, March, 142 pp.
122. **Balusu, R**. and Ren, T. (2004). Simulation of goaf gas distribution for longwall panel (KA101) at Dartbrook/Kayuga Colliery. *CSIRO Exploration and Mining Report 1173F*, February, 11 pp.
123. **Balusu, R**., Humphries, P., Harrington, P., Wendt, M. and Xue, S (2003). Optimum Inertisation Strategies. *Coal International Journal*, July/Aug, pp 172 - 181.
124. Xue, S. and **Balusu, R**. (2003). Capture gas from longwall goafs. *Proc. of the 3rd International Methane and Nitrous Oxide Mitigation Conference,* Beijing, China, November, Vol II, pp 8 - 14.
125. **Balusu, R**. (2003). Goaf gas control optimisation. *NSW Gas and Coal Outburst Committee Seminar,* Wollongong, November, 6 pp.
126. Rowan, G., Glynn, P., Einicke, G., Beitz, A., Smartt, P., **Balusu, R**. and Guo, H. (2003). Mine communication & information systems for real time risk analysis. *Proc. of* *the 30th International Conference of Safety in Mines Research Institutes,* Johannesburg, South Africa, October, pp 279 - 302.
127. Xue, S., Wu, J., **Balusu, R**. and Worrall, R. (2003). Demonstration of innovative radon detecting technique for locating underground heating area from surface - ACARP Project C12005. *CSIRO Exploration and Mining Report 1080F*, September, 41 pp.
128. Rowan, G., Einicke, G., Beitz, A., Smartt, P., Glynn, P., Guo, H., **Balusu, R**. and Mallett, C. (2003). Mine communication & information systems for real time risk analysis. *CSIRO Exploration and Mining Report 1067C*, March, 256 pp.
129. Kelly, M. S., Esterle, J., Guo, H., **Balusu, R.**, Worms, R., Rutherford, A., Hebblewhite, B., Laws, A., Willson, A., Robertson, B., Lugg, P. and O’Grady, P. (2003). Moranbah North longwall top coal caving strategic review. *CSIRO Exploration and Mining Report 1066C*, March, 49 pp.
130. **Balusu, R**., Humphries, P. and Wendt, M. (2002). Inertisation strategies for longwall sealing. *Australia’s Longwalls Journal*, September, pp 79 - 80.
131. Xue, S., **Balusu, R**. and Worrall, R. (2002). Application of Tracer Gas Techniques in Goaf Gas Flow Study at Dartbrook Mine. *Coal and Safety Journal*, No 20, March, pp 46 - 52.
132. Wendt, M. and **Balusu, R.** (2002). CFD Modelling of Longwall Goaf Gas Flow Dunamics. *Coal and Safety Journal*, No 20, March, pp 35 - 45.
133. **Balusu, R**., Deguchi, G., Holland, R., Moreby, R., Xue, S., Wendt, M. and Mallett, C. (2002). Goaf gas flow mechanics and development of gas and sponcom control strategies at a highly gassy coal mine. *Coal and Safety Journal*, No 20, March, pp 17 - 34.
134. **Balusu, R**., Humphries, P., Harrington, P., Wendt, M. and Xue, S. (2002). Optimum inertisation strategies. *Proc. of* *the Queensland Mining Industry Health & Safety Conference,* Townsville, Australia, August, pp 133 - 144.
135. **Balusu, R**., Xue, S., Wendt, M., Mallett, C., Robertson, B., Holland, R., Moreby, R., Mclean, D. and Deguchi, G. (2002). An investigation of the gas flow mechanics in longwall goafs. *Proc. of* *the North American/Ninth US Mine Ventilation Symposium,* Kingston, Ontario, Canada, June, pp 443 - 450.
136. **Balusu, R**. (2002). Longwall goaf gas flow mechanics. *COAL 2002* - *3rd Australasian Coal Operators Conference*, Wollongong, Australia, February, pp 244 - 248.
