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Full Publication List (1995–2011), contact Professor William Scanlon, w.scanlon@qub.ac.uk

Journal Papers, Technical Articles and Edited Contributions

S. L. Cotton & W. G. Scanlon, "Channel modelling of narrowband body centric wireless communications systems," Chap. 11 in *Wireless Body Area Networks - Technology, Implementation and Applications*, eds. M. Yuce & J. Khan, Pan Stanford, Singapore, pp. 323–348, 2012. [*ISBN: 978-98-143-1671-2*]

L. Hu, Y. Chen & W. G. Scanlon, "Received signal strength in large-scale wireless relay sensor network: a stochastic ray approach," *IET Microwaves, Antennas and Propagation*, Vol. 5, 14, pp. 1738–1743, Nov. 2011. [*doi: 10.1049/iet-map.2011.0030*]

S. L. Cotton & W. G. Scanlon, "Using smart people to form future mobile wireless networks," *Microwave Journal*, Vol. 54, 12, pp. 24–40, Dec. 2011. [**invited cover feature**]

N. F. Timmons & W. G. Scanlon, "Improving the ultra-low-power performance of IEEE 802.15.6 by adaptive synchronisation," *IET Wireless Sensor Systems*, Vol. 1, 3, pp. 161–170, Sept. 2011. [*doi: 10.1049/iet-wss.2011.0036*]

W. G. Scanlon, "Short range radio communication - novel applications and their physical layer requirements," Chap. 7 in *Analog Circuit Design: Low Voltage Low Power; Short Range Wireless Front-Ends; Power Management and DC-DC (2011)*, eds. M. Steyaert, A. van Roermund & A. Baschirotto, Springer, New York, NY, pp. 139–144, 2011. [*doi: 10.1007/978-94-007-1926-2_7*]

S. L. Cotton, U. S. Dias, W. G. Scanlon & M. D. Yacoub, "On the distribution of signal phase in body area networks," *IEEE Communications Letters*, Vol. 14, 8, pp. 728–730, Aug. 2010. [*doi: 10.1109/LCOMM.2010.08.100673*]

S. L. Cotton, W. G. Scanlon, E. Skafidas & B. K. Madahar, "Millimeter-wave stealth radio for special operations forces," *Microwave Journal*, Military Microwaves Supplement, Vol. 53, 8, pp. 6–16, Aug. 2010.

P. A. Catherwood & W. G. Scanlon, "Off-body UWB channel characterisation within a hospital ward environment," *Intl. J. Ultra Wideband Communications and Systems*, Special issue on Applications of Ultra Wideband Systems in Biomedicine, Vol. 1, 4, pp. 263–272, 2010. [*doi: 10.1504/IJUWBCS.2010.034307*]

G. W. Irwin, J. Chen, A. McKernan & W. G. Scanlon, "Co-design of predictive controllers for wireless network control," *IET Control Theory & Applications*, Vol. 4, 2, pp. 186–196, Feb. 2010. [*doi: 10.1049/iet-cta.2008.0542*]

S. L. Cotton, W. G. Scanlon & B. K. Madahar, "Millimeter-wave soldier-to-soldier communications for covert battlefield operations," *Defence Codex*, Issue 5, pp. 84–94, Winter 2009.

S. L. Cotton & W. G. Scanlon, "Measurements, modeling and simulation of the off-body radio channel for the implementation of bodyworn antenna diversity at 868 MHz," *IEEE Trans. Antennas & Propagation*, Vol. 57, 12, pp. 3951–3961, Dec. 2009. **(2010 IEEE APS H. A. Wheeler Prize Winning Paper)** [*doi: 10.1109/TAP.2009.2033439*]

S. L. Cotton, W. G. Scanlon & B. K. Madahar, "Millimeter-wave soldier-to-soldier communications for covert battlefield operations," *IEEE Communications Magazine*, Special Issue on Military Comms., Vol. 47, 10, pp. 72–81, Oct. 2009. [*doi: 10.1109/MCOM.2009.5273811*]

H. Zhao, E. Garcia-Palacios, J. Wei & Y. Xi, "Accurate available bandwidth estimation in IEEE 802.11 based ad-hoc networks," *Computer Communications*, Vol. 32, 6, pp. 1050–1057, April 2009. [*doi: 10.1016/j.comcom.2008.12.031*]

S. L. Cotton & W. G. Scanlon, "Channel characterization for single and multiple antenna wearable systems used for indoor body to body communications," *IEEE Trans. Antennas & Propagation*, Special Issue on Antennas & Propagation on Body-Centric Wireless Communications, Vol. 57, 4, pp. 980–990, Apr. 2009. [*doi: 10.1109/TAP.2009.2014576*]

G. A. Conway & W. G. Scanlon, "Antennas for over-body-surface communication at 2.45 GHz," *IEEE Trans. Antennas & Propagation*, Special Issue on Antennas & Propagation on Body-Centric Wireless Communications, pp. 844–855, Vol. 57, 4, Apr. 2009. [*doi: 10.1109/TAP.2009.2014525*]

S. L. Cotton, G. A. Conway & W. G. Scanlon, "A time-domain approach to the analysis and modeling of on-body propagation characteristics using synchronized measurements at 2.45 GHz," *IEEE Trans. Antennas & Propagation*, Special Issue on Antennas & Propagation on Body-Centric Wireless Communications, Vol. 57, 4, pp. 943–955, Apr. 2009. [*doi: 10.1109/TAP.2009.2014521*]

S. L. Cotton & W. G. Scanlon, "An experimental investigation into the influence of user state and environment on fading characteristics in wireless body area networks at 2.45 GHz," *IEEE Trans. Wireless Communications*, Vol. 8, 1, pp. 6–12, Jan. 2009. [*doi: 10.1109/T-WC.2009.070788*]

H. Zhao & E. Garcia-Palacios, “Rethinking available bandwidth estimation in IEEE 802.11 based ad-hoc networks,” *Electronics Letters*, Vol 45, 4, pp. 211–213, Feb. 2009. [doi: 10.1049/el:20093039]

S. L. Cotton & W. G. Scanlon, “Characterization and modeling of on-body spatial diversity within indoor environments at 868 MHz,” *IEEE Trans. Wireless Communications*, Vol. 8, 1, pp. 176–185, Jan. 2009. [doi: 10.1109/T-WC.2009.070440]

G. A. Conway, S. L. Cotton & W. G. Scanlon, “An antennas and propagation approach to improving physical layer performance in wireless body area networks,” *IEEE Jnl. Selected Area Communications*, Special Issue on Body Area Networking: Technology and Applications, Vol. 27, 1, pp. 27–36, Jan. 2009. [doi: 10.1109/JSAC.2009.090104]

G. A. Conway, W. G. Scanlon, C. Orlenius & C. Walker, “In-situ measurement of UHF wearable antenna efficiency using a reverberation chamber,” *IEEE Antennas Wireless Propagation Ltrs.*, Vol. 7, pp. 271–274, 2008. [doi: 10.1109/LAWP.2008.920753]

