President’s Message

The Nuclear Oncology Council continues its focus on the use and optimization of tracers for targeted imaging and therapy. By strategic planning and efforts of the governing members we have furthered efforts in improving the knowledge and utilization of the current modalities and expanding the scope to newer modalities.

Background: The Nuclear Oncology Council was formed in 2003 by the merger of the former SNM Clinical Trials and Therapy Council. The NOC’s mission is to be recognized as world leader in providing knowledge that advances and promotes the use of radiotherapeutic agents, devices and radiopharmaceuticals in molecular imaging, and which vigorously supports the expansion of clinical trials for such agents, devices, and/or radiopharmaceuticals. The NOC vision is to provide its members and Nuclear medicine community resources to gain knowledge, improve practice and patient care by optimizing the utilization of targeted imaging and therapy.

The membership is comprises of physicians, scientists, technologists, radiopharmacists, industry representatives and trainees. NOC provides a forum for members to contribute to the development of the field of nuclear oncology through regular communications among members as well as collaboration and interaction during educational and administrative sessions at national meetings. The field of nuclear oncology sees constant changes and advances with the introduction of new tracers for diagnostic applications and novel agents for therapy.

It is my pleasure to be the president of this council, and I would like to thank all the members of the board of directors of the Nuclear Oncology Council (NOC) for their efforts and valuable input that has helped in growth of the council. I also thank all the members for their involvement and support of the council.

Education: Active participation in SNMMI remains a critical aspect of the NOC activities. In the past year, we had a successful SNM Annual Meeting in June 2013 and mid winter meeting in February 2014. The annual meeting featured a categorical session on “Update on Tumor Imaging and Therapy”, organized by Dr G. Wiseman that focused on novel tracers and radiotherapeutic techniques in oncology. In addition, we held two CE sessions including a session on “Management of thyroid cancer” and “Integrating PET/CT into Radiation Therapy”. These were organized by Drs N. Pandit-Taskar and R. Subramanian respectively. Both sessions were focused on the practical issues and clinical practice sharing and were very well attended. An additional session on “Novel Targeted Radionuclide Therapy” was a joint session with World Association of Radiopharmaceutical & Molecular Therapy (WARMTH) and featured primarily use of theranostics. This was co organized by Drs Wiseman, Pandit-Taskar and A. Padhy. This is a field

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Intern
Hua Yang, MD, FACNM
of growing interest and was well received by the audience.

The nuclear oncology council had an active participation in the scientific sessions of the 2014 midwinter meeting with organized presentations in a two separate CE sessions. A CE program featuring “current status and updates in prostate cancer imaging and therapy” was very well attended. The topics included imaging updates with radiopharmaceuticals including a variety of PET tracers; small molecule imaging, current status of MRI imaging and update on Xefigo treatment. The session was very well attended and received good reviews. Second session was on Lymphoscintigraphy, addressing both; current and evolving techniques in assessment of sentinel nodes. The subtopics included imaging of head and neck tumors, gynecologic cancers and novel imaging techniques like Cerenkov imaging. The session was held during the late evening and was well attended. The programs focused on the current and new nuclear oncology imaging agents, their mechanism of action and the potential for changing and improving management of patients with cancer including both tumor staging and therapy. The sessions were co-organized by Drs N. Panditi-Taskar, R. Subramanian and D. Pryma.

NOC has organized several CE sessions for the SNMMI annual meeting 2014 at St Louis. These include sessions on diverse topics including sessions on Breast imaging, Theraspheres/ Sirspheres, Hypoxia imaging, Theranostics (Joint session with CMMIT and alpha therapy for bone metastasis with Ra-223 dichloride. Please see details in a separate page below. Please also visit SNMMI web site at www.snm.org/am

Collaboration with WARMTH: Over the last two years, NOC has actively collaborated with The "World Association of Radiopharmaceutical and Molecular Therapy" (WARMTH). A member of WARMTH is included in the BOD as a nonvoting member. This interaction has been extremely fruitful in bringing the members of both groups together to exchange ideas, both clinical and research, to enhance knowledge and patient care. Dr Richard Baum is current member of WARMTH in NOC. Please see separate section by Dr S. Srivastava in the newsletter for the details of collaboration with WARMTH.

