



Radiological Physics Center  
The University of Texas M. D. Anderson Cancer Center  
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THE UNIVERSITY OF TEXAS  
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*Making Cancer History™*

## REPORT TO THE AAPM THERAPY PHYSICS COMMITTEE

### Report No. 131

July 1, 2008 – September 15, 2008

Due to the short interval since our previous report, this report will be quite brief.

### Personnel

No changes

### Institutions monitored

The RPC is aware of 2866 radiation therapy facilities in the United States. Of these, the RPC is monitoring 1601. Internationally, a total of 61 institutions are presently being monitored, of which 32 are in Canada and 29 are elsewhere in the world. Many international institutions are being added through an agreement with the EORTC. This agreement was reaffirmed at the recent ESTRO meeting. EORTC expects member institutions to make arrangements for monitoring from one of several auditing services. The RPC is recommended to these institutions.

### TLD Audits

In the previous report, we reported that 67 institutions were more than 120 days delinquent in returning their TLD shipments. Our pursuit of these institutions produced an unusually large volume of delinquent packages being returned, yet the number of institutions with delinquent status has risen to 93.

The RPC has conducted an evaluation of optically-stimulated luminescence (OSL) technology as a replacement for TLD. An oral presentation was made at the AAPM annual meeting and a poster was presented at ASTRO.

### Credentialing Procedures

Several new phantoms have been built in the last couple of months, to address the increasing demand for credentialing for advanced technology clinical trials.

### Preparations for Proton Beam Protocols

All five existing clinical proton therapy centers have been monitored with TLD. Preparations are being made to begin on-site dosimetry audit visits in the near future. The equipment for making the measurements was ordered in May, but some has not yet been delivered. In the meantime,

we have been developing the procedures and modifying some existing equipment to facilitate measurements.

In addition, several models of the RPC's pelvis phantom have been modified to enable their use with proton beams. It is expected that these phantoms will be used to credential facilities to participate in an upcoming prostate protocol.

### PARTICIPANT FEE:

Institutions invoiced FY09	1560
No XRT/Canceled/Inactive	4
Invoiced by RDS	1
Institutions paid	12

### PUBLICATIONS AND ABSTRACTS

#### Publications Accepted/Published (2005-present):

1. Cho S, Vassiliev O, Lee S, Liu H, Ibbott G, Mohan R. Reference photon dosimetry data and reference phase space data for the 6 MV photon beam from Varian Clinac 2100 series linear accelerators. *Med. Phys.* 32:137-48, 2005.
2. Molineu A, Followill DS, Balter PA, Hanson WF, Gillin MT, Huq MS, Eisbruch A, Ibbott GS. Design and Implementation of an Anthropomorphic Quality Assurance Phantom for Intensity Modulated Radiation Therapy for the Radiation Oncology Group. *Int. J. of Radiat. Oncol. Biol. Phys.* 63:577-83, 2005.
3. Williamson J, Butler W, DeWerd L., Huq M, Ibbott G, Li, Z, Mitch M, Nath R, Rivard M, Todor D. Recommendations of the American Association of Physicists in Medicine regarding the Impact of Implementing the 2004 Task Group 43 report on Dose Specification for 103Pd and 125I Interstitial Brachytherapy. *Med. Phys.* 32:1424-39, 2005.
4. Zhang G, Guerrero T, Segars W, Huang T, Bilton S, Lin KP, Ibbott G, Dong L, Forster K. Elastic Image Mapping for 4D Dose Estimation in Thoracic Radiotherapy. *Radiation Protection Dosimetry* 115:497-502, 2005.



