

List of Publications Dr. Christoph Bollig

Book chapter

1. V. Sivakumar, M. Tesfaye, W. Alemu, A. Sharma, **C. Bollig** and G. Mengistu, “Aerosol measurements over South Africa using LIDAR, Satellite and Sun Photometer,” *World Scientific books, Advances in Geosciences*, 16, Atmospheric Science, Chapter 22, 253–262, ISBN 978-981-283-809-4, (2010).

Journal Publications

1. P. G. Hofmeister, **C. Bollig**, S. Fayed, M. Kunze, and R. Reuter, “A compact Doppler wind lidar for controlling the operation of wind turbines,” *EARSeL eProceedings*, vol. 14, issue 1, pp. 1–15 (2015).
2. R. C. Botha, W. Koen, M. J. D. Esser, **C. Bollig**, W. L. Combrinck, H. M. von Bergmann, and H. J. Strauss, “High average power Q-switched 1314 nm two-crystal Nd:YLF laser,” *Optics Letters*, vol. 40, issue 4, pp. 495–497 (2015).
3. W. Koen, C. Jacobs, **C. Bollig**, H.J. Strauss, M.J.D. Esser, and L.R. Botha, “Optically pumped tunable HBr laser in the mid-infrared region,” *Optics Letters*, vol. 39, pp. 3563–3566 (2014).
4. H. J. Strauss, D. Preussler, M. J. D. Esser, W. Koen, C. Jacobs, O. J. P. Collett, and **C. Bollig**, “330 mJ single-frequency Ho:YLF slab amplifier,” *Optics Letters*, vol. 38, pp. 1022–1024 (2013).
5. R. C. Botha, H. J. Strauss, **C. Bollig**, W. Koen, O. Collett, N. V. Kuleshov, M. J. D. Esser, W. L. Combrinck, and H. M. von Bergmann, “High average power 1314 nm Nd:YLF laser, passively Q-switched with V:YAG,” *Optics Letters*, vol. 38, pp. 980–982 (2013).
6. H.J. Strauss, W. Koen, **C. Bollig**, M.J.D. Esser, C. Jacobs, O. Collett and D. Preussler, “Ho:YLF & Ho:LuLF slab amplifier system delivering 200 mJ, 2 μ m single frequency pulses,” *Optics Express*, vol. 19 (15), pp. 13974–13979 (July 2011).
7. **C. Bollig**, C. Jacobs, M. J. D. Esser, E. H. Bernhardt and H. M. von Bergmann, “Power and energy scaling of a diode-end-pumped Nd:YLF laser through gain optimization,” *Optics Express*, vol. 18 (13), pp. 13993–14003 (June 2010).
8. W. Koen, **C. Bollig**, H. Strauss, M. Schellhorn, C. Jacobs and M. J. D. Esser, “Compact Fibre-Laser-Pumped Ho:YLF Oscillator-Amplifier System,” *Appl. Phys. B*, vol. 99 (1–2), pp. 101–106 (April 2010).
9. A. Sharma, V. Sivakumar, **C. Bollig**, C. van der Westhuizen and D. Moema, “System Description of the mobile LIDAR of the CSIR, South Africa,” *South African Journal of Science* vol. 105 (11/12), pp. 456–462 (2009).
10. V. Sivakumar, M. Tesfaye, W. Alemu, D. Moema, A. Sharma, **C. Bollig** and G. Mengistu, “CSIR South Africa Mobile LIDAR - First Scientific Results: Comparison with satellite, sun-photometer and model simulations,” *South African Journal of Science* vol. 105 (11/12), pp. 449–455 (2009).
11. L. R. Botha, **C. Bollig**, M. J. D. Esser, R. N. Campbell, C. Jacobs and D. Preussler,

- “Ho:YLF pumped HBr Laser,” *Optics Express*, vol. 17 (22), pp. 20615–20622 (Oct 2009).
12. M. J. D. Esser, D. Preussler, E. H. Bernhardt, **C. Bollig** and M. Posewang “Diode-end-pumped Tm:GdVO₄ laser operating at 1818 nm and 1915 nm,” *Appl. Phys. B*. vol. 97 (2), pp. 351–356 (*Special Issue*) (Sep 2009).
 13. C. Jacobs, **C. Bollig**, T. Jones, S. Kriel and M. J. D. Esser, “Electronic Stabilization of Continuous-Wave and Pulsed Lasers Based on Macroscopic Rate-Equation Modelling,” *IEEE J. Quant. Electr.* vol. 45 (10), pp. 1221–1231 (Oct 2009)
 14. M. Schellhorn, S. Ngcobo and **C. Bollig**, “High-power diode-pumped Tm:YLF slab laser,” *Applied Physics B*, vol. 94 (2), pp. 195–198 (Feb 2009).
 15. E. H. Bernhardt, **C. Bollig**, M. J. D. Esser, A. Forbes, L. R. Botha and C. Jacobs, “A Single-Element Plane-Wave Solid-State Laser Rate Equation Model,” *South African Journal of Science*, vol. 104 (9,10), pp. 389–393 (Sep/Oct 2008).
 16. E. H. Bernhardt, A. Forbes, **C. Bollig**, and M. J. D. Esser, “Estimation of thermal fracture limits in quasi-continuous-wave end-pumped lasers through a time-dependent analytical model,” *Optics Express*, vol. 16 (15), pp. 11115–11123 (2008).
 17. **C. Bollig**, A. Forbes and T. Dlamini, “Photonics in South Africa,” *Nature Photonics*, vol. 1 (12), pp. 673–675 (2007).
 18. M. Keane, D. Buckton, M. Redfern, **C. Bollig**, C. Wedekind, F. Kopp and F. Berni, “Axial detection of aircraft wake vortices using Doppler lidar,” *Journal of Aircraft*, vol. 39 (5), pp. 850–861 (2002).
 19. **C. Bollig**, R. A. Hayward, W. A. Clarkson and D. C. Hanna, “2-W Ho:YAG laser intracavity-pumped by a diode-pumped Tm:YAG laser,” *Optics Letters*, vol. 23 (22), pp. 1757–1759 (1998).
 20. **C. Bollig**, W. A. Clarkson, R. A. Hayward and D. C. Hanna, “Efficient high-power Tm:YAG laser at 2 μm , end-pumped by a diode bar,” *Optics Communications*, vol 154, pp. 35–38 (1998).
 21. **C. Bollig**, W. A. Clarkson, D. C. Hanna, D. S. Lovering and G. C. W. Jones: “Single-frequency operation of a monolithic Nd:glass ring laser via the acousto-optic effect,” *Optics Communications*, vol. 133 (1–6), pp. 221–224 (1997).
 22. **C. Bollig**, W. A. Clarkson and D. C. Hanna, “Stable high-repetition-rate single-frequency *Q*-switched operation by feedback suppression of relaxation oscillation,” *Optics Letters*, vol. 20 (12), pp. 1383–1385 (1995).

