The University of Texas Graduate School of Biomedical Sciences at Houston

The University of Texas Health Science Center at Houston

The University of Texas MD Anderson Cancer Center — Making Cancer History®

MEDICAL PHYSICS GRADUATE PROGRAM ALUMNI NEWSLETTER

From the Program Director:

Greetings…

It's been an eventful year since the last edition of the newsletter was published. As you will see in this issue, the Program and the departments supporting it have continued to grow. As I frequently note, the viability of the Program is due to the efforts of the faculty, staff, and current and former students. I would like to particularly thank George Starkschall, Deputy Program Director, and the members of the Program Steering Committee. In addition, the efforts of Georgeanne Moore and the support staff who contribute many hours to the Program are again gratefully acknowledged.

Please note that the Annual Alumni Luncheon **will** be held this year. Details on the luncheon are contained in this newsletter and I hope to see you there!

I hope you enjoy this issue of the newsletter, and please don't hesitate to let me or Georgeanne know if you have suggestions for future issues.

Sincerely,
Ed Jackson

Recruitment Statistics for Admitted Trainees to the Medical Physics Program for the Last Ten Years:

Year	PhD Program	SMS Program
2001	5	3
2002	5	4
2003	4	2
2004	4	2
2005	4	4
2006	6	5
2007	6	4
2008	10	8
2009	9	6
2010	13	7

2010 Applicant Data for the Students Admitted to the Specialized Masters and PhD Programs:

Program	Verbal GRE	Quantitative GRE	Analytical GRE	GPA
SMS	596	751	4.3	3.4
PhD	517	752	4.2	3.6

Members of the Incoming Class for Fall 2010:

SMS in Medical Physics Program
Jennelle Bergene / South Dakota State University
Kevin Casey / University of Texas - Austin
Yi-Pei Chen / University of California – San Diego
Jared Ohrt / University of Texas- Austin
Roman Repchak / Lviv Polytechnic Institute
Michael Silosky / University of Illinois - Urbana
Kevin Vredevoogd / Michigan State University

PhD Program in Medical Physics
Mitchell Carroll / Furman University
Jongmin Cho / University of British Columbia
Kathy Fleming / College of Dublin
Shuaiping Ge / Rice University*
Jesse Huang / Rice University
Luke Hunter / Texas A&M University
Timothy Jones / Abilene Christian University
Shane Krafft / Arizona State University
Christopher MacLellan / Univ of Massachusetts
Joshua Niedzielski / Michigan State University
Christopher Peeler / Louisiana State University
Daniel Smith / University of Notre Dame
Christopher Walker / Trinity University
**Started program Summer 2010*

Recent Graduates:

The following trainees completed their degree requirements in the 2009-10 academic year:

SMS in Medical Physics Program

- *Triston Dougall* -- Medical Physicist, Physics Associates, Roanoke, VA
- *Georgi Georgiev* -- Resident, University of Arizona, Tucson, AZ
- *Ryan Grant* -- Continuing on for PhD

- *Katie Hulme* -- Medical Physicist, The Cleveland Clinic, Cleveland, OH

(MS)PhD Program in Medical Physics

MS

- *Douglas Caruthers* -- Interviewing
- *Anneilise Giebeler* - Continuing on for PhD

PhD

- *Blake Cannon* – Medical Physicist, Advanced Radiation Physics Services, Inc.
- *Scott Davidson* – *Radiation Physicist,* The Methodist Hospital, Houston, TX
- *Malcolm Heard* -- Medical Physicist, Global Physics Solutions
- *Adam Melancon* – Radiation Oncology Physics Residency Program, MDACC
- *Dustin Ragan,* Postdoctoral Fellow, University of Washington-St. Louis. MO
- *Adam Riegel* – Medical Physicist, Long Island Jewish Medical Center
- *Brian Taylor* – Postdoctoral Fellow, St. Jude Children's Research Hospital

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Feedback from alumni is always welcomed by the Program! Please send all suggestions or comments to gmoore@mdanderson.org.