5. Gifford KA, Horton Jr. JL, Jackson EF, Steger III TR, Heard MP, Mourtada F, Lawyer AA, Ibbott GS. Comparison of Monte Carlo calculations around a Fletcher Suit Delclos ovoid with radiochromic film and normoxic polymer gel dosimetry. *Medical Physics* 32:2288-94, 2005.
6. Cho SH. Estimation of tumor dose enhancement due to gold nanoparticles during typical radiation treatments: A preliminary Monte Carlo study. *Physics in Medicine and Biology* 50:163-73, 2005.
7. Kry SF, Salehpour M, Followill DS, Stovall M, Kuban DA, White RA, Rosen II. Out-of-Field Photon and Neutron Dose Equivalents from Step-and-Shoot Intensity-Modulated Radiation Therapy. *Int J Radiat Oncol Biol Phys* 62:1204-16, 2005.
8. Kry SF, Salehpour M, Followill DS, Stovall M, Kuban DA, White RA, Rosen II. The Calculated Risk of Fatal Secondary Malignancies from Intensity-Modulated Radiation Therapy. *Int J Radiat Oncol Biol Phys* 62:1195-1203, 2005.
9. Halvorsen H, Das IJ, Fraser M, Freedman DJ, Rice III RE, Ibbott GS, Parsai EI, Robin Jr. TT, Thomadsen BR. AAPM Task Group 103 Report on Peer Review in Clinical Radiation Oncology Physics. *Journal of Applied Clinical Medical Physics* 6:50-64, 2005.
10. Tailor RC, Hanson WF, Wells N, Ibbott GS. Consistency of absorbed dose to water measurements using 21 ion-chamber models following the AAPM TG51 and TG21 calibration protocols. *Med Phys* 33:1818-28, 2006.
11. Randall M, Ibbott GS. Intensity-modulated radiation therapy for gynecologic cancers: pitfalls, hazards, and cautions to be considered. *Seminars in Radiat Oncol* 16:138-43, 2006.
12. Briere TM, Tailor R, Tolani N, Prado K, Lane R, Woo S, Ha C, Gillin MT, Beddar S. Patient dosimetry for total body irradiation using single-use MOSFET detectors. Submitted to *Medical Physics*, 2006.
13. Minniti R, Chen-Mayer H, Seltzer SM, Huq MS, Bryson L, Slowey T, Micka JA, DeWerd LA, Wells N, Hanson WF, Ibbott GS. The US radiation dosimetry standards for  $^{60}\text{Co}$  therapy level beams, and the transfer to the AAPM accredited dosimetry calibration laboratories. *Med Phys* 33: 1074-7, 2006.
14. Ibbott G, Molineu A, Followill D. Independent evaluations of IMRT through the use of an anthropomorphic phantom. *Technology in Cancer Research and Treatment* 5:481-8, 2006.
15. Timmerman R, Galvin J, Michalski J, Straube W, Ibbott G, Martin E, Abdulrahman R, Swann S, Fowler J, Choy H. Accreditation and quality assurance for Radiation Therapy Oncology Group: Multicenter clinical trials using Stereotactic Body Radiation Therapy in lung cancer. *Acta Oncologica* 45:779-86, 2006.
16. Kry SF, Titt U, Ponisch F, Followill D, Vassiliev ON, White RA, Mohan R, Salehpour M. A monte carlo model for calculating out-of-field dose from a varian 6 MV beam. *Med Phys* 33:4405-4413, 2006.
17. Ibbott GS, Hanson WF, Martin E, Kuske RR, Arthur D, Rabinovitch R, White J, Wilenzick RM, Harris I, Tailor RC. Dose specification and quality assurance of RTOG protocol 95-17; a cooperative group study of 192Ir breast implants as sole therapy. *Int J of Radiat Oncol Biol Phys* 69:1572-78, 2007.
18. Li Z, Das RK, Dewerd LA, Ibbott GS, Meigooni AS, Perez-Calatayud J, Rivard MJ, Sloboda RS, Williamson JF. Dosimetric Prerequisites for Routine Clinical Use of Photon Emitting Brachytherapy Sources with Average Energy Higher than 50 Kev. *Med Phys* 34:37-40, 2007.
19. Mann AL, Kim JE, Aaberg T, Blair NP, Dierner-West M, Followill D, Gilson MM, Olsen KR, Hawkins BS. Incidence of cataract and outcomes after cataract surgery in the first 5 years after  $^{125}\text{I}$  brachytherapy in the COMS: COMS report No. 27. *Ophthalmology* 114:1363-71, 2007.
20. Kry SF, Followill D, White RA, Stovall M, Kuban D, Salehpour M. Uncertainty of calculated risk estimates for malignancies after radiotherapy. *Int J Radiat Oncol Biol Phys* 68:1265-71, 2007.
21. Kry SF, Titt U, Followill D, Ponisch F, Vassiliev ON, White RA, Stovall M, Salehpour M. A monte carlo model for calculating out-of-field dose from a high-energy photon therapy. *Med Phys* 34:3489-99, 2007.
22. Davidson, S, Ibbott G, Prado K, Dong L, Liao Z, Followill D. Accuracy of two heterogeneity dose calculation algorithms for IMRT in treatment plans designed using an anthropomorphic thorax phantom. *Medical Physics* 34:1850-57, 2007.