137. **Balusu, R**., Mallett, C., Xue, S., Wendt, M. and Worrall, R. (2002). Mine gas control – JCOAL – CSIRO – Dartbrook Collaborative project. *CSIRO Exploration and Mining Report 1012C, O*ctober, 183 pp.
138. **Balusu, R.**, (2002). Preliminary review of face airflow patterns at Oaky No.1 Colliery. *CSIRO Exploration and Mining Report 995C*, August, 5 pp.
139. Mallett, C., Einicke, G., **Balusu, R**., Guo, H. and Glynn, P. (2002). Mine communication & information systems for real time risk analysis. *CSIRO Exploration and Mining Report 924C*, June, 78 pp.
140. **Balusu, R**., Wendt, M. and Xue, S. (2002). Optimisation of Inertisation practice – ACARP project C9006. *CSIRO Exploration and Mining Report 907F*, June, 116 pp.
141. Guo, H., Adhikary, D. P., Xue, S., **Balusu, R**., Poulsen, B., Wendt, M., Beath, A., Kahraman, H., Zhou, B. and Mallett, C. (2002). Predevelopment studies for mine methane management and utilisation. *CSIRO Exploration and Mining Report 917C*, March, 343 pp.
142. Kelly, M., **Balusu, R**. and Hainsworth, D. (2001). Status of longwall research in CSIRO. *Proc. of 20th International Conference on Ground Control in Mining*, Morgantown, WV, USA, August, pp 11 - 20.
143. Fujii, Y., **Balusu, R**., Deguchi, G. and Ishijima, Y. (2001). Numerical simulation on microseismicity due to mining at one of the collieries in Australia. *Proc. of 20th International Conference on Ground Control in Mining*, Morgantown, WV, USA, August, pp 287 - 296.
144. **Balusu, R**., Xue, S. and Wendt, M. (2001). Characterisation of gas flow behaviour in longwall goafs and its application for development of gas and spontaneous combustion control strategies. *3rd International Underground Coal Conference – Gas and Ventilation Workshop*, Sydney, Australia, June, 8 pp.
145. Wright, B., Kelly, M., Guo, H., **Balusu, R**., Easterle, J., Xue, S., Hebblewhite, B., Cai, Y., Onder, U. and Rutherford, A. (2001). Final report for the Prefeasibility study of Top Coal Caving in Australian conditions. *CSIRO Exploration and Mining Report 888C*, September, 175 pp.
146. Kelly, M., Hainsworth, D.,McPhee, R.J.,Shen, B.,Wesner, C., Wright, B., **Balusu, R**., Adhikary, D., Guo, H., Wendt, M. and Xue, S. (2001). Joint CSIRO-JCOAL project on Rapid Roadway Development project progress report, Year 3, 2000-2001. *CSIRO Exploration and Mining Report 889F*, June, 115 pp.
147. Kelly, M., Hainsworth, D.,McPhee, R.J.,Shen, B.,Wesner, C., Wright, B., **Balusu, R**., Adhikary, D., Guo, H., Wendt, M. and Xue, S. (2001). Rapid Roadway Development project progress report. ACARP project C9017. *CSIRO Exploration and Mining Report 828F*, June, 112 pp.
148. **Balusu, R**., Xue, S., Wendt, M., Mallett, C., Gale, W., King A. and Luo, X. (2001). Mine Gas Control final year project report. *CSIRO Exploration and Mining Report 807c*, March, 121 pp.
149. Mallett, C.W., Xue, S. and **Balusu, R**. (2000). Coal mine gas in Australian longwall mining. *Coal and Safety Journal*, No 16, March, pp 21 - 27.
150. Kelly, M.S., Huo, G., Hainsworth, D., **Balusu, R**., Mitchell, K., Carter, G., Shen, B., Adhikary, D., Craig, S. and Kahraman, H. (2000). Rapid Roadway Development. ACARP project C8014. *CSIRO Exploration and Mining Report 716F*, March, 126 pp.