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Honors and Awards during the 2009-10 Academic Year:

Moiz Ahmad (Mentor: Tinsu Pan)

- ❖ Recipient of the 2010 Schissler Foundation M. D. Anderson Cancer Center Fellowship
- ❖ 3rd place winner of the SWAAPM Spring 2010 Meeting Young Investigator's Symposium

Ryan Grant (Mentor: Geoffrey Ibbott)

- ❖ Council on Ionizing Radiation Measurements & Standards (CIRMS) Travel Award

Malcolm Heard (*Mentor: Geoffrey Ibbott*)

- ❖ Recipient of the 2010 Aaron Blanchard Award in Medical Physics

Brad Lofton (*Mentor: Richard Wendt*)

- ❖ 2nd place winner of the SWAAPM Spring 2010 Meeting Young Investigator's Symposium

Adam Melancon (Mentor: Lei Dong)

- ❖ Finalist in the AAPM John R. Cameron Young Investigators Competition for 2010
- ❖ 2nd place winner of the SWAAPM Spring 2010 Meeting Young Investigator's Symposium

Sarah Scarboro (*Mentor: Stephen Kry*)

- ❖ Recipient of the American Legion Auxiliary Fellowship
- ❖ Finalist in the AAPM John R. Cameron Young Investigators Competition for 2010

Brian Taylor (Mentor: R. Jason Stafford)

- ❖ Recipient of the Andrew Sowell-Wade Huggins Scholarship
- ❖ 3rd place winner of the SWAAPM Fall 2009 Meeting Young Investigator's Symposium

Rui Zhang (Mentor: Lei Dong)

- ❖ Recipient of the Andrew Sowell-Wade Huggins Scholarship

Robert J. Shalek Fundraiser 11th Biennial Fundraiser

Sixty-nine M.S. and Ph.D. students have been supported by fellowships to date. In the current fundraising cycle, we have received $21,150 from 31 individuals, and $9,376 from corporations and others for a total of $30,526. The second round of letters for solicitation of donations for the 11th Biennial Fundraiser will be going out in September. If anyone has any questions on how to make a donation, they may contact Georgeanne Moore at (713) 563-2548 or by sending an email to: gmoore@mdanderson.org.

New Program Faculty and Associates 2009-10:

Clearly, the Program cannot succeed without the commitment of its faculty and associates. We are happy to report that the following faculty and program associate members have recently joined our Program.

New Program Faculty

Peter Balter, PhD, Associate Professor, Radiation Physics

Research Interests:

- Respiratory correlated imaging (4DCT)
- 4D treatment planning for radiation therapy
- Image guided radiation therapy

Mary Martel, PhD, Professor, Radiation Physics

Research Interests:

- Radiation physics
- Dose response studies
- Outcome analysis
- Biological modeling

Kyle Jone, PhD, Assistant Professor, Imaging Physics

Research Interests:

- Optimization of diagnostic imaging protocols (especially pediatrics) with regards to absorbed dose and image quality
- Phantom design and construction
- Radiation dosimeter design, construction, and testing
- Image quality assessment
- Image processing

S. Cheenu Kappadath, PhD, Assistant Professor, Imaging Physics

Research Interests:

- Quantitative SPET/CT
- Radiopharmaceutical dosimetry and therapy planning
- Optimization of clinical SPET/CT protocols

Rajat Kudchadker, PhD, Associate Professor, Radiation Physics

Research Interests:

- Radiation dosimetry
- Imaging and image fusion
- Clinical development
- Treatment machines

New ProgramAssociates

- *Paola Alvarez, MS, Jr. Medical Physicist*
- *Jessica Lowenstein Leif, MS, Sr. Medical Physicist*
- *Andrea Molineu, MS, Sr. Medical Physicist*

Annual UTMDACC Alumni Luncheon

The Annual UTMDACC Alumni Luncheon returns this year on:

Tuesday, July 20, 2010

Pennsylvania Convention Center

Room 111 AB

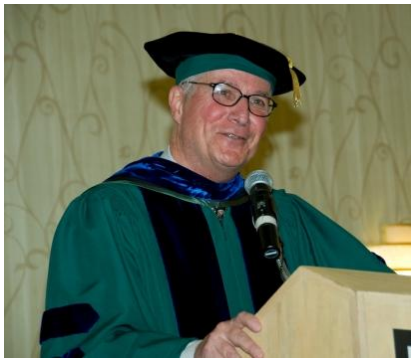
12:00 – 1:30 PM

GSBS Medical Physics Program Trainee Presentation Information for the Upcoming AAPM Meeting in Philadelphia, PA

Sunday, July 18, 2010 ***Imaging General Poster Discussion – Imaging*** 3:00 – 4:30 PM, Exhibit Hall	
Brad Lofton SU-GG-I-162	Multi-Resolution Cumulative Summation (CUSUM) Images for Monitoring Gamma Camera Detector Uniformity
Sunday, July 18, 2010 ***Joint Imaging/Therapy General Poster Discussion*** 3:00 – 4:30 PM, Exhibit Hall	
David Zamora SU-GG-J-28	Evaluation of Various MIP CT Images for Target Volume Delineation
Adam Yock SU-GG-J-46	Lower Spinal Cord Dosimetric Effects of Upper Field Image-Guided Alignment in Split Field IMRT Techniques
Joey Cheung SU-GG-J-146	Evaluation of Parotid Density Changes During IMRT of Head and Neck Cancer
Blake Cannon SU-GG-J-153	Voxel-Based Phenomenological SUV-Dose Response Model for the Human Parotid Glands
Daniel Robertson SU-GG-J-160	Monte Carlo Optimization of a Three-Stage Compton Camera for Prompt Gamma Imaging and Spectroscopy Materials and Geometry
Sunday, July 18, 2010 ***Therapy General Poster Discussion*** 3:00 – 4:30 PM, Exhibit Hall	
Justin Mikell SU-GG-T-39	Grid-Based Boltzmann Solver (GBBS) Vs TG-43 for Ir-192 Intracavitary Brachytherapy: A Retrospective Dosimetric Study
Kelly Kisling SU-GG-T-232	Evaluation of RapidArc Dose Delivery Using Radiological Physics Center Phantoms
Derek Yaldo SU-GG-T-303	Evaluation of the Sensitivity of the Anisotropic Analytical Algorithm (AAA) to the Commissioning Dataset
Scott Davidson SU-GG-T-375	A Custom-Developed Method for Accurate Dose Recalculation of Patient Plans Entered into Clinical Trials
Daniel Robertson SU-GG-T-460	Liquid Scintillator Dosimetry for Passive Scattering Proton Beam Quality Assurance
Rui Zhang SU-GG-T-461	Water Equivalent Thicknesses of Materials in Protons
Ryan Grant SU-GG-T-476	Effect of Film Orientation on Proton Beam Dosimetry
Douglas Caruthers SU-GG-T-552	Commissioning an Anthropomorphic Spring and Lung Phantom for Remote Quality Assurance of Spinal Radiosurgery
Sunday, July 18, 2010 ***John R. Cameron: Young Investigators Symposium*** 4:00 – 6:00 PM, Ballroom B	
Sarah Scarboro SU-HH-BRB-5	Variations in 6MV Photon Energy Spectra Impact the Response of TLD
Adam Melancon SU-HH-BRB-11	Range Adaptive Proton Therapy for Prostate Cancer
Daniel Robertson (SU-FF-T-150)	Optimizing Spot Spacing and Margin for Intensity Modulated Proton Therapy Planning
Monday, July 19, 2010 ***Therapy Moderated Poster Session — Informatics and Outcomes*** 4:00 – 4:45 PM, Exhibit Hall – Area 1	
Yevgeney Vinogradskiy	A Novel Method to Incorporate Spatial Location of Lung Dose Into Predictive Radiation Pneumonitis Modeling
Monday, July 19, 2010 ***Joing Imaging – Therapy Moderated Poster Session: Particle Therapy*** 4:45 – 5:30 PM, Exhibit Hall – Area 3	
Yoshi Tsunashima MO-FF-A3-2	What is the Maximum Number of Beam Spots Deliverable Within One Gating Window for Synchrontron Based Scanning Proton Beam Therapy of Lung Cancer
Ming Yang MO-FF-A3-6	Does KV-MV Dual-Energy Computer Tomography Have an Advantage in Measuring Proton Stopping Power Ratio in Patients?
Tuesday, July 20, 2010 ***Joint Imaging/Therapy Scientific Session: Image Guided Radiation Therapy 1*** 8:30 – 9:30 AM, Room 204B	
Richard Castillo TU-B-204B-4	Ventilation From Four Dimensional Computed Tomography Density Versus Jacobian Methods
Wednesday, July 21, 2010 ***Mammography New Technology*** 7:30 – 8:30 AM, room 201B	
Adam Springer WE-A-201B-1	Evaluation of Quantitative Error of a Commercially-Available Positron Mammography Scanner
Thursday, July 22, 2010 ***Therapy Scientific Session: Measurments: Inhomogeneities and New Detectors*** ***10:00 – 12:00 Noon, Ballroom B***	
James Kerns TH-C-BRB-1	Characterization of Optically-Stimulated Luminescent Detectors (OSLDs) in Phton & Proton Beams

