



DEPARTMENT OF  
Medical Physics  
UNIVERSITY OF WISCONSIN  
SCHOOL OF MEDICINE  
AND PUBLIC HEALTH

Summer 2016

# UW Medical Physics Newsletter

## A Letter from The Chair

It is difficult for me to believe I have served as chair of the Department of Medical Physics for nearly three years. It has been a true honor and pleasure to "settle in" to the department, the School of Medicine and Public Health, the University, and the city of Madison. Sondra and I have greatly enjoyed traveling the state of Wisconsin, exploring many of its wonderful state parks, and sampling some of its unique festivals and other events. We have made it a goal to sample many of the excellent Madison restaurants (maybe too many samples in this category), cultural events, and Badger sports events. What a phenomenal place to live and work!

Continuing the UW-Madison Medical Physics tradition, the past year has provided many recognitions for outstanding faculty, staff, post-doctoral fellows, and graduate students. Many of these recognitions will be highlighted throughout the newsletter. It has also been one that has brought several changes in the faculty, with the retirements of Jim Holden, Chuck Mistretta, Jerry Nickles, and Bhudatt Paliwal. (Fortunately, each is still active in the department as Emeritus Professor; this group of active emeritus professors now numbers nine!) During the past year, we recruited two new Assistant Professors, Jonathan Engle, currently a Scientist at Los Alamos National Laboratory, and Kevin Johnson, currently an Associate Scientist at UW-Madison.

While it has been a year of some significant challenges due to the well-publicized legislative session outcomes regarding the UW System budget and faculty governance, I want to emphasize that UW-Madison, the School of Medicine and Public Health, and the Department of Medical Physics remain firmly committed the many outstanding traditions, especially the Wisconsin Idea and the importance of faculty governance, that help define UW-Madison. It is true, however, the budget cuts imposed by the legislature have been dramatic and impactful, have led to financial challenges within the Department of Medical Physics (and all other departments), and will force us to carefully re-evaluate our ability to continue to fully support each of the mission areas to which our faculty, staff, research associates, and students contribute. The department will continue to pursue alternate sources of funds to offset the "school funds", which have steadily decreased since 2010, and greatly appreciates the generous donations of many of its alumni. Such donations are critically important during these times of decreasing financial support and low levels of extramural research funding, and information on how alumni and friends can contribute to the financial support of the department and its mission areas can be found on page 9 of this edition of the newsletter.

In spite of the challenges, the faculty and research staff have been very successful in garnering extramural funding, with research expenditures from federal grants (excluding industry contracts) exceeding \$4.1M in the most recent fiscal year. I want to recognize and thank each faculty member and his/her collaborators for this remarkable achievement in the current funding environment. Our graduate students continue to be recognized as some of the best and brightest in the field, as demonstrated by the receipt of multiple awards and honors, travel grants, etc. Our administrative team, while far smaller in number than would be indicated as necessary by any assessment given the size of the department and graduate program, continues to provide excellent support to the faculty, research staff, and graduate program. I want to express my sincere appreciation to each member of each of these groups of individuals who continue to make the Department of Medical Physics at the UW School of Medicine and Public Health the best medical physics department and educational program. Each of you, as an alumnus, former faculty or staff member, or "friend of the department" has been, and continues to be, a major part of the success of the department. We are incredibly thankful, and proud, of your contributions.

Thank you, and On Wisconsin and Go Badgers!

Ed Jackson

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*Dr. Edward F. Jackson*  
*Chair of Medical Physics*

## Upcoming Events:

- AAPM Alumni Reception in Washington DC
- Annual Golf Scramble - August 25, 2016
- Seminar Every Monday at 4pm - 1345 HSLC beginning September 12th.