Invited International Conference Papers

1. C. Jacobs, M. J. D. Esser, H. Strauss, W. Koen, D. Preussler, L. R. Botha, O. J. P. Collett and **C. Bollig** “High-Energy Laser Research for Infrared Countermeasures” *SPIE Security & Defense*, 24-27 September 2012, Edinburgh, United Kingdom, paper 8543-10 (**invited**) (2012).
2. C. Jacobs, M. J. D. Esser, W. Koen, H. Strauss, D. Preussler, L. R. Botha, O. J. P. Collett and **C. Bollig**, “High-Energy 2 μm Solid-State Laser Development,” *Fourteenth Annual Directed Energy Symposium*, Directed Energy Professional Society, 14-18 November 2011, La Jolla, California (**invited**) (2011).
3. **C. Bollig**, H.J. Strauss, W. Koen, M.J.D. Esser, C. Jacobs, O.J.P. Collett, D.R. Preussler

and L.R. Botha, "High-Energy Narrow-Band Mid-Infrared Laser Systems," *20th International Laser Physics Workshop (LPHYS '11)*, Sarajevo, Bosnia and Herzegovina, 11-15 July 2011, Talk 4.5.2 (**invited**) (2011).

4. **C. Bollig**, M. J. D. Esser, C. Jacobs, W. Koen, D. Preussler, K. Nyangaza and M. Schellhorn, "70 mJ Single-Frequency Q Switched Ho:YLF Ring Laser - Amplifier System Pumped by a Single 82-W Tm Fibre Laser," *Middle-Infrared Coherent Sources*, Trouville, France, 8-12 June 2009 (**invited**).
5. E. H. Bernhardt, **C. Bollig**, M. Eichhorn, M. J. D. Esser, P. Fuhrberg, A. Hirth, C. Kieleck, M. Schellhorn and K. Scholle, "High-Power Diode-Pumped 2 μm Lasers," *17th International Laser Physics Workshop (LPHYS'08)*, Trondheim, Norway, p. 232, June/July 2008 (invited)
6. **C. Bollig**, C. Jacobs, H. M. von Bergmann and M. J. D Esser, "High-power end-pumped Nd:YLF laser without lifetime quenching," *CLEO Europe 2005*, CA3-3-TUE (**invited**)

International Conference Papers

1. P. G. Hofmeister, **C. Bollig**, M. Kunze, S. Fayed, M. L. Bayrak, and R. Reuter, "A Doppler lidar for remote sensing of wind fields in offshore wind farms," *34th EARSeL Symposium*, 16.-20. June 2014, Warsaw, Poland (2014).
2. P. G. Hofmeister, **C. Bollig**, M. Kunze, and R. Reuter, "A Doppler lidar for remote sensing of wind fields in offshore wind farms," *6th EARSeL Workshop on Remote Sensing of the Coastal Zone*, 7.-9. June 2013, Matera, Italy (2013).
3. **C. Bollig**, P. G. Hofmeister, M. Kunze, J. Schmidt, S. Fayed and R. Reuter "Efficient single-frequency pulsed all-fibre amplifier for coherent lidar," *CLEO Europe*, Munich, Germany, 12-16 May 2013, paper CJ-P.31 (2013).
4. F. Beier, O. de Vries, T. Schreiber, R. Eberhardt, A. Tünnermann, **C. Bollig**, P. G. Hofmeister, J. Schmidt and R. Reuter, "Robust 1550-nm single-frequency all-fiber ns-pulsed fiber amplifier for wind-turbine predictive control by wind lidar," *Proceedings of SPIE Photonics West*; 2-7 February 2013, San Francisco, CA, U.S.A.
5. W. Koen, C. Jacobs, **C. Bollig**, H. J. Strauss, L. R. Botha and M. J. D. Esser "Demonstration of a wavelength selected optically pumped HBr laser" *SPIE Security & Defense*, 24-27 September 2012, Edinburgh, United Kingdom, paper 8543-13 (2012).
6. V. Sivakumar, A. Sharma, and **C. Bollig**, "Retrieval of atmospheric boundary layer height by CSIR-NLC Mobile LIDAR, Pretoria (25.5° S; 28.2° E), SOUTH AFRICA," *Proc. of IEEE International Geosciences and Remote Sensing Symposium*, 24-29 July 2011, Vancouver, Canada, pp. 4115-4118 (2011).
7. Collett, **C. Bollig** and D. Esser, "Numerical optimization of a high-energy end-pumped Ho:YLF slab amplifier," *CLEO Europe*, Munich, Germany, 22-26 May 2011, CA.P.24 (2011).
8. M.J.D. Esser, W. Koen, H.J. Strauss, C. Jacobs, L.R. Botha and **C. Bollig**, "An HBr Oscillator-Amplifier Pumped by a High-energy Ho:YLF Laser System," *CLEO Europe*, Munich, Germany, 22-26 May 2011, CA1.3 (2011).
9. C. Jacobs, **C. Bollig**, T. Jones, "Laser Pulse Energy Control using a High Speed Digital Feedback Controller," *CLEO US*, Baltimore, USA, 1 – 6 May 2011, CMY6 (2011).
10. H.J. Strauss, D. Preussler, O.J.P. Collett, M.J.D. Esser, C. Jacobs, **C. Bollig**, W. Koen

