"Ultimately, the true measure of the ABR’s success will be the expert care that people like you, our candidates and diplomates, provide to patients throughout your careers." - Milton J. Guiberteau, MD, ABR President
A Message from the ABR President

As the arbiter of professional standards and self-regulation for our specialty of radiology, the ABR has the difficult task of providing certification processes that balance the expectations and confidence of patients and the public on the one hand, with radiologists’ perception of these processes as reasonable and valuable on the other. It is a weighty responsibility.

While it is paramount that our programs are deemed rigorous enough to support the most widely accepted and empowering credential in our profession, it is equally imperative that our radiologists and physicists experience a sense of accomplishment, satisfaction, and pride in achieving and maintaining ABR certification. Although the ABR’s ultimate mission is to serve the public, we can do so only through the buy-in and support of our own community—the “people like you” who care about our profession. We are grateful to have had this support since our inception in 1934, and we have worked hard to maintain it.

At a time when personal accountability is paramount in our healthcare system, the ABR’s responsibility to provide its diplomates with a career-long, meaningful credential reflecting their commitment to current healthcare goals has never been more important. This entails evolving our requirements and processes, some of them decades old, to be in tune with ever-changing external demands. At the same time, we must recognize that much has happened to transform the professional lives of our diplomates in recent years.

This requires us to acknowledge that the “profession” of radiology is not an abstraction but a collection of real men and women sharing a professional bond of common purpose and standards, while training or practicing as individuals in diverse locations and clinical settings amid a myriad of different demands and expectations. Within this milieu, we have taken advantage of technological advancements and innovations in tools for physician assessment to improve candidate and diplomate experience with our Initial Certification and Maintenance of Certification (MOC) programs.

The improvements made and the current statuses of efforts to update our programs and processes are addressed in more detail elsewhere in this Annual Report by Board leaders who have overseen them or staff who have coordinated them. But briefly, these include the following changes to Initial Certification, MOC, and Board governance.

Initial Certification

- The refinement of the recently introduced Diagnostic Radiology (DR) Core Examination based on three years of experience has resulted in much positive feedback. While some have lamented the demise of the many-decades-old oral examination, the new computer-based Core and Certifying examinations have brought a uniformity and precise measurability long enjoyed by other ABMS specialty boards. For DR candidates, this format has permitted us to provide an increasing level of detailed feedback regarding clinical and modality proficiency, as well as for areas in need of improvement. For all ABR disciplines, this experience serves as the beginning of a future transition from single-answer multiple-choice questions to more sophisticated exam question types that will better simulate practice. Further, we continue to explore advances in technology to discover improved ways to deliver examinations.

- The successful first administration of the new DR Certifying Exam marked the complete implementation of changes in Initial Certification adopted a decade ago. The opportunity for certifying examinees to

(continued on next page)
choose the areas most appropriate to their respective training and/or future practice allows documentation of a successful grasp of an individually specified knowledge base. Further, with much assistance from our professional societies, community-wide acceptance of the 15-month delay in certification is being achieved.

Maintenance of Certification

• In the last year, we have striven to improve the appropriateness and efficacy of our MOC program. The introduction of MOC by ABMS boards significantly changed our relationship with diplomates by creating a critical career-long link between us. This has necessitated an ongoing dialogue to ensure diplomate satisfaction and sense of accomplishment regarding processes designed to demonstrate continuous commitment to ever-evolving community benchmarks, as well as public and patient expectations. Such dialogue has fostered a better insight into our diplomates—“people like you.” As a result, we have tailored our processes to the practice realities and professional lives of MOC participants.

• In response to a perceived need to update MOC Part 3—Knowledge, Judgment, and Skills Assessment—we have announced the development of a pilot of an online longitudinal assessment program (ABR OLA).

The new program is designed to provide immediate feedback to diplomates regarding their relative strengths and weaknesses in maintaining knowledge bases relevant to their own practices, along with direction for improvement. This concept represents an expansion of our responsibility from simply identifying those who do or do not meet the overall knowledge standard every 10 years to continuous summative knowledge assessment. In addition, by taking the assessment to our diplomates, travel and time away from home and practice will be eliminated. We hope that, pending success of this pilot, the process can be implemented sometime in 2019 as an update to the current periodic secure examination taken at an exam center.

• This past year also witnessed the expansion of options for meeting the MOC Part 4 requirement to demonstrate our commitment to Practice Quality Improvement (PQI). In addition to permitting PQI projects with a wider choice of methodologies, the new requirement may also be satisfied by a number of specified quality improvement activities, many of which can be or are already being accomplished in current daily workflow. Further, busywork has been minimized by eliminating the need to report PQI project data or activity-related information to the ABR. Instead, only simple attestation (a binary “yes” or “no”) is needed to indicate compliance. Detailed documentation will be required only if a diplomate is randomly selected for an ABR MOC audit.

Board Governance

• In 2016, we finalized a reorganization of Board governance to better serve our core competency of awarding and maintaining certification of diplomates. The new structure also promotes efficiency in decision making and implementation of program improvements while maintaining our access to a broad spectrum of board member expert opinion.

I have been fortunate to serve the ABR as its president for the past two years. It has been a period of controversy, conversation, re-evaluation, consensus, and progress. And underlying it all has been the sincere, unrelenting commitment of our Board to listen to and consult with the community that supports us and from which our authority arises. I am grateful for the support of my fellow colleagues on the Board, the operations expertise of our Executive Director Valerie Jackson and her hardworking staff, and the tireless efforts of the volunteers who make it all possible.

I am also thankful for the honest collaborations with and encouragement of those of you in the community, individuals as well as the leaders of our professional society partners, whose advice and perspectives have shaped our thinking, encouraged our actions, and supported our endeavors in the advancement of innovation for improvement. Permeating all of these efforts together is the ongoing responsibility of the ABR to preserve radiologists’ privilege of regulating ourselves rather than ceding it to others who have scant appreciation for what current radiology practice entails. And, so far, we are succeeding. However, I believe that, ultimately, the true measure of the ABR’s success will be the expert care that “people like you,” our candidates and diplomates, provide to patients throughout your careers.