Selected 2010 GSBS Graduation Highlights

Dr. Knutson welcoming graduates

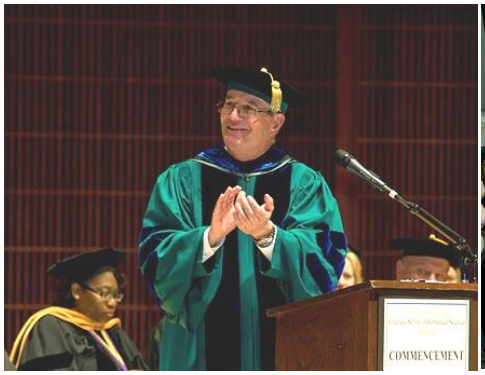


Dr. Stancel welcomes families and graduates

Dr. Larry Kaiser, Keynote Speaker

Faculty awaiting ceremony to being

Graduation reception



Dean Stancel congratulates the new graduates

Dr. Goka has fun with the graduates

GSBS Alumni President addressing new graduates

Our sincere thanks to our alumni, current students, faculty, and staff for another successful year for the Medical Physics Program!

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Second Annual Medical Physics Student Retreat

On Friday, July 2, 2010, the second annual Medical Physics Program Graduate Student Research Retreat was held at the South Campus facility. The retreat was again funded by the M.D. Anderson Cancer Center Graduate Education Committee (GEC), with the support of the Executive Vice President and Provost, Dr. Raymond DuBois. The goal of the retreat was to encourage program students to organize a day-long retreat that would allow them to exchange information about their individual research projects and to interact with an external leader in the field. This year the external leader was Dr. Maryellen Giger, from the University of Chicago and current Chair of the Board of Directors of the AAPM, who gave a talk on *Research and Medical Physicists.* There were eleven student research presentations. The retreat was organized by current Student-Faculty Liaison, Ryan Bosca, and fellow students, Moiz Ahmad, Jenia Vinogradskiy and Henry Yu.

Student Presentation Award Winners

First Place Winner
Laura Broaded

Second Place Winner
Joseph Dick

Third Place
Winner
James Kerns

Student Retreat Dinner was enjoyed by all

M.D. Anderson has a new logo…

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

The following rationale for the change in logo was provided by the administration:

For nearly seven decades, The University of Texas MD Anderson Cancer Center has been defined by a single, powerful idea: Making Cancer History®. It's an idea that has helped us inspire and perform. It has captured the essence of what we do. It's our mission.

The new MD Anderson logo is simply the natural evolution of that idea. It is:

- Honest, meaningful and memorable
- Bold, innovative and forward-looking
- A way of translating our Making Cancer History® message into a permanent visual signature for the institution

With this new logo, that message becomes an integral part of our name. It becomes a true expression of the excellent work we do every day. Wherever our logo appears, it will illustrate our mission in a clear, visual language that anyone in the world can understand.