**“Visualizing solutions for accurate diagnosis and treatment”**





By Dr. Tim Hall

# Research Highlight

## IMAGING CERVIX SOFTNESS: REPLACING CLINICAL SUBJECTIVITY WITH QUANTITATIVE ULTRASOUND

### REFERENCES

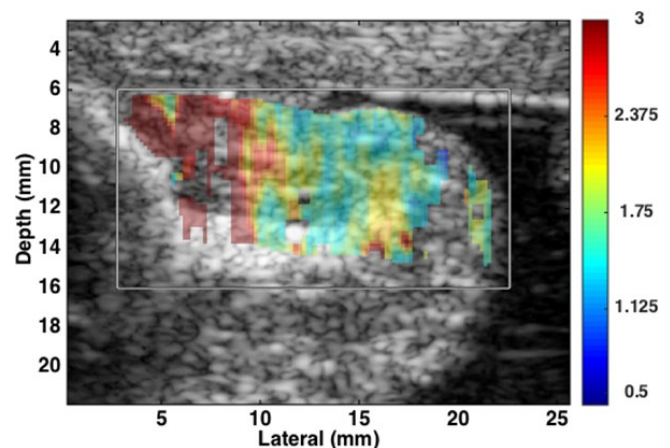
1. Feltovich H, Nam K and **Hall TJ**. Quantitative ultrasound assessment of cervical microstructure, *Ultrasonic Imaging* 32:33-47, 2010. PMID: 20718243.
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4. Carlson LC, Feltovich H, Palmeri ML, Munoz del Rio A, **Hall TJ**. Statistical analysis of shear wave speed in the uterine cervix. *IEEE Trans Ultrasound Ferroelectr Freq Control* 60(10): 1651-1660, 2014. PMID: PMC4245153.
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7. Carlson LC, Romero ST, Palmeri ML, Munoz del Rio A, Esplin SM, Rotemberg VM, **Hall TJ**, Feltovich H. Changes in shear wave speed pre and post induction of labor: A feasibility study. *Ultrasound Obstet Gynecol.* 46(1): 93-98, 2015.

Our group has been investigating ultrasound-based methods for uterine cervical assessment for several years. One of the major clinical indications of concern in cervical assessment is the softness of the cervix. But, the current standard of care is for the clinician to feel the cervix with her fingers and subjectively classify it as soft/medium/firm. An objective method for assessing tissue stiffness is to measure the speed of shear waves as they propagate in tissue. This is an area under rapid development and clinical implementation, for example, in assessment of liver fibrosis. Adapting those methods to cervical assessment presented special challenges. The work began with simple proof-of-principle studies [1] and simulations to optimize experimental methods [2].

*“This is an area under rapid development and clinical implementation, for example, in assessment of liver fibrosis.”*

After implementing those methods on our imaging system work continued in ex vivo cervix specimens [3,4] where tissue structure was independently investigated using nonlinear optical microscopy methods [5] and optical coherence tomography [6]. More recently, we completed a study in human subjects that showed our methods are sensitive enough to determine the softening of the cervix due to a single dose of the prostaglandin used for labor induction [7].

All this justified developing a prototype ultrasound transducer intended specifically for cervical assessment and improving on the commercial implementation of shear wave elasticity imaging software offered by our commercial collaborator. The image below shows an example of shear wave speeds in the cervix of a woman in her second trimester of pregnancy. Shown is a B-mode ultrasound image of the cervix with the box covering the entire length of the cervix and only the anterior half. Shear wave speeds increase from the distal to proximal ends of the cervix, as found in the ex vivo studies. These shear wave speeds are, as we would hope, far too high (the cervix far too stiff) for vaginal delivery (she is only 4 months into a 9-month pregnancy).



# Partial Listing of Faculty and Student Awards and Honors

## January 2015 – July 2016

### 2016

#### July

- Prof. Bruce Thomadsen elected as President Elect Designate of the AAPM
- Prof. Jeni Smilowitz elected as an AAPM Board Member at large
- Graduate students Leonard Che Fru and Brandon Walker received the 7<sup>th</sup> Annual Standard Imaging Travel Awards
- Cai Research Group received multiple awards at the 2016 SNMMI Meeting

#### June

- Prof. Rock Mackie recognized in the Governor's Business Plan Contest for his many contributions to technology transfer and startup companies

#### May

- Prof. Bruce Thomadsen received a 2016 University Housing Honored Instructor Award
- Prof. Jeni Smilowitz received an Alliant Energy Underkofler Excellence in Teaching Award
- Prof. Marina Emborg received the 2016 Bernard Sanberg Memorial Award for Brain Repair

#### April

- Cal Lab graduate students Jessica Fagerstrom and Vimal Desai won North Central Chapter AAPM Meeting Young Investigator awards
- Cal Lab graduate student Everardo Flores won 1<sup>st</sup> prize at the Mexican Symposium on Medical Physics Young Investigator Symposium
- Prof. Wes Culberson elected as President Elect of the North Central Chapter AAPM