Young Investigator Awards: The council annually rewards young scientists for their research contributions, in a continuing effort to encourage research amongst talented trainees and new investigators. Three promising young scientists were presented 1st, 2nd and 3rd place awards during the Annual Meeting in Vancouver 2013 SNMMI. On behalf of the NOC would like to congratulate the winners. These awards were presented at the annual business meeting of the Nuclear Oncology Council, Society of Nuclear Medicine. It includes a certificate and an honorarium. Young investigators are encouraged to apply for this award at the time of submission of the abstracts.

Governance and Elections
The 2013–14 NOC board of directors is listed in this newsletter and on the NOC Web page. Serving on the council’s board provides an opportunity to contribute to the cause of nuclear oncology in general and the council in particular. I, Neeta Pandit-Taskar M.D., from the Memorial Sloan Kettering Cancer Center, am happy to serve as the president for the next year (2014-2015). The Vice President Dr Suresh Srivastava and immediate past President Gregory Wiseman, M.D, along with all the members of the NOC BOD are key members and actively involved in directing the efforts of NOC. Those members of NOC who would like to be involved in the council activities and participating in directing the future functions of NOC are encouraged to contact me (pandit-n@mskcc.org) to share ideas/comments on making NOC more efficient.

Elections: It is my pleasure to announce the results of election of the council office bearers. These include Dr Rathan Subramanian for Secretary/Treasurer; Dr Sandy McEwan, Dr Matthew Thakur and Dr Darko Pucar are our new members who will join in the NOC in June 2014. They will serve for two years. Dr A. Iagaru has been elected as a nonvoting member to BOD. I thank them all, for their enthusiasm and volunteering to participate in NOC. I also thank all the nominees for their interest in active participation in NOC. I also thank the outgoing members, Drs S. Dadparvar, F. Wong and D. Lee for their valuable contributions.

Intern Program: Every two years, an intern is selected to work with NOC. Our intern for 2013-15 is Dr Hua Yang. She has worked closely with her mentors Drs S. Dadparvar and D. Pryma. She has been a great addition to the NOC and has done a remarkable work. Please see separate section in the newsletter regarding her work.

During the midwinter meeting, Richard Siska, Vice President Advanced Associate Council requested attendance to inform and update NOC BOD regarding the nuclear medicine advanced associate program. The program provides enhanced training to NM technologists so that they can function as advanced associates in NM practice. Please see separate section below in the newsletter.

In the end, I thank all members for their continued participation. Neeta Pandit-Taskar, MD President, Nuclear Oncology Council

WARMTH
The "World Association of Radiopharmaceutical and Molecular Therapy" (WARMTH)
World Radiopharmaceutical Therapy Council (WRPTC), the predecessor of WARMTH, started as a subsidiary body of the World Federation of Nuclear Medicine and Biology (WFNMB) and was formally established at the October 2002 WFNMB Congress in Santiago, Chile. In 2008, WRPTC was renamed as World As-
association of Radiopharmaceutical & Molecular Therapy (WARMTH), and started as an international scientific organization entity on its own, whose members represent many global organizations related to the general area of nuclear medicine.

With the acceptance by the SNMMI leadership at the Annual Meeting in Miami in 2012, the Nuclear Oncology Council (NOC) of SNMMI has forged collaboration with WARMTH. Beginning in 2013, we have had a representative from WARMTH in NOC as a non-voting member of the Board of Directors, which we will hopefully continue on a regular basis in the future. At the 2013 SNMMI Annual Meeting in Vancouver, the First WARMTH-NOC CME session on "Novel Targeted Radionuclide Therapy" was successfully convened. At the recent Mid-Winter Meeting in Palm Springs in February 2014, a CME session on lymphoscintigraphy was co-sponsored by WARMTH as well. It is planned that this new collaboration will continue to be a regular feature at both SNMMI Mid-Winter and Annual Meetings, and thus better foster and promote our modality on a global scale.