S. L. Cotton, W. G. Scanlon & J. Guy, “The κ−μ distribution applied to the analysis of fading in body to body communication channels for fire and rescue personnel,” *IEEE Antennas Wireless Propagation Ltrs.*, Vol. 7, pp. 66–69, 2008. [doi: 10.1109/LAWP.2008.915807]

G. A. Safdar & W. G. Scanlon, “Performance analysis of improved IEEE 802.11 infrastructure power saving under time-correlated channel errors,” *Intl. Jnl. Wireless Information Networks*, Vol. 15, 1, pp. 36–42, Mar. 2008. [doi: 10.1007/s10776-008-0071-z]

N. Mehallegue, A. Bouidane, & E. Garcia, “Efficient key path establishment for Wireless Sensor Networks,” *EURASIP Jnl. Wireless Communications & Networking*, Vol 2008, 9 pages, Feb. 2008. [doi: 10.1155/2008/456703]

S. L. Cotton & W. G. Scanlon, “Higher order statistics for lognormal small-scale fading in mobile radio channels,” *IEEE Antennas & Wireless Propagation Letters*, Vol. 6, pp. 540–543, 2007. [doi: 10.1109/LAWP.2007.909968]

S. L. Cotton & W. G. Scanlon, “Higher order statistics for the κ–μ distribution,” *Electronics Letters*, Vol. 43, 22, pp. 1215–1217, Oct. 2007. [doi: 10.1049/el:20072372]

A. D. Ball, N. E. Evans, S. J. Burgess & W. G. Scanlon, “Head-SAR dependence on spectacle frame shape for operator of 450 MHz personal radio,” *Electronics Letters*, Vol. 43, 20, pp. 1063–1065, Sept. 2007. [doi: 10.1049/el:20071497]

T. P. Deasy & W. G. Scanlon, “Simulation or measurement: the effect of radio map creation on indoor WLAN-based localisation accuracy,” *Wireless Personal Comms.*, Vol. 42, 4, pp. 563–573, Sept. 2007. [doi: 10.1007/s11277-006-9211-x]

G. A. Safdar & W. G. Scanlon, “Improved power-saving medium access protocol for IEEE 802.11e QoS-enabled wireless networks,” *IET Communications*, Vol. 1, 4, pp. 718–725, Aug. 2007. [doi: 10.1049/iet-com:20050429]

S. L. Cotton & W. G. Scanlon, “Characterization and modeling of the indoor radio channel at 868 MHz for a mobile bodyworn wireless personal area network,” *IEEE Antennas & Wireless Propagation Letters*, Vol. 6, pp. 51–55, 2007. [doi: 10.1109/LAWP.2007.890769]

J. Colandairaj, G. W. Irwin & W. G. Scanlon, “Wireless networked control systems with QoS-based sampling,” *IET Control Theory & Applications*, Vol. 1, 1, pp. 430–438, Jan. 2007. [doi: 10.1049/iet-cta:20060519]

G. A. Safdar & W. G. Scanlon, “Performance analysis of an improved power-saving medium access protocol for IEEE 802.11 point coordination function WLAN,” *IEE Proceedings Communications*, Vol. 153, 5, pp. 697–704, Oct. 2006. [doi: 10.1049/ip-com:20045093]

W. G. Scanlon & N. E. Evans, “Antennas and propagation for telemedicine and telecare – on-body systems,” Chap. 8 in *Antennas and Propagation for Body-Centric Wireless Communications*, eds. P. S. Hall & Y. Hao, Artech House, Norwood, MA, pp. 211–239, Sept. 2006. [ISBN: 1-58053-493-7]

A. J. Johansson, A. Karlsson, W. G. Scanlon, N. E. Evans & Y. Rahmat-Samii, “Medical implant communication systems,” Chap. 9 in *Antennas and Propagation for Body-Centric Wireless Communications*, eds. P. S. Hall & Y. Hao, Artech House, Norwood, MA, pp. 241–270, 2006. [ISBN: 1-58053-493-7]

K. I. Ziri-Castro, W. G. Scanlon & N. E. Evans, “Prediction of variation in MIMO channel capacity for the populated indoor environment using a radar-cross-section based pedestrian model,” *IEEE Transactions Wireless Communications*, Vol. 4, 3, pp. 1186–1194, May 2005. [doi: 10.1109/TWC.2005.846974]

J. Colandairaj, W. Scanlon & G. Irwin, “Understanding wireless networked control systems through simulation,” *IEE Computing & Control Engineering*, Vol. 16, 2, pp. 26–31, April / May 2005. [doi: 10.1049/cce:20050205]

T. P. Deasy & W. G. Scanlon, “Stepwise algorithms for improving the accuracy of both deterministic and probabilistic methods in WLAN-based indoor user localisation,” *Intl. Jnl. Wireless Information Networks*, Vol. 11, 4, pp. 207–216, October 2004. [doi:10.1007/s10776-004-1234-1]

K. I. Ziri-Castro, W. G. Scanlon & N. E. Evans, “Indoor radio channel characterization and modeling for a 5.2-GHz bodyworn receiver,” *IEEE Antennas and Wireless Propagation Letters*, Vol. 3, 1, pp. 219–222, 2004. [doi: 10.1109/LAWP.2004.836119]

S. E. Troulis, N. E. Evans, W. G. Scanlon, & G. Trombino, “Influence of wire-framed spectacles on specific absorption rate within human head for 450 MHz personal radio handsets,” *Electronics Letters*, Vol. 39, No. 23, pp. 1679–1680, Nov. 2003. [doi: 10.1049/el:20031078]

K. I. Ziri-Castro, W. G. Scanlon & N. E. Evans, “Measured pedestrian movement and bodyworn terminal effects for the indoor channel at 5.2 GHz,” *European Trans. Telecomms.*, Vol. 14, 6, pp. 529–538, Nov/Dec. 2003. [doi: 10.1002/ett.952]

S. E. Troulis, W. G. Scanlon & N. E. Evans, “Effect of a hands-free wire on specific absorption rate for a waist-mounted 1.8 GHz cellular telephone handset,” *Physics in Medicine and Biology*, Vol. 48, 12, pp. 1675–1684, June 2003. [doi: 10.1088/0031-9155/48/12/301]

T. Y. Chui, F. Thaler & W. G. Scanlon, “Bit error rate related load constraints for Bluetooth baseband packets,” *Electronics Letters*, Vol. 38, No. 3, pp. 137–138, January 2002. [doi: 10.1049/el:20020097]

W. G. Scanlon & N. E. Evans, “Numerical analysis of bodyworn UHF antenna systems,” *IEE Electronics & Communication Engineering Jnl.*, Vol. 13, 2, pp. 53–64, April 2001. [doi: 10.1049/ecej:20010203]

S.E. Troulis, N.E. Evans & W. G. Scanlon, “Communication reliability in home-care telemetry using the 1800 MHz GSM network,” *Technology and Health Care*, Vol. 9, 1-2, pp. 51–53, May 2001.