151. **Balusu, R**., Xue, S., Wendt, M., Mallett, C., Kahraman, H., Luo, X., Gale, W., Esterle, J., Ross, J. and King A. (2000). Mine Gas Control third year project report. *CSIRO Exploration and Mining Report 711c*, March, 185 pp.
152. **Balusu, R**. (1999). Longwall goaf gas flow behaviour and Optimisation of goaf gas drainage systems. *Queensland gas and outburst seminar,* Emerald, November, pp 35 - 40.
153. **Balusu, R**. (1999). Mine Gas Control. *Coal resources and coal mining technology*, Australia-Japan Technology Exchange workshop, Brisbane, November, 6 pp.
154. Mallett, C.W., Xue, S. and **Balusu, R**. (1999). Mine gas in Australian longwall mining. *Proc. of Asia-Pacific Workshop on Coal Mining Technology*, Tokyo, Sept., pp 141 - 153.
155. Kelly, M.S, Luo, X., Hatherly, P., **Balusu, S.R**., LeBlanc-Smith, G. and Gale, W. (1999). Ground bahaviour about longwall faces and its effect on mining. *Proc. of 9th International Congress on Rock Mechanics,* International Society for Rock Mechanics, Paris, France, August, Vol 1, pp 307 - 310.
156. Mallett, C.W., Mark, M.R., **Balusu, R**., Wendt, M., Glynn, P., Leung, L., Lapszewicz, J.A. and Saghafi, A. (1999). Greenhouse gas management for Australian coal mines. *Proc. of the 9th Japan/Australia Joint Technical Meeting on Coal*, Melbourne, June, 8 pp.
157. **Balusu, R**. (1999). Ground behaviour about longwall faces and its effect on mining. *Research Review,* CSIRO Exploration and Mining, pp 187 - 190.
158. **Balusu, R**., Xue, S., Wendt, M. and Mallett, C. (1999). Mine Gas Control second year project report. *CSIRO Exploration and Mining Report 607c*, March, 239 pp.
159. Kelly, M.S., Guo, H. and **Balusu, R**. (1999). Audit of Appin-Tower connection process and Appin longwall widening. *CSIRO Exploration and Mining Report 613c*, April, 8 pp.
160. Mallett, C.W., Lapszewicz, J., Sharma, S.D., Meyer, T., **Balusu, R**., Kahraman, H., Xue, S. and Worrall, R. (1999). Coal mine gas – Strategies to reduce greenhouse gas impacts from coal mining. *CSIRO Exploration and Mining Report 596c*, February, 102 pp.
161. Wendt, M. and **Balusu, R**. (1998). Computational fluid dynamic analysis of gassy longwall goaf regions. *Australia-Japan technology exchange workshop in coal mining*, Brisbane, November, 5 pp.
162. **Balusu, R**., Moreby, R., Holland, R. and Mclean, D. (1998). Surface goaf gas drainage at Dartbrook Colliery. *Australia-Japan technology exchange workshop in coal mining*, Brisbane, November, 6 pp.
163. Kelly, M., Gale, W., Luo, X., Hatherly, P., **Balusu, R**. and LeBlanc-Smith, G. (1998). Longwall caving process in different geological environments – Better understanding through the combination of modern assessment methods. *Proc. of Int. Conf. on Geomechanics/ Ground Control in Mining and Underground Construction*, University of Wollongong, Wollongong, July, Vol 2, pp 573 - 589.
164. Kelly, M., Gale, W., Hatherly, P., **Balusu, R**. and Luo, X. (1998). Combining modern assessment methods to improve understanding of longwall geomechanics. *Proc. of 1st Australian Coal Operators Conference – COAL 98*, University of Wollongong, Wollongong, February, pp 523 - 535.
165. **Balusu, R**. and Wendt, M. (1998). CFD simulation of airflow patterns in place changing development gateroads. *CSIRO Exploration and Mining Report 557c*, September, 82 pp.
166. Mallett, C.W., Williams, D.J., Mark, M.R., Saghafi, A. and **Balusu, R** (1998). Coal mine gas final report. *CSIRO Exploration and Mining Report 492c*, April, 79 pp.
