

## **PETLINK-Related IEEE Articles:**

1. "A VMEBUS Based, Real Time Sorter Design for Positron Emission Tomography"  
Nuclear Science, IEEE Transactions on  
Date of Publication: Feb. 1986  
Author(s): Jones, W.F.; Casey, M.E.; Byars, L.G.; Burgiss, S.G.  
Computer Technology and Imaging, Inc., Knoxville, TN, USA  
Volume: 33 , Issue: 1  
Page(s): 601 – 604
2. "Optimizing rod window width in positron emission tomography"  
Nuclear Science Symposium and Medical Imaging Conference, 1992., Conference  
Record of the 1992 IEEE  
Date of Conference: 25-31 Oct 1992  
Author(s): Jones, W.F.; Digby, W.M.; Luk, W.K.; Casey, M.E.; Byars, L.G.  
CTI PET Systems, Inc., Knoxville, TN, USA  
Page(s): 982 - 984 vol.2
3. "Optimizing rod window width in positron emission tomography"  
Medical Imaging, IEEE Transactions on  
Date of Publication: Jun 1995  
Author(s): Jones, W.F.; Digby, W.M.; Luk, W.K.; Casey, M.E.; Byars, L.G.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 14 , Issue: 2  
Page(s): 266 – 270
4. "The architectural impact of single photon transmission measurements on full ring 3-D  
positron tomography"  
Nuclear Science Symposium and Medical Imaging Conference Record, 1995., 1995  
IEEE  
Date of Conference: 21-28 Oct 1995  
Author(s): Jones, W.; Vaigneur, K.; Young, J.; Reed, J.; Moyers, C.; Nahmias, C.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 2  
Page(s): 1026 - 1030 vol.2
5. "Next generation PET data acquisition architectures"  
Nuclear Science Symposium, 1996. Conference Record., 1996 IEEE  
Date of Conference: 2-9 Nov 1996  
Author(s): Jones, W.F.; Reed, J.H.; Everman, J.L.; Young, J.W.; Seese, R.D.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 2  
Page(s): 1265 - 1269 vol.2
6. "Next generation PET data acquisition architectures"  
Nuclear Science, IEEE Transactions on  
Date of Publication: Jun 1997  
Author(s): Jones, W.F.; Reed, J.H.; Everman, J.L.; Young, J.W.; Seese, R.D.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 44, Issue: 3  
Page(s): 1202 – 1207

7. "Fast-channel LSO detectors and fiber-optic encoding for excellent dual photon transmission measurements in PET"  
Nuclear Science Symposium, 1998. Conference Record. 1998 IEEE  
Date of Conference: 1998  
Author(s): Jones, W.F.; Moyers, J.C.; Casey, M.E.; Watson, C.C.; Nutt, R.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 2  
Page(s): 1100 - 1104 vol.2
8. "Fast-channel LSO detectors and fiber-optic encoding for excellent dual photon transmission measurements in PET"  
Nuclear Science, IEEE Transactions on  
Date of Publication: Aug 1999  
Author(s): Jones, W.F.; Moyers, J.C.; Casey, M.E.; Watson, C.C.; Nutt, R.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 46, Issue: 4  
Page(s): 979 – 984
9. "LSO PET/SPECT spatial resolution: critical on-line DOI rebinning methods and results"  
Nuclear Science Symposium Conference Record, 2000 IEEE  
Date of Conference: 2000  
Author(s): Jones, W.F.; Casey, M.E.; Van Lingen, A.; Bendriem, B.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 3  
Page(s): 16/54 - 16/58 vol.3
10. "Real-time event stream correction for patient motion in clinical 3-D PET"  
Nuclear Science Symposium Conference Record, 2001 IEEE  
Date of Conference: 2001  
Author(s): Jones, W.F.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 4  
Page(s): 2062 – 2064
11. "First time measurement of transaxial resolution for a new high-sensitivity PET prototype using 5 LSO panel detectors"  
Nuclear Science Symposium Conference Record, 2002 IEEE  
Date of Conference: 10-16 Nov. 2002  
Author(s): Jones, W.F.; Reed, J.; Everman, J.; Luk, P.; Gremillion, T.; Castleberry, B.; Breeding, E.; Musrock, M.; Young, J.; Overbay, M.; Schmand, M.; Powers, R.; Moyers, J.; Baker, K.; Bendriem, B.  
CTI PET Systems Inc., Knoxville, TN, USA  
Volume: 2  
Page(s): 694 - 698 vol.2