- and K. Nyangaza, "330 mJ, 2 μ m, Single Frequency, Ho:YLF Slab Amplifier," *Advanced Solid-State Photonics*, Istanbul, Turkey, 13-16 February 2011, ATuA4 (2011).
11. W. Koen, H.J. Strauss, **C. Bollig**, M.J.D. Esser, C. Jacobs, O.J.P. Collett, K. Nyangaza and D. Preussler "200 mJ Single Frequency Ho:YLF & Ho:LuLF Slab Amplifier System at 2064 nm," in *4th EPS-QEOD Europhoton Conference*, Hamburg, Germany, WeC4, Europhysics Conference Abstract Volume 34C, ISBN 2-914771-64-9, (2010).
 12. M.J.D. Esser, H.J. Strauss, W. Koen, O.J.P. Collett and **C. Bollig**, "End-pumped Ho:YLF & Ho:LuLF Slab Laser," in *4th EPS-QEOD Europhoton Conference*, Hamburg, Germany, WeP29, Europhysics Conference Abstract Volume 34C, ISBN 2-914771-64-9, (2010).
 13. **C. Bollig**, "End-pumped solid-state lasers for lidar applications," *Proceedings of the 25th International Laser Radar Conference (ILRC)*, St. Petersburg, Russia, pp. 35–38, (July 2010).
 14. M. Tesfaye, V. Sivakumar, G. Mengistu, J. Botai, A. Sharma, **C. Bollig**, and H. Rautenbach, "Atmospheric aerosol load morphological classification and retrieved visibility based on lidar backscatter measurement," *Proceedings of the 25th International Laser Radar Conference (ILRC)*, St. Petersburg, Russia, pp. 487–490, (July 2010).
 15. M. J. D. Esser, D. Preussler, A. Sharma, C. Jacobs and **C. Bollig** "Rugged and Compact Mid-infrared Solid-state Laser for Avionics Applications" in *International Aerospace Symposium of South Africa (IASSA)*, 23-25 Nov 2009, Pretoria, South Africa (2009).
 16. V. Sivakumar, M. Tesfaye, J. Botai, D. Moema, A. Sharma, **C. Bollig** and H. Rautenbach, "CSIR NLC Mobile LIDAR for Atmosphere Remote Sensing," Proc. of *International Geoscience and Remote Sensing Symposium*, Cape Town, South Africa, 13-17 July 2009.
 17. V. Sivakumar, M. Tesfaye, D. Moema, A. Sharma and **C. Bollig**, "CSIR NLC Mobile LIDAR – First Scientific Results," Proc. of *International Geoscience and Remote Sensing Symposium*, Cape Town, South Africa, 13-17 July 2009.
 18. **C. Bollig**, H.J. Strauss, M.J.D. Esser, W. Koen, M. Schellhorn, D. Preussler, K. Nyangaza, C. Jacobs, E.H. Bernhardt and L.R. Botha, "Compact Fibre-Laser-Pumped Ho:YLF Oscillator-Amplifier System," *CLEO Europe*, Munich, Germany, 14-19 June 2009, CA10.6 (2009).
 19. H. J. Strauss, **C. Bollig**, H. M. von Bergman and M. J. D. Esser, "Comparative study of thermal lensing in low-doped Nd:YVO₄ and Nd:GdVO₄ of equal doping concentration," *CLEO Europe*, Munich, Germany, 14-19 June 2009, CA9.5 (2009).
 20. M. Schellhorn, S. Ngcobo, **C. Bollig**, M. J. D. Esser, D. Preussler, K. Nyangaza, "High-power diode-pumped Tm:YLF slab laser," *CLEO Europe*, Munich, Germany, 14-19 June 2009, CA1.3 (2009).
 21. M. J. Daniel Esser, H. Strauss, W. S. Koen, D. Preussler, K. Nyangaza and **C. Bollig**, "Q-switched Ho:YLF Laser Pumped by a Tm:GdVO₄ Laser," *Middle-Infrared Coherent Sources*, Trouville, France, 8-12 June 2009.
 22. H. J. Strauss, W. Koen, **C. Bollig**, M. J. D. Esser, D. Preussler, K. Nyangaza and C. Jacobs, "Efficient Fiber-Laser-Pumped Ho:YLF Oscillator and Amplifier Utilizing the Transmitted Pump Power of the Oscillator," *CLEO*, Baltimore, USA, 31 May – 5 June 2009, CWH3 (2009).

23. E. H. Bernhardt, **C. Bollig**, A. Forbes and M. J. D. Esser, "Modelling End-Pumped Solid-State Lasers," in *Proceedings of the 13th Annual Symposium of the IEEE/LEOS Benelux Chapter*, ISBN 978-90-365-2768-2, pp. 147-150, 27-28 November, Enschede, The Netherlands (2008).
24. V. Sivakumar, N. Mbatha, D. Moema, A. Sharma, **C. Bollig**, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, "LIDAR for atmosphere Research over Africa (LARA)," *Proc. of 2nd Biannual CSIR conference 'Real and Relevant'*, Pretoria, South Africa, 17-18 November 2008.
25. **C. Bollig**, W. Koen, H. Strauss, E. Bernhardt, R. Botha, M. J. D. Esser, D. Preussler, "Exploiting the natural doping gradient of Nd:YLF crystals for high-power end-pumped lasers," *3rd EPS-QEOD Europhoton Conference*, Paris, France, TUp.20 (2008).
26. E. H. Bernhardt, A. Forbes, **C. Bollig** and M. J. D. Esser, "A Time-Dependent Analytical Thermal Model To Investigate Thermally Induced Stresses In Quasi-CW-Pumped Laser Rods," *3rd EPS-QEOD Europhoton Conference*, Paris, France, THp.28 (2008).
27. V. Sivakumar, N. Mbatha, D. Moema, A. Sharma, **C. Bollig**, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, "Lidar for Atmosphere Research over Africa," *Proceedings of the 24th International Laser Radar Conference (ILRC)*, Boulder, USA, pp. 742-745, June 2008
28. V. Sivakumar, A. Sharma, D. Moema, **C. Bollig**, C. van der Westhuizen and H. van Wyk, "CSIR NLC– South Africa – Mobile Lidar – System Description," *Proceedings of the 24th International Laser Radar Conference (ILRC)*, Boulder, USA pp. 99-102, June 2008
29. A. Forbes, M. J. D. Esser, D. Preussler, S. Ngcobo and **C. Bollig**, "Laser beam propagation characteristics of incoherently added diode bar stacks," in *Laser Beam Shaping IX*, SPIE 7062, 7062-48 (2008).
30. V. Sivakumar, N. Mbatha, D. Moema, A. Sharma, **C. Bollig**, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, "Lidar for Atmosphere Research over Africa," *Environmental and Biological applications of Lasers – 2008, Cairo, Egypt*, 19-28 January (2008).
31. M.J.D. Esser, **C. Bollig** and D. Preussler, "Diode-End-Pumped Tm:GdVO₄ Laser at Selected Wavelengths," *Advanced Solid-State Photonics, Nara, Japan*, WB6 (2008).
32. E.H. Bernhardt, **C. Bollig**, L. Harris, M.J.D. Esser, A. Forbes, "Investigating Thermal Stresses in Quasi-CW Pumped Tm:YLF Laser Crystals," *Advanced Solid-State Photonics, Nara, Japan*, WB11 (2008).
33. V. Sivakumar, N. Mbatha, D. Moema, A. Sharma, **C. Bollig**, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, "Lidar for Atmosphere Research over Africa," *Proc. Reunion International Symposium on Tropical Stratosphere – Upper Troposphere Symposium, Saint-Gilles, Reunion Island*, 5-9 November, (2007).
34. M. J. D. Esser, **C. Bollig**, D. R. Preussler, C. Jacobs, W. S. Koen and E. H. Bernhardt, "High-power diode-end-pumped Tm:GdVO₄ laser operating at 1818 nm and 1915 nm," *Marie Curie Chair Conference "Recent advances in laser spectroscopy and laser technology"*, Lodz, Poland, 29-31 May (2007).
35. M. J. D Esser, **C. Bollig** and D. Preussler, "Direct comparison of the thermal lenses of diode-end-pumped Nd:YVO₄ and Nd:GdVO₄ lasers using a simple measurement