As we still say in Texas on such occasions, “Much obliged.”
WE APPRECIATE PEOPLE LIKE YOU

Dear ABR Candidates, Diplomates, and Friends,

One of my favorite historical figures is Anne Frank, who said, “How wonderful it is that nobody need wait a single moment before starting to improve the world.” When you began your journey to become a diagnostic radiologist, radiation oncologist, medical physicist, or interventional radiologist, you made a commitment to start improving the world one step at a time. You signed up for numerous years in medical school or graduate school, then a residency, and then—for many of you—fellowship training. Finally, there’s the initial board certification process and then maintaining that certification throughout your profession.

We appreciate those of you who are ABR candidates and are in the midst of this rigorous training process. Believe it or not, I remember how stressful it was to spend so many years in school and then face the board certification process, to study so hard for the exams, and then to wait with anticipation and uncertainty to find out if I had passed. When I was a program director, I felt that same angst as I started to improve the world.” When you

part 3 of the ABR's Maintenance of Certification (MOC) requirements is the assessment of knowledge, judgment, and skills. To date, the ABR has required its diplomates to pass a secure, proctored MOC Examination once every 10 years. Many have noted that 10 years seems to be too long an interval to qualify as consistent assessment of physician knowledge. In addition, the image-intensive exams for diagnostic radiology have required travel to an ABR-managed exam center, which has created expense and inconvenience for diplomates. Therefore, the ABR Board of Governors recently reassessed the ABR Part 3 requirements, with the goal of developing a program that could provide a more continuous assessment of learning, offer feedback to diplomates that could be used to address gaps in knowledge and practice, and minimize diplomate travel and inconvenience.

A task force of the Board of Governors and the Board of Trustees was formed to evaluate MOC Part 3 options. A number of alternatives were assessed, including 1) modular exams at local testing centers; 2) streamed real-time online testing; 3) web-based, on-demand tests at office or home with remote proctoring; 4) open-book tests; and 5) online longitudinal assessment. For a number of reasons, the online longitudinal assessment option was selected, particularly because it combines an assessment of learning with an assessment for learning in a relatively continuous fashion.

In this new program, diplomates will create individual profiles of the practice areas that most closely fit what they do. They will receive weekly emails with links to questions relevant to their registered practice profiles, and the questions may be answered singly or in small batches. Diplomates may choose to opt out of questions that may not be within their specific practice areas; once a question is opened, there will be a limited time allowed to answer. After answering, diplomates will learn immediately whether they answered correctly. They will also receive each question’s rationale, a critique of the options, and brief educational material and references. Those who answer questions incorrectly will receive future questions on the same topic to gauge whether they have learned the material. The cumulative score will be checked annually to determine the diplomate’s performance.

One of the disadvantages of the online longitudinal assessment model, compared with the current MOC Examination administered in the ABR’s Chicago and Tucson exam centers, is the lack of control over image viewing conditions. Diplomates will be able to choose the device on which to view their online longitudinal assessment questions, which could be a desktop computer, a laptop computer, a tablet, or even a smart phone. Therefore, the quality of the monitors, lighting, and ambient distractions will not be controlled as they are in a testing center. Ultimately, it will become the diplomate’s responsibility to ensure an adequate environment for answering the questions.

The ABR Board of Governors decided to move ahead with the new MOC Part 3 Online Longitudinal Assessment (called ABR OLA) in May 2016.
Initial Certification Examinations for all ABR specialties, including the diagnostic radiology Core and Certifying exams, will remain in their present forms. Diplomates who need to pass an MOC Exam by the annual review on March 2, 2017, as indicated in their personal myABR accounts, were required to take and pass the exam in 2016 to meet the Part 3 requirements. Other diplomates will be given an exception for meeting Part 3 requirements until the ABR OLA Exam is fully functional.

The ABR is currently forming the committees and processes to develop the material for the ABR OLA questions. These will be developed in all categories for all four disciplines over 2017 and early 2018. A pilot is planned for late 2018 to ensure functionality of the ABR OLA program, which is being developed by Board staff and outside consultants. The current plan is to launch ABR OLA for diagnostic radiology diplomates in early 2019. The other disciplines—radiology, medical physics, and interventional radiology—will be included in this process as soon as possible after the initial launch.

Although we will never have a perfect MOC assessment tool, the ABR is confident that the ABR OLA model is an excellent way to accomplish a major ABR MOC goal: demonstration of learning concepts to provide a psychometrically valid sampling of diplomate knowledge. More information can be found at www.theabr.org/sites/all/themes/abbr-media/pdf/ABR-MOC_Part_3_Changes_Press_Release.pdf

Additional volunteers are needed to launch this important new program and continue work on the existing exams. Committee members must have practiced in the field for at least one year, be certified by the ABR (or ABMP for medical physics), and meet requirements of the MOC program. They serve a three-year term, renewable once. The total time commitment is approximately 50 to 70 hours per year.

For more information, please call the ABR office at (520) 790-2900, or send an email to information@theabr.org.

CALL FOR APPLICATIONS
Examination Committee Volunteers

The American Board of Radiology (ABR) is issuing a Call for Applications for volunteers to serve on its Initial Certification and Maintenance of Certification (MOC) Examination committees.

The ABR is currently developing a pilot that may replace its MOC Part 3 requirement to pass a traditional proctored examination every 10 years. The new model is a continuous assessment that leverages advances in technology to bring the process to diplomates online. The pilot Part 3 assessment tool, known as ABR Online Longitudinal Assessment (ABR OLA), will incorporate modern and more relevant adult learning concepts to provide a psychometrically valid sampling of diplomate knowledge.

To apply, please complete and submit the ABR volunteer application form at https://form.jotform.com/61745152459157.

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To read more of our interviews with Drs. Bradshaw and Ivansco, go to www.theabr.org/news-landing.

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Dr. Lilli Ivansco hiking with her sons, William and Daniel, in Rocky Mountain National Park (photo by her husband, Joey Ivansco).