23. Followill D, Evans-Radford D, Cherry C, Molineu A, Fisher G, Hanson WF, Ibbott G. Design, Development, and Implementation of the Radiological Physics Center's Pelvis and Thorax Anthropomorphic Quality Assurance Phantoms. *Medical Physics* 34:2070-76, 2007.
24. Rivard MJ, Butler WM, DeWerd LA, Huq MS, Ibbott GS, Meigooni AS, Melhus CS, Mitch MG, Nath R, Williamson JF. Supplement to the 2004 update of the AAPM Task Group No. 43 Report. *Medical Physics* 34:2187-2205, 2007.
25. Frey GD, Ibbott GS, Morin RL, Paliwal BR, Thomas SR, Bosma J. The American Board of Radiology perspective on maintenance of certification: Part IV: Practice quality improvement in radiologic physics. *Medical Physics* 34:4158-63, 2007.
26. Ibbott GS, Followill DS, Molineu HA, Lowenstein JR, Alvarez PE, Roll JE. Challenges in credentialing institutions and participants in advanced technology multi-institutional clinical trials. *Int J of Radiat Oncol Biol Phys* 71:S71-5, 5/2008.
27. Butler WM, Bice WS, DeWerd LA, Hevezi JM, Huq MS, Ibbott GS, Palta JR, Rivard MJ, Seuntjens JP, Thomadsen BR. Third-party brachytherapy source calibrations and physicist responsibilities: report of the AAPM Low Energy Brachytherapy Source Calibration Working Group. *Medical Physics* 35:3860-5, 2008.
28. Youngyih Han, et al. Dosimetry in an IMRT phantom designed for a remote monitoring program. *Medical Physics* 35:2519, 2008.
29. Ibbott GS, Ma CM, Rogers DWO, Seltzer SM, Williamson JF. Anniversary Paper: Fifty years of AAPM involvement in radiation dosimetry. *Medical Physics*, 35:1418, 2008.
30. Taylor RC, Ibbott GS, Tolani N. Thermoluminescence dosimetry measurements of brachytherapy sources in liquid water. *Medical Physics* 35:4063-9, 2008.
- Correlation of Results with Institution Size. *Medical Physics* 32:1983-4, 2005.
3. Davidson S, Followill D, Ibbott G, Prado K. The Evaluation of Several Commercial IMRT Treatment Planning Systems Heterogeneity Dose Calculation Algorithms Using An Anthropomorphic Thorax Phantom. *Medical Physics* 32:1988, 2005.
4. Homann K, Gates B, Salehpour M, Followill D, Kirsner S, Buchholz T, White R, Prado K. Evaluation of the Dose Within the Abutment Region Between Tangential and Supraclavicular Fields for Various Breast Irradiation Techniques. *Medical Physics* 32: 1995, 2005.
5. Lowenstein J, Roll J, Davis C, Holguin P, Duong H, Followill D, Ibbott G. Credentialing Requirements for NSABP B-39 / RTOG 0413. *Medical Physics* 32:2020-1, 2005.
6. Alvarez P, Molineu A, Hernandez N, Followill D, Ibbott G. Evaluation of Doses Delivered by SBRT to the Lung of An Anthropomorphic Thorax Phantom. *Medical Physics* 32: 2043, 2005.
7. Followill D, Molineu A, McGary J, Ibbott G. Clinical Reference Dosimetry of a "Hi-Art II" Helical Tomotherapy Machine. *Medical Physics* 32:2089, 2005.
8. Followill D, Lowenstein J, Jhingran A, Roll J, Hernandez N, Ibbott G. The Radiological Physics Center's Anthropomorphic Quality Assurance Phantom Family: New Developments. *Medical Physics* 32:2129, 2005.
9. Shoales J, Followill D, Ibbott G, Balter P, Tolani N. Development of An Independent Audit Device for Remote Verification of 4D Radiotherapy. *Medical Physics* 32:2128, 2005.
10. Followill D, Molineu A, McGary J, Hernandez N, Ibbott G. Evaluation of the Tomotherapy Planning Station Heterogeneity Correction Algorithm Using An Anthropomorphic Phantom. *Medical Physics* 32:2167, 2005.

### **Abstracts**

1. Kry S, Titt U, Poenisch F, Followill D, Vassiliev O, Mohan R, Salehpour M. A Monte Carlo Simulation of Out-Of-Field Radiation From An 18-MV Beam. *Medical Physics* 32: 1889, 2005.
2. Molineu A, Hernandez N, Alvarez P, Followill D, Ibbott G. IMRT Head and Neck Phantom Irradiations:
11. Bencomo J, Macey D, Lawyer A. Verification of Dose Point Kernels for Ir-192 Brachytherapy. *Medical Physics* 32:1951, 2005.
12. Bencomo J, Weathers R, Stovall M, Ibbott G. Reference Electron Beam Dosimetry Data Set: A Preliminary Analysis. *Medical Physics* 32:1999, 2005.