G. C. Crumley, N. E. Evans, W. G. Scanlon, J. B. Burns & T. G. Trouton, “The design and performance of a 2.5-GHz telecommand link for wireless biomedical monitoring,” *IEEE Trans. Information Technology In Biomedicine*, Vol. 4, 4, pp. 285–291, Dec. 2000. [doi: 10.1109/4233.897060]

F. Villanese, W. G. Scanlon & N. E. Evans, “UHF-radio propagation predictor for temporal variations in populated indoor environments,” Chapter 2 in *Wireless Personal Communications Bluetooth Tutorial and Other Technologies*, ed. W. H. Tranter *et al*, Kluwer Academic Publishers, Boston. pp. 11–21, 2000. [doi: 10.1007/0-306-46986-3_2]

W. G. Scanlon, J. B. Burns & N. E. Evans, “Radiowave propagation from a tissue-implanted source at 418 MHz and 916.5 MHz,” *IEEE Transactions Biomedical Engineering*, Vol. 47, 4, pp. 527–534, 2000. [doi: 10.1109/10.828152]

F. Villanese, W. G. Scanlon, N. E. Evans & E. Gambi, “A hybrid image/ray-shooting UHF radio propagation predictor for populated indoor environments,” *Electronics Letters*, Vol. 35, 21, pp. 1804–1805, Oct. 1999. [doi: 10.1049/el:19991247]

W. G. Scanlon, “Health aspects of low-level exposure to RF electromagnetic waves,” *RF Design*, Vol. 22, 7, pp. 40–69, July 1999.

W. G. Scanlon, “Healthwatch: the facts about mobile phone safety,” *O Magazine* (TDP Publishing), Issue 11, pp. 14–15, Spring 1999.

W. G. Scanlon, N. E. Evans & J. B. Burns, “FDTD analysis of close-coupled 418 MHz radiating devices for human biotelemetry,” *Physics in Medicine & Biology,* Vol. 44, 2, pp. 335–345, Feb. 1999. [doi: 10.1088/0031-9155/44/2/003]

W. G. Scanlon & N. E. Evans, “Numerical modelling for body-antenna interaction effects in intracorporeal UHF radio telemeters,” in *Biotelemetry XIV*, edited by T Penzel, S Salmons and M R Neuman, Tectum Verlag, Marburg, pp. 231–236, May 1998. [*ISBN: 3-8288-9012-1*]

W. G. Scanlon, N. E. Evans & Z. M. McCreesh, “RF performance of a 418 MHz radio telemeter packaged for human vaginal placement,” *IEEE Trans. Biomedical Engineering*, Vol. 44, 5, pp. 427–430, May 1997. [doi: 10.1109/10.568919]

W. G. Scanlon, N. E. Evans, G. C. Crumley & Z. M. McCreesh, “Low-power radio telemetry: the potential for remote patient monitoring,” *Jnl. of Telemedicine & Telecare*, Vol. 2, 4, pp. 185–191, Dec. 1996. [doi: 10.1258/1357633961930059]

Z. McCreesh, N. E. Evans & W. G. Scanlon, “418 MHz temperature telemetry from the human vagina,” In *Biotelemetry XIII*, edited by C Cristalli, C J Amlaner and M R Neuman, pp. 304–309, 1996.

Z. McCreesh, N. E. Evans & W. G. Scanlon, “Vaginal temperature sensing using UHF radio telemetry,” *Medical Engineering & Physics*, Vol. 18, 2, pp. 110–114, March 1996. [doi: 10.1016/1350-4533(95)00037-2]

W. G. Scanlon & N. E. Evans, “Transmission characteristics of a vaginally-worn UHF radio telemeter,” *Innovation et Technologie en Biologie et Medecine*, Vol. 16, 5, pp. 657–658, Oct. 1995.

Conference Papers and Presentations

Y. Kilic, A. J. Ali, A. Meijerink, M. J. Bentum & W. G. Scanlon, "The effect of human-body shadowing on indoor UWB TOA-ranging systems," to be presented, *9th Workshop on Positioning, Navigation and Communication (WPNC'12)*, Dresden, Germany, Mar. 2012.

W. P. L Cully, S. L. Cotton, W. G. Scanlon & J. B. McQuiston, "Body shadowing mitigation using differentiated LOS / NLOS channel models for RSSI-based Monte Carlo personnel localization," to be presented, *IEEE Wireless Communications & Networking Conf. (WCNC 2012)*, Paris, France, Apr. 2012.

B. H. E. Altvater, S. F. Heaney, S. L. Cotton, A. Meijerink, M. J. Bentum & W. G. Scanlon, "RSSI-based environment identification for 2.45 GHz body area networks," to be presented, *6th European Conf. Antennas and Propagation (EUCAP)*, Prague, Czech Republic, Mar. 2012. [*Invited Paper*]

S. L. Cotton, A. McKernan & W. G. Scanlon, "Improving signal reliability in outdoor body-to-body communications using front and back positioned antenna diversity," to be presented, *6th European Conf. Antennas and Propagation (EUCAP)*, Prague, Czech Republic, Mar. 2012. [*Invited Paper*]

S. F. Heaney, W. G. Scanlon, E. Garcia-Palacios, S. L. Cotton & A. McKernan, "Characterization of inter-body interference in context aware body area networking (CABAN)," *Intl. Workshop on Mobile Computing and Emerging Communication Networks (MCECN'11)*, Houston, Texas, pp. 518–522, Dec. 2011.

S. L. Cotton, W. P. L. Cully, W. G. Scanlon & J. B. McQuiston, "Channel characterisation for indoor wearable active RFID at 868 MHz," *Loughborough Antennas & Propagation Conference*, Nov. 2011.

S. L. Cotton, A. McKernan & W. G. Scanlon, "Received signal characteristics of outdoor body-to-body communications channels at 2.45 GHz," *Loughborough Antennas & Propagation Conference*, Nov. 2011.

W. P. L. Cully, S. L. Cotton, W. G. Scanlon & J. B. McQuiston, "Localization algorithm performance in ultra low power active RFID based patient tracking," *22nd IEEE Intl. Symp. Personal, Indoor & Mobile Radio Comms. (PIMRC)*, Toronto, Canada, pp. 2303–2307, Sep. 2011. [*Invited Paper*]

B. K. Madahar, W. G. Scanlon & S. L. Cotton, "Future soldier-to-soldier communications," *Soldier Technology 2011*, London, UK, June 2011. [*Invited Paper*]

W. G. Scanlon, "Short range radio communication - novel applications and their physical layer requirements," *20th Workshop on Advances in Analog Circuit Design (AACD)*, Leuven, Belgium, 2011.