Dr. Marques Bradshaw enjoying a boat cruise with his wife, Francesca.

PEOPLE LIKE YOU IN DIAGNOSTIC RADIOLOGY

**Dr. Marques Bradshaw**

**WORK:** Nuclear radiologist, Medical University of South Carolina, Charleston; balancing the mission of training, performing research, and maintaining clinical practice. Also serves as assistant dean for resident inclusion with the College of Medicine, working to strengthen diversity efforts related to recruitment and retention of those underrepresented in medicine.

**TRAINING:** Undergraduate, Morehouse College, Atlanta; medical school, Duke University, Durham; nuclear medicine residency, Vanderbilt University, Nashville; radiology residency, Medical University of South Carolina.

**BOARD CERTIFICATION:** 2010. "Board Certification symbolizes the culmination of a lifelong dream to become a physician, and specifically, a radiologist. It embodies the quality that I hope to give to all my patients going forward."

**WHAT DO YOU LIKE MOST ABOUT NUCLEAR RADIOLOGY?** "I truly enjoy breaking down my specialty in such a way that my residents leave our program having a workable framework to attack any nuclear examination."

**WHAT DO YOU LIKE LEAST?** "Seeing children succumb to their illnesses. Frequently, because we are a small specialty, we get to know our 'frequent fliers,' and it can be disheartening when you are informed that one of them has passed away."

**MEMORABLE ACCOMPLISHMENT:** Winning the Golden Apple Award from the radiology residents. "It was truly a special treat to be recognized by my fellows in educating the next generation of imagers."

**SPARE TIME:** "When I'm not spending time with my wife, Francesca, I enjoy watching Duke basketball."  

**Dr. Lilli Ivansco**

**WORK:** Part of large subspecialty radiology group in Denver. Practices roughly 75 percent breast imaging and 25 percent general/body imaging and call shifts.

**TRAINING:** Undergraduate degree, Yale University, New Haven; medical degree, internship, residency, and fellowship, Emory University, Atlanta.

**BOARD CERTIFICATION:** 2013, the last year of the DR Oral Exam. "It was a stupendous relief to pass oral boards. It meant that regardless of my self-doubt, I had been deemed worthy of the title of radiologist. And then, funny enough, once the euphoria subsided I felt a fiduciary duty to maintain my professional worthiness, so as to not let down those who had trained me."

**HOW DO YOU PREPARE FOR THE ORAL EXAM?** "We did thousands of cases. One particular cardiovascular attending, normally regarded as the most benevolent radiologist alive, unveiled an icy, ruthless examiner persona that made us sweat and stammer."

**PRACTICE LIKES AND DISLIKES:** "I am honored when a colleague, regardless of experience or seniority, solicits my clinical opinion on a difficult case. . . . I hate delivering bad news to good people. But I also believe one of my most important responsibilities as a breast imager is conveying information to patients with kindness and compassion."

**SPARE TIME:** Loves to hike and explore the outdoors and does Pilates to correct postural defects caused by too many hours in the reading room. "I also run around after my two boys, aged 6 and 10, who remind me to at least occasionally live in the moment."

(continued on page 16)
PEOPLE LIKE YOU IN RADIATION ONCOLOGY

Lynn D. Wilson, MD, MPH


TRAINING: University of Pennsylvania, Philadelphia, for college and medical school, and residency training at Yale-New Haven Hospital.

BOARD CERTIFICATION: 2016. “I found the oral boards to be extremely well organized and fair. Naturally, one feels a significant stress around that test, but the process itself helped to calm the nerves. Board certification means I have the ability to meet the standard of care required for our cancer patients.”

WHY RADIATION ONCOLOGY? As a third generation radiation oncologist, grew-up surrounded by the field and was further drawn to it in medical school.

PRACTICE CHALLENGES: “Once you’ve finally in that position (attending physician), you often have to double and triple check that you really feel you’re approaching a given patient’s case in the best manner.”

PRACTICE REWARDS: “I am most proud when my patients thank me for my work and for taking the time to ‘see them as a real human being.’ It is easy to think about patients in terms of their diagnosis, but that would be an extreme simplification of who they are. I value my interactions with them and everything that they teach me about life.”

LITTLE-KNOWN FACT: “Few people know that I learned to play the guitar and harmonica. Before I fully committed to science in college, I dreamt of being a musician and even recorded a ‘demo.’ Now I just play for fun and mostly play songs that I make up for my kids.”

Dr. Arie Dosoretz

WORK: Founding chair of new academic radiology department (2012), West Virginia University, Morgantown. Works in a cancer center with a multidisciplinary team and effective clinical trials infrastructure. Focuses on breast, gynecologic, and CNS cancers.

TRAINING: Undergraduate degree in human environment and design, Michigan State, East Lansing. Worked in Germany and Taiwan after graduation and traveled around the world. Pre-med at University of South Florida, Tampa, and University of Miami. Medical school at University of Utah and radiation oncology residency at LDS Hospital, Salt Lake City.

BOARD CERTIFICATION: 1985. MOC participant with lifetime certificate in therapeutic radiology. “I was relieved to pass my boards; 30-plus years later, I continue to be proud of my board certification. The process solidified my knowledge and laid the groundwork for lifelong learning.”

PRACTICE REWARDS: “I treated an elderly woman with head and neck cancer who expected to die. During her treatment, she sold her house, her car, and gave her dog away. A year later she was disease free, bought a condo, a sports car, and a new dog. A local patient with an advanced gynecologic cancer was sent to me for palliation. I treated her with definitive intent; she had complete resolution of her tumor and two years later was cooking Thanksgiving dinner for her whole family and even got a deer hunting license.”

SPARE TIME: Reading, traveling, visiting family, quilting, and designing. “I’m an opportunistic exerciser, and I swim, walk, run, and bike regularly. I like to study languages while I drink my morning coffee and am currently working my way slowly through an Arabic text.”