13. Heard M, De La Mora A, Adamovics J, Ibbott G. Evaluation of a New 3D Polyurethane Dosimeter for IMRT Verification. *Medical Physics* 32:2167, 2005.
14. Vass H, Ibbott G. Comparison of PDR Iridium and LDR Cesium Through Monte Carlo Simulation. *Medical Physics* 32:1955, 2005.
15. Yoder R, Ibbott G. Needs in Ionizing Radiation Measurements and Standards. *Medical Physics* 32:2053, 2005.
16. Lowenstein J, Roll J, Ibbott G. Common Dosimetry Errors in Cervix Patients Treated with Brachytherapy on Clinical Trials. *Medical Physics* 32:2107, 2005.
17. Ibbott G. The Radiological Physics Center's QA Activities. *Medical Physics* 32:2153-4, 2005.
18. Briere TM, Tailor RC, Tolani NB, Prado KL, Lane RG, Woo SY, Ha CS, Gillin MT, Beddar AS. In Vivo Dosimetry Using Disposable MOSFET Dosimeters for Total Body Irradiation. *Medical Physics* 32:1996, 2005.
19. Schild SE, McGinnis WL, Graham D, Hillman S, Ibbott G, Northfelt D, Garces Y, Yee G, Bollinger J, Jett J. Results of a Phase I Trial of Concurrent Chemotherapy and Escalating Doses of Radiation for Unresectable Non-Small Cell Lung Cancer. *International Journal of Radiation Oncology Biology Physics* 63:S44, 2005.
20. Molineu A, Alvarez P, Hernandez N, Followill DS, Ibbott GS. Analysis of Errors Made During 138 IMRT Irradiations of an Anthropomorphic Phantom. *International Journal of Radiation Oncology Biology Physics* 63:S58, 2005.
21. Simon W, Kozelka J, Rose M, Liu C, Palta J, Dempsey J, Lynch B, Bayouth J, Pavord D, Ibbott G, Followill D. LINAC dosimetry: benchmark data set uncertainty. *Med Physics* 33:2118, 2006.
22. Kry S, Followill D, White R, Salehpour M. Uncertainty analysis of risk of secondary fatal malignancies from radiotherapy treatments including IMRT. *Med Physics* 33:2257, 2006.
23. Simon W, Kozelka J, Rose M, Liu C, Palta J, Dempsey J, Lynch B, Bayouth J, Pavord D, Ibbott G, Tailor R, Followill D. LINAC dosimetry: benchmark data set requirements. *Med Physics* 33:2118, 2006.
24. Lowenstein J, Davis C, Roll J, Harris I, Hall F, Followill D, Ibbott G. The credentialing process for the NSABP B-39/RTOG 0413 partial breast irradiation trial. *Med Physics* 33:2140, 2006.
25. Alvarez P, Hernandez N, Followill D, Tailor R, Ibbott G. Characterization of EBT versus MD55 gafchromic® films for relative dosimetry measurements. *Med Physics* 33:2217-18, 2006.
26. Hecox R, Gibbons J, Followill D, Ibbott G. Dose calculation accuracy in the presence of high-z materials using megavoltage CT for treatment planning. *Med Physics* 33:2087-8, 2006.
27. Howell R, Kry S, Followill D, Hertel N, Wang Z, Salehpour M. Investigation of MLC effects on secondary neutron spectra for Varian, Siemens, and Elekta. *Med Physics* 33: 2249-50, 2006.
28. Alvarez P, Molineu A, Hernandez N, Followill D, Ibbott G. Evaluation of heterogeneity corrections algorithms through the irradiation of a lung phantom. *Med Physics* 33:2214, 2006.
29. Followill D, Molineu A, Alvarez P, Ibbott G. The state of radiotherapy physics through the eyes of a quality auditor. *Med Physics* 33:2283, 2006.
30. Davidson S, Prado K, Ibbott G, Followill D. Heterogeneity dose calculation accuracy in IMRT using an anthropomorphic thorax phantom. *Med Physics* 33:2106, 2006.
31. Followill D, Kry S, Salehpour M. Measurements of secondary radiation for electron and proton accelerators. *Med Physics* 33:2238-9, 2006.
32. Alvarez P, Molineu A, Hernandez N, Followill D, Ibbott G. A Comparison of Heterogeneity Correction Algorithms within a Lung PTV. *Med Phys* 34:2521, 6/2007.
33. Davidson S, Popple R, Ibbott G, Followill D. A Comprehensive Study on the Heterogeneity Dose Calculation Accuracy in IMRT using an Anthropomorphic Thorax Phantom. *Med Phys* 34:2520, 6/2007.
34. Martin R, Bencomo J, Martin M, Bankson J, Heard M, Kaluarachchi K, Webb D, Wells N, Ibbott G. A Method for Extracting the Relevant MRI Information from Normoxic Polymer Gels Exposed to Low Doses. *Med Phys* 34:2405, 6/2007.
35. Nitsch P, Ibbott G, Dieterich S, Followill D. Assessment of CyberKnife's Heterogeneity Dose