- technique,” 2nd *EPS-QEOD Europhoton Conference Pisa, Italy*, ThD3 (2006).
36. **C. Bollig**, R. C. Botha, S. Ngcobo, N. V. Kuleshov and M. J. D. Esser, “High-power CW and passively *Q*-switched 1314-nm end-pumped Nd:YLF laser,” *Conference on Mid-Infrared Coherent Sources (MICS 2005)* We6, Barcelona (Spain) 6-11 November 2005
 37. M. J. D Esser, **C. Bollig** and H. M. von Bergmann, “Efficient power scaling of an end-pumped Nd:YLF laser at 1053 nm,” *EPS-QEOD Europhoton Conference Lausanne*, Europhysics Conference Abstracts Volume **28C** Sol-10139 (2004).
 38. **C. Bollig**, C. Jacobs and T. Jones, “Simple laser rate-equation formalism based on macroscopic parameters,” *EPS-QEOD Europhoton Conference Lausanne*, Europhysics Conference Abstracts Volume **28C** Sol-10144 (2004).
 39. M. J. D. Esser, **C. Bollig** and H. M. von Bergmann, “Short pulse diode-pumped solid-state lasers,” *Conference on Optics and Laser Applications*, Windhoek 2003.
 40. **C. Bollig**, M. J. D Esser, T. Stehmann and H. M. von Bergmann, “High-power end-pumped Nd:YLF laser,” *Conference on Optics and Laser Applications*, Windhoek 2003.
 41. J. R. Campbell, E. J. Welton, J. D. Spinhirne, S. Tsay, M. Barenbrug, S. J. Piketh, **C. J. Bollig**, M. McGill, D. L. Hlavka, B. Schmid, P. B. Russell and J. Redemann, “Lidar Measurements of the Optical Characteristics of Smoke and Haze Events at Skukuza and Mongu during SAFARI-2000,” in *American Geophysical Union, Fall Meeting 2001 Eos Trans. AGU*, 82(47), Abstract A51A-0037, 2001
 42. **C. Bollig**, R. A. Hayward, W. A. Clarkson and D. C. Hanna, “Multi-watt room-temperature diode-bar pumped Tm:YAG and intracavity-pumped Ho:YAG lasers,” in *9:th conference on Coherent Laser Radar*, pp. 74-77 (Swedish Defense Research Establishment (FOA), 1997).
 43. **C. Bollig**, R. A. Hayward, M. Kern, W. A. Clarkson and D. C. Hanna, “High power operation of an intracavity-pumped Ho:YAG laser at 2.1 μm ,” in *Conference on Lasers and Electro-Optics 1997*, vol. 11 of *1997 OSA Technical Digest Series*, pp. 354–355 (Optical Society of America, 1997).
 44. W. A. Clarkson, **C. Bollig**, P. J. Hardman and D. C. Hanna, “High-power diode-bar-pumped Nd:YLF laser at 1.053-nm,” in *Conference on Lasers and Electro-Optics*, vol. 9 of *1996 OSA Technical Digest Series*, p. 323 (Optical Society of America, 1996).
 45. **C. Bollig**, W. A. Clarkson, D. Schmundt and D. C. Hanna, “High Power Room Temperature Operation of a Tm:YAG Laser Longitudinally Pumped by a 20W Diode Bar,” in *Conference on Lasers and Electro-Optics—Europe 1996 Technical Digest* p. 56 (1996).
 46. **C. Bollig**, W. A. Clarkson, D. C. Hanna, D. S. Lovering and G. C. W. Jones, “Acousto-optically induced single-frequency operation of a monolithic Nd:phosphate-glass ring laser,” in *Conference on Lasers and Electro-Optics*, vol. 15 of *1995 OSA Technical Digest Series*, p. 124 (Optical Society of America, 1995).
 47. **C. Bollig**, A. B. Neilson, W. A. Clarkson and D. C. Hanna, “Stable high repetition rate single-frequency *Q*-switched Nd:YAG ring laser,” in *Conference on Lasers and Electro-Optics*, vol. 15 of *1995 OSA Technical Digest Series*, p. 120 (Optical Society of America, 1995).