People Like You in Radiation Oncology

To read more of our interviews with Drs. Dosoretz and Jacobson, go to www.theabr.org/news-landing

Dr. Geraldine Jacobson posing with an antique dealer in Rhodes, Greece

Dr. Geraldine Jacobson

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Radiation Oncology Report

Evolving Volunteer Opportunities in Radiation Oncology

by Paul E. Wallner, DO, Associate Executive Director for Radiation Oncology, and Lynn D. Wilson, MD, MPH, ABR Trustee for Radiation Oncology

The mission of the ABR is such that a large number of volunteers is essential to complete the necessary tasks, with ongoing support from a staff of talented and motivated professionals. Due to the changing nature of practice patterns and scientific and clinical advances, a cadre of volunteers from all practice settings and with varied interests is constantly being sought.

Prior to 2012, the primary radiation oncology (RO) exam opportunity was submission of questions for various qualifying (written) examinations, or clinical case material for certifying (oral) examinations. The nature of the oral exam process provided relatively few opportunities to participate, and experienced volunteers would frequently examine for many years before stepping aside or being replaced, giving other volunteers an opportunity to serve as oral examiners.

With the introduction of RO time-limited certificates in 1995 and reorganization of the RO clinical category committees in early 2012, some volunteer opportunities were eliminated, but others were added to the list of available options. The ABR trustees had always believed that decisions involving candidates for Initial Certification (IC) and diplomates participating in Maintenance of Certification (MOC) should not be made exclusively by ABR trustees and staff, so IC and MOC advisory committees were established. These committees are populated by volunteers at every level of training and practice, including residents currently in their post-graduate training, newly certified diplomates, and more seasoned diplomates. They convene by conference call, primarily as anticipated changes in programming require their input. Both the IC and MOC advisory committees were instrumental in proposing worthwhile changes to the Nonclinical Skills exam content, as well as development of the modular (practice-based) MOC Exams introduced in 2015.

MOC Part 2 (Lifelong Learning) requires that diplomates obtain Category 1 continuing medical education (CME) credits, and that a portion of those credits must be in self-assessment instruments. A number of organizations have obtained ABR Deemed Status to provide this self-assessment CME (SA-CME) or self-assessment modules (SAMs). This deemed status can be obtained after ABR approval of a minimum of 10 submitted programs or publications. Until that number and deemed status are attained, or submissions are from non-deemed status organizations, the submissions must be reviewed and critiqued for relevance, quality, and appropriateness of the self-assessment tools. This review is performed by diplomates who have volunteered for that service. Many of these individuals later elect to move on to clinical category committee assignments.

A major change in volunteer participation accompanied the clinical category committee reorganization in 2012. Prior to that time, numerous “ad hoc” item (question) writers would submit questions for the IC and MOC examinations in their areas of clinical interest. Although large numbers of items were thus available, the submitters often lacked sufficient expertise in the nuances of psychometrically appropriate item development, so many items were unused. Subsequent to January 2012, standing clinical category committees were established with a fixed number of volunteers reporting to co-chairs, each with either qualifying or certifying examination responsibility. After that point, committee chairs and committee members became supported by a site-assigned ABR trustee and the associate executive director for radiation oncology. Committee members now are trained in item and case development via webinar.

(Continued on page 16)
Dr. Sonja Dieterich enjoying the High Sierra in California

ABR certification is documentation that as a medical physicist, I have a certain level of expertise, engage in continuous education, and strive to keep my professional knowledge up to date in times of rapid change.

WHY MEDICAL PHYSICS? Was previously a nuclear physicist but changed to medical physics, which “combines applied physics and rewarding outcomes.”

PRACTICE LIKES AND DISLIKES: “I most like that I can go home after a day of work knowing that I contributed to helping about 60 patients that day in their fight against cancer. What I least like is how incredibly hard it is to find even a little bit of research money to drive the profession forward.”

MOST MEMORABLE ACCOMPLISHMENT: “You should see me when my residents pass an ABR exam, land a good job, or get a paper published. I am so proud of their hard work! Rather than naming a single accomplishment, I think it is the many little things happening each day that make me feel accomplished.”

HOBBIES: “My happy place is when my crampons dig into snow, the ice axe bites, and I take the next step up a mountain with my climbing partners. I love the remote back country, and wild places. At home, I knit and play harp, or garden while my four chickens clean out insects I dig up.”

Dr. Dan Bourland playing drums for a holiday party (photo by Bridgette Russ)

WORK: Medical physicist/professor of radiation oncology, Wake Forest School of Medicine, Winston-Salem. Clinical expertise includes 3D radiation treatment planning, gamma radiosurgery, and applications of imaging in radiation oncology.

BOARD CERTIFICATION: 1989. “I see it [board certification] as an important, desirable, and even exciting step in one’s professional career – it’s not a license, and it does not mean that one ‘knows everything,’ but it is a credential that validates that the medical physicist is ready for independent practice.”

WHY MOC, WHEN YOU’RE CERTIFIED FOR LIFE? “I enrolled in MOC to be able to identify with other physicists for whom MOC is required to work on staying up-to-date as the medical physics field and its practices change.”

WHY MEDICAL PHYSICS? “When a college friend told me he was going to graduate school in medical physics, I went into the physics library and looked at an early edition of the Journal of Medical Physics. I saw many equations and line drawings; I didn’t know what any of it meant, but it looked interesting!”

CAREER REFLECTIONS: “One newer graduate introduced himself to me as my ‘grandstudent’ because he had trained with one of my students. I’m also delighted that the finite size pencil-beam algorithm I developed for my PhD dissertation was used in the first commercial planning system that implemented the technique of intensity-modulated radiation treatment (IMRT).”

SPARE TIME: “I enjoy playing piano and drums and still playing in the ‘old man’ soccer league where I’m definitely older than most!”

The American Association of Physicists in Medicine (AAPM) estimates that there are 6,800 practicing medical physicists in the United States, and 75 percent work fully or primarily in radiation therapy. Only 70 percent report that they are certified by the ABR, the American Board of Medical Physics, the Canadian College of Physicists in Medicine, or another board. Approximately 69 percent say that they work primarily in clinical activities, with 22 percent working in research and 9 percent who are generally administrators.