- Calculation Algorithm and Respiratory Tracking System using an Anthropomorphic Thorax Phantom. *Med Phys* 34:2641-42, 6/2007.
36. Davidson S, Cui J, Followill D, Ibbott G, Deasy J. Benchmarking a Flexible Monte Carlo (MC) Tool Based on the Dose Planning Method (DPM) for use in evaluating IMRT Treatment Planning Systems. *Med Phys* 34:2574-75, 6/2007.
  37. Tailor R, Ibbott G, Tolani N. Design of a Jig for Thermoluminescence Dosimetry of Brachytherapy Sources in Liquid Water and the Determination of a Correction Factor for Water-Equivalent Plastics. *Med Phys* 34:2432, 6/2007.
  38. Ibbott G. Developing Medical Physics Technical Standards through the AAPM and ANSI. *Med Phys* 34:2519-20, 6/2007.
  39. Heard M, Adamovics J, Ibbott G. Development of a Modified 3D Radiochromic Dosimeter for Clinical Proton Beams. *Med Phys* 34:2435, 6/2007.
  40. Tailor R, Ibbott G, Lampe S, Bivens W, Tolani N. Dosimetric Characterization of Model CS-1 1131Cs Source by Thermoluminescence Dosimetry in Liquid Water. *Med Phys* 34:2239, 6/2007.
  41. Han Y, Shin EH, Yoon MK, Lee SB, Ju SG, Lim CL, Park SH, Kang SK, Lah JE, Cho SH, Ibbott G, Ahn YC. Dosimetry in an IMRT Phantom Designed for a Remote Auditing Program. *Med Phys* 34:2444, 6/2007.
  42. Bivens W, Ibbott G, Maryanski M, Heard M, Followill D, Zhu X. Linear Energy Transfer (LET) Dependence of BANG® Polymer Gel Dosimeters in Proton Beams. *Med Phys* 34:2467, 6/2007.
  43. Ibbott G. Requirements for Addressing Respiratory Motion in Cooperative Group Clinical Trials. *Med Phys* 34:2615-16, 6/2007.
  44. Ibbott G. RPC Programs. *Med Phys* 34:2584, 6/2007.
  45. Homnick J, Ibbott G, Springer A, Aguirre F. OSL Dosimeters can be used for Remote Dosimetry. *Int J of Radiat Oncol Biol Phys* 72(1):S672-3, 2008.
  46. Cui J, Davidson S, Willcut V, El Naqa I, Followill D, Ibbott G, Deasey J. Comparisons of a Monte Carlo IMRT Plan Recalculation Results with the Pinnacle Treatment Planning System. *Medical Physics* 35(6):2759, 6/2008.
  47. Vinogradskiy Y, Starkschall G, Balter P, Followill D. Deformable Lung Phantom for Verification of 4D Dose Calculations. *Medical Physics* 35(6):2791, 6/2008.
  48. Molineu A, Lowenstein J, Hernandez N, Alvarez P, Followill D, Ibbott G. Has IMRT Delivery Improved in the Last 5 Years? *Medical Physics* 35(6):2762, 6/2008.
  49. Heard M, Followill D, White R, Jackson E, Salehpour M, Ibbott G. Identification of a 3D Dosimeter Best-Suited for Use by the RPC. *Medical Physics* 35(6):2889, 6/2008.
  50. Wang Z, Kry S, Burgett E, Howell R, Tailor R, Oliver J, Followill D, Smith A, Salehpour M. Measurement of Neutron Spectrum and Ambient Dose Equivalent Around a Mini-Phantom at a Proton Therapy Facility. *Medical Physics* 35(6):2982, 6/2008.
  51. Xu XG, Followill D. Out-of-Field Dosimetry for Secondary Cancer Studies: Past Experience and Future Needs. *Medical Physics* 35(6):2857, 6/2008.
  52. Followill D, Molineu, Lowenstein J, Alvarez P, Aguirre J, Ibbott G. Quality Audits of the Calibration for TG-51 Non-Compliant Beams by the Radiological Physics Center. *Medical Physics* 35(6):2774, 6/2008.
  53. Bellon M, Followill D, Ibbott G, White R, Salehpour M, Mahajan A, Kry S, Ding C. Risk of Secondary Fatal Malignancies from Cyberknife Radiosurgery. *Medical Physics* 35(6):2983, 6/2008.
  54. Price M, Eifel P, Gifford K, Zhang M, Followill D, Gillin M, Mourtada F. The Imaging and Dosimetric Capabilities of a Novel CT/MR-Suitable, Anatomically Adaptive, Shielded HDR/PDR Intracavitary Brachytherapy Applicator for the Treatment of Cervical Cancer. *Medical Physics* 35(6):2855, 6/2008.
  55. Davidson S, Cui J, Deasy J, Ibbott G, Followill D. Verification of a Monte Carlo-Based Source Model for a Varian 10 MV Photon Beam. *Medical Physics* 35(6):2804, 6/2008.