National Conference Papers

1. **C. Bollig**, “Einfrequente 2 μm Laser mit hoher Pulsenergie für Lidar (*Single-frequency 2 μm lasers with high pulse energy for lidars*),” in *DPG-Frühjahrstagung Hannover, 2016*, Verhandlungen der DPG, talk Q35.6 (Deutsche Physikalische Gesellschaft, 2016).
2. H. J. Strauss, M. J. D. Esser, L. Maweza, C. Jacobs, O. J. P. Collett, D. R. Preussler, W. Koen and **C. Bollig** “Wavelength Selected, Tm:YLF Slab Pump-Source” in *South African Institute of Physics 57th annual conference*, University of Pretoria, paper 334, (2012).
3. M. J. D. Esser, W. Koen, H. Strauss, C. Jacobs, L. R. Botha, **C. Bollig** and S. Burd “2 μm pumped HBr Oscillator-amplifier,” in *South African Institute of Physics 56th annual conference*, University of South Africa (UNISA), Pretoria, 12-15 July 2011, paper 354, (2011).
4. C. Jacobs, **C. Bollig** and T. Jones, “Digital control of a pulsed Ho:YLF ring laser,” in *South African Institute of Physics 56th annual conference*, University of South Africa (UNISA), Pretoria, 12-15 July 2011, paper 368 (2011).
5. W. Koen, H. J. Strauss, M. J. D. Esser, C. Jacobs, L. R. Botha and **C. Bollig** “Demonstration of a wavelength tuneable mid-IR molecular laser,” in *South African Institute of Physics 56th annual conference*, University of South Africa (UNISA), Pretoria, 12-15 July 2011, paper 158 (2011).
6. H J Strauss, W Koen, **C Bollig**, M J D Esser, C Jacobs, O J P Collett and D R Preussler “2 μm Ho doped amplifiers” in *South African Institute of Physics 56th annual conference*, University of South Africa (UNISA), Pretoria, 12-15 July 2011, paper 150 (2011).
7. O.J.P. Collett, and M. J. D. Esser, **C. Bollig** “Pulse Repetition Frequency locking by pump modulation in numerical simulations of a diode end pumped passively Q-switched Nd:YAG laser with a Cr⁴⁺:YAG saturable absorber,” in *South African Institute of Physics 56th annual conference*, University of South Africa (UNISA), Pretoria, 12-15 July 2011, paper 322 (2011).
8. Wayne Koen, Hencharl Strauss, **Christoph Bollig** and Daniel Esser, “High-power diode-end-pumped Tm:YLF slab laser delivering 189 W at 1890 nm,” in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 205, (2010).
9. Cobus Jacobs, Hencharl Strauss, **Christoph Bollig**, Daniel Esser, Wayne Koen, Oliver Collett, Kwanele Nyangaza and Dieter Preussler, “Single Frequency 2 μm MOPA delivering 200mJ at 50Hz,” in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 280, (2010).
10. M.J. Daniel Esser, Oliver Collett and **Christoph Bollig**, “Demonstration of a Hybrid Ho:YLF Ho:LuLF Slab Laser,” in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 304, (2010).
11. Hencharl Johan Strauss, Shaun Burd, Wayne Koen, Cobus Jacobs, Oliver Collett, Kwanele Nyangaza, Dieter Preussler and **Christoph Bollig**, “Multi pass 1.9 μm Tm:YLF slab laser pump source,” in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 247, (2010).
12. Oliver Collett, **Christoph Bollig** and Daniel Esser, “Optimization of a Ho³⁺:YLF amplifier model,” in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 269, (2010).

13. Sandile Ngcobo, **Christoph Bollig** and Hurbetus von Bergmann, "Short-pulse generation in a diode end pumped solid state laser," in *South African Institute of Physics 55th annual conference, CSIR, Pretoria, September 2010*, paper 350, (2010).
14. M. J. D. Esser, C. Jacobs, W. Koen, H. Strauss, D. Preussler, L.R. Botha, O. J. P. Collett and **C. Bollig**, "Development of High-Energy 2 μm Solid-State Lasers," *CSIR conference "Science: real and relevant," August 2010*.
15. M. Tesfaye, V. Sivakumar, J. Botai, D. Moema, A. Sharma, **C. Bollig**, H. Rautenbach and G. Mengistu, "Retrieval of relative humidity from CSIR-NLC mobile LIDAR backscatter measurements," *25th Annual conference of the South African society for atmosphere science*, Tulbagh, South Africa, 9-10 September 2009.
16. **C. Bollig**, M. J. D. Esser, C. Jacobs, W. Koen, D. Preussler and K. Nyangaza, "High-energy single-frequency Q switched 2- μm Ho:YLF oscillator - amplifier system pumped by a thulium fibre laser" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 311, (2009).
17. C. Jacobs, **C. Bollig**, M. J. D. Esser and W. Koen, "Electronic feedback control to stabilise a high-energy Ho:YLF ring laser" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 264, (2009).
18. S. Ngcobo, **C. Bollig**, M. J. D. Esser and D. Preussler, "High-average power Tm:YLF slab laser for pumping a Ho:YLF slab amplifier" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 375, (2009).
19. V. Sivakumar, **C. Bollig**, A. Sharma, M. Tesfaye and D. Moema, "CSIR - NLC mobile Lidar for atmosphere studies" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 374, (2009).
20. M. J. D. Esser, C. Jacobs, S. Ngcobo, W. Koen, H. Strauss, D. Preussler, L.R. Botha and **C. Bollig**, "Development of high-energy 2 μm solid-state lasers" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 301, (2009).
21. H. Strauss, **C. Bollig**, H.M. von Bergmann and M. J. D. Esser, "Thermal lensing in equally low doped Nd: YVO₄ and Nd:GdVO₄" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 159, (2009).
22. L.R. Botha, **C. Bollig**, M. J. D. Esser and C. Jacobs, "Rate equation modeling of an optically pumped molecular laser" in *South African Institute of Physics 54th annual conference, University of KwaZulu-Natal, KwaZulu-Natal, July 2009*, paper 295, (2009).
23. V. Sivakumar, D. Moema, **C. Bollig**, A. Sharma, N. Mbatha, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, "LIDAR for Atmosphere Research over Africa," *Digest, CSIR conference "Science: real and relevant," November 2008*.
24. V. Sivakumar, **C. Bollig** and A. Sharma, "CSIR – NLC Mobile Lidar for Atmospheric Studies," in *Optimisation of Industrial Boilers, Pretoria November 2008*.
25. E. H. Bernhardt, A. Forbes, **C. Bollig** and M. J. D. Esser, "A time dependent analytical thermal model to investigate thermally induced stresses in quasi-cw pumped laser rods" in *South African Institute of Physics 53rd annual conference, University of Limpopo*,

