

Publications of Arjan Meijerink

Last updated: June 3, 2011

International journals

1. **A. Meijerink**, G. H. L. M. Heideman, W. van Etten, “Balanced optical phase diversity receivers for coherence multiplexing,” *IEEE/OSA Journal Lightwave Technology*, vol. 22, no. 11, pp. 2393–2408, November 2004.
2. L. Zhuang, C. G. H. Roeloffzen, R. G. Heideman, A. Borreman, **A. Meijerink**, W. van Etten, “Single-chip ring resonator-based 1×8 optical beam forming network in CMOS-compatible waveguide technology,” *IEEE Photonics Technology Letters*, vol. 19, no. 15, pp. 1130–1132, August 2007.
3. **A. Meijerink**, R. O. Taniman, G. H. L. M. Heideman, W. van Etten, “Coherence multiplex system topologies,” *IEEE Journal of Selected Topics in Quantum Electronics*, vol. 13, no. 5, pp. 1433–1445, September–October 2007.
4. **A. Meijerink**, R. O. Taniman, W. van Etten, “Coherence-multiplexed optical RF feeder networks,” *IEEE/OSA Journal of Lightwave Technology*, vol. 25, no. 11, pp. 3396–3406, November 2007.
5. **A. Meijerink**, C. G. H. Roeloffzen, R. Meijerink, L. Zhuang, D. A. I. Marpaung, M. J. Bentum, M. Burla, J. Verpoorte, P. Jorna, A. Hulzinga, and W. van Etten, “Novel ring resonator-based integrated photonic beamformer for broadband phased array receive antennas—Part I: Design and performance analysis,” *IEEE/OSA Journal of Lightwave Technology*, vol. 28, no. 1, pp. 3–18, January 2010.
6. L. Zhuang, C. G. H. Roeloffzen, **A. Meijerink**, M. Burla, D. A. I. Marpaung, A. Leinse, M. Hoekman, R. G. Heideman, and W. van Etten, “Novel ring resonator-based integrated photonic beamformer for broadband phased array receive antennas—Part II: Experimental prototype,” *IEEE/OSA Journal of Lightwave Technology*, vol. 28, no. 1, pp. 19–31, January 2010.

Book

Arjan Meijerink, *Coherence Multiplexing for Optical Communication Systems*, PhD dissertation, University of Twente, Enschede, the Netherlands, October 2005.

International conferences

1. **A. Meijerink**, “Performance Improvement of a Generalized Coherence Multiplexing System,” *Proceedings of the IEEE Region 8 Eurocon’2001 International Conference on Trends in Communications* (ISBN: 0-7803-6490-2), Bratislava, Slovakia, 4–7 July 2001, pp. XXXII–XXXV.
2. **Arjan Meijerink**, Geert Heideman, Wim van Etten, “Performance Evaluation of an OOK Coherence Multiplex Receiver Based on 4x4 Phase Diversity Detection,” *Proceedings of the XXVIth URSI General Assembly* (CDROM), Maastricht, The Netherlands, 18–24 August 2002, paper D7.O.6 (0208).
3. Igor Radovanović, Geert Heideman, Houtan Siasi, **Arjan Meijerink**, Wim van Etten, “Addressable Spectrally Encoded Optical CDMA System for Application in Access and Local Area Networks,” *Proceedings of the XXVIIth URSI General Assembly* (CDROM), Maastricht, The Netherlands, 18–24 August 2002, paper D7.O.4 (1047).
4. L. Zhuang, C. G. H. Roeloffzen, R. G. Heideman, A. Borreman, **A. Meijerink**, W. van Etten, “Single-chip optical beam forming network in LPCVD waveguide technology based on optical ring resonators,” *Proceedings of the International Topical Meeting on Microwave Photonics (MWP’2006)*, Grenoble, France, 3–6 October 2006, paper F1.4.