12. "Nearest-neighbor rebinning in clinical PET: fast and accurate on-line 3-D LOR-to-bin mapping on the HRRT with the new PDR card"  
Nuclear Science Symposium Conference Record, 2004 IEEE  
Date of Conference: 16-22 Oct. 2004  
Author(s): Jones, W.F.; Breeding, E.; Castleberry, B.; Reed, J.  
CPS Innovations, Knoxville, TN, USA  
Volume: 5  
Page(s): 3142 - 3145 Vol. 5
13. "Advanced hardware architecture for on-line data acquisition in clinical 3-D PET: smart DRAM PCI Card for 14 M event/sec histogramming across terabytes of DRAM"  
Nuclear Science Symposium Conference Record, 2004 IEEE  
Date of Conference: 16-22 Oct. 2004  
Author(s): Jones, W.F.; Running, M.; Draughn, L.; Reed, J.  
CPS Innovations, Knoxville, TN, USA  
Volume: 6  
Page(s): 3663 - 3667 Vol. 6
14. "Fast and accurate nearest-neighbor 3-D LOR rebinning: the PDR card applied to a rotating 5-head LSO-panel-detector PET prototype"  
Nuclear Science Symposium Conference Record, 2005 IEEE  
Date of Conference: 23-29 Oct. 2005  
Author(s): Jones, W.F.; Breeding, E.; Conti, M.  
Siemens Molecular Imaging, Knoxville, TN, USA  
Volume: 4  
Page(s): 2259 – 2263
15. "On-Line Time-of-Flight Mashing: the PDR Card Applied to a Long-Axis PET-TOF System for Reduced Transaxial Angular Sampling with 3-D Nearest-Neighbor Projection-Space Rebinning in Clinical PET/CT"  
Nuclear Science Symposium Conference Record, 2006. IEEE  
Date of Conference: Oct. 29 2006-Nov. 1 2006  
Author(s): Jones, W.F.; Breeding, E.; Conti, M.; Kehren, F.; Casey, M.E.  
Siemens Molecular Imaging, Knoxville, TN, USA  
Volume: 4  
Page(s): 2537 – 2541
16. "PET gantry simulation: Concepts and methods for inexpensively reproducing the PET data acquisition environment using a single PC with the PDT card"  
Nuclear Science Symposium Conference Record, 2007. NSS '07. IEEE  
Date of Conference: Oct. 26 2007-Nov. 3 2007  
Author(s): Jones, W.F.; Breeding, E.; Olarte, C.; Everman, J.; Tolbert, S.; Reed, J.H.; Casey, M.  
Siemens Molecular Imaging, Knoxville, TN, USA  
Volume: 6  
Page(s): 4237 – 4241

17. "A digital architecture for routinely storing and buffering the entire 64-bit event stream at maximum bandwidth for every acquisition in clinical real-time 3-D PET: Embedding a 400 Mbyte/sec SATA RAID 0 using a set of four solid-state drives"  
Nuclear Science Symposium Conference Record, 2008. NSS '08. IEEE  
Date of Conference: 19-25 Oct. 2008  
Author(s): Jones, W.F.; Breeding, E.; Everman, J.; Reed, J.H.  
Siemens Molecular Imaging, Knoxville, TN, USA  
Page(s): 5036 - 5040
18. "A GPU-based architecture for improved online rebinning performance in clinical 3-D PET"  
Nuclear Science Symposium Conference Record (NSS/MIC), 2009 IEEE  
Date of Conference: Oct. 24 2009-Nov. 1 2009  
Author(s): Patlolla, D.R.; Breeding, E.; Jones, W.F.; Everman, J.  
Siemens Med. Solutions USA, Inc., Knoxville, TN, USA  
Page(s): 3135 – 3139
19. "Beyond list mode: On-line rebinning and histogramming for continuous bed motion in clinical whole-body TOF PET/CT"  
Nuclear Science Symposium Conference Record (NSS/MIC), 2010 IEEE  
Date of Conference: Oct. 30 2010-Nov. 6 2010  
Author(s): Jones, W.F.; Breeding, E.; Reed, J.H.; Luk, W.; Moor, A.; Townsend, D.  
Siemens Mol. Solutions, Knoxville, TN, USA  
Page(s): 3113 – 3117
20. "Tracking coincidence events in pet even when count rates are extremely high: The Lost-Event Tally packet concept"  
Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2011 IEEE  
Date of Conference: 23-29 Oct. 2011  
Author(s): Jones, W.F.; Breeding, J.E.; Everman, J.; Reed, J.H.; Luk, W.; Moor, A.; Casey, M.E.  
Siemens Med. Solutions, USA, Knoxville, TN, USA  
Page(s): 3227 – 3231
21. "PETLINK™ Stream Buffer: Using an FPGA-based RAID controller with solid-state drives to achieve lossless, high count-rate 64-bit coincidence event acquisition for 3-D PET"  
Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2011 IEEE  
Date of Conference: 23-29 Oct. 2011  
Author(s): Breeding, J.E.; Jones, W.F.; Reed, J.H.; Sangpaithoon, T.  
Siemens Med. Solutions USA, Inc., Knoxville, TN, USA  
Page(s): 3894 – 3900
22. "Tracking Coincidence Events in PET Even When Count Rates Are Extremely High: The Lost-Event Tally Packet Concept"  
Nuclear Science, IEEE Transactions on  
Date of Publication: Oct. 2012  
Author(s): Jones, W.F.; Breeding, J.E.; Everman, J.; Reed, J.H.; Luk, W.; Moor, A.; Casey, M.E.  
Siemens Med. Solutions, USA, Knoxville, TN, USA  
Volume: 59, Issue: 5  
Page(s): 1915 – 1919