2010 Highlights from the Department of Imaging Physics

New Personnel

Faculty Promotions

Tinsu Pan, PhD, Professor,
Section of Medical Nuclear Physics

Jong Rong, PhD, Associate Professor,
Section of Radiological Physics

R. Jason Stafford, PhD, Associate Professor,
Section of MR and Ultrasound Physics

A. Kyle Jones, PhD, Assistant Professor,
Section of Radiological Physics

Classified Positions

Mai Dinh, MBA, Department Administrator

Robyn Lyn., Sr AA, Administration

Gloria Mendoza, Sr. AA, Education

Honors and Awards

- **John Hazle, PhD –** Named the *Bernard W. Biedenharn Chair in Cancer Research*
- **Charles Willis, PhD**, Became a Fellow of the AAPM
- **Ed Jackson, PhD** – Elected to the AAPM Board of Directors

Office Relocations

Most of the Imaging Physics faculty and staff relocated from the Main Campus to the new Faculty Center Tower (Pickens Academic Tower), 14th floor, in late June 2010. Others relocated to the new *South Campus Research Building 3* facility.

Research Updates

Funded Grants:

- CPRIT – RP100934 (PI: Gascoyne): Antibody-Free Microfluidic Isolation and Molecular Analysis of Circulating Cancer Cells, 05/01/2010 – 04/30/2013, $868,022 direct costs
- MDA IRG – (PI: Mawlawi): Standardization of PET Quantifications across Different Image Acquisition, Processing Parameters and Scanner Platforms, 04/01/2010 – 03/31/2012, $50,000 direct costs
- NIH/NCI – R01CA138502 (PI: Shaw): DTS Imaging with a Digitally Addressable X-Ray Source (DAXS), 05/01/2010 – 02/28/2015, $2,887,890 direct costs

- NIH/NCI – R21CA135315-02S1 (PI: Sokolov): Aptamer-siRNA Chimera/Nanoparticle Conjugates for MRI Guided Cancer Therapy (Administrative Supplement), 08/01/2009 – 07/31/2010, $139,734 direct costs
- NIH/NCI – R01HL096981 (PI: Sokolov): ARRA SUB INC-Combined Intravascular Ultrasound and Photoacoustic Imaging of Atherosclerosis, 09/30/2009 – 08/31/2011, $160,000 direct costs
- NIH/NCI – R01CA143663 (PI: Sokolov): Biodegradable Plasmonic Nanoparticles for Cancer Imaging and Therapy, 01/01/2010 – 12/31/2014, $1,367,061 direct costs

Imaging Physics Residency Program

Two of our residents have completed their residency and moved on.

- **Alex Pasciak, PhD –** completed program on January 6, 2010 and is currently employed as an Assistant Professor by the University of Tennessee in Knoxville.
- **Nicholas Shkumat, MS -** completed program on February 3, 2010 and is employed as a medical physicist at the Cleveland Clinic

Three residents have joined our program since AAPM 2009:

- Andreea Dohatcu, PhD – started the program July 2009
- Wendy Siman, MS – started the program February 2010
- James Winslow, PhD – started the program August 2009
- Ching-Yi Hsieh, MS – will join the program August 2010