5. R. G. Heideman, D. H. Geuzebroek, A. Leinse, A. Melloni, F. Morichetti, C. G. H. Roeloffzen, **A. Meijerink**, L. Zhuang, W. van Etten, E. Klein, A. Driessen, “Low loss, high contrast optical waveguides based on CMOS compatible LPCVD processing” (invited), *Proceedings of the 13th European Conference on Integrated Optics (ECIO’2007)*, Copenhagen, Denmark, 25–27 April 2007, paper WB0.
6. L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, J. Peña Hevilla, W. van Etten, R. G. Heideman, A. Leinse, M. Hoekman, “Phased array receive antenna steering system using a ring resonator-based optical beam forming network and filter-based optical SSB-SC modulation,” *Proceedings of the International Topical Meeting on Microwave Photonics (MWP’2007)*, Victoria, BC Canada, 3–5 October 2007, paper Th-3.3, pp. 88–91.
7. L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, R. G. Heideman, M. Hoekman, A. Borreman, D. H. Geuzebroek, A. Leinse, W. van Etten, “Experimental prototype of a novel ring resonator-based optical beamformer system,” *Proceedings of the LEOS Annual Meeting 2007*, Lake Buena Vista, Florida, 21–25 October 2007, paper MM3, pp. 112–113.
8. H. Schippers, J. Verpoorte, P. Jorna, A. Hulzinga, **A. Meijerink**, C. Roeloffzen, L. Zhuang, D. Marpaung, W. van Etten, R. G. Heideman, A. Leinse, A. Borreman, M. Hoekman, M. Wintels, “Broadband Conformal Phased Array with Optical Beamforming for Airborne Satellite Communication,” *Proceedings of the IEEE Aerospace Conference 2008*, Big Sky, Montana, 1–8 March 2008, paper 3.0102.
9. C. G. H. Roeloffzen, **A. Meijerink**, L. Zhuang, D. A. I. Marpaung, W. van Etten, R. G. Heideman, A. Leinse, M. Hoekman, “Integrated photonic beamformer employing continuously tunable ring resonator-based delays in CMOS-compatible LPCVD waveguide technology” (invited), *Asia-Pacific Optical Communications (APOC) 2008*, Hangzhou, China, 26–30 October 2008, paper 7135–59.
10. L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, R. G. Heideman, M. Hoekman, A. Leinse, W. van Etten, “Novel ring resonator-based optical beamformer for broadband phased array receive antennas,” *Proceedings of the LEOS Annual Meeting 2008*, Newport Beach, California, 9–13 November 2008, paper MB3, pp. 20–21.
11. René Heideman, Arne Leinse, Willem Hoving, Ronald Dekker, Douwe Geuzebroek, Edwin Klein, Remco Stoffer, Chris Roeloffzen, Leimeng Zhuang, **Arjan Meijerink**, “Large-scale integrated optics using TriPleX™ waveguide technology: from UV to IR” (Invited Paper), *SPIE Photonics West*, San Jose, CA, 24–29 January 2009, paper 7221-26.
12. H. Schippers, J. Verpoorte, P. Jorna, A. Hulzinga, L. Zhuang, **A. Meijerink**, C. Roeloffzen, D. Marpaung, W. van Etten, R. G. Heideman, A. Leinse, M. Wintels, “Broadband optical beam forming for airborne phased array antenna,” *Proceedings of the IEEE Aerospace Conference 2009*, Big Sky, Montana, 7–14 March 2009, paper 3.0101.
13. L. Zhuang, M. Burla, C. G. H. Roeloffzen, **A. Meijerink**, D. A. I. Marpaung, M. R. H. Khan, W. C. van Etten, A. Leinse, M. Hoekman, R. G. Heideman, “RF-to-RF Characterization of a Phased Array Receive Antenna Steering System Using a Novel Ring Resonator-Based Integrated Photonic Beamformer,” *Proceedings of the International Topical Meeting on Microwave Photonics (MWP’2009)*, Valencia, Spain, 14–16 October 2009, paper Fr3.2.
14. M. Burla, A. García-García, L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, M. R. H. Khan, W. C. van Etten, “Optical phase synchronization in coherent optical beamformers for phased array receive antennas,” *Proceedings of the IEEE Photonics Society Annual Meeting 2009*, Belek-Antalya, Turkey, 4–8 October 2009, pp. 693–694.
15. M. J. Bentum, A. J. Boonstra, C. J. M. Verhoeven, A. J. van der Veen, E. K. A. Gill, N. Saks, H. Falcke, M. Klein-Wolt, R. T. Rajan, S. J. Wijnholds, M. Arts, K. van ’t Klooster, F. Beliën, **A. Meijerink**, B. Monna, J. Rotteveel, M. A. Boer, E. Bongers, E. Boom, E. van Tuijl, A. van Staveren, “Using a Satellite Swarm for building a Space-based Radio Telescope for Low Frequencies,” *38th COSPAR Scientific Assembly*, Bremen, Germany, 18–25 July 2010.
16. Alex Budianu, Thilak Rajan, Steven Engelen, **Arjan Meijerink**, Chris J. M. Verhoeven, Mark. J. Bentum, “OLFAR: Adaptive topology for the satellite swarms,” *62nd International Astronautical Congress*, Cape Town, South Africa, 3-7 October 2011, to be published.