- Polokwane, July 2008, paper 098, (2008).*
26. M.J.D. Esser, **C. Bollig**, D. Preussler, W.S. Koen, E. H. Bernhardi, H.J. Strauss, and M. Schellhorn “Tm:GdVO₄ Laser as Pump Source For a Ho:YLF Laser Oscillator” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 069, (2008).*
 27. H. J. Strauss, **C. Bollig**, M. J. D. Esser, M. Schellhorn, D. Preussler, C. Jacobs, K. Nyangaza1 and W. Koen, “High energy fibre laser pumped Ho:YLF 2 μ m laser,” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 104, (2008).*
 28. W. Koen, C. Bollig, H. Strauss, R. Botha, E. Bernhardi, and M. J. D. Esser, “Power Scaling of a High-Power End-Pumped Nd:YLF Laser,” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 152, (2008).*
 29. D. Moema, V. Sivakumar, A Sharma, **C. Bollig**, C van der Westhuizen, H. van Wyk and P. Ngobeni, “LiDAR Backscatter Measurements of Aerosols\Clouds and Trace gases,” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 202, (2008).*
 30. A. Sharma, V. Sivakumar, **C. Bollig**, D. Moema, C. van der Westhuizen and H. van Wyk, “CSIR NLC - South Africa - Mobile LiDAR System Description,” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 191, (2008).*
 31. A. R. Sarmani, M. Schellhorn, M. J. D. Esser and C. Bollig “Design of Mode-Locked 2- μ m Lasers,” in *South African Institute of Physics 53rd annual conference, University of Limpopo, Polokwane, July 2008, paper 086, (2008).*
 32. V. Sivakumar, N. Mbatha, D. Moema, A. Sharma, **C. Bollig**, S. Malinga, G. Mengistu, H. Bencherif and P. Keckhut, “Lidar for Atmosphere Research over Africa,” *South Africa Atmosphere Science Society conference, University of the Witwatersrand, Johannesburg, 13-14 September, (2007).*
 33. **C. Bollig**, D. Preussler, M. J. D. Esser, S. Ngcobo, C. Jacobs, R. C. Botha, W. S. Koen, E. H. Bernhardi, A. R. Sarmani and L. R. Botha, “Solid-state laser source research at the CSIR - National Laser Centre,” in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007, talk 419, (2007).*
 34. M. J. D. Esser, **C. Bollig**, D. Preussler, C. Jacobs, W. S. Koen and E. H. Bernhardi, “Diode-end-pumped Tm:GdVO₄ laser at selected wavelengths,” in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007, talk 235, (2007).*
 35. E. H. Bernhardi, **C. Bollig**, A. Forbes and M. J. D. Esser, “Modelling mid-infrared solid-state lasers,” in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007, talk 176, (2007).*
 36. C. Jacobs, **C. Bollig** and T. Jones, “Frequency-stabilisation of single-frequency solid-state lasers,” in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007, talk 383, (2007).*
 37. W. S. Koen, **C. Bollig**, A. Forbes, A. R. Sarmani, R. C. Botha and M. J. D. Esser, “Ultra short-pulse (USP) laser development,” in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007, talk 366, (2007).*

38. R. C. Botha, **C. Bollig**, W. S. Koen, A. R. Saramani, L. R. Botha and C. Jacobs, "Energy scaling techniques in ultra-short pulse lasers," in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007*, talk 373, (2007).
39. S. Ngcobo, **C. Bollig**, A. Sharma, M. J. D. Esser, D. Preussler, A. R. Sarmani, C. Jacobs and H. M. von Bergmann, "Mode-locked operation of a diode-end-pumped Nd:YVO₄ Laser," in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007*, talk 379, (2007).
40. H. J. Strauss, H. M. von Bergmann, **C. Bollig** and J. P. Burger, "Power scaling of vanadate lasers," in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007*, talk 395, (2007).
41. A. Forbes, D. Preussler, D. Esser, **C. Bollig** and L. R. Botha "The general propagation of incoherently added laser beams with arbitrary centroid displacements," in *South African Institute of Physics 52nd annual conference, University of the Witwatersrand, Johannesburg, July 2007*, poster 230, (2007).
42. C. Jacobs, S. Kriel, **C. Bollig** and T. Jones, "Pulse energy control through dual loop electronic feedback," in *South African Institute of Physics 51st annual conference, University of the Western Cape, Cape Town 2006*, talk C-12, (2006).
43. H. J. Strauss, **C. Bollig**, R. C. Botha, H. M. von Bergmann, J. P. Burger, "High power vanadate lasers," in *South African Institute of Physics 51st annual conference, University of the Western Cape, Cape Town 2006*, talk C-9, (2006).
44. S. Ngcobo, **C. Bollig**, M. J. D. Esser, D. Preussler and H. M. von Bergmann, "Short-pulse laser development for lunar laser ranging," in *South African Institute of Physics 51st annual conference, University of the Western Cape, Cape Town 2006*, talk C-10, (2006).
45. **C. Bollig**, C. Jacobs, R. C. Botha, S. Ngcobo, H. J. Strauss, J. P. Burger, H. M. von Bergmann, M. J. D. Esser, D. Preussler and M. K. Moodley, "Diode-Pumped Solid-State Laser Research in South Africa," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-18, (2005).
46. H. J. Strauss, **C. Bollig**, C. Jacobs and H. M. von Bergmann, "Continuous-wave Frequency-doubled Diode-pumped Nd:YLF Laser," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-19, (2005).
47. M. J. D. Esser, D. Preussler and **C. Bollig**, "A simple technique to evaluate the thermal lens strength of a laser material," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-20, (2005).
48. C. Jacobs, **C. Bollig**, T. Jones and M. J. D. Esser, "Numerical Simulation of Laser Dynamics for Electronic Feedback Design," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-21, (2005).
49. R. C. Botha, **C. Bollig**, W. S. Koen and N. V. Kuleshov, "High-Power Continuous-Wave and Passively *Q*-switched 1314 nm Nd:YLF laser," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-22, (2005).
50. S. Ngcobo, **C. Bollig**, C. Jacobs and J. P. Burger, "Blue-Violet Frequency-Tripled Nd:YLF Ring Laser for Holography Application," in *South African Institute of Physics 50th annual conference, Pretoria 2005*, talk C-23, (2005).