P. A. Catherwood & W. G. Scanlon, "Measurement errors introduced by the use of co-axial cabling in the assessment of wearable antenna performance in off-body channels," *5th European Conf. Antennas and Propagation (EUCAP)*, pp. 3787–3791, Rome, Italy, Apr. 2011. [Invited Paper] [ISBN: 978-1-4577-0250-1]

S. L. Cotton, A. McKernan, A. J. Ali & W. G. Scanlon, "An experimental study on the impact of human body shadowing in off-body communications channels at 2.45 GHz," *5th European Conf. Antennas and Propagation (EUCAP)*, pp. 3133–3137, Rome, Italy, Apr. 2011. [*Invited Paper*] [ISBN: 978-1-4577-0250-1]

W. G. Scanlon, "Rethinking antenna requirements for medical implant systems," *5th European Conf. Antennas and Propagation (EUCAP)*, pp. 3491–3492, Rome, Italy, Apr. 2011. [Invited Paper] [ISBN: 978-1-4577-0250-1]

A. J. Ali, W. G. Scanlon & S. L. Cotton, "Pedestrian effects in indoor UWB off-body communication channels," *Loughborough Antennas & Propagation Conference*, pp. 57–60, Nov. 2010. [*Invited plenary paper*] [doi: 10.1109/LAPC.2010.5666803]

S. F. Heaney, W. G. Scanlon, E. Garcia-Palacios & S. L. Cotton, "Fading characterization for Context Aware Body Area Networks (CABAN) in interactive smart environments," *Loughborough Antennas & Propagation Conference*, pp. 501–504, Nov. 2010. [doi: 10.1109/LAPC.2010.5666195]

S. L. Cotton, W. G. Scanlon & P. S. Hall, "A simulated study of co-channel inter-BAN interference at 2.45 GHz and 60 GHz," *3rd European Conference on Wireless Technology (EuWiT)*, Paris, France, pp. 61–64, Sept. 2010.

W. G. Scanlon, "Future opportunities for dependable and secure inter-personal wireless communications," *NATO RTO IST Panel Symposium on Military Communications and Networks*, Wroclaw, Poland, Sept. 2010. [*Invited plenary paper*]

H. Zhao, E. Garcia-Palacios, Y.Xi & J. Wei, "Resource allocation for multi-hop cooperative MIMO systems in ad hoc networks," *Proc. Intl. Symp. Wireless Communication Systems (ISWCS 2010)*, York, U.K, Sept. 2010.

P. S. Hall, Y. Hao & S. L. Cotton, "Progress in antennas and propagation for body area networks," *Intl. Symp. on Signals, Systems and Electronics (ISSSE2010)*, Nanjing, China, Sept. 2010. [Keynote Paper]

S. F. Heaney, E. Garcia-Palacios & W. G. Scanlon, "Context-aware body area networks (CABAN) for interactive smart environments: interference characterization," *5th Intl. Conf. Body Area Networks (Bodynets)*, Sep. 2010. [**Best Student Paper Prize**]

W. G. Scanlon, "Understanding and exploiting physical layer characteristics to create new opportunities for bodynets," *5th Intl. Conf. Body Area Networks (Bodynets)*, Sep. 2010. [Keynote Paper]

G. A. Conway, W. G. Scanlon, S. L. Cotton & M. J. Bentum, "An analytical path-loss model for on-body radio propagation," *20th Intl. URSI Symp. Electromagnetic Theory (EMTS)*, Berlin, Germany, pp. 332–335, Aug. 2010. [doi: 10.1109/URSI-EMTS.2010.5637009]

H. Zhao, E. Garcia-Palacios, A. Song, S. Wang & J. Wei, "A soft admission control methodology for wireless ad-hoc networks: evaluating the impact on existing flows before admission," *Proc. 7th IEEE, IET Intl. Symp. Communication Systems, Networks and Digital Signal Processing (CSNDSP2010)*, Newcastle, UK, pp. 51–55, July 2010.

H. Zhao, E. Garcia-Palacios, Y. Xi & J. Wei, "Estimating resources in wireless ad-hoc networks: a Kalman filter approach," *Proc. 7th IEEE, IET Intl. Symp. Communication Systems, Networks and Digital Signal Processing (CSNDSP2010)*, Newcastle, UK, pp. 77–81, July 2010.

L. An, M. J. Bentum, A. Meijerink & W. G. Scanlon, "Radio channel modeling in body area networks," *URSI Benelux Forum*, Brussels, Belgium, pp. 1–3, May 2010.

P. S. Hall, Y. Hao & S. L. Cotton, "Advances in antennas and propagation for body centric wireless communications," 4th *European Conf. Antennas and Propagation (EUCAP)*, Barcelona, Spain, Apr. 2010.

S. L. Cotton, W. G. Scanlon & B. K. Madahar, "Simulation of mm-wave channels for short-range body to body communications," *4th European Conf. Antennas & Propagation (EUCAP)*, Barcelona, Spain, Apr. 2010. [*ISBN: 978-1-4244-6431-9*]

W. G. Scanlon & A. R. Chandran, "Dual-band low profile antennas for body-centric communications," *IEEE Intl. Workshop on Antenna Technology (iWAT 2010)*, Lisbon, Portugal, pp. 1 – 4, Mar. 2010. [*doi: 10.1109/IWAT.2009.4906964*]

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, Netherlands, pp. 1–3, Nov. 2009.

A. Meijerink, S. L. Cotton, M. J. Bentum & W. G. Scanlon, "Noise-based frequency offset modulation in wideband frequency-selective fading channels," *16th IEEE Symp. on Communications & Vehicular Technology in the Benelux (SCVT 2009),* Nov. 2009.

P. A. Catherwood & W. G. Scanlon, "Link characteristics for an off-body UWB transmitter in a hospital environment," *Loughborough Antennas & Propagation Conf.*, pp. 569–572, Nov. 2009. [*doi: 10.1109/LAPC.2009.5352391*]

A. J. Ali, S. L. Cotton & W. G. Scanlon, "Spatial diversity for off-body communications in an indoor populated environment at 5.8 GHz," *Loughborough Antennas & Propagation Conf*., pp. 641–644, Nov. 2009. [*doi: 10.1109/LAPC.2009.5352532*]

Z. Duan, D. Linton, W. G. Scanlon, & A. R. Chandran, "A coplanar waveguide feeding SRR antenna including human body effect," *Loughborough Antennas & Propagation Conf.*, pp. 513–516, Nov. 2009. [*doi: 10.1109/LAPC.2009.5352475*]

A. R. Chandran & W. G. Scanlon, "Reduced groundplane shorted patch antenna for on-body communications," *Loughborough Antennas & Propagation Conf.*, pp. 409–412, Nov. 2009. [*doi: 10.1109/LAPC.2009.5352402*]

M. Ong, H. A. Thompson, N. Israr, W. G. Scanlon & G. W. Irwin, "Skin-friction control for drag reduction on an active aircraft using fault-tolerant wireless connectivity," *19th Conf. Intl. Soc. Air Breathing Engines (ISABE)*, Montreal, Canada, Sep. 2009.

H. Zhao, E. Garcia-Palacios, Y. Xi and J. Wei, "Preserving QoS in wireless ad-hoc networks," *1st Intl. Conf. Wireless Communication, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Tech.*, Aalborg, Denmark, pp. 911–915, May 2009.