Local symposia and workshops

1. **A. Meijerink**, G.H.L.M. Heideman, W.C. van Etten, "A Generalization of a Coherence Multiplexing System," *Proceedings of IEEE 7th Symposium on Communications and Vehicular Technology in the Benelux*, Leuven, Belgium, 19 October 2000, pp. 5–12.
2. **Arjan Meijerink**, Geert H.L.M. Heideman, Wim C. van Etten, "Generalization and Performance Improvement of a Coherence Multiplexing System," *Proceedings of the 22nd Symposium on Information and Communication Theory in the Benelux* (ISBN: 90-365-1598-X), Enschede, The Netherlands, 15–16 May, 2001, pp. 59–66.
3. W. van Etten., **A. Meijerink**, "Optical stabilization of coherence multiplex output signal by means of a phase diversity network," *Proceedings of the 6th Annual Symposium of the IEEE/LEOS Benelux Chapter* (ISBN: 90-5487247-0), Brussels, Belgium, 3 December 2001, pp. 149–152.
4. **Arjan Meijerink**, Geert Heideman, Wim van Etten, "BER Analysis of a DPSK Phase Diversity Receiver for Coherence Multiplexing," *Proceedings of the 23rd Symposium on Information and Communication Theory in the Benelux* (ISBN: 90-71048-16-0), Louvain-la-Neuve, Belgium, 29–31 May 2002, pp. 269–276.
5. **Arjan Meijerink**, Geert Heideman, Wim van Etten, "M-ary (D)PSK modulation in coherence multiplex systems," *Proceedings of the 7th Annual Symposium of the IEEE/LEOS Benelux Chapter* (ISBN: 90-807519-1-X), Amsterdam, The Netherlands, 9 December 2002, pp. 207–210.
6. **Arjan Meijerink**, Niek Niëns, Geert Heideman, Wim van Etten, "Chromatic fiber dispersion in single-mode coherence multiplex systems," *Proceedings of the 10th Symposium on Communications and Vehicular Technology in the Benelux* (CDROM), Eindhoven, The Netherlands, 13 November 2003, paper 9.
7. Robert Taniman, **Arjan Meijerink**, Jaap Haartsen, Wim van Etten, "Indoor RF signal distribution using a coherence multiplexed/subcarrier multiplexed optical transmission system," *Proceedings of the 10th Symposium on Communications and Vehicular Technology in the Benelux* (CDROM), Eindhoven, The Netherlands, 13 November 2003, paper 17.
8. **Arjan Meijerink**, Robert Taniman, Geert Heideman, Wim van Etten, "Comparison of three coherence multiplex system topologies," *Proceedings of the 8th Annual Symposium of the IEEE/LEOS Benelux Chapter*, Enschede, The Netherlands, 20–21 November 2003, pp. 141–144.
9. Jaap C. Haartsen, **A. Meijerink**, Abdel Bekkaoui, Alper Taban, Joe L. Tauritz, "Novel wireless modulation technique based on noise," *Proceedings of the 11th Symposium on Communications and Vehicular Technology in the Benelux* (CDROM, ISBN 90-809010-1-6), Ghent, Belgium, 9 November 2004, paper 8.
10. Robbin J. Blokpoel, **A. Meijerink**, Wim van Etten, "Traffic control in coherence-multiplexed networks," *Proceedings of the 12th Symposium on Communications and Vehicular Technology in the Benelux* (CDROM, ISBN: 90-365-2264-1), Enschede, The Netherlands, 3 November 2005, paper P5.
11. Jaap C. Haartsen, X. Shang, J. W. Balkema, **A. Meijerink**, J. L. Tauritz, "A new wireless modulation technique based on frequency-offset," *Proceedings of the 12th Symposium on Communications and Vehicular Technology in the Benelux* (CDROM, ISBN: 90-365-2264-1), Enschede, The Netherlands, 3 November 2005, paper 10.
12. **A. Meijerink**, Robert O. Taniman, Wim van Etten, "A coherence-multiplexed optical RF feeder network," *URSI Benelux Meeting*, Eindhoven, The Netherlands, 12 May 2006.
13. **A. Meijerink**, C. G. H. Roeloffzen, L. Zhuang, D. A. I. Marpaung, R. G. Heideman, A. Borreman, W. van Etten, "Phased array antenna steering using a ring resonator-based optical beam forming network," *Proceedings of the 13th Symposium on Communications and Vehicular Technology in the Benelux*, Liège, Belgium, 23 November 2006, pp. 7–12.