#### March

- Emeritus Provost / Emeritus Prof. Paul DeLuca selected to receive the 2016 AAPM William D. Coolidge Award
- Prof. Jeraj and Prof. Ranallo elected as Fellows of the AAPM

#### February

- Prof. Larry DeWerd and the work of the ADCL faculty, staff, and students featured on ScienceDaily

#### January

- Graduate student Chuck Hatt (advisor: Prof. Mike Speidel) and colleagues' paper selected as Medphys.org Editor's Pick

### 2015

#### November

- Prof. Chuck Mistretta selected to receive the 2016 IEEE Medal for Innovations
- Prof. Chuck Mistretta received the UW School of Medicine and Public Health Folkert O. Belzer Award
- Prof. Rock Mackie honored with a 2015 Excellence in Entrepreneurial Education Award

#### September

- Wai Lab trainees Christopher England and Reinier Hernandez awarded RSNA 2015 Molecular Imaging Travel Awards
- Graduate student Reinier Hernandez awarded the 2015 EANM Eckert & Ziegler Abstract Award

#### August

- Prof. Chuck Mistretta received the Academy of Radiology Research 2015 Distinguished Investigator Award

#### July

- Graduate Students Daniel Gomez Cardona and Everardo Flores received the 6<sup>th</sup> Annual Standard Imaging Travel Awards

#### June

- Graduate student Ansel Hillmer awarded the SNMMI Alavi-Mandell Award
- Cai Research Group received multiple awards at the 2015 SNMMI Meeting

#### May

- Prof. Marina Emborg elected President Elect of the American Society of Neural Therapy and Repair
- Prof. Weibo Cai elected Vice President Elect of the SNMMI Radiopharmaceutical Sciences Council

#### March

- Prof. Larry DeWerd selected to receive a 2015 AAPM Edith H. Quimby Award for Excellence in Medical Physics
- Prof. Guang-Hong Chen selected to be inducted as a Fellow of the American Institute for Medical and Biological Engineering (AIMBE)
- ADCL Investigators selected to receive the 2015 AAPM Farrington Daniels Award (a third for the lab)

#### January

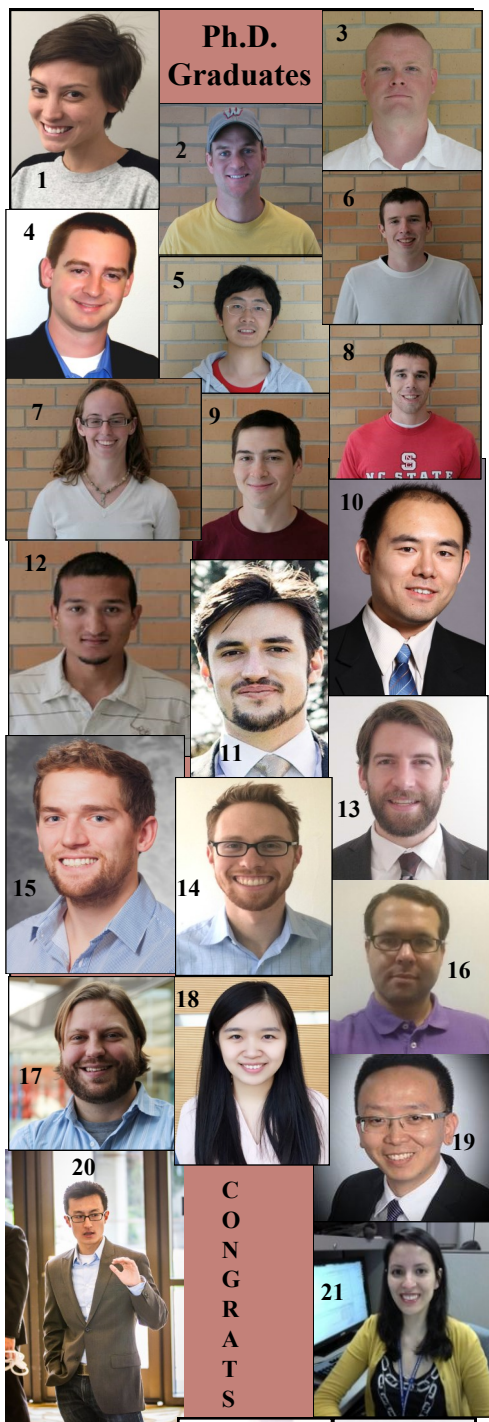
- Prof. Bruce Thomadsen selected to receive the American Brachytherapy Society 2015 Ulrich Henschke Award
- Prof. Bruce Thomadsen selected to present the John Vilforth Lecture at the 2015 meeting of the Conference of Radiation Control Program Directors (CRCPD)

Please visit the departmental website at [www.medphysics.wisc.edu/news/archive.php](http://www.medphysics.wisc.edu/news/archive.php) for the full listing of Awards and Honors.