2010 Highlights from the Department of Radiation Physics

Honors and Awards

- **George Starkschall, Ph.D. –** Appointed Chair of the AAPM Education Council for a three-year term beginning January 1, 2010.
- **Lei Dong, Ph.D.** and **Ron Zhu, Ph.D**. – Elected as fellow of AAPM.
- **Mary Martel, Ph.D.** – Competed and accepted to attend the Mid-Career Women Faculty Professional Development Seminar (sponsored by Association of American Medical Colleges and Harvard Medical School).
- **Mary Martel, Ph.D. -** ASTRO Thought Leaders Strategy Summit, Steering Committee Member
- **Geoffrey Ibbott, Ph.D**. - Interviewed leading up to the *NY Times* articles, which portrayed the RPC as contributing to radiation therapy safety
- **Wayne Newhauser, Ph.D., *et al.*** – Recently published article in *Physics in Medicine and Biology* titled, "The risk of developing a second cancer after receiving craniospinal proton irradiation," which has been downloaded 500 times.
- *International Journal of Radiation Oncology*Biology*Physics* Special Issue, March 2010 – "Quantitative Analyses of Normal Tissue Effects in the Clinic," Associate Editor, **Mary K. Martel**
- Articles published in *Physics in Medicine and Biology* (PMB) and featured in *www.medicalphysicsweb.org*:
  - **Vassiliev O,** Wareing T, McGhee J, Failla G**, Salehpour M, Mourtada F.** "Validation of a new grid-based Boltzmann equation solver for dose calculation in radiotherapy with photon beams," and
  - **Stephen Peterson, Ph.D., Jerimy Polf, Ph.D., George Ciangaru, Ph.D.,** Steven J. Frank, M.D., **Martin Bues, Ph.D., and Al Smith, Ph.D. –** "Variations in proton scanned beam dose delivery due to uncertainties in magnetic beam steering"
- US Patent No. 7,586,102, Automated System for Formulating Radiopharmaceuticals. (Published Sept. 2009)- Inventors: **Mourtada**, Azhdarina, Yang, and Oh
- US Patent No. 7,556,596, Adaptive Intracavitary Brachytherapy Applicator (Published July, 2009)- Inventors: **Mourtada**, Eifel, Jhingran, Horton, and Spool
- US Patent No. 7,651,458 (CIP*) Adaptive Intracavitary Brachytherapy Applicator. (Published Jan 2010)- Inventors: **Mourtada**, Eifel, Jhingran, Horton, and Spool
- **Drs. He "Catherine" Wang, Falk Poenisch, Christopher Nelson, Song Gao, Sastry Vedam, and Stephen Kry** – passed ABR Boards.

New Personnel

New faculty and professional staff since the last AAPM meeting:

- **Phillip Taddei, Ph.D.,** Assistant Professor, Research
- **Falk Ponisch, Ph.D**., Assistant Professor
- **Wei Liu, Ph.D**., Assistant Professor
- **Laurence Court, Ph.D**., Assistant Professor

- **Gary Fisher, M.S.,** Critical Care Clinics (Satellite Group)

Hired but not on board yet:
- **Heng Li, Ph.D**., Instructor
- **Xin Wang, Ph.D.,** Assistant Professor
- **Christina Christou, Ph.D**., Assistant Professor

Faculty Promotions:
- **X. Ronald Zhu, Ph.D.** to Professor
- **Weiliang Du, Ph.D.** to Assistant Professor
- **Congjun Chester Wang, Ph.D.** to Assistant Professor
- **Sam Beddar, Ph.D.** to Professor
- **Uwe Titt, Ph.D.** to Associate Professor
- **Lei Dong, Ph.D.** to Professor
- **Stephan Kry, Ph.D.** to Assistant Professor
- **Sean X. Zhang, Ph.D.** to Associate Professor
- **Narayan Sahoo, Ph.D.** to Professor
- **Christopher Nelson, Ph.D.** to Assistant Professor

Major Clinical Accomplishments
- **Spot Scanning** – multiple anatomic locations.
- **Istanbul** – Started treating patients in January 2010.
- **Gamma knife** – 400 patients treated the first year.