14. L. Zhuang, C. G. H. Roeloffzen, R. G. Heideman, A. Borreman, **A. Meijerink**, W. van Etten, "Ring resonator-based single-chip 1x8 optical beam forming network in LPCVD waveguide technology," *Proceedings of the 11th Annual Symposium of the IEEE/LEOS Benelux Chapter*, Eindhoven, The Netherlands, 30 November–1 December 2006, pp. 45–48.
15. R. Meijerink, **A. Meijerink**, D. A. I. Marpaung, C. G. H. Roeloffzen, W. van Etten, "Performance study of a ring resonator-based optical beam forming system for phased array receive antennas," *Proceedings of the 14th Symposium on Communications and Vehicular Technology in the Benelux*, Delft, The Netherlands, 15 November 2007, paper P16.
16. L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, R. G. Heideman, M. Hoekman, A. Borreman, A. Leinse, W. van Etten, "Novel ring resonator-based optical beamformer system and experimental results," *Proceedings of the 12th Annual Symposium of the IEEE/LEOS Benelux Chapter*, Brussels, Belgium, 17–18 December 2007, pp. 239–242.
17. R. J. Blokpoel, **A. Meijerink**, L. Zhuang, C. G. H. Roeloffzen, W. van Etten, "Staggered delay tuning algorithms for ring resonators in optical beam forming networks," *Proceedings of the 12th Annual Symposium of the IEEE/LEOS Benelux Chapter*, Brussels, Belgium, 17–18 December 2007, pp. 243–246.
18. H. Schippers, J. Verpoorte, P. Jorna, A. Hulzinga, **A. Meijerink**, C. Roeloffzen, R. G. Heideman, A. Leinse, M. Wintels, "Conformal phased array with beam forming for airborne satellite communication," *Proceedings of the International ITG Workshop on Smart Antennas (WSA '2008)*, Darmstadt, Germany, 26–27 February 2008, pp. 343–350.
19. J. W. van 't Klooster, C. Roeloffzen, **A. Meijerink**, L. Zhuang, D. Marpaung, W. van Etten, R. G. Heideman, A. Leinse, H. Schippers, J. Verpoorte, M. Wintels, "Design of a Ring Resonator-Based Optical Beam Forming Network for Phased Array Receive Antennas," *30th ESA Antenna Workshop on Antennas for Earth Observation, Science, Telecommunication and Navigation Space Missions*, ESA/ESTEC, Noordwijk, The Netherlands, 27–30 May, paper 10.6, pp. 403–406.
20. H. Schippers, J. Verpoorte, P. Jorna, A. Hulzinga, **A. Meijerink**, C. G. H. Roeloffzen, L. Zhuang, D. A. I. Marpaung, W. van Etten, R. G. Heideman, A. Leinse, A. Borreman, M. Hoekman, M. Wintels, "Dual-Frequency Phased Array Antennas with Optical Beamforming for Airborne Satellite Communication," *30th ESA Antenna Workshop on Antennas for Earth Observation, Science, Telecommunication and Navigation Space Missions*, ESA/ESTEC, Noordwijk, The Netherlands, 27–30 May, paper 10.10, pp. 419–422.
21. L. Zhuang, **A. Meijerink**, C. G. H. Roeloffzen, D. A. I. Marpaung, R. G. Heideman, M. Hoekman, A. Leinse, W. van Etten, "Broadband phased array antenna steering by means of coherent signal combining in an integrated ring resonator-based optical beamformer," *Proceedings of the 13th Annual Symposium of the IEEE/LEOS Benelux Chapter*, Enschede, The Netherlands, 27–28 November 2008, pp. 71–74.
22. **A. Meijerink**, S. L. Cotton, M. J. Bentum, W. G. Scanlon, "Noise-based frequency offset modulation in wideband frequency-selective fading channels," *Proceedings of the 16th Symposium on Communications and Vehicular Technology in the Benelux*, Louvain-la-Neuve, Belgium, 19 November 2009, paper 2.
23. M. Tijmes, **A. Meijerink**, M. J. Bentum, C. G. H. Roeloffzen, "A new simulation tool for RF photonics," *Proceedings of the 16th Symposium on Communications and Vehicular Technology in the Benelux*, Louvain-la-Neuve, Belgium, 19 November 2009, paper P4.
24. M. Tijmes, **A. Meijerink**, M. J. Bentum, C. G. H. Roeloffzen, "Simulation of a Ring Resonator-Based Optical Beamformer System for Phased Array Receive Antennas," *Proceedings of the 20th Annual Workshop on Circuits, Systems and Signal Processing (ProRISC 2009)*, Veldhoven, The Netherlands, 26–27 November 2009.
25. L. An, M. J. Bentum, **A. Meijerink**, W. G. Scanlon, "Radio Channel Modeling in Body Area Networks," *W3 Workshop on the Pervasive Application of Wireless Technologies*, Enschede, The Netherlands, 13 November 2009, paper C2.