# CONGRATULATIONS TO OUR MEDICAL PHYSICS PROGRAM GRADUATES

(May 2015 through May 2016)



- |   |   |
|---|---|
| 1) <b>Laura Bell</b> Advisor: Thomas Grist                          | 14) <b>Ben Rosen</b> Advisor: Larry DeWerd          |
| 2) <b>Tyler Bradshaw</b> Advisor: Robert Jeraj                      | 15) <b>Eric Schrauben</b> Advisor: Oliver Wieben    |
| 3) <b>Tyler Fowler</b> Advisor: Bryan Bednarz                       | 16) <b>Peter Scully</b> Advisor: Robert Jeraj       |
| 4) <b>Andrew Hoy</b> Advisor: Andrew Alexander                      | 17) <b>Adam Uselmann</b> Advisor: Rock Mackie       |
| 5) <b>Fang Liu</b> Advisor: Wally Block                             | 18) <b>Xiao Wang</b> Advisor: Tomy Varghese         |
| 6) <b>Michael Loecher</b> Advisor: Oliver Wieben                    | 19) <b>Yue "Aaron" Yan</b> Advisor: Bhudatt Paliwal |
| 7) <b>Martha Malin</b> Advisor: Larry DeWerd                        | 20) <b>You Ming Yang</b> Advisor: Bryan Bednarz     |
| 8) <b>Travis McCaw</b> Advisor: Larry DeWerd                        | 21) <b>Areli Zuniga</b> Advisor: Bhudatt Paliwal    |
| 9) <b>David Niles</b> Advisor: Sean Fain                            | 22) <b>Megan Hyun</b> Advisor: Larry DeWerd         |
| 10) <b>Kai Niu</b> Advisor: Guang-Hong Chen                         | 23) <b>Michael Lawless</b> Advisor: Larry DeWerd    |
| 11) <b>Remi Patriat</b> Advisor: Rasmus Birn                        | 24) <b>Madhav Venkateswaran</b> Advisor: Sean Fain  |
| 12) <b>Surendra Prajapati</b> Advisor: Rock Mackie and Robert Jeraj |   |
| 13) <b>Josh Reed</b> Advisor: Larry DeWerd                          |   |

We would also like to congratulate our **2016 Masters** degree graduates:

(25) **Steven Ellefson** Advisor: John Bayouth

(26) **Jacob Beres** Advisor: Adam Bayliss

2016 M.S.



*"Go confidently in the direction of your dreams.  
Live the life you have always imagined."*

- Henry David Thoreau

# MEDICAL PHYSICS

## RETIREMENTS AND EMERITUS APPOINTMENTS

### DR. CHARLES MISTRETТА

Dr. Mistretta retired from the University of Wisconsin on September 1, 2015. Mistretta served the University for more than 45 years, beginning with his post-doctoral appointment in 1968. He has served as the Vice Chair for Faculty, has been awarded a WARF professorship as well as the John R. Cameron Professorship and many other UW honors, has been highly successful in research as well as technology transfer and innovation licensing in WARF, and has been a true innovator in the medical imaging field. Outside of his UW success, Mistretta has been recognized as a fellow of the American Association of Physicists in Medicine, the International Society for Magnetic Resonance in Medicine, and the American Institute for Medical and Biological Engineering; awarded the MIT Technology Achievement Award, the Edith H. Quimby Lifetime Achievement Award (American Association of Physicists in Medicine), the Marie Curie Skłodowska Award (International Organization for Medical Physics), the Folkert O. Belzer Lifetime Achievement Award (UW SMPH), and the Institute of Electrical and Electronic Engineering Medal of Innovation in Healthcare Technology (Institute of Electrical and Electronics Engineers); designated as “one of the 50 medical physicists with the most impact on the field in the last 50 years” by the International Congress of Medical Physics, and recognized as senior author on one of the 30 most influential papers in medical MRI in 30 years (International Society for Magnetic Resonance in Medicine); and elected to the National Academy of Engineering.