N. Israr, W. G. Scanlon & G. W. Irwin, "A Cross-Layer Communication Protocol for Wireless Networked Control Systems," *1st Intl. Conf. Wireless Communication, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Tech.*, Aalborg, Denmark, pp. 577–581, May 2009. [*doi: 10.1109/WIRELESSVITAE.2009.5172510*]

N. F. Timmons & W. G. Scanlon, "An Adaptive Energy Efficient MAC Protocol for the Medical Body Area Network," *1st Intl. Conf. Wireless Communication, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Tech.*, Aalborg, Denmark, pp. 587–593, May 2009. [*doi: 10.1109/WIRELESSVITAE.2009.5172512*]

S. L. Cotton, W. G. Scanlon & G. A. Conway, "Autocorrelation of signal fading in wireless body area networks," *2nd IET Seminar on Body-Centric Wireless Communications*, London, UK, p.10, Apr. 2009. [*doi: 10.1049/ic.2009.0097*]

W. G. Scanlon & A. R. Chandran, "Stacked-patch antenna with switchable propagating mode for UHF body-centric communications," *IEEE Intl. Workshop on Antenna Technology (iWAT 2009)*, Santa Monica, USA, pp. 1–4, Mar. 2009. [*doi: 10.1109/IWAT.2009.4906964*].

A. R. Chandran. G. A. Conway & W. G. Scanlon, "Pattern switching compact patch antenna for on-body and off-body communications at 2.45 GHz," *3rd European Conf. Antennas and Propagation (EUCAP)*, Berlin, Germany, pp. 2055–2057, Mar. 2009. [*ISBN: 978-1-4244-4753-4*]

S. L. Cotton & W. G. Scanlon, "Characterization of the on-body channel in an outdoor environment at 2.45 GHz," *3rd European Conf. Antennas and Propagation (EUCAP)*, Berlin, Germany, pp. 722–725, Mar. 2009. [*ISBN: 978-1-4244-4753-4*]

Z. Duan, D. Linton & W. Scanlon, "Effect of rotating the patch antenna close to the human body," *Intl. Symp. Antennas and Propagation*, Taiwan, pp. 203–206, Oct. 2008.

W. G. Scanlon, S. L. Cotton & G. A. Conway, "Propagation and antennas considerations for internetworking BANs to form body-to-body networks (BBN)," *1st Intl. Symp. Biomedical & Communication Technologies*, Aalborg, Denmark, Oct. 2008.

J. Chen, G. W. Irwin, A. McKernan & W. G. Scanlon, "A model predictive approach to wireless networked control," *UKACC Intl. Control Conf*., CD Rom Proc, Manchester, UK, 6 pps, p. 65, Sept. 2008. [*ISBN: 978-0-9556152-1-4*]

A. McKernan, C. Arino, G. W. Irwin, W. G. Scanlon & J. Chen, "A multiple-observer approach to stability in wireless network control systems," *UKACC Intl. Control Conf*., CD Rom Proc, Manchester, UK, 6 pps, p. 64, Sept. 2008. [*ISBN: 978-0-9556152-1-4*]

Z. Duan, D. Linton & W. Scanlon, "Considerations for EBG loss in antenna applications," *2nd Intl. Congress Advanced Electromagnetic Materials in Microwaves & Optics*, Pamplona, Spain, pp.214–216, Sept. 2008.

Z. Duan, D. Linton & W. Scanlon, "Investigating the permittivity of three-dimensional metal particles embedded in a dielectric medium with random distributions," *2nd Intl. Congress Advanced Electromagnetic Materials in Microwaves & Optics*, Pamplona, Spain, pp.217–221, Sept. 2008.

Z. Duan, D. Linton & W. Scanlon, "Building 3-D structures for negative permittivity metamaterials," *Proc. China-Ireland Intl. Conf. Information and Communications Technologies*, Beijing, China, pp. 635–639, Sept. 2008. [doi: 10.1049/cp:20080885]

S. L. Cotton & W. G. Scanlon, "An experimental evaluation of spatial diversity for use in indoor body to body communications," *USNC/URSI National Radio Science Meeting*, San Diego, CA, Jul. 2008.

G. A. Conway, W. G. Scanlon & S. L. Cotton, "The performance of on-body wearable antennas in a repeatable multipath environment," *IEEE Intl. Symp. Antennas & Prop.*, San Diego, CA, Jul. 2008. [doi: 10.1109/APS.2008.4619698]

A. R. Chandran, G. A. Conway & W. G. Scanlon, "Compact low-profile patch antenna for medical body area networks at 868 MHz," *IEEE Intl. Symp. Antennas & Prop.*, San Diego, CA, Jul. 2008. [doi: 10.1109/APS.2008.4619350]

N. Mehallegue, E. Garcia & A. Bouridane, "A power efficient path key establishment algorithm for wireless sensor networks," *NASA/ESA Conference on Adaptive Hardware and Systems (AHS-2008)*, pp. 475–481, Noordwijk, The Netherlands, June 2008.

P. A. Catherwood & W. G. Scanlon, "Wearable ultra-wideband channel sounder for MIMO antenna systems," *16th IET Irish Signals and Systems Conf.*, pp. 224–229, Galway, Ireland, Jun. 2008. [doi: 10.1049/cp:20080667]

J. Chen, A. McKernan, G. W. Irwin & W. G. Scanlon, "Experimental characterisation and analysis of wireless network control systems," *16th IET Irish Signals and Systems Conf.*, pp. 238–243, Galway, Ireland, Jun. 2008. [doi: 10.1049/cp:20080669]

W. G. Scanlon & S. L. Cotton, "Understanding on-body fading channels at 2.45 GHz using measurements based on user state and environment," *Loughborough Antennas and Propagation Conference*, pp. 10–13, Mar. 2008. [doi: 10.1109/LAPC.2008.4516852]

Z. Duan, D. Linton, W. Scanlon & G. Conway, "Improving wearable slot antenna performance with EBG structures," *Loughborough Antennas and Propagation Conference*, pp. 173–176, Mar. 2008. [doi: 10.1109/LAPC.2008.4516894]

A. R. Chandran, G. Conway & W. G. Scanlon, "Compact slot-loaded patch antenna for 868 MHz wireless body area networks," *Loughborough Antennas and Propagation Conference*, pp. 433–436, Mar. 2008. [doi: 10.1109/LAPC.2008.4516959]

Z. Duan, D. Linton, W. Scanlon & G. Conway, "Using EBG to improve antenna efficiency in proximity to the human body," *IET Seminar on Wideband, Multiband Antennas and Arrays for Defence or Civil Applications*, pp. 175–179, London, UK, Mar. 2008. [doi: 10.1049/ic:20080094]

N. Mehallegue, E. Garcia-Palacios & A. Bouidane, "Path key establishment in Wireless Sensor Networks," *9th IEEE Mobile & Wireless Communications Networks Conf. (MWCN 2007)*, pp. 146–150, Cork, Ireland, Sept. 2007. [doi: 10.1109/ICMWCN.2007.4668198]

W. G. Scanlon, "Wearable antennas: applications, design Principles, challenges and opportunities," *5th European Workshop on Conformal Antennas*, Bristol, UK, September 2007. [Keynote Paper]

N. Mehallegue, E. Garcia-Palacios, A. Bouridane & G. Qu, "Improving key distribution for Wireless Sensor Networks," *2nd NASA/ESA Conf. Adaptive Hardware & Systems (AHS-2007)*, pp. 82–88, Edinburgh, U.K., Aug. 2007. [doi: 10.1109/AHS.2007.65]

G. A. Conway, S. L. Cotton & W. G. Scanlon, "Design and characterization of integrated antennas for compact wearable wireless devices," *USNC/URSI National Radio Science Meeting,* Ottawa, Canada, Jul. 2007.