The first major scientific gathering of WRPTC, the First International Conference on Radiopharmaceutical Therapy (ICRT), was held in Limassol, Cyprus, during October 2005. It was followed by subsequent ICRT meetings including in: Ulan Bataar, Mongolia; Goa, India; Bogota, Colombia; Ho Chi Minh City, Viet Nam; and, most recently, ICRT-8 (2013) in Manila, Philippines. The earlier of these yearly meetings were organized by the World Radiopharmaceutical Therapy Council (WRPTC), the predecessor of what is now WARMTH, and all of them have dealt primarily with the various applications of radionuclides for the therapy of cancer and other disorders. The ICRT-9 (2014) is going to take place jointly with the WFNMB Congress in Cancun, Mexico, from August 27 – 31, 2014, and the ICRT-10 (2015) is being planned to be in Innsbruck, Austria, from May 3 – 8, 2015. The information for these and other upcoming events are included and updated periodically on the WARMTH website: http://www.warmth.org.

The main objectives of the ICRT meetings remain: to evaluate the current status of radiopharmaceutical therapy in the world in general and in developing countries in particular; to exchange information on the current advances in the field between scientists from developed and developing countries; to interact with user groups (clinicians, oncologists, surgeons, medical physicists, radiopharmacists, etc.) to bring them the most important information in the field; and to define future directions. The scientific program covers topics and issues on all aspects of radiopharmaceutical therapy through a number of plenary lectures, papers, panel discussions and interactive audiovisual sessions. The topics at the ICRT meetings include the following:

- Reviews in therapeutic radiopharmaceuticals
- Development of new radiopharmaceuticals, including those using dual-purpose ("theranostic") radionuclides for simultaneous imaging and therapy, thus enabling personalized medicine
- Clinical overviews of the current trends in radionuclide therapy
- Radionuclide therapy -Treatment of primary cancer -Treatment of metastatic disease -Treatment of cardiovascular disease -Pain palliation -Treatment of benign diseases (Rheumatoid arthritis, hyperthyroidism etc.)

The expectation from the WARMTH ICRT meetings is that these would result in the following accomplishments: 1) To carry out an evaluation of the current status of radiopharmaceutical therapy on a global basis; 2) To help in the transfer of important information on the current trends in radiopharmaceutical therapy from developed to developing countries; 3) To publish technical documents based on the proceedings; 4) To promote radiopharmaceutical therapy on a global scale, particularly in developing countries; and 5) To formulate strategy documents for promoting the practice of radiopharmaceutical therapy around the world. WARMTH continues to collaborate with the World Federation of Nuclear Medicine and Biology (WFNMB).

A detailed description of WARMTH, including its constitution and current leadership and membership details are on its website: http://www.warmth.org.

Suresh Srivastava, PhD
NOC Vice President

Nuclear Oncology Council
SNMMI Annual Meeting Activities
NOC Young Investigator Award Symposium, Sunday, June 10, 12:30pm - 2:00pm in Room 231.
Immediately followed by the NOC Business meeting will be 2:00pm - 2:45pm, where the winners of the NOC Young Investigator Awards will be announced.

Attend the NOC organized sessions.
Sunday, June 8
PET Imaging of Hypoxia and Radiation Therapy, 12:30pm – 2:00pm, Room 220 - 221
Molecular Imaging of Breast Cancer, 4:30pm – 6:00pm, Room 220 – 221

Monday, June 9
Alpha Therapy with Ra-223 Dichloride for Bone Mestastasis, 10:00am – 11:30am, Room 241 – 242
Theranostics, 4:45pm – 6:15pm, Room 274 (co-organized with the Center for Molecular Imaging Innovation and Translation)

Tuesday, June 10
Liver-Directed Therapy with Y-90 Microspheres, 8:00am – 9:30am, Room 241 – 242

2014 Nuclear Oncology Council Elected Candidates

Secretary/Treasurer
Rathan M. Subramaniam, MD, PhD, MPH, FACNM
Dr Rathan Subramaniam is a full time active staff nuclear medicine physician/radiologist and an Associate Professor in the division of nuclear medicine, Department of Radiology, Johns Hopkins University School of Medicine and Johns Hopkins School of Public Health. He is board certified in Nuclear Medicine (ABNM), Diagnostic Radiology (ABR), and sub-specialty board certified in neuroradiology (ABR).