This is only a fraction of what Dr. Mistretta has achieved! Please join the Department in congratulating Dr. Charles Mistretta.

“Since my retirement, my main concern has been to avoid the prediction made by my long term colleague Dr. Andrew Crummy who said that when you retire “you go from who’s who to who’s that”. Basically, I plan to continue working as if I had not retired. I still have lots to do to facilitate the development of 4D DSA, especially with regard to obtaining quantitative flow information from the x-ray data and comparing it with MR flow measurements. I look forward to continued collaboration with all of my present colleagues and hope to continue to provide new ideas for our ongoing work. I do intend to spend more time traveling with Darlene to exotic places, to teach my 5 year old grandson how to fish, and to continue to seek the final physics swing secret that will permit me to join the senior golf tour. Otherwise, things should be about the same as for the past 47 years here at UW.” Dr. Charles Mistretta

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### DR. BHUDATT PALIWAL

Dr. Bhudatt Paliwal retired from the University on January 1, 2016 and attained Emeritus status. Since 1973 with his first assistant professor position, Paliwal has been with the University of Wisconsin for 42 years. He has participated in over 50 funded projects, published hundreds of findings, and has greatly influenced the fields of radiation dosimetry, radiation imaging, CT and MRI treatment planning and more. Dr. Paliwal served as the Director of Radiation Therapy Physics in the Department of Human Oncology for 33 years. He had great success in the position, especially with his work with International Conferences. Paliwal was not only successful in research and as Director of Research Therapy Physics, but he was also an amazing teacher and mentor. His work was honored by the UW Department of Human Oncology with their creation of the Bhudatt Paliwal Professorship. Dr. Paliwal also served on many boards, such as the American College of Medical Physics. This is only a sample of Dr. Paliwal’s amazing work and successes.

Dr. Paliwal has a long list of things he would like to do as Emeritus, but says, “I am told one good thing about being Emeritus is you can do what you want, when you want...” Some of the things on his list include

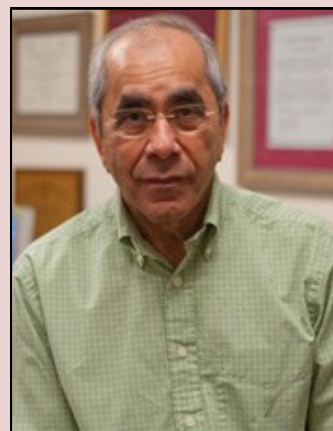
- Exploring research and development in the arena of global health in developing countries collaboration with the Postgraduate Institute of Medical Education and Research
- Broaden the scope of teaching and training by incorporating efficient and cost effective methods of web-based eLearning using blended courses

The list goes on and shows how dedicated Dr. Paliwal is to the department! He looks forward to continued collaborations with the Medical Physics and Human Oncology departments. Join us in congratulating Dr. Bhudatt Paliwal in his retirement and Emeritus status.



*“...I plan to continue working as if I had not retired. I still have lots to do...” -*

*Dr. Mistretta*



*“I am told one good thing about being Emeritus is you can do what you want, when you want...” -*

*Dr. Paliwal*



# MEDICAL PHYSICS

## RETIREMENTS AND EMERITUS APPOINTMENTS



*“Jim is deeply grateful to his amazing colleagues, his amazing PhD students, and this amazing institution.”*



*Dr. Nickles expresses undying thanks to the Cyclotron Gang “for their skills and can do spirit!”*

### DR. JAMES HOLDEN

Professor Jim Holden signed on at UW as Assistant Professor of Radiological Sciences in 1974. He didn't tell the people who hired him that the only time he had ever been in a hospital was when he was born; he knew he'd be able to catch up. He arrived just a short time after the first CT scanner in North America was installed at the Mayo Clinic, and at the same time the first computer was being interfaced to the gamma cameras in Nuclear Medicine at UW. Both events led to his early career interests. His true scientific love was, and still is, the uncanny ability of mathematics to represent physical, physiological, and biochemical reality, and he has tried to find ways to make that love useful to the field of Medical Physics.