W. G. Scanlon, G. A. Conway & S. L. Cotton, "Antennas and propagation considerations for robust wireless communications in medical body area networks," *IET Seminar on Antenna & Propagation for Body-Centric Wireless Communications*, London, UK, p. 37, April 2007. [doi: 10.1049/ic:20070533]

S. L. Cotton & W. G. Scanlon, "Spatial diversity and correlation for off-body communications in indoor environments at 868 MHz," *65th IEEE Vehicular Techn. Conf. VTC2007-Spring,* pp. 372–376, April 2007. [doi: 10.1109/VETECS.2007.88]

G. A. Conway, W. G. Scanlon & D. Linton, "Low-profile microstrip patch antenna for over-body surface communication at 2.45 GHz," *65th IEEE Vehicular Techn. Conf. VTC2007-Spring*, pp. 392–396*,* April 2007. [doi: 10.1109/VETECS.2007.92]

J. Colandairaj. G. W. Irwin & W. G. Scanlon, "A co-design solution for wireless feedback control," *Proc. IEEE Intl. Conf. Networking, Sensing and Control (ICNSC07)*, pp. 404–409, April 2007. [doi: 10.1109/ICNSC.2007.372813]

G. A. Conway & W. G. Scanlon, "Low-Profile Patch Antennas for Over-Body-Surface Communication at 2.45 GHz," *Intl. Workshop on Antenna Technology (IWAT)*, Cambridge, UK, pp. 416–419, Mar. 2007. [doi: 10.1109/IWAT.2007.370163]

S. L. Cotton & W. G. Scanlon, "Statistical characterisation for a mobile bodyworn personal area network in an indoor multipath environment at 868 MHz," *Proc. European Conf. on Antennas & Propagation (EuCAP)*, ESA SP-626, CDROM., p.779.1, Nov. 2006. [10.1109/EUCAP.2006.4584833]

A. D. Ball, N. E. Evans, W. G. Scanlon, S. J. Burgess and J. McLaughlin, "Coupling to spectacle frames from a 450 MHz personal radio source operating anteriorly to the head," *Proc. 4th Intl. Workshop on Biological Effects of Electromagnetic Fields*, pp. 266–275, Crete, Greece, October 2006.

S. L. Cotton & W. G. Scanlon, "A statistical analysis of indoor multipath fading for a narrowband wireless body area network," *17th IEEE Intl. Symp. Personal, Indoor & Mobile Radio Comms.* (PIMRC), pp. 1–5, Sept. 2006. [doi: 10.1109/PIMRC.2006.254266]

J. Colandairaj, G. W. Irwin & W. G. Scanlon, "An integrated approach to wireless feedback control," *CD Proc. UKACC Intl. Control Conference, Control 2006*, Glasgow, Aug 30 - Sept 1, 2006, [*ISBN 0 947649549*].

G. W. Irwin, J. Colandairaj & W. G. Scanlon, "An overview of wireless networks in control and monitoring," *Lecture Notes in Computer Science, Vol. 4114/2006, Proc. 2nd Intl. Conf. on Intelligent Computing*, pp. 1:1061–1:1072, Kunming, China, Aug. 2006.

S. A. Hussain, K. Mahmood & E. Garcia-Palacios, "Effect of node mobility on AODV performance," *CIIT Workshop on Research in Computing (CWRC 2006)*, Wah Cantt, Pakistan, Pakistan, April 2006.

S. L. Cotton & W. G. Scanlon, "Characterisation of on-body propagation channels in an indoor multipath environment," *Loughborough Antennas and Propagation Conference LAPC*, April 2006.

S. L. Cotton & W. G. Scanlon, "Indoor channel characterisation for a wearable antenna array at 868 MHz," *IEEE Wireless Communications & Networking Conf.*, vol. 4, pp. 1783–1788, Las Vegas, Apr. 2006. [doi: 10.1109/WCNC.2006.1696566]

J. Colandairaj, G. W. Irwin & W. G. Scanlon, "Analysis of an IEEE 802.11b wireless networked control system," *Proc. 1st NeCST Workshop on Networked Control System and Fault Tolerant Control*, Ajaccio, France, pp. 19–25, Oct. 2005.

G. A. Safdar & W. G. Scanlon, "Effect of time-correlated errors on power-saving mechanisms for IEEE 802.11 infrastructure networks," *Proc. 10th IFIP Intl. Conf. Personal Wireless Comms (PWC'05)*, pp. 189–196, Aug. 2005. [10.1142/9781860947315_0021]

J. Colandairaj, G. W. Irwin & W. G. Scanlon, "Analysis and Co-Simulation of an IEEE 802.11b Wireless Networked Control System," *Proc. 16th IFAC World Congress*, Prague, Czech Republic, July 2005.

A. D. Ball, N. E. Evans, S. E. Troulis & W. G. Scanlon, "An FDTD study of the interaction between body-worn biomedical-monitor wires and a coupled 435 MHz dipole radiator," *Bioelectromagnetics*, Dublin, Ireland, pp. 92–96, June 2005.

W. G. Scanlon, K. I. Ziri-Castro & N. E. Evans, "A Statistical Model for Pedestrian Movement Effects in an Indoor Environment at 5.2 GHz," *Loughborough Antennas and Propagation Conf.*, pp. 316–319, April 2005.

A. D. Ball, N. E. Evans, S. E. Troulis, W. G. Scanlon, & S. J. Burgess, "RF Interference (RFI) between UHF personal radios and biomedical monitoring sensors," *Proc. IEE Seminar on Telemetry and Telematics*, London, pp. 4/1–4/5, April 2005. [doi: 10.1049/ic:20050101]

N. F. Timmons & W. G. Scanlon, "Analysis of the performance of IEEE 802.15.4 for medical sensor body area networking," *1st Annual IEEE Comms. Soc. Conf. on Sensor and Ad Hoc Communications and Networks (SECON)*, Santa Clara, pp. 16–24, Oct. 2004. [doi: 10.1109/SAHCN.2004.1381898]

S. E. Troulis, A. D. Ball, N. E. Evans and W. G. Scanlon, "SAR for adult and child users of 450 MHz personal-radio handsets operating anteriorly to the head," *3rd Int. Workshop on Biological Effects of Electromagnetic Fields*, Kos, Greece, pp. 457–464, October 2004.

G. A. Safdar & W. G. Scanlon, "Pointer controlled power saving medium access control protocol for IEEE 802.11 infrastructure networks," *15th IEEE Intl. Symp. Personal, Indoor & Mobile Radio Comms. (PIMRC)*, Vol. 2, pp. 915–919, Sept. 2004.

T. P. Deasy & W. G. Scanlon, "Accuracy improvement algorithms for prediction of user location using receive signal strength indication in infrastructure WLANs," *15th IEEE Intl. Symp. Personal, Indoor & Mobile Radio Comms. (PIMRC)*, Vol. 3, pp. 1757–1761, Sept. 2004.