Until recently, the pathways that brought people into the profession were extremely varied. In the early years, physicists were recruited from classical university physics positions. Most were trained on the job, and many had to teach themselves. The Radiological Society of North America (RSNA) began to offer certification of medical physicists in 1934, and this responsibility was transferred to the ABR in 1947.

Beginning in the 1960s, specialized graduate medical physics training programs were developed, but many medical physicists still received only formal classical physics education, combined with clinical training in postdoctoral fellowships or more informal positions. Consequently, the quality and level of training and experience varied from intensive to almost nothing.

In 1994, the need to standardize the training of medical physicists led to the development of the Commission on the Accreditation of Medical Physics Education Programs (CAMPEP), which developed curriculum standards and an accreditation process. Today, most medical physics graduate programs are accredited. Even more recently, CAMPEP published standards for medical physics residencies, and now approximately 100 residents complete their training each year.

The development of CAMPEP has enabled the ABR to rely on compliance with educational standards, rather than needing to impose its own standards on candidates for certification. The ABR now requires candidates to complete a CAMPEP-accredited residency program before being eligible to take the Part 2 examination in medical physics.

In addition to passing Parts 1 and 2, medical physicists must pass an oral exam to be certified. All three exams are designed to test knowledge obtained in a graduate program, clinical training, formal residency or on-the-job experience, and candidates’ ability to communicate about clinical situations. For more information on Initial Certification for medical physicists, go to www.theabr.org/ic-rp-landing.

After achieving certification, diplomates are automatically enrolled in the ABR Maintenance of Certification (MOC) program, which is designed to encourage them to stay current with new developments in the profession and review key medical physics concepts. MOC also provides physicians with ongoing education and feedback opportunities. For more information on ABR OLA and the Commission on the Accreditation of Medical Physics Education Programs (CAMPEP), go to www.theabr.org/ic-rp-landing.
INTERVENTIONAL RADIOLOGY REPORT

The new interventional radiology/diagnostic radiology (IR/DR) primary certificate continues to move forward, and the ABR will issue the first certificates in 2017. The IR/DR certificate was designed to recognize interventional radiology as a unique medical specialty, addressing the diagnosis and treatment of diseases through expertise in diagnostic imaging, image-guided minimally invasive procedures, and the evaluation and clinical management of patients with conditions amenable to these methods. Those certified in IR/DR will have demonstrated competency to practice in diagnostic radiology, as well as the full scope of interventional radiology.

Integrated IR Residency Programs

At its last meeting in September 2016, the Residency Review Committee (RRC) of the Accreditation Council on Graduate Medical Education (ACGME) accredited 17 new integrated IR programs. Sixty-one integrated IR programs have now been accredited in time to participate in the upcoming National Residency Matching Program (NRMP) match in March 2017. Of these, 55 have vascular and interventional radiology (VIR) fellowships. It is anticipated that approximately 122 PGY-2 positions will be offered in the match. Residents can enter integrated IR programs, which have a five-year training pathway, through the match in medical school or through transfer from a diagnostic radiology (DR) residency.

The Electronic Residency Applications Service (ERAS) opened for IR on September 15, 2016, and medical students have begun to submit their applications. So far, there have been more than 250 applicants for the 122 positions, demonstrating a strong interest in IR among medical students.

Independent IR Residency Programs

The ACGME will begin accepting applications and approving independent IR programs in 2017, and these approved programs will begin on July 1, 2020. Applicants for these programs must have completed a DR residency. Residents who have completed Early Specialization in Interventional Radiology (ESIR) training during their DR residencies will have a one-year pathway; others will have a two-year pathway.

The examination structure will consist of the DR Core Examination in the 36-month month of residency training, and an IR/DR Certifying Examination with both oral and computer-based components three months after completion of training. Details of the examination structure and specific requirements for each exam are being finalized.

The ABR is very pleased with the remarkable cooperation between DR and IR during the development of training for certification in this specialty. We are certain that the new training paradigm has already improved the clinical visibility of IR, has promoted patient-centered care in radiology, and has the potential to improve patient care in IR.

We will continue to provide information regarding the new IR/DR specialty certificate as it becomes available. Please check our website at www.theabr.org/ic-irdr-landing for the latest information.

by Anne C. Roberts, MD, Associate Executive Director for Interventional Radiology, and Jeanne M. LaBerge, MD, ABR Trustee for Interventional Radiology

People Like You in Interventional Radiology

Dr. Courtney Raybon hiking with her husband Will in Yosemite National Park

University of Georgia Medical Partnership, Athens. Dr. John Caudill, a classical music lover, arrived early for a Smash Mouth concert during Parents’ Weekend at Centre College in Danville, Kentucky, where his son Dan is a senior.

WORK: First interventional radiology/diagnostic radiology resident, Vanderbilt University, Nashville.

TRAINING: Undergraduate degree in biology, Berry College, Rome, Georgia; medical degree from Medical College of Georgia at the Augusta University/University of Georgia Medical Partnership, Athens.

WHY INTERVENTIONAL RADIOLOGY? “My passion for the field of radiology, combined with my interest in a procedure-oriented specialty, makes training in interventional radiology the best of both worlds.”

WHY PURSUE BOARD CERTIFICATION? “So my patients will have confidence that I provide quality healthcare in my practice.”

HOW HAS YOUR RESIDENCY BEEN SO FAR? “I am three months into my interventional radiology residency at Vanderbilt, and I have greatly enjoyed my work thus far. I find myself surrounded by talented physicians who are also gifted teachers. I am pleased to have discovered that even a new radiology resident like me is able to help in the diagnosis and treatment of a varied and diverse group of diseases.”

MOST MEMORABLE INTERACTION: “My interaction with the senior resident on my trauma surgery rotation during my internship will stay with me throughout my career. She consistently exemplified calm and decisive action under pressure. She also understood the emotional toll of the work and took the time to teach us how to cope with the difficult experience of treating gravely injured patients.”