51. **C. Bollig**, “Continuously Pumped, Repetitively Pulsed Solid-State Lasers,” in *South African Institute of Physics 49th annual conference, Bloemfontein 2004*, talk D2, (2004).
52. **C. Bollig**, C. Jacobs, M. J. D. Esser, J. P. Burger, N. M. Rumble, H. M. von Bergmann and T. Jones, “Power-Scaling of Diode-End-Pumped Solid-State Lasers,” in *South African Institute of Physics 49th annual conference, Bloemfontein 2004*, talk D4, (2004).
53. N. M. Rumble, **C. Bollig**, C. Jacobs, M. J. D. Esser and H. M. von Bergmann, “Green and Infrared Output from a High-Power Diode-End-Pumped *Q*-switched Nd:GdVO₄ Laser,” in *South African Institute of Physics 49th annual conference, Bloemfontein 2004*, talk D3, (2004).
54. C. Jacobs, **C. Bollig** and T. Jones, “Electronic Feedback Stabilization of Diode-Pumped Solid-State Lasers,” in *South African Institute of Physics 49th annual conference, Bloemfontein 2004*, talk D 29, (2004).
55. M. J. D. Esser, **C. Bollig**, T. Stehmann and H. M. von Bergmann, “Multi-Watt Diode-End-Pumped Solid-State (Nd:YLF) Laser,” in *South African Institute of Physics 48th annual conference, Stellenbosch 2003*, talk D2, (2003).
56. T. Kapp, M. J. D. Esser and **C. Bollig**, “Compact Diode-Pumped Green Nd-vanadate Laser,” in *South African Institute of Physics 48th annual conference, Stellenbosch 2003*, talk D3, (2003).
57. **C. Bollig**, M. J. D. Esser and T. Stehmann, “Visible Diode-Pumped High-Power Solid-State Lasers,” in *South African Institute of Physics 48th annual conference, Stellenbosch 2003*, talk D17, (2003).
58. M. J. D. Esser, **C. Bollig** and H. M. von Bergmann, “Electronic Feedback to Stabilize Pico-Second Diode-Pumped Solid-State Lasers,” in *South African Institute of Physics 48th annual conference, Stellenbosch 2003*, poster D31, (2003).
59. N. Rumble, **C. Bollig** and M. J. D. Esser, “The Construction of a Miniature Solid-State Green Laser,” in *South African Institute of Physics 48th annual conference, Stellenbosch 2003*, poster D 32, (2003).
60. **C. Bollig**, “Introduction to Diode-Pumped Solid-State Lasers,” Non-specialist lecture, in *South African Institute of Physics 47th annual conference, Potchefstroom 2002*, talk E1, (2002).
61. M. J. D. Esser, **C. Bollig** and H. M. von Bergmann, “Short pulse diode-pumped solid-state lasers,” in *South African Institute of Physics 47th annual conference, Potchefstroom 2002*, talk E6, (2002).
62. M. Bartolini, H. M. von Bergmann, H. Strauss, T. Stehmann, and **C. Bollig** “Automated laser beam analyser,” in *South African Institute of Physics 47th annual conference, Potchefstroom 2002*, poster E24, (2002).
63. R. A. Hayward, **C. Bollig**, W. A. Clarkson and D. C. Hanna, “High power diode bar pumped Tm:YAG laser and intracavity pumped Ho:YAG laser,” in *The Thirteenth UK National Quantum Electronics Conference (QE-13)*, p. 128 (The Quantum Electronics Group of the Institute of Physics, 1997).
64. D. Schmundt, **C. Bollig**, W. A. Clarkson and D. C. Hanna, “Er-Yb-Glas-Ringlaser bei 1,5 μm für single-frequency und gütegeschalteten Betrieb (*Er,Yb:glass ring laser at 1.5 μm for single-frequency and Q-switched operation*),” in *60. Physikertagung Jena 1996*, Verhandlungen der DPG Reihe IV Band 31, p. 182 (Deutsche Physikalische

Gesellschaft, 1996).

65. **C. Bollig**, D. Schmundt, W. A. Clarkson und D. C. Hanna, "Effizienter single-frequency Betrieb und Frequenzstabilisierung eines gütegeschalteten, diodengepumpten Nd:YAG Lasers (*Efficient single-frequency operation and frequency stabilisation of a Q-switched diode-pumped Nd:YAG laser*)," in *60. Physikertagung Jena 1996*, Verhandlungen der DPG Reihe IV Band 31, p. 249 (Deutsche Physikalische Gesellschaft, 1996).
66. V. Pruneri, J. Webjörn, **C. Bollig**, P. St. J. Russel and D. C. Hanna, "Low threshold singly resonant optical parametric oscillator in bulk periodically poled lithium niobate," in *The Twelfth UK National Quantum Electronics Conference (QE-12)*, p. 1-4 (The Quantum Electronics Group of the Institute of Physics, 1995).
67. **C. Bollig**, S. D. Butterworth, W. A. Clarkson and D. C. Hanna, "Feedback-controlled prelasung: a technique for pulse amplitude and frequency stabilisation of Q-switched lasers," in *The Twelfth UK National Quantum Electronics Conference (QE-12)*, p. 4-5 (The Quantum Electronics Group of the Institute of Physics, 1995).

Invited Seminar Talks and special presentations (colloquia)

I have given a total of 43 seminar talks in 9 countries (Germany, Switzerland, France, UK, USA, Sweden, Norway, Czech Republic and South Africa)

1. **Christoph Bollig**, "Laser für kohärentes Lidar: Von 15 μ J bis 330 mJ," Deutsches Zentrum für Luft- und Raumfahrt (DLR), Dr. Gerhard Ehret, 16/05/2013.
2. **Christoph Bollig**, Daniel Esser, Lourens Botha, Dieter Preussler, Cobus Jacobs, Wayne Koen, Hencharl Strauss, Oliver Collett, Corrie van der Westhuizen, Kwanele Nyangaza, Sandile Ngcobo and Edward Bernhardt, "Development of novel mid-infrared lasers," *colloquium at the CSIR Knowledge Commons*, Pretoria, 17/05/2010.
3. V. Sivakumar and **C. Bollig**, "LiDAR Research over Africa," *Lecture at the ALC workshop Lasers in Chemistry, River Meadow Manor, Irene, South Africa*, 04/05/2010.
4. **Christoph Bollig**, Daniel Esser and Lourens Botha, "Laser Source Development at the NLC," *Zeiss Optronics*, Pretoria, 21/01/2010.
5. **C. Bollig**, "Hochleistungslaser bei 1, 2 und 4 μ m: Laserentwicklung am National Laser Centre Südafrika," Laser Zentrum Hannover (LZH), Germany, 17/12/2009 (Dr. D. Kracht)
6. N. Cingo and **C. Bollig**, "Innovations in Laser Technology," *special guest presentation at the Southern Mapping Orion Launch*, 15/09/2009 (Peter Moir, CEO Southern Mapping)
7. **C. Bollig**, M. J. D. Esser, D. Preussler, L. R. Botha, C. Jacobs, W. Koen, H. Strauss S. Ngcobo and M. Schellhorn, "Laserentwicklung in Südafrika: Leistungsskalierung von Lasern bei 1, 2 und 4 μ m" Institute of Laser-Physics, Physics Department, University of Hamburg, Germany 22/07/2009 (Prof. G. Huber).
8. **C. Bollig**, M. J. D. Esser, D. Preussler, L. R. Botha, C. Jacobs, W. Koen, H. Strauss S. Ngcobo and M. Schellhorn, "2 μ m Hochleistungslaser-Entwicklung am National Laser Centre Südafrika," LISA Laser GmbH, Katlenburg-Lindau bei Göttingen, Germany, 21/07/2009 (Dr. Peter Fuhrberg, CEO)
9. **C. Bollig**, M. J. D. Esser, D. Preussler, L. R. Botha, C. Jacobs, W. Koen, H. Strauss S. Ngcobo and M. Schellhorn, "Mittelinfrarot (2 und 4 μ m) Hochleistungslaser,"