G. A. Safdar & W. G. Scanlon, "Low Power Transmission Efficient Medium Access Control Protocol for IEEE 802.11 Infrastructure networks," *IEE Proc. Irish Signals & Systems Conf.*, pp. 357–362, July 2004. [doi: 10.1049/cp:20040568]

T. P. Deasy & W. G. Scanlon, "Refinement Algorithms for Improving Terminal Tracking Accuracy Using Infrastructure WLANs," *IEE Proc. Irish Signals & Systems Conf.*, pp. 273–278, July 2004. [doi: 10.1049/cp:20040553]

J. Colandairaj, W. G. Scanlon & G. W. Irwin, "Co-Simulation Framework for a Networked Control System within an IEEE 802.11b Wireless Network," *IEE Proc. Irish Signals & Systems Conf.*, pp. 207–212, July 2004. [doi: 10.1049/cp:20040543]

G. A. Safdar & W. G. Scanlon, "Steady state performance of PCSAR, a proposed energy saving MAC Protocol for 802.11 WLAN," *Information Technology & Telecommunications Conf.*, September 2003.

N. Timmons & W. G. Scanlon, "Ultra Low Power Self Organising Body-Centric Sensor Networks," *Information Technology & Telecommunications Conf.*, September 2003.

T. P. Deasy & W. G. Scanlon, "Stepwise refinement algorithms for prediction of user location using receive signal strength indication in infrastructure WLANs," *8th IEEE High Frequency Postgraduate Student Colloquium*, pp. 116–119, September 2003. [doi: 10.1109/HFPSC.2003.1242320]

K. I. Ziri-Castro, W. G. Scanlon & N. E. Evans, "Characterisation of body-shadowing effects in the indoor environment at 5.2 GHz," *8th IEEE High Frequency Postgraduate Student Colloquium*, pp. 2–5, Sept. 2003. [doi: 10.1109/HFPSC.2003.1242293]

X. Hong, W. Liu & W. Scanlon, "Enhancing model-based diagnosis with belief functions for fault management," Proc. *2003 UK workshop on Computational Intelligence*, Bristol, UK, (Ed. Rossiter, J and Martin, TP), Bristol University (Bristol), ISBN 0862925371, pp. 63–67, September 2003.

X. Hong, W. Liu & W. Scanlon, "Integrating belief functions with model-based diagnosis for fault management," *Proc. 3rd European Symp. Intelligent Technologies, Hybrid Systems and Their Implementation on Smart Adaptive Systems*, Oulu, Finland, Verlag Mainz, CD-ROM, ISBN 3-86130-194-6, July 2003.

T. P. Deasy & W. G. Scanlon, "Effect of measurement uncertainty in prediction of user location using standard WLAN infrastructure," *2nd IEI/IEEE Irish Telecommunications Systems Research Symp.*, Dublin, May 2003.

K. I. Ziri-Castro, W. G. Scanlon, R. Feustle & N. E. Evans, "Channel modelling and propagation measurements for a bodyworn 5.2 GHz terminal moving in the indoor environment," *12th IEE Intl. Conf. Antennas & Propagation (IEE Conf. Publ. No. 491)*, vol. 1, pp. 67–70, April 2003. [doi: 10.1049/cp:20030017]

W. G. Scanlon, "Analysis of tissue-coupled antennas for UHF intra-body communications," *12th IEE Intl. Conf. Antennas & Propagation (IEE Conf. Publ. No. 491)*, vol. 2, pp. 747–750, April 2003. [doi: 10.1049/cp:20030184]

K. I. Ziri-Castro, W. G. Scanlon, R. Feustle & N. E. Evans, "Indoor channel measurements for a bodyworn 5.2 GHz receiver," *5th EU Personal Mobile Comms. Conf. (IEE Conf. Publ. No. 492)*, pp. 191–194, April 2003. [doi: 10.1049/cp:20030244]

S. E. Troulis, W. G. Scanlon and N. E. Evans, "Auxiliary conductor effects on cellular handset radiation," *2nd Int. Workshop on Biological Effects of Electromagnetic Fields*, Rhodes, Greece, pp. 134–140, October 2002.

S. E. Troulis, N. E. Evans & W. G. Scanlon, "Antenna / auxiliary-wire coupling in body-worn UHF transceiver applications," *American Electromagnetics Symposium (AMEREM 2002)*, Annapolis, MD, pp 48–48, June 2002.

S. E. Troulis, W. G. Scanlon & N. E. Evans, "Effect of 'hands-free' leads on 1.8 GHz cellular handset radiation," *IEE Technical Seminar on Antenna Measurements and SAR (AMS 2002)*, IEE # 02/069, pp. 9/1–9/4, May 2002.

T. Y. Chui, F. Thaler & W. G. Scanlon, "A novel channel modeling technique for performance analysis of Bluetooth baseband packets," *IEEE Intl. Conf. on Communications (ICC2002)*, vol. 1, pp. 308–312, April 2002. [doi: 10.1109/ICC.2002.996866]

W. G. Scanlon & K. Ziri-Castro, "Modelling of MIMO channels for the populated indoor environment," *IEE Seminar on MIMO Communication Systems*, IEE # 01/175, pp. 13/1–13/6, Dec. 2001. [doi: 10.1049/ic:20010203]

W. G. Scanlon, F. Tofoni & N. E. Evans, "Indoor microwave channel prediction using a radar-cross-section model to represent moving pedestrians," *URSI UK*, Dec. 2001.

T. Y. Chui & W. G. Scanlon, “A novel MAC protocol for power efficient short-range wireless networking,” *IEEE Intl. Conf. on Wireless LANs and Home Networks*, pp. 187–196, Dec. 2001.

S. E. Troulis, W. G. Scanlon & N. E. Evans, “Effect of ‘hands-free’ leads and spectacles on SAR for a 1.8 GHz cellular handset,” *1st Joint IEI/IEE Symposium on Telecommunications Systems Research*, Nov. 2001.

T. Y. Chui & W. G. Scanlon, “A power efficient reservation scheduling technique for short range wireless networking,” *1st Joint IEI/IEE Symposium on Telecommunications Systems Research*, Nov. 2001.

K. Ziri-Castro, W. G. Scanlon & F. Tofoni, “Dynamic capacity estimation for the indoor wireless channel with MIMO arrays and pedestrian traffic,” *1st Joint IEI/IEE Symposium on Telecommunications Systems Research*, Nov. 2001.

S. E. Troulis, N. E. Evans & W. G. Scanlon “Location dependency and antenna / body / sensor-lead interaction effects in a cell-phone based GSM 1800 telemedicine link,” *Proc. 23rd Intl. Conf. IEEE Engineering in Medicine and Biology Society*, vol. 4, pp. 3500–3503, Oct. 2001.

W. G. Scanlon, “Computational electromagnetic modelling of tissue-implanted devices,” *Proc. ECCOMAS Computational Fluid Dynamics Conf. (CDRom) IMA ISBN:0-905-091-12-4*, September 2001.