Major Achievements in Radiation Physics Research
- NCI PO1 – Optimizing Proton Therapy (PI: Radhe Mohan, PhD)
    - Randomized IMRT vs. proton therapy trial
    - Multiple other trials for lung, other sites
    - Physics research to reduce uncertainties and optimize proton planning and delivery and to improve robustness of proton therapy to uncertainties
- SBIR – Standard Imaging (PI: Sam Beddar, Ph.D.) Water-Equivalent Plastic Scintillation Detectors for Small-Field Radiotherapy
- NIH/NCI R21 (PI: Jerimy Polf, Ph.D.) Real-Time Verification of Proton Dose Delivery
- NIH/NCI R01 (PI: Firas Mourtada, Ph.D.) A Novel Dose Calculation Method for Targeted Radionuclide Therapy
- NIH/Fogarty International Center K01 (PI: Phillip Taddei, Ph.D.) Disparity in Radiotherapy for Children in Developing Countries

Radiological Physics Center

Section of Outreach Physics

Radiological Physics Center
- Principal Investigator, 0.63, Radiological Physics Center, CA 10953, 2005-2010, $15,893,032 ($3,614,839/year includes program income generated under the Additional Cost Alternative)
- Principal Investigator, 5%, Advanced Technology Radiation Therapy Quality Assurance Review Consortium, 2 U24 CA081647, Washington University, 7/1/2007−6/30/2012, $409,901 ($81,980/year)
- 1,756 active institutions now being monitored, including 34 in Canada, 85 elsewhere in the world. RPC phantoms have been irradiated successfully by more than 1,022 institutions for IMRT and SBRT protocols, up from 580 last year at this time. Our experience still shows that about 1/5 of institutions fail to irradiate the IMRT H&N phantom according to their own treatment plans. The RPC recently began auditing proton facilities. All USA clinical sites have irradiated TLD (including one in Japan) and a visit has been conducted to four sites and clinical trial credentials have been given to two sites.

Other projects within the RPC

RPC staff and students are presenting their work on the following topics at this meeting. Most projects are collaborations with staff or faculty in the Departments of Radiation Physics and Diagnostic Imaging Physics; at Washington University, National Cancer Institute, Duke University Medical Center; or at several industrial partners*:*

"Opportunities and Considerations for Multi-institutional Clinical Trials Research," *J Deye, G Ibbott, J Michalski, S Tucker, Y Xiao, J Deasy*

*"*Credentialing for Clinical Trials," *G Ibbott*

"Investigation of Large Discrepancies in Dose-Rates of Gamma-Knife Units at Various Institutions," *A Shiu, E Drzymala, P Alvarez, D Followill, R Tailor*

"Evaluation of RapidArc Dose Delivery Using Radiological Physics Center Phantoms," *K Kisling, D Yaldo, D Followill, S Kry, S Scarboro, S Frank, R Howell*

"Results From Multiple Radiations of an Anthropomorphic Spine Phantom," *A Molineu, N Hernandez, P Alvarez, D Followill, G Ibbott*

"Variations in 6MV Photon Energy Spectra Impact the Response of TLD," *S Scarboro, S Kry, R Howell, D Followill*

"Effect of Film Orientation on Proton Beam Dosimetry," *R Grant, G Ibbott, B Riley, N Sahoo, S Tucker, X Zhu, D Followill*

"Characterization of Optically-Stimulated Luminescent Detectors (OSLDs) in Photon and Proton Beams," *J Kerns, G Ibbott, V Johnson, S Kry, N Sahoo, D Followill*

"A Custom-Developed Method for Accurate Dose Recalculation of
Patient Plans Entered Into Clinical Trials," *S Davidson, S Kry, J Cui, J Deasy, G Ibbott, M Vicic, R White, D Followill*

"Commissioning An Anthropomorphic Spine and Lung Phantom for Remote Quality Assurance of Spinal Radiosurgery," *D Caruthers, G Ibbott, A Shiu, E Chang, R White, D Followill*

"Validation of the Commissioning of An Optically Stimulated Luminescence (OSL) System for Remote Dosimetry Audits," *J Aguirre, P Alvarez, C Amador, A Tailor, D Followill, G Ibbott*

"Evaluation of the Sensitivity of the Anisotropic Analytical Algorithm (AAA) to the Commissioning Dataset," *D Yaldo, R Tailor, S Scarboro, N Sahoo, S Kry, K Kisling, D Followill, R Howell*

"TG-148 QA for Helical Tomotherapy," *K Langen, N Papanikolaou, J Balog, R Crilly, D Followill, S Goddu, W Grant, G Olivera, C Ramsey, C Shi*

Accredited Dosimetry Calibration Laboratory (Geoffrey Ibbott, PhD)

The MD Anderson ADCL successfully completed a reaccreditation site visit last year as required by our compliance with the AAPM accreditation program. Since then, we have continually improved our quality management system and implemented strong marketing efforts which have yielded successful gains in our customer base, including both new and returning customers. Furthermore and most importantly, we have established and worked towards new business-directed goals that are focused on sustaining our position within our institution as well as increasing our contributions to our academic and professional communities.