He has mentored more than 30 pre and post-doctoral trainees, undergraduate and graduate students, NIH T32 trainees and advised junior faculty. His trainees have won awards and prestigious scholarships from the SNMMI, ACNM, and RSNA. He received the teacher of the year recognition for nuclear medicine resident teaching at Johns Hopkins in 2013. He is a current RSNA education scholar developing a curriculum for hybrid molecular imaging with PET/CT and PET/MRI. He has published over 95 peer-reviewed manuscripts, edited two books, authored 10 book chapters and is the current editor for two PET clinic issues on ‘Value of PET/CT for patient outcomes’. He is the President-elect of the American College of Nuclear Medicine, a board member of nuclear oncology Council and academic councils of SNMMI, Chair of the SNMMI head and neck oncology track for annual meeting 2014, and co-chair of the SNMMI/ACR joint task force for PET/MRI credentialing guideline.

Board Member
Matthew Thakur, PhD
Matthew (Madhukar) Thakur, PhD is a Professor of Radiology and Radiation Oncology at Thomas Jefferson University in Philadelphia, Pennsylvania. He obtained his MS and PhD degrees at the University of London, England. Prior to moving as an Associate Professor of Radiology at Yale University, New Haven, CT in 1977, Mathew worked as a scientist at the Medical Research Council Cyclotron Unit at Hammersmith Hospital, London England, where he published extensively on the production of medically useful radionuclides and their applications.

During his tenure at Thomas Jefferson University, he has remained highly productive. He has published more than four hundred and ninety original articles in peer reviewed journals, book chapters, abstracts and editorials. He has edited four books. He has been a guest editor of several journal issues and is serving on the editorial boards of fifteen scientific journals, including that of the Journal of Nuclear Medicine. He serves on several committees at Thomas Jefferson University, including a tenure committee, IRB and RDRC (Radioactive drug Research Committee). In addition, for decades, he has been providing review services to NIH, DOD charitable foundations and to many international organizations that support biomedical research. Mathew has collaborated with small and large industries in a variety of capacities and continues to do so. He also has actively continued to serve on national and international professional organizations. He has given more the four hundred and thirty invited presentations nationally and internationally and holds twenty granted and pending patents.

The major thrust of his research today is in imaging oncogenes that are characteristically overexpressed in cancer cells at the onset of a disease before any symptoms become medically apparent. When targeted with specifically designed...
ctive biomolecules, they permit early and specific diagnosis of such disease as the breast and prostate cancers and can minimize unnecessary biopsies. He currently holds two INDs and is working on clinical trials. His contributions have been appreciated by his peers, nationally and internationally, who have offered him several prestigious awards for his "Contributions to the Improvement of the Quality of Life Through Chemistry", for his "Outstanding Achievement in Basic Science Applied to Nuclear Medicine", for his "Brilliant Accomplishments in the Field of Radiopharmaceuticals", for his "Outstanding Contributions to Nuclear Medicine" and with the SNMMI's highest award the Cassen Award for his "Significant Contributions to the Science and Practice of Nuclear Medicine".

During 2004 and 2005, Mathew served as the President of the SNM (now SNMMI). In its history of 65 years, Mathew was only the third Radiochemist and second foreign born individual chosen to serve as its President. During his tenure as the President, among many other accomplishments, Mathew formed a Molecular Imaging Center of Excellence (now CMIIT) that now has over one thousand paid members. Mathew served as its first president in 2006. Mathew was also elected to serve on the Board of Directors of the SNM for seven consecutive years and to serve on the HOD for eight years. As the chair of the SNMMI's Award Committee, Mathew helped establish Nihon Medi-Physics-SNMMI's Wagner-Torizuka Fellowship.

Given the opportunity to serve on the Board of Directors of the National Oncology Council, Mathew will work with his colleagues closely and proactively to foster and fulfill all functions of the National Council in Oncology.

Andrei H. Iagaru, MD, FACNM

Dr. Iagaru is an Assistant Professor of Radiology - Nuclear Medicine and the Co-Chief of the Division of Nuclear Medicine and Molecular Imaging at Stanford University Medical Center. He completed medical school at Carol Davila University of Medicine, Bucharest, Romania, and an internship at Drexel University College of Medicine, Graduate Hospital, in the Department of Medicine in Philadelphia. He began his residency at the University of Southern California (USC) Keck School of Medicine, Los Angeles, in the Division of Nuclear Medicine, where he was the chief resident. Dr. Iagaru finished his residency and completed a PET/CT fellowship at Stanford University’s School of Medicine in the Division of Nuclear Medicine. His research interests include PET/MRI and PET/CT for early cancer detection; clinical translation of novel PET radiopharmaceuticals; peptide based diagnostic imaging and therapy; radioimmunotherapy.