Some of Jim's contributions came from collaborations with groups at other institutions. In 1986-87 he spent a year's sabbatical in the Laboratory of Cerebral Metabolism at the National Institutes of Mental Health. Its founder and director was Dr. Louis Sokoloff, who was not the first to synthesize 2-deoxyglucose, but was the first to label it with radioactivity and use it as a tracer of glucose metabolism in living tissues. The same tracer labeled with  $^{18}\text{F}$  is of course the PET workhorse FDG. The goal of converting radioactivity concentration versus time into quantitative rates of glucose uptake fostered the creation of the field of quantitative reduction of PET data, which Jim would call his career field if he were forced to declare one. Among the things Jim contributed at the NIH was to explain why the notorious 'lumped constant' behaved as it did in response to changes in arterial glucose concentration.

A few years later he began the most significant collaboration of his career, with the movement disorders group at the University of British Columbia in Vancouver, BC. This has been ongoing since 1991, and has resulted in more than 30 journal publications.

Jim ran an isolated rat heart system for 15 years, and about half of the PhD's he supervised did their degree work there. The heart was surrounded by a large pair of CsI detectors, and the rapid injection of a few microliters of cardiac tracers into the aortic root gave the impulse response function of the tracer kinetics, forcing the tracer to reveal all its secrets.

Jim is currently working on two very similar projects, both intended to make what he has learned available to future generations. One is to refine the written notes he has produced for his lecture course on the mathematical and conceptual foundations of medical image science (which he hopes to keep teaching), and the other is to produce a comprehensive treatment of mathematical tracer kinetic analysis as applied to PET.

Jim is deeply grateful to his amazing colleagues, his amazing PhD students, and this amazing institution.

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### DR. JERRY NICKLES

Dr. Nickles (aka Captain Gamma) achieved emeritus status after 45 years in the Medical Physics Department, impersonating an officer. His secret was the discovery, spanning 10 years, of the joy of foreign gigs: Brazil (pre-doc), Denmark (post-doc), and sabbaticals in the Netherlands, Finland, Switzerland, and UK as well as IAEA missions to Bolivia, Indonesia and Brasil. During these absences, new radiochemical tricks were learned to bring back, while his students flourished, temporarily freed from overbearing micromanagement. These two dozen students, being the best students, doing the best research by acquiring the best data, have remained in the field of PET and are now in leadership positions at the best universities across the country. Rather than grants (a bit thin), publications (ok) or committee yeomanry (nearly zip), he takes greatest pride as shepherd of this Cyclotron Gang through the lean pastures, making the heavy steel of ever-better accelerators serve the needs of UW researchers. An undying thanks is due to their skills and can-do spirit. Similar thanks are due to boon companion Mike Phelps and his family foundation, whose largesse has made pivotal contributions over the years. And thanks to Mel Siedband, for leavening our department's interactions with his wit.

In retirement, Dr. Nickles plans to spend more time smashing atoms, biking and boating. Welding. Reading. Traveling. Improving on geezer-hood.

## ANNUAL GOLF SCRAMBLE 2015

We are excited to announce the winners of the 21st annual UW Medical Physics golf scramble! Wally Peppler, Samir Sharma, Curt Wiens, and Matt Smith! The 2015 18-hole golf scramble was held at the beautiful University Ridge golf course on August 31. A record 52 participants competed to have their names immortalized on the champion's plaque outside the medical physics office. Let's not forget our individual challenge winners, Michael Bassetti for the longest drive and Tobey Betthausen for the longest putt! We would also like

to thank our sponsors, including Standard Imaging, Landauer Medical Physics, Med-Cal, UW Radiology, and the Carbone Cancer Center. We hope to see you in August 2016!



*Wally Peppler, Samir Sharma, Curt Wiens, Matt Smith, the winning team!*



*Tobey Betthausen, Kai Ludwig, Andrew Shepard*



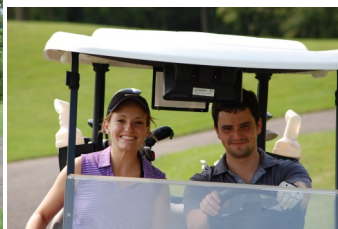
*Photos courtesy of Beth Bierman*



*Chuck Mistretta, Larry DeWerd, James Sorenson, Guang-Hong Chen*



*John Garrett, Alison Roth, John Hayes*



*Emily Ehlerding, Alex Antolak*



*Jenelle Fuller, Sara John, Gemma Giori, Amanda Ciano*

Please join us for another great year of golf on Thursday, August 25, 2016. Contact Mr. Sameer Taneja, Ms. Lianna DiMaso, or Mr. Daniel Gomez Cardona (see page 9 for contact information)

## BOWL-O-RAMA 2015

We would like to thank all who participated in this year's Department of Medical Physics Bowl-O-Rama! The event took place on November 1, 2015 at Schwoegler's Bowling Alley, with 23 participants. A congratulation goes out to the "I Can't Believe It's Not Gutter" team comprised of Patrick Lao, Benjamin Cox, Stephen Graves, and Brandon Walker for their superb performance in winning the 2015 Bowl-O-Rama! Other winners include Tobey Betthausen for highest single game score, Lianna DiMaso for most consistent bowling, Ashley Mulchrone for closest total score to the rest mass of the electron in keV, and Eric Simiele for closest single game score to the k-edge of lead in keV.