- Fraunhofer-Institut für Lasertechnik, Aachen, Germany, 16/07/2009 (Prof. R. Poprawe).
10. C. Jacobs, **C. Bollig** and M. J. D. Esser, "Mid-Infrared laser development at the CSIR National Laser Centre, South Africa," NASA Langley, USA, 29/05/2009 (Dr. Upendra N. Singh)
 11. **C. Bollig**, "High-power diode-pumped laser research at the National Laser Centre in South Africa: Tm and Ho 2 μ m lasers and Q-switched Nd:YLF lasers," Integrated Optical Micro Systems (IOMS) Group, MESA+ Institute for Nanotechnology, University of Twente, Enschede, The Netherlands, 11/09/2008 (Prof. Markus Pollnau)
 12. **C. Bollig** "Hochleistungslaser-Entwicklung am National Laser Centre in Südafrika," Fraunhofer-Institut für Lasertechnik, Aachen, Germany, 09/09/2008 (Prof. R. Poprawe).
 13. H. Greyling and C. Bollig, "National Laser Centre, A National Research Centre at the CSIR," Kista Photonics Research Center and KTH (Kungliga Tekniska Högskolan), Stockholm, Sweden, 20/05/2008 (Dr. Pierre-Yves Fonjallaz, Director of Kista Photonics Research Center)
 14. **C. Bollig** "Diode-pumped solid-state laser research in South Africa including 1.9 μ m Tm:GdVO₄ laser development," French-German research Institute, Saint-Louis Cedex, France, 29/06/2007 (Dr. Martin Schellhorn)
 15. **C. Bollig** and L. Combrinck "LLR-Pläne in Südafrika und Laserentwicklung für die nächste LLR Generation" and "Future of Space Geodesy in South Africa, SLR/LLR and new Fundamental Station," Fundamentalstation Wettzell, Bavaria, Germany, 27/06/2007 (Dr. Wolfgang Schlüter and Prof. Stefan Riepl)
 16. **C. Bollig** "Diode-pumped solid-state laser research in South Africa including 1314 nm Nd:YLF laser development," Colloquium at the Prague Asterix Laser System, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic, 26/06/2007 (Dr. Hana Turciová)
 17. **C. Bollig** "Festkörperlaseraktivitäten in Südafrika," Colloquium at the Institute of Laser-Physics, Physics Department, University of Hamburg, Germany 09/01/2007 (Prof. E. Heumann and G. Huber).
 18. **C. Bollig** "Diode-Pumped Solid-State Laser Research in South Africa," Colloquium at the Department for Physics and Astronomy, University of St. Andrews, Scotland, 21/12/2006 (Prof. Malcolm Dunn and Dr. Cameron Rae).
 19. **C. Bollig** "Laser Sources development in South Africa," Colloquium at the Department of Physics, School of Engineering and Physical Sciences, Heriot Watt University, Edinburgh, Scotland, 19/12/2006 (Prof. Denis Hall).
 20. **C. Bollig** "High-power end-pumped Nd:YLF laser without lifetime quenching," Colloquium at the Norwegian Defence Research Establishment (FFI), 20/09/2006 (Dr. Gunnar Rustad).
 21. **C. Bollig** "High-power end-pumped Nd:YLF laser without lifetime quenching," Colloquium at the CSIR – National Laser Centre, Pretoria, South Africa, 09/09/2005 (Dr. Andrew Forbes).
 22. **C. Bollig** "Laserentwicklung in Südafrika: Diodengepumpte Nd: YLF-Laser verschiedener Wellenlängen," Colloquium at the Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, 24/06/2005 (PD Dr. Carsten Fallnich).
 23. **C. Bollig** "High-power end-pumped Nd:YLF laser without lifetime quenching,"

Colloquium at the Laser Zentrum Hannover (LZH), Hannover, Germany, 22/06/2005
(Prof. Boris Chickov, Dr. Dietmar Kracht).

24. **C. Bollig** "Laserentwicklung in Stellenbosch, Südafrika: Diodenendgepumpter Nd:YLF-Laser und elektronische Kontrolle von Lasern," Colloquium at the Fraunhofer-Institut für Lasertechnik, Aachen, Germany 15/09/2004 (Prof. R. Poprawe).
25. **C. Bollig** "Power-scaling of diode-end-pumped solid-state lasers," German-French Research Centre, Saint-Louis, Germany, 10/09/2004 (Dr. M. Schellhorn).
26. **C. Bollig** "Leistungsskalierung endgepumpter Festkörperlaser," Colloquium at the Institute of Laser-Physics, Physics Department, University of Hamburg, Germany 17/08/2004 (Prof. G. Huber).
27. CSIR/National Laser Centre, Pretoria; Dave Rogers (2000)
28. Atomic Energy Corporation, Pretoria, South Africa; Dr. Hubertus von Bergmann (1999)
29. University of Zululand, Prof. Mark Jury (1999)
30. University of Natal Durban, South Africa; Prof. Max Michaelis (1999)
31. University of Stellenbosch, South Africa; Prof. Piet Walters (1999)
32. University of Cape Town, South Africa; Prof. Gerald Robertson (1999)
33. CSIR-Aerotek, Pretoria, South Africa; Hardus Greyling (1999)
34. University of Pretoria, South Africa; Prof. Brink (1999)
35. Coherent Technologies Inc., Boulder, USA; Dr Mark Phillips (1999)
36. National Oceanographic and Atmospheric Administration, Boulder, USA; Dr Mike Hardesty (1999)
37. University of Bern, Switzerland; Prof. Juerg Balmer (1998)
38. Dornier/DASA, Munich, Germany; Dr. Susanne Nikolov (1998)
39. Coherent Technologies Inc., Boulder, USA; Dr Mark Phillips (1997)
40. National Oceanographic and Atmospheric Administration, Boulder, USA; Dr Mike Hardesty (1997)
41. Lund Laser Centre, Sweden; Prof. Sune Swanberg (1996)
42. ETH Zürich, Switzerland; Prof. Ursula Keller (1996)
43. University of Konstanz, Germany; Dr. Stefan Schiller (1996)