Over the past six years since joining the faculty at Stanford, Dr. Iagaru has received several awards including the Society of Nuclear Medicine (SNM) 2009 Image of the Year Award; American College of Nuclear Medicine (ACNM) Mid-Winter Conference 2010 Best Essay Award; 2009 Western Regional SNMMI Scientist Award; 2011 SNMMI Nuclear Oncology Council Young Investigator Award; and a Stanford Cancer Center 2009 Developmental Cancer Research Award in Translational Science. Dr. Iagaru presented more than 90 abstracts at national and international meetings and published more than 50 papers in peer-reviewed journals, as well as 7 book chapters.

Alexander (Sandy) McEwan, MD

Dr. McEwan is an internationally recognized expert in the fields of radioisotope therapy, molecular imaging and imaging biomarkers. Through a series of competitive awards he established the Edmonton PET Centre in 2002, and has built the program into major support infrastructure for the Department of Oncology, and collaborators across the University. He is the current lead in the Edmonton Led Consortium established by Natural Resources Canada to demonstrate the feasibility of manufacturing technetium-99m using a mid energy medical cyclotron. Through Federal and Provincial granting initiatives he has been awarded over $14 million to support this research.

His clinical practice and clinical research interests are in thyroid cancer and neuroendocrine tumors. He has established the largest radioisotope therapy program in Canada, and with Dr Murray has developed the novel hypothesis that low-dose hypersensitivity explains the mechanism of action of this form of treatment. He introduced $^{27}$ Lu Octreotate to the Cross Cancer Institute in 2010. The Edmonton PET program has
established a library of 8 research radio tracers that are routinely available to translational and clinical researchers on campus. Collaborations with the Edmonton Radiopharmacy Centre have enabled us to become a regional supplier of PET radiopharmaceuticals.

He has been past president of the Society of Nuclear Medicine in the United States and also of the Canadian Association of Nuclear Medicine. Dr. McEwan is also a member of the Society of Nuclear Medicine Clinical trial Network. In these roles he represented the discipline at numerous venues, including discussions with the U.S. and Canadian federal governments, the FDA, industry and other medical specialty societies. In addition he proposed that Molecular Imaging and Imaging Biomarkers should be a major focus of the future use of medical isotopes and radiotracer technologies in the management of patients with cancer and other diseases. He was Special Adviser on medical isotopes to the Federal Minister of Health from 2009 to 2011, and he sits on the Nuclear Energy Agency’s High-Level Group on medical isotopes. Dr. McEwan has taken on the role of Commissioner for the Canadian Nuclear and Safety Commission and he is currently Chair of the Department of Oncology at the University of Alberta.

Darko Pucar, MD, PhD
I am seeking a position as Board Member on the SNMMI Nuclear Oncology Council Board of Directors in 2014 election. I received my MD from the University of Belgrade, PhD in Molecular Pharmacology and Experimental Therapeutics from Mayo Graduate School, Rochester, MN; completed Holman Research Pathway Radiology Residency at New York Presbyterian Hospital and Nuclear Medicine Residency and Molecular Imaging Fellowship at Memorial Sloan-Kettering Cancer Center (Cornell University); and am presently Assistant Professor in the Department of Radiology and Imaging, Nuclear Medicine Section, Medical College of Georgia at Georgia Regents University (GRU) in Augusta, Georgia. I serve on the Head and Neck and Surgical Urology Tumor Boards. My graduate oncologic imaging research helped establish the value of MRI and MR spectroscopy in detection of local prostate cancer recurrence after radiation therapy. I was named 2012 Otolaryngology Consultant of the Year by the Department of Otolaryngology and 2013 Teacher of the Year by the Radiology Residents at GRU. My current research focuses on developing nomograms based on clinical and imaging parameters for staging, outcome prediction, and treatment selection in individual patients (personalized medicine) with head and neck cancers. As a member of the American College of Radiology Nuclear Medicine Guidelines Committee, I am currently overseeing development of Guidelines for Tumor Scintigraphy. As a non-voting member of the SNMMI Nuclear Oncology Council in 2013, I very much enjoyed working on projects including the Council Newsletter, educational activities, and strategic planning.