*Patrick Lao, Benjamin Cox, Stephen Graves, Brandon Walker*

By Yacouba Traore



## New Online Applications and Database

Under the leadership of Dr. Jackson, and with the assistance of Prof Varghese and the entire administrative team, we have developed a series of online applications and underlying databases for frequent administrative tasks. These applications have been implemented to streamline HR, Purchasing, Travel, and Educational Program tracking and functions in order to be more efficient in serving our faculty, staff, and students. Our new online Educational Program Tracking System, for example, was introduced at the end of the Spring semester and offers a streamlined way for students and their advisors (and the Program Coordinator, Graduate Committee Chair, and Department Chair) to keep track of progress through the graduate program. It provides a simple interface for department faculty to indicate the results of significant program milestones (e.g., warrants for the Prelim Exam, results of the student's thesis defense, etc.). Many tasks that previously required multiple paper forms can now be submitted and approved electronically with the click of a button. This system will greatly aid in departmental record-keeping, and eventually, alumni outreach as well. Our online Purchasing System recently celebrated its first birthday, and is used by faculty, staff, and students alike to request purchases for their labs or for their desks. It helps eliminate the tedious email chains that result from trying to communicate funding strings and item numbers, and ensures that requested items are ordered in a timely manner. In addition, the HR Portal used by faculty to appoint, reappoint, and terminate students, post-docs, etc. has been in place for approximately one year as well. The HR Portal and Education Program Tracking System utilize a common database to improve efficiency and allow simplified data queries and reporting. These online applications and database implementation are increasingly important due to the lack of funding for any expansion of administrative positions and concurrent growth in program and department size and reporting requirements.

## Are you at risk of a ransomware attack?

93 percent of all phishing emails are now ransomware. This type of malware blocks you from accessing your computer, phone or tablet, by either locking your device or by encrypting your files, until you pay a ransom. **Do not pay the ransom!**

Here's what you need to know about ransomware, how to protect yourself, and what to do if your device becomes infected.

**What does a ransomware threat look like? There are three types:**

- Ransomware that encrypts your files. You'll find a text file where your files used to be with instructions for payment.
- Ransomware that displays a full screen image that blocks all other windows and demands payment. No personal files are encrypted.
- Ransomware that locks you out of your mobile phone or tablet. Typically, a message appears that your device is locked and instructs you to contact a provided phone number or email address.

**How does a device become infected by ransomware? Here are the most common ways:**

- Opening attachments in spam emails. The attachments may look like normal documents or files.
- Visiting infected websites. These may be websites compromised by hackers or websites set up for the sole purpose of infecting anyone who visits the site.
- On mobile devices, the main culprits are visiting infected websites or downloading a malicious app.

**How can I protect myself from ransomware?**

- Keep all of your antivirus and malware protection up to date. Remember, all UW-Madison faculty, staff, and students can download Symantec antivirus for free and all computers connected to the University's networks are required to have up-to-date antivirus protection installed.

- Download and install the latest security upgrades.

- Read and understand the access rights you are giving to that new app before clicking "agree" and downloading it onto your smartphone.

**What do I do if my device becomes infected?**

- **Do not pay the ransom.** Not only does it fund the hackers and allow them to continue their scam, they often will just take the money and run without unlocking the device.

- **Contact Medphysics IT or DoIT Help Desk.** They are here to help you.