SPARE TIME: “One of my favorite things is to enjoy the outdoors with my husband and/or friends. We spend time hiking, boating, attending outdoor concerts, visiting vineyards, and anything that gets us outdoors together.”

To read more of our interviews with Drs. Raybon and Caudill, go to www.theabr.org/news-landing

Dr. John Caudill

Dr. Courtney Raybon

University of Georgia Medical Partnership, Athens. Dr. John Caudill, a classical music lover, arrived early for a Smash Mouth concert during Parents’ Weekend at Centre College in Danville, Kentucky, where his son Dan is a senior.

WORK: Retired from private practice in 2015. He was one of the first two board-certified vascular and interventional (VIR) radiologists in Lexington, Kentucky, when VIR became a subspecialty in 1995.

TRAINING: Medical school, University of Kentucky, Lexington; internship and residency in internal medicine, Carolinas Medical Center, Charlotte, NC; additional training in diagnostic radiology (DR) and fellowship in VIR, The Ohio State University, Columbus.

WHY INTERVENTIONAL RADIOLOGY? “During my internal medicine residency, the rapidly expanding field of radiology began to interest me. I also missed some of the patient interaction in internal medicine, and VIR gave me more patient contact.”

WHAT DOES BOARD CERTIFICATION MEAN TO YOU? “That a radiologist has completed an approved comprehensive training program and passed an exam indicating that he or she is qualified to practice.”

WHAT WAS YOUR PRACTICE LIKE? “I spent about 40 to 50 percent of my time in VIR and the rest in general radiology. In 1989 we covered one hospital. By 2015 we had merged with another group in Lexington, forming Central Kentucky Radiology, PLLC, had 17 radiologists in the group, and covered 10 hospitals in central Kentucky.”

BEST PRACTICE MEMORIES: “Many patients thanked me for explaining an invasive procedure in enough detail so they understood why the procedure was being done and what we hoped to accomplish.”

SPARE TIME: Golf, family history and genealogy, World War II history, and classical music. “My wife and I like doing our own lawn work.”
RADIATION ONCOLOGY, continued from p. 9

radiology-related areas where cross-sectional images, including PET scans, are interpreted; and at least eight months of nuclear radiology, which no longer needs to be taken as one block. The requirement that these programs can be undertaken only in departments with an accredited nuclear radiology fellowship or nuclear medicine residency has also been relaxed so that any department that can meet the requirements can enroll residents in this program. More information about this program is posted on the ABR website at www.theabr.org/ic-nuc-landing.

Maintenance of Certification

The biggest news, of course, is a transition from a Maintenance of Certification (MOC) Examination once every 10 years to ABR Online Longitudinal Assessment (ABR OLA), which is described on pages 5 and 6 of this report.

The 2016 MOC Examination was delivered in both Tucson and Chicago exam centers in March and October 2016. A total of 635 diplomates took the examination; the overall pass rate was greater than 90 percent. The only diplomates required to take the 2016 MOC Exam were those who would not have been due to date in their requirements as of the annual review on March 2, 2017.

Volunteer Activity

We would like to thank the 252 diagnostic radiology volunteers, serving on 28 separate committees, for helping the ABR with these endeavors. We have estimated that in total, these volunteers have spent 15,120 hours on ABR activities—a lot of time! Indeed, the ABR could not perform its mission without volunteer help writing new examination questions, evaluating questions written by others, and compiling the examinations. We can never thank our volunteers enough for what they do! The ABR OLA endeavor will require even more volunteer help. If you are willing to help us, please go to www.theabr.org/volunteers and submit your volunteer application online.

RADIATION ONCOLOGY, continued from p. 11

and conference calls, and they meet face-to-face periodically to refine examination content. Oral examiners are selected on a rotating basis from the committee membership, with new members added as older members resign or their terms expire.

A new MOC Part 3 Online Longitudinal Assessment (called ABR OLA) may replace the existing traditional secure MOC Exam, likely in 2019 (see pages 5-6). Diplomates who needed to pass an MOC Exam by the annual review on March 2, 2017, as indicated in their personal myABR accounts, were required to take and pass the exam in 2016. Other diplomates will be given an exception for meeting Part 3 requirements until ABR OLA is available. The added item inventory requirements for the program will necessitate significant enlargement of the clinical category committees, with additional volunteer opportunities available.

As the clinical category committees are expanded, the ABR expects that there will be new interest among younger diplomates, and individuals who have been certified for a minimum of one year will be eligible to participate in oral examinations must be at least five years post certification to be invited to participate in the oral examinations.

Volunteer opportunities continue to exist for physician-scientists, physicists, and radiation biologists, on the physics and cancer and radiation biology standing committees. The responsibility of item development for these groups is primarily related to the basic science sections of the written examinations, but they also provide support to MOC program development.

The ABR values all its volunteers regardless of their capacity in which they serve, and will continue to seek new opportunities for all qualified and interested diplomates to participate. We especially seek those in nonacademic practice to provide insight into appropriate material for a wide range of candidates and diplomates. Further specifics of volunteer activity and expectations, and a portal for volunteer application, are available on the ABR website at www.theabr.org/volunteers.

CERTIFICATION STATISTICS

All Certificates Issued by Decade (1930-2015)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>1,133</td>
<td>1,162</td>
<td>1,207</td>
<td>1,233</td>
<td>1,239</td>
<td>1,257</td>
<td>1,329</td>
<td>1,329</td>
<td>123*</td>
</tr>
<tr>
<td>Medical Physics</td>
<td>141</td>
<td>136</td>
<td>200</td>
<td>204</td>
<td>204</td>
<td>315</td>
<td>263</td>
<td>264</td>
<td>279</td>
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<tr>
<td>Therapeutic**</td>
<td>[121]</td>
<td>[116]</td>
<td>[181]</td>
<td>[169]</td>
<td>[181]</td>
<td>[263]</td>
<td>[232]</td>
<td>[211]</td>
<td>[217]</td>
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<tr>
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<td>[16]</td>
<td>[14]</td>
<td>[28]</td>
<td>[22]</td>
<td>[41]</td>
<td>[29]</td>
<td>[45]</td>
<td>[54]</td>
</tr>
<tr>
<td>Radiation Oncology</td>
<td>136</td>
<td>135</td>
<td>123</td>
<td>166</td>
<td>139</td>
<td>148</td>
<td>155</td>
<td>170</td>
<td>164</td>
</tr>
<tr>
<td>Total</td>
<td>1,410</td>
<td>1,433</td>
<td>1,530</td>
<td>1,603</td>
<td>1,582</td>
<td>1,720</td>
<td>1,746</td>
<td>1,763</td>
<td>566*</td>
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*Numbers decreased due to transition from the oral exam to the Certifying Exam in diagnostic radiology (see table below).