26. Yakup Kilic, **Arjan Meijerink**, Mark Bentum, "Localization in smart dust sensor networks," *URSI Forum 2010*, Brussels, Belgium, 18 May 2010, p. 43.
27. Le An, **Arjan Meijerink**, Mark Bentum, "Physical Layer in Body Area Networks," *URSI FORUM 2010*, Brussels, Belgium, 18 May 2010, p. 44.

Miscellaneous publications

1. **Arjan Meijerink**, Geert Heideman, Wim van Etten, "Performance Evaluation of an OOK Coherence Multiplex Receiver Based on 4x4 Phase Diversity Detection," *Tijdschrift van het NERG* (ISBN: 03743853), deel 67, nr. 3, pp. 113–116, 2002.
2. **Arjan Meijerink**, Wim van Etten, "Coherentiemultiplexing; communiceren via een breed spectrum!" (in Dutch), *Spectrum - E.T.S.V. Scintilla Jaarboek 2003–2004* (CDROM, ISBN 90-806683-3-8).
3. **Arjan Meijerink**, "Coherentiemultiplexing" (in Dutch), *KIVI Telecommunicatieprijs 2004*, Schiphol, The Netherlands, 2nd April 2004.
4. **Arjan Meijerink**, Chris Roeloffzen, Leimeng Zhuang, David Marpaung, Wim van Etten, "Optical beam forming for phased array antennas," *De Vonk* (Monthly magazine of E.T.S.V. Scintilla), vol. 25, no. 1, Oct. 2006, pp. 4–7.
5. **A. Meijerink**, C. G. H. Roeloffzen, L. Zhuang, D. A. I. Marpaung, R. G. Heideman, A. Borreman, W. van Etten, "Optical beam forming for phased array antennas," *Fotonica Magazine*, vol. 31, no. 4, pp. 5–9, February 2007.
6. L. Zhuang, C.G.H. Roeloffzen, R.G. Heideman, A. Borreman, **A. Meijerink**, W. van Etten, "Single-chip ring resonator-based 1x8 optical beam forming network in CMOS-compatible waveguide technology," *NIRICT Kick-off congress*, Utrecht, The Netherlands, 22 March 2007.
7. **A. Meijerink**, C. G. H. Roeloffzen, L. Zhuang, D. A. I. Marpaung, R. G. Heideman, A. Borreman, W. van Etten, "Optische bundelvormer voor breedbandige phased array antennes," *Fotonica Evenement 2007*, The Hague, The Netherlands, 3 April 2007.
8. **Arjan Meijerink**, Chris Roeloffzen, David Marpaung, Leimeng Zhuang, Wim van Etten, Arne Leinse, Marcel Hoekman, René Heideman, "RF Photonics technology for phased array antenna applications," *Fotonica Evenement 2008*, Nieuwegein, The Netherlands, 2 April 2008.
9. M. J. Bentum, A. J. Boonstra, C. J. M. Verhoeven, A. J. van der Veen, E. K. A. Gill, N. Saks, H. Falcke, M. Klein-Wolt, R. T. Rajan, S. J. Wijnholds, M. Arts, K. van 't Klooster, F. Beliën, **A. Meijerink**, B. Monna, J. Rotteveel, M. A. Boer, E. Bongers, E. Boom, E. van Tuijl, A. van Staveren, "Using a Satellite Swarm for building a Space-based Radio Telescope for Low Frequencies," *Sense of Contact 12*, April 8, 2010, Zeist, The Netherlands.
10. Yakup Kilic, **Arjan Meijerink**, Mark Bentum, "Locating the information: applications, technologies and future aspects," *Secret Agent - E.T.S.V. Scintilla Jaarboek 2009–2010*.
11. Mark Bentum, **Arjan Meijerink**, Albert-Jan Boonstra, Chris Verhoeven, Alle-Jan van der Veen, "OLFAR: The orbiting low frequency array," *De Vonk* (Monthly magazine of E.T.S.V. Scintilla), vol. 28, no. 4, Jul. 2010, pp. 4–7.
12. Alex Budianu, Steven Engelen, Thilak Rajan, **Arjan Meijerink**, Chris J. M. Verhoeven, Mark J. Bentum, "The Communication Layer for the OLFAR Satellite Swarm," *Sense of Contact 13*, 7 April 2011, Zeist, The Netherlands.

Patent

Jan Stemerding, Arjan Meijerink, *Method for replacing corrupted audio data*, European Software Patent EP1449305 / US Patent 7206986.