

**Presentations and Publications** Over the past several years, we have written or co-written a number of patents, and have attended various conferences and presented papers and talks on relevant technical and scientific topics. A sampling of pertinent references is listed below.

### **Patents**

Carroll L. R., Hendry G. O., Picker F.: U. S. Patent No. 5,463,291; Cyclotron and Associated Magnet Coil and Coil Fabricating Process. October, 1995.

Carroll L. R.: U.S. Patent No. 5,990,745; Discharge Element for Charge Integrating Preamplifier. Nov, 1999.

Carroll L. R.: U.S. Patent No. 6,054,705; Charge-Integrating Preamplifier for Capacitive Transducer. April, 2000.

Lamb, J.F., Carroll, L.R., U.S. Patent No. 7,608,831 B2; Radioactivity Dose Calibrator, Oct, 2009

Carroll, L. R., Apparatus for extending a Scintillation Detector's Dynamic Range; U.S. Patent No. 9,081,102 B2 July, 2015

### **Referee'd Journals and Book Chapters**

Kearfott K., Carroll L.R.: "Performance Characteristics of the Model 4600 Positron Emission Tomograph", Journal of Computer-Assisted Tomography 8(3):502-513, June, 1984.

Carroll L.R., Kretz P.R., Orcutt G.: "The Orbiting Rod Source: Improving Performance in PET Transmission Scans". Presented at the 30th Annual Meeting of The Society of Nuclear Medicine, St. Louis, MO, June, 1983. Published in Emission Computed Tomography--Current Trends, Society of Nuclear Medicine, New York, 1983

### **Conference Proceedings and Special Presentations**

Carroll L.R.: "Design and Performance Characteristics of a Production Model Positron Imaging System", IEEE Trans. Nucl. Sci.,NS-25, Feb, 1978.

Hendry G.O., Carroll L.R., Jenkins K.D., " A Pulse Selection and Shortening System for Cyclotrons", IEEE Trans. Nucl. Sci.,Vol. NS-26, No. 2, April, 1979.

Carroll L.R., Hendry G.O., and Currin J.D: "Design Criteria for Multi-Slice Positron Emission Computed Tomography Detector Systems", IEEE Trans. Nucl. Sci.,NS-27, Feb., 1980

Carroll L.R.: "Underlying Concepts in Positron Computed Tomography System Design", Invited Paper, ANS International Conference, Washington, DC, Nov. 1980.

Carroll L. R., Nutt R., Casey M.: "Modeling a Multi-Crystal Detector Block for PET", (abstract) J. Nucl. Med., June, 1985.

Hendry G.O., Straatmann M.G., Carroll L.R., Ramsey F.A., Wieland B.W., Padgett H.C., Bida G.T., Schmidt D.S., Ruth T.J.: "Design and performance of a Compact Radioisotope Delivery System", Presented at the VI International Symposium on Radiopharmaceutical Chemistry Boston, MA, June 29-July 3, 1986. See also: (abstract) J. Nucl. Med., 27, P1018 (1986).

Carroll L.R., Pekrul E.: "Radiation Measurements in the Design and Evaluation of a Self-Shielded Accelerator for PET". Proceedings of the Twentieth Midyear Topical Meeting of the Health Physics Society. Reno, Nevada, Feb., 1987.

Carroll L.R., Pekrul E., Hendry G.O., et. al., "Radiation Measurements Related to the Design of a Self-Shielded Accelerator System for Routine Use in PET", Proceedings of the 34th Annual Meeting of the Society of Nuclear Medicine, Vol. 28, No. 4, April, 1987

Cehn J., Carroll L.R.: "Fast-Neutron Activation and Ultimate Decommissioning of a Cyclotron Vault", Health Physics of Radiation-Generating Machines; Proceedings of the 30th Midyear Topical Meeting of The Health Physics Society, San Jose, CA, Jan 5-8, 1997

Carroll L.R., Ramsey F.A.: "Technical, Logistical, and Administrative Aspects of Decommissioning and Shipping a Used Cyclotron Overseas", Health Physics of Radiation-Generating Machines; Proceedings of the 30th Midyear Topical Meeting of the Health Physics Society, San Jose, CA, Jan 5-8, 1997.

Carroll, L. R., 'Positron Emission Tomography – The Future of Functional Imaging', Presented at 2<sup>nd</sup> National Seminar in Nuclear Medicine, Kuala Lumpur, Malaysia. November, 1999.

Carroll L. R.: "Predicting Long-Lived, Neutron-Induced Activation of Concrete in a Cyclotron Vault", Poster Presentation at CAARI 2000 -- Conference on Applications of Accelerators in Research and Industry, Denton TX, Nov 1-4, 2000.

Carroll L. R., Ramsey F. A., Armbruster J., Montenero M.: "Recycling and Recommissioning a used Biomedical Cyclotron", Poster Presentation at CAARI 2000 -- 16th Conference on the Application of Accelerators in Research and Industry, Denton TX, Nov 1-4, 2000.

Carroll L. R. 'Commissioning and Decommissioning Used Cyclotrons', Invited talk at the 9th International Workshop on Targetry and Target Chemistry, Turku, Finland; May 23 - 25, 2002.

Carroll L.R.: "Estimating the Radiation Source Term for PET Isotope Targets", Poster Presentation at the 9th International Workshop on Targetry and Target Chemistry, Turku, Finland; May 23 - 25, 2002.

Carroll L. R. and Jackson M.A.: "Compact Solid State Detectors for PET RadioChemistry Applications" Poster Presentation at the 9th International Workshop on Targetry and Target Chemistry, Turku, Finland; May 23 - 25, 2002.

Ramsey, F., Carroll, L.R., Beamline Accessories and Enhancements for the RDS-112 Cyclotron; Poster Presentation at 15th International Symposium on Radiopharmaceutical Chemistry, 10 - 14 August, 2003, Sheraton on the Park, Sydney, Australia.

Carroll, L. R., A Compact Stack Monitor Radiation Sensor for PET Radiochemistry Laboratories. 15th International Symposium on Radiopharmaceutical Chemistry 10 - 14 August 2003 Sheraton on the Park, Sydney, Australia.

Carroll, L., On-site inspection tour and analysis, followed by (un-published) reports submitted to sponsoring agency; 'Preliminary Report on Consultancy on Radiation shielding of a 30 MeV cyclotron' and 'Radiation Protection for A 30 MeV Cyclotron Facility', IAEA Technical Cooperation Expert Mission, Project KAZ6007 03, Institute for Nuclear Physics, Almaty, Kazakhstan, March - April, 2006.

Ramsey, F.; Carroll, L. R.; Rathmann, T; et al, "Converting an AEG Cyclotron to H-Acceleration and extraction". 24th Conference on the Application of Accelerators in Research and Industry, Denton TX, 2008.

Carroll, L.R. 'Extending a Scintillation Detector's Dynamic Range', 13<sup>th</sup> International Workshop on Targetry and Target Chemistry, Roskilde, Denmark, July, 2010

Carroll, L. R. 'Achieving a Linear Dose-Rate Response in Pulse-Mode Silicon Photo-Diode Scintillation Detectors Over a Wide Range of Excitations', ( CRETE13) Conference on Applications of Nuclear Techniques, Crete, Greece, June, 2013. Posted on-line at <<http://www.worldscientific.com/doi/pdf/10.1142/S2010194514601367>>

Carroll, L. R., ' Characterization of Inductive Loop Coupling in a Cyclotron Dee Structure'; Conference on the Application of Accelerators in Research and Industry, Denton TX, Nov,, 2016, Posted on-line <<https://www.sciencedirect.com/science/article/pii/S1875389217301979>>