Looking into the future, I am interested in defining which radionuclide cancer therapies can be effectively performed in practices across the country, while simultaneously developing the referral mechanisms to centers of excellence for more complex treatments. Such approach should maximize the patient access to and benefits from nuclear medicine therapy. I believe that Nuclear Medicine Physicians should pursue a proactive role in management of patients needing radionuclide therapies rather than serving as stewards for endocrinology and medical oncology. In the diagnostic realm, I envision PET/CT replacing CT as a primary (“bread and butter”) imaging examination for certain cancers which should lead to improved patient outcomes. I support a major increase in participation of Nuclear Medicine Physicians in Guidelines Committees of leading oncologic organizations such as the National Comprehensive Cancer Network, where they should strongly advocate for the practice of nuclear medicine diagnostics and therapeutics.

I attended the first annual SNMMI Future Leaders Academy as one of 12 invited SNMMI professionals with promise of becoming a future leader in the field of Nuclear Medicine and Molecular Imaging. Participating as a Board Member of the Nuclear Oncology Council would be a meaningful step toward my goal of leadership in this field.

I would be a hard working contributing member of the Board, and would greatly appreciate the opportunity to serve in this regard.

NOC Intern Report

As an intern of Nuclear Oncology Council (NOC) 2013-2015, my project is to assist NOC to promote and maximize the role of PET/CT in oncology management. Keeping it in mind that the one of NOC’s goals is to enhance knowledge of the general physicians and oncologist to the advantages of targeted radiopharmaceutical imaging and therapy, knowing and understanding what NCCN recommended the utilization of nuclear medicine studies, e.g. PET/CT, in oncology management. First of all, I have reviewed entire NCCN Clinical Practice Guidelines and generated a database summarizing current status of the utilization of nuclear molecular imaging studies in clinical management of the large varieties of malignancies, such as initial workup (staging), primary response to treatment, and subsequent treatment response (restaging) and follow-up workup (surveillance), as well as identify progressive or recurrent disease.
treatment options. Prostate frequently metastasizes to bones and skeletal related events in the setting of extensive osseous metastatic disease cause significant morbidity. On May 15, 2013, FDA approved Radium Ra-223 dichloride (Xofigo® Injection, Bayer HealthCare Pharmaceuticals Inc.) for the treatment of patients with castration-resistant prostate cancer (CRPC), symptomatic bone metastases and no known visceral metastatic disease. Radium-223 dichloride is calcium ion mimetic alpha-emitter that forms complexes with hydroxypatite in areas of increased bone turnover (i.e. osseous metastases). The antitumor activity of Ra-223 is attributed to breaks in double-stranded DNA by emitted alpha particle. The theoretical advantages of Ra-223 over beta-emitting bone-seeking radioisotopes like Strontium-89 and Samarium-153, is the decreased normal bone marrow related side effects, since alpha particles have significantly shorter path length than beta particles in the tissue.

The FDA approval was based on results of BC1-06 clinical trial demonstrating improved overall survival (OS) and prolonged time to symptomatic skeletal events (SSE) with Xofigo. This placebo-controlled, double-blind, international phase 3 clinical trial enrolled 921 patients with progressive symptomatic CRPC, ≥ 2 osseous metastases, and no visceral metastases. Patients were randomly allocated (2:1) to receive 6 monthly injections of Ra-223 at 50 Kbq/kg body weight plus best standard of care (BSoC) or an intravenous saline placebo plus BSoC. Best standard of care could include external beam radiation therapy (EBRT), corticosteroids, anti-androgens, estrogen, estramustine or ketoconazole. The median survival was 14.9 months and 11.3 months in Xofigo and placebo group, respectively. The number of deaths were 333/614 (54.2%) with Xofigo and 195/307 (63.5%) with placebo. The median time to first SSE was 13.5 months and 8.4 months in Xofigo and placebo group, respectively, with the majority of events (79%) being EBRT to painful skeletal metastases.