W. G. Scanlon & A. J. Scanlon, “Pilot study of human reaction time performance under extremely low-level RF exposure to GSM-900 basestation signals,” *23rd BEMS Annual Scientific Meeting*, pp. 113–115, June 2001.

W. G. Scanlon, N. E. Evans, S. Cascino & G. Cerri, “A hybrid time-domain technique for numerical modelling of tissue-implanted antennas,” *2001 URSI Intl. Symp. Electromagnetic Theory*, pp. 479–481, Victoria BC, May 2001.

W. G. Scanlon, S. Cascino & P. Russo, “Hybrid method for time-domain analysis of wire antennas embedded in a scattering dielectric medium,” *11th Intl. Conf. Antennas & Propagation (IEE Conf. Publ. No. 480)*, vol. 2, pp. 861–865, Manchester, 2001. [doi: 10.1049/cp:20010418]

S. E. Troulis, N. E. Evans & W. G. Scanlon, “Propagation issues affecting the deployment of GSM 1800-based personal telemedicine equipment,” *11th Intl. Conf. Antennas & Propagation (IEE Conf. Publ. No. 480)*, vol. 1, pp. 142–145, Manchester, 2001. [doi: 10.1049/cp:20010257]

N. E. Evans, W. G. Scanlon & T. Y. Chui, “Adaptive medium access protocol for short range wireless networking,” *11th URSI Radio Science Symposium*, Dublin, March 2001.

W. G. Scanlon, “Body-worn antennas for ISM-band applications including Bluetooth™,” *IEE Coll. Integrated and Miniaturised Antenna Technologies for Asset Tracking Applications*, IEE00/065, pp. 5.1–5.5, November 2000. [doi: 10.1049/ic:20000613]

F. Villanese, N. E. Evans & W. G. Scanlon, “Pedestrian-induced fading for indoor channels at 2.45, 5.7 and 62 GHz,” *52nd IEEE Vehicular Technology Conf. VTC2000*, vol. 1, pp. 43–48, Sept. 2000. [doi: 10.1109/VETECF.2000.886629]

F. Villanese, W. G. Scanlon & N. E. Evans, “Statistical characteristics of pedestrian-induced fading for a narrowband 2.45 GHz indoor channel,” *52nd IEEE Vehicular Technology Conf. VTC2000*, vol. 2, pp. 745–750, Sept. 2000. [doi: 10.1109/VETECF.2000.887105]

W. G. Scanlon & N. E. Evans, “Bioelectromagnetic modelling of human radio implants,” *Invited Paper, Joint UK / Irish URSI Radio Science Symposium*, Oxford, July 2000.

J. G. Wallace & W. G. Scanlon, “Health informatics applications of mobile and wearable computing in Northern Ireland,” *Proc. Intl. Conf. on Wearable Computing* (ICWC2000), 2000.

X. Hong & W. G. Scanlon, “Using belief measurement to guide model-based diagnosis,” *3rd IASTED Intl. Conf. Artificial Intelligence and Soft Computing (ASC'2000)*, pp. 41–47, July 2000.

F. Villanese, W. G. Scanlon & N. E. Evans, “UHF-radio propagation predictor for temporal variations in populated indoor environments,” *10th Virginia Tech Symp. Wireless Personal Comms.*, pp. 11–21, June 2000.

P. Record & W. Scanlon, “An identification tag for sea mammals,” *IEE Colloquium RFID Technology*, (Ref. No.1999/123), pp. 5/1–5. October 1999. [doi: 10.1049/ic:19990678]

W. G. Scanlon & N. E. Evans, “Calculated SAR due to 403 MHz subcutaneous source located in the pectoral region of an adult-male phantom.” *26th URSI General Assembly*, Toronto, p. 856, August 1999.

W. G. Scanlon, G. C. Crumley & N. E. Evans, “Body-obstructed fading characteristics of an in-ward 2.45 GHz biomedical telecommand link,” *IEEE Antennas Prop. Soc. Intl. Symp.,* Florida, vol. 1, pp. 380–383, 1999. [doi: 10.1109/APS.1999.789158]

W. G. Scanlon, “Body-coupled antennas for medical device communications,” *UK National URSI Meeting*, University of York, p. 18, 1999.

N. E. Evans, G. C. Crumley & W. G. Scanlon, “Characterisation of in-ward 2.45 GHz biomedical telecommand link propagation incorporating antenna-body interaction effects,” *Joint Irish/UK URSI Radio Science Symp.*, Dublin, p. 12, 1998.

W. G. Scanlon & N. E. Evans, “Low power UHF radio communication systems for implant telemetry and telecommand,” *IPEM Biological & Medical Telemetry Workshop*, St Andrews, p. 9, 1998.

G. C. Crumley, N. E. Evans & W. G. Scanlon, “2.45 GHz telecommand for ambulatory patient monitoring applications,” *Medicon ’98*, Cyprus, paper 28.1, p. 198, 1998.

W. G. Scanlon, “Health aspects of human body exposure to radio-frequency electromagnetic waves,” Invited Tutorial paper: *Chart. Inst. Environ. Health Electromagnetic Radiation Seminar*, UUJ, pp. 3/1–3/11, 1998.

W. G. Scanlon & N. E. Evans, “FDTD modelling of antenna / human-body interaction for UHF biotelemetry,” *Irish Signals and Systems Conf*, Londonderry, pp. 25–31, 1997.

W. G. Scanlon & N. E. Evans, “Finite-Difference Time-Domain analysis of body mounted UHF antennas,” *9th URSI Radio Science Symposium*, Dublin, p. 7, 1997.

W. G. Scanlon & N. E. Evans, “Body-surface mounted antenna modelling for biotelemetry using FDTD with homogeneous, two- and three-layer phantoms,” *10th Intl. Conf. Antennas & Propagation (IEE Conf. Pub. 436)*, vol. 1, pp. 342–345, 1997. [doi: 10.1049/cp:19970268]

W. G. Scanlon & N. E. Evans, “Numerical modelling for body-antenna interaction effects in intracorporeal UHF radio telemeters,” *14th Intl. Symp. Biotelemetry*, Marburg, Germany, p. 45, 1997.

W. G. Scanlon, N. E. Evans & M. Rollins, “Antenna-body interaction effects in a 418 MHz radio telemeter for infant use,” *18th IEEE EMBS Conference,* Amsterdam, vol. 1, pp. 278–279, 1996. [doi: 10.1109/IEMBS.1996.656952]

W. G. Scanlon, & N. E. Evans, “Transmission characteristics of a vaginally-worn UHF radio telemeter,” *10th Ulster Biomedical Engineering Society Spring Meeting,* p. 12, April 1995.

W. G. Scanlon, N. E. Evans & Z. McCreesh, “Radiation characteristics of a vaginally-worn 418 MHz radio telemeter.” *Proc. 1st IEEE High Frequency Postgraduate Student Colloquium*, Belfast, pp. 57–60, 1995.

Z. McCreesh, N. E. Evans & W. G. Scanlon, “418 MHz temperature telemetry from the human vagina,” *13th Intl. Symp. Biotelemetry*, p. 69, 1995.