#### **Invited Articles**

1. Ibbott GS. The medical physics consult - gel dosimetry. *J of the Amer College of Radiol* 3:144-6, 2006.

#### **Letters to the Editor/Newsletters**

1. Nag S, Cardenas H, Chang S, Das IJ, Ibbott GS,

Thomadsen B, Varia M. Reply to GEC-ESTRO-GYN letter. *Int. J. of Radiation Oncology, Biol. Phys.* 62:295-6, 2005.

2. Nag S, Cardenas H, Chang S, Das IJ, Ibbott GS, Lowenstein J, Roll J, Thomadsen B, Varia M. Reply to Narayan et al regarding ROB-D-05-00575. *Int. J. of Radiation Oncology, Biol. Phys.* 63:645-6, 2005.
3. Butler WM, Huq MS, Li Z, Thomadsen BR, DeWerd LA, Ibbott GS, Mitch MG, Nath R, Rivard MJ, Williamson JF, Yue NJ, Zaider M. Third party brachytherapy seed calibrations and physicist responsibilities. *Medical Physics* 33:247-8, 2006.
4. Meigooni AS, DeWerd LA, Rivard MJ, Butler WM, Melhus CS, Nath R, Ibbott GS, Seuntjens JP. Response to "The need for a dose calibration protocol for brachytherapy sources". *Medical Physics* 34:367-368, 2007.

#### **Book Chapters**

1. Galvin JM, Ibbott GS. Commissioning and accreditation of a stereotactic body radiation therapy program. In: *Stereotactic Body Radiation Therapy*, Lippincott Williams & Wilkins, Philadelphia, pp. 85-93, 2005.
2. Ibbott GS. Radiation dosimetry: 3-dimensional. In: Webster JC, *Encyclopedia of Medical Devices and Instrumentation*, John Wiley & Sons, Hoboken, pp. 481-500, 2006.
3. Ibbott GS. Radiation Physics. In: *Handbook of Radiation Oncology*. Ed(s) Haffty BG, Wilson LD. Jones & Bartlett: Sudbury, 1-40, 2008.

#### **PRESENTATIONS**

##### **INTERNATIONAL ACTIVITIES**

Geoffrey Ibbott attended the UNSCEAR Meeting, Vienna, Austria, July 13-18, 2008.

Geoffrey Ibbott gave a seminar presentation at ABR PQI Summit, Chicago, IL, August 9, 2008.

Geoffrey Ibbott gave presentations at Argonne National Laboratory, August 25, 2008.

Geoffrey Ibbott attended the ESTRO Meeting, Gotenborg, Sweden, September 14-18, 2008.