**Specialty of medical physics.

<table>
<thead>
<tr>
<th>Year Founded</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Radiology</td>
<td>1,133</td>
<td>1,162</td>
<td>1,207</td>
<td>1,233</td>
<td>1,239</td>
<td>1,257</td>
<td>1,329</td>
<td>1,329</td>
<td>123*</td>
<td>1,092</td>
<td>11,103</td>
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<tr>
<td>Medical Physics</td>
<td>141</td>
<td>136</td>
<td>200</td>
<td>204</td>
<td>204</td>
<td>315</td>
<td>263</td>
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<td>Therapeutic**</td>
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<td>[45]</td>
<td>[54]</td>
<td>[26]</td>
<td>[291]</td>
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<tr>
<td>Radiation Oncology</td>
<td>136</td>
<td>135</td>
<td>123</td>
<td>166</td>
<td>139</td>
<td>148</td>
<td>155</td>
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<td>Total</td>
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<td>1,433</td>
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<td>1,603</td>
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<td>1,720</td>
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<td>1,763</td>
<td>566*</td>
<td>1,462</td>
<td>14,815</td>
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</table>

*Because of the transition from the diagnostic radiology (DR) oral exam to the DR Certifying Exam, only those who took and passed a DR oral exam were certified in 2014. The first DR Certifying Exam was administered in October 2015.

**Specialty of medical physics.

| Specialty Certificates Issued 2006-2015 |
|--------------------------------------|---|---|---|---|---|---|---|---|
| Year Founded | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Diagnostic Radiology | 134 | 139 | 148 | 158 | 167 | 185 | 197 | 189 | 159 | 171 | 1,647 |
| Nuclear Radiology | 4 | 2 | 3 | 2 | 5 | 7 | 7 | 13 | 11 | 10 | 64 |
| Pediatric Radiology | 24 | 31 | 34 | 41 | 40 | 53 | 59 | 60 | 57 | 81 | 480 |
| Vascular & Interventional Radiology | 74 | 88 | 81 | 103 | 98 | 117 | 133 | 150 | 177 | 96 | 1,117 |
| Hospice & Palliative Medicine* | NA | NA | 9 | 0 | 11 | 0 | 42 | 0 | 5 | 0 | 67 |
| Total | 236 | 260 | 275 | 304 | 321 | 362 | 438 | 412 | 409 | 358 | 3,375 |

*Subspecialty approved in 2006; examinations offered every other year, beginning in 2008. Certificate administered by the American Board of Internal Medicine.

| Subspecialty Certificates Issued 2006-2015 |
|--------------------------------------|---|---|---|---|---|---|---|---|
| Year Founded | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Diagnostic Radiology | 20,600 | 1,875 | 3,147 | 227 | 2,996 | 79 | 26,743 | 2,181 |
| Radiation Oncology | 3,147 | 227 | 2,996 | 79 | 26,743 | 2,181 |
| Medical Physics | 2,996 | 79 | 26,743 | 2,181 |
| Total | 26,743 | 2,181 |

*As of September 2016. Number of lifetime certificate holders in brackets.
## Diagnostic Radiology Core Exam Pass Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Residents taking exam for first time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>91%</td>
</tr>
<tr>
<td>2015</td>
<td>87%</td>
</tr>
<tr>
<td>2016</td>
<td>91%</td>
</tr>
</tbody>
</table>

## Medical Physics Part 1 Exam Pass Rates (First-time Takers)

<table>
<thead>
<tr>
<th>Year</th>
<th>General</th>
<th>Clinical</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>2015</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>2016</td>
<td>65%</td>
<td>71%</td>
</tr>
</tbody>
</table>

## Medical Physics Part 2 Exam Pass Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>First-time Takers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>75%</td>
</tr>
<tr>
<td>2015</td>
<td>80%</td>
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<tr>
<td>2016</td>
<td>83%</td>
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## Medical Physics Oral Exam Pass Rates

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<thead>
<tr>
<th>Year</th>
<th>First-time Takers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>65%</td>
</tr>
<tr>
<td>2015</td>
<td>74%</td>
</tr>
<tr>
<td>2016</td>
<td>60%</td>
</tr>
</tbody>
</table>

## Radiation Oncology Initial Exam Pass Rates (residents taking exam for first time)

<table>
<thead>
<tr>
<th>Year</th>
<th>Clinical</th>
<th>Physics</th>
<th>Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>92%</td>
<td>81%</td>
<td>87%</td>
</tr>
<tr>
<td>2015</td>
<td>97%</td>
<td>98%</td>
<td>89%</td>
</tr>
<tr>
<td>2016</td>
<td>95%</td>
<td>97%</td>
<td>94%</td>
</tr>
</tbody>
</table>

## Radiation Oncology Oral Exam Pass Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Residents taking exam for first time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>93%</td>
</tr>
<tr>
<td>2015</td>
<td>88%</td>
</tr>
<tr>
<td>2016</td>
<td>90%</td>
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</table>

## Medical Physics Oral Exam Pass Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>First-time Takers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>65%</td>
</tr>
<tr>
<td>2015</td>
<td>74%</td>
</tr>
<tr>
<td>2016</td>
<td>60%</td>
</tr>
</tbody>
</table>

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### RADIOLOGY-THEMED CAKES

The cakes below were created by Medical Physics Diplomate and ABR Volunteer Jessica Clements, MS, who is from Los Angeles. She was featured in the Summer 2014 issue of the ABR’s Volunteer Bulletin. To read the story and see two more of her radiology-themed cakes, visit [www.theabr.org/news-landing](http://www.theabr.org/news-landing).