The most common (> 10%) adverse reactions in patients receiving Xofigo were nausea, diarrhea, vomiting, and peripheral edema. The most common (> 10%) hematologic laboratory abnormalities were anemia, lymphocytopenia, leukopenia, thrombocytopenia, and neutropenia. The rates for grade 3-4 thrombocytopenia were 6 % and 2 %, for marrow failure 2 % and 0 %, and for dehydration and renal insufficiency 3 % and 1%, in Xofigo and placebo group, respectively.

Radium-223 is the first radiopharmaceutical with demonstrated OS advantage in metastatic PCa. Strontium-89 and Samarium-153 are FDA approved for pain relief in PCa patients with osseous metastases, however prior trials with these agents were not adequately designed to assess OS. The results of BC1-06 trial and Xofigo FDA approval are summarized by Parker C et al., NEJM 2013; 2013; 369:213-223, Kluetz et al., Clin Cancer Res. 2014; 20(1):9-14. Xofigo product information is available at http://www.xofigo-us.com/product-information/. The FDA approval of Xofigo presents an exciting opportunity for nuclear medicine physicians to contribute to care of PCa patients.

**Review: Radium Ra-223 dichloride in treatment of metastatic prostate cancer**

Although a majority of prostate cancer (PCa) patients have organ confined disease and excellent 5-year survival > 90%, the patients with metastatic prostate cancer have relatively poor prognosis with 5 year survival of about 30% (http://seer.cancer.gov/statfacts/html/pr ost.html). A significant mortality is related to the later stages when the disease becomes castrate-resistant, with limited
our SNMMI membership. Its origins date back 14 years ago to a paper that was presented about creating a Nuclear Medicine Mid-Level Practitioner because of the impending shortage of nuclear medicine board certified physicians. Through hard work and diligence the first program was approved and opened in 2009 at the University of Arkansas for Medical Sciences (UAMS). To offset costs and spread out didactic responsibility a consortium was formed which now, along with UAMS, includes Saint Louis University (SLU), Georgia Regents University (GRU) in Augusta, Georgia; and University of Missouri at Columbia (UMC). The didactic training is a mixture of online programs, conference presentations, and site visits. The clinical training is done with a preceptor(s) during the course of study which serves to provide in detail hands on advanced instruction in different institutional settings.

The NMAA has an approved scope of practice and is backed by the ACR which defines the NMAA as “an advanced-level nuclear medicine technologist working under the supervision of a licensed physician, who is also an authorized user of radioactive materials, to enhance patient care in the diagnostic imaging and radiotherapy environments.” The NMAA also has to become board certified through the NMTCB (Nuclear Medicine Technology Board) by way of advanced testing covering all facets of nuclear medicine.

The NMAA has, in my estimation, 5 rudimentary functions; obtaining patient assessment and medical history, stress testing and therapy consultation, ordering complimentary procedures and labs for correlation to help render a diagnosis of the exam, evaluation of final imaging, and pre-diction reporting to the Nuclear Medicine Physician or Radiologist as a “second set of eyes.” Obviously there is room for an NMAA in various sub fields of nuclear medicine and molecular Imaging such as; nuclear cardiology, research, nuclear oncology, general nuclear medicine, pediatric nuclear medicine, and radionuclide therapeutics.

To date there are only 11 board certified NMAAs, and there is only one program. Soon, we are hoping to change that by encouraging philanthropy for 2 more programs and increase the awareness and the need for this mid-level practitioner.

To learn more about the NMAA and what we are doing visit The Advanced Associate Council of the SNMMI at http://interactive.snm.org/index.cfm?PageID=9973

Richard Siska NMAA, MIS
Advanced Associate Council
Vice President

2013 Young Investigator Award Winners

Congratulations to the 2013 Nuclear Oncology Young Investigator Winners.

1st Place ($500) Nerissa Therese Villegas “Correlative imaging of pancreatic ductal adenocarcinoma over-expressing CA19.9 antigen.”

2nd Place ($300) Meena Kumar “Characterization of physiological 18F-FSPG uptake in healthy volunteers and comparison to 18F-FDG.”

3rd Place ($200) Yoan Petibon “MR-based motion correction in simultaneous PET/MR liver imaging”