Late Effects Group (Marilyn Stovall, Ph.D.):

- Childhood Cancer Survivor Study (CCSS), St. Jude Children's Research Hospital, 12/1/2006-11/30/2011 (NCI), $2,368,944
- Genetic Consequences of Therapies for Childhood Cancer, International Epidemiology Institute, Ltd.(NCI), 9/12/2005-5/31/2010, $105,200
- Support Services for Medical Radiation Dosimetry for Epidemiology Studies, (NCI), 4/15/2005 – 4/14/2010, $1,869,540
- Breast Cancer, Radiation Exposure and the ATM Gene, Memorial Sloan Kettering (NCI), 4/1/2008 – 3/31/2013, $415,683
- Heart Disease Following Cancer Treatments of Children and Young Adults, Vanderbilt University, 4/1/2009 - 3/31/2014, $522,066, pending

Radiation Dosimetry Services (Marilyn Stovall, Ph.D.)
Over 1,000 active institutions. Services offered: check of machine output for photon and electron beams, check of absorbed dose for stereotactic radiosurgery, and check of blood irradiators.

Education (George Starkschall, Ph.D.)

Postdoctoral Fellows

Since the last report, several postdoctoral fellows have completed their appointments and gone on to further their careers.

- **Aman Anand, PhD** (*Gillin*) will complete the postdoctoral program to enter the Medical Physics Residency Program in the Department of Radiation Physics in September 2010
- **Stephen Peterson, PhD** *(Polf)* completed the postdoctoral program in July 2010 and will be going to Africa to teach physics
- **Gabriel Sawakuchi, PhD** *(Titt)* completed the postdoctoral program in March 2010 and is currently at Carlton University, Ottawa, Canada
- One new postdoctoral fellow joined the Department this past year:
  - **Michelle Quan, PhD,** received her PhD from North Carolina State University and joined Dr. Xiaodong Zhang's group

We welcome all our new and returning postdoctoral fellows.

Medical Physics Residency Program

Three of our radiation physics residents are completing their training this summer.

- **Heng Li, PhD,** will be joining the Department of Radiation Physics as an Instructor
- **Julianne Pollard, PhD,** is still finalizing a position for this fall
- **Xin Wang, PhD,** will be joining the Department of Radiation Physics as an Assistant Professor

- Moving into the second year of their residency program are **Heetak Cheung, PhD,** and **Xiaoning Pan, PhD.**
- Competition has increased for positions in our residency program. We had over 100 applications for the three open residency positions this year. The Department welcomes the following three new residents into our program:
  - **Aman Anand, PhD,** will complete a postdoctoral fellowship at MDACC and will begin his residency in September 2010
  - **James Kearns, MS,** will receive an MS degree from the GSBS Medical Physics

program and will begin his residency in September 2010

- **Adam Melancon, PhD,** received a PhD degree from the GSBS Medical Physics program and began his residency in June 2010.

We wish Drs Li, Pollard, and Wang success in their careers, and all of our residents a rewarding training period.

Proton Fellowship Program

The Proton Fellowship Program is under the direction of **Narayan Sahoo, Ph.D.** This year, **Falk Pönisch, PhD** completed the program and joined the Department of Radiation Physics as an Assistant Professor and **Xioafei Song, PhD** is going into his second year in the program. This program, to our knowledge the first of its kind, is designed to provide specialized clinical training to physicists interested in proton radiation therapy. We wish our fellows the very best of success in this pioneering effort.