#### **VISITS TO INSTITUTIONS**

1. Francisco Aguirre performed radiological physics measurements and reviewed patient dosimetry at the University of Iowa Hospital, Iowa City, IA, September 2-4, 2008.
2. Francisco Aguirre performed radiological physics measurements and reviewed patient dosimetry at the Northwestern Memorial Hospital and Mount Sinai Hospital, Chicago, IL, September 8-11, 2008.
3. Paola Alvarez performed radiological physics measurements and reviewed patient dosimetry at the Northwestern Memorial Hospital and Mount Sinai Hospital, Chicago, IL, September 8-11, 2008.
4. David Followill performed radiological physics measurements and reviewed patient dosimetry at the University of Utah Huntsman Cancer Center, Salt Lake City, UT; St. Mark's Hospital, Salt Lake City, UT; Utah Cancer Specialists, Salt Lake City, UT; and Intermountain Medical Center, Murray, UT, August 4-7, 2008.
5. Jessica Lowenstein Leif performed radiological physics measurements and reviewed patient dosimetry at the University of Utah Huntsman Cancer Center, Salt Lake City, UT; St. Mark's Hospital, Salt Lake City, UT; Utah Cancer Specialists, Salt Lake City, UT; and Intermountain Medical Center, Murray, UT, August 4-7, 2008.
6. Geoffrey Ibbott performed radiological physics measurements and reviewed patient dosimetry at the University of Florida, Gainesville, FL, July 7-9, 2008.
7. Andrea Molineu performed radiological physics measurements and reviewed patient dosimetry at the University of Chicago, Chicago, IL, July 14-17, 2008.

#### **MEETINGS ATTENDED**

(July 1, 2008 – September 15, 2008)

1. Francisco Aguirre attended the AAPM Annual Meeting, Houston, TX, July 26-30, 2008.
2. Paola Alvarez attended the AAPM Annual Meeting, Houston, TX, July 27-31, 2008.
3. Maria Bellon attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.

4. Scott Davidson attended the AAPM Annual Meeting, Houston, TX, July 27-30, 2008.
5. Cindy Davis attended the AAPM Annual Meeting, Houston, TX, July 28-31, 2008.
6. David Followill attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
7. Irene Harris attended the AAPM Annual Meeting, Houston, TX, July 28-31, 2008.
8. Malcolm Heard attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
9. Nadia Hernandez attended the AAPM Annual Meeting, Houston, TX, July 27-31, 2008.
10. Jaclyn Homnick attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
11. Geoffrey Ibbott attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
12. Stephanie Lampe attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
13. Jessica Lowenstein Leif attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
14. Jessica Lowenstein Leif attended the GOG Meeting, Chicago, IL, July 17-19, 2008.
15. Andrea Molineu attended the AAPM Annual Meeting, Houston, TX, July 26-31, 2008.
16. Joye Roll attended the AAPM Annual Meeting, Houston, TX, July 28-31, 2008.
17. Elizabeth Siller attended the AAPM Annual Meeting, Houston, TX, July 24-31, 2008.
18. Joye Roll attended the GOG Meeting, Chicago, IL, July 17-19, 2008.

Respectfully submitted,



Geoffrey S. Ibbott, Ph.D.

**EXPENDITURES OF THE RADIOLOGICAL PHYSICS CENTER  
 (RPC Grant and the Advanced Technology Subcontract)**

July 1, 2008 – September 15, 2008

**PERSONNEL (salaries, fringe benefits):** **\$332,801**

7 Physicists, 1 Supervisor of Quality Assurance Dosimetry Services, 1 Sr. QA Dosimetrist, 3 QA Dosimetrists, 1 Informatics Manager, 1 Database Administrator, 1 Programmer Analyst I, 1 Radiological Physics Supervisor, 5 Radiological Physics Technicians, 1 Coordinator of Research Data, 1 Department Administrator, 1 Office Manager, 1 Sr. Administrative Assistant, 1 Administrative Assistant, 1 Sr. Secretary, 1 Secretary and 5 Graduate Research Assistants.

**TRAVEL**

**July 1, 2008 to September 15, 2008**

<b>Visits:</b>	<b>Date:</b>		
Aguirre, Francisco	9/2-4/08	University of Iowa Hospital, Iowa City, IA	\$1,687.62
Aguirre, Francisco	9/8-11/08	Northwestern Memorial Hospital and Mount Sinai Hospital, Chicago, IL	\$1,072.95
Alvarez, Paola	9/8-10/08	Northwestern Memorial Hospital and Mount Sinai Hospital, Chicago, IL	\$1,000.54
Followill, David	8/4-7/08	Visited 4 institutions University of Utha, St. Mark's Hosp. (11151 and 10706) in Utah	\$996.28
Ibbott, Geoffrey	7/7-9/08	Univ. of Florida, Gainesville, FL	\$1,267.75
Leif, Jessica	8/4-7/08	Visited 4 institutions University of Utha, St. Mark's Hosp. (11151 and 10706) in Utah	\$837.94
Molineu, Andrea	7/14-17/08	University of Chicago, Chicago, IL	\$868.74
<b>Total</b>			<b>\$7,731.82</b>