167. Kelly, M., Endo, H., Kamada, J., **Balusu, R**., Hainsworth, D., Shen, B., Corke, P., Boland, J. and Lewis, A. (1998). Rapid roadway development system – Scoping study. *CSIRO Exploration and Mining Report 493c*, March, 115 pp.
168. **Balusu, R**., Xue, S. and Mallett, C. (1998). Mine Gas Control first year project report. *CSIRO Exploration and Mining Report 490c*, March, 287 pp.
169. **Balusu, R**., Mallett, C. and LeBlanc-Smith, G. (1997). Mine Gas Control – Scoping study. *Exploration and Mining Report 730c*, CSIRO, March, 78 pp.
170. Aziz, N.I., **Rao, B.S**., Loi, G and Trois, P (1996). New technique in Dust Control in longwall mining, *Proceedings, Sarbinian Mineral Assoication*, In Italian.
171. Kelly, M., Gale, W., Hatherly, P., **Balusu, R**. and Luo, X. (1996). New understanding of longwall caving processes: microseismic monitoring and initial computational modelling at Gordonstone Mine. *Proc. of Symp. on Gelogy in Longwall Mining*, University of New South Wales, Sydney, November, pp 153 - 161.
172. Atkins, A.S, Aziz, N.I. and **Rao, B.S**.(1996). The role of multimedia in decision support in environmental and safety management, *4th Italian-Brasilian Congress on Mining Engineering*, 5-6 Nov. Porto Alegre, Brasil.
173. Atkins, A.S., Aziz, N. I. and **Rao, B.S.** (1996). Application of multimedia in strategic management in engineering design associated with occupational hazards of dust. *Proc. of the Int. Symp. on Mining Science and Technology*, Xuzhou, Jiangsu, China, 16-18 October, Guo & Golosinski (eds), Balkema, pp 205 - 211.
174. Aziz, N.I. and **Rao, B.S.** (1996). Dust control in longwall mining with reference to venturi scrubber. *Proc. of the Int. Symp. on Mining Science and Technology*, Xuzhou, Jiangsu, China, 16-18 October, Guo & Golosinski (eds), Balkema, pp 221 - 227.
175. **Balusu, Rao**. (1996). Three reports on ventilation system reorganisations and design of auxiliary ventilation system for coal mines of Illawarra region, New South Wales. *Internal Reports*, GeoGAS Pty Ltd.
176. Aziz, N.I., **Srinivasa Rao, B**. and Baafi, E.Y., (1993). Application of Computational Fluid Dynamics Codes to Develop Effective Gas/Dust Control Measures in Underground Coal Mines. *The Australian Coal Journal*, December, No 42, pp 19 - 27.
177. Aziz, N.I., Hewitt, A., Baafi, E.Y. and **Srinivasa Rao, B**., (1993). Respirable Dust Concentration and Air Velocity Profiles in Longwall Faces. *The Australian Coal Journal*, June, No. 40, pp 19 - 24.
178. Aziz, N.I., Hewitt, A., Baafi, E.Y. and **Srinivasa Rao, B**., (1993). Air Powered Venturi Scrubbers for Airborne Dust Suppression in a Longwall Face. *The Australian Coal Journal*, March, No. 39, pp 23 - 30.
179. Atkins, A.S., Singh, R.N. and **Srinivasa Rao, B**., (1993). Application of Information Technology to Construction Site Characterisation. *Proc. of 3rd Aus. Conf. on Applications of Computers in the Mineral Industry*, October 5 to 7, Wollongong, Australia, pp 196 - 202.
180. **Srinivasa Rao, B**., Aziz, N.I., Baafi, E.Y., and Indraratna, B., (1993). A Finite Element Model for Dust Dispersion at a Longwall Production Face. *Proc. of 3rd Australian Conference on Applications of Computers in the Mineral Industry*, October 5 to 7, Wollongong, Australia, pp 225 - 232.