- An ultrasound of the hepatic vein with color flow
- Baked for a radiology director retiring after more than 40 years of service. It says, “The first medical x-ray: as legendary as Connie Quarles!” She won the “living legend” award right before her retirement.

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### BOARD OF GOVERNORS

From left: Lisa A. Kachnic, MD, President-Elect; Milton J. Guiberteau, MD, President; and Geoffrey S. Ibbott, PhD, Secretary/Treasurer

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geoffrey S. Ibbott, PhD</td>
<td>Secretary/Treasurer</td>
<td>Houston, Texas</td>
</tr>
<tr>
<td>Milton J. Guiberteau, MD</td>
<td>President</td>
<td>Houston, Texas</td>
</tr>
<tr>
<td>Dennis M. Balle, MD</td>
<td>Chair, Board of Trustees</td>
<td>St. Louis, Missouri</td>
</tr>
<tr>
<td>Lisa A. Kachnic, MD</td>
<td>President-Elect</td>
<td>Nashville, Tennessee</td>
</tr>
<tr>
<td>Mary C. Mahoney, MD</td>
<td></td>
<td>Cincinnati, Ohio</td>
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<tr>
<td>Vincent P. Mathews, MD</td>
<td></td>
<td>Milwaukee, Wisconsin</td>
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<tr>
<td>Matthew A. Mauro, MD</td>
<td></td>
<td>Chapel Hill, North Carolina</td>
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<tr>
<td>Duane G. Mezwa, MD</td>
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<td>Royal Oak, Michigan</td>
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<tr>
<td>Brent J. Wagner, MD</td>
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<td>Reading, Pennsylvania</td>
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### EXECUTIVE STAFF MEMBERS

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valerie P. Jackson, MD</td>
<td>Executive Director</td>
<td>Tucson, Arizona</td>
</tr>
<tr>
<td>Kay H. Vydaren, MD</td>
<td>Associate Executive Director</td>
<td>La Jolla, California</td>
</tr>
<tr>
<td>Paul E. Wallner, DO</td>
<td>Associate Executive Director</td>
<td>Bethesda, Maryland</td>
</tr>
<tr>
<td>Anne C. Roberts, MD</td>
<td>Associate Executive Director</td>
<td>Intervventional Radiology</td>
</tr>
<tr>
<td>G. Donald Frey, PhD</td>
<td>Associate Executive Director</td>
<td>Medical Physics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charleston, South Carolina</td>
</tr>
</tbody>
</table>
Sanjeev Bhalla, MD, is professor of radiology at the Mallinckrodt Institute of Radiology (MIR) at Washington University in St. Louis, Missouri, where he serves as the section chief of cardiothoracic imaging and vice-chair of education.

A Yale University graduate and an ABR diplomate in diagnostic radiology, Dr. Bhalla received his medical degree from Columbia University College of Physicians and Surgeons in New York in 1994. After an internship at Columbia, he completed his residency and fellowship at MIR and was named Fellow of the Year in 2000. He has been on staff since then. For about a decade, he was co-director of emergency radiology at MIR and has published numerous articles on the interface between body and emergency imaging. In 2012, he received MIR’s Distinguished Clinician Award.

As an assistant program director at MIR, he enjoys being part of the largest radiology residency in the nation. In 2003 and 2011, he was named the Radiology Residency Teacher of the Year. He has received four teaching awards from medical students and one from surgery house staff, and twice has been named the Alpha Omega Alpha Lecturer at Washington University. Dr. Bhalla has been volunteering for the ABR since 2005, starting with the oral board exams and then becoming the inaugural chair of the Core Exam Thoracic Committee in 2009.

Cheri L. Canon, MD, FACR, is professor and Witten-Stanley endowed chair of radiology at the University of Alabama at Birmingham (UAB). She is a fellow of the American College of Radiology (ACR) and completed her undergraduate training at the University of Texas at Austin, followed by medical school at the University of Texas Medical Branch in Galveston.

After completing her residency training in diagnostic radiology at UAB, she joined the faculty of the Abdominal Imaging Section. Dr. Canon served as director of medical student education in the Department of Radiology, followed by associate residency program director and then residency director and vice chair of education for six years. She also has served as the AUB School of Medicine Curriculum Committee chair and was senior vice chair of operations and division director of radiology before becoming appointed as interim chair of radiology in June 2010, and permanent chair in February 2011.

Dr. Canon served as an ABR oral examiner for the ABR for 10 years. She was appointed chair of the Certifying/Maintenance of Certification Exam GI Committee in 2012. She recently served as chair of the ACR Commission on Education and sits on the ACR Board of Chancellors as the vice president of the college.

The American Board of Radiology (ABR) welcomes the following new trustees, whose terms of service will begin on October 28, 2016. The Board of Trustees advances the quality, relevance, and effectiveness of the ABR’s examinations and programs for Initial Certification and Maintenance of Certification across all disciplines of radiology.

Sanjeev Bhalla, MD
Cheri L. Canon, MD, FACR

NEW TRUSTEES 2016

Sanjeev Bhalla, MD, is professor of radiology at the Mallinckrodt Institute of Radiology (MIR) at Washington University in St. Louis, Missouri, where he serves as the section chief of cardiothoracic imaging and vice-chair of education.

A Yale University graduate and an ABR diplomate in diagnostic radiology, Dr. Bhalla received his medical degree from Columbia University College of Physicians and Surgeons in New York in 1994. After an internship at Columbia, he completed his residency and fellowship at MIR and was named Fellow of the Year in 2000. He has been on staff since then. For about a decade, he was co-director of emergency radiology at MIR and has published numerous articles on the interface between body and emergency imaging. In 2012, he received MIR’s Distinguished Clinician Award.

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