**Meetings:**

Aguirre, Francisco	7/26-30/08	AAPM Meeting, Houston, TX	\$67.94
Alvarez, Paola	7/27-31/08	AAPM Meeting, Houston, TX	\$60.00
Bellon, Maria	7/26-31/08	AAPM Meeting, Houston, TX	\$45.00
Davidson, Scott	7/27-30/08	AAPM Meeting, Houston, TX	\$60.00
Davis, Cindy	7/28-31/08	AAPM Meeting, Houston, TX	\$55.00
Followill, David	7/26-31/08	AAPM Meeting, Houston, TX	\$90.00
Harris, Irene	7/28-31/08	AAPM Meeting, Houston, TX	\$25.00
Heard, Malcolm	7/26-31/08	AAPM Meeting, Houston, TX	\$60.00
Hernandez, Nadia	7/27-31/08	AAPM Meeting, Houston, TX	\$49.00
Homnick, Jaclyn	7/26-31/08	AAPM Meeting, Houston, TX	\$60.00
Ibbott, Geoffrey	7/26/31/08	AAPM Meeting, Houston, TX	\$90.00
Lampe, Stephanie	7/26-31/08	AAPM Meeting, Houston, TX	\$35.00
Leif, Jessica	7/17-19/08	GOG Meeting, Chicago, IL	\$814.33
Leif, Jessica	7/26-31/08	AAPM Meeting, Houston, TX	\$70.00
Molineu, Andrea	7/26-31/08	AAPM Meeting, Houston, TX	\$85.00
Roll, Joye	7/17-19/08	GOG Meeting, Chicago, IL	\$731.62
Roll, Joye	7/28-31/08	AAPM Meeting, Houston, TX	\$60.00
Siller, Elizabeth	7/24-31/08	AAPM Meeting, Houston, TX	\$60.00
<b>Total</b>			<b>\$2,517.89</b>

**CONSULTANTS**

**SUPPLIES:**

Office supplies, laboratory and record keeping, TLD, TLD supplies, software, equipment, etc.

**-0-**  
**\$20,708**



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<b>OTHER EXPENSE:</b>	<b>\$48,917</b>
Postage, telephone, reprints, copying, computer fees, equipment repair, registration fees, tuition, freight/delivery, etc.	
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<b>SPACE RENTAL:</b>	<b>\$42,716</b>
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<b>Total Expenditures July 1, 2008 – September 15, 2008</b>	<b>\$455,391.71</b>
<b>Indirect costs @ 26%</b>	<b>\$118,401.84</b>
<b>TOTAL</b>	<b>\$573,793.55</b>

**RPC Report to TPC September 2008**

<u>Clinical Study Groups</u>	<u>Office Reviewing Patient Records</u>	<u>Special Projects</u>
Gynecologic Oncology Group GOG	RPC	Radiotherapy manual Electronic Transfer of Patient Records Image Based Treatment Planning IMRT Guidelines Defining Treatment violations
National Surgical Adjuvant Breast and Bowel Project NSABP	RPC	IMRT Guidelines Partial Breast RT Credentialing
North Central Cancer Treatment Group NCCTG	RPC	Rapid Review of Lung Study 3D CRT Credentialing Stereotactic Phantom
Radiation Therapy Oncology Group RTOG	RTOG/RPC	IMRT H&N Phantom Prostate Phantom Prostate Implant Credentialing LDR/HDR Stereotactic Head Phantom Lung Phantom 4D Liver Phantom Cervix HDR/LDR Protocol Compliance Patient Calculation Program Partial Breast RT Credentialing IMRT Benchmark Case Lung Benchmark Case Spine Phantom
Southwest Oncology Group SWOG	QARC	3D Benchmark Case
Clinical Trial Support Unit CTSU	QARC, RPC, RTOG	RPC Institution List RTF Numbers TLD Monitoring Review RT Facility Questionnaire
American College of Radiology Imaging Network ACRIN	N/A	Participate in the development of guidelines for quality assurance of institution participating in ACRIN CT Dose Measurements
American College of Surgeons Oncology Group ACOSOG	QARC	RPC Institution List
Cancer and Acute Leukemia Group B CALGB	QARC	TRUS Prostate Approval Collaboration
Children's Oncology Group COG	QARC	3D Benchmark Case IMRT Benchmark Case/Phantom CT/MRI Fusion Benchmark
Eastern Cooperative Oncology Group ECOG	QARC	