181. Baafi, E.Y., Aziz, N.I. and **Srinivasa Rao, B.,** (1993). 3-D Finite Element Analysis of Airflow Patterns and Pollutants Behaviour in a Longwall Face. *Proc. of 24th Int. Symp. on Application of Computers and Operations Research in the Mineral Industry*, pp 311 - 318.
182. **Srinivasa Rao, B.,** Aziz, N.I., Baafi, E.Y. and Hewitt, A.(1993). Venturi scrubber system for dust control in a longwall face. *Italian-Brazilian Conference on Mining, September*, Bazil, pp 253 - 268.
183. **Srinivasa Rao, B.**, Baafi, E.Y., Aziz, N.I., and Singh, R.N., (1993). Three Dimensional Numerical Modelling of Air Velocities and Dust Control Techniques in a Longwall face. *Proc. of 6th U.S. Mine Ventilation Symposium*, June 21-23, Salt Lake City, Utah,USA, Chapter 43, pp 287 - 292.
184. Vijaya Kumar, G., Krishna Rao, G.V. and **Srinivasa Rao, B**., (1991). Controlled Recirculation of Mine Air in a Large Bord and Pillar Coal Mine - an Economic Evaluation in the Indian Context. *Proc. of 5th U.S. Mine Ventilation Symposium*, June, Morgantown, West Virginia, Chapter 39, pp 314 - 322.
185. Krishna Rao, G.V., **Srinivasa Rao, B.** and Vijaya Kumar, G., (1989). Controlled Recirculation of Mine Air - A Technique for the Future. *Journal of Mines, Metals and Fuels*, April, pp 152 - 158.
186. Krishna Rao, G.V., **Srinivasa Rao, B.** and Rama Raju, S.V., (1989). Energy Conservation by Reorganising the Ventilation System in No. 5 Incline. Presentation, *National Seminar on Energy Conservation in Mineral Industry*, July, Kothagudem, 10 p.
187. **Srinivasa Rao, B**. and Krishna Rao, G. V. (1989). Energy Conservation and Cost Control using Controlled Recirculation Techniques - computer simulation of mathematical models and case studies. *Internal Report*, Singareni Collieries Company Ltd (SCCL).
188. Krishna Rao, G. V. and **Srinivasa Rao, B**. (1984-89). Six reports on ventilation planning and reorganisation of ventilation systems in large coal mines of The Singareni Collieries Company Limited. *Internal Reports*, SCCL.
189. Vijaya Kumar, G. and **Srinivasa Rao, B.**, (1988). Lighting Systems for Mechanised Longwall Face. *National seminar on Recent Developments in Art and Science of Mining*, KREC, Surathkal, pp 56 - 60.
190. **Srinivasa Rao, B.** and Vijaya Kumar, G., (1988). Aerodynamic Parameters of Certain Types of Workings in Coal Mines. *National Seminar on Recent Developments in Art and Science of Mining*, KREC, Surathkal, pp 50 - 55.
191. **Srinivasa Rao, B**. (1988). Feasibility report on ‘Controlled Recirculation of Mine Air - An Alternative for Future Deep Mines’. *Internal Report*, SCCL.
192. Krishna Rao, G.V. and **Srinivasa Rao, B**., (1986). Application of Computers for Reorganisation of Mine Ventilation Systems. *Journal of Institution of Engineers (Mining),* India, Vol. 86, May, pp 42 - 48, (was awarded ‘The Certificate of Merit’).
193. Krishna Rao, G.V. and **Srinivasa Rao, B**., (1986). Computer Application for the Reorganisation of Ventilation System of No. 5 Incline of Singareni Collieries Co Ltd. *Mining, Geological and Metallurgical Institute of India*, Kothagudem, Aug, 12 pp.
194. **Srinivasa Rao, B**. (1985). Geotechnical investigations in a bord & pillar mine to predict air-blasts and major goaf falls. *Internal Report*, SCCL.
195. **Srinivasa Rao, B**. (1983). Aerodynamic parameters of bord & pillar, longwall workings in different coal mines. *Internal Report*, Singareni Collieries Company Ltd (SCCL).

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