## **PETLINK-Related PATENTS:**

- P01. "Fiber-optic encoding for dual transmission measurements in positron emission tomography"  
Patent Number: 6,718,006  
Inventors: Jones; William F. (Knoxville, TN), Watson; Charles (Knoxville, TN)  
Assignee: CTI Pet Systems, Inc. (Knoxville, TN)  
Patent Body: USPTO  
Granted: April 6, 2004
- P02. "On-line DOI rebinning for LSO PET/SPECT spatial resolution"  
Patent Number: 6,852,980  
Inventors: Jones; William F. (Knoxville, TN), Bendriem; Bernard (Knoxville, TN), Casey; Michael E. (Knoxville, TN)  
Assignee: CTI Pet Systems, Inc. (Knoxville, TN)  
Patent Body: USPTO  
Date Granted: February 8, 2005
- P03. "On-line correction of patient motion in three-dimensional positron emission tomography"  
Patent Number: 6,947,585  
Inventors: Jones; William F. (Knoxville, TN)  
Assignee: CTI Pet Systems, Inc. (Knoxville, TN)  
Patent Body: USPTO  
Date Granted: September 20, 2005
- P04. "On-line correction of patient motion in three-dimensional positron emission tomography"  
Patent Number: 6,980,683  
Inventors: Jones; William F. (Knoxville, TN)  
Assignee: CTI Pet Systems, Inc. (Knoxville, TN)  
Patent Body: USPTO  
Date Granted: December 27, 2005
- P05. "Nearest-neighbor rebinning in clinical PET using on-line three dimensional LOR-to-bin mapping"  
Patent Number: 7,409,077  
Inventors: Jones; William F. (Knoxville, TN), Breeding; John E. (Knoxville, TN), Castleberry; Bryan (Knoxville, TN), Reed; Johnny (Knoxville, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: August 5, 2008
- P06. "On-line time-of-flight mashing: DMA rebinning applied to a long-axis PET-TOF system for reduced transaxial angular sampling with 3-D nearest-neighbor projection-space rebinning in clinical PET/CT"  
Patent Number: 7,638,771  
Inventors: Breeding; John E. (Knoxville, TN), Casey; Michael E. (Louisville, TN), Jones; William F. (Knoxville, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: December 29, 2009

- P07. "Device for on-line data acquisition in three-dimensional positron emission tomography"  
Patent Number: 7,676,070  
Inventors: Jones; William F. (Knoxville, TN), Reed; Johnny (Clinton, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: March 9, 2010
- P08. "Defining lost event tally tag packets when PET count rates exceed available acquisition bandwidth"  
Patent Number: 7,983,186  
Inventors: Breeding; John E. (Knoxville, TN), Casey; Michael E. (Louisville, TN), Everman; Jimmy (Maryville, TN), Jones; William F. (Knoxville, TN), Luk; Wing K. (Knoxville, TN), Reed; Johnny H. (Clinton, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: July 19, 2011
- P09. "Positron emission tomography event stream buffering"  
Patent Number: 8,060,696  
Inventors: Jones; William F. (Knoxville, TN), Breeding; John E. (Knoxville, TN), Reed; Johnny H. (Clinton, TN), Everman; Jimmy (Maryville, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: November 15, 2011
- P10. "System for simulating PET gantry"  
Patent Number: 8,170,855  
Inventors: Jones; William (Knoxville, TN), Breeding; John E. (Knoxville, TN), Reed; Johnny H. (Clinton, TN), Everman; Jimmy (Maryville, TN), Casey; Michael E. (Louisville, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: May 1, 2012
- P11. "On-line TOF-PET mashed rebinning for continuous bed motion acquisitions"  
Patent Number: 8,314,380  
Inventors: Breeding; John E. (Knoxville, TN), Jones; William F. (Knoxville, TN), Luk; Wing K. (Knoxville, TN), Moor; Andrew P. (Knoxville, TN), Reed; Johnny H. (Clinton, TN), Townsend; David (Knoxville, TN)  
Assignee: Siemens Medical Solutions USA, Inc. (Malvern, PA)  
Patent Body: USPTO  
Date Granted: November 20, 2012