**Sources**

[Computerworld](#), [CSO](#), [Digital Trends](#), [Forbes](#), [Sophos Knowledge Base](#), [Symantec Official Blog](#)



## Fun Facts

### Current number of.....

Faculty (tenure, CHS and Joint Executive) .....	32
Emeritus Faculty .....	9
Affiliate Faculty .....	26
Graduate Students .....	90
Postdoctoral Fellows.....	11
Scientists .....	19
ADCL .....	12
Administrative Staff.....	12

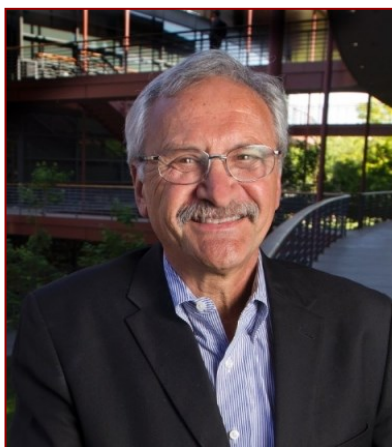
### **Please check the Department of Medical Physics website!**

While there is limited space in a newsletter with which to highlight faculty, staff, and trainees and the exciting work that is ongoing in the many research groups and labs, there is much more information on the Department of Medical Physics website:  
[www.medphysics.wisc.edu/](http://www.medphysics.wisc.edu/).

- Please visit the website from time to time to get updates on the following topics and more:
- faculty and staff appointments, promotions, retirements, etc.,
- awards and honors received by our faculty, students, post-docs, and residents,
- ongoing and new research projects,
- new facilities and programs,
- updates on department events.

## 29TH ANNUAL JOHN R. CAMERON SYMPOSIUM

The 2016 John R. Cameron Symposium was held on Monday, May 2, 2016. The lecture was presented by **Norbert J. Pelc, Sc.D.**, the Shiram Chair of Bioengineering at Stanford University, CA. The title of the lecture was "Perspectives for Future Developments in CT Imaging."



**2016 John Cameron Lecturer  
Norbert J. Pelc, Sc.D.**



## 2016 ANNUAL ALUMNI RECEPTION

The **2016 UW Annual Alumni Reception** will be held on **Monday, August 1, 2016** in Washington, DC in conjunction with the 58th AAPM annual meeting. The event will be held at **Clyde's of Gallery Place** (Piedmont Room), 707 7th Street, NW, Washington, DC 2001. We look forward to a great turnout. To register, please visit <https://www.medphysics.wisc.edu/events/2016/aapmreception.php>

We would like to take time to acknowledge and thank our 2016 Sponsors. We appreciate your donations! We will recognize the donors in the next issue of our newsletter and on our department website.





# HOW CAN YOU HELP SUPPORT THE MEDICAL PHYSICS DEPARTMENT?

As clearly demonstrated by the brief summaries of activities in this newsletter, the Medical Physics Department continues to be a clear leader in medical physics education, training, and research. The faculty continue to be leaders in the fields of radiation metrology, radiation therapy, imaging (CT, MR, ultrasound, PET), and biomagnetism. The graduate program is the largest in North America and the students who matriculate each year are consistently among the best applicants to North American programs. The medical physics residency program in Radiation Therapy Physics is CAMPEP-accredited and mature and the imaging physics residency program is current under CAMPEP review. Graduates of the medical physics graduate program, post-doctoral program, and residency programs have gone on to highly successful careers in academia, industry, hospitals and clinics, consulting groups, entrepreneurships, etc. We seek to continue to provide this level of UW-Madison leadership into the future, in spite of particularly competitive and limited funding availability for research grants and decreasing budgets from the state. To accomplish this goal, the extensive network of UW-Madison Medical Physics Alumni can help through tax-deductible donations, of any amount, to the John. R. Cameron Memorial Fund, the Herb Attix Fund, or the Medical Physics Fund.

Contributions to the **John R. Cameron Memorial Fund** are used solely in support of research and education missions of the Department of Medical Physics. Contributions to the Herb Attix Fund are used to support graduate students selected by the faculty as **Herb Attix Fellows**. Contributions to the **Medical Physics Fund** are used for general support of the department's education and research missions. Future newsletters will provide brief reports on the use of all donor funds. Please consider making a donation today! Any level of support will be greatly appreciated by the department's faculty, staff, students, and residents.

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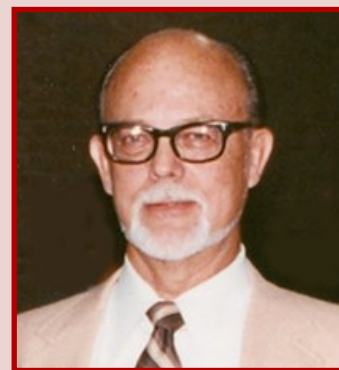
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